

California Environmental Protection Agency



Air Resources Board

Final Statement of Reasons for Rulemaking

Including Summary of Comments and Agency Responses

**PUBLIC HEARING TO CONSIDER THE ADOPTION OF REGULATIONS
TO REDUCE EMISSIONS FROM AUXILIARY DIESEL ENGINES AND
DIESEL-ELECTRIC ENGINES OPERATED ON OCEAN-GOING
VESSELS WITHIN CALIFORNIA WATERS AND 24 NAUTICAL MILES
OF THE CALIFORNIA BASELINE**

Public Hearing Date: December 8, 2005
Agenda Item No.: 05-12-5

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State of California
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I. GENERAL

In this rulemaking, the Air Resources Board (ARB or Board) is adopting a new regulation and an airborne toxic control measure (ATCM) to reduce emissions of diesel particulate matter (PM), nitrogen oxides (NO_x), and sulfur oxides from auxiliary diesel engines and diesel-electric engines operated on ocean-going vessels within 24 nautical miles of the California baseline (referred to as "Regulated California Waters"). The regulation and the ATCM will hereinafter be referred to collectively as "regulations" unless otherwise noted.

The regulations will apply to ocean-going vessels operating within Regulated California Waters and visiting California ports beginning January 1, 2007. These regulations will reduce the public's exposure to diesel PM, NO_x, and SO_x by establishing emission limits for auxiliary engines and diesel-electric engines used on ocean-going vessels. Vessel operators can meet the emission limits through the use of specified cleaner distillate marine fuels or other emission controls that achieve equivalent emission reductions under Alternative Control of Emissions (ACE) plans approved by the Executive Officer. The regulations support the "Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles," which was adopted by the Board on September 30, 2000, and the State Implementation Plan (SIP).

This rulemaking was initiated by the October 21, 2005, publication of a notice for a public hearing on December 8, 2005 ("45-day Notice"). A "Staff Report: Initial Statement of Reasons" (Staff Report or ISOR) was also made available for public review and comment starting October 21, 2005. The Staff Report, which is incorporated by reference herein, contains an extensive description of the rationale for the proposal. Appendix A to the Staff Report contained the text of proposed regulations, which would add a new section 2299.1 to title 13, CCR, and an identical new section 93118 to title 17, CCR. These documents were also posted by October 21, 2005 on the ARB's internet site for the

rulemaking: <http://www.arb.ca.gov/regact/marine2005/marine2005.htm> (“ARB’s internet site”).

At the December 8, 2005 hearing, the Board received written and oral comments. At the conclusion of the hearing, the Board adopted Resolution 05-63, in which it approved the adoption of the originally proposed regulations with suggested modifications discussed at the hearing. Those modifications were suggested by staff in response to public comment, and were set forth in a two-page document entitled “Staff’s Suggested Modifications to the Original Proposal,” distributed at the hearing and included as Attachment B to the Resolution. In accordance with section 11346.8 of the Government Code, the Board directed the Executive Officer to incorporate the modifications into the proposed regulatory text and to make such modifications available for a supplemental comment period of at least 15 days. The Executive Officer was then directed either to adopt the regulations with such additional modifications as may be appropriate in light of the comments received, or to present the regulations to the Board for further consideration if warranted in light of the comments.

The text of the modifications to the originally proposed regulations, the incorporated documents, and additional supporting documents were made available for a supplemental 15-day comment period by issuance of a “Notice of Public Availability of Modified Text and Availability of Additional Documents” (“15-day Notice”). The 15-day Notice, a copy of Resolution 05-63, and the document entitled “Staff’s Suggested Modifications to the Original Proposal” were mailed on May 18, 2006, to all parties identified in section 44(a), title 1, CCR, and to other persons generally interested in the ARB’s rulemaking concerning ocean-going vessels. These documents were also published on May 17, 2006, on ARB’s internet site. An email message announcing and linking to this posting was transmitted to the more than 2,000 parties (combined) that have subscribed to ARB’s “marine2005” and “maritime” list serves for notification of postings pertaining to marine vessels (more than 900 for “marine2005” and 1,100 for “maritime,” respectively).

The 15-day Notice gave the name, telephone, and fax number of the ARB contact person from whom interested parties could obtain the complete texts of the additional incorporated documents and the modifications to the original proposal, with all of the modifications clearly indicated. The deadline for submittal of comments on the staff’s suggested modifications was originally June 2, 2006. However, by notice dated May 31, 2006, this deadline was extended to June 19, 2006. This extension was posted on ARB’s internet site on June 1, 2006, and was made in response to a request by the Pacific Merchant Shipping Association, on their behalf as well as others.

After considering the comments received during the supplemental 15-day comment period, the Executive Officer issued Executive Order R-06-006, adopting new section 2299.1 in title 13, CCR, and new section 93118, title 17, CCR, and adopting the incorporated documents.

This Final Statement of Reasons (FSOR) updates the Staff Report by identifying and providing the rationale for the modifications made to the originally proposed regulatory text as a result of public comment and staff analysis after the Staff Report was issued. The FSOR also summarizes written and oral comments the Board received on the proposed regulatory text during the formal rulemaking process and the ARB's responses to those comments.

Documents Incorporated by Reference. The following documents were incorporated by reference in the regulations: (1) International Standard ISO 8217:2005(E), "Petroleum Products -- Fuels (class F) – Specifications of Marine Fuels," Third Edition, 2005-11-01; (2) International Standard ISO 8754: 2003(E), "Petroleum Products – Determination of Sulfur Content – Energy-Dispersive X-Ray Fluorescence Spectrometry," Second Edition, 2003-07-15; (3) Nautical Chart 18600, Trinidad Head to Cape Blanco, National Oceanic and Atmospheric Administration Office of Coast Survey ("NOAA"), January 2002; (4) Nautical Chart 18620, Point Arena to Trinidad Head, NOAA, June 2002; (5) Nautical Chart 18640, San Francisco to Point Arena, NOAA, August 2005; (6) Nautical Chart 18680, Point Sur to San Francisco, NOAA, June 2005; (7) Nautical Chart 18700, Point Conception to Point Sur, NOAA, July 2003; (8) Nautical Chart 18720, Point Dume to Purisima Point, NOAA, January 2005; and (9) Nautical Chart 18740, San Diego to Santa Rosa Island, NOAA, April 2005.

Regarding the ISO marine fuel specification listed above, we note that there was a typographical error in the title of the standard in the Information Digest of the public hearing notice. Specifically, the title in the Information Digest included five extraneous words (shown in strikethrough text) as follows: "Specifications of Marine Fuels ~~Requirements for Marine Residual Fuels.~~" However, the title appears correctly in the regulations and Staff Report. We received no comments indicating confusion about the specification, and the specification number (i.e. ISO 8217) alone is sufficient to identify the specification. One commenter notified ARB of the error as noted below in the Summary of Comments and Agency Responses to the Original Proposal below.

With regard to the seven nautical charts listed above, three of the charts [documents (5), (6), and (9)] reflect updates posted by NOAA in 2005; older versions of these charts were listed in the 45-day notice and the originally proposed regulatory text. The most updated versions of all seven charts were listed in the 15-day notice and the attached modified regulatory text.

The nine documents listed above consist of an updated international standard specifying the range of allowable properties for various marine fuels, an updated test method for measuring the sulfur content of fuel, and seven updated nautical charts defining sections of the California baseline (i.e., coastline). Each instance of incorporation identifies the incorporated document by title and date. The documents are readily available from the ARB upon request and were made available in the context of this rulemaking in the manner specified in Government Code section 11346.5(b). Also, the referenced ISO documents are published by the International Organization for Standardization, a well-established and prominent organization. Similarly, the nautical

charts are available from NOAA, another prominent and long-established national agency. Therefore, all of the incorporated documents are reasonably available to the affected public from commonly known sources.

The documents are incorporated by reference because it would be cumbersome, unduly expensive, and otherwise impractical to print them in the CCR. Existing ARB administrative practice has been to have specifications, test procedures, and similar documents incorporated by reference rather than printed in the CCR because these specifications and test procedures are highly technical and complex. They include “nuts and bolts” engineering protocols and laboratory practices and have a very limited audience. Because the ARB has never printed complete test procedures and similar documents in the CCR, the directly affected public is accustomed to the incorporation format utilized therein. These test procedures and similar documents as a whole are extensive, and it would be both cumbersome and expensive to print these lengthy, technically complex procedures for a limited audience in the CCR. Printing portions of the test procedures that are incorporated by reference would be unnecessarily confusing to the affected public. For similar reasons, we are also incorporating by reference the detailed NOAA nautical charts specified above.

Fiscal Impacts. Except as discussed below, the Executive Officer has determined that this regulatory action will not result in costs or savings, as defined in Government Code section 11346.5(a)(5) and 11346.5(a)(6), to any state agency, or in federal funding to the state, or create costs or mandates to any local agency or school district, whether or not reimbursable by the state pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code, or other non-discretionary costs or savings to local agencies.

The Executive Officer has determined that some costs to the California Air Resources Board will be incurred in order to implement and enforce these regulations. However, we believe these costs can be absorbed in our current budget. In future years, additional enforcement resources may be needed depending on the compliance options selected by the affected sources. In addition, there could be a minor fiscal impact on the California Maritime Academy beginning in 2010, when the use of 0.1% sulfur fuel is expected to be required in one training vessel. However, this added cost is expected to be minimal. Overall, while not specifically determined, the financial savings resulting from the health benefits of reduced exposures to diesel PM are expected to outweigh the cost of implementing and enforcing the regulations.

The Executive Officer does not expect any significant fiscal costs on local agencies since local agencies do not operate ocean-going vessels as defined in these regulations. Some minor impacts are possible on ports, which in California are operated by entities such as port authorities and departments of municipal governments. These impacts could result if ship operators choose to utilize alternative ports outside of California due to the added costs imposed by the regulations. However, this is not expected to occur to any significant degree because the fiscal impacts of the regulations on ship operators are expected to be minor.

Consideration of Alternatives. The regulations proposed in this rulemaking were the subject of discussions involving ARB staff, the affected owners and operators of ocean-going vessels that visit California ports, and other interested parties. A discussion of alternatives to the initial regulatory proposal is found in Chapter V of the Staff Report. Specifically, the following five alternative approaches were discussed: (1) relying on existing national and international regulations; (2) implementing the regulations at dockside only; (3) applying less stringent requirements for diesel-electric vessels; (4) exempting the engine power used for propulsion on diesel-electric vessels; and (5) taking no action. Additional proposed alternatives were submitted by commenters during the rulemaking process and considered by the Board. For the reasons set forth in Chapter V of the Staff Report, in staff's comments and responses at the hearings, and in this FSOR, the Board has determined that none of the alternatives considered by the agency or that have otherwise been identified and brought to the attention of the agency would be more effective in carrying out the purpose for which the regulatory action was proposed or would be as effective and less burdensome to affected private persons than the action taken by the Board.

II. MODIFICATIONS MADE TO THE ORIGINAL PROPOSAL

At the December 2005 hearing, the Board approved the regulations and proposed modifications. Furthermore, the Board directed staff to work with stakeholders regarding modifications or clarifications to the approved regulations. The following is a description of the modifications to the regulations, by subsection number, under section 2299.1, title 13, CCR. Identical changes were made to the Airborne Toxic Control Measure in corresponding subsections under section 93118, title 17, CCR. All references to section 2299.1 will be to title 13, CCR, and all references to section 93118 will be to title 17, CCR.

A. Purpose, Subsections 2299.1(a) and 93118(a)

Description of "Regulated California Waters" Deleted: Staff deleted the wording describing Regulated California Waters in this section because the term is already defined under subsection 2299.1(b) (and subsection 93118(a)), "Applicability," and under subsection 2299.1(d) (and subsection 93118(d)), "Definitions." This non-substantive change simplifies the regulations.

B. Applicability, Subsections 2299.1(b) and 93118(b)

Wording Revised to Enhance Severability: Staff clarified the applicability of the regulations to specified over-water zones (i.e., at dock, 3 nautical miles (nm) offshore, 12 nm offshore, and 24 nm offshore); to foreign-flagged and U.S.-flagged vessels; and to tanker and non-tanker vessels. These modifications did not change substantively the initially noticed regulatory requirements. Staff modified this provision to ensure that the requirements are severable to the maximum extent possible.

C. Exemptions, Subsections 2299.1(c) and 93118(c)

The Term “Innocent Passage” Eliminated: In (c)(1), staff modified the exemption for vessels passing through “Regulated California Waters” without stopping at a California port to eliminate the term “innocent passage.” The definitions of “innocent passage” in subsections 2299.1(d) and 93118(d) were also removed from the regulations. This was done because “innocent passage,” as the term was defined in these regulations, differs from the definition of that term in federal and international regulations. With the modification, the exemption remains essentially unchanged because the same concept of innocent passage was incorporated into the text of the exemption without the actual use of the term “innocent passage.”

Exemption of Government Vessels: In (c)(3), staff expanded the exemption of military vessels to include vessels owned or operated by any branch of local, state, or federal government, or any foreign government. The exemption was expanded to facilitate joint maritime exercises with foreign governments and to accommodate government vessels which can be turned over to the military during federal emergencies. Military vessels generally operate on military specification distillate fuels that must be used on a consistent basis for military equipment globally. These distillate fuels are generally cleaner than the heavy fuel oil used by most commercial vessels. Finally, very few government vessels, outside of the military, would be subject to this exemption because most are not large enough to qualify as an “ocean-going vessel” and would therefore not be covered by the regulations.

Safety Exemption Added: In (c)(5), staff added a provision that provides the master of the vessel with a limited exemption from the requirements of the rule where compliance could endanger the safety of the vessel, its crew, cargo, or passengers due to severe weather conditions, equipment failure, fuel contamination, or other extraordinary reasons beyond the master’s reasonable control. If an exemption is claimed, the master of the vessel must notify the Executive Officer within 24 hours after the episode ceases, provide documentation establishing the conditions necessitating the exemption within 4 working days after the notification to the Executive Officer, and take reasonable precautions to avoid further exemptions. As directed by the Board in Resolution 05-63, staff developed this exemption after consulting with representatives of the California Department of Fish and Game’s Office of Spill Prevention and Response, and the San Francisco Harbor Safety Committee.

D. Definitions, Subsections 2299.1(d) and 93118(d)

Baseline. This definition was modified to reflect recent updates to navigation charts used to define the California baseline (i.e., coastline).

Contiguous Zone, Territorial Sea, and Innocent Passage. Staff deleted these definitions because they were no longer necessary with the modifications to “Regulated California Waters” (see discussion of “Regulated California Waters” in this section below).

Compliance Period, Master, and Tanker. Staff added definitions for “compliance period,” “master,” and “tanker” because these terms were added to the regulations or needed to be defined for clarity. The term “compliance period” was added to the modified language in the Alternative Control of Emissions provision, and the definition clarifies that this period can be a calendar year or other continuous period of time. The term “master” was used in the safety exemption added to the modified regulations, and refers to the vessel operator. The term “tanker” was included in the revised section on applicability in modified regulations.

Emission Control Strategy. Staff reworded the definition for clarity, and removed “fuel additives” from the list of control strategies, since we do not expect most fuel additives to result in significant emission reductions.

Executive Officer. This definition was modified to include the abbreviation “ARB,” for the Air Resources Board. This abbreviation is used elsewhere in the regulations.

Inland Waterways. The term “inland waterways” was revised to “internal waters” consistent with the revised definition of Regulated California Waters in the regulations.

Marine Diesel Oil and Marine Gas Oil. These definitions were revised to reflect updated international specifications for these fuels.

Operate. This definition was modified to include operation of a vessel while it is stationary, at dock or anchored.

Regulated California Waters. This definition was modified to clarify the over-water zones that fall within the term “Regulated California Waters” (i.e., California internal waters, California estuarine waters, at dock, 3 nautical miles (nm) offshore, 12 nm offshore, and 24 nm offshore). In addition, the terms “Contiguous Zone” and “Territorial Sea” were removed, and the term “inland waters” was replaced with “internal waters.” These modifications did not substantively change the initially noticed regulatory requirements, except in the Southern California region starting at around Point Conception. For that region, staff replaced “Contiguous Zone” with a surrogate 24 nm zone starting at 34.43 degrees North, 121.12 degrees West and extending in straight line segments down to the Mexico-California border. This was done because inclusion of “Contiguous Zone” in the initially noticed regulatory text inadvertently created a regulatory zone that extended far beyond the intended 24 nm off the Southern California coast (i.e., islands in that area have their own 24 nm zone around them under the definition of “Contiguous Zone”). Staff also modified “Regulated California Waters” to ensure that the requirements are severable to the maximum extent possible.

Roadstead. This definition was modified by removing the reference to the bodies of water specified in subsection (b), since the description of these bodies of water was removed from subsection (b) in the modified regulations. In addition, it is unnecessary to describe these bodies of water in this definition.

E. Requirements, Subsections 2299.1(e) and 93118(e)

Emission Limits -- Removed reference to subsection (f): In (e)(1), a list of provisions is provided under which a person would not be required to meet the emission limits in the regulations (i.e., exemptions and alternative compliance strategies). The reference to subsection (f) was removed from this list of provisions because the subsection (which was previously reserved for future use) defines violations in the modified regulations.

Emission Limits -- Removed reference to subsection (g): In (e)(1)(C), the reference to subsection (g), the Alternative Control of Emissions provision, was removed because this provision is already allowed as an alternative compliance approach in subsection (e)(1), so further mention of it is unnecessary.

Recordkeeping -- Removed references to Contiguous Zone and Innocent Passage: In (e)(2)(A)(1), persons are required to provide information upon entry and departure from waters subject to the requirements of the regulations. The modified language removed references to the “Contiguous Zone” and “Innocent Passage” because these terms were removed from the modified regulations.

Recordkeeping -- Revised Language on Fuel Switching: In (e)(2)(A)(3), language was added clarifying that the completion of fuel switching is the moment when all engines subject to the regulations have completely transitioned from one fuel to another. (emphasis added) The language in (e)(2)(A)(4), which previously dealt with fuel switching, has been deleted.

Recordkeeping -- Fuel Purchase Records: In (e)(2)(A)(6), language referring to a calendar year was deleted since it is unnecessary and may imply that records only need to be kept for a year, when records actually need to be kept for three years per subsection (e)(2)(A).

Reporting and Monitoring: In (e)(2)(B)(1), language regarding the reporting deadline for information requests by ARB was revised to clarify that reporting deadlines of more than 24 hours will be allowed at the discretion of the Executive Officer. In addition, it was clarified that records kept for other regulatory purposes may be used to comply with the ARB regulations if the records are kept in English.

F. Violations, Subsections 2299.1(f) and 93118(f)

Violations Defined: Staff added section (f) to clarify the actions that constitute a violation. As a deterrent to noncompliance, this section also specifies that each hour of noncompliant operation will be treated as a separate violation.

G. Alternative Compliance Plan (ACP) in Lieu of Meeting Subsection (e)(1), Subsections 2299.1(g) and 93118(g)

Title Changed: The Alternative Compliance Plan (ACP) was replaced with the term Alternative Control of Emissions (ACE) in response to maritime industry comments that the abbreviation “ACP” was used in other maritime programs.

Clarification of “ACE” and “ACE Plan: An introductory sentence was added to subsection (g) clarifying that the terms “ACE” and “ACE Plan” shall have the same meaning unless otherwise noted.

Requirements Clarified: In subsection (g)(1)(A), staff made several non-substantive changes to improve the clarity of the requirements.

“Direct Control” Defined: In subsection (g)(1)(B), applicants for the ACE plan can only include vessels under their direct control. To improve the clarity of this subsection, a definition of “direct control” is added. In addition, the term “ACP” is replaced with “ACE,” reflecting the new title of this provision under the modified regulatory text.

Language Replaced: Staff eliminated the original language in subsection (g)(1)(C) which described the basic requirements of compliance with the ACE since this essentially duplicated similar language in subsection (g)(1)(A). Staff added language clarifying that no vessel shall be included in more than one ACE plan.

ACE Compliance Period Defined: Staff added language in subsection (g)(1)(D) restricting ACE plans to no more than one calendar year or a 12-month period, and language was added to discuss the steps necessary to receive an extension. The original language in this subsection describing alternative emission control strategies was eliminated because this is defined in subsection (d), “Definitions.”

Limitations to ACE Plan Extensions: Staff added new subsection (g)(1)(E) describing certain restrictions on ACE plan extensions. Specifically, the language in this subsection clarifies that ACE plans cannot be extended if they have been revoked, substantially modified, or if the applicant elects to cancel it prior to its expiration. The original language under (g)(1)(E), describing the information necessary to include in an ACE application, is contained under (g)(1)(H) in the modified regulations.

Emission Reductions under ACE: Staff added new subsection (g)(1)(F) to: (1) clarify that equivalent or greater emission reductions in diesel PM, NO_x and SO_x emissions must be achieved from vessels under an ACP; and (2) ensure that in achieving the overall emission reductions required under the ACP, surplus emission reductions achieved at one port will not result in significant excess emissions at other ports. The original language under (g)(1)(F), specifying that emission reduction calculations used demonstrate compliance shall only include diesel PM, NO_x, and SO_x, is contained under (g)(1)(I) in the modified regulations.

Alternative Emission Control Strategies: Staff added new subsection (g)(1)(G) to clarify that alternative “emission control strategies,” as referred to in the ACE provisions, are defined in subsection (d), “Definitions.” The original language under (g)(1)(G), discussing shore-side power as an ACE option, is contained under (g)(1)(J) in the modified regulations.

Information Necessary in an ACE Application: Staff made minor modifications to improve the clarity of this subsection, which discusses the minimum information necessary to include in an ACE application. This subsection (g)(1)(H) was previously subsection (g)(1)(E) in the original language.

Emission Reduction Calculations: Staff made minor wording changes to improve the clarity of this section, which discusses emission reduction calculations. This subsection (g)(1)(I) was previously subsection (g)(1)(F) in the original language.

Use of Shore-Side Power: Staff made minor, non-substantive modifications to improve the clarity of this subsection, which provides special provisions for the use of shore-side power in complying under subsection (g). This subsection (g)(1)(J) was previously subsection (g)(1)(G) in the original language.

Recordkeeping under an ACE Plan: In subsection (g)(1)(K), staff clarified that recordkeeping maintained subject to an ACE shall be provided to ARB staff upon request either within 24 hours or by a later date approved by the Executive Officer. This subsection (g)(1)(K) was previously subsection (g)(1)(H) in the original proposal.

Emission Reductions Required by Other Governmental Regulations: In subsection (g)(1)(L), staff changed “ACP” to “ACE,” consistent with the new title of subsection (g). This subsection (g)(1)(L) was previously subsection (g)(1)(I) in the original language.

Operation Under an ACE Plan: In subsection (g)(1)(M), staff changed “ACP” to “ACE,” consistent with the new title of subsection (g), and made some wording changes to clarify this provision. This subsection (g)(1)(M) was previously subsection (g)(1)(J) in the original proposal.

Operation Under Revoked Plan Prohibited: Staff added subsection (g)(1)(N), which clarifies that no person can comply with the regulations under a revoked ACE plan.

Application Process: In subsection (g)(2), (A) through (F) of the modified proposal, staff made numerous modifications to the original proposal to address the Board’s directive to include provisions for public comment during the ACE approval process. Under the modifications, all documents pertaining to ACE applications will be made available for public review. In addition, two separate public comment periods will be provided during the application process which will allow the Executive Officer to consider information provided by the public. The first will be provided after the Executive Officer has deemed the application to be “complete.” This comment period will allow the public to comment on the application before a proposed decision to

approve or disapprove the application is made by the Executive Officer. The second will be provided after the Executive Officer proposes to approve or disapprove the application. This comment period will allow the public to comment on the proposed decision by the Executive Officer before final action is taken.

ACE Plan Changes: In subsection (g)(2)(G) of the modified proposal, staff made some minor modifications to the original proposal to improve the clarity of the provision. This subsection (g)(2)(G) was previously subsection (g)(2)(D) in the original language.

Revocation of an ACE Plan: Staff added subsection (g)(3) to the original proposal to discuss the process and conditions under which an ACE Plan may be revoked.

H. Noncompliance Fee in Lieu of Meeting Subsection (e)(1), Subsections 2299.1(h) and 93118(h)

Noncompliance for Reasons Beyond a Person’s Reasonable Control. In subsection (h)(2)(A), staff made some minor clarifying modifications. Specifically, in the language discussing noncompliance with the regulations for reasons beyond a person’s reasonable control, staff modified references to compliance with the emission limits in regulations to also include compliance under subsection (g), Alternative Control of Emissions in Lieu of Meeting Subsection (e)(1). This covers situations in which a ship operator is complying under an ACE plan. In addition, staff modified sentence that erroneously referred to four circumstances “beyond a person’s reasonable control” to change it to three circumstances.

Payment of Fees. In subsection (h)(2)(B), extraneous language was removed to improve the clarity of the provision.

Reference to Subsection (h)(2)(A) Clarified. In subsection (h)(2)(C), staff clarified a reference to subsection (h)(2)(A). In the original proposal, the reference referred only to (h)(2).

Noncompliance for Vessels to Be Taken Out of Service for Modifications. In subsection (h)(3), staff modified the original language to change references to the “Alternative Compliance Plan (ACP)” to the “Alternative Control of Emissions (ACE)” plan, consistent with the modified regulations. Staff also removed extraneous wording from subsection (h)(3)(A)(1) to improve the clarity of the provision.

Noncompliance Based on Infrequent Visits and Need for Vessel Modifications. In subsection (h)(4), staff made minor wording changes to improve the clarity of the original provision.

Calculation and Payment of Fees. In subsection (h)(5), discussing the calculation and payment of “noncompliance fees,” language was added to the original proposal defining “port visit,” and allowing for the payment of noncompliance fees after a vessel has left its California port if approved by the Executive Officer.

I. Test Methods, Subsections 2299.1(i) and 93118(i)

Updates to Fuel Specification and Test Method. Staff modified the original proposal to reflect updates to International Standard ISO 8217, and International Standard ISO 8754. Specifically, the modified proposal refers to the 2005 version of ISO 8217 and the 2003 version of ISO 8754.

J. Sunset, Technology Re-evaluation, and Baseline and Test Method Review, Subsections 2299.1(j) and 93118(j)

Technology Review. Staff modified the original proposal to clarify that the review of the lubricity of 0.1% sulfur marine gas oil, and the compatibility of this fuel with heavy fuel oil are two separate issues for investigation. These issues are separated under subsections (j)(2)C) and (j)(2)D) in the modified proposal.

K. Additional Supporting Documentation

In accordance with Government Code section 11347.1, staff added to the rulemaking record the following documents that support the regulatory action:

- 1) "Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach," California Air Resources Board, March 2006 (This document is the final version of the draft document included as Appendix G in the Initial Statement of Reasons);
- 2) "West Coast Offshore Vessel Traffic Risk Management Project, Final Project Report and Recommendations," Pacific States/British Columbia Oil Spill Task Force and the United States Coast Guard, July 2002;
- 3) "Distribution and End Use of Natural Gas," Presentation at Intsok LNG Seminar in Singapore, Tor Einar Berg, Marintek, October 29, 2004;
- 4) "Successful tests of dual fuel LNG ship Wartsila engine," MarineLog.com. January 20, 2003;
- 5) "Electric propulsion for LNG Carriers," LNG Journal, Jan Fredrik Hansen and Rune Lysebo, ABB AS Marine Group, September/October 2004;
- 6) "The World's First Gas-Powered Cargo Ship," U.S. Department of Transportation, Maritime Administration, Office of Shipbuilding and Marine Technology, Energy Technologies Newsletter No. 4, Winter 2003-2004;
- 7) Proposed "Emission Reduction Plan for Ports and Goods Movement in California," California Air Resources Board, March 21, 2006 (this was adopted by the Board at its April 2006 hearing);

- 8) "Evaluation of Cold Ironing Vessels in California," California Air Resources Board, March 6, 2006;
- 9) Act to Prevent Pollution from Ships (APPS), 33 U.S.C. 1901 et seq.; and
- 10) "Consideration of Navigational Safety in the Development of the Air Resources Board's Ship Auxiliary Engine Rule," Air Resources Board, April 4, 2006.

In addition to the modifications detailed in this FSOR, staff made other minor modifications in the regulatory text to improve clarity; to correct spelling, typographical errors, and grammar; and to make numbering adjustments.

III. SUMMARY OF COMMENTS AND AGENCY RESPONSES TO THE ORIGINAL PROPOSAL

The Board received numerous written and oral comments in the formal 45-day rulemaking comment period leading up to the December 2005 Board meeting, beginning with the notice publication on October 21, 2005, and ending with the closing of the record on December 8, 2005. A list of commenters is set forth in Table I below, identifying the date and form of all comments that were timely submitted, along with a reference number. Following the list is a summary of each objection or recommendation made regarding the proposed action (identified by reference number), together with an explanation of how the proposed action has been changed to accommodate the objection or recommendation or the reasons for making no change. The comments have been grouped by topic.

Comments not involving objections or recommendations specifically directed towards the rulemaking or to the procedures followed by the ARB in this rulemaking (e.g. general support letters) are not summarized in Table I below. Additionally, any other referenced documents are not summarized below.

Many of the commenters not included in Table I below expressed general support for the regulations. Specifically, ARB received more than 1,600 supportive comment letters from private citizens. We also received comments from the following that were generally supportive of the regulations or the rulemaking process, although some make recommendations requiring a response.

Comment Letters Expressing General Support for the Regulations

Alameda County Health Care Services Agency
American Lung Association of California
Assemblyman Hector De La Torre, et al
Bay Area Air Quality Management District
Bay Area Clean Air Task Force
Bluewater Network

California Air Pollution Control Officers Association
City of Commerce
City of Seal Beach
Coalition for Clean Air, Natural Resources Defense Council, et al
Long Beach Councilmember Bonnie Lowenthal
Oakland City Councilmember Nancy Nandel
Port of San Francisco
Sacramento Metropolitan Air Quality Management District
San Diego County Air Pollution Control District
San Francisco Board of Supervisors
Santa Barbara County Air Pollution Control District
Senator Alan Lowenthal, et al.
South Coast Air Quality Management District
Ventura County Air Pollution Control District

Testimony Expressing General Support for the Regulations

Alan Gordon for Senator Joe Simitian
American Lung Association of California
Bay Area Air Quality Management District
Bluewater Network
Bob Hoffman, Dock Watts LLC
California Air Pollution Control Officers Association
Clean Energy
Coalition for Clean Air
Long Beach Alliance for Children with Asthma
Natural Resources Defense Council
Port of Los Angeles
Sierra Club
South Coast Air Quality Management District
Union of Concerned Scientists
United States Navy

Table I
Comments received during the 45-day comment period that received a response

Abbreviation	Reference Number	Commenter
ALA	ALA	Bonnie Holmes-Gen American Lung Association Oral testimony: December 8, 2005
BAAQMD	BAAQMD	Tom Addison Bay Area Air Quality Management District Oral testimony: December 8, 2005
BP	BP	Dave Smith British Petroleum Oral testimony: December 8, 2005
BW	BW 1	Teri Shore Bluewater Network Written testimony: December 1, 2005
BW	BW 2	Teri Shore Bluewater Network Oral testimony: December 8, 2005
CAPCOA	CAPCOA 1	Barbara Lee California Air Pollution Control Officers Association Written testimony: December 7, 2005
CAPCOA	CAPCOA 2	Barbara Lee California Air Pollution Control Officers Association Oral testimony: December 8, 2005
CCA	CCA 1	Candace Kim Coalition for Clean Air Oral testimony: December 8, 2005
CCA	CCA 2	Martin Schlageter Coalition for Clean Air Oral testimony: December 8, 2005

Table I (cont.)

Abbreviation	Reference Number	Commenter
CE	CE 1	Mitchell Pratt Clean Energy Written testimony: December 6, 2005
CE	CE 2	Tom Campbell Clean Energy Oral testimony: December 6, 2005
COMMERCE	COMMERCE	Nancy Ramos City of Commerce Written testimony: December 7, 2005
DFG	DFG	Lisa Curtis Department of Fish and Game Office of Spill Prevention and Response Written testimony: December 6, 2005
DLA	DLA	David Pamplin Defense Logistics Agency Written testimony: December 2, 2005
ENVIRO	ENVIRO	Tom Plenys, Coalition for Clean Air Diane Bailey, Natural Resources Defense Council, et al Written testimony: December 7, 2005
GORDON	GORDON	Alan Gordon (for Senator Joe Simitian) Oral testimony: December 8, 2005
HK	HK	Dennis Bryant Holland and Knight, LLP Written testimony: November 21, 2005
HOFFMAN	HOFFMAN 1	Bob Hoffman Dock Watts LLC Written testimony: December 5, 2005
HOFFMAN	HOFFMAN 2	Bob Hoffman Dock Watts LLC Oral testimony: December 8, 2005

Table I (cont.)

Abbreviation	Reference Number	Commenter
ICCL	ICCL	J. Michael Crye International Council of Cruise Lines Written testimony: December 7, 2005
ICS	ICS 1	David Tongue International Chamber of Shipping Written testimony: November 25, 2005
ICS	ICS 2	Bradley Rose International Chamber of Shipping Oral testimony: December 8, 2005
INTERTANKO	INTERTANKO 1	Joe Angelo International Association of Independent Tanker Operators Written testimony: December 2, 2005
INTERTANKO	INTERTANKO 2	Joe Angelo International Association of Independent Tanker Operators Oral testimony: December 8, 2005
ISCCA	ISCCA	Joseph Cox, Chamber of Shipping of America Peter Hinchliffe, International Chamber of Shipping, et al Written testimony: December 7, 2005
LBACA	LBACA 1	Elina Green Long Beach Alliance for Children with Asthma Oral testimony: December 8, 2005
LBACA	LBACA 2	Evangelina Ramirez Long Beach Alliance for Children with Asthma Oral testimony: December 8, 2005
LEGISLAT	LEGISLAT	Assemblyman Hector De La Torre Senator Alan Lowenthal, et al Written testimony: December 8, 2005
LOWENTHAL	LOWENTHAL	Bonnie Lowenthal Long Beach Councilmember, 1 st District Written testimony: December 7, 2005

Table I (cont.)

Abbreviation	Reference Number	Commenter
MARAD	MARAD	Bryan Vogel United States Maritime Administration Oral testimony: December 8, 2005
MATSON	MATSON	R.J. Forest Matson Navigation Company Written testimony: December 5, 2005
NAVY	NAVY 1	Rene Trevino Department of the Navy Written testimony: December 7, 2005
NAVY	NAVY 2	Randal Friedman United States Navy Oral testimony: December 8, 2005
NRDC	NRDC	Diane Bailey Natural Resources Defense Council Oral testimony: December 8, 2005
PMSA	PMSA 1	John McLaurin Pacific Merchant Shipping Association Written testimony: December 7, 2005
PMSA	PMSA 2	T.L. Garrett Pacific Merchant Shipping Association Oral testimony: December 8, 2005
POLA	POLA	Dr. Ralph Appy Port of Los Angeles Oral testimony: December 8, 2005
SCAQMD	SCAQMD 1	Barry Wallerstein South Coast Air Quality Management District Written testimony: December 7, 2005
SCAQMD	SCAQMD 2	Paul Wuebben South Coast Air Quality Management District Oral testimony: December 8, 2005

Table 1 (cont.)

Abbreviation	Reference Number	Commenter
SCC	SCC	Bill Magavern Sierra Club California Oral testimony: December 8, 2005
SFHSC	SFHSC	Joan Lundstrom San Francisco Harbor Safety Committee Written testimony: November 20, 2005
SMAQMD	SMAQMD	Larry Greene Sacramento Metropolitan Air Quality Management District Written testimony: November 29, 2005
SSA	SSA	Mark Johnson SSA Marine Written testimony: December 5, 2005
STATE	STATE	Margaret Hayes U.S. Department of State, Bureau of Ocean & International Environmental & Scientific Affairs Written testimony: December 7, 2005
UCS	UCS	Don Anair Union of Concerned Scientists Oral testimony: December 8, 2005
WOEIP	WOEIP	Margaret Gordon West Oakland Environmental Indicators Project Written testimony: December 7, 2005
WSPA	WSPA 1	Catherine Reheis-Boyd Western States Petroleum Association Written testimony: December 2, 2005
WSPA	WSPA 2	Frank Holmes Western States Petroleum Association Oral testimony: December 8, 2005
WSPA	WSPA 3	Dave Smith Western States Petroleum Association Oral testimony with Slides: December 8, 2005

Table 1 (cont.)

Abbreviation	Reference Number	Commenter
WYMAN	WYMAN	Bob Wyman Latham and Watkins LLP Oral testimony: December 8, 2005

A. Regulation Requirements

1. **Comment:** The ARB should withdraw this regulation and work with the industry to develop programs such as the voluntary speed reduction and other measures that we can all agree on. (PMSA 1)

Response: It is not appropriate to withdraw a regulation simply because some parties do not agree that it is the best approach. The Staff Report fully supports the technical feasibility of the regulations, their cost-effectiveness, and the need for the emission reductions that will be achieved.

2. **Comment:** The ARB should adopt our alternative three part proposal which would attain 90% of the health risk benefits to the citizens near the port, and reduce the safety and jurisdictional concerns. The proposal is as follows: (1) approve the proposed regulation, but limit it to ships at dockside or at anchor, which would substantially eliminate the safety concerns and reduce the probability of legal challenges; (2) continue to participate in the West Coast Collaborative, which is working with U.S. EPA, Environment Canada, and the IMO to implement a North American Sulfur Emission Control Area in the U.S. and Canada; and (3) work with the Maritime Goods Movement Coalition to achieve emission reductions through a market-based program. It is necessary to have all parties working together to have a successful program in controlling marine and port emission, and the MGM plan is a good vehicle to make this happen. (WSPA 1; WSPA 2)

Response: As discussed in the Staff Report (pp. V-17 and V-18), the emission reductions achieved by the commenter's proposed alternative would be reduced by a minimum of 40 percent compared to the proposed regulations because the emissions from auxiliary engines on vessels at sea within the 24 nautical mile boundary would no longer be controlled. As noted by the commenter, the hotelling component of the emissions from ship auxiliary engines does represent the most significant source of risk. However, the diesel PM emissions that occur while the vessel is transiting also pose a significant health impact to the residents living near the ports (i.e. a large, heavily populated area is exposed to a cancer risk level greater than 10 per million). We also note that the health risk analysis referred to by the commenter is only for the area the Ports of Los Angeles and Long Beach. The magnitude of the risk and the contribution

of each component of emission from this source (i.e. hotelling and transiting emissions from auxiliary engines) depend on many local factors, such as meteorological conditions, geophysical terrain, etc. For example, in the San Francisco Bay Area, ship transiting emissions within the Bay may result in a greater percentage of risk to the nearby communities (compared to hotelling). In addition, if fuel switching were to be done at dockside there will be a transition period with operation on heavy fuel oil, resulting in significantly higher emissions.

In addition, the health risk associated with NO_x and SO_x emissions is not considered by the commenter. These emissions can be transported from ships at sea to onshore sources (Staff Report, p. IV-7), where they can contribute to the formation of particulate matter in the form of nitrates and sulfates (Staff Report, p. II-2 through II-4). In addition, NO_x emissions also contribute to higher ozone levels, and many coastal districts exceed State and federal health-based ozone standards.

Regarding the ARB's involvement in the West Coast Diesel Collaborative, and ARB's consideration of market-based programs proposed by the Maritime Goods Movement Coalition, these items are largely independent of the development of the regulations. ARB plans to continue to participate in the West Coast Diesel Collaborative, and consider all available approaches to achieve emission reductions from ports and the goods movement system, including market-based approaches.

3. **Comment:** Rulemaking in a piecemeal fashion could unintentionally thwart economic and environmental goals. We hope that the Board would remain open to incorporating the proposed regulation, if approved, into the comprehensive market-based approach the Maritime Goods Movement Coalition has developed (which has been appended to your agency's Goods Movement Emission Reduction Plan). We think our market-based approach has the following advantages: (1) it would bridge potentially significant gaps in legal authority; (2) the plan would benefit the environment because it provides an ongoing incentive for technology advancement, emission reductions and air quality improvement; (3) the program can target the most highly impacted communities by accelerated investment in these area and by implementing one-way trading in these zones; and (4) market-based approaches can save a lot of money, in this case billions of dollars. (WYMAN)

Response: As discussed in the Staff Report, the regulations will result in substantial environmental benefits, they are cost-effective, and the ARB has the legal authority to adopt the regulations. We remain open to alternative approaches in the future, including the possibility of developing a market-based approach that could potentially incorporate the regulations. However, the approach suggested by the commenter is currently just a concept, not a fully detailed, working alternative. While in theory such a program could result in greater flexibility to the affected industry and the other benefits mentioned by the commenter, such programs are inherently complex and difficult to enforce. They can also result in greater paperwork and other logistical burdens on

industry. In short, market-based approaches are not necessarily a more effective approach than developing regulations for individual sources.

In addition, the regulations already provide significant flexibility to the affected industry by including the Alternative Control of Emissions (ACE) provision. The ACE allows ship operators to comply with the regulations through any control technology that achieves the required emission reductions. It also allows the emission reductions required by the regulations to be averaged over a fleet of vessels. Overall, the regulations provide a balance between the need for flexibility and the need to ensure that the regulations are enforceable and easy to understand.

As noted previously, staff is open to revisiting the regulations in the future if and when the commenter's suggested concept is more fully "fleshed out."

4. **Comment:** Limits are needed on all the sources of emissions near the ports because people living here are exposed to emissions from ships, the ports, refineries, and trucks. These emissions affect everyone, including children and older people. Some days I cannot stay outside with my children because the air smells so bad. I help teach citizens in the community to control their asthma, but I cannot control the air quality. (LBACA 2)

Response: We agree that further regulations beyond the ship auxiliary engine regulations are needed to reduce health risks to acceptable levels. As discussed in the ISOR, ARB is pursuing a number of additional measures for port sources (p. ES-2).

5. **Comment:** The regulation is unnecessary because the International Maritime Organization (IMO) has ratified Annex VI, which sets sulfur limits on fuel, limits emissions of volatile organic compounds and nitrogen oxides (NOx), and has a fuel quality assurance program. (ISC 2)

Response: We need the benefits of both Annex VI and the regulations. As discussed in the Staff Report, the provisions of Annex VI alone are not sufficient to protect public health in California, and it appears unlikely the IMO will adopt equally effective regulations in the near future (pp. V-15 to V-17). In particular, Annex VI does not achieve significant particulate matter (PM) reductions, which are the most important benefit of the proposed regulations. For example, the new engine emission standards under Annex VI only apply to nitrogen oxides (NOx), not PM. In addition, the IMO fuel sulfur limit mentioned by the commenter is so high (4.5% sulfur) that it has little impact in reducing emissions of PM or sulfur oxides (SOx). The formation of a Sulfur Emission Control Area (SECA) under the IMO, which would limit fuel sulfur to 1.5%, is a possibility if the U.S. ratifies the treaty. However, the creation of a SECA off California's coastline or beyond could take many years, and the emission reduction benefits would be far less than the staff proposal. Specifically, as discussed in the Staff Report (p. V-16), we estimate that the regulations would reduce emissions of PM, NOx, and SOx by

75%, 6%, and 80% respectively. The use of 1.5% sulfur fuel would result in emission reductions in PM and SOx of about 18% and 44% respectively, with no NOx benefit.

6. **Comment:** The regulation of international commerce should be done by the federal government. (ISC 2)

Response: As discussed in the Staff Report (p. V-13), we agree that the regulation of ocean-going ships would ideally be handled on a national or international basis. Recognizing this, we included a provision in the regulations directing the Executive Officer of the ARB to propose termination of the regulations to the Board if the IMO or U.S. EPA adopts equally effective regulations for ocean-going vessels. However, as discussed in the previous comment, it appears unlikely that the U.S. EPA or IMO will adopt equally effective regulations in the foreseeable future, and the existing regulations are not sufficient to protect public health in California.

7. **Comment:** Uniformity of fuel standards is needed for vessels calling on multiple international ports. (ISC 2)

Response: We agree that a uniform international fuel standard would be preferable to ship operators. However, ship operators are sophisticated and can adjust to different fuel standards in sensitive areas. The creation of the Baltic Sea Sulfur Emission Control Area (SECA), which requires the use of 1.5% sulfur fuel, demonstrates that it is feasible and sometimes necessary to implement more protective fuel standards. As discussed in Responses to Comments A.5 and A.6, the existing international fuel standards (even with the possibility of a SECA) are insufficient to protect public health in California.

8. **Comment:** We suggest an alternative approach to the regulation. First, require refineries in California to produce the low sulfur fuel so it is available, rather than relying on demand to do it, since ship owners are not going to be able to create demand. Second, pursue a sulfur control area under Annex VI of MARPOL through the USCG and EPA. (INTERTANKO 2)

Response: It is unnecessary to require refineries in California to produce low sulfur fuel. Ship operators can comply with the regulations through the use of marine gas oil (MGO) which is widely available at ports in California and worldwide (Staff Report, p. VI-6). There is no sulfur limit on the MGO specified in the regulations (as long as it meets the international specifications for marine gas oil) until 2010, when a 0.1% sulfur limit is specified. However, as specified in the regulations, prior to 2010 a feasibility study will be completed to determine whether there is sufficient worldwide supply of this fuel. If the supply is determined to be insufficient at that time, the standard will be modified. In addition, operators purchase fuel at ports worldwide, and would need to begin using the cleaner fuels prior to entering the 24 nautical mile boundary before reaching a California port, so a California-only regulation on refineries would not be efficacious.

Regarding a sulfur emission control area (SECA), ARB staff is currently working with the U.S. EPA and others to pursue the creation of a SECA. However, as explained in the Response to Comment A.5, the creation of a SECA alone would not be sufficient to protect public health in California.

9. **Comment:** We believe the regulation should focus on the emissions near port communities. The health assessment study for the Ports of Long Beach and Los Angeles focused on the health impacts near ports. Your report states that “the communities closest to the port operations face the greatest risk of impacts, have the greatest localized risk due to high exposure levels to PM.” It is not clear how the emissions out to 24 miles out and up and down the coast benefits the population’s health. (HOFFMAN 2)

Response: As discussed in Comment A.2, emissions of diesel PM within the 24 nautical mile boundary can reach land and result in adverse health impacts to citizens. In addition, the commenter only addresses the impacts of diesel particulate matter. The regulations also reduce sulfur oxide and nitrogen oxide emissions. These emissions can be transported over greater distances compared to particulate matter.

10. **Comment:** The regulation emphasizes compliance through the use of cleaner fuels. We would like to see more emphasis on some of the alternatives in light of the integrated approach that the CEC is looking at. One of the benefits of the shore power alternative is reducing fuel consumption in California. So you are addressing two regulatory agencies at once. (HOFFMAN 2)

Response: The inclusion of the Alternative Control of Emissions (ACE) provision in the regulations provides ship operators with the option to comply with the regulations through the use of any alternative control technology that can be demonstrated to achieve equivalent or greater emission reductions (including the use of shore-power). In fact, there is a special provision within the ACE (“Use of Shore-Side Power”) designed to encourage the use of shore-power by simplifying the requirements for applicants using this control option.

11. **Comment:** We believe that hotelling emissions should be emphasized and the resulting emission reductions that are in excess of what the regulations require (particularly for NOx) should be treated as surplus reductions. The surplus reductions (surplus to the SIP) should be allowed to be applicable to incentive programs like Carl Moyer or emission reduction credits or some type of market approach. (HOFFMAN 2)

Response: As noted in the prior response, the regulations include an ACE provision which allows participants to achieve the required emission reductions through any control technology that can be demonstrated to achieve equivalent or greater reductions compared to the use of the specified fuels. Under this provision, an applicant that

achieves greater benefits onshore than required may be able to use these excess emission reductions to compensate for a deficit in reductions at sea. It would also allow for achieving the required emission reduction benefits over a company's fleet of vessels such that over-complying vessels could compensate for an under-complying vessels. We believe this provides adequate flexibility to industry, and an incentive for industry to introduce new technologies. Implementing additional provisions to allow for the generation of credits or to implement market based approaches may introduce additional flexibility. However, these approaches add complexity, increased recordkeeping requirements, and would likely delay the development and implementation of the regulations. Please also see Response to Comment A.3.

12. **Comment:** It is unfair to require a ship that shore powers to switch to marine diesel oil (MDO) fuels at mooring stops (such as a cruise ship that connects to shore power at Los Angeles and then moors off Catalina Island). If they are required to switch fuels they may not stop at Catalina. I recommend looking at an alternative where barge mounted diesel engines burning clean fuel could supply power at mooring stops. (HOFFMAN 2)

Response: We disagree and believe the regulations' requirements are reasonable. Under the ACE's "Use of Shore-Side Power" provision, a vessel that uses shore-side power during a California port visit is not required to meet the regulations' emission limits (i.e., through the use distillate fuels such as MDO, or alternative controls) while traveling to and from this port within "Regulated California Waters." However, if the vessel makes a second California port call on this trip where shore-side power is *not* used, then the "exemption" from the emission limit ends at that point. For the case mentioned by the commenter, where a vessel makes a California port visit utilizing shore-power, and subsequent travel from this port includes a mooring stop (e.g. the vessel uses shore-side power at Los Angeles/Long Beach, then anchors off Catalina Island before traveling to a Mexican port), the exemption from the emission limit continues for the entire trip after departing from the port where cold-ironing is used as if no mooring stop occurred, except that the vessel must meet the emission limit during the mooring stop. This is reasonable because the vessel will be situated relatively close to land for an extended time while at anchor to facilitate the transport of passengers to land. It is also less restrictive than considering the mooring stop a "port visit," which would terminate the vessel's exemption from the emission limit for all subsequent travel in Regulated California Waters (e.g., travel along California's coastline from Catalina Island to the Mexico/California border).

Regarding the commenter's suggestion to allow for compliance via power generated by a barge mounted diesel engine burning cleaner fuel, this would be allowable under the general ACE provisions (but not the special ACE provision "Use of Shore-Side Power") provided the overall emission reductions are equivalent to or greater than direct compliance with the regulations.

13. **Comment:** We would like to see the implementation of cold-ironing expedited. (SCAQMD 2).

Response: The regulatory requirements begin on January 1, 2007, and encourage the use of shore-side power (cold-ironing) through the “Use of Shore-Side Power” provision in the ACE section. We believe this will expedite the implementation of cold-ironing. In addition, ARB staff is considering for a separate rulemaking in the near future a stand alone regulation intended to further encourage the use of cold-ironing for vessels that frequently visit California ports.

14. **Comment:** Tighter local controls in addition to this rule may be necessary due to the impacts of port emissions in our area. (SCAQMD 2).

Response: We agree that additional controls on port emissions will be necessary to achieve healthy air quality within the South Coast Air Basin. A combination of programs at the local, state, and federal level will most likely be needed. Additional state measures are already being developed by ARB staff for the Board’s consideration.

15. **Comment:** Cold-ironing is such a straight-forward measure, it should be a rule of its own rather than an alternative to this program. (CE 2).

Response: The ARB staff is considering such a measure for vessels that frequently visit California ports. See Response to Comment A.13.

16. **Comment:** The rule should have flexibility, especially in the beginning, in consideration of the amazingly complex and wide array of vessel configurations. (POLA)

Response: We believe the ACE provision provides the needed flexibility by allowing vessel operators to use any strategy that meets the applicable emission limits. Please also see Responses to Comments A.3 and A.11.

17. **Comment:** Although the complicated framework for regulation of ships is a potent argument for not moving forward, failure to act on a geographically broad framework at least at the state level, will continue to force local decisions on goods movement processes through the CEQA process. This has a potential to stifle port infrastructure improvements, create uneven playing fields between port customers and ports, and forcing growth restriction decisions down to the local level. (POLA)

Response: We agree that regulations on a least a statewide level are appropriate because it would create a level playing field among ports statewide, and reduce the need to address emissions from this source on a case-by-case basis in different localities. In fact, we acknowledge that regulations on a national or international level would be preferable. As specified in subsection (j)(1) of the regulations, if the International Maritime Organization or U.S. Environmental Protection Agency adopt

regulations that will achieve equivalent or greater emission reductions from these engines on ocean-going vessels in California, the Executive Officer of the ARB will propose that the Board consider terminating or modifying the regulations. Regarding the complexity of the industry, we believe the ACE Plan provision provides flexibility to the industry, which will help address this concern by providing ship operators with the ability to tailor different emission reduction approaches to their particular vessel.

18. **Comment:** The proposed regulations and the requirements set forth in the IMO's MARPOL Annex VI should be aligned. Tighter IMO emission standards are anticipated. (ICS 1)

Response: As discussed in the Staff Report (p. V-15), the requirements of the International Maritime Organization's MARPOL Annex VI do not achieve the emission reductions needed to protect public health in California. In addition, there is no conflict between IMO Annex VI and the regulations. Ship operators can comply with both requirements. This is not unlike the requirements now for ships traveling within a Sulfur Emission Control Area in the Baltic Sea, or for ships subject to the European Union's Directive 2005/33/EC. Finally, the possibility of tighter Annex VI MARPOL emission standards is not compelling since the U.S. is still not a signatory to the existing treaty, nearly ten years after it was adopted. And even if IMO is currently discussing further tightening the Annex VI standards, there is no certainty that such standards, if they are ever ratified and enter into force, would achieve equivalent reductions within the same timeframe as ARB's regulations are designed to achieve.

19. **Comment:** The ARB's "Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach" concludes that hotelling is the most significant source of risk and that it contributes over 90% of the risk from diesel PM emissions to local communities. Transiting emissions from oceangoing vessels contribute only 1-3% of the risk. This report supports our suggestion that the rule only target hotelling emissions at this time. Hotelling emissions will: (1) address 90% of the risk in the ports; (2) send a signal to the vessel community that the state wants to work together with the industry to address the more difficult challenge of transiting emissions; and (3) reduce interest in legal challenges to CARB's jurisdiction. (WSPA 1)

Response: See Response to Comment A.2 regarding the risk reduction associated with the commenter's proposal to limit the regulations to hotelling. In addition, we do not believe it is necessary to modify the regulations as suggested by the commenter to demonstrate that the State wants to work with the industry. The ARB staff worked extensively with the industry and other members of the public in developing the regulations. As discussed in the Staff Report (p. I-4 to I-6), ARB held five public workshops or workgroup meetings to discuss draft language for the proposed regulations. The ARB staff modified the regulations numerous times as a result of comments received by the affected industry during these workshops. Finally, it would not be appropriate to modify the regulations based on potential interest in legal action.

In any case, we believe the regulations will withstand legal scrutiny and challenges. See Response to Comments in Section N below.

20. **Comment:** The proposed regulation ignores the benefit of the international regime. The regulation would impose the provisions of a Coastal State and thus open the possibility of similar actions from other Coastal States, resulting in a large variety of different requirements. We recommend CARB assist EPA to define a US contribution to the revision of MARPOL Annex VI in IMO. (INTERTANKO 1)

Response: See Response to Comments A.5 and A.6.

21. **Comment:** The regulation should only be applicable within a reasonable proximity to the ports because the ARB's PM exposure assessment demonstrated that the land-based or near dock diesel PM emissions were responsible for greater impacts than the emissions occurring outside of the breakwater. Specifically, it showed that the risk from emissions in-port or near dock is about 4.5 times that resulting from over-water out-of-port emissions. (HOFFMAN 1)

Response: See Response to Comment A.2.

22. **Comment:** The regulation should focus on ship emissions from hotelling. ARB's PM exposure assessment suggests that hotelling emissions from ship auxiliary engines and emissions from cargo handling equipment are the primary contributors to the higher pollution related to health risks near ports. (HOFFMAN 1)

Response: See Response to Comment A.2.

23. **Comment:** The regulation should designate emissions reductions exceeding requirements as surplus reductions. This would result in an incentive to entice ships to implement alternative emission reduction strategies such as shore power. The benefits of these alternatives could extend to other ports in the U.S. and beyond. (HOFFMAN 1)

Response: See Responses to comments A.10 and A.11.

24. **Comment:** The emissions from ships while at berth (hotelling emissions) exhibit the characteristics of stationary emissions sources. If excess emission reductions achieved from hotelling are deemed to be surplus to the SIP, there is a potential for the generation of emission reduction credits applicable to incentive programs administered by regional air quality districts or the Carl Moyer Program. This could result in greater benefits than expected under the regulation. (HOFFMAN 1)

Response: See Response to Comment A.11.

25. **Comment:** ARB should mitigate regulatory uncertainty attributable to future changes in the regulation. Applicants that consider expending capital to comply should have some degree of certainty that their investment will be sufficient to ensure compliance for some minimum duration of time. (HOFFMAN 1)

Response: We are unclear on the commenter's suggestion. If the commenter is referring to the feasibility study to be performed prior to the implementation of the 2010 emission limit based on 0.1% sulfur fuel, this study is necessary since the global supply of such fuel is not currently adequate. However, as explained in the Staff Report (p. VI-8), the supply may become sufficient as we approach 2010, due in part to the European Union's Directive requiring the use of 0.1% sulfur fuel at dockside. See Response to Comment A.18.

26. **Comment:** Shore-side power should be encouraged. This is an optimal means to reduce ship hotelling emissions. Shore-power allows ships to displace fuel oil with clean electric energy, supporting California Energy Commission goals to reduce fuel oil consumption. The emission reduction benefits of shore-side power can be measured. Shore-side power may become the norm for all ports and ships on the West Coast and world wide. However, early implementation will require well structured incentives, markets solutions, and funding support. Also, shore-side power is best for ships with significant hotelling loads that frequently call on California ports, and would not be justified as a comprehensive mandate. (HOFFMAN 1)

Response: We agree that shore-side power should be encouraged and have therefore included a special provision in the ACE provision to accomplish this. See Response to Comment A.10.

27. **Comment:** The regulation should be withdrawn as it cannot survive legal and technical challenges. (MATSON)

Response: We disagree. The ARB has the authority to adopt and implement the regulations, as discussed in Appendix B of the Staff Report. See Responses to Comments in Section N below. In addition, the regulations are technically feasible as discussed in Chapter VI of the Staff Report.

28. **Comment:** The regulation should be based on the totality of the record outside of the data from the ARB Oceangoing Ship Survey. The Survey represented 17% of the ship visits to California in 2004. However, the fleet that visits California varies from year to year. The 17% is accurate with respect to 2004 only. A timeframe representative of capturing the

entire fleet that would reveal that the Survey more closely represents 6.5% of the total oceangoing ships that visit California. (PMSA 1)

Response: The regulations are the products of an extensive public process that included input from the industry and other interested parties. They are also based on multiple sources of information, as demonstrated by the references cited in the Staff Report. The ARB's Ocean-Going Ship Survey is one of many sources of information used to develop the regulations. In short, we developed the regulations using the best available data.

We disagree that the results of the Survey are inadequate because the vessels visiting California vary from year to year. It is unreasonable to require such a survey to be repeatedly conducted over a period of years. It is never possible to capture the "entire fleet" because the fleet is constantly changing as older vessels are retired or moved out of routes serving California ports, and at the same time existing vessels are redirected to routes serving California and newly built vessels are introduced into service.

It should also be noted that the commenter did not offer any information supporting a different conclusion than the one staff made based on the Survey information.

29. **Comment:** The regulation does not qualify as an Airborne Toxic Control Measure since the reduction in fuel sulfur content addresses the criteria pollutants of SO₂ and particulate sulfate and not the chemical constituents associated with diesel toxicity. Therefore, any reference to airborne toxic control and the cancer risk benefits assumed should be removed from this regulation. (PMSA 1)

Response: We disagree. The ATCM qualifies as such because it addresses and reduces emissions of whole diesel exhaust as represented by diesel particulate matter (diesel PM). The ARB identified diesel PM as a toxic air contaminant in 1998. In the identification process, ARB identified diesel PM, from compression ignition engines using diesel fuel, as an appropriate surrogate for representing the health impacts associated with all the components of diesel exhaust, including gaseous, liquid, and solid components.

As explained in the Staff Report (Chapter II, sections B and C), marine diesel engines are compression ignition engines and fuels used in such engines are diesel fuels. Therefore, the emissions from marine diesel engines, including those subject to the regulations, are toxic air contaminants. The regulations will reduce emissions of NO_x, SO_x, and diesel PM, as well as other toxic compounds that together make up diesel exhaust. These emission reductions will not be limited to the sulfate portion of diesel PM. The fuels specified as compliance options in the regulations are distillate fuels that will result in lower emissions of all components of diesel PM (i.e., carbonaceous material, inorganic compounds, soluble organic compounds, sulfates, etc.) because of the properties of the fuel itself. Specifically, the distillate fuels have lower levels of

aromatic compounds, metals and other contaminants, and are lighter fuels with lower molecular weight compounds.

30. **Comment:** During the adoption of U.S. EPA's Nonroad Emission Control Program's rulemaking regarding control of emissions from marine engines, U.S. EPA determined that marine emission control programs "should be considered in the broader context of EPA's nonroad emission-control programs, international activities, including MARPOL Annex VI, our previous marine emission control program, European Union initiatives, and activities at the state level. The ARB should consider the adoption of their regulations in at least as broad of a rulemaking context as U.S. EPA to fairly evaluate their rulemaking using the proper totality of the record. (PMSA 1)

Response: As suggested by the commenter, the regulations were developed after considering the emission reduction impacts of other regulations. Specifically, we determined that the existing U.S. EPA and international regulations will not achieve the level of emission reductions needed to protect California citizens. See also Response to Comment A.5. above and comments in Section N below.

31. **Comment:** The regulation should be pulled from consideration due to the significant safety, technical, logistical and legal issues it raises, and the level of effort need to address them. Instead, measures that the state should actively support and facilitate include a commitment to the ratification of IMO Annex VI, the establishment of a North American Sulfur Emission Control Area, and voluntary agreements such as we have discussed with you previously. We also suggest that the regulation be delayed to allow it to be considered along with other proposals under the Governor's Goods Movement Action Plan. Specifically, it should be vetted by the Integrating Work Group and Cabinet level Committee on Goods Movement. (PMSA 1)

Response: We disagree. As discussed in the Staff Report (Chapter VI), ship operators can safely comply with the emission limits in the regulations. Specifically, ship operators can use the cleaner distillate fuels specified in the regulations, or can implement other control strategies that achieve equivalent emission reductions. The Staff Report (Appendix B) also demonstrates that the ARB has the legal authority to regulate this source. See also Responses to Comments in Section N below.

The ARB has and will continue to support the ratification of Annex VI, and will continue to provide assistance to the U.S. EPA in evaluating the establishment of a Sulfur Emission Control Area. However, to achieve the emission reductions necessary to protect public health in California, the regulations are needed in addition to the ratification of Annex VI and the establishment of a SECA. It is also not appropriate to delay the regulations since they have already gone through a lengthy public process which included five public workshops or workgroup meetings (see Staff Report, Chapter

l) and were proposed for the Board's consideration at its December 8, 2005 public hearing. The commenter's suggestion notwithstanding, the regulations are already an important part of the Governor's Goods Movement Action Plan, which was considered and adopted by the Board at its April 2006 hearing.

32. **Comment:** We urge the ARB to approach the challenge of cleaner air in a manner that is fully consistent with national and international protocols, mechanisms, and legal precedents. The international community has adopted a comprehensive international regulatory regime that addresses all aspects of pollution reduction, and it is in the interests of all concerned to embrace and strengthen this regime, and not to weaken the regime through piecemeal and local regulations. (ICCL)

Response: See Responses to Comments A.5 and A.6. See also Responses to Comments in Section N.4 for a discussion of ARB's legal authority to promulgate these regulations under international law.

33. **Comment:** The United States ratification of Annex VI to MARPOL would achieve the goals sought by CARB's proposed regulation in a manner that is fully consistent with national and international law. The US ratification of this convention would provide a framework for reducing sulfur content in fuels, with allowances to mandate levels below 1.5% or other equivalent means of reducing pollutants in air emissions. This convention has been forwarded by President Bush to the US Senate for its advice and consent for ratification, and recently was the subject of a hearing in the Senate Foreign Relations Committee wherein overwhelming support for ratification was reached. (ICCL; ISCCA)

Response: See Responses to Comments A.5 and A.6.

34. **Comment:** We urge you to insure that the rule includes a strong role for alternative fuels, including electric equipment, to maximize emission reductions. (ALA)

Response: The regulations allow operators (under the ACE provision) to decide what approach they wish to use to comply with the regulations as long as the emission reductions are equivalent to what would be achieved using the distillate fuels. This structure clearly allows for the use of alternative fuels, as well as shore-side power, provided the operators show the requisite equivalence to emissions based on distillate fuel. See also Response to Comment A.10.

35. **Comment:** CARB should reconsider its proposed regulation because the only efficient and safe solution to achieve air emission reductions from ships is through internationally agreed regulations and standards. CARB should harmonize its regulation with the requirements of the International Maritime Organization, Annex VI to the International Convention for the

Prevention of Pollution from Ships. This Convention was adopted in 1997 and IMO has already opened it for amendments aimed to reduce emissions further. (INTERTANKO 1)

Response: See Response to Comment A.6.

36. **Comment:** The CARB's Diesel PM Exposure Assessment for the Ports of Los Angeles and Long Beach concludes that hotelling is the most significant source of risk and that it contributes over 90% of the risk from diesel PM emissions to local communities. Transiting emissions from ships contribute only 1-3% of the risk. This report strongly supports our suggestion that the rule should only target hotelling emissions. This would also address 90% of the risk in the ports, send a signal to the vessel community that the state wants to work with us in addressing the more difficult challenge of transiting emissions, and reduce the interest in legal challenges to CARB's jurisdiction. (WSPA 1)

Response: See Responses to Comments A.2 and A.19.

37. **Comment:** The cleanest possible equipment should be used in all aspects of the maritime business. (WOEIP)

Response: We believe the regulations set the most stringent emission limits feasible at this time. These limits would dramatically lower diesel PM emissions from auxiliary engines, as well as reduce their NOx and SOx emissions. The emission limits can be met through the use of the cleaner fuels specified in the regulations or through other control strategies (such as add on control equipment) under the Alternative Control of Emissions provision. In addition, ARB approved a regulation to reduce emissions from cargo handling equipment at ports on the same day that the regulations for ship auxiliary engines were approved. The ARB also intends to address other major sources of maritime emissions, as stated in the Staff Report (pp. ES-1 and ES-2).

B. Fuel Specifications

1. **Comment:** The use of bunker fuel should be limited, if not prohibited, because it is about the dirtiest fuel that is possible to be burned, it is contaminated with hazardous waste, and its use by onshore facilities would be prohibited. (GORDON)

Response: We believe the regulations will accomplish the commenter's goal without actually banning bunker fuel. We expect that most ship operators will comply with the regulations by switching from bunker fuel to cleaner burning distillate fuel within 24 nautical miles from the California coastline. The use of bunker fuel might continue for vessel operators who obtain approval for ACE plans based on alternative emission control strategies and technologies. However, the alternative controls would need to achieve emission reductions equivalent or greater than those to be achieved with use of

the distillate fuels. For example, bunker fuel could continue to be used if exhaust emission controls reduce a ship's stack emissions to the levels that would be achieved with the cleaner distillate fuels.

2. **Comment:** There should be a firm cap on the sulfur content levels established in the rule. The existing requirements for fuel sulfur are ambiguous. (GORDON; COMMERCE)

Response: We agree in part and disagree in part. Under the regulations, ship operators can comply by using marine gas oil (MGO) or marine diesel oil (MDO) as specified. As mentioned by the commenter, there is no sulfur limit on MGO (other than the 1.5% sulfur limit necessary to meet the definition of MGO). This is because some ports currently do not offer low sulfur MGO (or MDO) on a consistent basis (see Staff Report Chapter VI, Section A, and Appendix I). As such, ship operators fueling at these ports prior to visiting a California port would be unable to comply with the regulations if a low sulfur cap were established. Nevertheless, information from ARB's Ocean-going Ship Survey and other information demonstrate that marine distillate fuels (MGO and MDO) would collectively average 0.5% sulfur, which is dramatically lower than the 2.5% sulfur in heavy fuel oil currently used on most vessels. In addition, the trend is toward lower sulfur levels. Therefore, even without a sulfur cap on MGO, we can count on a significant benefit from the regulations.

As specified in the regulations, the use of MDO is subject to 0.5% sulfur cap. Unlike with the MGO, this is necessary because MDO generally contains small amounts of heavy fuel oil contamination and can therefore have much higher sulfur levels. Setting a cap on the sulfur content of MDO does limit its availability at some ports. However, this is not problematic because shippers can always purchase MGO as an alternative.

Another issue is with the 2010 emission limit based on the use of 0.1% sulfur MGO. We expect this fuel to be available in sufficient quantities by 2010 due to a similar requirement in European Union Directive 2005/33/EC, and a general trend toward low sulfur fuel. Nevertheless, as required by the regulations, ARB staff will conduct a fuel feasibility study (to be completed by July 1, 2008) to examine the availability of 0.1% sulfur fuel in 2010. If it is determined that modifications to the regulations are necessary based on the results of the study, the Executive Officer will propose appropriate changes to the Board. This is necessary because this fuel is not currently available in sufficient amounts worldwide to allow ship operators to comply with the regulations at this time. Therefore, because we cannot be certain of its availability in 2010, it would be inappropriate to establish the 2010 limit without the feasibility study.

3. **Comment:** It is problematic that a ship operator will have to pay noncompliance fees when he cannot purchase complying fuel because it is unavailable, or purchases fuel that does not meet specifications. (PMSA 2)

Response: It is reasonable to require ship operators to pay a noncompliance fee in the situations mentioned by the commenter. Compliant fuels are widely available globally; because of this, we expect the situations mentioned by the commenter to be rare. In the highly unusual situation where compliant fuel is truly unavailable, or fuel is found to be noncompliant in route to a California port, the fees will be used to offset the excess emissions that result by funding alternative port air quality projects. The ARB staff designed the fees to also prevent conferring an economic advantage to ship operators who purchase cheaper heavy fuel oil, or noncompliant distillate fuels, instead of compliant fuels.

4. **Comment:** Compliant fuel may not be available because there is no requirement that the State of California supply it. One of the reasons that the European Union fuel regulation was delayed until 2010 was the requirement that only compliant fuels be supplied. (PMSA 2)

Response: There is no need to require California to supply the fuels specified in the regulations. Fuels that meet the 2007 emission limit in the regulations are available at ports on a global basis, including at California ports (see Staff Report Chapter VI, Section A). In addition, since ship operators purchase fuel at ports throughout the world for use in California, a California-only fuel regulation would do nothing to ensure that complying fuel is available at foreign ports where fuel for most vessels visiting California are purchased.

For the 2010 emission limit in the regulations, 0.1% sulfur fuel is specified. This fuel is expected to be available in sufficient quantity for compliance by 2010. However, as required by the regulations, ARB staff will conduct a study to determine the availability of such fuel as we approach 2010. If it is determined that modifications to the regulations are necessary based on the results of the study, the Executive Officer will propose appropriate changes to the Board.

Regarding the delay in the implementation of the European Union's fuel requirement (EU's Directive 2005/33/EC), the 2010 requirement specifies 0.1% sulfur marine gas oil (MGO), while the ARB regulations initially specify MGO with no sulfur limit. For a 0.1% sulfur limit, we agree that a later implementation date is appropriate, and the ARB regulations reflect this with the 2010 implementation date for the 0.1% sulfur MGO, consistent with the EU Directive.

5. **Comment:** Appendix I of the Staff Report acknowledges that low sulfur fuel is not readily available in California and other ports worldwide, yet the Notice of Public Hearing states that California is expected to have the fuel available. Appendix I does not state how this is going to be accomplished. We assume the proposed solution is that ship operator demand will force the refineries to produce the fuel, but if you look at the experience of the European Union regulation, this did not work. (INTERTANKO 2)

Response: Because the 2007 emission limits in the regulations are based on the use of marine gas oil (MGO) with no sulfur limit, we assume the commenter is referring to the 2010 emission limit based on 0.1% sulfur MGO. We expect that this fuel will be available due to the current downward trend in the sulfur content of MGO and the European Union's 0.1% sulfur requirement for ships at dockside (Directive 2005/33/EC), which also becomes effective in 2010. Nevertheless, we acknowledge that a feasibility study is necessary to determine whether there will be an adequate supply by 2010. This is discussed in the Staff Report and the Notice of Public Hearing. As specified in the regulations, if modifications to the regulations are necessary (e.g., due to an inadequate supply of complying fuel), then the Executive Officer will propose appropriate changes to the Board prior to January 1, 2009.

6. **Comment:** It is unjust to require ship owners to pay a noncompliance fee in cases where complying fuel is unavailable. (INTERTANKO 2)

Response: See Response to Comment B.3.

7. **Comment:** The ARB should push harder to introduce 2010 compliant fuels at the earliest possible date due to the significant air quality benefits associated with this fuel. (CAPCOA 2)

Response: At this time, we believe 2010 is the earliest possible date for which an emissions limit based on 0.1% sulfur fuel would be appropriate. As stated in Appendix I of the Staff Report, such fuel is not now sufficiently available on a global basis to allow ships to comply with this fuel at this time. In addition, the 2010 requirement is consistent with the European Union's Directive 2005/33/EC, so the regulations' 2010 date for the 0.1% sulfur fuel will harmonize with requirements applicable in other parts of the world.

8. **Comment:** We recommend that the ARB expedite the study of the feasibility of having fuels which are lower than a thousand ppm. We would be willing to co-sponsor that effort with you. There are examples where this fuel is used now. We believe that BP is using 15 ppm sulfur fuel in their crude vessels. Perhaps you could then set your 2010 standards as an interim level, bringing that forward and identifying your intent that in 2007 you would be establishing the ultimate standards that would apply after 2010 so that you have your process drive the international process rather than the other way around. (SCAQMD 2)

Response: We will consider a study to evaluate the feasibility of using fuel with a sulfur level below 1,000 ppm, and we welcome the offer of assistance. However, based on available information, we believe that the availability of this fuel will be limited on a global basis. Regarding the commenter's proposal to implement the 1,000 ppm sulfur limit earlier, this approach is not feasible for most vessels visiting California ports. Currently there is not a sufficient supply of 0.1% (1,000 ppm) sulfur fuel globally to ensure that vessels can purchase it prior to California port visits. We expect that

sufficient supply will be available by 2010, but we will conduct a feasibility study prior to 2010 to ensure its availability by the 2010 compliance date.

9. **Comment:** The regulation should set a 5,000 ppm sulfur limit on the fuel. Fuel meeting a 5,000 ppm sulfur limit is available, and you have already compromised from 2,000 to 5,000 ppm. It is not enough to say that we hope the fuel will be 5,000 ppm and we are going to base our estimation of the benefits on this number. This needs to be enforceable through sampling of the fuel. (CCA 2)

Response: We cannot set a 5,000 ppm sulfur cap on MGO because not all ports have this fuel available (see Staff Report, p. VI-7). Ship operators would be unable to comply with the regulations when calling on these ports prior to visiting a California port. Nevertheless, the ARB Oceangoing Ship Survey showed that the average sulfur content of marine distillate fuels used by oceangoing ships visiting California ports is about 0.5%. In addition, as discussed in the Staff Report (p. VI-4), the global trend is toward lower sulfur content, so we are confident that the fuel will be at or below 0.5% (5000 ppm). Please also see Response to Comment B.2.

10. **Comment:** We urge you to establish firm sulfur caps for both 2007 and 2010. The sulfur levels in the distillate fuels required by the regulation can be as high as 15,000 ppm. This is about a thousand times higher than comparable land-based fuels in 2007. We urge a 5,000 ppm sulfur limit for fuels in 2007. We believe that California has the market power to demand this. We also urge a firm 1,000 ppm sulfur level for 2010. The EU has already mandated this limit for marine fuel in 2010, so the limit would be in line with an existing international standard. (NRDC)

Response: See Responses to Comments B.2, B.8, and B.9.

11. **Comment:** We urge you to set firm fuel sulfur limits because this will drive the production of complying fuels. (ALA)

Response: See response to Comment B.2.

12. **Comment:** Firm sulfur limits should be established in the regulations because if the regulations are included in the State Implementation Plan you have to make sure that you get those emissions reduced and anything less than a firm cap would be problematic. (CE 2).

Response: See Response to Comment B.2. Any shortfalls that may occur in the SIP are best addressed at the time the shortfalls are identified with appropriate adjustments to the regulations or other measures.

13. **Comment:** The fuel sulfur limit should have a hard cap of 5,000 ppm. By 2010, the rule should require a 1,000 ppm standard that is certain so that companies will know what standard they will be required to meet. (SCC)

Response: See Response to Comment B.2.

14. **Comment:** The CARB Staff Report recognizes that there are many areas where low sulfur fuel is unavailable, and many ships trade from these areas. It is not appropriate to charge vessel owners or operators fees if they are unable to obtain the appropriate fuel because they do not make regular trade visits to California or they trade on the spot market. (ICS 1)

Response: The fuels that can be used to comply with the 2007 emission limits include marine gas oil (MGO) with no sulfur limit, and marine diesel oil with a sulfur limit of 0.5%. MGO (with no sulfur limit) is available at virtually all ports, and MDO meeting the 0.5% cap will also be available at many ports. The emissions limit based on the low sulfur fuel mentioned by the commenter would not become effective until 2010. As noted previously, the regulations require ARB staff to conduct a study prior to the implementation of the 2010 standard to determine the expected availability of this fuel. Depending on the results of that study, the Executive officer may propose changes to the regulations prior to January 1, 2009 if appropriate.

15. **Comment:** The proposed regulations require the ARB to review the 0.1% by weight sulfur MGO requirement and propose any necessary changes to the regulations by January 1, 2009. Any changes to the proposed regulations based on that review should be made prior to January 1, 2009 to allow an orderly implementation of this change. (WSPA 1)

Response: The regulations require that any change to the 2010 emissions limit based on 0.1% sulfur fuel be proposed to the Board prior to January 1, 2009, and the Board generally acts on proposed items during the public hearing. Since the regulations require that a feasibility study of the 2010 limit be conducted on or before July 1, 2008, we would not be able to propose any changes to the fuel requirement prior to the completion of this study. Further, it would be problematic to conduct the study at a much earlier date because the 0.1% sulfur fuel would be less likely to be available. The European Union will implement a similar 0.1% sulfur fuel requirement in 2010, so the supply of this fuel will increase as 2010 approaches. Therefore, the feasibility study needs to be conducted as close to 2010 as possible. While we understand that an earlier decision would facilitate the industry's preparations for the requirement, we believe the dates specified in the regulations provide adequate time for the industry to comply.

16. **Comment:** The proposed regulations should make it clear that the low sulfur fuel required by the regulations must meet the flash point requirements of ISO 8217: 2005 and International Convention for Safety of Life at Sea requirements. (INTERTANKO 1)

Response: We do not believe clarification is necessary. The low sulfur fuels enumerated in the regulations are marine gas oil and marine diesel oil. These fuels are defined in the regulations as DMA and DMB fuels, respectively, as defined in Table I of International Standard ISO 8217, which includes the flash point requirements mentioned by the commenter.

17. **Comment:** The 0.5% sulfur fuel requirement should be technically feasible given that it applies to 4-stroke engines, but only gas oil may meet the specification. The 0.1% sulfur fuel requirement for January 1, 2010, may be much more difficult for older 4-stroke engines to use, and the supply of this type of fuel is of concern given the similar demands in the European Union. (INTERTANKO 1)

Response: The initial (2007) emission limits in the regulations allow for the use of marine diesel oil with a 0.5% sulfur cap, or marine gas oil with no sulfur limit. We agree that it is feasible to use these fuels, but note that the regulations allow for the use of both marine gas oil and marine diesel oil (not just gas oil as mentioned by the commenter). We recognize there are potential issues with the use and availability of 0.1% sulfur fuel in 2010. To address this, subsection (j) of the regulations requires the Executive Officer to conduct a feasibility study on or before July 1, 2008 to evaluate these issues, and to propose changes to the regulations for the Board's consideration if necessary.

18. **Comment:** The proposed requirements ignore the issue of fuel availability and only assume that the required fuels will be available. In addition, if supply is not ensured, the proposed regulations would penalize the innocent party. (INTERTANKO 1)

Response: As discussed in the Staff Report (Chapter VI, Section A), the fuels enumerated in the regulations for 2007 are available at ports worldwide. We agree that the 0.1% sulfur fuel specified for 2010 is not currently available at many ports. However, it is becoming increasingly available, and we expect it to be sufficiently available by 2010 to allow ship operators to comply with the regulations. Before the emission limit based on 0.1% sulfur fuel becomes effective, ARB staff will conduct a feasibility study evaluating the availability of this fuel by 2010. If the feasibility study indicates that this fuel will not be available by the 2010 deadline, ARB will propose modifications to regulations, as specified in subsection (j) of the regulations.

We expect situations where compliant fuel is unavailable to be rare. In these unusual situations, a noncompliance fee is appropriate to mitigate the excess emissions and to prevent ship operators from deriving an economic advantage by purchasing less costly noncompliant fuels. See also Response to Comment B.3.

19. **Comment:** Our members claim that the quality of US supplied bunkers is below the worldwide average. There are specific reports of incidents such

as black outs and damaged fuel pumps and other related equipment associated with fuels supplied in California. (INTERTANKO 1)

Response: The commenter does not specify whether the poor quality U.S. supplied bunker fuels mentioned are the heavy fuel oils currently used by most ship operators, or the distillate fuels that can be used to comply with the regulations. Complaints of poor quality bunker fuels are more often associated with heavy fuel oils. No documentation was provided to ARB staff during the lengthy public process in developing these regulations regarding blackouts or damage caused by the distillate fuels specified in the regulations. Furthermore, there is nothing in the regulations that directs ship operators to purchase fuels in U.S. ports. Under the regulations, ship operators could purchase bunker fuel at ports worldwide as they do now, provided such fuels reduce emissions to the levels required under the regulations.

20. **Comment:** ASTM fuel specification D 6985 should be incorporated in the proposed regulation by reference. This fuel specification has the advantage of only specifying distillate fuels, which are specified under the regulation. Further, the narrative of the rulemaking should contain the following: *“As distillate fuel must satisfy a 0.50% maximum sulfur content limit in order to meet the requirements of ASTM D 6985, use of this grade of marine fuel represents de facto compliance with the fuel sulfur standard that will apply during the period 2007-2009.”* (DLA)

Response: ASTM fuel specification D-6985 is not appropriate for the regulations since it is tailored to military uses, and the regulations do not apply to military vessels. In addition, the specification limits sulfur content to 0.5%, whereas the 2007 emission limit in the regulations allows the use of marine gas oil with no sulfur limit (other than the 1.5% sulfur level needed to meet the definition of marine gas oil).

21. **Comment:** The 1996 edition of ISO 8217 is outdated and the regulation should use the Third Edition dated November 1, 2005. (DLA)

Response: We agree. The regulations were issued for the 45-day public comment period prior to this November 2005 update in the ISO 8217 fuel specifications. Staff therefore modified the regulatory language in the 15-Day Notice to update the ISO 8217 standards as suggested.

22. **Comment:** The last five words of the title of the ISO 8217, “Specifications of Marine Fuels Requirements for Marine Residual Fuels,” should be dropped as they are not included in the title, and ISO 8217 contains specifications for both residual and distillate fuels. (DLA)

Response: As noted previously in this FSOR, there was a typographical error in the Information Digest of the public hearing notice that added these five extraneous words. However, the title appears correctly in the regulations and the Staff Report.

23. **Comment:** The regulation do not ensure that the specified fuels will be available, either in California or overseas. If California were content to stick with ISO fuel standards there could be some assurance that such fuels would be available. However, the regulation goes beyond the ISO by imposing a 0.5% sulfur cap on MDO. Currently the sulfur content of the MDO in California exceeds this. The 2010 standard of 0.1% sulfur MGO also goes beyond the ISO standard so there is no guarantee it will be available, and California cannot mandate it out of state. (MATSON)

Response: As discussed in the Staff Report (Chapter VI, Section A), the fuels specified in the regulations for 2007 are available at ports worldwide. The 2007 emission limit can be met with the use of marine gas oil (MGO) with no sulfur limit (other than the 1.5% limit specified by ISO 8217). This fuel is exactly as specified in ISO as requested by the commenter. The 2007 emission limit can also be met with marine diesel oil (MDO) meeting a 0.5% sulfur limit. The commenter is correct in that the 0.5% sulfur cap is an added requirement beyond the ISO specification, and MDO meeting this cap will not be available at all ports. However, the cap is necessary because MDO is often much higher in sulfur content than MGO. In addition, if MDO meeting the 0.5% limit is unavailable, MGO with no sulfur limit will be available.

We agree that the 0.1% sulfur fuel specified for 2010 is not currently available at many ports. However, it is becoming increasingly available, and we expect it to be sufficiently available by 2010 to allow ship operators to comply with the regulations. Before the emission limit based on 0.1% sulfur fuel becomes effective, ARB staff will conduct a feasibility study evaluating the availability of this fuel by 2010. As specified in subsection (j) of the regulations, if the feasibility study indicates that this fuel will not be available by the 2010 deadline, ARB will propose modifications to regulations,

24. **Comment:** The fuel requirement would complicate the operation of ships calling in California since they would need to load special California fuels prior to visiting a California port and carry them until the ship's return. This imposes an additional burden on ships wishing to call in California. (MATSON)

Response: The fuels specified in the regulations are not unique to California (i.e., sold only in California). Rather, the regulations require that vessel operators in Regulated California Waters meet emission limits based on globally available distillate fuels. We also note that the 2010 emissions limit based on 0.1% sulfur fuel is consistent with the European Union's similar requirement to use 0.1% sulfur fuel under Directive 2005/33/EC. According to the ARB Oceangoing Ship Survey, over 90% of vessels currently have separate fuel tanks that could accommodate this fuel (i.e., they would not have to add a special fuel tank). However, we recognize that some vessels would have to add an additional fuel tank and these added costs are accounted for in the cost analysis. As discussed in Chapter VIII of the Staff Report, the regulations are cost-effective even with consideration of these additional costs.

25. **Comment:** The regulation should have a firm cap on the sulfur content of the fuel to ensure that the emission reduction benefits expected will be realized. The regulation aims to achieve the 5,000 ppm level by relying on the results of fuel surveys showing that distillate marine fuels should have an average sulfur level of 5,000 ppm. However, marine distillate fuels such as marine gas oil can have sulfur contents up to 15,000 ppm, and marine diesel oil up to 20,000 ppm. (CE 1; ENVIRO)

Response: See response to Comment B.2.

26. **Comment:** We urge the Board to unequivocally require the 1,000 ppm sulfur limit in 2010. A firm standard is needed to provide an incentive for industry to create the supply at 1,000 ppm. It is also consistent with the European Union's sulfur requirements of ships. (CE 1; ENVIRO)

Response: See response to Comment B.2.

27. **Comment:** CARB should expedite its planned technology assessment of the 0.1% sulfur fuel standard and expand its scope to include much lower sulfur limits for fuels used in auxiliary engines. This study should be completed by the end of 2006 and should include engine testing to determine if very low sulfur fuels such as 15 ppm are amenable to these engines. (SCAQMD 1)

Response: See Responses to Comment B.7 and B.8.

28. **Comment:** CARB should consider adopting the 0.1% sulfur fuel prior to 2010 if the planned technology assessment determines that it is technically feasible and the fuel can be made available. For 2010, the Board should consider the lowest feasible sulfur level. (SCAQMD 1)

Response: See responses to Comments B.7 and B.8.

29. **Comment:** The assumption that vessels can purchase marine gas oil at any port of call in the world for use in complying with the regulation is not valid. CARB assumes that all MGO will be 0.5% sulfur or less regardless of where it is purchased. It is also apparent that CARB is not convinced that compliant fuels will be generally available since the regulation specifically includes noncompliance fee options for vessels that either can't purchase enough compliant fuel or has unexpectedly purchased fuel that does not comply. Until the worldwide availability of compliant fuels can be assured, the regulation should not be adopted. At the minimum, a vessel should not be subjected to fees and penalties until the availability of compliant fuels for all vessels can be assured. (PMSA 1)

Response: As discussed in the Staff Report (Chapter VI, Section A), the fuels specified in the regulations for 2007 are available at ports worldwide. The fuels that can be used to meet the emissions limit in 2007 include marine gas oil (MGO) with no sulfur limit or marine diesel oil (MDO) with a 0.5% sulfur cap. As discussed in the Staff Report (Chapter VI), we believe the average sulfur content of these fuels will be at or below 0.5%. Contrary to the commenter, we did not assume that these fuels will be 0.5% sulfur or less regardless of where it is purchased. Rather, as discussed in the Staff Report, we believe that the sulfur content of MGO will be higher than 0.5% in some cases and less in others, with an overall average at or below 0.5%.

We agree that the 0.1% sulfur fuel specified for 2010 is not currently available at many ports. However, it is becoming increasingly available, and we expect it to be sufficiently available by 2010 to allow ship operators to comply with the regulations. Before the emission limit based on 0.1% sulfur fuel becomes effective, ARB staff will conduct a feasibility study evaluating the availability of this fuel by 2010. If the feasibility study indicates that this fuel will not be available by the 2010 deadline, ARB will propose modifications to regulations, as specified in subsection (j) of the regulations.

Overall, we expect situations where compliant fuel is unavailable to be rare. In these unique situations, a noncompliance fee is appropriate to mitigate the excess emissions and to prevent ship operators from deriving an economic advantage by purchasing less costly noncompliant fuels. See also Response to Comment B.3.

With regard to penalties, we believe the regulations are feasible, and we expect most vessel operators to comply with the requirements. Therefore, it is appropriate to subject noncompliant vessel operators who do not meet the regulatory requirements (including the payment of noncompliance fees) to be subject to the penalties specified in Health and Safety Code 42400 et seq. and other provisions of State law as applicable.

30. **Comment:** We urge the use of the cleanest fuel possible to the extent that marine vessels have access to low-sulfur fuels. As such, we recommend that the Board emphasize the use of 2010 compliant fuels earlier as such fuels become available. (CAPCOA 1)

Response: We believe 2010 is the earliest date by which we can specify an emissions limit based on the use of 0.1% sulfur fuel. As stated in Appendix I of the Staff Report, this fuel is not now sufficiently available on a global basis to allow ships to comply with this fuel at this time. In addition, the 2010 requirement is consistent with the European Union's Directive 2005/33/EC.

31. **Comment:** CARB is proposing to mandate a fuel standard that exceeds prevailing ISO requirements, yet has not imposed any obligation for suppliers in the State to make such fuel available. CARB lacks the authority to mandate international suppliers to make such fuel available and there is considerable uncertainty whether a sufficient supply of fuel will exist to meet CARB's requirements. (SSA)

Response: Requirements on marine fuel suppliers are unnecessary. As discussed in the Staff Report (Chapter VI, Section A), the fuels specified in the regulations for 2007 are available at ports worldwide, and the 0.1% sulfur fuel specified for 2010 will be subject to a feasibility study prior to implementation that will consider its global availability. Specifically, the 2007 emission limit can be met with the use of marine gas oil (MGO) with no sulfur limit (other than the 1.5% limit specified by ISO 8217). This fuel is exactly as specified in ISO as requested by the commenter. The 2007 emission limit can also be met with marine diesel oil (MDO) meeting a 0.5% sulfur limit. The 0.5% sulfur cap is an added requirement beyond the ISO specification. However, the cap is necessary because MDO is often much higher in sulfur content than MGO, and, if MDO meeting the 0.5% limit is unavailable, MGO with no sulfur limit will be available.

We agree that the 0.1% sulfur fuel specified for 2010 is not currently available at many ports. However, it is becoming increasingly available, and we expect it to be sufficiently available by 2010 to allow ship operators to comply with the regulations. We also note the European Union has a similar requirement to use 0.1% sulfur fuel in 2010 under Directive 2005/33/EC. In any case, before the emission limit based on 0.1% sulfur fuel becomes effective, ARB staff will conduct a feasibility study evaluating the availability of this fuel by 2010 and other technical issues. If the feasibility study indicates that this fuel will not be available by the 2010 deadline, ARB will propose modifications to regulations, as specified in subsection (j) of the regulations.

32. **Comment:** I urge you to strengthen the proposed regulations by requiring ocean-going vessels to use the lowest sulfur diesel feasible for auxiliary engines in 2007 and beyond. (LOWENTHAL)

Response: As discussed in the Staff Report (Chapter VI and Appendix I) the regulations already specify emissions limits based on fuels with the lowest feasible sulfur levels.

33. **Comment:** The CARB Staff Report makes reference to coordination of the proposed regulations with the European Union Sulphur Directive. However, ship operators have had problems complying with this Directive. There is a continuing lack of supply of the low sulfur fuels required by the Directive. In addition, ship owners have been fined for using noncompliant fuels even though they had documentation from the EU port of origin stating that compliant fuel was unavailable. We also note that ships arriving from outside the EU are not subject to these requirements and are allowed to proceed to an EU port where they can receive compliant fuel. Regulators that impose a standard have the obligation to ensure that the conditions for compliance are made available. Otherwise, the new standards will only create monetary income for the rule enforcer and nil effect for the environment. (INTERTAKO 1)

Response: The ARB Staff Report refers to the requirement in European Union Directive 2005/33/EC that would require ships at dockside to use 0.1% sulfur fuel starting in 2010. The compliance problems cited are not relevant to this rulemaking because the EU requirement referred to in the ARB Staff Report has not yet been implemented, and 0.1% sulfur fuel is expected to be more widely available by 2010. If the commenter is referring to compliance issues related to an earlier EU directive to use 0.2% sulfur marine gas oil, this also is not relevant because the 2007 emission limits in the ARB regulations are based on the use of marine gas oil with no sulfur limit, or MDO with a 0.5% sulfur limit, both of which are widely available.

Regarding the 2010 emission limit in the ARB regulations that is based on 0.1% sulfur fuel, we recognize that such fuel is not currently available at many ports. Although we believe that it will be widely available by 2010, ARB staff will conduct a feasibility study evaluating the expected availability of this fuel by 2010 and other technical issues. If the feasibility study indicates that this fuel will not be available by the 2010 deadline, ARB will propose modifications to regulations, as specified in subsection (j) of the regulations.

Finally, for the rare cases where compliant fuel is not available, there is a noncompliance fee provision that ship operators can utilize to avoid violations. The funds collected under this program will be used to mitigate the excess emissions resulting from fuels other than those specified in the regulations, so there will be an environmental benefit even in the rare cases where such fuels were not available.

C. Alternative Compliance Plan (ACP) & Alternative Control of Emissions (ACE)

Note: As noted earlier, the 45-day comments refer to the Alternative Compliance Plan (ACP), which was later modified and renamed to Alternative Control of Emissions (ACE). Both “ACP” and “ACE” hereinafter will be used interchangeably; “ACE” will be used in staff responses to reflect the terminology used in the modified regulatory text.

1. **Comment:** The ACP provides a possible loophole from the regulations. A limited number of clearly defined viable strategies to comply with the ACP should be made available that would guarantee equivalent emissions reductions. (GORDON)

Response: We disagree. The ACE does not provide a loophole from the regulations because numerous safeguards are included to ensure that the required emission reductions are achieved. Specifically, applicants for an ACE must provide documentation, calculations, emissions test data, and other information which demonstrates that the alternative emission control strategies under the proposed ACE will result in emissions that are no greater than would result from directly complying with the emission limits. Applicants must also propose recordkeeping, reporting, monitoring, and testing procedures that will allow ARB staff to verify continued compliance with the

ACE. In addition, the staff modified the regulatory language in the 15-Day Notice to provide public review and comment on all ACE plan submittals.

Limiting the emission control strategies to a few options would not be appropriate because there are numerous potential control technologies, and the effectiveness of each one depends on a variety of factors including the specific engines, fuels used, and operation of the ship. Limiting the emission control options would unnecessarily limit the flexibility of the program and stifle innovation. There are currently promising control technologies under development that may soon be demonstrated to effectively control ship emission.

2. **Comment:** With the fleet averaging under the ACP, there is no way for us to know which days the dirtier ships come in. This is important because we let our kids know when it's not a good day for outdoor activities.
(LBACA 1)

Response: With regard to notifying the public of each ACE vessel's port entrance and exit, particularly on something approaching a real-time basis, we do not agree that such a requirement is necessary or even feasible in the regulations. Given the potentially large number of ACE vessel visits per day and the ports involved, such a notification requirement could become logistically difficult to maintain and would almost certainly be resource-intensive. Given the limited resources available, the resources used on maintaining such a system may be better spent placing personnel in the field to increase enforcement of the regulations. And even if such a notification system could be developed, vessels crossing the ocean are frequently subject to changes in plans and delays caused by weather or equipment, thereby complicating the system and subjecting it to errors. Such "false alarm" errors would likely erode the public's confidence in the notifications.

Moreover, the cancer health risks and PM health impacts that staff estimated from vessels subject to these regulations are based on annual average concentrations, not hourly or daily concentrations. With that said, we do find some merit in the concept, and staff are open to further discussions and consideration of how this concept could be efficiently implemented with consideration of the factors discussed above.

It should be noted that each ACE plan submitted for Executive Officer approval is subject to extensive public review and comment. Therefore, the public will have advanced notice of each ACE's detailed plans, including the anticipated dates of California port visits for each vessel under the ACEs. And because the modified regulatory text requires publication of each ACE plan on ARB's internet site, such publication may obviate or at least substantially reduce the need for real-time notification.

Overall, we believe the modified regulatory language moots the commenter's concern for the most part. Specifically, modified subsection (g) now requires that there will be no increase in emissions at a given port geographical area relative to the emissions that

would have occurred prior to the implementation of the regulations. Under the ACE, it is still possible that there will be some days when the benefits of the regulations for an individual participating ship will be less than the benefits achieved through direct compliance with the emission limits specified in subsection (e)(1). However, this will be offset by days when the emission reduction benefits will be greater. Overall, the benefits under the ACE will be the same or greater than the benefits from direct compliance with the emission limits. If numerous ships participating in an ACE visit a given port, it is likely that some will exceed the applicable emission limits under subsection (e)(1), while others will fall under it, moderating the impact of the ACE on that port on any given day. In addition, there are numerous sources of emissions other than ships that impact air quality in the port areas, including cargo handling equipment, locomotives, harbor craft, and diesel trucks servicing the ports. Therefore, any negative impacts the ACE may have on overall emissions in a port region on any given day are expected to be relatively minor.

See also Response to Comment C.3 below.

3. **Comment:** The fleet averaging allowed in the ACP is a loophole. It confuses enforcement efforts such as fuel sampling. If a ship is caught using the dirty fuel, they will just say they are sending in another ship with the cleaner fuel next week. (CCA 2)

Response: As noted in Response to Comment C.1, the fleet averaging allowed in the ACE program will not result in a loophole. Applicants under an ACE must provide recordkeeping, reporting, monitoring, and testing procedures that can be used to demonstrate continuing compliance under the ACE. If the applicant cannot provide a workable plan that will allow ARB enforcement staff to ensure that the emission reduction requirements are met, then the ACE will not be approved. The scenario mentioned by the commenter (where a ship found to be using dirty fuel claims a cleaner ship will provide compensation) would not occur because the ACE plan provided by the applicant would have to specify in advance the fuels and other controls used by each ship participating in an ACE and when those ships are expected to visit California ports.

4. **Comment:** The regulation should specify specific criteria on what should be included in an ACP. It is now too open-ended. (ALA)

Response: We disagree. We believe the ACE provision in the modified regulatory text already provides adequately specific criteria to ensure that participating vessels achieve equivalent emission reductions. Due to the great variety of vessels and potential emission control technologies, we do not believe the language in the ACE can be more specific while still providing the flexibility needed to encourage innovative control techniques. For example, the criteria that would be required for a shore-side electricity proposal would vary significantly from a proposal that would utilize add-on exhaust emission control devices. The ACE includes requirements sufficient to ensure that the required emission reductions will be achieved. In addition, the staff modified regulatory language in the 15-Day Notice to provide an approval process that is open to

public review and comment, so there will be ample opportunity for the public to voice concerns about individual ACE plans and their details.

5. **Comment:** We are concerned that the fleet-wide averaging allowed under the ACP will result in elevated levels of particulate matter in the short-term, with associated health effects such as premature death, asthma attacks, and hospitalizations. (ALA)

Response: See Response to Comment C.2.

6. **Comment:** You should incorporate the public notice and public input provisions you crafted for the cargo handling equipment rule into the ACP. (ALA; COMMERCE)

Response: We agree with the commenter. The modified regulatory language in the 15-Day Notice includes provisions that provide for public notice, review and comment on ACE applications.

7. **Comment:** The fleet averaging provisions of the ACP will allow for shell games, making it difficult to enforce the regulation. Enforceability is key to allowing the regulation to be included in the State Implementation Plan, and we need to ensure that the emission reductions from this rule are realized to meet the emission targets for the goods movement and no-net increase processes. (CE 2)

Response: Please see Response to Comment C.3.

8. **Comment:** The ACP needs to include specificity to assure that it results in enforceable emission reductions, and emission limits should be set across the board rather than using the fleet averaging concept. (SCC)

Response: We disagree that only emission limits are appropriate for these regulations. We believe most operators will directly comply with the emission limits. However, given the complexity of shipping industry and the variability of vessel design and equipment, we believe it is appropriate to provide enforceable flexibility provisions vis-à-vis the ACE provision that ensure reductions equivalent to those resulting from direct compliance with the emission limits. Please see Responses to Comments C.3 and C.4.

9. **Comment:** We endorse a market/performance-based approach to achieve the desired emission reduction benefits rather than a command and control approach. (WSPA 1)

Response: We disagree. The commenter errs in suggesting that the regulations are employing a prescriptive (as opposed to performance-based) command-and-control approach or are not using a market-based approach. The regulations do not use a

“command and control” approach in which the regulations specify how the affected parties will achieve the required emission reductions. On the contrary, the regulations already use a performance-based approach. This is accomplished by setting emission limits based on the use of enumerated low-sulfur distillate fuels; however, the regulations do not mandate the use of such fuels. Further, the regulations do not dictate how such limits are to be achieved by vessel operators. Instead, the regulations provide flexibility to operators by allowing the use of the low sulfur fuels or alternative control strategies under an approved ACE plan.

Moreover, the ACE provision already embodies the classic market-based approach of emissions averaging used in other air pollution control programs. The regulations provide industry with the flexibility to use any control technology that achieves the required emission reductions. The regulations balance the need for flexibility with the need to limit the complexity of the regulations and to ensure their enforceability.

10. **Comment:** The language in the proposed regulation pertaining to the ACP appears to be limited to vessels that a person owns or operates. The ACP should also apply to those that rent, charter, or lease a vessel. (WSPA 1)

Response: We agree. Staff modified the regulatory language as suggested.

11. **Comment:** In the ACP section, there is a shore-side power start up/shut down requirement of no more than 1 hour from switching on/off the engines. This time limit may not be feasible depending on the specifics of the terminal facility and shore-side power connections. The proposed regulations should be revised to allow the Executive Officer the ability to accept a longer time period upon request and the submittal of information to support such a request. (WSPA 1)

Response: As explained in the Staff Report (pp. V-10 and V-11), under the general ACE provisions, an applicant can utilize shore-side power to comply with the regulations even if it takes longer than one hour connect to or disconnect from shore power. Under the general provisions, the applicant would simply need to demonstrate that the emissions under the ACE would be no greater than compliance with the emission limits specified in subsection (e)(1).

It is only under the special provisions in the ACE entitled “Use of Shore-Side Power” that the one hour requirement applies (subsection (g)(1)(G)). Under this provision, the one hour requirement is necessary because applicants are not required to demonstrate that their overall emissions (both dockside and at-sea) are lower with the use of shore-side power compared to compliance with the emission limits under subsection (e)(1). However, as long as the one-hour requirement applies to participating vessels, staff believes that most vessels complying under these special provisions will have less overall emissions. And even if the overall emissions might be greater under this provision for some vessels, the importance of achieving greater at-dock emission reductions will outweigh a shortfall in overall emissions.

12. **Comment:** The ACP looks at three types of emissions: PM, NO_x, and SO_x. It is difficult to comment on the PM matters before understanding what the requirements are, the limitations and the feasibility of such suggested measures. As far as NO_x emissions, we suggest that engines certified under Annex VI for NO_x should be accepted as compliant. (INTERTANKO 1)

Response: For the ACE provision to be feasible, it is not necessary to know beforehand the exact technologies that could be used under an ACE. As the regulations specify, irrespective of the emission control strategies being proposed by an ACE applicant, the burden of proof is on the applicant to demonstrate to the Executive Officer that such strategies will result in emissions of diesel PM, NO_x and SO_x no greater than the levels that would result with the use of the cleaner fuels specified in subsection (e)(1). To demonstrate the required emission reductions, an applicant may need to perform emissions testing using the fuels specified under subsection (e)(1) or supply emissions test data from the engine manufacturer or another acceptably reliable source. The adequacy of such data and testing will be determined during the approval process. And the applicant will need to demonstrate that the reductions are real and enforceable. Thus, each ACE applicant will determine for itself, before proposing an ACE plan, whether the proposed strategies will be feasible for the applicant.

With regard to the suggestion on Annex VI NO_x conformity, we disagree with the suggestion. Engines certified as compliant with Annex VI NO_x requirements would not necessarily meet the ARB requirements. This is because ARB's regulations reduce NO_x emissions with limits based on the use of the low-sulfur marine distillate fuels listed in subsection (e)(1), rather than the use of typical heavy fuel oil on which Annex VI certification is based. Engines complying with ARB's regulations must meet the emission limits regardless of whether the engines are certified under IMO Annex VI or not. Therefore, the fact that an engine is certified as compliant with IMO Annex VI will not be sufficient to demonstrate compliance with the ARB regulations.

13. **Comment:** In section (g)(1)(D)(4), the reference to fuel additives is of concern and should be avoided unless it achieves the equivalence of a "type approval" by an Administration and is listed as an acceptable additive for this purpose. (INTERTANKO 1)

Response: We agree and have modified the regulatory text to remove the reference to fuel additives.

14. **Comment:** In section (g)(1)(G)(2)(a), we feel it would not be possible to know how an energy supplier or utility company has a better emission rating than a ship meeting the January 1, 2007 standards. We believe that large amounts of power supplied in California are from coal power plants and question the global environmental benefits. (INTERTANKO 1)

Response: We disagree. Information is publicly available from the California Energy Commission listing the overall average emissions per unit of energy generated by utility companies for use in California, including all the different sources of power. This information demonstrates that, on average, the power from utility companies is significantly cleaner per unit of energy delivered compared to the power generated by ship-board engines (even using the cleaner fuels specified in the regulations). This analysis is discussed in detail in the ARB draft report “Evaluation of Cold Ironing Vessels in California,” March 6, 2006 (which was included in the record for this rulemaking during the 15-day public comment period).

15. **Comment:** In section (g)(1)(I), we do not understand the philosophy behind the requirement that emission reductions in the ACP do not include reductions that are otherwise required by State, federal or international rules. It is unreasonable given that the US government is signing up to Annex VI. There could also be a conflict with section (b)(2) of the regulations on “applicability.” (INTERTANKO 1)

Response: The ACE basically requires that compliance under this provision results in emission levels no greater than the emissions that would have occurred under subsection (e)(1) of the regulations (i.e., equivalent to the use of cleaner distillate fuels). Subsection (g)(1)(I) of the ACE prevents situations in which an applicant that “over-complies” with IMO Annex VI or other existing requirements could claim credits for such over-compliance to be used in an ACE plan. Simply put, ARB’s regulations require that the baseline for determining compliance with an ACE is to be based on the emission limits specified in subsection (e)(1), rather than on IMO Annex VI or some other existing regulation or requirement. Because California has authority to impose standards more stringent than those specified in Annex VI or federal regulations (see Response to Comments in Section N, “Legal Authority”), this would true whether or not the U.S. ratifies and implements Annex VI. And because the ACE provision is intended to provide equivalence with subsection (e)(1), it is entirely reasonable that credits granted under the ACE provision be based on over-compliance with the subsection (e)(1) limits rather than Annex VI or other existing federal or international requirements.

In addition, there is no conflict between subsection (b)(2) and potential U.S. ratification of Annex VI. Subsection (b)(2) of the regulations simply clarifies that persons are responsible for complying with both the ARB regulations and all applicable U.S. Coast Guard regulations. There is nothing in the regulations that would prevent compliance with both requirements.

16. **Comment:** In section (g)(G)(5), when passenger cruise ships utilize shore power under the ACP to comply, vessels must comply with the requirements of the section (e)(1), “Emission Limits,” while moored (at anchor offshore). At these mooring stops, consideration should be given to exempting ships that used shore power for the previous port call, or the use of barge mounted auxiliary engines utilizing MDO or other compliant fuels to generate power for the ship should be allowed. (HOFFMAN 1)

Response: We disagree. The ACE requirements under subsection (g)(G)(5), “Use of Shore-Side Power,” are reasonable. Under these provisions, a vessel that stops at a California port and utilizes shore-side power, is not required to meet the emission limit in the regulations (e.g. use distillate fuels such as MDO, etc.) during the trip to and from this port while in “Regulated California Waters.” However, if the vessel visits a second California port where shore-side power is not used, then the “exemption” from the emission limit ends at that point and the vessel must use distillate fuels or otherwise comply with the emission limit in the regulations from that point forward.

On the other hand, when a vessel makes a California port visit utilizing shore-power, then leaves port and makes a mooring stop (e.g., anchors off Catalina Island), the exemption from the emission limit continues while the vessel is underway as if no mooring stop occurred, but the vessel must meet the emission limit while it is anchored. This is reasonable because the vessel will be relatively close to shore while at anchor to facilitate the transport of passengers to land. It is also less restrictive than considering the mooring stop a “port visit,” which would terminate the vessel’s exemption from the emission limit for subsequent travel.

Regarding the commenter’s suggestion to allow for compliance via a barge-mounted diesel engine burning cleaner fuel, this would be allowable under the general ACE provisions (but not the special ACE provisions under “Use of Shore-Side Power”), provided the overall emission reductions are equivalent to or greater than direct compliance with the regulations.

17. **Comment:** The ACP should be removed from the regulations because it will inadvertently reduce demand for low sulfur fuel. (CE 1)

Response: We disagree. It is important to include the ACE in the regulations because it provides the industry with the flexibility to achieve the required emission reductions in the most economical way. We do not expect the ACE to have a significant impact on the demand for low sulfur fuel because we expect most ship operators to comply with the regulations by using the specified low-sulfur distillate fuels. In addition, the amount of low sulfur distillate fuels to be used in Regulated California Waters under the regulations is small compared to the global usage of fuel by oceangoing vessels. Because the amount of low sulfur fuel to be used under an ACE will be even less than the total amount for the entire regulation, we expect whatever impacts the ACE may have on demand for low sulfur fuel to be small if not negligible.

18. **Comment:** The ACP should be removed from the regulations because it will put the ARB in a position that no longer allows them to move forward with additional and much needed regulations that would further reduce harmful emissions at California’s ports. The Business, Transportation & Housing/Cal-EPA Goods Movement Plan, and the Port of Los Angeles No

Net Increase Plan, show that a full suite of control measures will all be needed to achieve clean air goals. (CE 1; ENVIRO)

Response: We disagree. It is important to emphasize that the ACE supplements, but does not replace, the emission limits specified in subsection (e)(1) of the regulations. It therefore does nothing to prevent the development of additional regulations that may be needed in the future. As modified in the 15-day Notice, subsection (g)(1)(I) specifies that “emission reductions included in an ACE shall not include reductions that are otherwise required by any State, federal or international rule, regulations, or statute.” Therefore, compliance under an ACE does not preclude the need to achieve further emission reductions under additional regulations. For example, if a ship operator complies with the regulations under an ACE by using shore-side power rather than cleaner fuels, and a subsequent regulation requires the use of shore-side power for this vessel, the vessel may need to eventually use both cleaner fuels (or other strategies) and shore-side power to satisfy both regulations.

19. **Comment:** The ACP must clearly define a limited number of viable strategies that will guarantee equivalent emission reductions. The regulations do not propose sufficient criteria for determining which alternative strategies would provide quantifiable and enforceable emission reductions. For example, we believe fleet wide averaging should not be used because it is difficult to enforce and may lead to disproportionate emission impacts on local communities. Similarly, operational controls should be explicitly eliminated from consideration due to difficulties to enforce and quantify emission benefits. (ENVIRO)

Response: It is not appropriate to limit the number of strategies that can be used to comply with the regulations. There is a large and growing variety of potential emission control technologies, and limiting the options would unnecessarily decrease the flexibility provided to industry. The ACE includes requirements sufficient to ensure that the required emission reductions will be achieved. Applicants under an ACE must provide recordkeeping, reporting, monitoring, and testing procedures that can be used to demonstrate continuing compliance under the ACE. If the applicant cannot provide a workable plan that will allow ARB enforcement staff to ensure that the emission reduction requirements are met, then the applicant’s ACE will not be approved.

While it will be somewhat more difficult for an applicant to develop a workable ACE utilizing fleet-wide averaging, we believe that ship operators can develop plans that will meet the requirements of the ACE, particularly if they have established routes and schedules. Overall, the regulations balance the need for flexibility with the need to limit the complexity of the plans and ensure that compliance could be monitored.

It should be noted that ARB staff elected to limit the ACE to the auxiliary engines covered by the regulations, and not include averaging among other emissions sources at this time due to the greater inherent complexity of such plans. Moreover, with regard to the use of operational controls, staff modified the regulatory language in the 15-Day

Notice to remove the provision listing specific emission control technologies. However, there is nothing prohibiting applicants from submitting a plan that includes this strategy if the applicants can demonstrate that such strategies meet the emission reduction requirements of the ACE.

20. **Comment:** The ACP process should provide the public with the opportunity to review and comment on proposed plans (ENVIRO)

Response: We agree and have modified the regulatory language in the 15-Day Notice to provide a process in which ACE applications are open to public scrutiny. Specifically, the modified proposal requires that all documents pertaining to ACE applications will be made available for public review. In addition, two separate public comment periods will be provided during the application process.

21. **Comment:** The Board should require an annual report on the implementation of the regulations with a focus on the alternative mitigation options. (SMAQMD)

Response: We do not believe annual reporting is necessary since the modified regulatory language in the 15-Day Notice allows extensive public review of ACE applications. In addition, Resolution 05-63 already requires ARB staff to report back to the Board approximately six months after the January 1, 2007 implementation of the regulations on a number of issues, including the ACE and noncompliance fee option. The ARB staff will also monitor the implementation of the regulations and propose amendments for the Board's consideration when warranted.

22. **Comment:** The regulation should provide a more flexible alternative compliance program which would permit vessel owners and operators to enter into a compact with CARB for various emissions savings programs for a fleet of ships that would, as a whole package, achieve the requested reductions. This would be in the nature of trading emission credits earned by one vessel in a fleet to another vessel. The regulation, as proposed, is not sensitive to the costs that will be incurred due to fuel expenses and retrofit costs. (MATSON)

Response: We disagree. The regulations and ACE provisions provide a reasonable balance between the need to provide the maximum degree of flexibility to industry and the need to limit the complexity of the provisions while ensuring that compliance can be monitored by ARB staff. While the regulations do not provide the degree of flexibility requested by the commenter, they do allow any potential emission control strategy that meets the ACP requirements. Moreover, the ACE provisions do allow emissions averaging over a fleet of vessels, contrary to the commenter's suggestion.

The cost analysis provided in Chapter VIII of the Staff Report demonstrates that the regulations are cost effective, and they will not have a significant economic impact on most companies. The analysis evaluated the cost of compliance through the use of the

fuels specified in the regulations, which is the approach we expect most operators will use. We presume that a company choosing to comply under an ACE in lieu of using the specified fuels would generally do so only if the control strategies under the ACE were less expensive.

D. Noncompliance Fees

1. **Comment:** The option to pay noncompliance fees should be allowed only in unexpected circumstances. (GORDON; COMMERCE)

Response: We agree in part and disagree in part. Three of the five situations in which the noncompliance fees can be used cover unexpected situations. These include an unplanned redirection to a California port, the inadvertent purchase of fuel found to be defective, and an operator's inability to purchase complying fuel prior to the voyage to California.

Although they may not be unexpected circumstances, two other situations need to be addressed in the noncompliance fees program to ensure that the regulations are practical and economically feasible. First, under subsection (h)(3), operators of vessels that require modifications to comply with the regulations are allowed to pay noncompliance fees if they can demonstrate that the modifications cannot be completed in time to allow for compliance by the January 1, 2007 implementation date. This is necessary because shipyards have waiting lists that can delay needed modifications.

Second, under subsection (h)(4), operators of vessels that are infrequent visitors and require modifications to comply with the regulations can also pay noncompliance fees. Infrequent visitors are defined as vessels that will call on a California port no more than four times over their lifetime, and no more than twice in a given year. It generally would not be cost-effective for an operator to make significant changes on a vessel (e.g., adding a new fuel tank) to comply with the regulations, when that vessel visits California only once or twice each year. Payment of noncompliance fees, which will be used at the ports for emissions mitigation projects, provides a much more cost-effective method for reducing the emissions impacts from such vessels.

2. **Comment:** The fees should guarantee equivalent emission reductions and should be subject to public review. (GORDON)

Response: We disagree. As discussed in the Staff Report (Chapter V and Appendix H), the amount of the noncompliance fees start at about twice the added cost of using the more costly distillate fuels specified in the regulations. The cost for subsequent visits will then escalate up to five times the fee for the initial visit. Thus, the noncompliance fees present a strong disincentive against operators to use the fees in lieu of direct compliance with the emission limits or the ACE.

The fee structure makes it likely that there will be sufficient funds to achieve emission reductions equal to or greater than the emission reductions achieved through direct

compliance with the regulations. Because the fees will fund emissions mitigation projects at the ports, the benefits to community health should be at least equivalent to the benefits that would have been gained had the vessel operators complied with the limits within the Regulated California Waters.

While we did not structure the payment of fees to undergo a public review process, information on the emission reductions from projects funded by the noncompliance fees will be open to the public, and other information about the projects are expected to be publicly available. These will include the contracts that ARB enters into with the ports to collect and implement the fees to fund emission reductions projects at the ports.

3. **Comment:** Staff should ensure that the mitigation fees will generate enough income to produce equivalent emission reductions on shore. (CE 2)

Response: See Response to Comment D.2.

4. **Comment:** The language on mitigation fees should be tightened to limit this option to situations that are unexpected, very defined, and rare. (CCA 2)

Response: We agree and have worded the regulatory text to limit the use of noncompliance fees to well defined, unusual situations. In addition, we have limited the use of noncompliance fees to situations in which direct compliance would not be practical or cost-effective. See Response to Comment D.2. We expect the fee provision to be used relatively infrequently because the fee structure provides a strong incentive for operators to directly comply with the emission limits. That is, it will generally be more expensive to pay the mitigation fees. See Response to Comment D.1.

5. **Comment:** The regulation doesn't specify where the mitigation fees will go. (UCS)

Response: As specified in subsection (h)(5)(c), the Executive Officer of the ARB will enter into agreements with ports that are willing to receive the fees. For these ports, the fees will be used to fund projects that will reduce emissions within 2 miles of port boundaries, or in Regulated California Waters. We expect most major ports in California would be willing to enter into such agreements. For ports that do not enter into such agreements, the fees will be deposited into the California Air Pollution Control Fund. Those fees will then be used for a variety of air pollution control projects in California.

6. **Comment:** The mitigation fee provision needs to be carefully monitored to ensure that it doesn't become a pay-to-pollute program, rather than complying with the standards. In addition, we need to monitor the funds to ensure that they are used cost-effectively. (SCC)

Response: As noted in Response to Comments D.1 and D.2, we do not believe the noncompliance (mitigation) fee provision will become a “pay-to-pollute” program in which ship operators routinely decide to pay the fees in lieu of direct compliance. This is because: (1) the provision can only be used in a limited set of circumstances as specified in the regulations; and (2) the fees start at double the cost for a typical ship to directly comply with the emission limits (through the use of the more costly distillate fuels), and these fees increase with each subsequent port visit. In addition, regarding the monitoring of the funds, Resolution 5-63 directs the Executive Officer of the ARB to report to the Board approximately six months after the January 1, 2007 implementation of the regulations on any issues related to the noncompliance fees (in addition to other issues). As noted in Response to Comment D.5, the fees will be used to fund air pollution control projects, either directly at ports that enter into participation agreements with ARB or indirectly through the California Air Pollution Control Fund.

7. **Comment:** To use the noncompliance fee provisions the ship must notify the ARB before entering the regulated waters. This should be revised to allow the fees to be paid in cases where some unexpected incident occurs while transiting the regulated waters, such as equipment failure, weather conditions, and conditions that could put the safety of the vessel at risk if the required fuel switching was made. (WSPA 1)

Response: We disagree. The commenter’s suggestion could create a situation in which a vessel operator would need to choose between paying a substantial noncompliance fee or continuing to operate a potentially unsafe vessel. To avoid this, ARB staff modified the regulatory language in the 15-Day Notice to add an exemption from the requirements of the regulations (including the payment of noncompliance fees) during severe weather conditions, equipment failure, fuel contamination, or other extraordinary reasons beyond the operator’s control, for as long as such conditions endanger the safety of the vessel, its crew, its cargo, or its passengers. For situations that are not safety related, ship operators would be in violation of the regulations when the operators do not meet the limited circumstances enumerated in the noncompliance fee provision and do not meet either the emission limits or the requirements of an approved ACE. It is reasonable to make ship owners and operators responsible for ensuring that they are prepared to comply with the regulations.

8. **Comment:** The non-compliance fee should be waived or reduced for those vessel owners or operators that are expending capital to comply with the rule. Some differentiation needs to be made between those that are choosing to comply with the rule and those that choose not to. (WSPA 1)

Response: We disagree; the noncompliance fee structure is appropriate as is. As discussed in Response to Comment D.1, under subsection (h)(3), operators of vessels requiring modifications to comply can pay noncompliance fees if they cannot complete the modifications in time for the January 1, 2007 implementation date. This is

reasonable because the absence of such fees would provide the owners of these vessels with an economic advantage, and would not allow their emissions to be fully mitigated. The fees are also important in this case to provide an incentive for ship operators to complete repairs as soon as possible.

It is not accurate to describe the other situations where the noncompliance fees can be paid as providing a reasonable choice between direct compliance and the payment of fees. Three of the five situations (under subsection (h)(2)) cover unexpected situations beyond the person's reasonable control. These are not situations where the ship operator chooses not to comply. Under subsection (h)(4), vessels that require modifications to comply and will visit California ports infrequently (no more than four times in the vessel's lifetime, and no more than twice in a calendar year) can pay the noncompliance fees. In this situation, it is not cost effective to require modifications (such as the additional of fuel tanks) for only a few port visits to California. While it is technically correct that ship operators can choose direct compliance instead of paying the fees, this would not be an economically reasonable choice for such infrequent visitors.

9. **Comment:** The non-compliance fee is available for infrequent visitors that make less than two (2) California port visits per year and no more than four (4) port visits after January 1, 2007. The limit of four (4) visits after January 1, 2007 should be eliminated because this penalizes a vessel that visits California only one or two times every few years. (WSPA 1)

Response: We disagree. As discussed in the Staff Report (Chapter V), the noncompliance fee provision provides an alternative to direct compliance with the emission limits only in the limited situations where a vessel operator may not be able to comply with the proposed regulations for reasons beyond their reasonable control, or it may be impractical to comply. It is not meant to be used on a routine basis. There are a large number of vessels that make only one or two trips annually. Even if only a small percentage of those vessel operators chose to pay the noncompliance fees, there would still be a large number of vessels regularly choosing this compliance option. This would result in substantially more emissions than would result under direct compliance with the emission limits. Given the finite number of emission sources at the ports and the regulations such sources are already subject to, a large number of vessel operators choosing to use the fee provision would make it more difficult for the ports to find cost effective alternative emission reduction projects to mitigate the excess emissions.

Furthermore, while we have designed the noncompliance fee for use in some situations involving unforeseen circumstances or practicality concerns, it would not be appropriate to eliminate the four lifetime visits requirement as suggested. The four lifetime visits requirement is designed to accommodate the truly infrequent vessel. However, given that vessels have lifetimes measured in decades, even a vessel that visits California once or twice a year can make many visits over its lifetime. For such vessels, the noncompliance fee would no longer be available when the vessel exceeds the lifetime visits limit. To put it another way, if the operator knows or should know that its vessel

will exceed the lifetime visits limit, then the vessel's situation (i.e., lifetime visits) is no longer unexpected and beyond the operator's reasonable control. Thus, the operator of a vessel that is expected to exceed the lifetime visit limit can address this situation by planning before reaching the lifetime visits limit to either directly comply with the emission limits (i.e., by using the specified fuels or making vessel modifications to make such use possible) or operate under an approved ACE plan.

10. **Comment:** The proposed regulation requires the payment of non-compliance fees prior to the vessel leaving the port. This requirement is unreasonably burdensome and unnecessary. The proposed regulations should be revised to implement a billing system and allow 30 to 45 days to submit payment. This would be similar to the ballast water fees vessels are required to pay the State of California. (WSPA 1)

Response: We agree and have modified the regulatory language in the 15-Day Notice to allow, on a case-by-case basis, for payments to be submitted at a later date approved by the Executive Officer.

11. **Comment:** The noncompliance fee provision is unfair because three circumstances which qualify a ship to apply for the provision are reasons beyond a person's reasonable control. For the case of a vessel that is unexpectedly redirected to a California port, those that redirect the ship should pay the fee, not the ship. For the case of fuel found to be defective after purchase or inadequate fuel supply, the ship should not be penalized. Rather, there should be legislation to provide ships with adequate fuels. (INTERTANKO 1)

Response: We disagree. The noncompliance fees are necessary to prevent vessels from deriving an unfair economic advantage by not purchasing more costly compliant fuels or otherwise reducing their emissions. The fees are also needed to mitigate the excess emissions that would result from vessels calling on California ports without the proper controls. The fees will be used to fund alternative emission reduction projects that offset the excess emissions.

It is appropriate to impose the noncompliance fees on the vessel owner or operator of a vessel that is unexpectedly redirected to California because that is the person who is subject to the regulations. See subsection (b)(1) of the regulations. We expect that a vessel owner or operator who pays a noncompliance fee because the vessel was redirected to California has a number of remedies available to seek redress. Specifically, the vessel owner or operator could seek from the person who redirected the vessel reimbursement for the fees under standard contract theory or other legal causes of action in the owner/operator's domicile country. Therefore, it is neither necessary nor appropriate to impose the noncompliance fees on the party that redirected the vessel instead of the vessel owner or operator.

In addition, legislation is not needed to mandate the production of compliant fuels because such fuels are already available on a global basis. Further, California has no authority to direct fuel suppliers in other countries to provide vessel operators with specific low sulfur fuel prior to visiting California. And imposing a California-specific fuel regulation would not achieve the goal of reducing emissions within the Regulated California Waters, since visiting vessels would need to have low sulfur fuel before they arrive in Regulated California Waters, not after.

The noncompliance fee option related to the inability to purchase compliant fuel is intended to cover the rare instances in which there are local supply or delivery problems at a bunkering port used prior to visiting California. In most cases, such bunkering ports will be located in other countries or states. As noted above, California has no authority to direct suppliers in other states or countries to provide vessels with specific types of fuels before they come to California.

12. **Comment:** The noncompliance fee should not be applicable to ships that need to be retrofitted until after the ship is given a reasonable amount of time to make the modifications. Although it is technically possible to comply with the proposed regulations, the ability for some ships to switch fuels would depend on retrofitting an additional service tank and in changing operation procedures. (INTERTANKO 1)

Response: We disagree. The noncompliance fees are appropriate under the scenario mentioned by the commenter to prevent vessels from deriving an unfair economic advantage by not purchasing more costly compliant fuels or otherwise reducing their emissions. The fees are also needed to mitigate the excess emissions that would result from vessels calling on California ports without the proper controls. The fees will be used to fund alternative emission reduction projects that offset the excess emissions.

13. **Comment:** The regulation should not impose fees for noncompliance without making any exception for fuel that is simply not available or acceptable. CARB assumes without knowing that the specified fuels will be available and acceptable for all ships coming to California. It is burdensome to charge fees quickly escalating to \$162,000 through no fault of the vessel. It would be a clear restriction on commerce to bar ships from entering into the state if they exceed the specified number of noncompliant entries. There should be an exception if the vessel is unable to comply for safety reasons, and only minimal fees should be assessed in such circumstances. Finally, as an incentive to obtain the capital expenditures required for extensive modifications, if vessel owners or operators have entered into a commitment for agreed modifications, they should not be assessed noncompliance penalties. (MATSON)

Response: As discussed in the Staff Report (Chapter VI and Appendix I), the fuels that can be used to comply with the 2007 emission limits are already available worldwide. Thus, we expect that with reasonably judicious planning, vessel operators

should be able to meet the 2007 emission limits without incident. For the 2010 emission limits, we recognize that the fuels on which we based those limits are not currently available on a consistent basis at many ports, but we do expect them to be more widely available by 2010. We have therefore committed to conducting a feasibility study of the 2010 compliant fuels to evaluate their availability as 2010 approaches. And we will propose modifications to the Board if necessary based on the results of that study.

We do not believe it is burdensome or unreasonable to impose the noncompliance fees. As we noted in Response to Comment D.6, the fees are structured to escalate so that operators have a clear incentive to comply with the emission limits or an ACE. The fees are also designed to fund appropriate emission reduction projects at the ports to offset the excess emissions resulting from the use of the fee program. The fees are not intended to be used routinely, so if a vessel owner determines that the vessel's itinerary includes ports with fuel supply problems, it is incumbent on the owner to find solutions to address such problems to avoid paying the escalating fees (e.g., change suppliers, seek reimbursement for unacceptable fuel that was incorrectly supplied, etc.). With that said, the noncompliance fee option related to the inability to purchase compliant fuel is meant to cover the rare instances where there is a local supply or delivery problem at a bunkering port used prior to visiting California.

We do not anticipate that vessels will utilize the noncompliance fee provision five times (resulting in the maximum \$162,500 fee for diesel-electric vessels) due to an inadequate supply of compliant fuel. Nevertheless, vessels would not be barred from entering a California port after the fifth port visit using the noncompliance fee. After the fifth port visit, the fees would simply not escalate any further for vessels legitimately utilizing the noncompliance fee provision (i.e., the specific and limited criteria for applying the fees can still be met).

Regarding noncompliance for safety reasons, ARB staff agrees with the commenter and proposed modified regulatory language in the 15-Day Notice that adds an exemption from the requirements of the regulations (including the payment of noncompliance fees) during severe weather conditions, equipment failure, fuel contamination, or other extraordinary reasons beyond their control that endanger the safety of the vessel, its crew, its cargo, or its passengers. See also Response to Comment D.7.

Finally, we do not agree that waiving the noncompliance fees would provide an incentive for vessel owners to make modifications needed to comply with the regulations. We believe the reverse is true -- the noncompliance fees provide an incentive for ship owners to make the required modifications as soon as possible so the fees will terminate.

14. **Comment:** The ARB should ensure that the mitigation fee provision does not result in a "pay to pollute" situation where the fee is less expensive than the cost of compliance. To ensure that the mitigation fee remains higher than the cost of compliance, the ARB should require an annual review of the fee to adjust for market fluctuation. The ARB should also

implement strict enforcement procedures to ensure proper compliance.
(CE 1)

Response: As we discussed in Response to Comment D.6, we do not believe the fees will result in a “pay to pollute” situation because the fees are much more costly than direct compliance with the regulations. Specifically, the fees start at twice the calculated average cost of a typical vessel complying through the use of fuels specified in the regulations, and escalate rapidly for subsequent port calls. See also Response to Comment D.6. Thus, we do not believe annual fee adjustments are necessary because the fees are so much higher than direct compliance. Having said that, we find merit in monitoring the distillate fuel market, so we will periodically monitor the market to determine if adjustments to the fee structure are justified in the future.

We agree that strict enforcement procedures help ensure compliance with the regulations. As discussed in the Staff Report (Chapter IX), ARB plans to enforce the regulations through random inspections of records and fuel sampling and testing. Violations of the regulations are subject to substantial civil and criminal penalties under the Health and Safety Code and other provisions of State law.

15. **Comment:** The mitigation fee should only be applied to rare, unexpected circumstances where the situation clearly falls out of the operator’s control. Additionally, the regulations should include a provision to allow public comment and review of how the funds will be appropriated to ensure equivalent, real, enforceable and quantifiable emission reductions otherwise required by these regulations. (ENVIRO)

Response: The language regarding noncompliance (mitigation) fees restricts their use to a limited set of circumstances that will ensure that they are used infrequently. However, we do not believe it is appropriate to restrict the fees only to situations that are beyond the operator’s control. See Response to Comment D.1. The situations where the fees can be used are either unexpected and beyond the control of the ship operator, or they cover situations where direct compliance would not be practical or economically feasible. In addition, the fee structure is designed to encourage direct compliance. Specifically, it is generally much more expensive to pay the mitigation fees. See Response to Comment D.1.

We do not believe it is necessary for the regulations to require public review and comment on the payment and disbursement of the fees. Information on the emission reductions from projects funded by the noncompliance fees will be available to the public and are subject to the Public Records Act. This includes any agreements ARB enters into with the ports for collecting and funding port-based emission reduction projects based on these fees.

16. **Comment:** It is unreasonable for CARB to propose significant noncompliance fees rather than requiring carriers to use the lowest sulfur

fuel available until there are means to ensure the availability of compliant fuel. (SSA)

Response: We do not believe it is appropriate to require carriers to use the lowest sulfur fuel available until compliant fuel availability is ensured, instead of paying the noncompliance fees. There are several reasons for this. First, as noted in Response to Comments D.13 and D.14, the escalating fees are structured to serve as a strong incentive for operators to directly comply with the emission limits or operate under an approved ACE plan. Allowing operators to comply with the lowest available sulfur fuel would reduce the incentive to directly comply with the emission limits and would likely result in a logistically difficult situation for ARB staff to enforce.

For example, if under the commenter's suggestion a vessel operator arrives at California claiming the lowest sulfur fuel available was MARPOL Annex VI compliant fuel (i.e., 4.5% sulfur), it would be difficult for ARB staff to disprove that claim. To do so, staff would need to track down, at a minimum, most if not all fuel suppliers on that vessel's last port of call or whichever port the vessel last refueled at and determine the available fuel supplies on every day during which the vessel went through those suppliers' ports. The ARB staff would then need to verify that those suppliers actually had lower sulfur fuel than claimed by the vessel operator at the time the vessel came calling (i.e., the fuel was physically available in quantities sufficient to meet the operators needs and was not already committed to other vessels). That verification would likely need to be in writing and perhaps supported by sample analysis of the fuels in those other ports. All of this might be possible to do for one vessel, but even if that effort is multiplied by only a fraction of the thousands of vessel visits each year, verifying such claims would quickly become very resource-intensive for staff. And efforts to verify such claims would likely swallow up our efforts to enforce the program on those operators who are complying with low sulfur distillate fuels or the ACE, thereby diluting the overall program's effectiveness.

As discussed in the Staff Report (Chapter VI and Appendix I), the fuels needed to comply with the 2007 emission limits are available worldwide. Fuels needed to meet the 2010 emission limits are not currently available on a consistent basis at many ports at the current time, but are expected to be available by 2010. The ARB staff will conduct a feasibility study of the 2010 compliant fuels that evaluates their availability and will propose modifications to the Board if necessary based on the results of the study. The noncompliance fee option related to the inability to purchase compliant fuel is meant to cover the rare instances where there is a local supply or delivery problem at a bunkering port used prior to visiting California. The noncompliance fees are appropriate under this scenario to prevent vessels from deriving an unfair economic advantage by not purchasing more costly compliant fuels or otherwise reducing their emissions. The fees are also needed to mitigate the excess emissions that would result from vessels calling on California ports without the proper controls. The fees will be used to fund alternative emission reduction projects that offset the excess emissions.

E. Enforcement

1. **Comment:** The ARB should implement strong enforcement provisions to ensure that the regulations will have the intended impact. (GORDON)

Response: We agree. The ARB staff plans to have a robust enforcement program. As discussed in the Staff Report (Chapter IX), ARB plans to enforce the regulations through random inspections of the records required by the regulations under subsection (e)(2), and fuel sampling and testing.

2. **Comment:** The ARB should strictly enforce this regulation. The Governor ran on a platform of strict enforcement of existing law and Cal-EPA has been carrying out an enforcement initiative. (SCC)

Response: See Response to Comment E.1.

3. **Comment:** The ARB must implement strict enforcement procedures to ensure compliance with the regulations. We recommend that ships be required to provide supporting documentation to ARB enforcement officials upon request showing fuel specifications and usage data. We also recommend random fuel sampling aboard vessels, and urge ARB to work with other state and federal agencies to gain efficiencies in enforcing this regulation. (ENVIRO; COMMERCE)

Response: We agree. Subsection (e)(2) of the regulations requires that ship operators keep the records specified by the commenter and supply them upon request for inspection by ARB enforcement staff. As discussed in the Staff Report (Chapter IX), ARB staff intends to conduct random fuel sampling and testing to ensure compliance. The ARB staff has already met with other state agencies to discuss possible coordination of efforts in enforcing the regulations.

F. Cost Impacts

1. **Comment:** Contrary to the conclusion of the ARB Staff Report, we believe the regulations will result in increased shipping costs that will be reflected in increased costs to consumers. (ICS 1)

Response: The Staff Report (p. VIII-18) acknowledges that the regulations will result in increased shipping costs, but we estimate these costs to be relatively minor. Specifically, we estimated the added cost of the regulations, for a typical container ship traveling from Asia to the U.S. West Coast, to be less than one percent of the total transportation cost for the voyage.

2. **Comment:** CARB assumes that the difference in cost between the required distillate fuels and residual fuel is roughly \$250 per ton. The difference may be far higher in different areas of the world, where the

differential may run over \$300 per ton. As an example, Platts fuel quote for December 1, 2005 shows a differential between Marine Diesel Oil and 380 centistoke bunker fuel to be over \$450 in Panama. (PMSA 1)

Response: As discussed in the Staff Report (Chapter VIII), the difference in cost (between distillate and residual fuels) used in the Staff Report represents an overall average over a period of six months using three major bunkering ports. The ARB staff recognizes that fuel prices fluctuate over time, and that prices vary significantly with the specific port. However, staff believes it is appropriate to base the cost analysis on average cost differentials rather than worst-case examples such as that mentioned by the commenter.

3. **Comment:** CARB's assumption that vessel retrofits will be approximately \$100,000 to \$500,000 per vessel, should also consider the cost of taking vessels out of service. A delay of compliance for only one year while waiting for a scheduled dry dock to retrofit a vessel would result in significant noncompliance fees. Consider a diesel electric cruise ship that makes over 100 port calls. This would result in noncompliance fees of \$16.6 million. A container ship on a 35 day schedule that stops at San Pedro Bay and Oakland makes about 20 calls per year, and would result in \$1.5 million in potential fees. Since many ships are on a five year dry dock schedule and demand for ship yard services exceeds supply, the cost of delay would virtually require that some ships be taken out of service to comply with the regulation. A better option would be for the regulation to exempt vessels requiring retrofits in dry dock until after their next scheduled date. (PMSA 1)

Response: We disagree. Based on the ARB Oceangoing Ship Survey, ARB staff estimate that less than ten percent of ships visiting California ports will require modifications to comply with the proposed regulations. Many of these modifications are relatively minor and would not require that the vessel be dry docked. For example, some modifications can be conducted while the vessel is at dockside or even while it is at sea.

As discussed in the Staff Report's cost analysis (Chapter VIII), ARB staff recognizes that there may be a relatively small number of vessels that would need to make modifications to comply with the regulations that are significant enough to require a dry dock visit at a shipyard. In these situations, ARB staff recognizes that there will be a lost opportunity cost due to taking the vessel out of service earlier than scheduled. As explained in the Staff Report, we were not able to predict the extent to which this would occur and therefore could not quantify these costs.

Contrary to the commenter's position, the noncompliance fees would not require that vessels be taken out of service. While they are designed to be an incentive for direct compliance with the emission limits, the fees are not likely to be high enough for a ship operator to take a vessel out of service. The examples cited by the commenter

represent extreme examples, worst-case scenarios in which ship operators would most likely take action to perform the needed modifications in time to comply with the regulations or soon afterward.

In addition, the noncompliance fees are not as high as they appear when viewed in the context of the operating costs of large oceangoing vessels. As discussed in the Staff Report, the added costs of direct compliance with the regulations represents less than one percent of the overall cost of a typical overseas voyage, and the potential business impacts of the regulations on the industry (as measured by the return on owners equity) is also less than one percent. While the noncompliance fees can reach roughly 10 times the cost of direct compliance for the fifth and subsequent noncompliant visit, these costs would still represent a small percentage of the overall voyage cost. Completely exempting vessels from the fees while they await dry-dock dates would not be appropriate because it would allow these vessel operators to receive an unfair economic advantage over vessels that comply with the regulations, and would not provide funding to mitigate their excess emissions. It would also remove the incentive for ship operators to make the necessary modifications at the earliest possible date.

4. **Comment:** CARB's cost analysis should have included the cost of carrying additional lube oil to match the pH and viscosity of the lower sulfur fuels resulting in additional lube oil tanks and plumbing. The regulation will also result in a greater number of fuel coolers, blenders, and filtration systems for safe fuel switching to distillate fuels than the ARB's Oceangoing Ship Survey indicates. (PMSA 1)

Response: It would not be appropriate to include the cost of carrying additional lube oil to match the pH and viscosity of lower sulfur fuels. As explained in the Staff Report (p. VI-14), ship operators generally will not need to use these additional lube oils. The other modifications mentioned may be necessary for a small number of vessels and are accounted for in the cost analysis, which estimates retrofit costs of \$100,000 to \$500,000 for vessels needing modifications.

5. **Comment:** Since the ARB's discussion of legal authority concludes that "the state of California, acting through ARB and the local APCDs and AQMDs, has the authority to regulate the emissions from ocean-going vessels, including both U.S. and foreign-flagged vessels, as far out as 102 miles offshore," we cannot conclude that the estimated costs of compliance are limited to those included in this rule. Concurrent jurisdiction and regulatory authority would allow multiple jurisdictions to adopt multiple rules along coastwise vessel routes leading to unknown total cost and potential for more engine and equipment modification to accommodate multiple switches during transit. (PMSA 1)

Response: It would not be appropriate to inflate the cost of ARB's regulations simply because other entities may have the authority to promulgate similar regulations. This would be akin to adding the cost of the State Lands Commission's deballasting

regulations onto ARB's regulations simply because that other state agency has authority to regulate the same vessels. If other State or local entities regulate the emissions or other aspects of ocean-going vessels, those agencies would be responsible under California law to estimate the costs and impacts of the requirements they are proposing to adopt.

G. Emission Factors

1. **Comment:** There is uncertainty in some of the emission factors used to estimate the benefits of the regulations. The ARB needs to better understand both the current impacts and the benefits of these regulations before it moves forward. (PMSA 2)

Response: The justification for the emission factors used to estimate the emissions and benefits of the regulations is discussed in extensive detail in Appendix D of the Staff Report (pp. D-11 to D-13). The emission factors are well supported for all the pollutants. As noted in the Staff Report (p. VII-2), there is a significant degree of variability in the PM emission factors reported by different sources. The PM emission factor used in the Staff Report represents ARB's best estimate after analyzing all of the different sources of information. The ARB staff notes that the PM emissions from ship auxiliary engines would be significant even if the lowest emission factor reported were to be used. Therefore, it would not be appropriate to delay the development of the regulations for months or even years, to better refine the value for the PM emission factor, given the serious adverse health and environmental effects the regulated ship emissions have on California's citizens and air quality. See also Response to Comment G.2.

2. **Comment:** There is little support for the particulate emission factor of 1.5 g/kW-hr used in the diesel PM exposure assessment for ship auxiliary engines consuming residual fuels in any of the reported studies. We have serious concerns about the appropriateness of using this emission factor for the regulations and diesel exposure assessment for the Ports of Los Angeles and Long Beach. We suggest re-doing the exposure assessment using the 0.8 g/kw-hr emission factor in the 2002 Entec study as a sensitivity analysis. This would also be consistent with the 0.3 g/kw-hr emission factor used for ship auxiliary engines consuming distillate fuels that is consistent with the Entec report. Further, this would be consistent with the 0.72 g/kw-hr emission factor reportedly used for medium speed propulsion engines in Appendix A of the exposure assessment (PMSA 1—attached Nov. 21, 2005 Letter).

Response: We disagree. The 1.5 gram PM per kilowatt hour (g/kW-hr) emission factor is well supported, as discussed in Appendix D of the Staff Report (pp. D-12 and D-13), and Appendix B of the final "Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach," as added to the public record in the 15-day public notice. As discussed in Appendix D of the Staff Report, ARB considered the 0.8

g/kW-hr emission factor, but rejected it in favor of an emission factor developed for the U.S. EPA (with adjustments as noted).

In addition, Appendix B of the final “Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach,” further analyzed this issue and graphed all known sources of PM emissions data from appropriate engines by the sulfur content of the fuel (emissions data was not used if the sulfur content of the fuel was unknown). This analysis further supports the use of the 1.5 g/kW-hr emission factor.

While the 0.8 g/kW-hr emission factor for auxiliary engines using heavy fuel oil and the 0.3 g/kW-hr emission factor for auxiliary engines using distillate fuel are both published from the same source (the 2002 Entec Report), there is no inconsistency with using the 1.5 g/kW-hr emission factor along with the 0.3 g/kw-hr emission factor. As discussed in the Staff Report, the ARB staff believes that the 0.3 g/kW-hr emission factor is reasonable while the 0.8 g/kW-hr emission factor is unreasonably low. The 0.72 g/kw-hr emission factor cited in the exposure assessment was simply part of a discussion summarizing the methodology used by Starcrest Consulting Group in their emissions inventory study for the Port of Los Angeles. Starcrest Consulting Group also used the 0.8 g/kW-hr emission factor discussed above with which we disagree.

H. Safety Issues

1. **Comment:** There are substantial issues regarding safety that remain unresolved. The inclusion of an exemption for safety in the regulation is a step in the right direction, but we still believe the safety issue has been under-evaluated. (PMSA 2)

Response: There are no unresolved safety issues. The safety issues raised during the rulemaking process have focused primarily on the use of the distillate fuels in marine engines that ordinarily use heavy fuel oil, and fuel switching between heavy fuel oil and distillate fuels at sea. The ARB staff investigated these issues at length and found that ship operators can safely use distillate fuels and switch between heavy fuel oil and the distillate fuel. These issues are discussed in the Staff Report (Chapter VI, Section B).

Specifically, under the subheading “Existing Practice,” it is noted that: (1) most vessels currently perform the same types of fuel switches that are likely to occur under the regulations prior to maintenance operations in order to flush heavy fuel oil from engines; (2) several ship operators currently switch fuels every time they visit California ports; and (3) fuel switching to distillate fuels upon entry to ports was a standard practice for most vessels in the past. In addition, under the subheading “Fuel Switching and Safety,” it is noted that procedures for conducting fuel transitions are well known, and manufacturers of marine engines and equipment publish procedures for conducting them. Finally, under the subheading “Technical and Safety Considerations,” ARB staff noted that engine manufacturers uniformly reported that their engines designed for

heavy fuel oil could also use distillate fuels, subject to certain technical considerations, and as long as proper fuel switching procedures were used.

In addition, ship operators are not limited to complying with the regulations through the use of distillate fuels. The ACE Plan provision allows ship operators to use alternative emission control technologies if the operators choose not to use the cleaner distillate fuels.

As noted by the commenter, ARB staff incorporated a safety exemption into the modified regulatory language in the 15-Day Notice. The exemption addresses specific limited and temporary situations (e.g., due to severe weather, equipment failure, etc.) when compliance with the regulations could endanger the safety of the vessel, crew, cargo, or passengers. The ARB staff developed this exemption after extensive consultations with the Department of Fish and Game's Office of Spill Prevention and Response (OSPR), the San Francisco Harbor Safety Committee (SFHSC), and other stakeholders and interested parties.

2. **Comment:** We are concerned about the safety of requiring vessels to switch fuels while under transit. (WSPA 2)

Response: See Response to Comment H.1.

3. **Comment:** The regulation presents some safety issues. To address these, we suggest that the ARB phase in the regulation such that in 2007 the rule would only apply during hotelling (dockside), and then in 2008 it would also apply during transiting and maneuvering after conducting a navigational risk analysis with the Office of Spill Prevention and Response (OSPR). This recommendation is based on the following: (1) OSPR is tasked with reviewing regulations that impact the safe navigation of vessels and provided comments to the ARB advising that the regulations may interfere with navigation and safety. In their comments, OSPR discussed the problems with shifting fuels and concluded that prior to implementation of the rule, ARB sponsor a navigational risk and hazard analysis; (2) the San Francisco Harbor Safety Committee recommended that the ARB include a safety exemption (which ARB has agreed add to the regulation) and a phase-in period where the regulation applies only at dockside for the first year. (BP)

Response: We disagree. Based on staff's modifications to the regulatory text, we believe the regulations adequately address all safety concerns that were raised during the rulemaking. As discussed in Response to Comment H.1 and in the Staff Report, vessel operators can safely comply with the regulations. There is no need to modify the regulations to limit fuel switching to dockside operation while a navigational risk analysis is performed. This is because ship operators already conduct fuel switching at sea, either prior to maintenance, or for some vessels, prior to every California port visit. This demonstrates that vessel operators already know how to conduct fuel transitions safely.

The concerns raised by the Office of Spill Prevention and Response (OSPR) and the San Francisco Harbor Safety Committee (SFHSC) are discussed in the document, "Consideration of Navigational Safety in the Development of the Air Resources Board's Ship Auxiliary Engine Rule," dated April 4, 2006, which was added to the public record during the 15-day Notice. We believe we adequately addressed all the concerns raised by OSPR and SFHSC in that document, and have received nothing from either OSPR or SFHSC since we completed that document to indicate otherwise.

We also note that OSPR and the HSC appear to misinterpret the regulations as requiring fuel switching to take place close to shore. For example, OSPR submitted a comment letter dated December 6, 2005, stating: "When shifting fuels, such factors such as contamination, equipment failure and human error can suddenly cause a vessel to lose propulsion and steering in the heavily congested traffic and **confined waters of California's harbors.**" [emphasis added] Similarly, the San Francisco Harbor Safety Committee submitted a letter dated November 20, 2005, that stated: "The Committee further offers its assistance...for proposed regulations that may impact safe vessel operations, **particularly in confined waters such as the San Francisco Bay.**" [emphasis added] First, the regulations in no way require vessel operators to switch fuels in California waters. Vessel operators, if they choose to comply with the regulations by using cleaner fuels, can switch fuels from farther out than 24 nm, or the operators can leave their last port of call using only the cleaner fuel, thereby obviating any need to switch fuels at all as they approach California.

More importantly, the comments from OSPR and SFHSC suggest a fundamental misunderstanding of the regulations. Vessel operators who plan to comply by switching to cleaner fuels would need to conduct such switching, or otherwise ensure that the regulated engines are fueled entirely with cleaner fuel, before the vessel reaches the 24 nautical mile boundary seaward of California's coastline. Fuel switching within confined waters such as harbors and bays, as suggested by the OSPR and SFHSC comments, would accomplish nothing for the operator, as the vessel would be in violation of the regulations by the time the vessel enters a harbor, bay or other confined body of water.

It is important to note that the regulations' 24 mile nautical mile boundary is consistent with a navigational risk analysis conducted by OSPR in coordination with other agencies and stakeholders. That document, "West Coast Offshore Vessel Traffic Risk Management Project," recommends that ships transit at a minimum of 25 nautical miles offshore of the West Coast, where no other management measures exist, to provide a greater opportunity for rescue tugs to reach vessels that become disabled prior to drift grounding. We made that document available for public review and comment as part of the 15-Day Notice.

4. **Comment:** The last minute objections raised about safety are disingenuous. Nevertheless, the proposed safety exemption that was added as a modification should address them. (NRDC)

Response: We agree that vessel operators can safely meet the requirements of the regulations. The safety exemption included in the modified regulatory language in the 15-Day Notice addresses the limited circumstances, such as extreme weather or equipment failure, where compliance might introduce an unacceptable risk. While we believe such circumstances would occur rarely, if at all, we believe it is prudent for the regulations to account for these situations to the extent feasible. And we believe the regulatory text, as modified, adequately accounts for all these potential safety issues without compromising the efficacy of the regulations in reducing ship emissions.

5. **Comment:** The industry brought up safety late in the game and has never provided any documented evidence that fuel switching has caused an accident, a spill, an injury or anything along these lines. Our organization introduced a bill in 2003 (AB 471) that would have required fuel switching at 90 miles offshore in main engines and that was defeated by the industry on safety issues. Safety on the seas is very important and should be analyzed, but is not cause to delay this rule. (BW 2)

Response: As mentioned by the commenter, we did not receive any concrete documentation that fuel switching could present a safety risk (i.e., information relating loss of propulsion, collisions, groundings, or other specific reportable maritime incidences to fuel switching). Nevertheless, we investigated this issue extensively and concluded that fuel switching, if the vessel operator chooses that approach to comply with the regulations, can be conducted safely. See Response to Comments H.1 and H.3.

6. **Comment:** The following problems may be encountered when changing from residual fuels to the gas oil specified in the regulation: (1) excessive leakage from the fuel oil pumps; (2) the possibility of fuel injection pumps sticking as a result of the poor lubrication properties of low sulfur fuels; (3) the probability of excessive and rapid clogging of fuel filters caused by the flushing qualities of the low sulfur distillate fuels; (4) the possibility of fuel oil line leakage. These problems raise the potential for loss of a ship's power that could lead to dangerous navigational situations including collision and stranding, fire or explosion. (ICS 1)

Response: We disagree. Ship operators are currently conducting these fuel transitions either prior to maintenance, or on a routine basis, so they already know how to avoid these problems. As discussed in the Staff Report (Chapter VI, Section B, "Technical and Safety Considerations"), ship operators that choose to comply through the use of cleaner distillate fuels can avoid each of these potential problems through prudent precautions and following best practices and procedures recommended by the engine manufacturers while conducting fuel switching. For example, excessive fuel pump leakage can be avoided through specification of a minimum viscosity level when ordering distillate fuels, or by adding a fuel cooler. Furthermore, the industry itself acknowledges the technical feasibility of the regulations (see INTERTANKO 1, Comment B.17). Finally, ship owners can elect to comply with the regulations through

other emission control options under the ACE Plan, if they do not want to comply using cleaner distillate fuels.

See also Response to Comments H.1 through H.5.

7. **Comment:** There is an operational risk associated with the change over from residual fuel to distillate fuel. Distillate fuels cannot be used in an engine at the higher temperatures demanded by residual fuels because it can vaporize and become unpumpable. On the other hand, switching from distillate back to residual fuel at lower temperatures can result in the elevated fuel viscosity, threatening injection pumps and high pressure piping with failure. Consequently, correct fuel change over procedures remain critical and are associated with a risk of loss of auxiliary engine power, and resulting loss of propulsion and steering. (ICS 1)

Response: Ship operators are already performing the same type of fuel switches that would be conducted under the proposed regulations, either prior to maintenance or on a routine basis when visiting California ports. Needless to say, we agree that it is important for ship operators to follow proper procedures when transitioning from one fuel to another to avoid the problems mentioned by the commenter. Having said that, the existing practice of conducting these fuel transitions demonstrates that they can be done safely.

In addition, under the regulations these fuel transitions would be completed outside of the 24 nautical mile boundary off California's coastline. As discussed in the response to Comment H.3, this is consistent with a navigational risk analysis conducted by the Department of Fish and Games/Office of Spill Prevention and Response in coordination with other agencies. This document, "West Coast Offshore Vessel Traffic Risk Management Project," recommends that ships transit at a minimum of 25 nautical miles offshore of the West Coast where no other management measures exist to provide a greater opportunity for rescue tugs to reach vessels that become disabled prior to drift grounding.

8. **Comment:** The regulation should include a safety clause that allows a Captain or Operator of a vessel the ability to revert to the previous fuel oil if the ship develops maneuvering problems after changing to lower sulfur fuel. Many maritime regulations, such as ballast water regulations, have safety or seaworthy clauses. (SFHSC)

Response: We agree and have added a safety exemption in the modified regulatory language. The exemption would allow the vessel operator to revert to the previous fuel oil, or not attempt a fuel switch at all if needed to address specific limited situations (e.g. due to severe weather, equipment failure, etc.) in which compliance with the regulations could endanger the safety of the vessel, crew, cargo, or passengers.

9. **Comment:** The regulation should “phase in” its requirements to allow sufficient time for all affected vessels to be notified and “fine tune” their change-over procedures. (SFHSC)

Response: See response to Comment H.3. With regard to “phasing in” the requirements to give additional time to affect vessels, we do not believe such delays are necessary. As noted in the Staff Report (at I-4 through I-6), the shipping industry has been well aware of this rulemaking since its inception back in 2001. The ARB staff has met all legal requirements specified in the Administrative Procedure Act (Government Code section 11340 et seq.) for rulemakings, including all requirements for providing notice to the public and periods for public comment and review. All relevant notices, staff reports, draft regulations, and other documents pertaining to this rulemaking have been published on ARB’s internet site, and staff has sent email notices pertaining to such publications to two list serves (“marine2005” and “maritime”) that have about 2,000 subscribed persons. We have also maintained discussions with OSPR, SFHSC, U.S. Coast Guard, U.S. EPA, and other stakeholders who are in a position to make others who are not on ARB’s contact lists aware of this rulemaking. Finally, we have observed that members of the shipping industry have closely observed and tracked this rulemaking. For example, discussions of workshops and meetings to be held by staff were often posted on SustainableShipping.Com, with links to ARB’s internet site and the relevant documents, within 30 minutes of when ARB itself posted such notices on its website. SustainableShipping.Com is a free subsidiary site maintained by Bunkerworld.Com, a site that closely tracks global, regional, and local issues pertaining to bunker fuel, tanker vessels, and similar subject matter.

10. **Comment:** The proposed rule poses a significant safety risk. Even though the risk of loss of power is small the potential impact is huge. Failure of an auxiliary engine may result in the loss of the main propulsion engine since the auxiliary engines provide power for essential services such as fuel and lubricating oil pumps. Vessel crews are no longer familiar with the fuel switching process because they don’t have to switch fuels every time they come into port as they did in the past. A much safer alternative would be fuel switching after docking or anchoring. CARB should revise the rule to address the safety issues prior to adoption. (WSPA 1)

Response: We disagree. See Response to Comment H.3.

11. **Comment:** The shipping industry has not provided to ARB any evidence of accidents, spills or injuries that have ever occurred as a result of fuel switching operations. In any case, to address concerns about safety at sea, we urge the ARB staff to include a safety provision in the regulations that would allow a ship operator to consider safety factors when deciding when or whether to switch fuels (BW 1)

Response: As mentioned by the commenter, we did not receive any concrete documentation that fuel switching could present a safety risk. Nevertheless, we extensively investigated this issue, as discussed in Response to Comments H.1 and H.3. In response to this and similar comments, we included a safety exemption in the modified regulatory language in the 15-Day Notice. That exemption addresses the limited circumstances, such as extreme weather or equipment failure, where compliance would introduce an unacceptable risk.

12. **Comment:** The proposed regulation may impact vessel safety. Most of the engines on our ships were designed to run on heavy fuel oil, not distillate fuel. Distillate fuel has not been fully tested on these engines and may cause problems. Most engine manufacturers recommend not switching fuels routinely. Fuel switches can create thermal shock and cause failure of fuel injection equipment, stopping the engine. In addition, the low lubricity of low sulfur MGO increases the potential for failure. CARB should not adopt this regulation without confirmation from refineries and engine manufacturers that these fuels can be used safely on existing engines, and whether engine modifications will be required. (MATSON)

Response: We disagree. The ARB staff consulted with engine manufacturers and refineries during the development of these regulations. Based on our discussions with engine manufacturers, the cleaner distillate fuels specified in the regulations can be used in marine auxiliary engines provided fuel switches are conducted using proper procedures. Our discussions with refineries were relative to the availability of distillate fuels. We do not believe that refinery operators are the appropriate party to consult with regard to the types of fuels that marine engines can use. See also Responses to Comments H.1 and H.6.

13. **Comment:** The proposed regulations may interfere with navigational safety. When switching fuels, such factors as contamination, equipment failure, and human error, can suddenly cause a vessel to lose propulsion and steering in the heavily congested traffic and confined waters of California's harbors. Prior to implementation of the regulations, we recommend that CARB sponsor a navigational risk and hazard analysis including the risks to environmental resources. The regulations should then be amended to minimize any risk or hazard identified by the analysis. (DFG)

Response: See Response to Comment H.3.

14. **Comment:** Uni-fuel ships that are designed to operate solely on residual fuel could have problems using distillate fuels or switching between fuels, which would affect the safe operation of the vessel. These problems include, but are not limited to, the following: 1) the lower viscosity of low sulfur distillate fuels may result in excessive fuel leakage from the fuel oil pumps and fuel injectors; 2) the potential for seizing of fuel injector pumps

due to lower lubrication properties of such fuels; 3) during switch over, the asphaltenes from residual fuel may be precipitated out by the distillate fuel and result in the clogging of fuel filters; 4) the change in combustion temperature between residual and distillate fuel can result in differential expansion and consequent fuel line leakage; 5) switching from residual fuel with its required high combustion temperature to distillate can result in the vaporization of the fuel, which then becomes unpumpable; 6) switching from distillate back to residual at lower temperatures can result in elevated fuel viscosity, threatening injection pump and high pressure fuel failure. (PMSA 1)

Response: Our analysis demonstrates that marine auxiliary engines, including those used on uni-fuel ships, can safely use the distillate fuels specified in the regulations. As discussed in the Staff Report (p. VI-12), most vessels switch fuels prior to major maintenance operations to remove heavy fuel oil from engines, so the proper procedures for conducting fuel switching are well known in the industry. Further, engine manufacturers uniformly reported that their engines designed for use with heavy fuel oil can also be used with distillate fuels (Staff Report, at VI-13). All the potential problems mentioned by the commenter can be avoided by taking reasonable precautions and following recommended fuel switching procedures, as discussed in the Staff Report (pp. VI-13 to VI-15).

Although the marine engines subject to the rule can clearly use distillate fuels, we recognize that some uni-fuel ships may not have fuel tanks with adequate capacity for distillate fuels. In these cases, vessel owners may need to add a new tank, convert an existing heavy fuel oil tank to use distillate fuel, or segregate an existing tank (see Staff Report, at VI-11). However, ship operators are not required to comply with the regulations by switching to distillate fuels. They can also comply under the ACE provision by using alternative control strategies that are demonstrated to result in emissions that are no greater than would have resulted with use of the specified distillate fuels. See also Response to Comments H.1 and H.6.

15. **Comment:** While we understand that many ship engines do switch fuels for maintenance purposes and are therefore familiar with the proper safety procedures and practices for fuel switching, we are also aware that those operations generally take place while the vessel is at berth. The majority of vessels are not designed to perform fuel switches while underway. (PMSA 1)

Response: We disagree. As discussed in the Staff Report (p. VI-10), most vessels perform fuel switching operations while at sea prior to major maintenance operations, and many vessels switch fuels at sea prior to all California port visits. Further, the industry itself acknowledges that this is feasible both technically and operationally. For example, the December 1, 2005 INTERTANKO letter states the following: "From a technical and operational perspective, the proposed 24 mile limit although outside the

territorial limit would not be a real problem for tankers even though the fuel change over is required before entering this area to the required abatement fuel types.”

16. **Comment:** The technical problems associated with the use of distillate fuel and fuel switching can result in a loss of auxiliary power and possibly catastrophic engine room incidents such as fire or explosion. These incidents can result in a loss of ship power and navigation, with the potential for resultant loss of property, life, and environmental damage. (PMSA 1)

Response: We believe the regulations are drafted to adequately address all such safety concerns. Ship operators can safely use distillate fuel, and switch back and forth between heavy fuel oil and marine distillate fuels when the vessels enter and exit Regulated California Waters. Ship operators already perform the same type of fuel switching that would be conducted under the regulations. See also Response to Comment H.1.

17. **Comment:** There are numerous safety concerns associated with the proposal. The potential for catastrophic engine damage or failure in California ports is enhanced when vessels designed to run on heavy fuel switch to distillate fuel (SSA)

Response: See Response to Comment H.1.

I. 24 Nautical Mile Boundary

1. **Comment:** We support the 24 nm regulatory zone because the vessels that travel up and down the coast of the Bay Area result in emissions that move onshore and affect our population. (BAAQMD)

Response: We agree that emissions within the 24 nautical mile boundary and beyond can be transported onshore where they adversely affect air quality.

2. **Comment:** We support the 24-mile boundary. It is based on scientific studies done by the staff. The impacts of ship emissions are not limited to the ports. People living along the California coast also suffer from the impacts of emissions from these ships. For example, Santa Barbara doesn't even have a port, yet they experience huge NOx emissions greater than their own mobile sources. (BW 2).

Response: See response to Comment I.1.

J. Diesel-Electric Vessels

1. **Comment:** The applicability of the regulation to diesel-electric vessels is unfair. Diesel-electric vessels (cruise ships and four tankers) make up a small percentage of the total volume of ships. We suggest that you carve out the engine load that is equivalent to hotelling and only subject that portion of the load to the regulation. I disagree with the Staff Report that it is hard to measure that. You can meter and measure the kilowatt-hours produced while a ship is in port and that is the hotelling level. (HOFFMAN 2)

Response: As discussed in the Staff Report (pp. V-19 and IX-2 to IX-4), the regulations apply to diesel-electric vessels because the engines used on these vessels are mechanically similar to the typical auxiliary engines covered by the regulations. Specifically, the engines on diesel-electric vessels are four-stroke, medium speed engines used in generator-set applications (like other auxiliary engines). Although we agree that diesel-electric vessels make up a small percentage of the vessels that visit California ports, they generate higher engine loads (and thus emissions) while at dockside.

Further, as discussed in the Staff Report (pp. V-19 to V-20), ARB staff analyzed the alternative proposal suggested by the commenter to regulate only the portion of total power used for non-propulsion uses (i.e., the hotelling load). This alternative was rejected because of the importance of controlling the emissions from these engines to the maximum extent feasible. The alternative was found to be no more cost-effective, because while it reduced the cost to industry it also reduced the emission reductions of the proposal, yielding the same ratio of cost per pound of pollutant reduced.

Finally, staff found that the alternative proposal would require burdensome recordkeeping to carve out the hotelling load from the total engine load and to ensure that the hotelling portion of the total power would be properly controlled. Determining the appropriate hotelling load could be difficult because this load varies continuously with factors such as the weather (which influences the electrical demand for space heating or cooling), the time of day, and the number of passengers on the specific journey.

2. **Comment:** We support including diesel-electric engines in the rule. We have a new cruise ship terminal that is planned for San Francisco and we are going to have increased cruise ship visits in the Bay Area and we think this is an excellent way of reducing their emissions. (BAAQMD)

Response: We agree that it is appropriate to regulate these engines, as discussed in the Staff Report (pp. IX-2 to IX-4).

3. **Comment:** We support subjecting diesel-electric engines used on cruise ships and tankers to the requirements of the regulations. I think anyone

would be willing to pay an \$8 fee to ensure that the public health of the community they are visiting would be protected. (CCA 1)

Response: We agree that the industry should be able to absorb the cost impacts of the regulations without a significant adverse impact on their profitability, as discussed in the Staff Report (pp. VIII-16 through VIII-18).

4. **Comment:** We support the diesel-electric component of the regulation, which mostly affects cruise ships. There are fewer of these ships but they make more port calls and produce a large amount of emissions per ship because their power demands are so much greater (due to the air conditioning, restaurants, and casinos onboard). It is also feasible. Some companies in the cruise industry are already switching to marine distillate fuels in California waters on their own and also as part of an incentive program through the port of San Francisco and the U.S. EPA. In addition, it is also only about \$8 per passenger, and the cruise industry is exceedingly profitable so we think they can afford to protect air quality in California. (BW 2)

Response: We agree that the regulations are technically feasible and cost effective, as discussed in the Staff Report.

5. **Comment:** For diesel-electric vessels, the regulation should only apply to the equivalent of the hotelling loads. Loads above hotelling are primarily associated with transiting (propulsion) beyond port regions. It is inequitable to treat diesel-electric vessels differently from other vessels. The economic impact will be significantly higher for diesel-electric vessels, including the capital costs, fuel cost differential, and noncompliance penalties. The number of diesel-electric vessels is also limited to cruise ships and a small number of tankers. Finally, diesel-electric vessels should have the ability to meter on-board power generated on an hourly or more frequent basis, which could be compared to the average hotelling load. (HOFFMAN 1)

Response: We believe it is appropriate to regulate all the emissions from these diesel-electric vessels because doing so is technically feasible and cost-effective. We agree that the costs of compliance with the regulations are higher for diesel-electric vessels because the engines on these vessels are used for both propulsion and shipboard electrical loads (hotelling loads). However, as explained in the Staff Report (V-19), the emission reductions achieved under the regulations are also higher, so the overall cost-effectiveness of the regulations is the same for diesel-electric vessels as compared to the commenter's proposal. In addition, the cost analysis in the Staff Report concludes that the industry should be able to absorb the cost impacts of the regulations without a significant adverse impact on their profitability (pp. VIII-16 through VIII-18). See also Response to Comment J.1.

K. Exemptions

1. **Comment:** The exemption for military vessels should extend to “public vessels” or United States Maritime Administration (MARAD) vessels. MARAD vessels are turned over to the direct control of the military during federal emergencies. (MARAD)

Response: We agree and have modified the regulatory language in the 15-Day Notice to extend the exemption for military vessels to vessels that are owned or operated by any branch of local, state, or federal government.

2. **Comment:** With regard to the proposed safety exemption that was added as a modification to the original proposal, we suggest requiring that documentation be provided justifying the use of this exemption. (NRDC)

Response: We agree. As suggested by the commenter, we modified the regulatory language to require the submittal of documentation necessary to justify the exemption.

3. **Comment:** I'd like to thank your staff for taking the international sovereignty issues, not just of military vessels but of vessels operated by governments for noncommercial purposes, into account in this rule. However, the public should understand that we are not operating under the cloak of sovereignty when we bring our ships into California ports. We use exclusively shore power at our facilities, and have done this for decades. (NAVY 2)

Response: We agree that it was appropriate to exempt military vessels, and to extend the military vessel exemption to vessels that are owned or operated by governments. However, the exemption was not provided to address international sovereignty issues. As discussed in the 15-day public notice, the exemption was provided to: (1) facilitate joint maritime exercises with vessels from foreign governments; (2) accommodate government vessels which can be turned over to the military during federal emergencies; and (3) allow military vessels to continue to operate on military specification distillate fuels that are already relatively clean-burning, and must be used on a consistent basis globally. In addition, very few government vessels, outside of the military, are subject to the regulations because they are not large enough to qualify as “ocean-going” vessels. We support the efforts of the U.S. military to reduce their emissions.

4. **Comment:** The force majeure exemption clause should be amended to include normal considerations in this context. A person or ship that has made every effort to comply with this regulation should not be penalized by the imposition of non-compliance fees without discretion. The noncompliance fee structure should be amended to acknowledge such circumstances. (ICS 1)

Response: The vessels that stop or anchor in Regulated California Waters only to the extent rendered necessary by force majeure or distress are exempted from the regulations. These vessels are different from those covered under the Noncompliance Fee Provision because they would otherwise travel through Regulated California Waters without calling on a California port. We expect such situations to be rare, and to result in less emissions because such vessels will generally not be offloading cargo. The commenter does not define “normal considerations.” Assuming the commenter intends “normal considerations” to include the situations covered under the Noncompliance Fee Provision in the regulations, ARB staff believes it is appropriate to levy fees in these situations to mitigate the excess emissions from such vessels (by funding alternative port emission reduction projects), and to prevent ship operators from receiving an unfair economic advantage over other vessels that comply with the regulations.

5. **Comment:** The proposed regulation exempts engines operating on LNG or CNG. With performance level emission limits set for PM, NO_x, and SO_x, there is no reason to exempt those fuels/engines from the regulation. (WSPA 1)

Response: We disagree. We believe that engines operating on LNG or CNG will meet the emission limits established in the regulations. Information supporting this conclusion was submitted into the public record with the 15-day Public Notice. While such engines could comply with the regulations under an approved ACE Plan, we believe exempting such engines would allow industry to comply with the regulations using these engines without the added burden of developing and submitting such plans.

6. **Comment:** We appreciate the recognition given to the technical impossibility of 2-stroke engines to safely comply with the use of very low sulfur fuel oils. (INTERTANKO 1)

Response: We believe that it is possible for two-stroke engines to safely use very low sulfur fuel oils. However, we recognize that there are some additional technical challenges associated with the use of such fuels by two-stroke marine engines, such as the need to match engine lubricants with the sulfur content of the fuel. Therefore, we have elected to address the four-stroke auxiliary engines first (in this rulemaking). We plan to address two-stroke engines in a subsequent rulemaking.

7. **Comment:** We request the exemption for military vessels be modified to read as follows:

“The requirements of this section do not apply to auxiliary engines onboard warships, naval auxiliaries, and other vessels owned or operated by a government and used for the time being on government non-commercial service. However, warships, naval auxiliaries, and other vessels owned or operated by a government and used for government non-commercial service are encouraged to act in a manner consistent, so far as is reasonable and practicable, with this section.”

We based this exemption on international law as reflected in Article 236 of the 1982 United Nations convention on the Law of the Sea and language in numerous international agreements such as the International Convention on the Safety of Life at Sea and the International Convention for the Prevention of Pollution from Ships (MARPOL). This language comports with international practice with respect to the application of port country laws to foreign sovereign immune vessels. For example, U.S. sovereign immune (public) vessels are not subject to foreign port authority inspections for proper record keeping or for collecting fuel samples.

As a result of more specifically defining the applicable exemption, the definition of military vessel should be deleted, and the definition of “oceangoing vessel” should delete the words “commercial,” “government,” and “military.” (NAVY 1)

Response: As stated in the response to comment #3, we agree that it is appropriate to exempt military vessels, and to extend the military vessel exemption to vessels that are owned or operated by governments. While the exemption included in modified 15-day language is not identical to the language suggested by the commenter, it provides the same basic result – exemption of military and government vessels. The exemption was not provided to address the issues discussed by the commenter. As discussed in the 15-day public notice, the exemption was provided to: (1) facilitate joint maritime exercises with vessels from foreign governments; (2) accommodate government vessels which can be turned over to the military during federal emergencies; and (3) allow military vessels to continue to operate on military specification distillate fuels that are already relatively clean-burning, and must be used on a consistent basis globally. In addition, very few government vessels, outside of the military, are subject to the regulations because they do not qualify as “ocean-going” vessels.

L. Retrofits

1. **Comment:** The provisions for vessels that require retrofits should be modified to be more cost-effective and reflect that many vessels are on a five-year retrofit cycle. Under the existing provisions, paying the noncompliance fees for one year until retrofits are performed would be very costly. A cruise ship that makes 100 port visits would result in fees of around \$16 million, and a container ship that makes 20 port visits would result in fees that can exceed 1.5 million. (PMSA 2)

Response: The regulations are cost-effective, as demonstrated by the analysis in Chapter VIII of the Staff Report. As discussed in the cost analysis in the Staff Report (Chapter VIII), ARB staff recognizes that there may be a small number of vessels that would need to make modifications to comply with the regulations that are significant enough to require a dry dock visit at a shipyard. In these situations, the fees would not likely be high enough for a ship operator to take a vessel out of service. The examples cited by the commenter represent extreme worst-case scenarios in which ship operators

would most likely take action to perform the needed modifications in time to comply with the regulations, or soon afterward.

In addition, the noncompliance fees are not as high as they appear when viewed in the context of the operating costs of large oceangoing vessels. As discussed in the Staff Report, the added costs of direct compliance with the regulations represents less than one percent of the overall cost of a typical overseas voyage, and the potential business impacts of the regulations on the industry (as measured by the return on owners equity) is also less than one percent. While the noncompliance fees can reach roughly 10 times the cost of direct compliance for the fifth and subsequent noncompliant visit, these costs would still represent a small percentage of the overall voyage cost. Completely exempting vessels from the fees while they await dry-dock dates would not be appropriate because it would allow these vessel operators to receive an unfair economic advantage over vessels that comply with the regulations, and would not provide funding to mitigate their excess emissions. It would also remove the incentive for ship operators to make the necessary modifications at the earliest possible date.

2. **Comment:** The synchronization of ship maintenance schedules for retrofits needed under the regulation should be a consideration in the rule (POLA).

Response: See Response to Comment L.1.

3. **Comment:** The proposed non-compliance fees are not mitigated when there are difficulties associated with the installation of additional fuel and lubricating oil tanks due to space considerations. Assessment and approval of tank location and amended stability information is a regulatory requirement. (ICS 1)

Response: It would not be appropriate to reduce or eliminate the noncompliance fees because the fees are necessary to ensure that the excess emissions from each ship visit are mitigated, and to prevent such vessels from receiving an economic advantage over other vessels that are complying. The fees also provide an incentive for ship operators to perform the necessary modifications as soon as possible. Difficulties associated with the installation of additional fuel tanks where space is limited can be eliminated by segregating (partitioning) existing tanks (Staff Report, at VIII-4). The regulations should not normally result in the need for additional lubricating oil tanks. This is because the existing lubricants should be compatible with the lower sulfur fuels during the limited time the vessel operates in Regulated California Waters (Staff Report, at VI-14).

4. **Comment:** The regulation will require vessels to install California-only fuel tanks. The fuels specified in the regulation on large ocean-going vessels are emergency fuels for use on engines for routine maintenance and therefore are limited in capacity. In addition, if local air pollution control districts impose additional requirements, additional tanks might

also be required. No similar requirements are imposed on vessels by the U.S. EPA or in California on cars and trucks that enter state lines.
(MATSON)

Response: Contrary to the commenter's statement, the regulations do not require the installation of California-only tanks or any other type of equipment. In fact, most vessels will not have to install additional tanks to comply with the proposed regulations. Based on the ARB Oceangoing Ship Survey, ARB staff estimates that less than ten percent of ships visiting California ports will require modifications (such as the installation of a new fuel tank) to comply with the proposed regulations. The costs and impacts of these modifications are estimated in the Staff Report in Chapter VIII. As we noted in Response to Comment F.5, it is neither appropriate nor necessary to include in the cost analysis for this rulemaking the hypothetical costs of potential future regulations by other regulatory entities.

Regarding the commenter's observation that similar requirements (to those imposed on vessels) are not imposed on on-road vehicles, we note that cars and trucks have been subject to increasingly stringent exhaust emissions standards that are dramatically lower than ocean-going vessels. We would also point out that on-road and off-road diesel vehicles and equipment, beginning in September 2006, will have to use very low sulfur (0.0015% or 15 ppm) diesel fuel. Finally, we note that most ocean-going vessels already have the tankage and ability to switch fuels, while on-road vehicles do not.

M. Miscellaneous

1. **Comment:** Expanding the rule's applicability beyond an owner and/or operator is excessive and problematic. Those who charter, rent, or lease do not assume operation or control of the vessel. CARB should remove this expanded applicability or clarify and state at a minimum that only the vessel owner or operator is responsible for meeting the requirements in subsections (e) and (g). (WSPA 1)

Response: We disagree. Based on our experiences with ARB's other air pollution control programs, we anticipate situations occurring when parties beyond the ship owner or operator may be wholly or partially responsible for a violation. Therefore, it is appropriate to make other parties involved with vessels that visit California ports potentially liable for such violations. By making other parties "upstream" and "downstream" of the vessel operator or owner potentially liable for violations, we help ensure that all parties involved in vessel operations coordinate their compliance efforts, thereby improving the overall effectiveness of the regulations.

2. **Comment:** The proposed regulation would require that records be submitted to the ARB within 24 hours of a request by the agency. This is an unusually short time frame and should be extended to a minimum of two weeks. (WSPA 1)

Response: We agree in part and disagree in part. We agree that more time may be needed and have modified subsection (e)(2)(B) of the regulations to allow a longer period for records to be submitted when 24 hours are insufficient. However, we disagree that a minimum of two weeks for such submittals are needed. Accordingly, we modified the proposal to permit the Executive Officer latitude in determining an appropriate time period under the circumstances.

3. **Comment:** The proposed regulation requests information about piping diagrams and specifications for mixing tanks, etc. Given the regulation's intent, WSPA would like clarification as to the need for this information. (WSPA 1)

Response: The ARB staff will enforce the regulations by reviewing required records and taking fuel samples. When inspectors draw fuel samples from tanks, they need to ensure that the fuels they are sampling supply engines that are subject to the regulations. The information mentioned by the commenter is an example of the type of data that may be requested. Other information may be requested as well, if necessary, to determine compliance with the regulations.

4. **Comment:** The proposed regulation needs to be clarified such that any time ARB staff accesses a vessel that access will be coordinated with the U.S. Coast Guard and will not delay vessel departures or change vessels' routes, etc. In addition, ARB staff requesting access to a vessel should be required to comply with all federal requirements including, but not limited to, adequate advanced notice for performing security background checks. (WSPA 1)

Response: We do not believe the regulation needs to be clarified as suggested. The ARB enforcement staff intends to coordinate vessel inspections with other state and federal agencies to the extent feasible and to avoid unnecessarily delaying vessel departures. However, ARB staff does not believe it is appropriate to modify the regulations as suggested by the commenter because ARB enforcement may be coordinated with state agencies rather than the U.S. Coast Guard, and coordination may not be possible in all cases (e.g., when Coast Guard personnel are not available for joint inspections). Similarly, it may not be possible in all cases to avoid a delay in the departure of a vessel. And modifying the regulations to prohibit ARB staff from delaying departures could be used as a premise to remove enforcement staff from a vessel in violation of the regulations.

With that said, the ARB staff will comply with all applicable federal requirements, such as security checks; it is not necessary to amend the regulations to reiterate staff's compliance with applicable federal requirements.

5. **Comment:** Adopting the proposed regulation as an ATCM will allow the air pollution control and air quality management districts to adopt rules that are at least as stringent as the proposed regulation. This could lead to a

“patchwork” of local rules. The proposed regulation should not be adopted as an ATCM in order to assure that a single set of requirements will be applicable statewide. (WSPA 1)

Response: Whether or not the regulations are adopted as a criteria pollutants regulation, an ATCM, or both, has no effect on the local districts’ authority to impose more stringent regulations. As we noted in the Staff Report (Appendix B), ARB shares concurrent jurisdiction over marine vessels (as non-vehicular sources under State law) with the local air districts under Health and Safety Code sections 43013 and 43018 (for criteria pollutant regulations) and section 39650 et seq. (for ATCMs). And the federal Clean Air Act (CAA) does not restrict local agencies from imposing in-use operational requirements (e.g., fuel sulfur limits, hourly limits on operation, mass bubbles, etc.), although other federal statutes may be involved in some cases (e.g., the Ports and Waterways Safety Act of 1972, as amended in 1978). Thus, at least under State law and the CAA, the local air districts could impose in-use operational requirements that are more stringent than ARB’s regulations, regardless of whether the regulations are adopted as criteria pollutant rules or as ATCMs.

However, this does not mean that a patchwork of local rules is likely to develop. As we stated in the Staff Report, we believe it may be against the local air districts’ interests to develop separate and different regulations for ocean-going vessels. First, local district regulations that require retrofits or are otherwise not “in-use operational requirements” (e.g., fuel sulfur limits, limits on hours of operation, mass emission limits) may be subject to CAA section 209(e) preemption unless such regulations are first adopted by ARB as a state regulation and then submitted to U.S. EPA for authorization. Second, a patchwork of different local regulations may cause conflicts with the “one voice” doctrine applicable to regulations affecting foreign vessels and commerce. (ISOR, at ES-3). Third, it is likely to be impractical for most, if not all, local air districts to regulate ocean-going vessels that travel between ports located in several districts. Finally, while State law permits local districts to regulate such vessels, it does not require them to do so, and coordinating district efforts with ARB, and having ARB take the lead in implementing the regulations statewide, would allow the districts to meet their statutory obligations under Health and Safety Code section 39666(d). (*Ibid*).

With that said, ARB will review any alternatives to these regulations that the districts may propose, and will work closely with the districts to encourage consistent regulations for marine applications.

6. **Comment:** In CARB’s “Draft Diesel PM Exposure Assessment for the Ports of Los Angeles and Long Beach” (Appendix G to the Staff Report), various non-cancer health impacts are presented. There is uncertainty in the linkage between the assumption that dose-response data for ambient particulate matter (PM) can be applied directly to diesel PM. The epidemiology studies used in the document as the basis for mortality and morbidity predictions are based on an urban mix of particles. The studies report statistical associations between various measures of urban PM and

population data on health outcomes. These studies do not provide a basis for discerning which sources of PM may be responsible for the reported health effects. Diesel exhaust PM is but one of many sources of ambient PM. This and other sources of uncertainty are not provided to a reader in the report when the estimates of various non-cancer health impacts are presented. The overall impression to the reader is that the estimates are medically-based predictions of instances of disease in the community. This is not the case. The ARB should, at a minimum, eliminate references to specific health effects from diesel PM as a basis for the regulation until such time as definitive linkages can be documented (WSPA 1 – including attached letter from Dr. Lapin)

Response: We disagree. Studies from hundreds of cities around the world, in which the exact composition of PM is unknown and the presence of other pollutants may vary, show an association between PM exposure and increases in illnesses and premature death. Diesel PM is a significant component of ambient PM levels, particularly in urban areas. Therefore, we believe it is appropriate to provide estimates of non-cancer health impacts related to diesel PM emissions from ocean-going vessels.

As is true with many health impacts analyses, we recognize that a number of uncertainties exist in carrying out these complex calculations. Such uncertainties cannot be entirely eliminated, and we discussed these uncertainties in detail in the Staff Report (pp. G-53 to 54). These uncertainties are inherent in the selection and applicability of the concentration-response functions to California data, exposure estimation, subpopulation estimation, baseline incidence rates, and the threshold. With that said, the existence of uncertainties does not make the analysis presented in the Staff Report inappropriate or inapplicable. On the contrary, we believe the estimated health impacts are scientifically sound and based on the best available information.

7. **Comment:** We recommend that the ARB revise the “Diesel PM Exposure Assessment for the Ports of Los Angeles and Long Beach” to better describe the uncertainty of using the PM data to estimate diesel PM non-cancer impacts and reflect the uncertainty of the non-cancer and cancer risk estimates each time they are presented in the document. (WSPA 1)

Response: We believe the report cited by the commenter adequately describes the uncertainty associated with using PM data to estimate non-cancer health impacts. Please see Response to Comment M.6.; ISOR, Appendix G, at 53-54; and GMERP, *infra* at A-78 through A-94 (see FN 6 of this FSOR).

8. **Comment:** The ARB’s “Diesel PM Exposure Assessment for the Ports of Los Angeles and Long Beach” can have an adverse impact on public policy. The report can make a satisfactory outcome of key statewide issues such as the Goods Movement Action Plan more difficult because diesel fuel use is being cited as a principal source of adverse health effects for a variety of non-cancer endpoints without real and unbiased

evidence. This can lead to erroneous decisions that can adversely impact California and its economy. (WSPA 1 – attached Michael Wang Letter)

Response: We disagree. The Diesel PM Exposure Assessment (“Exposure Assessment”) provides valuable information about the potential health impacts from diesel emissions generated in the San Pedro Bay Ports area. As noted in Response to Comment M.6, we believe the Exposure Assessment is based on real and unbiased, scientifically sound analyses using the best available information. Accordingly, we believe the Exposure Assessment provides valid and valuable information that is important to consider in forming public policy.

The commenter’s points might be valid if the potential health impacts shown in the Exposure Assessment were unreasonably estimated. However, we believe the estimated health impacts in the Exposure Assessment are reasonable, even after considering that some assumptions are designed to be health protective (i.e., to avoid the under-prediction of risk). As noted in Response to Comment M.6, the assumptions and uncertainties in the Exposure Assessment are discussed extensively in the Staff Report. We recognize that studies of this type can never precisely predict health impacts. However, this does not justify withholding or otherwise not utilizing information and assessments that provide reasonable estimates of potential health impacts sufficient for making health-protective public policy.

9. **Comment:** There is uncertainty in the assumption that dose-response data for ambient particulate matter (PM) can be applied directly to diesel PM. This and other sources of uncertainty are not provided to the reader when the estimates of various non-cancer health impacts are presented. The overall impression to the reader is that the estimates are medically-based predictions of instances of disease in the community. This is not the case. The ARB should, at a minimum, eliminate references to specific health effects from diesel PM as a basis for the regulations until such time as definitive linkages can be documented. WSPA recommends that the ARB revise the document to better describe the uncertainty of using the PM data to estimate diesel PM non-cancer impacts and reflect the uncertainty of the non-cancer and cancer risk estimates each time they are presented in the document. (WSPA 1 – Wang letter attachment)

Response: Please see Response to Comments M.6 and M.8.

10. **Comment:** The definitions for “Diesel Particulate Matter” and “Particulate Matter” need to be revised to include particle size parameters. (INTERTANKO 1)

Response: We disagree for several reasons. First, the definition of diesel PM used in the regulations is consistent with ARB’s identification of diesel PM as a toxic air contaminant (TAC). Pursuant to State law, ARB identified diesel PM as a TAC in 1998 after a lengthy and extensive review of the scientific literature by OEHHA scientists.

When ARB designated diesel PM as a TAC, ARB did not include a particle size cutoff; such a cutoff was not justified by the scientific literature.

Second, the vast majority of diesel particulate matter is comprised of fine particles 10 microns or less in diameter. In fact, the vast majority of diesel PM is 2.5 microns or less in diameter. This fine PM can reach deep into the lowest airways of the lung and adversely affect human health (Staff Report, at pp. II-1 and II-2).

Finally, the definition is consistent with the definitions used in many other ARB regulations controlling off-road vehicular and non-vehicular sources (e.g., cargo handling equipment at ports, transport refrigeration units, stationary diesel engines).

For these reasons, we do not believe a particle size cutoff would be appropriate for these regulations as suggested.

11. **Comment:** The definition of “marine diesel oil” does not cover the full range of all types of fuels in table 1 of the ISO standard, missing the DMC grade fuel. In addition, it is better not to associate a date to an ISO standard since they are revised periodically. We suggest that you insert “the latest version of” ISO 8217. (INTERTANKO 1)

Response: Although technically considered a “distillate fuel,” DMC grade fuel (under ISO 8217 specifications) was specifically excluded as a compliance option because this fuel results in higher emissions than DMA or DMB grade fuels. DMC fuel is a mixture of residual and distillate fuels, with higher levels of sulfur and other components that increase emissions.

Regarding the recommendation to use “the latest version” of ISO 8217, this would be impermissible under State administrative procedure requirements. A specific version of a test method, as identified by date or version, must be included in the regulations. This is necessary because subsequent revisions to test methods could effectively change regulations impermissibly without affording the public with a meaningful opportunity to comment on such changes. Therefore, to accommodate updates to the referenced test methods, subsection (j)(5) requires the Executive Officer to periodically review the test methods in the regulations and conduct hearings to amend the regulations, as necessary.

12. **Comment:** The definition of “marine gas oil” includes DMX grade fuel, but DMX is not allowable as a fuel (except for emergency engines) on board ships or stored in bulk in fuel tanks due to its flash point. (INTERTANKO 1)

Response: It is appropriate to include DMX grade fuel as an option because, in some limited cases, it could be used to meet the emission limits in the regulations. Specifically, it can be used in emergency generators, and it is possible in certain situations for vessels to receive permission from the U.S. Coast Guard to use lower

flash point fuels in other engines. Nevertheless, we agree that its use would be mostly limited to emergency generators, as discussed in the Staff Report (p. V-4).

13. **Comment:** The proposed regulation is designed to reduce NOx emissions (in addition to PM and SOx), yet the impact of fuel quality upon NOx is very limited as NOx is primarily a function of engine design and the combustion process. (INTERTANKO 1)

Response: We estimate a six (6) percent reduction in NOx emissions due to the use of the cleaner distillate fuels specified in the regulations. As discussed in the Staff Report (p. VII-2), NOx emissions would decrease as a result of the lower nitrogen content of distillate fuels compared to the heavy fuel oils predominantly used now.

14. **Comment:** The “monitoring and reporting” requirements concerning the collection and testing of fuel samples should be revised to specify that the laboratory contracted to collect and analyze fuel samples is a recognized fuel testing laboratory that is fully acquainted with the required test procedure. (INTERTANKO 1)

Response: We do not believe it is appropriate to modify the regulations as suggested because the terms “recognized” and “fully acquainted” are too vague and undefined. More importantly, ARB generally conducts its own fuel sample collection and testing. The ARB’s monitoring and laboratory facilities and testing are generally recognized as being among the best in the nation, if not the world. Indeed, ARB’s testing facilities are often involved in developing or verifying test methods (through round robin analyses) used by ISO, American Petroleum Institute (API), U.S. EPA, and other leading organizations.

15. **Comment:** The “monitoring and reporting” requirements require ARB access to vessels. This might conflict with the US obligations and rights as a Port State Control under which the US Coast Guard fulfills such an activity. We are also concerned that access to vessels by an increasing number of official entities which would complicate compliance with strict US and international security regulations. (INTERTANKO 1)

Response: While the U.S. Coast Guard conducts most vessel inspections, it does not have exclusive authority to conduct all such inspections. In fact, vessels are currently inspected by other California agencies, including the California State Lands Commission. The ARB enforcement staff will coordinate inspection activities with other state or federal agencies to the extent feasible. And, as noted in Response to Comment M.4, we do not believe our inspections will complicate compliance with security regulations, as ARB inspectors will meet all applicable federal requirements, such as security checks.

16. **Comment:** The test methods section should avoid reference to specific issues of an ISO standard, and instead specify the latest version. (INTERTANKO 1)

Response: We disagree. See Response to Comment M.11.

17. **Comment:** The recordkeeping requirements associated with the characteristics of fuel purchased may lead to a conflict between the fuel supplier and the testing firm. They should be revised such that the Bunker Delivery Note (BDN) is the primary source of information. If the BDN is incorrect, then a laboratory fuel analysis is used. (INTERTANKO 1)

Response: We disagree. It would not be appropriate to consider the Bunker Delivery Note as the primary source of information taking precedence over actual testing results. In cases where fuel testing conducted at the direction of the ship operator indicates that the fuel is not compliant (in conflict with the Bunker Delivery Note), and the vessel is in route to a California port, we would advise the ship operator to comply with the regulations under the “Noncompliance Fee” provision, rather than risk a possible violation. We assume the ship operator would not purchase fuel if the supplier indicates that it is noncompliant in the BDN. If there is a conflict between the BDN and fuel testing conducted at the direction of the ship operator, and the ship has not yet left for a California port, the ship operator would be expected to resolve the discrepancy prior to departure.

18. **Comment:** The recordkeeping requirements under section (e)(2)(B) should allow two weeks for reporting of information. The 24 hour time frame is unreasonable. (MATSON)

Response: See Response to Comment M.2.

19. **Comment:** The definition of “innocent passage” in the proposed regulations is inconsistent with international law, as reflected in the Law of the Sea Convention. The use of this term is unnecessary in the regulations. (STATE)

Response: We agree and have modified the proposal as suggested.

20. **Comment:** The ARB Oceangoing Ship Survey (“Survey”) has over-sampled vessels that are frequent callers and undervalued the number of infrequently calling vessels. The results of the Survey showed an average number of port visits at 17 per vessel in 2004, while the California State Lands Commission vessel call data results in an average of 7 port visits per vessel during the same period. As a result of this inaccuracy in over-sampling frequent callers, the estimate of the average age of vessels in the survey at 9.7 years is flawed. This is supported by the findings of the U.S. EPA in its rulemaking process for adoption of 40 CFR Part 94 which

shows that U.S. flagged vessels only account for 6.4% of U.S. port calls and that a substantial portion of the U.S. flagged fleet is over 30 years old. (PMSA 1)

Response: The commenter miscomprehends the results of the Survey, as it provides no information whatsoever pertaining to average ship age. The Survey only covered the port visits of ships that made five or more port visits to the same port in 2004 (see survey form in Appendix C of the Staff Report). As such, the average number of port visits per vessel (17 visits) refers only to the subset of those vessels that filled out this part of the survey form (i.e., visited the same California port five or more times in 2004). Therefore, it is incorrect for the commenter to link the average number of visits per vessel from the survey and the age of surveyed vessels.

21. **Comment:** There is substantial uncertainty in the impacts and benefits of this regulation primarily due to the uncertainties inherent in the emission factors for ship auxiliary engine using the fuels assumed for this regulation. We will not replicate the comments we and others have made, but will point out that if the emission factors are overstated, then the benefits of this regulation are equally overstated. Until this issue is resolved, the regulation should not be adopted. (PMSA 1)

Response: We disagree. We discussed in detail the justification for the emission factors used to estimate the regulations' emissions and benefits in Appendix D of the Staff Report (pp. D-11 to D-13). The emission factors are well supported for all the pollutants. As noted in the Staff Report (p. VII-2), there is a significant degree of variability in the PM emission factors reported by different sources. The PM emission factor used in the Staff Report represents ARB staff's best estimate after analyzing all of the different sources of information. The ARB staff notes that the emissions from ship auxiliary engines would be significant even if the lowest emission factor reported were to be used. Therefore, it would not be appropriate to delay the development of the regulations for months or even years, to better refine the value for the PM emission factor as new test data becomes available.

22. **Comment:** The health risk assessment done for this regulation is too limited geographically to determine the actual emission reduction benefits. The modeling domain used was for the San Pedro Bay ports only and did not include the entire regulated area to 24 nm offshore. Further, the population based estimates, while appropriate for the San Pedro Bay, clearly do not apply to the entire costal region of California since population densities vary significantly, especially north of Point Conception. The proximity of the emission source is also very different from those assumed in the model, as are the exposure times of vessels in transit versus those at berth. In order to understand the full benefits and costs of implementing this proposed regulation CARB needs to do the appropriate modeling to determine the impacts and benefits based on the

population densities, proximity, and exposure time to the vessels throughout the state. (PMSA 1)

Response: It was appropriate to conduct the health risk assessment for the San Pedro Bay area because this is where the majority of vessels subject to the regulations are traveling, and likely encompasses the communities subject to the highest health risks. We recognize that other areas will experience different health impacts. However, health risk assessments require complex computer modeling that is labor intensive. It would not be appropriate to delay the regulations by months or even years to evaluate all areas of the state.

In addition, the health risk assessment for the Port of Los Angeles and Long Beach focused on diesel PM. The regulations also reduce NOx and SOx emissions. As discussed in the Staff Report (Chapter IV-7 and IV-8), emissions of these pollutants can be transported onshore from ocean-going vessels traveling along California's coastline within 24 nautical miles and farther out. These pollutants have additional health impacts to citizens living near ports or shipping lanes.

23. **Comment:** There must be more public participation, including public health officers from the impacted communities (WOEIP).

Response: As discussed in Chapter I of the Staff Report (p. I-5), the regulations were developed with extensive input from the public. Specifically, five public meetings were held early in the process to identify strategies to reduce maritime emissions, and five public workshops or workgroup meetings were held to discuss drafts of the regulations. All these meetings were open to all members of the public, including public health officials. In addition, the regulations were presented to the Board for its consideration in a well-attended public hearing. Given the extent of public outreach involved, it is difficult to imagine how staff could have solicited more public participation.

N. Legal Authority

1. General Comments

- 1.a. **Comment:** Some have questioned whether California has the jurisdiction for this source, and have supported international or national action. We support California developing this regulation because it will take too long for international or national regulations to be developed. (BAAQMD)
- 1.b. **Comment:** Our legal staff has reviewed your assessment of the ARB's legal authority for the regulations and we fully agree. (SCAQMD 2).
- 1.c. **Comment:** We urge you to resist industry's legal threats. Our legal staff has full confidence that ARB has clear legal authority to adopt this rule. (NRDC)

- 1.d. **Comment:** We support staff's analysis of the legal authority to regulate ships out to 24 miles. We agree that international regulations would be best ultimately, but the shipping industry has been successful in blocking any meaningful regulations at the international and federal level. As a result, California must develop this regulations. Industry is trying to use the legal authority question to avoid the regulations entirely. (BW 2)

Response: No response is required.

- 1.e. **Comment:** There are significant legal authority issues to be resolved for the State of California to impose requirements in international waters and on foreign-flagged vessels, and regarding preemption of various federal statutes and legislation. (PMSA 2)

Response: The commenter did not specify in his testimony the exact "significant legal authority issues" he was referring to, so no direct response to this comment is possible. See Responses to Comments N.9.a.-k. for the discussion on ARB's authority in "international" waters (i.e., waters seaward of 3 nautical miles), Comments N.7.a.-b. for the discussion on ARB's authority over foreign-flagged vessels, and Comments N.2.a.-f., N.3.a.-e., N.4.a.-f., N.5.a.-e., and N.6.a.-c. for the discussions on federal preemption.

- 1.f. **Comment:** We question ARB's authority to implement these rules offshore of California. If the rule is adopted in its current form, there is a strong probability that this rule is going to be tied up in court, and the health benefits and emission reductions will not occur. (WSPA 2)

Response: It remains to be seen whether the regulations will be "tied up in court," but since no specific issues were raised by the commenter, no further response is necessary.

- 1.g. **Comment:** The U.S. federal system provides states with a variety of methods for influencing changes such as those sought in the CARB rulemaking. There are California's representatives in the U.S. Congress. The state can approach various federal agencies such as the U.S. EPA and the U.S. Coast Guard. The Coastal Zone Management Act also provides state governments with a specialized avenue for expressing concerns about federal activities in waters more than three miles off the coast of the state that might adversely impact the state.

CARB or other sub-national agencies should avoid establishing unique requirements when it is unable to plainly articulate a clear and convincing legal authority for its position. The international community is charged with developing consistent environmental standards for those engaged in international commerce. The international community, through the International Maritime Organization has developed just such an environmental standard for air emissions from ships. (HK)

Response: We disagree. Contrary to the commenter's position, we believe the Staff Report plainly articulates a clear and convincing basis for the State's legal authority. (ISOR, App. B). The regulation of air pollution is traditionally the province of state regulations (*Huron Portland Cement Co. v. City of Detroit*, (1960) 362 U.S. 440, 442), and Congress has established a collaborative framework for California to reduce air pollution from ships under the Clean Air Act. By not promulgating all feasible measures to reduce air pollution from ships, ARB would be in breach of its statutory duty to take all feasible measures to protect public health and welfare. (Health and Safety Code §§ 39600, 39650 et seq., 43013, and 43018). While international treaties can be a useful forum for regulating vessels, we cannot rely solely on international negotiations and treaties to reduce the air pollution from ships. This is because such international treaties often take years, sometimes decades, to be promulgated. Due to the nature of international negotiations, such treaties often represent bare minimum standards that do not adequately protect the environment and public health.

A prime example of this is MARPOL Annex VI ("Annex VI"), a treaty that was initially signed in 1991 but only entered into force in 2005 after the requisite number of nations signed it. Indeed, Annex VI is still not in effect in the U.S., as the U.S. has yet to enact appropriate implementing legislation. Moreover, Annex VI neither directly controls emissions of diesel PM (a toxic air contaminant), nor does it regulate ship emissions to standards representing best available controls (e.g., Annex VI places a worldwide cap on ship fuel sulfur content at 4.5 percent by weight (45,000 ppmw), at a time when the worldwide average sulfur content for such fuels is already at 2.5 percent (25,000 ppmw). This compares very poorly to California and federal on-road diesel standards, which currently limit such fuel to 15 ppmw). (ISOR, at VI-3).

We also do not believe the Coastal Zone Management Act (CZMA) provides California with sufficient power to reduce ship emissions in a real and meaningful way. The CZMA requires a federal project to certify with the California Coastal Commission that the project is consistent with all enforceable policies contained in California's federally-approved Coastal Management Program. (16 U.S.C. § 1456(c)(3)(A)). However, the CZMA provides no remedies for California to reduce emissions from ships that visit California unless such ships are associated with a specific federal project (e.g., tanker vessels specifically coming to California to visit a federally-approved offshore project). Therefore, unless a vessel comes to California as part of a project that requires federal approval, the CZMA provides no avenue for California to impose enforceable measures that achieve real emission reductions from that vessel. To our knowledge, there are relatively few, if any, such vessels currently associated with federally-approvable projects. In any case, ARB does not believe the CZMA is the appropriate venue to achieve our objectives. This is because Congress has already established the collaborative framework in Clean Air Act section 209(e), under which California can regulate ship emissions.

Also see Response to Comments N.3.a.-e. for further discussion of the Clean Air Act.

- 1.h. **Comment:** The ARB's authority in this rulemaking, derived from the Health and Safety Code §43013 and §43018 explicitly authorizes the ARB to regulate marine sources only to the extent it is not preempted by federal law. The authority under Health and Safety Code §39666 is also subject to federal pre-emption. State statutory authority to regulate emissions to any extent is derived from federal law. (PMSA 1)

Response: The commenter is correct in that H&SC sections 43013 and 43018 refer to authorizing ARB to regulate marine vessels to the extent permitted by federal law. However, as we discuss in Appendix B of the Staff Report and in our response to comments in sections N.2 through N.9, we have clearly established the basis for ARB's belief that federal law permits the ARB regulations.

2. Preemption under Ports and Waterways Safety Act of 1972 (as amended in 1978) and *U.S. v. Locke*

- 2.a. **Comment:** The regulation conflicts with the Supreme Court decision in *U.S. v. Locke*, in which the court indicated that the Supremacy Clause of the U.S. Constitution provides that federal laws and regulations override any attempt by a state government to legislate or regulate in the same area. The regulation will either require the installation of equipment (piping and tanks) for the fuels required or if those fuels are not available, require the installation of equipment (exhaust treatment devices, engine modifications, etc.). The Coast Guard is the federal agency with the authority to regulate the installation of equipment on ships and as indicated by the Supreme Court decision, their regulations would preempt any attempt by a state to require the installation of equipment on ships. The regulation also conflicts with Annex 6 of MARPOL, which the U.S. will ratify shortly. (INTERTANKO 1, INTERTANKO 2)

Response: We disagree. The regulations contain no mandate or requirement for equipment to be installed on ships. (ISOR, at VI-1). In fact, the regulations do not even require operators to switch fuels, although ARB anticipates most owners and operators will choose to use low-emission marine gas oil or marine diesel oil. (*Ibid*). Instead, ship owners can choose to comply by employing alternative emission reduction strategies under an approved Alternative Control of Emissions (ACE) plan. (*Ibid*). Because there are no requirements for equipment to be installed on ships, there are no conflicts with regard to the Coast Guard's authority to require specific equipment on ships.

With regard to *U.S. v. Locke*, (2000) 529 U.S. 89, the commenter is correct in that the Court reaffirmed the general rule that federal law preempts state law when the state attempts to regulate in the same area. However, *Locke* is distinguishable in that the state in that case (Washington) was attempting to regulate tanker vessel activities related to oil spills, an area in which the federal government has had a long history of regulations dating back to the early 1970s. By contrast, ARB's ship regulations deals specifically with the control of toxic and smog-forming air pollution from ships, an area in which the federal government has only had a presence since 2004. And that federal

presence came only as a result of a lawsuit filed by Bluewater Network, so it cannot be argued that Congress has long intended for the federal government to occupy the field of air pollution control from ships. Indeed, the State, and in particular the local air pollution control districts and air quality management districts, have long regulated air pollution from ships. (see Response to Comment N.2.b). It is undisputed that control of air pollution is traditionally a local concern properly regulated under a state's police powers. (*Huron*, supra at 442).

The fact that Congress permits only California among the states to impose standards on nonroad sources, which includes marine vessels and ships, demonstrates that Congress recognized California's role as a unique "laboratory" for motor vehicle regulations [and]...for a similar role with respect to nonroad sources." (*Engine Manufacturers Assn v. U.S. EPA*, (D.C. Cir. 1996) 88 F.3d 1075, 1090). Indeed, any other state that wants to impose emission standards on ships must adopt California's regulations exactly or not at all. (CAA section 209(e)(2)(B))¹. More importantly, by carving out a unique provision for California to regulate nonroad sources, section 209(e) of the Clean Air Act provides clear evidence that Congress did not intend the federal government to occupy the field of regulating air pollution from ships.

With regard to conflicts with MARPOL Annex VI, it is impossible to determine whether there are any conflicts, because the U.S. had not yet ratified the treaty at the time the Board approved these regulations for adoption. Indeed, at the time of this FSOR, the U.S. had still not yet fully ratified the treaty. It would therefore be improper to speculate on any conflicts these regulations may have with the treaty, given that U.S. ratification of the treaty requires federal implementing legislation that has yet to be finalized.

The ARB believes the commenter is also incorrect in suggesting that, if the regulations are inconsistent with the treaty (i.e., achieving greater emission reductions than called for under the treaty), such inconsistency necessarily presents an impermissible conflict with the treaty. In the past, signatory nations have imposed requirements that go beyond those of the then-existing treaties when they believed that more stringent requirements were in their national interests. One prominent example is when Canada enacted its Arctic Waters Pollution Prevention Act of 1970 (AWPPA), which imposed more stringent standards than were in place under or being negotiation international treaty at the time. (*Arctic Waters Pollution Prevention Act of 1970*, R.S.C. 1985, Chap. A-12). Notably, Canada asserted and continues to assert jurisdiction for purposes of protecting its environment under AWPPA out to 100 nautical miles off its coastline. Another example more on point is when the U.S. imposed double-hulled standards on tanker vessels in 1990, at a time when the applicable international standards required only single-hulled designs.² Interestingly, OPA90's unilaterally-enacted standards were

¹ Once California has adopted regulations and obtained authorization from U.S. EPA, other states may opt to adopt identical regulations as adopted by California. (CAA section 209(e)(2)(B)). U.S. EPA is without authority to adopt standards for in-use nonroad engines, which includes those on marine vessels. (see CAA section 213).

² Dissatisfied with the level of liability provided by the International Convention on Civil Liability for Oil Pollution Damage and the International Oil Pollution Compensation Fund Convention, in the wake of the

eventually adopted for worldwide use under international treaty.³ These examples demonstrate that, when necessary, nations can and have imposed standards that are more stringent than required under existing treaties and international standards. Because California's regulations would operate under the collaborative local-State-federal framework that Congress established under the Clean Air Act, adoption of ARB's regulations would be in line with these past practices.

- 2.b. **Comment:** Any attempt by a state or local agency to regulate auxiliary tank vessel engines, including the type of fuel that they can use, is preempted by federal law. The doctrine of federal preemption is based on Article VI, Clause 2 of the U.S. Constitution, which states that the "Constitution and the Laws of the United States...shall be the supreme law of the Land; and the Judges of every State shall be bound thereby..." Federal law may preempt state and local laws in three different ways: through express preemption, field preemption and conflict preemption. See Florida Lime and Avocado Growers, Inc. v. Paul, 373 U.S. 132 (1963).

Pursuant to the Ports and Waterways Safety act of 1972 ("PWSA"), 86 Stat. 424, 33 U.S.C. § 1221 et. seq. (2005), and 46 U.S.C. § 3301 (2005), shipping and navigation in the United States are controlled in major respects by federal law. Ray v. Atlantic Richfield Co., 435 U.S. 151, 154 (1978). The PWSA is divided into two titles, each of which has been found to preempt state or local action in different ways. Intertanko v. Locke, 529 U.S. 89, 111 (2000). Title II, which requires that the Secretary of the U.S. Department of Transportation issue regulations addressing the "operation... and manning of [tank] vessels... that may be necessary for increased protection against hazards to life and property, for navigation and vessel safety, and for enhanced protection against hazards to life and property, for navigation and vessel safety, and for enhanced protection of the marine environment," 46 U.S.C. § 3703(a) (2005), is far reaching in its scope and has been determined by the courts to preempt the field. Locke, 529 U.S. at 111. Thus, to the extent that the regulations proposed by CARB would impact tank vessel operations, they must be analyzed according to field preemption principles.

Field preemption occurs when the scheme of federal regulation is so pervasive as to make reasonable the inference that Congress left no room

Exxon Valdez oil spill in Alaska the U.S. passed the Oil Pollution Act of 1990 (OPA90) (P.L. 101-380 (1990)). OPA90 requires that all new foreign and domestic tankers over 5,000 gross tons docking in U.S. ports and transporting oil have double hulls. Hunter, D. et al., "CASE STUDY: THE OIL POLLUTION ACT OF 1990," *International Environmental Law and Policy*, <http://www.wcl.american.edu/environment/iel/sup6.cfm>, visited Sept. 28, 2006, p.1.

³ IN 1992, MARPOL was amended to require double hulls or alternative designs with the same level of protection in tankers ordered after July 1993 (MARPOL Regulations 13F). *Id.* at 2.

for the States to supplement it. Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230 (1947). As previously noted, Title II of the PWSA specifically covers the “operation...and manning” of tank vessels. 46 U.S. C. § 3703(a). According to the U.S. Supreme Court, Congress “left no room for state regulation of these matters.” Locke, 529 U.S. at 111. Because the scope of the terms used in section 3703(a) is very broad, the Court has also noted that, in defining the scope of the terms, “it will be useful to consider the type of regulations the Secretary has actually promulgated under the section, as well as...whether [a proposed local] rule is justified by conditions unique to a particular port or waterway.” Locke, 529 U.S. at 112. Consequently, the proposed CARB regulations may evade field preemption only if they do not intrude into an area that the Secretary has chosen to regulate and can be justified based on unique local conditions.

To conduct the first part of the preemption analysis, it is therefore important to determine the extent to which the Secretary has chosen to adopt specific regulations dealing with auxiliary tank vessel engines. The Code of Federal Regulations contains an abundance of regulations pertaining to auxiliary engines and the fuel that they may use (46 CFR § 10.101, auxiliary machinery training, etc.), thus exhibiting an intent to regulate that is so pervasive as to leave no room for the state to supplement it. Additionally, even if such regulations are not considered to fully occupy the field, the Court has held that “whether the [Secretary] failed to exercise an option to promulgate regulations which did not disturb state law is not dispositive” Fidelity Fed. Sav. & Loan Assn. v. De La Cuesta, 458 U.S. 141, 154 (1982).

The second factor to be considered in determining the scope of preemption under Title II of the PWSA is whether there are unique local conditions (an apparent reference to local navigational hazards) that might justify an exception from exclusive federal control. If uniqueness is found to exist, the Court in Locke set out a four-part test to be used in deciding whether a proposed local rule should be deemed permissible. Id. at 112. First, the rule must “pose a minimal risk of innocent noncompliance,” second, it must not “affect vessel operations outside the jurisdiction,” third, it must not “require adjustment of systemic aspects of the vessel,” and fourth, it must not “impose a substantial burden on the vessel’s operation within the local jurisdiction itself.” Id.

Here, the proposed rules would clearly violate at least two of the four requirements for a preemption exception by applying outside the state’s jurisdiction (beyond the 3-mile limit) and imposing a substantial burden on vessel operations with the state’s waters. For example, in Locke, regulations imposing language proficiency and training requirements on a ship’s crew were held to be preempted by section 3703(a) because they pertained to “operation” and “personnel qualifications” and dictated how a

tanker is staffed from the outset of the voyage. Id. at 113. Similarly, the proposed CARB regulations would require that vessel operators make special fuel arrangements singularly imposed by the South Coast Air District. This would impose a substantial burden on tanker operations. As stated in Locke, “the master of a vessel is in a position such that it is almost impossible for him to acquaint himself with the laws of each individual State he may visit.” Id. at 116 quoting The Roanoke, 189 U.S. 185, 195 (1903).

The Court also found a “navigation watch” requirement preempted because the regulations was not “tied to the peculiarities” of the local port. Locke, 529 U.S. at 114. Notwithstanding staff’s assertion that the air quality problem in the South Coast Air Basin are unique, air pollution is a concern of citizens across the globe and is hardly confined to Southern California or its coastal waters. Thus even if air quality could be considered relevant (this is doubtful), the proposed regulations are not needed due to conditions unique to the waters off Southern California. And, even if they were, the proposed regulations would still fail the four-pronged test for an exception to preemption.

Although not specifically mentioned in the Locke decision, the Supreme Court has, under certain circumstances, upheld environmental rules promulgated by a state or local authority and enforced against vessel operators. See Huron Portland Cement Co. v. City of Detroit, 362 U.S. 440 (1960) (upholding enforcement of local smoke ordinances against a marine vessel). The ruling in Huron can be distinguished, however, by the fact that it pre-dates the enactment of the PWSA. Furthermore, the Locke decision sets out a new paradigm for determining whether local regulations can coexist with the federal scheme for regulating tank vessel operations – the unique condition and multi-factor test discussed briefly above. See Locke, 529 U.S. at 104, 112. Consequently and notwithstanding Huron, the proposed CARB regulations do not pass muster under the test expounded in Locke and are therefore clearly preempted by the PWSA.

The wealth of federal regulations dealing with auxiliary engines and the lack of a unique condition that would justify the proposed CARB rules demonstrate that the proposed regulations are invalid due to field preemption. The need for a uniform set of requirements applicable to interstate navigation, without subjecting commerce to the patchwork of local regulations foreshadowed by the proposed CARB regulations, is exactly the type of concern that helped prompt the adoption of the U.S. Constitution. See Locke, 529 U.S. at 99. It is the role of Congress and the Coast Guard, not the states, to “confront whether their regulatory scheme, which demands a high degree of uniformity, is adequate.” Id. at 117.

Therefore, the auxiliary engine rules proposed by the CARB are preempted and should not be enacted. (WSPA 1)

Response: We disagree. We believe the regulations will withstand a preemption challenge under *Locke*. The *Locke* Court laid out a sequential, two-pronged analysis, incorporating both field and conflict preemption principles, to determine whether a state regulations governing the behavior of tanker vessels runs afoul of Titles I and II of the PWSA. To be valid, a state regulations must meet both parts of the preemption analysis. For the regulations at hand, we believe we have clearly demonstrated that it does meet both parts.

To begin with, we should note that *Locke* dealt specifically with preemption of Washington state regulations governing tanker vessels. Thus, we believe *Locke* would be narrowly applied to tanker vessels, rather than to all ocean-going vessels as a whole. However, for the sake of this discussion, we will assume that *Locke* may apply to non-tanker vessels as well and frame our discussion of *Locke* accordingly.

The *Locke* Court begins its analysis with the so-called “presumption against preemption” doctrine. That is, when a State’s exercise of its police power is challenged under the Supremacy Clause, “we start with the assumption that the historic police powers of the States were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress.” (*Locke*, at 108). However, the Court held that the presumption against preemption did not apply to the regulations at issue because Washington was attempting to regulate in an area in which the federal government has had a long history of regulating (i.e., the design, construction, manning, navigation, equipment, and operations of tanker vessels) since the 1970s. In *Locke*, Washington attempted to regulate various aspects of tanker vessel equipment, manning, and operations to prevent devastating oil spills like those from the *Exxon Valdez* and the *Torrey Canyon* before it. (*Locke*, at 96).

We believe *Locke* is distinguishable on the facts and that the presumption against preemption would therefore apply to ARB’s regulations. In *Locke*, Washington was attempting to regulate the activities of tanker vessels and their crews to prevent oil spills. This was at a time when the federal government had already been regulating oil spills and tanker vessels since the early 1970s. The federal government has also long regulated safety aspects of vessel operations. For example, the purpose of the cited U.S. Coast Guard regulation, 40 CFR 10.101 et seq., is to impose rules on the licensing of maritime personnel, which in no way evinces an intent to occupy the field of ship air pollution control. Similarly, U.S. Coast Guard regulations on fuel oil used in auxiliary engines (e.g., 46 CFR 58.01-10) also does not evince an intent to occupy the same field as the instant regulations, since that Coast Guard regulation is designed to establish a minimum flash point (60 degrees C) for fuel oil. Flash point is a property pertaining to the relative flammability of a fuel; thus, the Coast Guard regulations are clearly designed to address safety issues, such as preventing engine room fires due to the use of fuel oil with below-minimum requirement flash point.

By contrast, ARB is regulating in the field of air pollution control from vessels, an area in which the federal government has had no significant presence until very recently. For example, the U.S. EPA only recently promulgated its first and only rule (40 CFR Part 94) for new marine diesel engines used on U.S. flagged ocean-going vessels. [68 FR 9746 (February 28, 2003)]. And U.S. EPA's recent entry into the field of ship emission controls came only as a result of a 2001 lawsuit by Bluewater Network, an environmental advocacy group, and the subsequent settlement agreement. Therefore, it cannot be reasonably argued that the federal government has long occupied the field of air pollution control on ships.

On the other hand, states like California have been regulating air pollution from ships for many years. For instance, the South Coast Air Quality Management District (SCAQMD) and other local air districts in California have regulated smoke emissions and exhaust opacity from ships for 20 years or more. (See SCAQMD Rule 401, "Visible Emissions," adopted March 2, 1984; 50 FR 3907 (Jan. 29, 1985)). Another example that is perhaps more on point is SCAQMD Rule 1142, "Marine Tank Vessel Operations." (SCAQMD Rule 1142, adopted July 19, 1991; 59 FR 64132 (Dec. 13, 1994)). Interestingly, Rule 1142 applies to "all loading, lightering, ballasting, and housekeeping events where a marine tank vessel is filled with an organic liquid; or where a liquid is placed into a marine tank vessel's cargo tanks which had previously held organic liquid." (*Id.*, at section (a) "Applicability"). This is relevant because it shows that the State, through the local air districts, has been regulating tanker vessels for over fifteen years. Moreover, Rule 1142 applies in the California Coastal Waters zone off the SCAQMD's shoreline, a zone that ranges from about 27 to 90 miles seaward. (*Id.* at (b)(3) and (c)(1)). Because both SCAQMD Rules 401 and 1142 have been incorporated into the State Implementation Plan (i.e., they have been "federalized"), the issue of federal preemption for those regulations has likely been mooted by U.S. EPA.

Probably the most notable example of local agencies having a long history of regulating air pollution from ships is the *Huron* case. In *Huron*, the Court upheld the City of Detroit's regulations of dense black smoke from ships involved in interstate commerce. Notably, the Supreme Court has not overturned *Huron* since deciding the case in 1960, even though significant structural alterations to the affected vessels would have been required for vessels to comply with the city's ordinance. (*Huron*, *supra* at 441). Indeed, the Court's analysis in *Huron* remains sound despite pre-dating enactment of the Clean Air Act.⁴

In *Huron*, the Court explicitly acknowledges that Congress, despite having "maintained an extensive and comprehensive set of controls over ships and shipping..." recognized that "the problem of air pollution is peculiarly a matter of state and local concern [that] is manifest in this legislation [federal vessel inspection and licensing laws codified in

⁴ The Department of Justice reply brief in *Intertanko v. Lowry*, (W.D. Wash. 1996) 947 F.Supp. 1484, at p. 14, concedes that the Clean Air Act "expressly provides a role for states in establishing certain anti-pollution rules that apply to vessels" citing 42 U.S.C. §7511(b)(f). See <http://www.usdoj.gov/osg/briefs/1999/3mer/2mer/98-1701.mer.rep.pdf>.

various sections of Title 46, United States Code].” (*Id.*, at 444-446). Congress further declared that “it is hereby...the policy of Congress to preserve and protect the primary responsibilities and rights of the States and local governments in controlling air pollution....” (*Id.*, at 446, citing 42 U.S.C. § 1857).

The fact that *Huron* pre-dates the PWSA is not dispositive. This is because the Supreme Court has explicitly decided to leave *Huron* undisturbed in subsequent cases.⁵ Furthermore, as we discuss below, the PWSA itself and its 1978 amendments, which were at issue in *Locke*, substantially pre-date the 1990 amendments to the Clean Air Act, in which Congress established the provisions in section 209(e) that make it possible for California to regulate marine vessels as nonroad sources.

For the above reasons, ARB believes that courts will apply the presumption against preemption to the regulations at issue. And assuming this presumption does apply, we believe the regulations are not preempted under the PWSA or Clean Air Act (CAA). This is because there are no clear statements evidencing Congress’ manifest purpose to preempt state regulations on vessel air pollution in either the PWSA or CAA. In fact, just the opposite appears to be true; Congress established a collaborative framework in CAA section 209(e) by which only California among the states may impose standards on nonroad sources, which includes marine vessels.

Moreover, section 209(e) was enacted with the 1990 amendments to the Clean Air Act, which was more than twelve years after the 1972 enactment of and the 1978 amendments to the PWSA that codified the Coast Guard’s authority to regulate most aspects of tanker vessels. Because the CAA amendments came substantially later than the PWSA amendments, we can reasonably presume that Congress did not intend to preempt under the PWSA any California regulations governing ship emissions adopted under CAA section 209(e). In fact, the Court of Appeals, D.C. Circuit has opined that “EPA has sole authority over the classes of new nonroad sources defined in § 209(e)(1) [locomotives and certain farm and construction equipment]. The EPA and California have joint authority over all other new nonroad sources.” [emphasis added] (*Engine Manufacturers Assn v. U.S. Environmental Protection Agency*, (D.C. Cir. 1996) 88 F.3d 1075, 1090). Because the 1990 CAA amendments were enacted after the PWSA and its amendments, we can also presume that California regulations governing ship air emissions have been determined by Congress to not present an undue and impermissible burden on interstate and foreign commerce.

Having considered the presumption against preemption, we will now address the multi-step *Locke* preemption analysis. Assuming, *arguendo*, that a court does not apply the presumption against preemption to ARB’s regulations, we will start with an analysis of

⁵ *Ray v. Atlantic Richfield Co.*, (1978) 435 U.S. 151, 164 (“We do not question in the slightest the prior cases holding that enrolled [those engaged in domestic or coastwise trade] and registered [those engaged in foreign trade] vessels must conform to ‘reasonable, nondiscriminatory *conservation and environmental protection measures*’ ... *imposed by a State.*” [emphasis added] (citations omitted)). Discussed in *Chevron U.S.A., Inc., et al. v. Hammond*, (9th Cir. 1984) 726 F.2d 483, 488.

Title I of the PWSA. Title I allows a State to regulate its ports and waterways, so long as the regulations are based on the “peculiarities of local waters that call for special precautionary measures.” (*Locke*, supra at 109). In *Locke*, the Court held many of Washington’s mandates, such as a general watch requirement and English-only provisions for the crew, were preempted under Title I because such requirements were not tied to the peculiarities of the local waters.

By contrast, the entire focus of ARB’s regulations is tied to the peculiarities of the local waters off California’s shore. To our knowledge, California is the only state that, using many thousands of atmospheric and meteorological observation data, computer modeling and wind pattern analyses, has designated an offshore zone (“California Coastal Waters”) in which air pollutants that are released are likely to be transported to coastal communities and further inland, thereby causing adverse impacts on the affected communities. (ISOR, at IV-7 through V-16). This is analogous to using weather pattern, climate, and other data specific to an area to designate offshore zones especially prone to fog, hidden underwater hazards, or other conditions that are hazardous to ships, and then mandating requirements specific to such zones (e.g., designated shipping lanes, low speed areas intended to prevent whale strikes, etc.). Because ARB has shown the regulations are specifically tied to a narrow zone of water off California’s coast that is conducive to the transport of air pollutants to shoreside communities, ARB believes the regulations meets the first part of the “local peculiarities” test.

Of course, the analysis does not end there. One cannot perform a complete Title I analysis without addressing the second part of the Court’s rule; that is, the portion dealing with “...calling for special precautionary measures.” In other words, it is not enough for the regulations to be tied to local peculiarities, but the peculiarities must be such that they call for special precautionary measures. The ARB’s regulations clearly meets this test. As stated in the Staff Report, these regulations are designed primarily to reduce emissions of diesel particulate matter (PM), oxides of nitrogen (NOx), and oxides of sulfur, all of which present a significant health concern. (ISOR, at I-2, II-1 through II-9). Oxides of nitrogen are precursors to the formation of ground-level ozone (i.e., “smog”), which is a significant health concern in California and other areas of the U.S. that are non-attainment for national ambient air quality standards for ozone.

Further, the ARB identified diesel PM as a toxic air contaminant pursuant to California’s Air Toxics Identification and Control Program. (see Health and Safety Code section 39650 et seq.). Because of diesel PM’s toxicity and pervasiveness, the Board has determined that diesel PM represents the single greatest source of potential cancer risk from toxic air contaminants in California.⁶ To illustrate this point more graphically, the Board recently estimated that about 2,400 Californians die prematurely each year from

⁶ “Proposed Emission Reduction Plan for Ports and Goods Movement in California,” (GMERP), California Air Resources Board, March 21, 2006, at 7. See also “Risk Reduction Plan to Reduce Particulate Diesel Emissions from Diesel-Fueled Engines and Vehicles,” California Air Resources Board, October 2000.

exposure to diesel PM released from goods movement activities. (GMERP, at 4). Diesel PM also causes substantial non-cancer health effects in California. (*Id.*, at 2).

Emissions of diesel PM from ocean-going vessels, such as those subject to ARB's regulations, comprise the single-largest source of emissions related to goods movement activities (in 2020, after accounting for existing federal and state control programs). (*Id.*, at 20-21). Thus, the reduction of emissions from ocean-going ships plays a critical role in California's ongoing efforts to protect public health, safety, and welfare. Indeed, we estimate that the ARB regulations will avoid between 2007 and 2020 approximately 520 premature deaths, 14,000 asthma attacks, 120,000 lost work days, and 650,000 minor restricted activity days. (ISOR, at ES-15). Because ocean-going vessels are significant contributors to a large number of premature deaths and other adverse health effects in California, it is difficult to imagine anything that calls for "special precautionary measures" more urgently than the control of toxic air emissions released within the California Coastal Waters, a zone of substantial concern from a public health and welfare perspective that is peculiar to the State.

Having addressed the Title I conflict preemption analysis, we now move on to Title II of the PWSA. A state regulation that is found to be valid under Title I must not run afoul of Title II's 4-part field preemption analysis as enumerated by the *Locke* Court. As the Court states, such a regulation must "pose a minimal risk of innocent noncompliance," not "affect vessel operations outside the jurisdiction," not "require adjustment of systemic aspects of the vessel," and must not "impose a substantial burden on the vessel's operation within the local jurisdiction." (*Locke*, at 112). Because the commenter discusses only two of these tests – that the regulations not "affect vessel operations outside the jurisdiction" and not "impose a substantial burden on the vessel's operation within the local jurisdiction" – we will restrict our response to these two tests.

We disagree with the commenter's position that the regulations would automatically fail at least two of the four requirements by applying outside the state's jurisdiction (beyond the 3-mile limit) and imposing a "substantial burden" on vessel operations within the state's waters. First, as discussed in the ISOR, we believe we can properly assert regulatory jurisdiction to regulate beyond the traditional 3 mile zone. This is because the regulations act only on vessels actually visiting California ports, thereby serving as a permissible port entry condition and an allowable exercise of police powers when there is a "sufficient nexus" between the regulated activity, the vessels regulated, and the State. (see ISOR, at B-19 through B-22; see also responses to comments in section N.9 below).

Second, the commenter misconprehends the regulations in stating they impose a substantial burden on tanker operations because the regulations ostensibly would require that vessel operators "make special fuel arrangements singularly imposed by the South Coast Air District [sic]." This is clearly erroneous since the regulations impose no such requirement. In fact, the regulations do not even require vessel operators to use or switch to a specific fuel.

Instead, the regulations require the operator to ensure that the vessel's regulated engines emit no more than the amount of diesel PM, NOx, and SOx that the engines would emit had the engines used marine gas oil (MGO) or 0.5 percent sulfur marine diesel oil (MDO). (ISOR, at A-21). This requirement applies while the engines are operating within the Regulated California Waters (a 24-mile zone offshore). The regulations do not tell the operator how to achieve this; therefore, this requirement cannot be construed as a "manning" or "operational" requirement. Vessel operators are permitted to directly use the enumerated fuels, or they can comply under an approved Alternative Control of Emissions (ACE) plan, which can employ control strategies having nothing to do with these fuels (e.g., the vessel could be fitted with "cold-ironing" equipment, the operator can conduct enforceable emissions averaging between different vessels, etc.).

Nowhere in the regulations is there reference to any fuel requirement imposed by the South Coast Air Quality Management District (SCAQMD), the local air district to which the commenter is apparently referring. The regulations' requirements apply in all areas that fall within the definition of Regulated California Waters, not just within the SCAQMD's boundaries. (*Id.*, at A-5, 6 and A-21, 22]. Thus, vessel operators are not left with multiple zones of regulations with different requirements (e.g., requirements for fuel X in Southern California and for fuel Y in Northern California), but are instead faced with a single set of requirements applicable in all Regulated California Waters along California's entire coastline. The "substantial burden" on vessel operators that the commenter suggests the regulations will have simply has no basis in fact and cannot be reasonably inferred from the regulatory text.

Further, the commenter's reliance on *de la Cuesta* is misplaced. The Court in *de la Cuesta* held that state common law limitations on due-on-sale home loan practices of federal savings and loan institutions were preempted by Federal Home Loan Bank Board (Bank Board) regulations that expressly permitted such practices. (*de la Cuesta*, at 142). The *de la Cuesta* Court noted that Congress explicitly delegated to the Bank Board jurisdiction over operation of savings and loan institutions. Further, the Bank Board's implementing regulations and especially the preamble thereto contain language that clearly show the Bank Board's intent to pre-empt the state's common law rule. (*Ibid*).

Unlike *de la Cuesta*, Congress did not include similar explicit language showing its intent to preempt all state regulations governing ships in either the PWSA or CAA, nor did either U.S. Coast Guard or EPA include explicit language showing their intent to preempt state regulations in any of the regulations implementing the PWSA and CAA, respectively. Absent such clear language showing intent to preempt, courts cannot infer an intent to preempt in an area, such as air pollution control, that traditionally has been the province of State and local government control.

In citing *de la Cuesta*, the commenter apparently contends that ARB's regulations can be preempted even if the Coast Guard has failed to exercise an option to promulgate air pollution regulations on auxiliary machinery that would fully occupy the field. However,

as support for this theory, *de la Cuesta* is inapposite. As noted above, the *de la Cuesta* Court held the state law on due-on-sale practices was preempted because of the Bank Board's clear expression of intent to preempt conflicting state law. Therefore, it is irrelevant whether or not the Board Bank administrator chose to promulgate additional regulations to fill in an apparent "gap" in the field; such failure to promulgate additional regulations does not change the federal government's clear expression of intent to preempt state regulations on the same matter.

By contrast, Congress made no such clear expression of the intent to preempt all state regulations governing air pollution from tankers and other vessels. And neither the Coast Guard nor EPA included any such language in their implementing regulations. In the absence of contrary congressional action, the States may regulate in a field as a valid exercise of their police powers. (*Kelly v. Washington*, (1937) 302 U.S. 1) ("Congress may determine how far its regulations of interstate commerce shall go, and when it circumscribes its regulations, and occupies only a limited field, state regulation outside that limited field or otherwise admissible is not forbidden or displaced.").

In *Kelly*, the State of Washington enacted legislation requiring state inspection of the hull and machinery of certain motor-driven tugboats. The *Kelly* Court held that the state regulations was not preempted because there were no federal laws or regulations governing the inspections and vessels being regulated by Washington, even though "federal acts and regulations with respect to vessels on the navigable waters of the United States are elaborate." (*Id.*, at 4). Similarly, the federal government has only a limited presence in the area of air pollution regulations governing ocean-going ships. Only the U.S. EPA among federal agencies has attempted to regulate air pollution from ships, and its rule was only recently promulgated. Therefore, given U.S. EPA's recent limited foray into the regulations of air pollution from ocean-going vessels, and in the absence of a clear expression of congressional intent to occupy this field, California can validly regulate under *Kelly* the air emissions from ocean-going vessels and their auxiliary machinery.

- 2.c. **Comment:** Both the federal Clean Air Act and the decision in US v. Locke, 529 U.S. 89 (2000), limit the state's authority to impose requirements relating to the engines on vessels. The regulations may impact engine specifications and will necessitate California only fuel tanks, and therefore cannot be viewed as merely an "in-use operation" requirement. Rather, the equipment consequences of the requirements make the regulations subject to federal preemption. Both federal and international law vest in other bodies the authority to impose equipment requirements. Allowing individual states to necessitate specific equipment on board, or differing fuels, would frustrate interstate and foreign commerce. (MATSON)

Response: We disagree. By their terms, the regulations do not apply to new vessels, and so by definition the regulations constitute in-use requirements. And because the regulations do not impose standards on vessel manufacturers or require retrofits of existing vessels, their requirements fall within the scope of in-use operational

requirements that are not subject to preemption under the Clean Air Act. As discussed in Response to Comment N.3.b, the regulations do not require ship owners to install California-only fuel tanks or any other equipment. Indeed, the regulations do not even require ship owners to use certain fuels; under the regulations, operators can emit no more than what would result had the regulated engines used low sulfur marine fuel oils, or the owners can operate under approved Alternative Control of Emissions (ACE) plans. Such ACEs can involve alternative control strategies that have nothing to do with installing particular equipment or even using certain fuels; the choice of which strategies to use in an approved ACE plan is up to the ship owners.

We recognize that many ship owners may choose to use lower sulfur fuels to comply with the regulations, and in doing so, some owners may need to install some equipment. However, such choices would be made by the ship owner, presumably because it makes sense for economic or other reasons; the regulations in no way mandate the installation or modification of any equipment. As such, any retrofits or modifications performed by vessel operators are incidental effects under the regulations.

See response to comments in Sections N.3 and N.2.b. for further discussion on why the regulations are not preempted under the CAA or *Locke*.

- 2.d. **Comment:** The ARB lacks the authority to pursue the regulation because it would require many vessels to retrofit or perform modifications to conform to its “in-use” operations standards. The requirement for vessels to retrofit or perform modifications to their ships and engines is beyond the authority of the State. Such retrofits and/or modifications can affect the stability, structural integrity, and general safety of the ship. Any imposed requirements or changes that can result in such impacts are the purview of the U.S. Coast Guard and the respective classification societies as designated by the ship’s flag state. (PMSA 1)

Response: We disagree. As noted in the prior response, the regulations impose no mandates on ship owners or operators to retrofit or otherwise modify their vessels. Based on available data from ship owners and operators and our own technical analysis, we expect most vessels can be operated on low sulfur distillate fuels without significant modifications. (ISOR, at VI-11, 12). In any case, the regulations do not mandate the use of such distillate fuels (see Response to Comment N.2.c.), and any retrofits or modifications that do occur would be performed because the ship owner has chosen to do so.

- 2.e. **Comment:** The totality of the record should be reviewed when applying *Locke* to the regulations at hand. In the CARB legal analysis, they fail to reach a relevant inquiry on the issue of preemption here. Consideration of a proper inquiry is supporting evidence that fairly detracts from the agency’s conclusion and must also be taken into account. In this instance that supporting evidence is a legal analysis which reaches a complete

inquiry regarding the question of whether federal legislation and/or treaties manifest a congressional intent to preempt the field of vessel emission controls, thus preventing state regulations in the area, to simply what title of the PWSA it might fall under. To dismiss Locke court's reasoning based on a narrow reading of which Title of the PWSA might preempt their regulation is simply insufficient. A clear reading of Locke would require that the Board should instead truly evaluate whether the Congressional intent of the Clean Air Act, PWSA, OP90, in addition to other federal statutes, when interacting with international treaties generate preemption principles that "give force to the long standing rule that the enactment of a uniform federal scheme displaces state law." (PMSA 1)

Response: We agree that a complete analysis of relevant cases, statutes, and treaties is appropriate for this rulemaking. However, we disagree with the commenter's implication that ARB somehow did not make such an analysis. The ARB has completed a full consideration of the Clean Air Act, PWSA, and applicable international treaties to determine if Congress intended to preempt these regulations. (See responses to comments in Sections N.2, N.3, and N.7 for our discussions of the CAA, PWSA, and international treaties, respectively; see also ISOR, App. B). As shown in those discussions, we concluded that Congress did not intend to preempt California in-use regulations intended to control air pollution released from ocean-going vessels. The *Locke* Court's discussion of OPA90 dealt with the same preemption principles that they discussed in their analysis of the PWSA; since the PWSA was discussed at length in this Section N.2, it is unnecessary to further discuss OPA90. The commenter did not identify any other specific federal statutes of relevance to these regulations, so our discussion focused on the CAA, PWSA, and treaties to which the U.S. is a ratified party.

- 2.f. **Comment:** CARB's measure is preempted by federal law and international treaty. The United States Supreme Court in *U.S. v. Locke*, 529 U.S. 89 (2000) recognized that the authority of the federal government to enact legislation over maritime matters "has been manifest since the beginning of our Republic and is now well established." The authority of Congress to regulate interstate navigation, without embarrassment from the intervention of the separate states and resulting difficulties with foreign nations, was cited in the Federalist Papers as one of the reasons for adopting the United States Constitution. E.g. The Federalist Nos. 44, 12, 64. *Id.* at 99.

The preemption powers of the federal government are well preserved in the Supremacy Clause of the Constitution (Article VI, Clause 2) which declares federal law "shall be the supreme Law of the Land." Further, the authority of the federal government to regulate maritime law is also established in the Constitution under the Commerce Clause (Article I, Section 8, Clause 3) and the Admiralty Clause (Article III, Section 2). While the right of the several States to legislate in the interest of health and safety of its citizens is preserved by the Tenth Amendment, such state

action may not conflict with federal law, when Congress has historically legislated in a specific area. When faced with a Supremacy Clause challenge, courts will generally presume “that the historic police powers of the State [are] not to be superceded [sic] by the Federal Act, unless that was the clear manifest purpose of Congress.” The presumption, however, does not apply “when the state regulates in an area where there has been a history of significant federal presence.” *Cipollone v. Liggett Group, Inc.*, 505 U.S. 504, 516 (1992); *United States v. Locke*, 529 U.S. 89 (2000). It has been a long standing rule that matters encompassing maritime activities traditionally fall within the realm of federal regulations. *Southern Pacific Co. v. Jensen*, 244 U.S. 205 (1917). Thus, the Supremacy Clause provides that federal law will preempt state law: (1) where Congress has expressly preempted state action (express preemption); (2) where Congress has implemented a comprehensive regulatory scheme in an area, thus removing the entire field from state realm (implied field preemption); or (3) where state action actually conflicts with federal law (implied conflict preemption). *Cipollone*, 505 U.S. at 516. (ISCCA)

Response: We disagree. See Response to Comments N.2.a through N.2.e. The ARB’s regulations deal specifically with air pollution from ships. While matters involving maritime activities may have traditionally fallen within the realm of federal regulations, this is not true of matters involving the control of air pollution. State regulations of maritime activities resulting in air pollution have been upheld by the Supreme Court and have traditionally been within the realm of local and State regulations. (see *Huron*, supra; see also Response to Comment N.2.b. for further discussion of the traditional role local and State regulations have played in controlling marine vessel air pollution).

The regulation of ocean-going tanker vessels is subject primarily to two different but potentially overlapping federal statutes, the PWSA and CAA. Based on well-established statutory construction principles and our reasoning as discussed in the Staff Report and in this FSOR, we reasonably presume that Congress intended no preemption of State imposed in-use operational requirements and duly-authorized retrofit requirements with the 1990 amendments to the Clean Air Act.

Congress enacted these 1990 CAA amendments twelve years after the 1978 amendments to the PWSA under which the *Locke* Court held that Washington’s regulations on tanker vessels were preempted. The fact that U.S. EPA, rather than the U.S. Coast Guard, is now regulating ocean-going vessel emissions under CAA section 213 provides strong evidence that the federal government vis-à-vis U.S. EPA believes that Congress intended the regulation of marine vessels to be conducted within the collaborative framework established under sections 213 and 209 of the CAA at both the federal and State levels, instead of solely by the federal government. And, as shown in our analysis in the Staff Report, we reasonably concluded that the regulations do not run afoul of any federal statutes or regulations on either an express or implied preemption basis.

3. Preemption under Clean Air Act

- 3.a. **Comment:** The regulation is preempted by the Federal Clean Air Act. In 1990 Congress amended the Clean Air Act to authorize the U.S. EPA to adopt emission standards and other requirements related to control of emissions from non-road sources. Congress amended Section 209, which pertains to motor vehicle emissions adding paragraph (e)(1): “No State or any political subdivision thereof shall adopt or attempt to enforce any standard or other requirement relating to the control of emissions from either of the following new non-road engines or non-road vehicles subject to regulations under this chapter...” Congress further added paragraph (e)(2), which allows California to adopt standards and other requirements relating to the control of such engines, other than those identified in subpart (1), upon receiving authorization from U.S. EPA. Both paragraphs of Amended Section 209 apply to marine engines.

These amendments were the subject of an appeal in *Engine Manufacturers Association v. US EPA*, 88 F.3d 1075 (D.C. Cir. 1996), where it was noted the California exemption was primarily based upon the fact that California had adopted emission standards prior to the enactment of the Air Quality act of 1967 *Id* at 1078. Notably, California has not heretofore adopted air emission standards pertaining to ocean-going vessels. The appellate court noted that Congress intended to preempt states from regulating emissions from motor vehicles, and based on the statutory construction of Section 209 found the amendments also preempted California from adopting and enforcing “standards and other requirements relating to the control of emission from nonroad vehicles,” including marine engines. *Id* at 1091. (PMSA 1)

Response: We disagree for several reasons. First, as discussed in Response to Comment N.2.b, California has long regulated air emissions from ocean-going vessels. With regard to the *EMA* case, the commenter misconstrues the court’s holding. While the court did note that states are preempted from adopting such “standards and other requirements,” the commenter left out the crucial aspect of the court’s holding applicable to the instant regulations. That is, the *EMA* court held that, in interpreting § 209(e), U.S. EPA reasonably concluded that Congress did not intend to preempt states from imposing in-use restrictions, such as the instant regulations, as they are “inherently local in character....” (*EMA*, at 1094 and FN58).

To promulgate regulations consistent with *EMA*, U.S. EPA amended 40 CFR Part 89 to declare its interpretation of § 209 that “states are not precluded under section 209 from regulating the use and operation of nonroad engines, such as regulations on hours of usage, daily mass emission limits, or sulfur limits...once the engine is [sic] no longer new.” (Appendix A to Subpart A, 40 CFR 89, as discussed in 62 FR 67736, Dec. 30, 1997). The ARB regulations at issue constitute in-use operational requirements, as they effectively reduce the sulfur content in fuels used in ship auxiliary engines, either

directly by the vessel operator choosing to use low sulfur marine distillate fuel, or indirectly through an approved Alternative Control of Emissions (ACE) plan. Therefore, we believe the ARB regulations are not subject to § 209(e) preemption because they are in-use operational requirements.

Even if, in the unlikely event that the ARB regulations are held to be subject to section 209(e) preemption, California is not prohibited from adopting the regulations. Instead, California is only required to obtain authorization from U.S. EPA prior to enforcing the regulations. (See 59 FR 36969, at 36981-36983). Indeed, U.S. EPA requires that California first adopt the regulations before it considers whether to grant authorization, which U.S. EPA is required to grant absent making specific findings.⁷

- 3.b. **Comment:** The proposed regulations will result in vessel modifications as carriers make their best attempt to retrofit their vessels to be in compliance with the regulations. However, under the Clean Air Act and subsequent case law we believe the regulations are beyond the state's authority. The State of California also lacks authority to impose vessel standards in international water, but it intentionally does so by mandating such requirements out to 24 nautical miles. (SSA)

Response: We disagree. As discussed in the Staff Report and this FSOR, the regulations do not require any vessel modifications, equipment installation, or any other types of retrofits. (see Response to Comments N.2.a.-f.). In fact, the regulations do not even require the use of a specific fuel. Operators may choose to use certain fuels to comply, install equipment that will help them reduce their emissions, or employ other alternative strategies under an approved ACE plan. We anticipate that most operators will elect to use two specific types of low sulfur distillate fuels which, for more than 90 percent of vessels, should not require any vessel modifications in order to be used. (ISOR, at VI-11). Operators of the remaining vessels can comply with the regulations through the use of an approved ACE, so any operator that makes vessel modifications to comply with these regulations does so by choice and because it makes sense from an economic basis or for other reasons.

⁷ CAA section 209(e) reads, in pertinent part:

“(2)(A) In the case of any nonroad vehicles or engines other than those referred to in subparagraph (A) or (B) of paragraph (1), the Administrator shall, after notice and opportunity for public hearing, authorize California to adopt and enforce standards and other requirements relating to the control of emissions from such vehicles or engines if California determines that California standards will be, in the aggregate, at least as protective of public health and welfare as applicable Federal standards. No such authorization shall be granted in the Administrator finds that –

- (i) the determination of California is arbitrary and capricious,
- (ii) California does not need such California standards to meet compelling and extraordinary conditions, or
- (iii) California standards and accompanying enforcement procedures are not consistent with this section.”

See Response to Comment N.3.a. for further discussion on preemption under the Clean Air Act. See also Response to Comments N.9.a.-k for further discussion of ARB's authority to regulate out to 24 nautical miles.

- 3.c. **Comment:** CARB's proposed regulation is preempted by the Clean Air Act. In 1990, Congress amended the Clean Air Act to authorize the U.S. EPA to adopt emission standards and other requirements related to control of emissions from nonroad sources. Congress amended Section 209, which pertains to motor vehicle emissions adding Paragraph (e)(1): "No State or any political subdivision thereof shall adopt or attempt to enforce any standard or other requirement relating to the control of emission from either of the following new nonroad engines or nonroad vehicles subject to regulations under this chapter..."

Congress further added Paragraph (e)(2), which allows California to adopt standards and other requirements relating to the control of such engines, other than those identified in subpart (1), upon receiving authorization from U.S. EPA. Both paragraphs of Amended Section 209 apply to marine engines.

These amendments were the subject of an appeal in *Engine Manufacturers Association v. US EPA*, 88 F.3d 1075 (D.C. Cir. 1996), where it was noted the California exemption was primarily based upon the fact that California had adopted emission standards prior to the enactment of the Air Quality Act of 1967. *Id.* at 1078. Notably, California has not heretofore adopted air emission standards pertaining to ocean-going vessels. The appellate court noted that Congress intended to preempt states from regulating emissions from motor vehicles, and based on the statutory construction of Section 209 found the amendments also preempted California from adopting and enforcing "standards and other requirements relating to the control of emissions from nonroad vehicles," including marine engines. *Id.* at 1091. Admittedly, however, the appellate court limited its ruling by agreeing with the U.S. EPA, that the Section 209(e)(1) preemption language did not apply to "in-use operations."

The U.S. EPA's position with regard to "in-use operations" is set forth at 40 CFR Part 80 Appendix A to Subpart A, titled "State Regulations of Nonroad Internal Combustion Engines" where it states:

"EPA believes that states are not precluded under section 209 from regulating the *use and operation of nonroad engines*, such as regulations on hours or usage, daily mass emissions, or sulfur limit on fuel; nor are permits regulating such operations precluded, once the engine is no longer new. EPA believes that states *are precluded from requiring retrofitting of used nonroad engines* except that states are permitted to adopt and enforce any such retrofitting requirements identical to California requirements which have been authorized by EPA under section 209 of the CAA."

Significantly, however, the EPA's policy statement expressed in Appendix A does not apply to foreign-flagged vessels. Subpart A of 40 CFR Part 89.1 (b)(4)(ii), provides that the subject regulations do not apply to marine engines that are exempted from 40 CFR Part 94. The EPA acknowledges in 40 CFR Part 94.1(b)(2) pertaining to Control of Emission from Marine Compression Ignition Engines that marine engines on foreign flagged vessels are exempt from those regulations. Consequently, it is clear that EPA did not intend for states to attempt to regulate the "use and operation" of foreign-flagged marine engines. The EPA has further acknowledged that in-use requirements requiring engines to be retrofitted are not permissible, because the requirements are more akin to preempted emission control standards. (ISCCA)

Response: We disagree. As discussed in response to Comment N.3.a. above, the U.S. EPA's interpretation of § 209, as it applies to in-use nonroad engines, declares that U.S. EPA believes "states are not precluded under section 209 from regulating the use and operation of nonroad engines...." (App. A to Subpart A, 40 CFR 89). In that Appendix A, U.S. EPA did not qualify or otherwise state that their belief applies only to nonroad engines that are subject to 40 CFR 89, Subpart A. Moreover, the plain language of Appendix A clearly supports broad application of this interpretation to all engines and vehicles that do not fall under § 209(e)(1) (i.e., all other nonroad sources, including marine vessels). This is further supported by the fact that U.S. EPA's interpretation in Appendix A was intended to be "consistent with" the order and opinion of the *EMA* Court of Appeals. (62 Fed. Reg. 67733, December 30, 1997).

Nothing in the *EMA* opinion shows the Court of Appeals intended for U.S. EPA to limit its interpretation regarding § 209 to a select group of nonroad sources. On the contrary, one of *EMA*'s main holdings is that U.S. EPA did not have discretion to interpret "any nonroad vehicles or engines" [emphasis added] as referring only to "new" nonroad vehicles or engines. In other words, the Court held that U.S. EPA impermissibly limited the application of § 209(e)(2) to a subset of nonroad vehicles and engines that do not fall under § 209(e)(1). (*EMA*, at 1093). Because Appendix A to Subpart A of 40 CFR 89 was intended to be consistent with the *EMA* opinion, ARB believes U.S. EPA's interpretation of § 209 was intended to broadly apply to all nonroad sources, including marine vessels, that were not specifically preempted under § 209(e)(1) (i.e., new farm or construction equipment smaller than 175 horsepower and new locomotives and locomotive engines). To hold that U.S. EPA's interpretation of section 209(e) does not apply to marine vessels would be in direct contravention to the *EMA* holding.

- 3.d. **Comment:** Congress further amended the CAA to commission a study of whether emissions from nonroad engines cause or significantly contribute to air pollution, which may reasonably be anticipated to endanger public health. 43 U.S.C. Section 7547 directed the EPA to develop emission standards for nonroad engine sources other than locomotives, but including marine engines. The EPA was directed to: 1) conduct a study to determine whether emissions from new and existing nonroad sources

were significant contributors to air pollution; 2) consider specific contributions to certain pollutants from several categories from new and existing sources; and 3) promulgate regulations containing standards applicable to emissions from those classes or categories of new nonroad engines which contribute to air pollution.

From this study, the EPA issued a final rule adopting a two-tiered approach to setting diesel emission standards for category 3 marine diesel engines which has been codified at 40 C.F.R. Section 89 & 94 for U.S.-flagged vessels. Interestingly, the EPA's efforts to set emission standards for U.S.-flagged vessels coincided with similar action taken by the IMO, which had formally adopted Annex VI to MARPOL. Noting the need for international uniformity and widespread compliance with MARPOL Annex VI by U.S.-flagged vessels, the EPA set emission limits consistent with Annex VI. The EPA has reserved the right to apply Annex VI standards to foreign-flagged vessels after it conducts further research into the issue. The EPA's position with regard to foreign-flagged vessels is as follows:

"The same reasons that counsel deferring adoption of more stringent standards to a subsequent rulemaking also counsel deferring a decision on applying Clean Air Act standards to foreign vessels to such a rulemaking. We believe that deferring this decision may help facilitate the adoption of more stringent consensus international standards. A new set of internationally negotiated marine diesel engine standards would apply to engines on all vessels, regardless of where they are flagged. Adoption of appropriate international consensus standards has the clear potential to maximize the level of emission reductions from domestic and international vessels."

68 Federal Register 9746. The policy statements of the EPA were cited with approval in *Bluewater Network v. Environmental Protection Agency*, 373 F. 3d 404 (D.C. Cir. 2004)

In summary, CARB's proposed emission regulations attempt to regulate in a field that has been historically reserved to the federal government by the U.S. Constitution. Congress' enactment of the CAA was a clear expression of its intention to have the federal government at the center of air emission regulations as they relate to movable sources. See, *Engine Manufacturers Association vs. U.S. Environmental Protection Agency*, 88 F. 3d 1075 (D.C. Cir. 1996). That expression of intent was furthered through the more recent amendments to the CAA, where Congress specifically commissioned the U.S. EPA to conduct a study and promulgate rules for marine engine emissions. The EPA has only partially completed that objective through its phase one study but has issued regulations pertaining to emissions from certain marine engines. The EPA has specifically stated its study is not complete and further regulations are forthcoming. Moreover, while certain state and local in-use requirements for nonroad vehicles, such as mass-emission limits, hours of use and fuel specification standards have been deemed permissible in-use

requirements, the basis on which this holding was predicted does not apply to foreign-flagged vessels since they are exempted by 40 CFR Part 89.1(b)(4)(ii). The applicability of these in-use requirements was not contemplated in the context of marine engines of foreign-flagged vessels where the need for international uniformity of regulations is essential to commerce. See, *Bluewater Network v. Environmental Protection Agency*, 373 F.3d 404 (D.C. Cir. 2004)

Further, CARB's proposed regulations would impermissibly require vessels to retrofit certain engine parts, tank schematics and storage tanks to accommodate the regulations. The requirement for vessel owners to retrofit or perform modifications to their ships and engines is beyond the authority of the state of California. The issue of federal preemption of state regulations governing vessel equipment and modification was the central issue in *U.S. v. Locke*, 529 U.S. 89 (2000). The Court reasoned that since retrofits and/or modifications can affect the stability, structural integrity and general safety of the ship, any proposed regulation that impacts the same are within the purview of the U.S. Coast Guard as proscribed by the Ports and Waterways Safety Act of 1972, 33 U.S.C. 1221 et seq. (ISCCA)

Response: We disagree. See Response to Comments N.2.a.-b., N.2.f., and N.3.a. for further discussion on preemption under the Ports and Waterways Safety Act (PWSA) and the Clear Air Act (CAA). For further discussion on whether international uniformity is essential for environmental regulations, please see Response to Comment N.6.a.

- 3.e. **Comment:** The United States Supreme Court in *EMA v. South Coast Air Quality Mgmt*, 541 US 246 (2004) highlighted Congress' intent to preempt not only standards relating to the control of air emissions, but also enforcement provisions relating to the control of air emissions. In that case, a California local regional political subdivision enacted a series of regulations prohibiting the purchase of vehicles by various public and private fleet operators that did not meet certain emission requirements. In deeming those regulations preempted by Section 209 of the CAA, the U.S. Supreme Court noted that section 209 preemption applies to "adopting standards as well as enforcing standards" relating to the control of emissions. The Court reasoned the regulations "did not escape preemption just because they addressed the purchase of vehicles, rather than their manufacture or sale." The same is true for the proposed CARB regulations, as it is an enforcement regulations that seeks to circumvent the preemption against the adoption of standards to control diesel emissions. The subject proposal permits CARB to levy hefty fines against vessels whose engines do not operate with emissions equivalent to those engines burning ultra low sulfur fuels, but that still meet international standards. The EMA Court noted that to allow such a regulations may encourage others to do so, which would eventually undo "Congress'

carefully calibrated regulatory scheme.” *Id* at 257. This is precisely the reason Congress has preempted the field and has not left to the several States the right of regulating the international shipping community. (ISCCA Letter)

Response: We disagree. *EMA v. South Coast Air Quality Mgmt (EMA II)* is not dispositive and is clearly distinguishable. The commenter’s characterization notwithstanding, ARB’s regulations are not attempting to circumvent preemption under CAA section 209. Putting aside the fact that ARB’s regulations are subject to analysis under CAA section 209(e) rather than 209(a) (see response to comments N.3.a.-d.), *EMA II* would still be distinguishable on the facts.

In *EMA II*, the Court held that the air district’s requirement for regulated entities to purchase new, low emission vehicles falls within the meaning of “standard or other requirement related to the control of emissions” in CAA section 209(a). (*EMA II*, at 246). Having determined that the purchasing requirement is a “standard or other requirement,” the Court held the air district’s purchase requirement is a preempted standard absent an appropriate CAA section 209(a) waiver.

Unlike *EMA II*, we believe the courts will characterize ARB’s regulations as in-use operational requirements because the regulations place emission limits on in-use vessels without requiring specific retrofits or equipment purchases (i.e., it neither places requirements on manufacturers of new vessels nor requires retrofits of existing vessels). Rather than requiring retrofits or equipment purchases, the regulations effectively limit the sulfur content of fuel used in regulated engines by employing emission limits based on the use of low sulfur distillate fuels. And U.S. EPA has already determined that such in-use requirements are not subject to preemption under CAA section 209(e). (Appendix A to Subpart A, 40 CFR 89). Given the U.S. EPA’s final regulations interpreting CAA section 209(e), we believe the courts will hold the ARB regulations as a permissible in-use operational requirement rather than a preempted “standard or other requirement.”

Similarly, the fact that the instant regulations impose enforcement penalties for violations of the regulations does not make the regulations preempted “standards or other requirements.” *EMA II* is distinguishable on this issue. In *EMA II*, the Court stated what would seem to be a truism -- that enforcement of a “standard or other requirement” is also preempted if the “standard or other requirement” is itself preempted. Unlike *EMA II*, however, enforcement of ARB’s regulations would not be preempted. This is because ARB’s regulations, as in-use operational requirements, would not be preempted under CAA section 209(e) (see *EMA v. U.S. EPA*, *supra*) and U.S. EPA’s final regulations interpreting CAA section 209(e). (App. A to Subpart A, 40 CFR 89).

Moreover, because these are regulations rather than a voluntary agreement with vessel operators, it is axiomatic that an in-use operational limit would be effectively meaningless without penalties or some other significant disincentive to noncompliance. This would be true for nearly every other form of regulation. Penalties help ensure that

regulated entities meet the specified requirements, and such penalties are specified under Health and Safety Code sections 42400 et seq.

Please see response to comments in Sections N.2 through N.9 for further discussions on ARB's authority to regulate international shipping out to 24 nautical miles offshore.

4. Preemption under International Treaty

- 4.a. **Comment:** The CARB states that when the federal EPA authorizes the proposed regulation, the major Commerce Clause challenge will be circumvented. CARB then states that, even without federal authorization, the proposed regulation does not violate the Commerce Clause because it is nondiscriminatory and its benefits clearly outweigh the burden it places on interstate commerce. In this portion of the argument, the CARB refers to the United Nations Convention on the Law of the Sea (UNCLOS). While the Convention provides that coastal states may adopt regulations applicable to foreign vessels in transit through territorial seas for the preservation of the environment and control of pollution, CARB fails to explain that such laws and regulations must be in conformity with the provisions of UNCLOS and other rules of international law. A new international protocol on air emissions from ships has been negotiated and the U.S. has signed the protocol and it has been submitted to the Senate for advice and consent. It is doubtful whether the Commerce Clause argument stated above will have much force as regards the regulation if and when the Senate consents to the air emissions protocol. (HK)

Response: We disagree. Conformity with UNCLOS and international law does not equate to a prohibition on nations imposing more stringent standards than are specified in current treaties. As discussed above in our Response to Comment N.2.a., nations have in the past imposed standards that are more stringent or different from then-current treaties when the nations determined that such standards were necessary to protect its citizens, environment, or other national interests. In implementing treaties, nations have imposed different or more stringent standards than the treaty requires in their "understandings" and "reservations" (documents containing the Senate's qualifications to a treaty that accompany the Senate's advice and consent on that treaty). Different or more stringent standards may also be contained in the legislation that is enacted to implement a ratified treaty. Congress presumably understood this and intended no conflict with U.S.-ratified treaties when it established the collaborative framework in CAA section 209(e), under which California was to take the lead in being the nation's "laboratory" for developing mobile and nonroad source regulations. (see *EMA v. U.S. EPA*, supra, and Response to Comment N.2.a).

In any case, it is pure speculation for the commenter to suggest that, if the U.S. finally adopts and implements MARPOL Annex VI, it will necessarily render the regulations invalid under the Commerce Clause. Indeed, current draft versions of the implementing legislation being discussed by Congress contain language that would seem indicate

congressional intent not to preempt, but rather to preserve the states' existing rights to regulate ships under their traditional police powers. (House Bill No. 5811, 109th Cong., 2d Sec., §15, p.9 (July 17, 2006); Available from THOMAS (Library of Congress), <http://thomas.loc.gov>, accessed October 4, 2006).⁸

- 4.b. **Comment:** The U.S. government is in the final stages of ratifying the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships (MARPOL) which contains Annex VI. When this occurs, and if these proposed ARB regulations are adopted, they will be in conflict with an international treaty that the U.S. is party to. This issue is not addressed in the staff report. We believe that this potential conflict should be resolved with the Treaty Affairs Office of the U.S. State Department. (INTERTANKO 1)

Response: We disagree. Because MARPOL Annex VI and its implementing legislation had not yet been fully ratified by the U.S., it would have been speculative to comment on any potential conflicts with ARB's regulations. (See Response to Comment N.2.a.). As we noted in Response to Comment N.2.a., ratification of MARPOL Annex VI does not necessarily result in a conflict with ARB's regulations. Indeed, current draft versions of the implementing legislation for Annex VI explicitly state that the statute would preserve and not conflict or otherwise interfere with states' existing authority to regulate ships. (H.R. 5811, supra).

- 4.c. **Comment:** The Supreme Court recently addressed preemption principles in a maritime context in *United States v. Locke*, 529 U.S. 89 (2000). *Locke* invalidated Washington state regulations regarding general navigation watch procedures, crew English language skills and training, and maritime casualty reporting. In reaching its decision, the Court emphasized that the State of Washington had enacted legislation in an area where the federal interest had been manifest "since the beginning of our republic," stressing the authority of Congress to regulate interstate navigation "without embarrassment from intervention of the separate states and resulting difficulties with foreign nations..." *Id.* at 99.

In reaching its decision, the Court found that Congress had enacted a series of statutes pertaining to maritime tanker transports and had ratified international agreements on the subject, including the Tank Vessel Act, the Ports and Waterways Safety Act of 1972 ("PWSA"), the Oil Pollution Act of 1990 ("OPA90"), and various treaties and international agreements including the International Convention for the Safety of Life at Sea

⁸ "Sec. 15 (33 U.S.C. §1911) is amended to read as follows:

Sec. 15. Effect on Other Laws

'Authorities, requirements, and remedies of this Act supplement and neither amend nor repeal any other authorities, requirements, or remedies conferred by any other provision of law. Nothing in this Act shall limit, deny, amend, modify, or repeal any other authority, requirement, or remedy available to the United States or any other person, except as expressly provided in this Act.'

("SOLAS"); the International Convention for Prevention of Pollution from Ships; and the International Convention of Standards of Training, Certification and Watchkeeping for Seafarers.

The court's determination was based in part on an amicus brief filed by the Solicitor General of the United States that argued that the treaties applicable in this area have preemptive force over the state regulations at issue. The court did not have to reach this issue, however, because it found that the state regulations were preempted by federal statute and regulations, without reference to the international treaties cited. The court did conclude, however, that "the existence of the treaties and agreements on standards of shipping is of relevance, of course, for these agreements give force to the long standing rule that the enactment of a uniform federal scheme displaces state law, and the treaties indicate Congress will have demanded national uniformity regarding maritime commerce." *Id.*, at 103. (PMSA 1)

Response: We disagree. We believe ratification of MARPOL Annex VI would only have a preemptive effect on the instant regulations if Congress provides clear language in the implementing legislation for Annex VI evincing its manifest intent to preempt state regulations on the same matter. Because there has been no indication to date of such intent to preempt, we do not presume ratification of Annex VI would be problematic for ARB's regulations. Indeed, as noted in the prior responses, draft versions of the Annex VI implementation legislation indicate that Congress does not intend to preempt state regulations on the same matter.

- 4.d. **Comment:** In addition, the retrofit requirements of the regulation will still be preempted within California's Territorial Waters under Section 209(e) of the Clean Air Act. The U.S. EPA has made it clear in their statements concerning the regulations of ship emissions that they intend to work within the confines of established international treaties and conventions. In that regard, our organization supports the US ratification of MARPOL Annex VI and the pursuit of Sulfur Emission Control Areas (SECA) for all of North America. The ARB and California Legislature has also expressed their support for Annex VI and SECA establishment.

This proposed regulation is an attempt by California to reap the benefits of a SECA outside of the established parameters and guidelines of MARPOL Annex VI and could be viewed as in violation of the treaty should the US formally ratify it. Moreover, we would submit the entirety of the Federal Rulemaking record (Federal Register, Vol. 67, No. 103 at pp. 375773-37574. EPA420-R-03-003, "Summary and Analysis of Comments: Control of Emissions from New Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder," Chapter 9. Federal Register, Vol. 68, No. 40 at pp. 9745-9789) regarding EPA's consideration of fuel standards. The record should demonstrate by substantial evidence that a SECA under a ratified

MARPOL Annex VI is the most appropriate way to effectuate the purposes of state, federal, and international law, and that the proposed regulation cannot be reasonably implemented after consideration of the totality of the record. (PMSA 1)

Response: We disagree. While ARB does support ratification of MARPOL Annex VI and the establishment of a SECA, such support is provided because ratification of Annex VI will be needed for the U.S. to influence the development of more stringent emission standards for marine engines. Also, we support Annex VI ratification so that the treaty's standards can serve as a "backstop" measure (i.e., to provide a minimum level of protection). (ISOR, at V-15 through V-17). The ARB has never stated an intention to support Annex VI *in lieu of* developing state-specific regulations that provide additional protections. By its terms, Annex VI limits a SECA to a sulfur content of 1.5 percent, and this is reflected in the only SECA that has been established to date (in the Baltic Sea). At this level, ship operators can meet the SECA requirements while still using relatively high-emissions bunker fuel.

To begin to adequately protect public health in California, a SECA on the West Coast of the U.S. would need to limit sulfur at much lower levels (i.e., to levels typically found in marine distillate fuels). (ISOR, at V-16). To accomplish this, the U.S. would need to request the International Maritime Organization (IMO) establish an "ultra-low sulfur" SECA. The U.S. would then need to obtain agreement from the other signatory countries on such a SECA. Given the length of time required for Annex VI to go into force, it is reasonable to expect that obtaining such a SECA would take a number of years. Despite this, ARB is currently working with U.S. EPA and other agencies to establish such low sulfur SECA under MARPOL Annex VI. (*Ibid*). But that effort is not expected to be completed for many years, so there is a definite need for the ARB regulations and others like it for the foreseeable future.

The ARB does not believe the regulations present a violation of MARPOL Annex VI as U.S. courts have held such treaties reflect *minimum* standards that must be met by signatory nations, but such nations can and have imposed more stringent standards when there was a demonstrated need for such standards. We believe the need for ARB's regulations is well-supported by the rulemaking record. As such, we do not agree that the rulemaking record should show that a SECA under a ratified Annex VI is the most appropriate way to effectuate the purposes of state, federal, and international law.

We should note that Annex VI explicitly states that "the international law concerning the prevention, reduction and control of pollution of the marine environment from ships...in force at the time of application or interpretation of this Annex, applies *mutatis mutandis*,⁹ to the rules and standards set forth in this Annex." (MARPOL Annex VI, Regulation 11(6)). International law expressly preserves the right of nations to apply laws or

⁹ All necessary changes having been made; with the necessary changes <what was said regarding the first contract applies *mutatis mutandis* to all later ones>. Black's Law Dictionary (8th ed. 2004).

regulations to prevent pollution within their territorial seas, ports, and internal waters, and Annex VI does not change the international regime that permits “prescription of emission standards [in the territorial sea] that go beyond Annex VI.” (See Erik Jaap Molenaar, *Coastal State Jurisdiction over Vessel-Source Pollution*, 102, 509 (1998); *Id.*, at 113 (“[P]ort States have not, by becoming Parties to the regulatory conventions [including MARPOL annexes], committed themselves to a maximum level of prescriptive jurisdiction.”) Thus, we do not believe ARB’s regulations conflict with Annex VI, since Annex VI allows nations to promulgate more stringent standards as provided under international law, and California is effectively imposing standards for the U.S. as provided by Congress under CAA section 209(e).

We should also note that ARB’s regulations specifically direct the Executive Officer to propose for the Board’s consideration the termination or modification of this regulations in the event international treaties or future U.S. EPA regulations are promulgated that achieve emission reductions equivalent to or better than those to be achieved under this regulations. (ISOR, at V-15, A-15 and A-31). See also response to comments in Section N.8.

- 4.e. **Comment:** CARB’s proposed regulation is inconsistent with international law which shall soon be the law of the United States. MARPOL is the main international convention pertaining to the prevention of pollution of the marine environment by ships from operational or accidental causes. The Protocol of 1997 to amend Annex VI of MARPOL establishes international standards for air emissions from most ships engaged in international trade. It was adopted September 26, 1997 and became effective May 19, 2005.

As part of the global agreement to control pollution from ships, MARPOL Annex VI regulates emission into the atmosphere of specified pollutants from ships. It further sets standards for new large marine diesel engines, establishes approval limits for the types and operating limits for shipboard incinerators, establishes standards for the sulfur content of bunker fuels, prohibits the emission of ozone-depleting substances, regulates the emission of volatile organic compounds during the transfer of cargoes between tankers and terminal, sets standards for shipboard incinerators and fuel oil quality, and establishes requirements for platforms and drilling rigs at sea. Additionally, those supplying bunkers to ships are required to have their bunker fuels evaluated for compliance. Bunker suppliers are also required to provide a bunker delivery note to the ships to which they provide bunker fuels. Covered vessels are not to accept bunkers from any supplier without also receiving a bunker delivery note from the supplier evidencing compliance with the standards for bunker fuel set by Annex VI. Covered vessels are required to show their bunker delivery notes to port state control officials in subsequent ports of call. Finally, all covered vessels are required to carry on board an International Air Pollution

Prevention Certificate issued by the flag state administration or the vessel's authorized classification society.

The 1997 Protocol (Annex VI) has been signed by the United States on December 22, 1998 which evinces an intention by the United States to be bound by the Agreement. As noted in the Secretary of State's submission to the President recommending ratification:

“[T]he United States has basic and enduring national interests related to the oceans and U.S. port regions and has consistently taken the position that the full range of these interest [sic] is best protected through a widely accepted international framework governing uses of the sea. A workable international regime for the prevention of air pollution from ships is in the best interests of all States because it will subject international shipping to a uniform standard that is environmentally protective. While retaining the right to impose more stringent requirements in ships entering U.S. ports, the United States will work to strengthen international standards by promoting development of more stringent emission limits that reflect the capabilities of available technology.”

On May 15, 2003, President Bush transmitted to the Senate the 1997 Protocol adding Annex VI for ratification. In his letter, the President observed:

“MARPOL Annex VI is an important step toward controlling and preventing emissions of harmful air pollutants from ships. U.S. ratification of the Protocol of 1997 will demonstrate U.S. commitment to an international solution and should hasten the entry into force of the Protocol of 1997. Ratification will also enhance our ability to work within the treaty framework to obtain subsequent amendments that will require further reduction in emissions of nitrogen oxides that are now achievable through the use of modern control technologies which the United States strongly supports.”

To date MARPOL Annex VI has not been ratified by the United States which shall occur when two thirds of the members of the Senate present a vote in favor of ratifying a signed treaty presented by the Executive. U.S. Const. Art. II 2, cl. 2. Ratification is expected in the near future. MARPOL Annex VI has been, however, ratified by all the major maritime nations. All ships flying the flag of a ratifying country must comply with the requirements and standards of Annex VI. Any vessel entering within the territorial waters of a 1997 Protocol signatory state is also required to comply with those requirements. This includes most of the vessels that would ever visit any U.S. (or California) port.

Given the broad spectrum of international adherence to the provisions of MARPOL Annex VI, the U.S. EPA set the Clean Air Act emission standards for Category 3 engines for U.S.-flagged vessels at the same level set by Annex VI. It reasoned that Category 3 engines “have only a minimal impact on U.S. air quality” because they operate in the U.S. waters for only a limited amount of time and that any stricter standards

could be applied to U.S. ships only, potentially compromising their competitiveness in the world shipping market.” *Bluewater Network v. Environmental Protection Agency*, 372 F. 3d 404 (D.C. Cir. 2004). The adoption of this rule by the EPA evidences the delicate balance that has been achieved in the global shipping market. The EPA expressly refused to address regulations with regard to foreign-flagged vessels, as international shipping lines are in compliance with MARPOL Annex VI at this time. The U.S. EPA has promised, however, to “consider the state of technology that may permit deeper emission reductions and the status of international action for more stringent standards as well as application of these standards to engines on foreign vessels that enter U.S. ports.” 68 Fed. Reg. at 9746. (ISCCA)

Response: As discussed in the response to comments in this section N.4, ARB believes the regulations are consistent with international law for several reasons.

First, the U.S. has not yet ratified MARPOL Annex VI, so there is no international treaty with which these regulations were inconsistent at the time the regulations were approved for adoption. It is therefore pure speculation to say with certainty that the regulations conflict with MARPOL Annex VI at this time. It is well understood under international law that nations often amend treaties to which they agree through “reservations,” “understandings,” and through the text and enforcement of the actual implementing legislation.

Second, U.S. ratification of Annex VI requires not only the President’s signature, but also appropriate implementing legislation, for the treaty to be in force in U.S. waters. Again, no such implementing legislation has yet been developed and finalized for the presidential approval. In fact, the draft versions of Annex VI implementation legislation that have been considered to date contain clear language that preserves States’ existing rights, authorities, and remedies to regulate ocean-going ship air emissions under current federal law.

Third, U.S. EPA’s reasons for essentially incorporating the international standards into federal law do not militate against California taking additional steps to protect its citizens as provided under CAA section 209(e). California has a statutory right and a duty under the Health and Safety Code to protect its citizens from the high levels of toxic air pollution released by ships, and Congress has acknowledged in the Clean Air Act California’s lead role in serving as a “laboratory” for developing mobile and nonroad source controls, which include control measures for marine vessels.

Finally, nations have and will continue to impose more stringent standards than called for under international treaty when there is a demonstrated need to go beyond the minimum international standards. United States’ courts have held that international treaties represent minimum standards, which the U.S. (if it is a signatory) cannot allow to be exceeded, but it can impose more stringent standards. As the commenter itself has pointed out, the Secretary of State’s letter to the President recommending

ratification of Annex VI clearly demonstrates this (“While retaining the right to impose more stringent requirements in ships entering U.S. ports...”). As noted in response to Comment N.2.a., nations have unilaterally imposed more stringent standards than the minimum standards reflected by international treaties. And Congress, under Clean Air Act section 209(e), provides for California to impose standards that achieve greater reductions than called for under international agreements. By its terms, MARPOL Annex VI explicitly provides for signatory nations to impose more stringent standards pursuant to their rights under international law (See also Response to Comment N.4.d.).

Therefore, based on these reasons, ARB does not believe the regulations at issue conflict with MARPOL Annex VI, nor would the regulations necessarily conflict with Annex VI even after passage of the implementing legislation.

- 4.f. **Comment:** CARB should reconsider the proposed regulation because it might imply a breach of customary international law and practice as reflected in the 1982 United Nations Convention on the Law of the Sea. The regulation might establish different standards from those agreed to internationally, through the International Maritime Organization (IMO). Governments across the world are committed to the international goal of improving air quality. The International Convention for the Prevention of Pollution from Ships (MARPOL), particularly Annex VI, has been widely ratified. A workable international regime for the prevention of air pollution from ships is in the best interest of all governments because it will subject international shipping to a uniform standard that is environmentally protective. Internationally agreed rules are the most appropriate form of regulation for a truly international business like shipping.

It is unhelpful and confusing to shipping operators to encounter different rules when calling at or passing through the waters of different countries. It is even more unhelpful if, within a country, different rules apply in different parts of the country. The responsibilities and obligations of the US government to its commitments under international agreements and the spirit of international comity should hold pre-eminence in the area of international maritime transport, where Congress should have the authority to regulate without the complications which might arise from the intervention of separate States of the Union and consequent difficulties with foreign governments. (STATE)

Response: We agree that international treaties are, in theory, probably the most desirable way to reduce emissions from ocean-going ships. However, we disagree with the commenter’s notion that Californians should continue to be exposed to substantial levels of toxic emissions released from ships during the many years it would likely take such treaties to be developed. As we noted above, MARPOL Annex VI took eight years to enter into force, it is not even in force in the U.S. yet, and it only contains bare minimum standards that do not even reflect currently achievable levels of emission controls and low sulfur content in fuels. We fully expect the next round of IMO

negotiations to amend Annex VI will take a similar length of time. And there are no guarantees the final treaty that results, if at all, will reflect future achievable technologies or even levels that are achievable today. Thus, we believe California has a compelling and legitimate interest in promulgating these regulations to protect its citizens from harmful ship air emissions, as permitted under State and federal law.

See response to comments in Sections N.2 through N.9 for further discussions on California's authority to regulate ship emissions.

5. Preemption under Dormant Commerce Clause

- 5.a. **Comment:** The proposed regulation appears to present threshold questions such as the state's competence under domestic law to regulate vessels in interstate commerce or foreign commerce, as well as consistency with international law. (STATE)

Response: See Response to Comments N.5.a.-e., N.6.a.-e., and N.4.a.-f.

- 5.b. **Comment:** Even if limited to California's Territorial Waters, this proposed regulation is a violation of the Commerce Clause of the Constitution. The regulation at hand affirmatively discriminates in fact and in practical effect against interstate and foreign commerce for California. In fact, we are not aware of any vessel plying inter-coastal waterways in a purely intrastate capacity that meets the proposed definition of "Oceangoing Vessel." To impose requirements, fees, and penalties, on vessels in a regulation that solely impacts international trade and interstate commerce without any commensurate impacts on, or regulatory parity for, any other vessels involved in intrastate trade, is discriminatory, and such regulations are "virtually per se invalid" and must meet a strict scrutiny test.

The ARB recognizes these common legal themes but then finds that the proposed rule is "non-discriminatory, as it applies equally to all ocean-going vessels in the regulated California waters, whether U.S. or foreign-flagged, in-state or out of state." Clearly, under the proposed definition of ocean-going vessel in the regulations, this is in fact discriminatory against interstate and foreign commerce. The touchstone is not whether or not certain flagged vessel are impacted – the test is that the burden on interstate and foreign commerce must only be incidental or applied without discrimination vis-à-vis intrastate commerce. Here, a regulation imposed solely on interstate and foreign commerce can be neither. Moreover, how California could even impose such a regulations "out of state" is extremely troublesome. By definition, such regulations can only be on interstate and foreign commerce to the exclusion of intrastate commerce. (PMSA 1)

Response: We disagree. The ARB understands that a facially discriminatory regulation would likely be held as *per se* invalid; therefore, ARB clearly drafted the

regulations as non-discriminatory.¹⁰ However, despite the commenter's lack of awareness of purely intrastate vessels being subject to this regulations, ARB's regulations cannot be construed as being discriminatory. Generally, a regulation is discriminatory under the dormant Commerce Clause when it treats out-of-state business entities or instrumentalities of commerce differently from their in-state counterparts. This would be particularly true if a State applies such a regulation in order to provide economic protection to industries or other interests located within the State.

Here, the regulations are non-discriminatory because, by their terms, they apply to all ocean-going vessels that operate in any of the Regulated California Waters. The fact that the commenter is not aware of any purely intrastate vessels that would be subject to the regulations is not dispositive. The U.S. EPA would not have promulgated its ocean-going vessel regulations if there were no U.S.-flagged vessels that would be subject to it. (40 CFR 94). With the largest coastline among the 48 contiguous states, and with the largest and busiest ports in the nation (Ports of Los Angeles and Long Beach), it is unlikely that California has no purely intrastate ocean-going vessels subject to the instant regulations.

But even if there were no purely intrastate, ocean-going vessels currently in existence, such a fact would not make the regulations discriminatory. This is because intrastate vessels *would be subject to* the regulations if and when they operate in the Regulated California Waters. More importantly, if there were no intrastate ocean-going vessels in California, discrimination cannot be found because the regulations cannot "discriminate" against one group of vessels (interstate and foreign vessels) when those vessels comprise the entire population of regulated vessels, and the regulations are applied equally to all members of that group (i.e., there is no differential treatment when the regulations are applied equally to the entire population of regulated vessels).

Similarly, it is highly unlikely that a court would find that ARB has promulgated these regulations as protectionist measures. This is because the regulations apply equally to all visiting ocean-going vessels and would thus affect equally all related industries and businesses in California. This would be particularly true if there were no intrastate vessels for California to protect.

Because the regulations were drafted to be facially non-discriminatory (i.e., they are "even-handed"), the next test a court would apply is whether the regulations' burden imposed on interstate commerce clearly outweighs the putative benefits of the regulations. (*Pike v. Bruce Church*, (1970) 397 U.S. 137, 142). We have already determined that the regulations' incidental burden on interstate and foreign commerce

¹⁰ The regulations reads, in pertinent part:

"(b) Applicability

(1) Except as provided in subsection (c), this section applies to *any* person who owns, operates, charters, rents, or leases *an* ocean-going vessel, *including* foreign-flagged vessels, within any of the Regulated California Waters...." (emphasis added) [ISOR, at A-1].

does not clearly outweigh the putative benefits. (ISOR, at ES-15 through ES-17). In fact, ARB staff has determined the converse is true.

We estimated the regulations would result in a total annual cost for all visiting ocean-going vessels of \$34-38 million (in 2005 dollars), along with one-time capital costs of \$11-18 million for those operators that choose to retrofit their vessels. (*Ibid*). Therefore, the total burden to the visiting ships is approximately \$520 million at the higher end of our cost estimates (covering the period between 2007 and 2020). (*Ibid*). On the other hand, we estimate the regulations will avoid over the same 2007-2020 period about 520 premature deaths, 14,000 asthma attacks, and 120,000 lost work days. Using standard U.S. EPA valuations for just the premature deaths avoided, we estimate the regulations' benefits would, at a minimum, be about \$3 billion to \$4 billion.¹¹ Thus, the regulations' presumed benefits clearly outweigh the burdens on interstate and foreign commerce by several orders of magnitude.

Even if the ARB regulations were somehow held as facially discriminatory, ARB believes the emissions from visiting ocean-going vessels create a legitimate and compelling local purpose (i.e., the prevention of death and other serious public health effects from exposure to toxic diesel PM and other pollutants) that cannot be served by less discriminatory means. Under such circumstances, even facially discriminatory state laws have been upheld. (see ISOR, at B-14 and FN 40).¹²

See response to comments in Sections N.7 and N.9 for discussions on ARB authority to regulate foreign-flagged vessels and authority to regulate out to 24 nautical miles, respectively.

- 5.c. **Comment:** The regulation (specifically subsection (a) “purpose,” subsection (b) “applicability,” and the definition of “auxiliary engine”) discriminates against vessels powered by diesel-electric engines. Under the U.S. Supreme Court’s dormant commerce clause decisions, a state statute that facially discriminates against interstate commerce is per se unconstitutional unless the state is able to show that two conditions are met: (1) the statute serves a legitimate state purpose, and (2) the purpose is one that cannot be served as well by available nondiscriminatory means. Under this strict scrutiny standard, the State bears a heavy burden to prove the validity of its statute. Generally, statutes that factually discriminate against out-of-state interests are struck down. See, *Hughes v. Oklahoma*, 441 U.S. 322 (1979).

¹¹ ISOR, at VII-7 through VII-8.

¹² Citing *Maine v. Taylor*, 477 U.S. 131, 138 (1986) (upheld facially discriminatory statute serving to protect the Maine fisheries where the purpose could not be served as well by available nondiscriminatory means). It is difficult to see how the Court could uphold a facially discriminatory statute to protect a state’s economic interests (fisheries) while invalidating a facially non-discriminatory state regulations like the instant regulations, which is designed to avoid significant numbers of premature deaths and other health hazards to a state’s citizens from visiting vessels, the vast majority of which are based from out-of-state.

The proposed regulation is flawed as drafted. First, the regulatory language is designed to single out vessels with diesel-electric engines while other ocean-going vessels with main diesel engines will not be subject to the same emission regulation. The proposed regulation's inclusion of diesel-electric engines within the definition and function of auxiliary-diesel engines will regulate only a small segment of ocean-going vessels while excluding the case majority of oceangoing vessels utilizing main diesel engines. Under these definitions, certain vessels would be allowed to operate main diesel engines using fuel oil that will not meet the regulation's emission standards, but would require the same vessel to operate its auxiliary engines on fuels designed to meet those standards. In contrast, vessels that operate multiple diesel-electric engines to generate power as well as propulsion of the ship would be required to operate on low sulfur fuels for the entirety of its navigation in California waters.

With the vast majority of the international shipping and cruise companies achieving compliance with MARPOL Annex VI, the emission standards adopted by the IMO, it is highly unlikely the proposed regulation will be viewed as adopting the least discriminatory standard available. Based on the foregoing, the proposed regulation is subject to being struck down as unconstitutional per se. (ISCCA)

Response: We disagree. See Response to Comment N.5.b. If a regulation applies only to the engines in one segment of all ocean-going vessels, or only to certain engines on vessels, that alone would not make the regulation discriminatory. For discrimination under the Commerce Clause to be found, ARB's regulations would have to discriminate against out-of-state vessels, not against one type of engine or vessel versus another. As discussed in Response to Comment N.5.b., ARB's regulations do not discriminate against out-of-state vessels. Therefore, we do not believe the regulations are discriminatory under the dormant Commerce Clause.

While not stated as such, it is possible the commenter is raising discrimination as an issue within the context of the Equal Protection Clause of the Fourteenth Amendment. In prior cases, courts have held that the Equal Protection Clause is not violated when a State chooses to regulate one portion of an industry and not others.¹³ Based on the prior cases, we believe a court analyzing such a "discriminatory" claim under ARB's regulations will reach the same conclusion – a State "may take one step at a time, addressing itself to the phase of the problem which seems most acute..." and "...may select one phase of one field and apply a remedy there, neglecting the others." (*Williamson.*, at 489). Similarly, ARB staff has discussed in the Staff Report the reasons for regulating diesel-electric engines under this regulations, while setting aside for a future rulemaking the development of standards for main engines and other emission

¹³ See *Williamson v. Lee Optical of Oklahoma, Inc.*, (1955) 348 U.S. 483, 488-489.

sources on vessels. (ISOR, at IX-2 through IX-4). Moreover, ARB has already put the shipping industry on notice that it intends to address “main engines and other sources” not regulated in these regulations within a couple years. (*Id.*, at ES-9). The U.S. EPA has also taken a similar, step-wise approach to regulating ocean-going vessel engines. (*Bluewater Network v. Environmental Protection Agency*, (2004, D.C. Cir.) 372 F.3d 404, 411).

- 5.d. **Comment:** CARB’s attempt to regulate a legitimate local public interest imposes an excessive burden on interstate commerce and attempts to regulate extraterritorially. In *Pike v. Bruce Church, Inc.* 397 U.S. 137 (1970), the Supreme Court articulated the test for determining when state regulations unduly burden interstate commerce, explaining that “where the statute regulates even-handedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits.” The Court further defined the test stating, “If a legitimate local purpose is found, then the question becomes one of degree. And the extent of the burden that will be tolerated will of course depend on the nature of the local interest involved and on whether it could be promoted as well with a lesser impact on interstate activities.”

While the proposed regulation states its purpose is to reduce the level of diesel particulate matter emissions into the atmosphere, the method by which the stated purpose is to be achieved mandates the use of low sulfur fuels by ocean-going vessels. Setting aside the federal preemption issues associated with mandating the use of engines designed to efficiently and safely burn fuel oils with extremely low flash points, the regulation presupposes that levels of fuel oil with sulfur content of 0.5% will be readily available in all ports in which vessels coming to or departing from California waters call. In fact, the regulation anticipates that sufficient quantities of this specialized fuel will not be available as the regulation allows for the payment of a penalty upon a showing by the vessel owner that low sulfur fuel was not available. In essence, the regulation will ostensibly require vessel owners to purchase fuel oil in the only market where such fuel oil is mandated – California.

The proposed regulation will further necessitate the switching of heavy fuel oil to ultra light fuel oil on vessels carrying valuable cargos and passengers. While switching from one fuel quality to another is viable, it takes considerable time and is not without risk. If the switching procedure is not performed in accordance with tested procedures, the fuel oils are incompatible or the engine’s fuel system is not adapted for this purpose, engine shutdown, impermissible gas formation causing cavitation damages to fuel pumps or fuel leakage may result. Depending on the vessel’s location, this may disrupt vessel traffic and/or port operations.

Switching fuels during transit is rarely recommended and especially when switching from heavy fuel oil to ultra light fuel oil, as a heavy-oil engine is very difficult to restart on ultra light fuel oil in the event of a shutdown.

The purpose of the proposed regulation can be met by adopting the international standardized emissions as required by MARPOL Annex VI, which requires vessels to burn fuel oils with reduced sulfur content, with allowances to mandate levels at no greater than 1.5%. Adopting the international standard will reduce diesel particulate matter emissions and further reduce the risks associated with switching from HFO to ultra light fuel oil. Adopting MARPOL Annex VI and declaring a SECA would be the least burdensome method of achieving emission reductions while keeping the regulation within the dictates of federal and international law and promoting uniformity. (ISCCA)

Response: We disagree. As discussed in Response to Comment N.5.b., the presumed benefits of the regulations far outweigh the burdens on interstate commerce that we estimated. Because the regulations represent reasonable port-entry conditions for vessels to meet prior to entering a California port, we do not believe the regulations are an impermissible extraterritorial exercise of State authority. See Response to Comments N.5.e. and N.9.a.-k.

We also disagree with the commenter's position that the regulations achieve reductions in diesel PM emissions by mandating the use of low sulfur fuels by ocean-going vessels. The regulations contain no such mandate. By their terms, the regulations prohibit a person from operating a regulated engine "in exceedance of the emission rates of those pollutants [diesel PM, NO_x, and SO_x] that would result had the engine used the following fuels:...." (ISOR, at A-5). Further, the regulations state that compliance with this requirement is presumed if the person operates the engine with the enumerated fuels or the engines are operated in accordance with an approved Alternative Control of Emissions (ACE) plan. (*Ibid*). The fact that specific types of fuels are enumerated in the regulations does not make the use of such fuels a requirement. Vessel operators could elect to use those fuels, or they can use alternative emission control strategies (e.g., emissions averaging, add-on control equipment, shoreside power, etc.), many of which do not even rely on the use of the specified low sulfur fuels. (See also Response to Comments N.2.b.-c. and N.3.b.).

In addition, the commenter mischaracterizes the regulations' fee provision. Payment of a Non-Compliance Fee (NCF) does not presuppose the unavailability of low sulfur fuel. The enumerated criteria that must be met in order for the NCF to apply are:

- (1) unplanned redirection to California occurring after the vessel left the last port of call and the vessel contains insufficient quantities of fuel to meet the regulations;
- (2) operator is unable to acquire an adequate amount of sufficient fuel to meet the regulations even after good faith efforts were made;

- (3) operator inadvertently purchases defective fuel and is unable to secure non-defective fuel prior to coming to California;
- (4) vessel is to be taken out of service within 5 years of the regulations' effective date for modifications; or
- (5) the vessel is an "infrequent" visitor and would need to undergo modifications to meet the regulations. [ISOR, at A-11 through A-14].

As stated in the Staff Report, ARB staff has already determined that sufficient quantities of low sulfur distillate fuel are already available around the world. (ISOR, at VI-6 through VI-9). Therefore, it should be apparent to even a casual reader that none of these NCF criteria presupposes that such fuel will be unavailable. Instead, the NCF provision recognizes that adequate fuel may be unavailable in certain limited situations, and ship operators should not be unduly penalized under reasonably unforeseeable circumstances beyond a ship operator's reasonable control. (*Id.*, at IX-2). The commenter's contention notwithstanding, the regulations contain no requirement that vessel operators purchase any fuel, low sulfur distillate or otherwise, in California. (*Id.*, at A-21 through A-23; see also Response to Comments N.2.b.-c. and N.3.b.).

Similarly, we disagree with the commenter's contention that the regulations necessitate fuel switching. There is no language in the regulations that mandates fuel switching; any fuel switching that does occur is done completely by the operator's choice. While we anticipate some vessel operators will switch fuels as they approach California waters, the regulations by no means require such fuel switching. (*Id.*, at VI-9 through VI-15). As the commenter alludes, when done correctly and in accordance with engine manufacturers' directions and good engineering practices, fuel switching can be done safely. In fact, we note in the Staff Report that some operators already switch fuels in transit without undue harm or safety problems. (*Id.*, at VI-10).

Finally, we disagree with the commenter's position that reliance on MARPOL Annex VI will achieve the same purposes as the ARB regulations. As we discussed in the Staff Report, both the international standards in MARPOL Annex VI (including the provisions for a SECA) and U.S. EPA's Category 3 standards (applicable only for new engines installed on U.S.-flagged vessels) are woefully inadequate for providing the levels of protection and emission reductions California needs to protect its citizens.

The feasibility of fuel switching has been addressed in the ISOR. (*Id.*, at VI-9 through VI-15). And the need to adopt these regulations notwithstanding MARPOL Annex VI is discussed in Response to Comment N.1.g and in Section N.4.

- 5.e. **Comment:** The proposed regulation attempts to regulate international shipping extraterritorially. The dormant Commerce Clause analysis of state law does not end with the Pike test. The Supreme Court has further struck down state laws that attempt to regulate extraterritorially. In *Healy v. the Beer Institute*, 491 U.S. 324 (1989), the court fashioned a three prong test to determine whether a state law regulates outside the state's borders:

“First, the Commerce Clause...precludes the application of a state statute to commerce that takes place wholly outside of the State’s borders, whether or not the commerce has effects within the state...Second, a statute that directly controls commerce occurring wholly outside the boundaries of a state exceeds the inherent limits of the enacting states authority and is invalid regardless of whether the states extraterritorial reach was intended by the legislature...Third, the practical effect of the statute must be evaluated not only by considering the consequences of the statute itself, but also by considering how the statute may interact with the legitimate regulatory regimes of other states and what effect would arise if not one, but many or every, State adopted similar legislation.”

The proposed regulation mandates that beginning January 1, 2007, a vessel transiting international and U.S. waters to call in California ports must burn fuel oil with sulfur content no greater than 0.5%. In order to achieve this result, vessel owners are going to be required to locate and purchase fuel supplies in foreign countries and/or other states not subject to this regulations. The consequence of this action extends the reach of the proposed regulation beyond the borders of California and in some instances the United States. For instance, the foreign countries or other states where the vessel is calling will now be forced to create markets of ultra light fuel oil in order for a vessel departing their ports to be in compliance at the next port of call in California. Taking this consideration with other countries adopting MARPOL Annex VI and the possibility of other states adopting a less restrictive emission regime, California’s proposed rule creates an undue burden on international shipping. (ISCCA)

Response: We disagree. Courts have typically found state laws to have an impermissible extraterritorial effect only when a state’s economic regulations would be projected onto commerce wholly occurring in other states. (See *Brown-Forman Distillers Corp. v. New York State Liquor Authority* (1986) 476 U.S. 580) [held as having an impermissible extraterritorial effect a New York statute that would force liquor distillers, once they post prices in New York, not to change prices anywhere else in the country]; see also *Healy*, 491 U.S. 336 [Connecticut price affirmation statute violates the Interstate Commerce Clause because it has the practical effect of controlling prices in other states.] A further example of when a court will find an impermissible extraterritorial effect is in *National Solid Waste Management Association (NSWMA) v. Meyer* (1995, 7th Cir.) 63 F.3d 652, 656. There, a Wisconsin statute conditioned the right of out-of-state generators of waste to use Wisconsin landfills on the generators’ home communities adopting and enforcing Wisconsin recycling standards. The court found an impermissible extraterritorial effect because the Wisconsin statute would have required another state, or at least a community within that state, to adopt Wisconsin’s standards and require all generators in the out-of-state community to effectively “adhere to Wisconsin’s standards whether or not they dump their waste in Wisconsin.” (emphasis added). (*NSWMA*, 63 F.3d, at 657.) As explained below, the recently adopted regulations will impose no requirement or condition on the conduct of commerce occurring wholly outside California’s borders.

As set forth in subsection (b), Applicability, the regulations apply to vessel auxiliary engines operating with the Regulated California Waters, a zone of water about 24 nautical miles wide off California's coast. We discuss the basis for ARB's proper assertion of jurisdiction in the Regulated California Waters in our responses to comments in Sections N.8 and N.9. While auxiliary engines on out-of-state vessels that visit California ports are subject to the regulations, auxiliary engines on vessels that never enter Regulated California Waters will not be subject in any way to the regulations. Similarly, engines on vessels that enter Regulated California Waters but continue on their voyage without stopping at a California port are not subject in any way to the regulations. Facilities located outside the Regulated California Waters will also not be subject to the regulations. (See also Response to Comments N.9.b.-k.)

In addition to not affecting auxiliary ship engines that operate wholly outside Regulated California Waters, the regulations impose no direct requirement or condition on commercial transactions that occur wholly outside of the State. (See *National Electric Manufacturers Association (NEMA) v. Sorrell* (2nd Cir. 2000) 272 F.3d 104 [Vermont statute requiring labeling of lamps sold in the state did not have an extraterritorial reach because "by its terms, is 'indifferent' to whether lamps sold anywhere else in the United States are labeled or not."]) Although the regulations may influence the sale of low sulfur marine fuels, these effects are indirect and incidental whether they occur in or outside of California. Staff has determined that vessel operators already purchase such fuels around the world for a variety of reasons (see ISOR, at VI-6 through VI-8), and will do so in the future to meet MARPOL Annex VI as well as European Directive 2005/33/EC, which establishes a 0.1 percent sulfur standard for marine fuels used by seagoing vessels at berth in European Union ports starting January 1, 2010. (*Id.*, at VI-8). Because of this, no in-state interests should gain any economic benefit through implementation of the regulations.

The regulations are limited to regulating commercial ships that operate within Regulated California Waters and visit California ports; they do not project the terms of the regulations on businesses in other states. The adoption of California's regulations by other states could not be construed as impermissible "extraterritorial reach" because it is expressly authorized by Congress in federal Clean Air Act section 209(e)(2)(B). In addition, §209(e)(2)(B) eliminates any potential for non-uniform state requirements for ship auxiliary engines by giving California exclusive authority to adopt emission-related regulations for in-use nonroad engines and by allowing other states to adopt only those regulations identical to the California regulations authorized by the U.S. EPA.

Even if the California regulations are characterized as in-use operational requirements not subject to §209(e) preemption, the adoption of California's regulations by other states still cannot be construed as an impermissible "extraterritorial reach." Congress, in authorizing states to impose in-use operational requirements such as fuel sulfur limits for nonroad sources, has presumably already considered this scenario and determined that it would not result in an undue or unacceptable burden on international shipping. (See response to comments in Section N.3 for further discussion of the Clean Air Act).

6. Preemption under Foreign Commerce Clause

- 6.a. **Comment:** To further complicate matters, the majority of commerce moving by “ocean-going vessel” is engaged in international trade. The ARB Oceangoing Vessel Survey pins the percentage of vessels engaged in interstate commerce at no less than 86%. When a state regulation burdens commerce moving internationally the Japan Line test requires that the Courts look to the necessity for the Federal Government to speak with “one voice” in international affairs and any regulations that frustrates that ability to speak with one voice is a violation of the Commerce Clause. The proposed regulation clearly would frustrate the federal government’s interest in speaking with one voice on this matter, through ratification of MARPOL Annex VI, and subsequent creation of a SECA as every state would be given the ability to set its own-in-use requirements more stringent than those already agreed to in international law by the President of the United States and likely agreed to through the advise and consent of the Senate. In addition, if one finds that the ARB legal analysis is correct, the “one voice” principal would be further compromised by the further bifurcation of regulations through the inclusion of local air pollution control and air quality management districts through a rule of concurrent jurisdiction. (PMSA 1)

Response: We disagree. *Japan Line* is distinguishable on the facts. In *Japan Line*, the Court held as unconstitutional California’s attempt to impose an ad valorem property tax on shipping containers that were based, registered, and subjected to property tax in Japan and were used exclusively in foreign commerce. (*Japan Line*, at 434). In that case, the Court held that the California tax on shipping containers, as instrumentalities of foreign commerce, was unconstitutional because such a tax “creates a substantial risk of interstate multiple taxation”¹⁴ and prevents the federal government from “speaking in one voice when regulating commercial relations with foreign governments.” (*Id.*, at 435).

Unlike that case, the instant regulations do not create a substantial risk of multiple interstate requirements. This is because only California among the states can impose standards and requirements on nonroad sources, in the first instance; these include new engine standards and retrofit requirements, provided California obtains authorization from U.S. EPA as provided under CAA section 209(e)(2)(B). There is no substantial risk of multiple requirements for ships between the states because any state that wishes to impose standards and requirements on new engines or retrofitted engines is required, under CAA section 209(e)(2)(B), to adopt regulations identical to California’s or none at all.

¹⁴ In this context, “interstate” refers to the possibility that arises when a container can be taxed for its full value in its foreign domicile nation (traditionally referred to as a “state” under international convention) and then be subjected to multiple taxes in the U.S. if the container travels to different U.S. states.

With regard to the “one voice” doctrine, ARB’s regulations do not run afoul of *Japan Line* for similar reasons. As noted above, Congress established the State-federal collaborative framework under which states can regulate nonroad sources such as ocean-going vessels. For purposes of *Japan Line*, it is irrelevant whether ARB’s regulations are characterized as a retrofit requirement (requiring CAA section 209(e) authorization) or as in-use operational requirements (not requiring such authorization). Such a characterization is irrelevant because Congress has already “spoken” with “one voice” by establishing and authorizing the process by which states could impose new engine standards, retrofit requirements, and in-use operational requirements on nonroad sources under CAA section 209(e). Therefore, ARB’s regulations do not risk running afoul of the “one voice” doctrine precisely because the regulations were promulgated within the framework that Congress established under CAA section 209(e). Notably, the Court of Appeals, 9th Circuit, has already opined that, “while design standards need to be uniform nationwide so that vessels do not confront conflicting requirements in different ports and so that the Coast Guard can promote international consensus on design standards, there is no corresponding dominant national interest in uniformity in the area of coastal environmental regulations...in fact, the local community is more likely competent than the federal government to tailor environmental regulations to the ecological sensitivities of a particular area.” (emphasis added). (*Chevron, U.S.A. v. Hammond*, (9th Cir. 1984) 726 F.2d 483, 492-493)).

- 6.b. **Comment:** CARB’s measure impermissibly burdens interstate commerce. The Commerce Clause of the U.S. Constitution (Article I, Section 8, Clause 3) grants Congress the power to “regulate commerce with foreign Nations, and among the several States.” It has been traditionally understood that Congress’ commerce power has two facets: an affirmative power and a negative power. The affirmative power allows Congress to regulate interstate and foreign commerce. The negative implication is that states do not have the power to regulate interstate commerce because Congress’ power in that arena is exclusive. The negative aspect of the Commerce Clause is commonly referred to as the “dormant Commerce Clause” and it is the primary restriction on the power of the states to enact laws and regulations that would normally be within their legislative powers but that impermissibly burden interstate commerce.

Since the United States Supreme Court first articulated in *Gibbons v. Ogden*, 22 U.S. 1 (1824), the principle of the dormant Commerce Clause, the jurisprudence on the subject has distinguished between those state laws that plainly discriminate against interstate commerce and those state laws, while neutral on their face, impose a burden on interstate commerce. The Supreme Court has struck down facially discriminatory state laws against interstate commercial transactions, even when Congress has not legislated on the subject. The purpose of the Commerce Clause was to create the development of a common market amongst the states and eradicate internal trade barriers. Thus, a state may not enact rules or regulations requiring out-of-state commerce to be conducted according to

the enacting state's terms. Even state laws that do not discriminate against nonresidents may still violate the dormant Commerce Clause. If the state law regulates evenhandedly, but its incidental impact on interstate commerce is excessively burdensome in relation to the benefits the state derives, the regulations may be struck down. The same is true even when the state claims its exercise of police power in promulgating the suspect regulations.

Although the language of the dormant Commerce Clause jurisprudence most often concerns interstate commerce, recent Supreme Court pronouncements have explicitly applied the doctrine to international commerce. In those cases, the Supreme Court recognized that, with respect to foreign trade and relations, "the people of the United States act through a single government with unified and adequate national power." *Japan Line, Ltd. v. County of Los Angeles*, 441 U.S. 434 (1979). Consequently, there is a pressing need for uniformity in the realm of foreign trade; the government must be able to "speak with one voice when regulating commercial relations with foreign governments." *Barclays Bank vs. Franchise Tax Board*, 512 U.S. 298 (1994). (ISCCA)

Response: See Response to Comment N.6.a.

6.c. **Comment:** CARB's proposed rule runs afoul of the dormant foreign commerce clause. The proposed regulation specifically states: "this section applies to any person who owns, operates, charters, rents, or leases an ocean-going vessel, *including foreign-flagged vessels...*" Under the General Maritime Laws of the United States, foreign-flagged vessels have the nationality of the state that registered it and authorized to fly the state's flag. As such, foreign-flagged vessels are looked upon as a floating part of the territory of the flag state. Of the vast majority, if not all, of the port calls in California by foreign-flagged vessels, those vessels will call in other states and foreign countries prior to a subsequent call to California. These foreign flagged vessels are the backbone of international commerce protected by the doctrine of the dormant Foreign Commerce Clause.

The United States Supreme Court recognized the vital importance of international commerce to this country in *Barclays Bank PLC, v. Franchise Tax Board*, 512 U.S. 298 (1994) holding:

"In the unique context of foreign commerce, a State's power is further constrained because of the special need for federal uniformity. (Cites omitted) In international relations and with respect to foreign intercourse and trade the people of the United States act through a single government with unified and adequate national power. (Cites omitted) A tax affecting foreign commerce therefore raises two concerns in addition to the four delineated in Complete Auto. The first is prompted by the enhanced risk of multiple taxation. (Cites omitted) The second relates to the Federal Government's capacity to speak with

one voice when regulating commercial relations with foreign governments (Cites omitted).”

The international shipping community, through the IMO, has called upon all foreign-flagged vessels to reduce diesel emissions equivalent to those associated with low sulfur fuels. In addition, the regulation provides for an allowance mandating the reduction of sulfur content to a level of 1.5% or less. In the near future, diesel emissions are required to be lowered further to levels being proposed by the regulations. The community of nations that enjoy membership in the IMO, an agency of the United Nations, have ratified MARPOL Annex VI and the international shipping industry is coming into compliance with these standards. The Annex is presently pending in the Senate with a recommendation from President Bush that it be ratified as the law of the United States. California’s proposed regulation subverts this international treaty and sends the wrong message to the world community, especially in light of the above Supreme Court holding and the Proclamation of the President to ratify MARPOL Annex VI. (ISCCA)

Response: We disagree. As discussed in Response to Comment N.1.g., the emission reductions to be achieved under MARPOL Annex VI are woefully inadequate to protect California citizens from the harmful effects of toxic diesel PM, NO_x, and SO_x emissions released from ocean-going vessels near California’s coast. And we are mystified by the commenter’s contention that, “in the near future, diesel emissions are required [under MARPOL Annex VI] to be lowered further to levels being proposed by the [ARB] regulations.” We are aware of no provisions in Annex VI that would achieve this; by its terms, Annex VI at most reduces sulfur levels down to 1.5 percent in areas with an approved SECA (to date, only one SECA has been approved). We are aware of some discussions indicating that IMO may consider revisiting Annex VI to further reduce emissions, but such preliminary discussions have not been formally announced. And there is no certainty such negotiations will lead to fuel sulfur levels anywhere close to those levels to be achieved under ARB’s regulations. Finally, as the commenter noted, the implementing legislation for Annex VI is under development and, based on draft versions of the legislation, there are no indications to date that ARB’s regulations will conflict with Annex VI as it will be implemented by the U.S.

Barclays is inapposite, as that case dealt with national uniformity in the area of international banking commerce. With regard to national uniformity, the courts have held that “there is no corresponding dominant national interest in uniformity in the area of coastal environmental regulations...in fact, the local community is more likely competent than the federal government to tailor environmental regulations to the ecological sensitivities of a particular area.” (*Hammond*, supra).

For these reasons, we believe the regulations do not conflict with international law and that it is appropriate to promulgate the regulations at this time. See also Response to Comment N.6.a. for further discussion of the Foreign Commerce Clause.

7. Authority to regulate foreign-flagged vessels

- 7.a. **Comment:** This law conflicts with the Clean Air Act in applying the regulation to foreign vessels. We found no site within Appendix B of the staff report, or in the Clean Air Act, that allows the regulation to be applicable to foreign vessels. (INTERTANKO 2)

Response: We disagree. As discussed in the staff’s legal analysis (ISOR, Appendix B), the State’s authority to regulate foreign vessels that visit California ports derives from its general police powers and from specific statutory authority under the Health and Safety Code (H&SC sections 39600, 39650 et seq., 43013 and 43018). The State’s authority also stems from long-standing international law principles that permit coastal nations to impose port entry conditions on visiting ships. (*Benz v. Compania Naviera Hidalgo, S.A.*, (1957) 353 U.S. 138, 142) (“It is beyond question that a ship voluntarily entering the territorial limits of another country subjects itself to the laws and jurisdiction of that country”).

The U.S. Supreme Court recently observed that general statutes enacted by Congress may not apply to foreign-flagged vessels if the statutes affect matters that involve only the “internal order and discipline” of the vessel, unless there is an express indication by Congress that the statutes apply to such vessels (i.e., the so-called “clear statement” rule). (*Spector v. Norwegian Cruise Line, Ltd.*, (2005) 125 S.Ct. 2169). However, the Court found that it is reasonable to presume that Congress intends that its statutes apply to entities in U.S. territories insofar as they affect domestic concerns. (*Id.*, at 2177). In *Spector*, Congress held that the Americans with Disabilities Act of 1990 (ADA) (42 U.S.C. §12111 et seq.) applies to foreign flagged vessels to the extent the vessels affect domestic concerns, even though there was no clear statement that the ADA applies to foreign-flagged vessels.

Here, ARB’s regulations were promulgated pursuant to section 209(e) of the Clean Air Act, so the relevant issue is whether this provision of the Clean Air Act applies to foreign-flagged vessels, given that the statute contains no clear statement to that effect. (CAA section 209(e); vessels are considered “nonroad” sources for purposes of the CAA). The initial inquiry is whether the regulations affect only “internal order and discipline” within a foreign flagged vessel. As discussed in the Staff Report, ARB does not believe the regulations affect only the internal order and discipline of a vessel because the regulations control a vessel’s external emissions and it does not tell ship operators how to design, operate or equip their vessels or how to discipline their crews. (ISOR, at B-17, 18). And because the regulations involve controlling a ship activity that affects domestic concerns (i.e., the protection of a State’s citizens from harmful air pollution from vessels), it can be presumed under *Spector* that Congress intended the Clean Air Act to apply to foreign flagged vessels, as well as domestic vessels.

Indeed, because most of the vessels visiting California ports are foreign-flagged and they represent the vast majority of the resulting emissions, the State’s domestic concerns in protecting its citizens are arguably even stronger than the nation’s interests

that were upheld in *Spector*. This is because ARB's regulations seek to prevent premature death and other permanent physical injuries to the State's citizens, whereas *Spector* dealt solely with whether foreign cruise vessels had to reasonably accommodate physically handicapped passengers with reasonable design changes and ship equipment (e.g., ramps, lowered door thresholds).

- 7.b. **Comment:** The proposed regulations are applicable to foreign-flagged vessels. The federal authority for issuing this rulemaking comes from the Clean Air Act (CAA). When the EPA issued its regulations setting emission standards for marine diesel engines under the authority of the CAA, they were only applicable to U.S.-flagged vessels. We believe this is because they may not have the authority under the CAA to regulate foreign-flagged vessels. This issue should be resolved with the Legal Office of the U.S. EPA before proceeding with this rulemaking. (INTERTANKO 1)

Response: We disagree. The commenter is incorrect in that U.S. EPA never stated in its ship engine rulemaking that it believes it has no authority over foreign-flagged vessels. On the contrary, U.S. EPA stated that it was not regulating foreign-flagged vessels at the time because it preferred such vessels to be regulated under international treaty. The U.S. EPA has since declared its intention to consider further lowering the emission limits in its ocean-going ship regulations (40 CFR 89) and consider the feasibility of regulating foreign-flagged vessels. (See Response to Comment N.5.c.). Such statements hardly support the commenter's suggestion that U.S. EPA may believe it does not have authority to regulate foreign-flagged vessels under the CAA.

8. Authority to regulate out to 3 miles

Comment: The 24 nautical mile boundary extends beyond CARB's authority. CARB lacks authority beyond the Baseline. (MATSON)

Response: We disagree. The commenter's contention that ARB lacks authority to regulate beyond the baseline is not shared by most commenters. The regulations apply up to 24 nautical miles seaward of the California baseline. "Baseline" is defined as the mean lower low water line. (ISOR, App. A, at A-2). Thus, the commenter seems to be suggesting that California cannot regulate beyond its shoreline. While most other commenters contend that California cannot regulate beyond the traditional 3 nautical mile boundary, this commenter seems to be suggesting that the State cannot even regulate up to 3 miles, which other commenters have not suggested. (See response to comments in Section N.9 for further discussion of ARB's authority to regulate beyond 3 miles). As discussed below, we believe that ARB has authority to regulate ship emissions at least out to 24 nautical miles.

9. Authority to regulate beyond 3 miles

- 9.a. **Comment:** CARB does not have the legal jurisdiction and authority to implement the rule. Legal experts have questioned the agency's authority beyond the three mile state waters boundary, and 24 miles is clearly outside the jurisdiction of CARB. Other legal questions are presented by CARB's regulation of foreign-flagged vessels and tank vessels. CARB should revise the rule to pertain only to areas within the state's jurisdictional boundaries. (WSPA 1).

Response: We disagree. See responses to comments in Section N.9 for the discussion on ARB's authority to regulate beyond 3 miles. See also responses to comments in Section N.7 for the discussion on ARB's authority to regulate foreign-flagged vessels.

With regard to regulation of tank vessels, this issue is governed by the Ports and Waterways Safety Act of 1972 (as amended in 1978) and *U.S. v. Locke*, 529 U.S. 89 (2000), and related cases. The ARB believes its regulations are designed such that they are neither expressly nor impliedly preempted by *Locke* or applicable U.S. Coast Guard regulations. See response to comments in Section N.2 for further discussion.

- 9.b. **Comment:** We believe there is no authority to extend the regulations out to 24 miles. We see nothing in Appendix B of the staff report that refers to either national or international regulations that gives California the authority to extend this beyond their immediate territorial waters. (INTERTANKO 2)

Response: We disagree. The Staff Report clearly discusses the basis for ARB's belief that well-established international law principles and domestic case law provide authority for applying the regulations out to 24 nautical miles (nm) and beyond. The primary basis for ARB's authority to regulate out to 24 nm first of these bases is the well-established principle that nations can impose port entry conditions onto ships voluntarily entering its territorial waters and ports. (*Benz, supra*; *Spector, supra*). This principle applies to states like California that are acting under a State-federal collaborative framework such as that established by Congress in Clean Air Act section 209(e). As discussed in the Staff Report, ship emissions released within the California Coastal Waters (a zone ranging from 25 to 102 standard miles offshore) are likely to be transported to the coastal communities and further inland, where such emissions have an adverse impact on local community health. Because of this, the State is well within its rights under international law to impose port entry conditions on those ships that travel through the California Coastal Waters to the State's ports.

The State also has authority to apply the regulations out to 24 nautical miles based on a line of cases in which courts upheld other states' regulations of activities beyond their territories or at distances seaward of 3 miles from a state's coast because the activities being regulated had a sufficient nexus to the state. (see *Jacobson v. Maryland Racing*

Commission, (1971) 261 Md. 180 [court held that a nonresident had become a “racing citizen” of that state such that he could be punished for sale of a horse in violation of a Maryland claim-racing law although the sale occurred in another state], *Alaska v. Bundrant*, (1976) 546 P.2d 530 [Alaska regulation of nonresident crabbing on the high seas upheld as not violative of Alaska law; court found sufficient nexus with the state because of the nonresident’s contacts with the state and services supplied], and *State of Alaska v. Sieminski*, (1976) 556 P.2d 929, 933 [state may regulate outside its territorial jurisdiction against persons having a certain minimum relationship or nexus with the state, which nexus “can be satisfied in any number of ways.”]).

The court in both Alaska cases cited the general proposition that acts done outside a jurisdiction which produce detrimental effects inside it justify a state in punishing he who caused the harm as if he had been present at the place of its effect. (*Bundrant*, at 555; *Sieminski*, at 933). The Alaska cases rely in part on *Skiriotes v. Florida*, (1941) 313 U.S. 69, 77, in which the U.S. Supreme Court held that a state may govern the conduct of its citizens upon the high seas with respect to matters in which the state has a legitimate interest and where there is no conflict with acts of Congress. For ARB’s regulations, it is undisputed in the rulemaking record that the State has a legitimate interest in protecting its citizens from the harmful effects of ship air pollution. And, as discussed in our response to comments in Sections N.2 through N.7, ARB believes these regulations do not conflict with acts of Congress.

Other courts have upheld state pilotage regulations beyond 3 nautical miles of a state’s seaward boundary. (*Gillis v. State of Louisiana*, (5th Cir. 2002) 294 F.3d 755, 761 [33 miles], *Wilson v. McNamee*, (1881) 102 U.S. 572, 573-574 [about 50 miles], *The Whistler*, (D.Or. 1982) 13 F. _ 295, 296 [about 30 miles]). And there is a principle derived from the so-called “landing law cases,” where courts have upheld states’ assertions of jurisdiction once a vessel has landed over conduct that occurred beyond the territorial confines of a state, if that regulation facilitates conservation of a state resource. (*Sieminski*, at 931).

All these cases and principles apply to ARB’s regulations, which establish the requisite nexus by applying only to those ocean-going vessels that operate their auxiliary engines in the Regulated California Waters (generally about 24 nautical miles seaward of California’s coast, which is well within the 27-102 standard miles comprising the California Coastal Waters) and actually stop or anchor at a California port. (see Response to Comment N.5.e.). At the very least, vessel operators that visit California ports and make use of port services could be held to be “shipping citizens” of the state for purposes of regulating certain aspects of their conduct beyond the traditional territorial limits of the state. (ISOR, at B-21 and FN 67). Ships owned by on-shore facilities, as well as those owned by companies making more than occasional visits, would also appear to have the requisite nexus with the State. (*Id.*, at B-21).

- 9.c. **Comment:** The assertion that CARB has authority beyond the three nautical mile limit is problematical. Reliance by the CARB on the *Chevron USA, Inc. v. Hammond* decision for its asserted authority to regulate air

emissions by vessels beyond the three-mile state boundary is misplaced. The dispute in Hammond was over an Alaska statute regulating ballast water discharge in Alaska state waters. The Hammond court specifically concluded that “Congress did not intend to preclude all state regulations of the discharge of pollutants from tankers within three miles of shore.” The dispute in Hammond did not involve any attempt by the State of Alaska to regulate conduct outside the boundaries of the state and there is nothing in the decision that addresses the extra-territorial authority of the state. (HK)

Response: We disagree. The commenter’s reliance on *Hammond* to dispute ARB’s assertion of jurisdiction beyond 3 miles is misplaced. As noted in the Staff Report, we briefly discussed *Hammond* in the ISOR only to provide a proper background on and context within which our prior two legal opinions dealing with ARB’s legal authority were based. [ISOR App. B at 3-4]. In fact, we explicitly noted that, since *Hammond* was decided, significant statutory and case law developments had occurred, which mandated a revisit and update of our prior legal opinions. (ISOR, at B-3, 4).

Contrary to the commenter’s contention, the basis for our assertion of jurisdiction beyond three miles in these regulations is derived primarily from a coastal nation’s right to impose port entry conditions and case law dealing with extraterritorial jurisdiction when there is a sufficient nexus between the activity being regulated and the state. (see Response to Comment N.9.b. above). Under CAA section 209(e), California is effectively acting for the nation as intended by Congress when it regulates non-road sources such as marine vessels. Therefore, ARB believes it has authority to regulate emissions from marine vessels beyond three nautical miles.

- 9.d. **Comment:** CARB misreads the court’s decision in United States v. Locke. CARB reads the Locke decision as creating an exception to field preemption by the federal government in situations where the peculiarities of the local waters call for special precautionary measures. The CARB uses this narrow exception to justify its regulation because, it asserts, air emissions from vessels out to 24 miles offshore are likely to adversely affect shore-side communities. However, the Supreme Court in *Locke* specifically ruled that local rules not preempted by federal law are those that pose a minimal risk of innocent noncompliance, that do not effect [sic] vessel operations outside the jurisdiction, that do not require adjustment of systemic aspects of the vessel, and that do not impose a substantial burden on the vessel’s operation within the jurisdiction itself. Since the proposed regulations would apply outside of California waters, it cannot rely on the Locke decision for its efficacy. (HK)

Response: We disagree. The ARB does not believe the regulations run afoul of *Locke* because ARB is properly asserting regulatory jurisdiction out to 24 nm as discussed above in Response to Comments N.9.b.-c. In addition, the regulations pose a minimal risk of innocent noncompliance because the regulatory requirements are

uniform in all areas that fall within the definition of “Regulated California Waters” (i.e., the regulations do not specify multiple sets of requirements applicable to specific areas of the State). In addition, the regulations address reasonably unforeseeable situations (e.g., the operator discovers the fuel purchased at the last port prior to reaching California does not meet the regulatory requirements) with a provision whereby the operator can pay a temporary noncompliance fee instead of being subjected to steep civil and criminal penalties as otherwise provided under State law. (ISOR, at V-7, IX-1 and 2, and A-11 through 14; see also H&SC 42400 et seq. for civil and criminal penalties).

The regulations do not affect vessel operations outside the state’s jurisdiction because the regulations do not apply beyond the 24 nm zone designated as Regulated California Waters. (ISOR, at A-1). Further, the regulations do not require an adjustment of systemic aspects of the vessel. This is because the operator only needs to comply within the Regulated California Waters; the operator can choose to go switch back to the original operating mode once outside the Regulated California Waters. We anticipate the vast majority of ship operators will choose to comply by using low sulfur distillate fuels, which require no major modifications or adjustments for most vessels since existing engines designed for use with heavier bunker fuels are also designed to use the lighter distillate fuels. (*Id.*, at VI-13).

Moreover, the regulations do not impose a substantial burden on the vessel’s operation within the jurisdiction itself. As noted above, the regulations present one uniform set of requirements applicable along the State’s entire coastline up to 24 nm out, so the operator is not charged with learning the requirements of multiple jurisdictions within the State. In addition, the regulations permit the operator to comply with the recordkeeping requirements using the same records the operator already uses to comply with other U.S. or international requirements, to the extent such existing recordkeeping provides the information required under ARB’s regulations. (*Id.*, at V-7 and A-7). This provision was included specifically to “piggyback” on similar recordkeeping requirements already specified under MARPOL Annex VI, UNCLOS 1982, SOLAS, other treaties, and U.S. Coast Guard regulations.

- 9.e. **Comment:** The argument that the ARB can apply reasonable conditions on port entry provided there is a sufficient link between California and the activity at issue is strained. Emissions from one part of the world impact other parts of the world. This does not allow an impacted country (or one state of the United States) the right to regulate emissions from another country which is the source of the emissions (e.g. ozone-depleting substances in China). CARB has not made the assertion that it has the right to regulate emissions from commercial aircraft engines just because those aircraft land at California airports. (HK)

Response: The commenter raises an obvious “straw man” argument to set up a false premise based on an extreme hypothetical. These regulations do not attempt in any way to regulate ship emissions from across the world, much less hundreds of miles

away. On the contrary, the regulations seek to reduce ship emissions that are released relatively close to California's shore (about 24 nautical miles) by imposing reasonable port entry conditions on those vessels traveling within that zone and proceeding to visit California ports.

As discussed in the Staff Report, ARB has used the best available meteorological, atmospheric, and weather studies and computer modeling to establish a clear connection between the 24 mile zone offshore that is being regulated and the impacts that emissions released within this zone have on shore-side communities and further inland. (ISOR, at IV-7 through IV-15). This is not a strained connection as suggested by the commenter, but rather one that is supported by scientifically sound data and legal precedents and statutes.

Even more absurd is the commenter's implication that, if California can assert jurisdiction over ships, then logically it should also be able to regulate commercial aircraft, just because they land at California airports. This is ridiculous because the Clean Air Act expressly preempts states from regulating aircraft and aircraft engines. (CAA section 233). Therefore, we have not even remotely suggested that California can regulate all activities that occur outside the state that affect the state's interests, like commercial aircraft engine emissions. The commenter's implication notwithstanding, we know that we cannot regulate aircraft under the Clean Air Act. By the same token, we are properly regulating ships under our statutory authority, established domestic and international law, and the Clean Air Act, which clearly allows California to regulate ships as nonroad sources under section 209(e).

- 9.f. **Comment:** We believe there is no national or international authority that would allow California to impose the proposed rules to 24 nautical miles, which is beyond its territorial waters. (INTERTANKO 1)

Response: See Response to Comments N.9a.-e.

- 9.g. **Comment:** From a technical and operational perspective, the proposed 24 mile limit would not be a real problem for tankers even though the fuel changeover is required before entering this area. However, we question the legal aspects of this proposal from a Coastal State, member of a Nation which is signatory to the IMO international conventions. (INTERTANKO 1)

Response: See Response to Comments N.4.a.-f.

- 9.h. **Comment:** ARB lacks the authority to regulate foreign and U.S.-flagged vessels in territorial and international waters beyond the California three mile limit without specific Congressional consent. The authority to regulate beyond the three mile limit is restricted to the federal government. The ARB relies in part on *Chevron USA v. Hammond* in asserting its authority to U.S. territorial seas and the high seas, yet the record should

reflect that the 9th Circuit ruling in *Hammond* itself offered a conclusion exactly opposite at Footnote 12, which reads:

“Of course, as to environmental regulations of deep ocean waters, the federal interest in uniformity is paramount. Such regulations in most cases needs to be exclusive because the only hope of achieving protection of the environment beyond our nation’s jurisdiction is through international cooperation. These considerations do not, however, apply to the waters of the territorial seas which lie within three miles of shore and which can be subject to both federal and state enforcement. The distinguishing factors here are analogous to those considered in the first Supreme Court opinion on preemption: Now the power to regulate commerce embraces a vast field, containing not only many, but exceedingly various subjects, quite unlike in their nature; some imperatively demanding a single uniform rule, operating equally on the commerce of the United States in every port; and some, like the subject now in question, as imperatively demanding that diversity, which alone can meet the local necessities of navigation.” *Cooley v. Board of Wardens*, 53 U.S. (12 How.) 299, 13 L.Ed. 996 (1851), quoted in *City of Burbank v. Lockheed Air Terminal, Inc.*, 411 U.S. 624 at 625, 93 S. Ct. at 1855 (1973).

Given federal statutory preemption under the Clean Air Act and the subsequent *Locke* ruling handed down by the Supreme Court after the decision in *Hammond* the question of the Board’s legal authority has been well settled both within California territorial waters and in California’s extra-territorial waters. (PMSA 1)

Response: We disagree. *Hammond* is not dispositive on the issue of how far seaward California can regulate air emissions from ships. In citing *Hammond*, the commenter leaves out the crucial fact that it was decided in 1984, a full six years before Congress enacted the 1990 amendments to the Clean Air Act. With the 1990 CAA amendments, Congress provided for California to be the only body in the nation with the authority to regulate in-use operations of nonroad sources in the first instance. (CAA section 209(e)(2)(B); see also response to comments in Section N.2 and N.3). Because ocean-going ships fall within the definition of nonroad sources, California is clearly authorized to regulate the in-use operation of ships to the extent such regulations control air pollution from the ships. Therefore, under the State-federal collaborative framework established by Congress under section 209(e), California can regulate vessels at least to the extent that U.S. EPA can. The U.S. EPA’s jurisdiction clearly extends to the application of environmental and other “sanitary” laws within, at a minimum, the 24 nm Contiguous Zone as provided under Presidential Proclamation No. 7219 of August 2, 1999. (see 64 FR 48701 (September 8, 1999); see also ISOR, at B-16 and FN 52; and 40 CFR 55.3 [U.S. EPA has authority to regulate air emissions from OCS sources to the full extent of the OCS, which extends up to 200 nm off U.S. shores]).

- 9.i. **Comment:** The U.S. EPA itself does not believe that it has the authority to regulate extra-territorial fuel requirements. When considering the adoption of fuel standards for maritime residual fuel or distillates as part of

the rulemaking process for 40 CFR part 94 in May 29, 2002, the US EPA concluded that:

“Historically, we have regulated in-use fuels by establishing minimum specifications that apply to those who sell the fuel. This approach may not be effective for this sector because ship owners could choose to purchase their fuel outside the U.S.... We are not proposing fuel-based regulations in this rule because regulating fuel sold in the U.S. would not necessarily ensure that distillate fuel was used in U.S. waters. The Clean Air Act limits us to setting requirements on fuel entered into commerce in the U.S. If we can regulate only the fuel sold in the U.S., then a fuel sulfur standard would be unlikely to have a significant impact on emissions because ships may choose to bunker before entering or after leaving the U.S. However, Regulation 14 of MARPOL Annex VI allows areas in need of SOx emission reductions to petition to be designated as SOx Emission Control Areas (SECA).” (FR Vol. 67, No. 103 at page 37574).

If even U.S. EPA does not believe that the Clean Air Act confers authority for the federal government to set requirements on fuel acquired in foreign countries, then it defies logic that the ARB can claim authority consistent with the Act to do the same. US EPA’s position is consistent with the approach proposed by the European Union that fuel requirements for auxiliary engines be imposed when a vessel is tied up at berth (Directive 2005/33/EC). In addition to Annex VI SECAs, some of which are already established, the EU proposal would address the main concern of public health impacts from these sources on the local communities resulting from emissions while vessels are in closest proximity to those receptors without creating unreasonable fuel requirements. (PMSA 1)

Response: The U.S. EPA is not regulating the fuel used on vessels for legal and practical reasons. As noted previously, U.S. EPA lacks authority to regulate the use of fuel in existing (“in-use”) vessels under CAA section 213. Lacking the authority to regulate the use of fuels in existing vessels that come to the U.S., EPA chose for practical reasons not to regulate the fuels introduced into commerce in the U.S. that can be used by vessels here. As stated in the quoted passage, EPA chose not to regulate such fuels simply because it believes ships can purchase non-compliant fuels before coming to the U.S., thereby nullifying the benefits of such a regulation. However, such concerns do not apply to ARB’s regulations. This is because California does have authority to regulate in-use vessels and the fuels they use when they come to California. (see comments in Sections N.2 and N.3). Therefore, it does not follow that California should take a course of action similar to that taken by U.S. EPA.

- 9.j. **Comment:** CARB’s proposed air toxic control measure impermissibly attempts to regulate beyond state territorial waters. All relevant federal statutes, state laws and court precedents clearly delineate that states’ possessory interests over territorial waters extend three miles from the coastline. The United States Supreme Court, in the case of *United States v. California*, 332 U.S. 19 (1947), enunciated the general rule that the federal government has paramount rights over “those submerged lands

and overlying waters located within three miles off the coast.” Responding to the states outcry for additional power over adjacent water resources, Congress enacted the Submerged Lands Act providing, the “seaward boundary of each original coastal state is hereby approved and confirmed as a line three geographical miles distant from its coastline.” See, 43 U.S. C. Section 1301 *et seq.* Subsequently, Congress enacted the Outer Continental Shelf Lands Act and explicitly retained under federal jurisdiction “those submerged lands located seaward and outside of those submerged lands that had been granted to the states.” See, 43 U.S. C. Section 1331 *et seq.*

The State of California Assembly has defined Coastal waters to mean “waters within the area bounded by the mean high tide line to the three mile state water limit, from the Oregon to the Mexican borders.” See, California Water Code Section 13181(a)(2). In fact, other California regulatory measures enacted by the Assembly and relating to ocean going vessels have adopted the three-mile limit. See, California Health and Safety Code Section 39632.

Consistent with legislative branches drafting clear statutory authority outlining states’ territorial boundaries, Courts have been clearly reluctant to allow states to exercise their jurisdiction beyond those territorial boundaries. In *Bigelow v. Virginia*, 421 U.S. 809 (1977) the Supreme Court held that Virginia had no authority to regulate activities outside its territorial boundaries under the guise of police power just because the health of its citizens may be harmed by traveling out of state. In another Supreme Court precedent relevant to the issue, the Court stated in *Huntington v. Attrill*, 146 U.S. 657 (1892) that “Laws have no force of themselves beyond the jurisdiction of the state that enacts them, and can only have extraterritorial effect only by comity of other states.” In a case dealing with states’ rights over territorial water, the United States Supreme Court affirmed in *United States of America v. State of Alaska*, 521 U.S. 1 (1997) that a state’s rights extend only three miles seaward from the coastline. Further, in a District Court case in Los Angeles California, the court invalidated measures taken by the State of California and County of Santa Barbara regulating air emissions from offshore platforms located more than 3 miles from the California shoreline. See, *California v. Exxon Corp.*, No. 78-2849 RMT (Gx) (C.D. Cal. 1978). (ISCCA)

Response: We disagree. *California* is not dispositive on the issue of whether states can regulate under their traditional police powers activities occurring beyond 3 nautical miles from their shores that affect state interests. In *California*, the conflict between the United States and California involved only claims to oil, gas, and other mineral rights underlying land beneath the ocean off California’s coast. In other words, the Court dealt solely with the declaration of possessory and ownership rights of oil and other resources of the soil and subsoil within the three-mile zone off California’s coast. Unlike that case,

ARB's regulations do not deal with possessory or ownership rights of oil, gas, mineral, or other subsea natural resources. The ARB makes no claim on any natural resources underlying the soil in the 24 mile zone subject to the regulations. Instead, ARB's regulations are intended solely to control air emissions from ships that visit California ports. As discussed in response to comments in Sections N.2 and N.3, these regulations are authorized under State law and, as in-use operational requirements, are not preempted under CAA section 209(e).

The fact that the Legislature defined "coastal waters" in Water Code section 13181 to the traditional three-mile state waters limit is not dispositive. By its terms, WC § 13181 states that "coastal waters" is defined "for the purposes of this section...." (WC § 13181(a)). Further, the purpose of WC § 13181 is, *inter alia*, to direct the State Water Resources Control Board to "prepare and complete...an inventory of existing water quality monitoring activities within state coastal watersheds, bays, estuaries, and coastal waters." (*Id.*, at (b)(1)). There is nothing in WC § 13181 to indicate the California Legislature defined "coastal waters" in this manner as an acknowledgment that the State has no authority to regulate under all circumstances and for all purposes beyond three miles. It is entirely conceivable that the Legislature defined "coastal waters" for the purposes of WC § 13181 because it saw no reason to require the inventory to go beyond three miles (e.g., perhaps only water pollutants released or found within three miles off the coastline are of concern).

Health and Safety Code 39632 is similarly not dispositive. When it enacted H&SC 39632, the California Legislature was concerned primarily with incineration being conducted aboard cruise ships which ply the California coast. The nature of on-board incineration is such that the resulting particulates and gases, while they can be very toxic when inhaled, tend to adversely affect local communities most when the incineration occurs within three nautical miles of the coast.¹⁵ On the other hand, diesel PM, NOx, and SOx can adversely affect California communities when such air pollutants are released farther out to sea. (ISOR, at VII-2 through VII-8). Thus, the fact that the California Legislature specified three nautical miles in H&SC 39632 for an incineration control measure has no bearing on whether California can regulate diesel PM, NOx, and SOx emissions released by very large engines on ocean-going vessels farther out at sea.

The commenter misstates the rule from *Bigelow*. Stated correctly, the rule from *Bigelow* is:

"[a] State does not acquire power or supervision over another State's internal affairs merely because its own citizens welfare and health may be affected when

¹⁵ See Air Resources Board, "Staff Report: Initial Statement Of Reasons For The Proposed Airborne Toxic Control Measure For Cruise Ship Onboard Incineration," September 30, 2005, p. VI-5 ("ARB staff considered extending, beyond three nautical miles, the zone in which onboard incineration is prohibited. However, the risk assessment results conducted by ARB staff do not warrant this action.").

they travel to the other State, and while a State may seek to disseminate information so as to enable its citizens to make better informed decisions when they leave, it may not, under the guise of exercising internal police powers, bar a citizen of another State from disseminating information about an activity that is legal in that State....” (*Bigelow*, at 810).

In *Bigelow*, the State of Virginia made it a crime to publish advertisements in Virginia newspapers for abortions, including abortions to be performed in other states. Virginia then convicted under this statute a newspaper editor who published such an advertisement for a New York abortion clinic in a Virginia newspaper. The *Bigelow* Court overturned the conviction and held that the Virginia statute was unconstitutional under the First Amendment.

Bigelow is clearly distinguishable for several reasons. First, ARB’s regulations seek to control unprotected conduct (i.e., emissions of harmful toxic air pollutants) rather than protected speech, so First Amendment protections do not apply to the regulated vessels. Also, the Court held that Virginia’s police powers do not reach beyond its borders precisely because it was attempting to regulate speech concerning activities occurring beyond its borders. (*Id.*, at 827-828). Here, California’s police powers are not limited as such to its borders, because ARB is not regulating information or other forms of speech occurring beyond the State’s borders.

Huntington is similarly inapposite. The “rule” that the commenter implies is from *Huntington* is not the actual rule, but rather is part of that Court’s discussion of international comity principles in place at that time with regard to enforcement of penal laws between nations. (*Huntington*, at 669). In that discussion, the Court was establishing the contrast between international law principles (i.e., countries do not prosecute crimes occurring in other countries without comity) and the Constitution’s Full Faith and Credit Clause (i.e., states within the U.S. are to give full faith and credit to the judgments of other states). Contrary to what the commenter implies, the *Huntington* Court reaffirmed the general rule that a judgment, criminal or civil, in one state is enforceable in another state under the Full Faith and Credit Clause of the Constitution. (*Id.*, at 671).

In *Huntington*, the plaintiff recovered a judgment in a New York court against the defendant for personal liability as a director and stockholder under New York’s corporation laws. (*Id.*, at 657). The plaintiff then filed suit in a Maryland court to set aside an alleged fraudulent transfer of property by the defendant, and to charge the same with payment of the New York judgment. (*Ibid*). The Maryland court of appeals decided against the plaintiff’s claim upon the ground that the New York judgment was for a penalty under the New York statute, and therefore could not be enforced in Maryland. (*Ibid*); the Supreme Court reversed the Maryland court’s decision as invalid under the Full Faith and Credit Clause.

Unlike *Huntington*, ARB is not attempting to enforce a judgment from another state. Instead, ARB will be enforcing California regulations against vessels that fail to meet the

requirements and subsequently visit California ports. Conversely, ARB is not invoking the Full Faith and Credit Clause to force another state to enforce the California regulations within that other state's boundaries. Because of this, the Full Faith and Credit Clause is not involved in any way with the ARB regulations.

Moreover, neither *Alaska* nor *Exxon* are dispositive. Like the *California* case, *Alaska* does not control because it deals with the determination of possessory and ownership rights of oil, gas, minerals, and other rights related to coastal submerged lands within 3 nautical miles of Alaska's shores. (*Alaska*, at 1). As noted above, the ARB regulations have nothing to do with such rights, and we believe state and federal law permits California to regulate air emissions from ships beyond 3 nm. The commenter's reliance on *Exxon* is also misplaced since that case involves the simultaneous jurisdictional issues between federal agencies that Congress addressed head-on by enacting the Outer Continental Shelf Lands Act (OCSLA). With OCSLA, Congress expressly authorized only U.S. EPA among the federal agencies to regulate OCS sources of emissions. (see Response to Comment N.9.k. below). Under U.S. EPA's implementing regulation for OCSLA, U.S. EPA has explicitly delegated authority to the local air pollution control districts and air quality management districts in California to regulate OCS sources up to 25 miles offshore. (see 40 CFR 55.14).

- 9.k. **Comment:** CARB's proposed regulation extending 24 nautical miles from shore is invalid as it is beyond the agency's jurisdiction. The proposed regulation states: "Except as provided in subsection (c), this section applies to any person who owns, operates, charters, rents, or leases an ocean-going vessel, including foreign-flagged vessels, within any of the Regulated California Waters, which include all California inland waters: all California estuarine waters, and all waters, except as otherwise specified in this section, within 24 nautical miles."

This section on its face demonstrates the proposed regulation fails as it extends beyond the authority of the State to act. A related issue arose in the matter of *California v. Kleppe*, 604 F. 2d. 1187 (9th Cir. 1979) where the U.S. Environmental Protection Agency asserted jurisdiction over an off-shore platform located on the Outer Continental Shelf, and attempted to assert regulations consistent with the Clean Air Act. Exxon Oil Company asserted the EPA had no jurisdiction over the platform. In reviewing various cross motions, the appellate court reviewed the provisions of the Outer Continental Shelf Lands Act ("OCSLA") and noted that Congress specifically delegated to the Department of the Interior the exclusive authority to promulgate regulations to ensure compliance with the Clean Air Act. The court reviewed the legislative history of the OCSLA amendments and concluded that Congress, in passing this legislation, was attempting to avoid duplication of effort, over-regulation and conflicting standards. *Id.* at 193. The court found that in the absence of statutory language suggesting jurisdiction should be shared, the EPA was without authority to act.

As noted above, there is no expression either by federal statute, state law or case law precedent that remotely suggests the State of California is entitled to regulate air emissions outside its territorial waters. Notwithstanding the lack of jurisdiction to promulgate air emission standards, the attempt to regulate air emissions within waters governed by the federal government also violates various provisions of the U.S. Constitution, as more fully set forth in our comments pertaining to the Commerce Clause and Federal Preemption.

We would urge CARB to refrain from issuing its proposed regulation, as unnecessary and beyond the authority of the state of California. Instead, we urge CARB to embrace and influence the U.S. federal government to ratify MARPOL Annex VI, and proceed to apply for California waters to be declared a Special Emissions Control Area under MARPOL Annex VI. (ISCCA)

Response: We disagree. As discussed in response to comments in Sections N.2 through N.8, we believe ARB has authority under State, federal, and international law to regulate air emissions within the California Coastal Waters zone. *Kleppe* is inapposite on this point, as it dealt primarily with the issue of simultaneous jurisdictions between two different *federal* agencies, not State-federal jurisdictional conflicts. With the 1990 Clean Air Act amendments, Congress addressed this issue directly by granting to U.S. EPA exclusive jurisdiction among federal agencies to regulate air emissions from all OCS sources.¹⁶ (see CAA section 328(a)(1); also 40 CFR 55.1). With those same amendments, Congress also established a collaborative framework in CAA sections 209(e) and 213 under which U.S. EPA and California would have joint authority to regulate nonroad sources, which include marine vessels. And, under section CAA 209(e)(2)(B), California is the only governmental body in the nation with authority to adopt in-use performance standards for marine vessels, in the first instance. (see Response to Comments N.1.g.-h., N.2.a.-i., N.5a.-e., and N.9.a.-j.).

¹⁶ Except OCS sources in the Gulf of Mexico off the State of Florida west of 87.5 degrees longitude. (42 U.S.C. 7627; 40 CFR 55.3).

Summary of Comments (15 day)

IV. SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES – NOTICE OF MODIFIED TEXT

Eleven written comments were received during the 15-day comment period. Six private citizens provided general support for the proposed modified regulations with no suggested changes. Five commenters suggested changes to the proposed modified regulations. These five commenters are provided in Table II below, along a summary of the comment together with the Agency’s response.

**Table II
Comments Received During the 15-day Comment Period
that Received a Response**

Abbreviation	Reference Number	Commenter
ENVIRO	ENVIRO	Teri Shore, Bluewater Network Candice Kim, Coalition for Clean Air Written testimony: June 16, 2006
HAVENICK	HAVENICK	Richard Havenick Private citizen Written testimony: June 19, 2006
INDUSTRY	INDUSTRY	Joseph Cox, Chamber of Shipping of America Thomas Allegretti, American Waterways Operators, et al Industry Coalition Written testimony: June 16, 2006
RAIDER	RAIDER	Philip Raider Private Citizen Written testimony: May 6, 2006
STATE	STATE	Margaret Hayes Unites States Department of State, Bureau of Oceans and International Environmental and Scientific Affairs Written testimony: June 9, 2006

Summary of 15-Day Comments and Responses

A. Regulation Requirements

Comment: CARB should enact the most stringent control possible because industry will never comply unless forced to do so by ordinance. (RAIDER)

Response: The comment does not address the 15-day modifications to the proposal and, as such, is a non-responsive comment. Nevertheless, we believe the regulations, as modified, represent the most stringent control possible after consideration of practical limitations and potential economic impacts to the affected industry. As discussed in the Staff Report (pp. ES-1 and ES-2), the regulations will be followed by additional strategies ARB is pursuing to further reduce vessel emissions (e.g., controls for vessel main engines and frequent visitors). These strategies may include regulations and other strategies as appropriate. We believe that non-regulatory approaches (e.g., market incentives, voluntary agreements) are sometimes appropriate and will employ those techniques when feasible.

B. Fuel Specifications

- Comment:** In addressing the completion of fuel switching, CARB has failed to deal with the underlying issue of what raised the concern in the first place. We understand what is meant regarding the completion of fuel switching. What CARB does not understand is that each and every vessel will have to evaluate what is necessary to accomplish complete switching of fuel given the need to transition from one fuel type to another. Switching for some vessels will require the complete flushing of the holding tank and that process could take several hours and require sophisticated procedures to ensure the process is completed prior to entering "Regulated California Waters." It is because of the need for each vessel to develop appropriate procedures that the clarification of this provision was requested and we continue to believe that adequate time for the international shipping lines to develop procedures may not be possible for some vessels prior to the January 1, 2007 implementation date of the regulations. It is also necessary to allow some flexibility in defining "completion" given the replacement and blending of fuels that will make absolute demonstration of a switch difficult if not impossible for some vessels. (INDUSTRY)

Response: We disagree. The modified regulatory language relating to fuel switching is similar to the language used in International Maritime Organization's (IMO) MARPOL Annex VI, Regulation 14, for Sulfur Emission Control Areas (SECAs). This language is appropriate precisely because, as the commenter notes, each vessel is different in terms of the fuel tanks, piping, fuel processing equipment, and whether fuel transitions

are controlled manually or by automatic equipment. Therefore, exact “one-size-fits-all” time parameters or procedures cannot be specified in the regulations. We believe the Chief Engineer and crew on each ship can determine the length of time necessary to conduct a complete fuel transition, as they do now when traveling in SECAs, and when switching to distillate fuels prior to engine maintenance.

2. **Comment:** CARB is compelled to require the implementation of lower sulfur fuels in ocean-going vessels while at dock and within 24 nautical miles of the Ports of Los Angeles and Long Beach as follows: (a) immediate implementation of 2000 ppm fuel; (b) phased implementation of 1500 ppm fuel within two years; and (c) on-going research and development to require the use of fuels at less than 1500 ppm at year-certain intervals to begin within five years. This program is supported by the following: (1) emissions from propulsion engines on ocean-going vessels represent 50 percent of the total toxic air pollution resulting from port operations as calculated by the Port of Los Angeles in their 2004 Emissions Inventory; (2) Health costs resulting from operations at the Ports of Los Angeles and Long Beach amounted to roughly \$2 billion in 2005 and will amount to roughly \$2.5 billion in 2009 based on calculations shared at the Port of Los Angeles No Net Increase Task Force meetings; (3) The program recently announced by Maersk for the use of lower sulfur fuel at 2000 ppm within 24 nautical miles of the Port of Los Angeles is the most effective action currently available to reduce toxic emissions from Port operations; (4) Implementation by Maersk of the program for the use of low sulfur fuel in ocean-going vessels proves that such an alternative is available now and can be implemented without difficulty with minimal investment; and (5) Fuels with a sulfur content less than 2000 ppm are available for use in ocean-going vessels now. (HAVENICK)

Response: The comment does not address the 15-day modifications to the regulations and, as such, is a non-responsive comment. Nevertheless, the alternative regulations proposed by the commenter are not feasible for many vessels visiting California ports at this time. The 2,000 ppm sulfur fuel mentioned by the commenter is not available at many ports worldwide (see Staff Report, Appendix I). Under the Maersk initiative, 2,000 ppm fuel will be used only as it is available. The ARB staff is aggressively moving to achieve the maximum feasible reduction from ocean-going vessels. As discussed in the Staff Report (pp. ES-1 and ES-2), the ship auxiliary engine regulations will be followed by additional strategies ARB is pursuing to further reduce vessel emissions (e.g. controls for vessel main engines and frequent visitors).

C. Alternative Compliance Plan/Alternative Control of Emissions

1. **Comment:** The acceptance or denial of an ACP Plan should only be based on whether or not the plan meets the requirement of demonstrating that it will meet or exceed the emission reductions that would result from using compliant fuels. The plan will be specific for each vessel and,

potentially, for each auxiliary engine on that vessel. It is difficult to conceive how public comment will contribute to that determination but we are not opposed to public participation so long as the determination is made on the specifics of the plan and does not become a forum for proposing other strategies that may be preferred by others. (INDUSTRY)

Response: Decisions on the acceptance or denial of an ACE plan will be based on whether or not the plan meets the requirements of regulations and ongoing compliance under the plan can be assured. Providing the public with the opportunity to review and comment on the plans may provide ARB staff with additional information or factors that may be relevant to whether the plan meets the regulatory requirements. In addition, an open process will help reassure the public that the plans will achieve the required emission reductions.

2. **Comment:** We are concerned about the extended time frame for the review and decision on pending ACE plans. This is particularly troubling for ocean-going vessel carriers that may make substantial investments to develop the plans, perform the testing to establish the baseline and emission reduction of the plan, purchase equipment, operate, maintain, and report on the performance of the plan, yet, under the modified proposed regulations, will still be subject to noncompliance fees and or violations until the plan is approved. (INDUSTRY)

Response: We modified the proposal to include timelines that are as short as possible while still providing the public with a meaningful opportunity to review and comment on proposed ACE plans. For some review and comment periods, only 15 days are allotted under the modified regulatory text. It is necessary to collect noncompliance fees for vessels that have not completed modifications in time to comply with the regulations in order to generate funds to mitigate the excess emissions from these vessels while they visit California ports. The fees will also ensure that noncompliant vessels do not receive an unfair economic advantage over complying vessels, and will provide an incentive to complete the necessary modifications.

3. **Comment:** We are concerned with the unilateral authority of the Executive Officer to revoke or modify an ACE Plan. While we agree that the Executive Officer should have authority to revoke or modify an approved ACE we also believe that the operator needs to be provided due process to evaluate the order, suggest changes, propose alternative solutions, or appeal the decision. We recommend that Section (g)(3) be modified to require a 30-day period for interested parties to comment on the proposed revocation or modification on an approved ACE. This would also provide consistency in allowing for interested parties to comment on changes to an approved ACE consistent with the process for ACE approval. (INDUSTRY)

Response: It is unnecessary to modify the regulations to include a process for appealing the revocation or modification of an ACE plan. This is because such appeals are already provided for under ARB regulations pertaining to adjudicatory hearing procedures (tit.17, CCR, section 60055.1 et seq.).

4. **Comment:** The timeline required for the development and implementation of ACE Plans does not appear to have appropriately been considered in the emission limit compliance schedule of January 1, 2007. We believe that further analysis concerning the amount of time reasonably needed for transition to alternative emission control strategies under this regulation is essential. We would also recommend that a process be established under which collection of any non-compliance fees or penalties for violations accrued during the ACE application process be held in abeyance until the final decision is made. At the very least, CARB should provide that any non-compliance fees and/or penalties incurred while there is a pending ACE Plan be allowed to be offset by the cost of developing and implementing the ACE Plan. This is especially true of companies that are already implementing or committed to strategies. As an example, companies that are already cold-ironing, or have committed to cold-ironing should not be penalized for the delays inherent in this administrative process. We believe that ACE plans should be encouraged as the best way to move technology and emission reduction strategies forward. Imposing interim fees or penalties will only provide disincentives for the development of innovations that will benefit California. (INDUSTRY)

Response: As noted in Response to Comment C.2 above, the timelines provided in the ACE are the shortest possible to allow for reasonable review and comment periods. Vessel owners that choose to comply under an ACE plan, but will not be ready by the January 1, 2007 compliance date, can comply through the use of the cleaner distillate fuels specified in the regulations. If they cannot comply through the use of these fuels without modifications, they can comply by paying noncompliance fees. These fees will be used to mitigate the excess emissions from these vessels while they visit California ports. The fees will also ensure that noncompliant vessels do not receive an unfair economic advantage over complying vessels, and will provide an incentive to complete the necessary modifications. For these reasons, we do not believe it is appropriate to reduce the fees, hold them in abeyance, use them to offset the costs of developing an ACE plan, or otherwise change the requirements pertaining to the fees.

5. **Comment:** We recommend that a general provision for the inclusion of additional ACE strategies be added. The list of technologies that are capable of meeting the requirements of an ACE plan are certain to expand over time and it would be shortsighted to assume that all available means of achieving the necessary level of emission reduction have been included. Specifically, we strongly recommend that CARB staff include the market flexibility concepts of the Maritime Goods Movement Coalition as an approvable ACE Plan. As indicated in the staff summary, this

subsection “allows ship owners and operators the flexibility to implement alternative control strategies in lieu of complying with the emission limits.” However, the new language fails to recognize the alternative approach defined within the Goods Movement Mitigation Plan for Ports. This approach offers a proactive, integrated performance-based program that achieves environmental and health goals while recognizing the needs of efficient goods movement. It allows for consideration of a variety of reasoned and balanced policies and programs of which “alternative control strategies” is one of many elements. We strongly suggest that this subsection be revised to incorporate the approach defined in the Goods Movement Mitigation Plan for Ports. (INDUSTRY)

Response: Under the ACE provision, any technology that meets the regulatory requirements can be utilized. Ship operators are not limited to a list of approved technologies, as suggested by the commenter. The ACE provision also allows plans that achieve the required emission reductions averaged over a fleet of vessels. The alternative mentioned by the commenter (i.e., a more comprehensive market-based approach), is only a conceptual proposal at this stage and would not necessarily be a more effective approach if fully developed. While in theory such programs can result in greater flexibility to the affected industry, they are inherently complex and difficult to enforce. They can also result in greater paperwork burdens on industry. In any case, the “alternative” the commenter suggests is merely a concept and is not in a sufficiently detailed form for inclusion into these regulations. As such, we believe the regulations are drafted with adequate flexibility provided by the ACE provision.

6. **Comment:** We were led to understand that a passenger cruise vessel that cold-ironed at a port in California would not be subject to noncompliance fees while at anchor at Catalina Island or off Monterey. The regulation now has language that specifically requires compliance with subsection (e)(1) emission limits while so moored and is inconsistent with the definition of “Regulated California Waters” that specifically states “not including any islands.” We request that additional language be added that clarifies that vessels with an approved ACE plan, especially cold-ironed vessels, will not be subject to a noncompliance fee or penalties while at anchor offshore. Otherwise this will place vessels in a catch-22 situation and discourage the pursuit of these alternative technologies. Furthermore, the inclusion of “all moorings (i.e. the ship drops anchor)” will have an adverse effect on vessels that make infrequent visits. Again, it was previously our understanding that ships at anchor would not be counted as independent port visits but the current language that restricts infrequent visitors to “no more than two California port visits per year, and not more than 4 California port visits...during the life of the vessel” could be exceeded by a tanker that drops anchor to lighter product, then goes to berth, and then shifts to a second berth to pick up product prior to departure. Similarly, a cruise ship that picks up passengers at a port, goes to Catalina Island or anchors off Monterey Bay, then leaves for a

foreign port to comply with the Passenger Services Act, will find that they are in violation upon their return to discharge passengers at the original port. We therefore recommend that moorings not be counted as “port visits” in the proposed regulations. Infrequent visits should be defined as all activities necessary to complete the customary business of the vessel upon entry into “Regulated California Waters” until departure, extended to include the return of passengers to the original point of departure. We might also suggest that a lower non-compliance fee is appropriate for those vessels with Alternative Compliance programs such as shore power or scrubbers if the technology is in the approval phase, or if shore power is being developed. Currently there are no shore power installations in California for cruise ships, and none will be available on January 1, 2007. (INDUSTRY)

Response: It is not clear how the commenter came to feel being “misled,” but the modified ACE provisions discussed by the commenter (under subsection (g)(G)(5), “Use of Shore-Side Power”) are reasonable and clarify how the regulations apply in situations where a ship makes a mooring stop rather than being secured at a port terminal. Under subsection (g)(G)(5), a vessel that stops at a California port and utilizes shore-side power, is not required to comply with the emission limit in the regulations (e.g., use distillate fuels such as MDO, etc.) during the trip to and from this port while in “Regulated California Waters.” However, if the vessel visits a second California port where shore-side power is not used, then the “exemption” ends at that point and the vessel must use distillate fuels or otherwise comply with the regulations from that point forward. For the case where a vessel makes a California port visit and utilizes shore-power, then makes a mooring stop (e.g., anchors off Catalina Island or Monterey), the exemption continues while the vessel is underway as if no mooring stop occurred, except that the vessel must comply while it is anchored. This is reasonable because the vessel will be relatively close to shore while at anchor to facilitate the transport of passengers to land. It is also less restrictive than considering the mooring stop a “port visit,” which would terminate the vessels exemption from the requirements for subsequent travel.

We also note that a ship operator can comply under the general ACE provisions, rather than the special provisions of subsection (g)(G)(5). Under the general provisions, the vessel would have the flexibility to use any strategy that results in emission no greater than compliance with the emission limit in the regulations.

With regard to the mooring stops counting against the 4-lifetime visits limit, this limit applies only to operators who qualify to pay the noncompliance fees. As stated previously, the noncompliance fees are only available under limited circumstances. Specifically, the 4-lifetime visits limit applies only when an infrequent visitor would require modifications to comply with the regulations. The examples cited by the commenter (a tanker vessel and cruise ship making multiple stops and moorings) would not appear to fit this criterion. Therefore, the commenter’s points stemming from this misunderstanding of the regulations would seem to be inapplicable.

With regard to the suggestions for reducing the noncompliance fees, we believe such reductions would be inappropriate. See Response to Comments C.2 and C.4 above.

7. **Comment:** A clear explanation of how interested parties can sign up to be notified about proposed ACE plans should be made public to ensure meaningful participation. (ENVIRO)

Response: Interested parties that contact ARB staff will be placed on a mail list for notification. In addition, all documents pertaining to ACE submittals will be posted on ARB's internet site, which will also contain directions explaining how to subscribe to the appropriate list serve for email notifications.

D. Enforcement

1. **Comment:** The Board has directed that the Executive Officer report back approximately six months after the January 1, 2007 implementation of the regulations on any issues related to safety, noncompliance fees, the ACP, enforcement, shore-side power, and the sulfur content of fuels. At this time, the Executive Officer should provide a full report of enforcement activities that have been conducted to ensure compliance with the regulations. (ENVIRO)

Response: As required by Resolution 05-63, the Executive Officer will report back to the Board approximately six months after the January 1, 2007 implementation of the regulations on any issues related to enforcement of the regulations (among other issues).

E. Exemptions

1. **Comment:** We are pleased with the addition of the new subsection in the proposed regulation which exempts the master of the vessel from the regulation "if the master reasonably and actually determines that compliance with this section would endanger the safety of the vessel, its crew, its cargo, or its passengers because of severe weather conditions, equipment failure, fuel contamination, or extraordinary reasons beyond the master's reasonable control." However, the new language fails to resolve the key safety risk issue of fuel switching. There is an inherent assumption in this exemption that the condition that caused the unsafe condition can get resolved. We continue to believe that there are some vessels, albeit a small number, that will never be capable of safely complying with the regulations, and a provision should be included for those vessels to obtain a permanent exemption upon demonstration of that condition to CARB. The new subsection should provide for the master to make a proactive decision to not conduct fuel switching until the vessel reaches the dock and thus avoid a situation that would "endanger

the safety of the vessel.” In addition, it should be made clear that this ability to take proactive and preventive action extends permanent exemption coverage to the vessel owner and/or operator whom would undoubtedly support the master’s decision to optimize the safe operation of the vessel. (INDUSTRY)

Response: We disagree. The commenter provides no basis for the requested permanent exemption for some vessels. The ARB staff conducted a lengthy public process that included workshops and meetings with the shipping industry, and no information was provided that would indicate that there is a special class of vessel that is completely unable to switch fuels. In addition, the regulations do not require fuel switching. Ship operators can comply using other control technologies under the ACE provision in the regulations. In addition, ships operators can make modifications to their vessels if there is some design aspect of the fuel system that makes fuel switching difficult.

Finally, it is important to note that staff has made every effort to accommodate all reasonably foreseeable situations that can occur under these regulations. We believe the regulations adequately and reasonably address all issues raised during the rulemaking. With that said, it is impossible to accommodate every possible situation, and if we tried to, the regulations would likely be severely compromised with numerous exemptions such as that suggested by the commenter. Therefore, if a vessel operator determines, for whatever reason, that the vessel cannot ever meet the regulatory requirements, it would be incumbent on the operator to ensure that that vessel will not be used in Regulated California Waters.

F. Miscellaneous

1. **Comment:** We are concerned with the concept in the violations subsection of the proposed modified regulation that “Any failure... shall constitute a single, separate violation of this section for each hour that a person operates an ocean-going vessel within “Regulated California Waters.” The “each hour” language is an arbitrary and capricious determination and implies that if, upon request for records, CARB staff determines that there has been an on-going problem with record-keeping that they can then file multiple violations covering all visits up to the time of the request. Further, “each hour” appears to exceed the permissible limits of the Penalties provisions set forth in the California Health and Safety Code § 42400 et seq. that state “Each day during any portion of which a violation of [a particular section] occurs is a separate offense.” The practical reality of vessel operations is such that the assessment of hour-by-hour cumulative violations is nothing more than a kind of “piling on” that serves no valid regulatory purpose. Should a vessel operator acting in good faith find himself in violation, resolving the issue would not be as simple as pushing a button or throwing a switch. Not only do we believe that this provision is excessive but we also think that, at the very least, an

appeal process must be added to ensure fairness and the credibility of the program.

We believe that the appeals process is necessary to allow for instances where ships masters, through no fault of their own and beyond their control find themselves in violation of the proposed regulation. Examples of unintentional non-compliance might be that plugging in to shore power exceeds the one-hour limitation due to trained personnel not being available or that a vessel has an extended visit resulting from shore-side equipment failures resulting in the ship running out of compliant fuel. (INDUSTRY)

Response: The modified language regarding violations is necessary and appropriate to ensure that the potential penalties that could be levied exceed the savings that could be derived by not meeting the regulatory requirements. The emissions from a single noncompliant ocean-going vessel visit can be very large, so it is important that the potential violations are in scale with the potential impacts of noncompliant operation. Moreover, because of the serious health effects that would result from noncompliant operation, it is entirely appropriate to define violations based on each hour of noncompliant operation. Further, basing a violation on each hour of noncompliant operation does not violate the provision cited by the commenter. This is because the cited statutory language, by its terms, only creates a separate violation for each day of violations; it does not expressly or impliedly limit violations to only one per day. If it intended to limit violations to only one per day, irrespective of how many requirements were violated, the Legislature would not have used the phrase “each day...is a *separate*” offense. [emphasis added].

With regard to appeals of citations, the suggested modification to the regulations is unnecessary. This is because ARB regulations already provide for a process to appeal complaints and citations issued by ARB under an adjudicatory hearing procedure. Such procedures are specified in 17 CCR sec. 60065.1 et seq. (for complaints) and 17 CCR 60075.1 et seq. (for citations).

2. **Comment:** There must be an appeals and variance process for both violations and the assessment of noncompliance fees. The owners and operators of the vessels must be given the opportunity to get relief from these provisions if they can demonstrate that action taken by CARB enforcement staff is incorrect. This is particularly important with the addition of the language in the Violations subsection (f)(3) that states: “Any person who is subject to this section is liable for meeting the requirements of this section, notwithstanding any contractual arrangement that person may have with any third-parties.” (INDUSTRY)

Response: With regard to an appeals process for violations, see Response to Comment F.1 above. With regard to appeals for noncompliance fees (NCF), it would be unnecessary and inappropriate to provide for appeals in what is essentially a voluntary

program. The regulations do not require anyone to participate in the noncompliance fees program; such participation is available by choice of the vessel operator, provided the operator's circumstances fall within one of the enumerated criteria that must be met in order to participate in the NCF program.

Finally, with regard to variances, we do not believe a variance provision is appropriate or necessary for these regulations. Because of the noncompliance fee program, the ACE plan provision, and the exemptions in the modified proposal accounting for safety and other issues, we believe the regulations as modified adequately account for all reasonably possible scenarios that can occur under the regulations. In short, vessel operators have many options from which to choose the best approach for complying with these regulations, and we believe a variance provision is simply not needed at this time.

3. **Comment:** The proposed regulation fails to address the significant issue of exactly who is responsible for complying with the requirements imposed on the vessel, subject to citation, and for payment of non-compliance fees. If CARB intends to maintain the current regulatory language, the regulations should clarify and state at a minimum that only the vessel owner and/or operator is responsible for meeting the requirements of subsection (e) and (g) of the proposed regulations. (INDUSTRY)

Response: The comment does not address the 15-day modifications to the regulations and, as such, is a non-responsive comment. Nevertheless, the reader is directed to Response to Comment M.1 in the 45-Day section of this FSOR.

4. **Comment:** The goal of the regulation is to provide the maximum emission benefits at the earliest possible date, not to develop a bureaucratic process that penalizes trade by imposing fees, penalties, and record keeping requirements. Fairness and consistency should also be a principle that is reflected in the non-compliance fees. We can foresee circumstances where vessels will have significantly different transiting times in "Regulated California Waters" but under the current structure they will all be subject to a single fee structure. We encourage CARB to work with the coalition to develop a more appropriate non-compliance fee schedule that is based on a consistent measurement of duration of noncompliance or volume of non-compliant fuel consumed as examples. (INDUSTRY)

Response: The comment does not address the 15-day modifications to the regulations and, as such, is a non-responsive comment. Nevertheless, we disagree with the commenter's suggestion that the noncompliance fee schedule is inappropriate. We agree with the goal of providing the maximum emission benefits with the least bureaucracy and record keeping requirements. In keeping with this goal, we structured the noncompliance fees so that they are based on average ship visits (and whether or not the vessel is a "diesel-electric"). This avoids complicated recordkeeping to calculate

fees based on such variables as the length of operation in Regulated California Waters, the average load of each auxiliary engine for each hour of operation, the type of fuel used and consumption for each engine while operating in Regulated California Waters, etc. The considerations the commenter suggests for inclusion in the fee calculations on a case-by-case basis would ironically introduce the additional complexity and bureaucracy the commenter apparently wants to avoid. Indeed, the “fairness” sought by the commenter would come at the cost of increased regulatory complexity and recordkeeping.

G. Legal Authority

1. **Comment:** The governments of Belgium, Denmark, Finland, France, Germany, Greece, Italy, Japan, Netherlands, Norway, Spain, and the United Kingdom (“the governments”) are concerned that the proposed regulations might result in a breach of customary law and practice as reflected in the 1982 United Nations Convention on the Law of the Sea (UNCLOS) and might also establish standards at variance with those agreed to internationally at the International Maritime Organization, including Annex VI to the International Convention for the Prevention of Pollution from Ships. The governments note that the ratification of Annex VI by the United States has been approved by the Senate, and the revision of Annex VI is currently being discussed in the IMO with a view to introducing more stringent international standards.

The governments believe that a workable international regime for the prevention of air pollution from ships is in the best interests of all governments and the international shipping industry. It would subject shipping to a harmonious international standard that is protective of the environment. Such internationally agreed rules, applied globally, are more easily understood by ship operators and all other interested parties, more easily implemented and more easily enforced. It is unhelpful and confusing to shipping operators to encounter different rules when calling at or passing through the waters of other countries, or different parts of a country.

An example of how the CARB proposals are at odds with the international practice includes the exemption for “innocent passage,” which uses a definition different from that in UNCLOS, Article 18. The Governments believe that the responsibilities and obligations of the U.S. Federal Government to its commitments under international agreements and the spirit of international comity should be pre-eminent in the administration of its domestic legislative activity on matters affecting international shipping. The Governments believe that Congress should have the ability to legislate without the complications and uncertainty resulting from interventions of separate States of the Union, which might themselves in turn create consequent difficulties in the United States’ relations with other

countries. The Governments believe the Department of State shares this view, and urges it to exercise its influence an authority regarding the CARB proposed regulations. (STATE)

Response: As noted previously, ARB does not believe the regulations present a conflict with UNCLOS or MARPOL Annex VI. With regard to UNCLOS, there should be no conflict with the regulations based on the issue raised by the commenter. This is because staff has modified the regulations to eliminate the definition and use of the term “innocent passage.” With regard to MARPOL Annex VI, we believe the regulations do not present a conflict with that treaty, as discussed in response to comments in Section N.4 (45-day comments).

It should be noted that the Department of State (DOS) submitted no comments on this rulemaking representing DOS policy or views. The letter from the foreign governments summarized above was merely forwarded to ARB under cover letter by the Department of State. Therefore, we cannot presume DOS shares the views of the foreign governments listed in this comment letter.

2. **Comment:** There are two elements of the modified proposed regulation that must be assessed against the existing international and federal regime governing operational issues affecting air emissions from U.S. and foreign vessels serving California ports. The first is whether and to what extent California possesses authority to regulate the subject matter of fuels, funnel emissions and operational approaches to limiting such emissions from vessels. The second is whether there are geographic limitations imposed by federal and international law that are not acknowledged by CARB and remain inconsistent with the modified proposed regulation.

It is significant that, while CARB was in the process of making amendments to the proposed regulation, the U.S. Senate gave its advice and consent to the ratification of the Treaty of 1997 (Annex VI of MARPOL 73/78) on April 7, 2006. This action clearly commits the United States to support for an international system intended to address air emissions from vessels on a coordinated global basis. Among the many features of MARPOL Annex VI, is a provision that permits signatory national governments to establish sulfur emission control areas (SECAs). The California Legislature, through passage of Assembly Joint Resolution 8 (Canciamilla – 2005), has voiced support for the creation of a North American SECA. The shipping industry strongly supports this strategy to adopt the use of cleaner fuels in ocean-going ships and has had experience with such programs in other countries and regions. By offering its advice and consent, the U.S. Senate has recognized the obligation to the international community though treaty in addressing and regulating ocean-going ships. The proposed regulation conflicts with the desire and need to address this issue within the framework of this treaty and

threatens the ability of the United States to dutifully carry out its international obligations.

The second area of concern is the issue of the geographic reach of authority of the State of California or its agencies to regulate activity beyond the generally recognized limits of state waters. The modified proposed regulation introduces the concept of “Regulated California Waters.” We believe that CARB does not have any legal basis for establishing this. We further note that CARB has deleted internationally agreed definitions of “Territorial Waters,” “Contiguous Zone,” and “Innocent Passage,” apparently in response to earlier comments addressing the lack of support for their use in this context. We suspect that this terminology reflects the realization by ARB that the authority for establishing such as zone of jurisdiction is suspect. (INDUSTRY)

Response: We disagree for several reasons. First, we do not believe the regulations threaten the ability of the U.S. to carry out its duties under international treaties. (See Response to Comments N.4.a-f. in the 45-day comments section). Second, the concept of “Regulated California Waters” was introduced in the initially noticed version of the regulations, not in the modified regulations as suggested by the commenter. (ISOR, at A-1 and A-5). The legal basis for regulating vessels within the “Regulated California Waters” is discussed in Response to Comments N.8 and N.9.a-k. in the 45-day comments section of this FSOR.

With regard to deletion of the identified terms, ARB staff deleted the definitions for “Territorial Waters,” “Contiguous Zone,” and “Innocent Passage” because those terms were no longer needed under the modified regulations. (See FSOR, “Sec. II. Modifications to the Original Proposal,” at 5-7). The regulations define and use the term “Regulated California Waters” to clarify the over-water zone in which the regulations would apply.

3. **Comment:** We continue to believe that the current proposed regulation should not be adopted as it is inconsistent with, and contradictory to, existing statutes, court decisions and other provisions of law and exceeds the rulemaking authority of the Board. The rule as proposed to be modified only makes its jurisdictional deficiencies more clear. If CARB cannot clearly define its statutory jurisdiction then it has failed to meet basic regulatory standards for the modified regulation. The addition of the definition of “Regulated California Waters” supports the conclusion that CARB is not sure of its authority. This clearly is an attempt to survive legal challenge to the regulation through use of the Severability section.

Also, in reference to international treaty requirements, insofar as the regulation extends to the area outside of the territorial seas of the United States (i.e., beyond 12 miles), the United Nations Convention on the Law of the Sea (UNCLOS 1982, Article 211, 6(a)) requires that parties to

UNCLOS and states that have accepted its provisions (the United States): 1) determine that “a particular, clearly defined area of [its] respective exclusive economic zone...is an area where the adoption of special mandatory measures for the prevention of pollution from vessels is required for recognized technical reasons in relation to its oceanographic and ecological conditions, as well as its utilization or the protection of its resources and the particular character of its traffic;” 2) engage in “appropriate consultations through the competent international organization with any other States concerned;” and 3) “for that area, direct a communication to that organization, submitting scientific and technical evidence in support and information on necessary reception facilities.” If the international organization determines that the special measures are warranted for the area so designated, the United States can, “for that area, adopt laws and regulations for the prevention, reduction and control of pollution from vessels implementing such international rules and standards or navigational practices as are made applicable, through the organization, for special areas. Under Article 211, 6(c), moreover:

“If the coastal States intend to adopt additional laws and regulations for the same area [as described in 6(a)] for the prevention, reduction and control of pollution from vessels, they shall, when submitting the aforesaid communication, at the same time notify the organization thereof. Such additional laws and regulations may relate to discharges or navigational practices but shall not require foreign vessels to observe design, construction, manning or equipment standards other than generally accepted international rules and standards; they shall become applicable to foreign vessels 15 months after the submission of the communication to the organization, provided that the organization agrees within 12 months after the submission of the communication.”

In order to impose laws and regulations pertaining to pollution for areas outside of 12 miles on foreign vessels of States that are parties to UNCLOS, the United States must, therefore, follow the procedures and give the notifications required by 6(a) and 6(c) of Article 211. We are aware of no initiative from California requesting the federal government to seek application of Article 211 in the context of this regulation. If the United States were to undertake such a measure, it would not be possible to comply with Article 211 prior to the January 1, 2007 implementation date of the proposed regulation. If CARB intends to enforce this regulation against foreign vessels outside of the territorial seas of the United States, it must ensure that the United States provides the appropriate notifications and conforms with existing international law before these regulations are put into force. Accordingly, the implementation date of this regulation, assuming it passes the above legal test, should be modified based on the notification requirements of UNCLOS and CARB should request that the appropriate federal agency provide the notice required. (INDUSTRY)

Response: We disagree. As noted in the Staff Report, the United States is not a signatory to UNCLOS and is therefore not legally bound by its strictures as a non-signatory party. (ISOR, at B-16). With that said, California intends to provide the International Maritime Organization (IMO), the U.S. Coast Guard, shipping agents, individual shipping companies, and other entities involved in shipping with due notice and publication of the ARB regulations in keeping with the spirit of notice requirements that would otherwise be applicable to these regulations under international law.

As discussed in the Staff Report, ARB has conducted extensive outreach during the development of these regulations, holding eighteen (18) public meetings, workshops, conference calls, and other forms of public outreach with the affected stakeholders over a five year period since work began on this rulemaking in 2001. (*Id.*, at I-3 through I-6). These meetings were conducted in compliance with state law requirements under the Administrative Procedure Act (Government Code section 11340 et seq.). On August 16, 2006, ARB staff published on ARB's internet site a document entitled, "Advisory to Owners or Operators of Ocean-Going Vessels Visiting California Ports" to provide information on these regulations and to give the shipping industry further advanced notice that these regulations would shortly be submitted to the Office of Administrative Law (OAL) for approval and, if approved, would go into effect in 2007. (See <http://www.arb.ca.gov/msprog/offroad/marinevess/documents/advisory0806.pdf>; accessed October 4, 2006). The ARB staff intends to publish an updated advisory similar to this upon receiving OAL approval of the regulations.

Because of this extensive public outreach, we believe ARB has met all applicable State, federal, and international requirements for due notice and publication of these regulations.

4. **Comment:** The new "violations" subsection underscores the preemption of this rule by the Clean Air Act. The subsection makes it clear that the regulations impose an emission "standard" and "applicable emission limit." As such, the regulations are preempted by §209(e)(2) of the Clean Air Act for the reasons previously stated in our comments on the original draft regulations. Furthermore, since the standard applied requires that each vessel be evaluated based on reductions from its own baseline engine emissions levels and each vessel's emissions may vary significantly, the standard will be different for each vessel and could result in the imposition of penalties on a vessel with lower emissions than another vessel that is operating in compliance with the regulations. We recommend, therefore, that the regulations be clarified or amended to make it clear that a vessel meeting generally applicable and numerically objective levels of emissions will not incur penalties under the regulations, notwithstanding any other provisions of the regulations. (INDUSTRY)

Response: We disagree. The "violations" provision was added to clarify which activities will be considered a violation of the regulatory requirements. The "violations" provision, by itself, does not make ARB's regulations preempted under CAA section

209(e) since the ARB regulations are non-preempted, in-use operational requirements. (See Response to Comment N.3.e. in the 45-day comments section).

And we disagree with the commenter's contention that the regulations need to be clarified or modified to specify that vessels meeting generally applicable and numerically objective emission levels will not incur penalties. We do not believe that individualized baseline emission levels necessarily have to be developed for each vessel to avoid incurring penalties. As the regulations clearly state, "Compliance with the emission rate limits specified in subsection (e)(1) is presumed if the person operates the regulated engine(s) with the fuels as specified in subsection (e)(1)(A) and (e)(1)(B), or as otherwise permitted in subsection (g)." (ISOR, at A-6). Thus, individualized baselines are not *per se* required.

We expect most vessel operators will use the low sulfur marine distillate fuels enumerated in subsection (e)(1)(A) and (e)(1)(B); such operators will be presumed to be in compliance with the regulations, and no further determinations of emission levels would be required. For those operators choosing to comply with alternative emission control strategies under an approved ACE plan, a baseline determination may be needed. However, such determinations are case-dependent, and may not necessarily be required if sufficient information is available for ARB staff to determine the engines' emissions without extensive individualized testing.

For those engines that do require baseline determinations, ARB staff will work with the vessel operators and owners to determine the best way to ensure that emissions limits agreed to by vessel operators under an approved ACE plan are quantifiable and enforceable. In any case, the choice of entering into an approved ACE plan is left entirely up to the vessel owners/operators. Therefore, we presume that operation under an approved ACE plan is advantageous, for economic or other reasons, for the operator that chooses this option, even with any engine testing, baseline developments, or other requirements needed to make an ACE enforceable.