

**DRAFT PROPOSAL FOR DISCUSSION ONLY AT
MAY 18, 2005 PUBLIC WORKSHOP**

**PROPOSED MEASURE FOR AUXILIARY
DIESEL ENGINES OPERATED ON OCEANGOING SHIPS
IN CALIFORNIA COASTAL WATERS**

(a) Purpose

The purpose of this control measure is to reduce emissions of diesel particulate matter (PM) and nitrogen oxides resulting from the use of auxiliary diesel engines operated on oceangoing ships located within California Coastal Waters, California inland waters, California estuarine waters, or at a California port or terminal facility.

(b) Applicability

Except as provided in section (c), this regulation applies to any person who owns or operates an oceangoing vessel, including foreign-flagged vessels, in California Coastal Waters, at a California port or terminal facility, in California inland waters, or in California estuarine waters.

(c) Exemptions

- (1) The requirements of this regulation do not apply to any person who owns or operates an oceangoing vessel while in innocent passage, as defined in section (d), through California Coastal Waters.
- (2) *[Other exemptions may be identified through the public regulatory development process]*

(d) Definitions

For the purposes of this section, the following definitions apply:

- (1) "ASTM" means the ASTM International
- (2) "Auxiliary engine" means an engine on an oceangoing vessel designed primarily to provide power for uses other than propulsion, except that all diesel-electric engines shall be considered "auxiliary diesel engines" for purposes of this regulation.

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- (3) “California Coastal Waters” means that area between the California Coastline and a line starting at the California-Oregon border at the Pacific Ocean

thence to 42.0°N 125.5°W
thence to 41.0°N 125.5°W
thence to 40.0°N 125.5°W
thence to 39.0°N 125.0°W
thence to 38.0°N 124.5°W
thence to 37.0°N 123.5°W
thence to 36.0°N 122.5°W
thence to 35.0°N 121.5°W
thence to 34.0°N 120.5°W
thence to 33.0°N 119.5°W
thence to 32.5°N 118.5°W

and ending at the California-Mexico border at the Pacific Ocean.

- (4) “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.
- (5) “Diesel-electric engine” means a diesel engine connected to a generator that is used as a source of electricity for propulsion or other uses.
- (6) “Diesel Particulate Matter (PM)” means the particles found in the exhaust of diesel engines.
- (7) “Emission Control Strategy” means any device, system, or strategy employed with a diesel engine that is intended to reduce emissions, including, but not limited to, utilization of shore-side electrical power, diesel oxidation catalysts, selective catalytic reduction systems, fuel additives, diesel particulate filters, alternative diesel fuels, water emulsified fuels, lower sulfur fuels, and any combination of the above.
- (8) “Estuarine Waters” means an arm of the sea or ocean that extends inland to meet the mouth of a river.
- (9) “Executive Officer” means the executive officer of the Air Resources Board, or his or her designated representative.
- (10) “Hydrocarbon (HC)” means the sum of all hydrocarbon air pollutants.
- (11) “Inland Waterways” means any navigable river or waterway within the State of California.
- (12) “ISO” means the International Organization for Standardization

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- (13) “Innocent Passage” means the continuous and expeditious navigation through California Coastal Waters (CCW) for the purpose of traversing the sea without entering internal waters or calling at a roadstead or port facility outside internal waters. “Innocent passage” does not include passage of an oceangoing vessel if that vessel engages in any of the prejudicial activities specified in UNCLOS 1982, Article 19, subpart 2. For the purposes of this definition, “continuous and expeditious navigation” includes stopping and anchoring only to the extent such stopping and anchoring are required by the U.S. Coast Guard; are rendered necessary by force majeure or distress; or are for the purpose of rendering assistance to persons, ships, or aircraft in danger or distress.
- (14) “Marine Diesel Oil” means any fuel that meets all the specifications for DMB grade as defined in Table I of International Standard ISO 8217, as revised _____.
- (15) “Marine Gas Oil” 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 _____.
- (16) “Oceangoing Vessel” means a commercial or military vessel meeting any one of the following criteria:
- (A) a vessel with a “registry” (foreign trade) endorsement on its United States Coast Guard certificate of documentation, or a vessel that is registered under the flag of a country other than the United States;
 - (B) 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;
 - (C) 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
 - (D) a vessel propelled by a marine compression ignition engine with a per-cylinder displacement of greater than or equal to 30 liters.
- (17) “Nitrogen Oxides (NO_x)” means compounds of nitric oxide (NO), nitrogen dioxide (NO₂), and other oxides of nitrogen, which are typically created during combustion processes and are major contributors to smog formation and acid deposition.
- (18) “Non-Methane Hydrocarbons (NMHC)” means the sum of all hydrocarbon air pollutants except methane.
- (19) “Owner or Operator” means any person subject to the requirements of this regulation, including but not limited to:

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- (A) an individual, trust, firm, joint stock company, business concern, partnership, limited liability company, association, or corporation including but not limited to, a government corporation; and
- (B) any city, county, district, commission, the state or any department, agency, or political subdivision thereof, any interstate body, and the federal government or any department or agency thereof to the extent permitted by law.

(20) "Roadstead" means any facility, located anywhere within California Coastal Waters, that is used for the loading, unloading, and anchoring of ships.

(e) Requirements

(1) Cleaner Fuels

Except as provided in sections (c), (f) and (g), the owner or operator of an oceangoing vessel shall only operate onboard auxiliary diesel engines on the fuels specified below while operating at a California port or terminal facility; in any California estuarine waters; in any California inland waterways; or in California Coastal Waters:

- (A) Beginning July 1, 2006, marine gas oil or marine diesel oil with a sulfur content of no more than 0.2 percent by weight;
- (B) Beginning January 1, 2010, marine gas oil or marine diesel oil with a sulfur content of no more than 0.1 percent by weight.

(2) Recordkeeping, Reporting, and Monitoring Requirements

[We welcome suggestions that will reduce the paperwork burden on vessel owner/operators while ensuring compliance with the provisions of this rule. We are not requiring the following information in any specific format, although a recommended form may be developed if it would be useful to the marine industry. To the extent that such records are already included in the United States Coast Guard "Oil Record Book for Ships," or existing engine room or machinery log books, duplication of these records is not necessary]

(A) Recordkeeping

Owners or operators of oceangoing vessels subject to the requirements of this rule shall maintain records in English recording the following information for at least the previous three years, but no earlier than July 1, 2006:

1. The date, time, and position (longitude and latitude) of the vessel for each entry into and departure from California Coastal Waters;

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2. The date, time, and position of the vessel at the initiation and completion of any fuel switching procedures used to comply with the requirements of section (e)(1). Completion of fuel switching procedures is the moment at which a given engine (or engines) has completely transitioned from operation on one fuel to another;
3. The type of fuel used in each auxiliary engine operated in California Coastal Waters, and the actual percent by weight sulfur as reported by the fuel supplier or fuel testing firm; and
4. Records of the types and amounts of all fuels purchased for use on the vessel, and the actual percent by weight sulfur content of such fuels as reported by the fuel supplier or a fuel testing firm

(B) Reporting and Monitoring

1. Owners or operators of oceangoing vessels shall provide in writing the information specified in section (e)(2)(A) to the Executive Officer upon request
2. Owners or operators of oceangoing vessels shall provide additional information to the Executive Officer upon request, including, but not limited to: (i) the make, model, rated power, and serial numbers of all auxiliary engines subject to section (e) (1); (ii) the capacity and locations of all fuel tanks on applicable vessels; and (iii) specifications for piping, mixing tanks or other equipment used to supply fuels to applicable auxiliary engines.
3. Owners or operators of oceangoing vessels shall provide access to the vessel to agents or employees of the ARB for the purpose of determining compliance with the this regulation, including access to records required under section (c)(2)(A), and for the purposes of collecting fuel samples for testing and analysis.

(f) Special Provisions for Vessels Requiring Modifications

- (1) Owners or operators of oceangoing vessels may apply for up to a six month extension to the requirements of section (e)(1)(A), depending on the extent of modifications necessary to the vessel.
- (2) Applications must be submitted to the Executive Officer prior to July 1, 2006, and must include the following information:
 - (A) The company name, address, and contact information for the owner or operator of the vessel
 - (B) The vessel name, country flag, and IMO identification number

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- (C) A detailed description of the modifications necessary to comply with section (e)(1)(A) of the regulation
- (D) estimates of the cost and time to perform the necessary modifications to the vessel

[Note: We have removed the “Vessel Emission Reduction Plan for Frequent Visitors” provisions included in the last draft proposal presented in November 2004. We plan to develop these provisions independently from this draft proposal in 2005]

(g) Alternative Compliance Plan (ACP)

[The purpose of this provision is to provide owners and operators of oceangoing ships with an alternative method to comply with section (e)(1), “Cleaner Fuels”]

(1) Requirements

- (A) Owners or operators of oceangoing ships may elect to be subject to the requirements of this section (f) in lieu of the requirements of section (e)(1), “Cleaner Fuels.” Under this section (f), alternative emission control strategies to the requirements in section (e)(1) can be utilized as long as they achieve equivalent or greater reductions of both NO_x and PM emissions from auxiliary engines over the applicable calendar year.
- (B) An owner or operator must submit an application which demonstrates that the alternative emission control strategies under the proposed ACP will meet the requirements of section (f)(1)(A).
- (C) Alternative emission control strategies may include, but are not limited to:
 - 1. utilization of shore-side electrical power in lieu of onboard generators,
 - 2. auxiliary engine modifications,
 - 3. exhaust treatment control,
 - 4. use of alternative fuels such as emulsified diesel fuels, and
 - 5. operational controls.
- (D) The application demonstrating compliance under the ACP must contain, at a minimum, the following information:
 - 1. completed ACP application form (*to be developed*) listing basic information about the owner/operator of the vessel, vessel type, and engine/s subject to the ACP.
 - 2. documentation, calculations, emissions test data, or other information that establishes both the NO_x and PM emission reductions from auxiliary engines will be equivalent to or greater than the emission reductions achieved with compliance with section (e)(1).
 - 3. methods for verifying continuing compliance with the proposed ACP, including recordkeeping and testing procedures, as necessary.

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- (E) Emission reduction calculations demonstrating equivalence with the requirements of section (e)(1) shall only include NO_x and PM emissions from auxiliary engines within any of the locations specified in subsection (b).
 - (F) An owner or operator complying under an approved ACP shall maintain operating records in a manner and form consistent with determining compliance with the ACP. 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 ACP and upon request by the Executive Officer.
 - (G) An ACP to reduce NO_x and PM emissions shall not result in increases in other air contaminants (including, but not limited to hydrocarbons, sulfur oxides, and carbon monoxide) relative to the emissions that would have occurred by complying with section (e)(2).
 - (H) Emission reductions included in an ACP must not be required by any local, state, federal or international rule, regulation, or statute.
 - (I) Compliance under an ACP shall be valid only after the applicant has been notified in writing by ARB that their application has been approved.
- (2) Application Process
- (A) Applications for compliance under an ACP shall be submitted to the Executive Officer for evaluation.
 - (B) The ARB shall notify the applicant in writing whether their application is approved or denied within 90 days of submittal.
 - (C) Additional information may be provided by the applicant after submittal of the original application. However, the ARB shall have 90 days after submittal of the additional information to notify the applicant of approval or denial of the ACP.
 - (D) The owner or operator of a vessel subject to the ACP, shall notify the ARB in writing within 30 days if they learn of any information which would alter the emissions estimates submitted in their application.
 - a) If the ARB believes that an ACP has been granted to an owner or operator of a vessel that no longer meets the criteria for an ACP, the ARB may modify or revoke an ACP as necessary to assure that the vessel will meet the emission reduction criteria.

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(h) Test Methods

The following test methods, or alternative test method demonstrated to be equally accurate as approved by the Executive Officer, shall be used to determine compliance with this rule:

[The test methods specified in ISO 8217 (or equivalent ASTM methods) will be specified when the current revision of ISO 8217 is finalized]

(i) Sunset Provision

If the Executive Officer determines that the International Maritime Organization or the United States Environmental Protection Agency have adopted regulations that will achieve equivalent or greater emission reductions in California compared to the emission reductions resulting from this regulation, then the Executive Officer will hold a public hearing to consider terminating the requirements of this rule.

(j) 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.