

**Notes Regarding the Draft Regulatory Proposal for the California Air Resources Board June 13, 2007 Public Workshop to Discuss Development of Regulations for Ocean-Going Ship Main Engines**

The attached draft regulatory proposal will be discussed at the Air Resources Board's (ARB) June 13, 2007 public workshop. In developing this proposal, ARB staff had two main goals: 1) implement the use of distillate fuels (marine gas oil or marine diesel oil) in the main engines as soon as possible resulting in significant emission reductions for California; and 2) align the regulation for main engines with the auxiliary engine regulation to minimize the need to carry multiple fuels and simplify implementation.

Consistent with these goals, the proposal retains:

- The requirement to use low sulfur marine gas oil (MGO) or marine diesel oil (MDO) and the concept of a two-step implementation process – a higher sulfur limit in the near-term and ultimately the requirement to meet a 0.1% sulfur limit at a future date.
- The 24 nautical mile boundary for implementation consistent with the auxiliary engine regulation. However, it does include a provision that requires the ARB to investigate, at a later date, the benefits of establishing implementation boundaries further off-shore.
- The provisions for alternative control of emission plans, a safety exemption, and the non-compliance fee provision.

The primary difference between the auxiliary engine regulation and this proposal for main engines is with respect to the initial sulfur limit for the fuel and the dates for implementation. Based on recent inspection data, we have concerns that 0.1% sulfur distillate fuels will not be available globally in the 2010 timeframe. As such, the draft regulation proposes to have an initial compliance date in 2009 with a proposed sulfur limit in the 0.2-0.5% range; however, the actual level will be determined during the public development process. The proposal also includes a future limit of 0.1% sulfur in either 2013 or 2014 with a fuel availability review in the 2012 timeframe. We acknowledge that this is different than the auxiliary engine regulation which requires MGO up to 1.5% sulfur; or MDO with a fuel sulfur level no greater than 0.5% in 2007, and 0.1% MGO in 2010. It is our intention, based on the outcome of this regulatory development process for the OGV main engines, to amend the auxiliary engine rule to ensure the fuel sulfur standards and dates of implementation are aligned between the two regulations.

If you have any questions about this draft regulatory proposal, please contact any of the following:

Bonnie Soriano (916) 327-6888 or via email at [bsoriano@arb.ca.gov](mailto:bsoriano@arb.ca.gov)

Paul Milkey (916) 327-2957 or via email at [pmilkey@arb.ca.gov](mailto:pmilkey@arb.ca.gov)

Peggy Taricco (916) 323-4882 or via email at [ptaricco@arb.ca.gov](mailto:ptaricco@arb.ca.gov)

**Proposed Regulation**

**FUEL SULFUR AND OTHER IN-USE OPERATIONAL REQUIREMENTS  
FOR MAIN PROPULSION DIESEL ENGINES  
OPERATED ON OCEAN-GOING VESSELS WITHIN CALIFORNIA WATERS AND  
24 NAUTICAL MILES OF THE CALIFORNIA BASELINE**

(Note: The entire text of the section set forth below is new language proposed to be added under two separate titles of the California Code of Regulations. To save paper, only proposed new section 2299.2, title 13, CCR, is shown below, but identical provisions will be added to section 93118.2, title 17, CCR, when ARB staff present both regulations to the Board for its consideration. Both new sections will be made available for public review and comment at least 45 days prior to the Board hearing).

Adopt new section 2299.2, title 13, California Code of Regulations (CCR), to read as follows:

**13 CCR section 2299.2. Fuel Sulfur and Other In-Use Operational Requirements for Main Propulsion Diesel Engines Operated on Ocean-going Vessels within California Waters and 24 Nautical Miles of the California Baseline.**

**(a) Purpose**

The purpose of this section is to reduce emissions of diesel particulate matter (PM), nitrogen oxides, and sulfur oxides from the use of main propulsion diesel engines on ocean-going vessels within any of the waters subject to this section (“Regulated California Waters”). This section reduces emissions of these air pollutants by requiring the use of low-sulfur marine distillate fuels and applying other operational requirements, as specified below.

**(b) Applicability**

- (1) Except as provided in subsection (c), this section applies to any person who owns, operates, charters, rents, or leases any ocean-going vessel that operates in any of the Regulated California Waters, which include all of the following:
  - (A) all California internal waters;
  - (B) all California estuarine waters;
  - (C) all California ports, roadsteads, and terminal facilities (collectively “ports”);
  - (D) all waters within 3 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;

- (E) all waters within 12 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;
  - (F) all waters within 24 nautical miles of the California baseline, starting at the California-Oregon border to 34.43 degrees North, 121.12 degrees West, inclusive; and
  - (G) all waters within the area, not including islands, between the California baseline and a line starting at 34.43 degrees North, 121.12 degrees West; thence to 33.50 degrees North, 118.58 degrees West; thence to 32.48 degrees North, 117.67 degrees West, and ending at the California-Mexico border at the Pacific Ocean, inclusive.
- (2) Except as provided in subsection (c), this section applies to tanker and non-tanker ocean-going vessels that are flagged in, registered in, entitled to fly the flag of, or otherwise operating under the authority of the United States (“U.S.-flagged”) or any other country (“foreign-flagged”).
  - (3) Nothing in this section shall be construed to amend, repeal, modify, or change in any way any applicable U.S. Coast Guard requirements. Any person subject to this section shall be responsible for ensuring compliance with both U.S. Coast Guard regulations and the requirements of this section, including but not limited to, obtaining any necessary approvals, exemptions, or orders from the U.S. Coast Guard.
- (c) Exemptions**
- (1) The requirements of this section do not apply to ocean-going vessel voyages that are comprised of continuous and expeditious navigation through any Regulated California Waters for the purpose of traversing such bodies of water without entering California internal or estuarine waters or calling at a port, roadstead, or terminal facility. “Continuous and expeditious navigation” includes stopping and anchoring only to the extent such stopping and anchoring are required by the U.S. Coast Guard; rendered necessary by force majeure or distress; or made for the purpose of rendering assistance to persons, ships, or aircraft in danger or distress. This exemption does not apply to the passage of an ocean-going vessel that engages in any of the prejudicial activities specified in United Nations Convention on the Law of the Seas (UNCLOS) 1982, Article 19, subpart 2. Further, notwithstanding any Coast Guard mandated stops or stops due to force majeure or the rendering of assistance, this exemption does not apply to a vessel that was otherwise scheduled or intended to enter California internal or estuarine waters or call at a port, roadstead or terminal facility.
  - (2) The requirements of this section do not apply to auxiliary diesel engines or diesel-electric engines as defined in subsection (d).

- (3) The requirements of this section do not apply to emergency generators or boilers.
- (4) The requirements of this section do not apply to main engines onboard ocean-going vessels owned or operated by any branch of local, state, or federal government, or by a foreign government, when such vessels are operated within Regulated California Waters on government non-commercial service. However, such vessels are encouraged to act in a manner consistent, so far as is reasonable and practicable, with this section.
- (5) The requirements of this section do not apply to main engines while such engines are operating on alternative fuel in Regulated California Waters.
- (6) The requirements of this section, including the payment of Noncompliance Fees as provided in subsection (h), do not apply to the master of the vessel (“master”) 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 other extraordinary reasons beyond the master’s reasonable control. This exemption applies only as long as and to the extent necessary to secure the safety of the vessel, its crew, its cargo, or its passengers and provided that:
  - (A) the master takes all reasonable precautions after the conditions necessitating the exemption have ended to avoid or minimize repeated claims of exemption under this subsection;
  - (B) the master notifies the Executive Officer of a safety exemption claim within 24 hours after the end of each such episode (i.e., the period of time during which the emergency conditions exist that necessitate the safety exemption claim, as provided in paragraph (5) above); and
  - (C) the master submits to the Executive Officer, within 4 working days after the notification in paragraph (B) above, all documentation necessary to establish the conditions necessitating the safety exemption and the date(s), local time, and position of the vessel (longitude and latitude) in Regulated California Waters at the beginning and end of the time period during which a safety exemption is claimed under this subsection. All documentation required under this paragraph shall be provided in English.

**(d) Definitions**

For purposes of this section, the following definitions apply:

- (1) “Alternative fuel” means natural gas, propane, ethanol, methanol, hydrogen, electricity, or fuel cells. Alternative fuel also means any mixture that only contains these fuels.

- (2) “ASTM” means ASTM International.
- (3) “Auxiliary engine” means an engine on an ocean-going vessel designed primarily to provide power for uses other than propulsion or emergencies, except that all diesel-electric engines shall be considered “auxiliary diesel engines” for purposes of this section.
- (4) “Baseline” means the mean lower low water line along the California coast, as shown on the following National Oceanic and Atmospheric Administration (NOAA) Nautical Charts as authored by the NOAA Office of Coast Survey, which are incorporated herein by reference:
  - (A) Chart 18600, Trinidad Head to Cape Blanco (January 2002);
  - (B) Chart 18620, Point Arena to Trinidad Head (June 2002);
  - (C) Chart 18640, San Francisco to Point Arena (August 2005);
  - (D) Chart 18680, Point Sur to San Francisco (June 2005);
  - (E) Chart 18700, Point Conception to Point Sur (July 2003);
  - (F) Chart 18720, Point Dume to Purisima Point (January 2005); and
  - (G) Chart 18740, San Diego to Santa Rosa Island (April 2005).
- (5) “Boiler” means any combustion equipment, excluding gas turbines, fired with liquid, gaseous and/or solid fuel and used to produce steam or to heat water.
- (6) “Compliance Period” means the calendar year or other continuous period during which an approved Alternative Control of Emissions (ACE) plan is or will be in effect as specified in subsection (g).
- (7) “Diesel Engine” means an internal combustion, compression-ignition (CI) engine with operating characteristics significantly similar to the theoretical diesel combustion cycle. The regulation of power by controlling fuel supply in lieu of a throttle is indicative of a compression ignition engine.
- (8) “Diesel Particulate Matter” means the particles found in the exhaust of diesel engines, which may agglomerate and adsorb other species to form structures of complex physical and chemical properties.
- (9) “Diesel-electric engine” means a diesel engine connected to a generator that is used as a source of electricity for propulsion or other uses.
- (10) “Emergency Generator” means a diesel-electric engine operated only during emergencies or to perform maintenance and testing necessary to ensure readiness for emergencies.
- (11) “Emission Control Strategy” means any device, system, or strategy employed to reduce emissions from a diesel engine, including, but not limited to, diesel oxidation catalysts, selective catalytic reduction systems, diesel particulate filters,

alternative diesel fuels, water emulsified fuels, lower sulfur fuels, scrubbers, and any combination of the above.

- (12) “Estuarine Waters” means an arm of the sea or ocean that extends inland to meet the mouth of a river.
- (13) “Executive Officer” means the executive officer of the Air Resources Board (ARB), or his or her designee.
- (14) “Hydrocarbon (HC)” means the sum of all hydrocarbon air pollutants.
- (15) “Internal Waters” means any navigable river or waterway within the State of California.
- (16) “IMO” means the International Maritime Organization.
- (17) “ISO” means the International Organization for Standardization.
- (18) “Main Engine” means an engine on an ocean-going vessel designed primarily to provide propulsion, except that diesel-electric engines shall not be considered “main engines” for purposes of this section.
- (19) “Marine Diesel Oil (MDO)” means any fuel that meets all the specifications for DMB grades as defined in Table I of International Standard ISO 8217, as revised in 2005, which is incorporated herein by reference.
- (20) “Marine Gas Oil (MGO)” means any fuel that meets all the specifications for DMX or DMA grades as defined in Table I of International Standard ISO 8217, as revised in 2005, which is incorporated herein by reference.
- (21) “Master” means the person who operates a vessel or is otherwise in charge of the vessel’s operations.
- (22) “Military Vessel” means any ship, boat, watercraft, or other contrivance used for any purpose on water, and owned or operated by the armed services.
- (23) “Nitrogen Oxides (NO<sub>x</sub>)” means compounds of nitric oxide (NO), nitrogen dioxide (NO<sub>2</sub>), and other oxides of nitrogen, which are typically created during combustion processes and are major contributors to smog formation and acid deposition.
- (24) “Non-Methane Hydrocarbons (NMHC)” means the sum of all hydrocarbon air pollutants except methane.
- (25) “Ocean-going Vessel (OGV)” means a commercial, government, or military vessel meeting any one of the following criteria:

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- (A) a vessel greater than or equal to 400 feet in length overall (LOA) as defined in 50 CFR § 679.2, as adopted June 19, 1996;
  - (B) a vessel greater than or equal to 10,000 gross tons (GT ITC) per the convention measurement (international system) as defined in 46 CFR 69.51-.61, as adopted September 12, 1989; or
  - (C) a vessel propelled by a marine compression ignition engine with a per-cylinder displacement of greater than or equal to 30 liters.
- (26) “Operate” means steering or otherwise running the vessel or its functions while the vessel is underway, moored, anchored, or at dock.
- (27) “Own” means having all the incidents of ownership, including the legal title, of a vessel whether or not that person lends, rents, or pledges the vessel; having or being entitled to the possession of a vessel as the purchaser under a conditional sale contract; or being the mortgagor of a vessel.
- (28) “Particulate Matter” means any airborne finely divided material, except uncombined water, which exists as a liquid or solid at standard conditions (e.g., dust, smoke, mist, fumes or smog).
- (29) “Person” includes all of the following:
- (A) any person, firm, association, organization, partnership, business trust, corporation, limited liability company, or company;
  - (B) any state or local governmental agency or public district, or any officer or employee thereof;
  - (C) the United States or its agencies, to the extent authorized by federal law.
- (30) “Port Visit” means any of the following:
- (A) each separate and distinct entry of a vessel into a port, roadstead, or terminal facility (collectively “port”) in Regulated California Waters that results in the vessel stopping, docking, mooring, or otherwise dropping anchor (collectively “stopping”) at the port. The “port visit” continues if the vessel moves to a different berth within the same port, but the “port visit” ends when the vessel leaves for or is otherwise moved to another port within the same bay or any other port;
  - (B) except as provided in paragraph (C) below, each separate and distinct entry of a vessel into an offshore location in Regulated California Waters away from a port that results in the vessel stopping at that offshore location (e.g., Catalina Island or off Monterey). The “port visit” ends when the vessel leaves for or is otherwise moved to a port or another offshore location; or
  - (C) each separate and distinct entry of a vessel into an offshore location in Regulated California Waters away from a port that results in the vessel stopping, followed by entry into that port, shall constitute one “port visit”, provided the offshore stop was conducted solely because the port could not

accept the vessel as scheduled due to reasons beyond the reasonable control of the vessel operator or master.

- (31) “Regulated California Waters” means all of the following
- (A) all California internal waters;
  - (B) all California estuarine waters;
  - (C) all California ports, roadsteads, and terminal facilities (collectively “ports”);
  - (D) all waters within 3 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;
  - (E) all waters within 12 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;
  - (F) all waters within 24 nautical miles of the California baseline, starting at the California-Oregon border to 34.43 degrees North, 121.12 degrees West, inclusive; and
  - (G) all waters within the area, not including any islands, between the California baseline and a line starting at 34.43 degrees North, 121.12 degrees West; thence to 33.50 degrees North, 118.58 degrees West; thence to 32.48 degrees North, 117.67 degrees West; and ending at the California-Mexico border at the Pacific Ocean, inclusive.
- (32) “Roadstead” means any facility that is used for the loading, unloading, and anchoring of ships.
- (33) “Slow Speed Engine” means an engine with a rated speed of 150 revolutions per minute or less.
- (34) “Sulfur Oxides” means compounds of sulfur dioxide (SO<sub>2</sub>), and other oxides of sulfur, which are typically created during combustion of sulfur containing fuels.
- (35) “Tanker” means a self-propelled vessel constructed or adapted primarily to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue.
- (36) “Two-stroke Engine” means an internal combustion engine which operates on a two stroke cycle where the cycle of operation completes in one revolution of the crankshaft.
- (37) “Vessel” means any tugboat, tanker, freighter, passenger ship, barge, or other boat, ship, or watercraft, except those used primarily for recreation and any of the following:

- (A) a seaplane on the water;
- (B) a watercraft specifically designed to operate on a permanently fixed course, the movement of which is restricted to a fixed track or arm to which the watercraft is attached or by which the watercraft is controlled.

(38) “Voyage” means each separate and distinct journey that begins when a vessel reaches Regulated California Waters from a point beyond Regulated California Waters, includes at least one port visit, and ends when the vessel departs from Regulated California Waters.

**(e) In-Use Operational Requirements**

***Note: During the regulatory development process we will investigate what specific sulfur limit is appropriate in the 2009 timeframe, taking into consideration the technical/operational feasibility, air quality needs, and the availability of fuel at the specified limit. We will also discuss the appropriate implementation date for the 0.10 percent sulfur MGO.***

(1) Fuel Sulfur and Distillate Fuel Use Requirements

Except as provided in subsections (c), (g), and (h), no person subject to this section shall operate any main diesel engine, while the vessel is operating in Regulated California Waters, unless:

(A) Beginning January 31, 2009, the person operates

- 1. the engine with either marine gas oil (MGO), as defined in subsection (d), with a maximum of *[0.20 – 0.50]* percent sulfur by weight; or marine diesel oil (MDO), as defined in subsection (d), with a maximum of *[0.20-0.50]* percent sulfur by weight, rounded as specified in subsection (i)(3); or
- 2. the person operates the engine with diesel fuel that results in emission levels of diesel PM, NO<sub>x</sub>, or SO<sub>x</sub> in exceedance of the emission rates of those pollutants that would result had the engine used the fuels specified in paragraph (A) above, as specified in subsection (g).

(B) Beginning January 31, *[2013-2014]*, the person operates

- 1. the engine with MGO with a maximum of 0.10 percent sulfur by weight rounded as specified in subsection (i)(3); or
- 2. the person operates the engine with diesel fuel that results in emission levels of diesel PM, NO<sub>x</sub>, or SO<sub>x</sub> in exceedance of the emission rates of those pollutants that would result had the engine used the fuel specified in paragraph (C) above, as specified in subsection (g).

(2) Recordkeeping, Reporting, and Monitoring Requirements.

(A) Recordkeeping

Beginning January 31, 2009, any person subject to this section shall retain and maintain records in English that contain the following information for at least three years following the date when the records were made:

1. The date, local time, and position (longitude and latitude) of the vessel for each entry into Regulated California Waters from waters outside Regulated California Waters, and each departure from Regulated California Waters to waters outside Regulated California Waters, excluding any voyages exempted from the requirements of this section under subsection (c)(1);
2. The date, local time, and position (longitude and latitude) of the vessel at the initiation and completion of any fuel switching procedures used to comply with subsection (e)(1) prior to entry into Regulated California Waters from waters outside Regulated California Waters;
3. The date, local time, and position (longitude and latitude) of the vessel at the initiation and completion of any fuel switching procedures within Regulated California Waters; completion of fuel switching procedures occurs the moment all engines subject to this section have completely transitioned from operation on one fuel to another fuel;
4. The type of fuel used (e.g., marine gas oil) in each main engine operated in Regulated California Waters; and
5. The types, amounts, and the actual percent by weight sulfur content of all fuels purchased for use on the vessel, as reported by the fuel supplier or a fuel testing firm.

(B) Documentation of Fuel Switch Over Procedures

Any person subject to this section that complies with the emission limits by switching fuels shall retain and maintain records in English on-board ship that contain the following information:

1. Simplified description of the fuel system by means of graphs and comments including but not limited to the number, capacity, location and specification of tanks, nominal fuel consumption of machinery, and nominal fuel throughput of purifiers;

2. Description of the fuel switch over procedure with detailed instructions and clear identification of responsibilities;
3. The make, model, rated power, and serial numbers of all main engines subject to subsection (e)(1); and
4. Piping diagrams and specifications for mixing tanks or other fuel handling equipment applicable to main engines.

(C) Reporting and Monitoring

1. Any person subject to this section shall provide in writing the information specified in subsection (e)(2)(A) and (e)(2)(B) and to the Executive Officer upon request, either within 24 hours or by a later date approved by the Executive Officer. To the extent the person already collects the information specified in subsections (e)(2)(A) and (e)(2)(B) in English to comply with other regulatory requirements or standard practices, the person may provide the requested information in a format consistent with those other regulatory requirements or standard practices.
2. Any person subject to this section shall provide to the Executive Officer upon request additional information the Executive Officer determines to be necessary to determine compliance with this section, including, but not limited to the information specified in subsections (e)(2)(A) and (e)(2)(B).
3. Any person subject to this section shall provide to the Executive Officer access to the vessel for the purpose of determining compliance with the this section, including but not limited to, access to and review of records and information required under subsections (e)(2)(A) and (e)(2)(B), and for the purpose of collecting fuel samples for testing and analysis.

**(f) Violations**

- (1) Any person who is subject to this section and commits a violation of any provision, standard, criteria or requirement in this section is subject to the penalties, injunctive relief, and other remedies specified in Health and Safety Code, sections 39674-39675 and 42400 et seq.; other applicable sections in the Health and Safety Code; and other applicable provisions as provided under California law for each violation. Nothing in this section shall be construed to limit or otherwise affect any applicable penalties or other remedies available under Federal law.
- (2) Any failure to meet any provision, standard, criteria or requirement in this section, including but not limited to the applicable emission limits; recordkeeping requirements; Noncompliance Fee provision; and Alternative Control of

Emissions (ACE) provision, including the requirements of any approved ACE plans, shall constitute a single, separate violation of this section for each hour that a person operates an ocean-going vessel in Regulated California Waters until such provision, standard, criteria or requirement has been met.

- (3) 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.
- (g) Alternative Control of Emissions (ACE) Plan in Lieu of Meeting Subsection (e)(1)**

For purposes of this subsection, the terms “ACE” and “ACE plan” shall have the same meaning, unless otherwise noted.

- (1) Requirements
  - (A) The purpose of this subsection is to allow any person (“person” or “applicant”) the option of complying with the requirements of this subsection (g) in lieu of the requirements of subsection (e)(1). Under this subsection (g), alternative emission control strategies can be implemented in lieu of meeting the requirements of subsection (e)(1), provided the alternative strategies result in emissions of diesel PM, NO<sub>x</sub>, and SO<sub>x</sub> from the vessel(s) that are no greater than the emissions that would have occurred under subsection (e)(1), over the applicable compliance period.
  - (B) An applicant wishing to participate in an ACE may include one or more vessels in the ACE, but the applicant shall only include vessels that the person owns or operates under their direct control. For purposes of this subsection, “direct control” shall include, but not be limited to, vessels for which the applicant has a contract, lease, or other arrangement with a third-party for the third-party to operate the vessel.
  - (C) No vessel shall be included in more than one ACE plan submitted in compliance of this section.
  - (D) No ACE plan shall have a compliance period greater than 1 calendar year or a continuous 12-month period. Except as provided in paragraph (E) below, upon completion of a compliance period, an approved ACE plan shall continue to be in effect for another compliance period of equal length, provided the following are met:
    - 1. the applicant provides updated information for all elements of the approved ACE plan to the Executive Officer at least 30 days prior to the end of the first compliance period; and

2. the updated information demonstrates that compliance with this subsection will continue for the next compliance period.
- (E) No ACE plan shall be extended for another compliance period if:
1. the Executive Officer has determined that violations of the ACE provisions have occurred and the Executive Officer revokes the ACE plan as specified in subsection (g)(3);
  2. the applicant elects to cancel an approved ACE plan. Applicants who cancel operation under an approved ACE are subject to the emission requirements of subsection (e)(1) and all other requirements of this section upon the effective date of the cancellation. An ACE plan that is cancelled prior to the end of its approved compliance period shall have its compliance period adjusted to end at the effective date of cancellation; or
  3. the applicant proposes to substantially change the alternative emission control strategies in their approved ACE plan, as determined by the Executive Officer. Applicants proposing to substantially change the alternative emission control strategies in their ACE plan shall be subject to the application process for new applications, as specified in subsection (g)(2).
- (F) In addition to other requirements specified in this subsection (g), no proposed ACE plan shall be approved unless the applicant demonstrates to the satisfaction of the Executive Officer all of the following:
1. the alternative emission control strategies under the proposed ACE plan will result in emissions of diesel PM, NO<sub>x</sub>, and Sox from the vessel(s) that are no greater than the emissions that would have occurred under subsection (e)(1) over the applicable compliance period; and
  2. surplus emission reductions achieved at one port will not result in increased emissions at a second port, relative to the emissions that would have occurred at the second port prior to implementation of this section.
- (G) Alternative emission control strategies are as defined in subsection (d).
- (H) The ACE plan application demonstrating compliance with this subsection shall contain, at a minimum, the following information:
1. the company name, address, and contact information;
  2. the vessel(s) name, country flag, and IMO identification number;

3. the make, model, serial numbers and other information that uniquely identify each engine on the affected vessel(s) subject to the ACE;
  4. documentation, calculations, emissions test data, or other information that demonstrates that the emission reductions from the engines subject to the ACE will be equivalent to or greater than the emission reductions that would have been achieved upon compliance with subsection (e)(1). The emission reductions shall be calculated for diesel PM, NO<sub>x</sub>, and SO<sub>x</sub>, and shall be expressed in pounds of each pollutant;
  5. information on the California ports expected to be visited by the affected vessel(s) during the compliance period that the ACE will be in effect, the anticipated dates of those visits, and the potential planned oversea routes to and from these ports; and
  6. the proposed recordkeeping, reporting, monitoring, and testing procedures that the applicant plans to use to demonstrate continued compliance with the ACE.
- (I) Emission reduction calculations used to demonstrate equivalence with the requirements of subsection (e)(1) shall include only diesel PM, NO<sub>x</sub>, and SO<sub>x</sub> emissions from vessel(s) operating within Regulated California Waters.
  - (J) Any person subject to an approved ACE shall maintain operating records in a manner and form as specified by the Executive Officer in the approved ACE. Required records may include, but are not limited to, information on fuel usage, routes, port calls, maintenance procedures, and emissions test results. Such records and reports shall be retained for a period of not less than three (3) years and shall be submitted to the Executive Officer in the manner specified in the approved ACE and upon request by the Executive Officer, either within 24 hours or by a later date approved by the Executive Officer.
  - (K) Emission reductions included in an ACE shall not include reductions that are otherwise required by any State, federal or international rule, regulation, or statute.
  - (L) No person may comply with this section by operating under an ACE unless the applicant has first been notified in writing by the Executive Officer that the ACE application has been approved. Prior to such approval, applicants shall comply with the provisions of this section, including the emission limits in subsection (e)(1).
  - (M) No person may comply with this section by operating under an ACE that has been revoked as provided in subsections (g)(2)(G) and (g)(3).

(2) Application Process

(A) Applications for an ACE shall be submitted in writing to the Executive Officer for evaluation.

(B) The Executive Officer shall establish an internet site (“ACE internet site”) in which all documents pertaining to an ACE application will be made available for public review. The Executive Officer shall also provide a copy of all such documents to each person who has requested copies of the documents; these persons shall be treated as interested parties. The Executive Officer shall provide two separate public comment periods during the ACE Application process, as specified in this subsection (g)(2).

(C) Completeness Determination

Within 15 days after receiving an ACE application, the Executive Officer shall notify the applicant whether the application is deemed sufficiently complete to proceed with further evaluation. If the application is deemed incomplete, the notification shall identify the application’s deficiencies. The Executive Officer shall have an additional 15-day period for reviewing each set of documents or information submitted in response to an incomplete determination. Nothing in this subsection prohibits the Executive Officer from requesting additional information from the applicant, during any part of the ACE application process, which the Executive Officer determines is necessary to evaluate the application.

(D) Notice of Completeness and 30-Day First Public Comment Period

After an ACE application has been deemed complete, the Executive Officer shall provide a 30-day public comment period to receive comments on any element of the ACE application and whether the Executive Officer should approve or disapprove the ACE application based on the contents and merits of the application. The Executive Officer shall notify all interested parties of the following:

1. the applicant(s);
2. the start and end dates for the 30-day first comment period; and
3. the address of the ACE internet site where the application is posted.

The Executive Officer shall also make this notification available for public review on the ACE internet site.

(E) Proposed Action and 15-Day Second Public Comment Period

Within 30 days after the first public comment period ends, the Executive Officer shall notify the applicant and all interested parties of ARB’s proposed

approval or disapproval. This notification shall propose to approve the application as submitted, disapprove the application, or approve the ACE application with modifications as deemed necessary by the Executive Officer. The notification shall identify the start and end dates for the 15-day second public comment period. During the second public comment period, any person may comment on the Executive Officer's proposed approval or disapproval of the ACE application and any element of the application. The Executive Officer shall also make this notification available for public review on the ACE internet site.

(F) Final Action

Within 15 days after the second public comment period ends, the Executive Officer shall take final action to either approve or deny an ACE application and shall notify the applicant accordingly. If the application is denied or modified, the Executive Officer shall state the reasons for the denial or modification in the notification. The notification to the applicant and approved ACE plan, if applicable, shall be made available to the public on the ACE internet site. In addition, the Executive Officer shall consider and address all comments received during the first and second public comment periods, and provide responses to each comment on the ACE internet site.

(G) Notification to the Executive Officer of Changes to an Approved ACE

The applicant shall notify the Executive Officer in writing within 30 days upon learning of any information that would alter the emissions estimates submitted during any part of the ACE application process. If the Executive Officer has reason to believe that an approved ACE has been granted to a person that no longer meets the criteria for an ACE, the Executive Officer may, pursuant to subsection (g)(3) below, modify or revoke the ACE as necessary to assure that the applicant and subject vessel(s) will meet the emission reduction requirements in this section.

(3) Revocation or Modification of Approved ACEs

With 30-days notice to the ACE holder, the Executive Officer may revoke or modify, as needed, an approved ACE if there have been multiple violations of the ACE provisions or the requirements of the approved ACE plan; or if the Executive Officer has reason to believe that an approved ACE has been granted that no longer meets the criteria or requirements for an ACE or the applicant can no longer comply with the requirements of the approved ACE in its current form. Public notification of a revocation or modification of an approved ACE shall be made available on the ACE internet site.

**(h) Noncompliance Fee in Lieu of Meeting Subsection (e)(1)**

The Executive Officer may permit a person (“person”) to pay noncompliance fees (“fees”) in lieu of meeting the requirements of subsection (e)(1). Payment of the fees notwithstanding, all other provisions of this section shall continue to apply. No person shall be permitted to pay the fees unless the person meets the notification requirements in subsection (h)(1) and the requirements in either subsections (h)(2), (h)(3), or (h)(4), as specified below:

(1) Notification Requirements

Before the person’s vessel enters Regulated California Waters from waters outside Regulated California Waters, the Executive Officer must receive notice that the person will not meet the requirements of subsection (e)(1) while operating within Regulated California Waters, but the person will instead meet the requirements of this subsection (h). If the Executive Officer has not received such notice and the person enters Regulated California Waters, the person will be in violation of this section and will not be permitted to pay the fees in lieu of meeting the requirements of subsection (e)(1).

(2) Noncompliance for Reasons Beyond a Person’s Reasonable Control

Any person wishing to pay the fees under this subsection (h)(2) shall meet the following criteria:

(A) Demonstration of Need

The person shall, through adequate documentation, demonstrate to the Executive Officer’s satisfaction that the person’s noncompliance with the requirements of subsection (e)(1) is beyond the person’s reasonable control. For the purposes of this paragraph, “beyond the person’s reasonable control” applies only when one or more of the following sets of circumstances (1, 2, or 3) applies:

1. Unplanned Redirection

This provision applies only when all of the following criteria are met:

- a. after leaving the last port of call, the person’s vessel was redirected from his/her original, officially logged, non-California destination to a California port, roadstead, or terminal facility (collectively “port”); and
- b. the vessel does not contain a quantity of fuel sufficient for the engines to meet the requirements of subsection (e)(1) and cannot comply using the alternative emission control strategies under an approved ACE.

2. Inadequate Fuel Supply

This provision applies only when all of the following criteria are met:

- a. the person made good faith efforts to acquire a quantity of fuel sufficient for the engines to meet the requirements of subsection (e)(1); and
- b. the person was unable to acquire fuel sufficient for the engines to meet the requirements of subsection (e)(1) and cannot comply using the alternative emission control strategies under an approved ACE.

3. Inadvertent Purchase of Defective Fuel

This provision applies only when all of the following criteria are met:

- a. based on the fuel supplier's certification of the fuel specifications, the person reasonably believed, and relied on such belief, that the fuel the person purchased on the route from the vessel's home port to California would enable the engines to meet the requirements of subsection (e)(1);
- b. the person determined that the vessel's engines in fact will not meet the requirements of subsection (e)(1) using any of the fuel purchased under paragraph 3.a. above and the person cannot comply using the alternative emission control strategies under an approved ACE; and
- c. the vessel is already on its way to California, and there are no other ports of call on the vessel's route where fuel can be purchased sufficient to meet the requirements of subsection (e)(1).

(B) Payment of Fees

Upon meeting the requirements of paragraph (A) in this subsection (h)(2), the person shall pay the fees for every port visit, as specified in subsection (h)(5) below.

(C) Executive Officer Review

For the purposes of verifying the demonstration of need as specified in paragraph (A) above, the Executive Officer may consider and rely on any facts or circumstances the Executive Officer believes are appropriate, including but not limited to: the fuel supplier's ability or failure to provide adequate fuel ordered by the person; any material misrepresentation by the fuel supplier concerning the fuel specifications; the reasonableness of the person's reliance on fuel suppliers with a history of supplying fuel

inadequate for meeting the requirements of subsection (e)(1); and force majeure.

(3) Noncompliance for Vessels to Be Taken out of Service for Modifications

If a person cannot meet the requirements of subsection (e)(1) without vessel modifications, and such modifications cannot be completed prior to the effective date of subsection (e)(1), the Executive Officer may permit the person to pay the fees as specified in this subsection. This provision also applies to vessels that will undergo modifications pursuant to an Executive Officer approved Alternative Control of Emissions (ACE) Plan. The vessel must be scheduled to complete the necessary modifications (e.g. during a dry dock operation) as soon as possible, but no later than 5 years after the effective date of this section. For this provision to apply, the person shall meet all of the following criteria:

(A) Demonstration of Need

The person shall provide the Executive Officer a Compliance Report, signed by the Chief Engineer of the person's vessel, which:

1. identifies the specific vessel modifications ("modifications") (e.g., installation of additional fuel tanks, fuel cooling systems) the person plans to use for meeting the requirements of subsection (e)(1) or an ACE Plan;
2. identifies the specific date by which the modifications will be completed (i.e., while the vessel is in dry dock); and
3. demonstrates to the satisfaction of the Executive Officer that the modifications will be made at the earliest possible date (e.g., the vessel has been scheduled for the earliest available dry dock appointment).

(B) Payment of Fees

Upon meeting the requirements of paragraph (A) in this subsection (h)(3), the person shall pay the fees for every port visit, as specified in subsection (h)(5) below.

(C) Proof of Modifications Actually Performed

Within ten (10) business days after the scheduled or actual completion of the modifications, whichever occurs first, the person shall provide written certification to the Executive Officer that the modifications specified under this subsection (h)(3) have been completed. If the modifications have not been completed, the person shall certify which modifications have been completed, which have not, and the anticipated completion date for the remaining modifications. The notification requirement specified in this paragraph, the notification requirements in subsection (h)(1) above, and the fee provisions in subsection (h)(5) below shall apply until all the modifications have been completed.

(4) Noncompliance Based on Infrequent Visits and Need for Vessel Modifications

If a person cannot meet the requirements of subsection (e)(1) without modifications for the vessel at issue, and that vessel will make no more than two California voyages per calendar year, and no more than 4 California voyages after January 1, 2010 during the life of the vessel, the Executive Officer may permit the person to pay the fees as specified in this subsection.

(A) Demonstration of Need

The person shall demonstrate to the satisfaction of the Executive Officer that modifications to the vessel are necessary to meet the requirements of subsection (e)(1), and that the vessel shall meet the visitation limits specified in this subsection (h)(4).

(B) Payment of Fees

Upon meeting the requirements of paragraph (A) above, the person shall pay the fees for every port visit as specified in subsection (h)(5) below.

(5) Calculation and Payment of Fees

For each port visit, the person who elects to pay the fees pursuant to this subsection (h) shall pay the applicable fees shown in Table 1. The person shall deposit the fees in the port's Noncompliance Fee Settlement and Air Quality Mitigation Fund, if one was established pursuant to paragraph (C) below, prior to leaving the California port or by a later date approved by the Executive Officer. If no such port fund exists, the person shall deposit the fees into the California Air Pollution Control Fund as directed by the Executive Officer. Port visits shall be cumulative over the life of the vessel.

(A) Noncompliance Fee Schedule

Table 1: Noncompliance Fee Schedule, Per Vessel

Visit	Fee
1 <sup>st</sup> Port Visited	\$32,500
2 <sup>nd</sup> Port Visited	\$65,000
3 <sup>rd</sup> Port Visited	\$97,500
4 <sup>th</sup> Port Visited	\$130,000
5 <sup>th</sup> or more Port Visited	\$162,500

(B) The fees shown in Table 1 shall be assessed by the Executive Officer at the time of the port visit. However, if for any reason the person is not notified by the Executive Officer of the assessed fee by the end of the port visit, the person shall nevertheless be responsible for payment of the appropriate fee as specified in this subsection (h) prior to leaving the California port or by a later date approved by the Executive Officer.

(C) If feasible, the Executive Officer shall enter into enforceable agreements with each port that will receive the fees. The agreements shall require that the fees be used by the ports only to fund projects that will substantially reduce emissions of diesel PM, NOx, or SOx from on-site sources, sources within 2 miles of port boundaries, or ocean-going vessels operated within Regulated California Waters, except that the fees shall not be used to fund projects on vessels from which noncompliance fees were paid. Fees intended for ports that do not have such agreements at the time the fees are paid shall be deposited into the California Air Pollution Control Fund.

**(i) Test Methods**

The following test methods or alternative test methods that are demonstrated to the written satisfaction of the Executive Officer to be equally or more accurate, shall be used to determine compliance with this section:

- (1) Test methods used to determine whether fuels meets the requirements of marine gas oil (DMA or DMX) or marine diesel oil (DMB), as specified in subsection (e)(1), shall be the methods specified in International Standard ISO 8217 (as revised in 2005), which is incorporated herein by reference.
- (2) The sulfur content of fuels shall be determined pursuant to International Standard ISO 8754 (as adopted in 2003), which is incorporated herein by reference.
- (3) For purposes of determining compliance with the specifications in (e)(1)(A), an observed value or a calculated value shall be rounded “to the nearest unit” in the last right-hand digit used in expressing the specification limit, in accordance with

the rounding method of ASTM Designation E 29-93a, for Using Significant Digits in Test Data to Determine Conformance with Specifications (published May 1993) which is incorporated herein by reference.

**(j) Sunset, Technology Re-evaluation, California Regulated Waters, Baseline, and Test Method Review**

- (1) If the Executive Officer determines that the International Maritime Organization or the United States Environmental Protection Agency have adopted regulations for main diesel engines that will achieve equivalent or greater emission reductions from ocean-going vessels in Regulated California Waters compared to the emission reductions resulting from this regulation, the Executive Officer shall propose to the Board for its consideration the termination of the requirements of this section or other modifications to the section as deemed appropriate by the Executive Officer.
- (2) On or before January 31, 2012, the Executive Officer shall re-evaluate the feasibility of an emission limit based on using marine gas oil with no greater than 0.10 percent sulfur by weight specified in subsection (e)(1)(A). The re-evaluation shall consider, but not be limited to:
  - (A) the availability of 0.10 percent sulfur marine gas oil at bunkering ports worldwide;
  - (B) the ability of petroleum refiners and marine fuel suppliers to deliver 0.10 percent sulfur fuel at volumes sufficient to comply with the regulation; and
  - (C) technological and economic feasibility of using the lower sulfur fuel in the main engine.
- (3) Pursuant to paragraph (2) of this subsection (j), if the Executive Officer determines that sufficient 0.10 percent sulfur MGO is not available worldwide to comply with a lower emissions limit, the Executive Officer shall propose appropriate changes to the Board prior to July 1, [2012 -2013].
- (4) The Executive Officer shall periodically review the California baseline determinations by the National Oceanic and Atmospheric Administration (NOAA) to determine if updates to the baseline maps incorporated by reference in this section are necessary. If modifications to the baseline maps are determined to be necessary, the Executive Officer shall conduct a public hearing as soon as practicable to amend this section accordingly.
- (5) The Executive Officer shall periodically review the test methods incorporated by reference in this section to determine if updates to the referenced methods are necessary. If updates to the test methods are determined to be necessary, the

Executive Officer shall conduct a public hearing as soon as practicable to amend this section accordingly.

- (6) No later than January 31, 2013, the Executive Officer shall evaluate the feasibility of extending the requirements of this section to 50, 100, or 200 nautical miles from the California baseline or any other distance from the California baseline as deemed appropriate by the Executive Officer. If the Executive Officer finds that extending the boundary of the Regulated California Waters will result in improved air quality, the Executive Officer shall propose to the Board for its consideration the extension of the requirements of this section to a distance further offshore or other modifications to the section as deemed appropriate by the Executive Officer. This evaluation shall consider, but not be limited to: tracer studies, air quality modeling, and meteorological data analysis that evaluate the transport of OGV emissions and their impact on onshore air quality and public health; availability of sufficient fuel to comply; operational impacts on ships; technical feasibility; and economic impacts.

**(k) Severability**

Each part of this section shall be deemed severable, and in the event that any part of this section is held to be invalid, the remainder of this section shall continue in full force and effect.

NOTE: Authority cited: Sections 39600, 39601, 41510, 41511, 43013, and 43018, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 39000, 39001, 39002, 39003, 39500, 39515, 39516, 41510, 41511, 43013, 43016, and 43018, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).