

**PARTIAL REGULATION THAT INCLUDES PROVISIONS FOR CONTAINER SHIPS, PASSENGER SHIPS, AND REFRIGERATED CARGO SHIPS ONLY.**

DRAFT  
At-Berth Ocean-Going  
Vessel Regulation

6/1/07

(a) Purpose

The purpose of this regulation is to reduce oxides of nitrogen and diesel particulate matter emissions from the operation of auxiliary engines on ocean-going vessels and harbor craft when the ocean-going vessel or harbor craft is tied up at a berth at a California port.

**[This draft contains provisions for container, passenger, and refrigerated cargo vessels only; requirements for other vessel categories will be available in the next draft.]**

(b) Applicability

(1) Except as provided below and in subsection (d), this section applies to any person who owns, operates, charters, rents, or leases any ocean-going vessel that visits a California port.

(2) Exemptions

**[This subsection to be developed and provided in the next draft.]**

(c) Definitions

(1) Alternative controls

(2) California ports

(A) For the purposes of subsection (d), ports refer to the Port of Hueneme, Port of Los Angeles and Port of Long Beach, Port of Oakland, Port of San Diego, and Port of San Francisco.

(B) For the purposes of this regulation, POLA and POLB are treated as one port.

(3) Container ocean-going vessel

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- (4) Diesel particulate matter
- (5) Emergency event
- (6) Executive officer
- (7) Fleet refers to ocean-going vessels visiting California ports owned and/or operated under the direct control of a person or company. Direct control includes, but is not limited to, vessels for which is operated under a contract, lease, or other arrangement with a third-party for the third-part to operate the vessel.
- (8) Ocean-going Vessel
- (9) Operate
- (10) Own
- (11) Oxides of nitrogen
- (12) Passenger ocean-going vessel
- (13) Person
- (14) Refrigerated cargo (or Reefer) ocean-going vessel
- (15) Responsible Official refers to an individual employed by the company with the authority to certify that all ocean-going vessels in a fleet comply with applicable requirements of this regulation
- (16) Tied to berth
- (17) Utility
- (18) Verified emission control strategy
- (19) Visit

**[Section will be fully fleshed out for next meeting. Definitions, as appropriate, will be consistent with those in Auxiliary Engine Regulation.]**

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(d) Requirements

(1) Container, Passenger, and Refrigerated Cargo (or Reefer) Ocean-going vessels

(A) Limited auxiliary engine operation

1. Except as provided in (d)(1)(B) or (d)(1)(C), beginning January 1, 2015, no person shall operate any auxiliary diesel engine after one hour of the ocean-going vessel being tied up to a berth at a California port for the following ocean-going vessels. These engines can be operated again within one hour of the vessel leaving port.

a. Container ocean-going vessels

- i. Ocean-going vessel with TEU capacity greater than 4,000 and making 5 or more visits in a calendar year to the same California port.
- ii. Ocean-going vessels with TEU capacity 4,000 or less and making 12 or more visits in a calendar year to the same California port

b. Passenger ocean-going vessels making 10 or more visits in a calendar year to the same California port

c. Reefer ocean-going vessels making 10 or more visits in a calendar year to the same California port

2. Except as provided in (d)(1)(B) or (d)(1)(C), beginning January 1, 2020, no person shall operate any auxiliary diesel engine after one hour of the ocean-going vessel being tied up to a berth for the following ocean-going vessels. These engines can be operated again within one hour of the vessel leaving port.

a. Container ocean-going vessels making 4 or more visits in a calendar year to the same California port

b. Passenger ocean-going vessels making 3 or more visits in a calendar year to the same California port

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- c. Reefer ocean-going vessels making 5 or more visits in a calendar year to the same California port and averages 40 hours or more per visit
3. The ocean-going vessels affected by these requirements will be based upon the ocean-going vessel activity for the previous calendar year.
- a. The fleet owner/operator may revise which ocean-going vessels are affected by these requirements. A revised list of affected vessels shall be submitted to the Executive Officer. At a minimum, the revised list of affected vessels must make the same number of visits to each California port as the vessels identified based upon the previous calendar year of vessel activity.

(B) Fleet Emissions

The purpose of this section is to allow any person the option of complying with the requirements of this subsection, (d)(1)(B), in lieu of the requirements of subsection (d)(1)(A).

- 1. The NO<sub>x</sub> and PM emissions for the fleet's auxiliary engines must be equal to or less than the fleet's emissions if the applicable ocean-going vessels in the fleet satisfies the requirements of (d)(1)(A).
- 2. The following emissions rates shall be used to determine the fleet's emissions and compliance with(d)(1)(B)1:
  - a. Results from emission measurements used to satisfy a marine engine standard, including US EPA emission standards for marine engines, and MARPOL 73/78. If such information is not available for a specific engine, the NO<sub>x</sub> emission rate for an auxiliary engine is assumed to be 13.9 g/bhp-hr and the PM emission rate assumed to be 0.38 g/bhp-hr (based on 0.5 percent sulfur marine gas oil). A PM emission rate of 0.25 g/bhp-hr can be used if 0.1 percent sulfur marine gas oil is used in the auxiliary engine; and

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- b. Ocean-going vessels meeting the requirements of (d)(1)(A) are assumed to have the auxiliary engine emissions reduced by 90 percent; and
  - c. Results from emission measurements from a verified emission control strategy may be used in conjunction with engine emission information; and
  - d. Results of emission measurements approved by the Executive Officer.
3. The Executive Officer may request periodic emission testing or other types of monitoring to verify the proper operation of alternative control technologies.

(C) Cleaner engines

The purpose of this section is to allow any person the option of complying with the requirements of this sub-section, (d)(1)(C), in lieu of the requirements of sub-section (d)(1)(A).

1. By January 1, 2015, 40 percent of the ocean-going vessels in the fleet shall be equipped with auxiliary engines that satisfy an emission limit of 2.5 g/bhp-hr for NO<sub>x</sub> and 0.08 g/bhp-hr for PM. When the ocean-going vessel is tied up to a berth, the ocean-going vessels in the fleet shall be operated such that ocean-going vessels using these cleaner auxiliary engines represent at least 60 percent of the ocean-going vessel calls to the port for the fleet.
2. By January 1, 2020, 60 percent of the ocean-going vessels in the fleet shall be equipped with auxiliary engines that satisfy an emission limit of 2.5 g/bhp-hr for NO<sub>x</sub> and 0.08 g/bhp-hr for PM. When the ocean-going vessel is tied up to a berth, the ocean-going vessels in the fleet shall be operated such that ocean-going vessels using these cleaner auxiliary engines represent at least 80 percent of the ocean-going vessel calls to the port for the fleet.

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- (2) Autocarrier Ocean-Going Vessels, Dry Bulk Ocean-Going Vessels, General Cargo Ocean-Going Vessels, and Tankers

**[To be developed and provided in the next draft.]**

- (3) Ports

- (A) Ports shall provide the necessary electrical infrastructure to allow ocean-going vessels subject to (d)(1)(A) to satisfy the requirements of that sub-section; and

- 1. At a minimum, the ports shall provide the necessary electrical infrastructure for all berths that receive X visits.

- (B) Ports shall add the necessary electrical infrastructure to newly constructed berths that are built after January 1, 2008, or berths that are renovated after January 1, 2008, where ocean-going vessels subject to (d)(1)(A) frequent.

- (4) Circumvention

Operation of vessel activity to circumvent the requirements of this subsection is deemed a violation of this regulation.

- (e) Reporting and Recordkeeping Requirements

- (1) Limited auxiliary engine operation

- (A). The Responsible Official shall provide the following reports to the Executive Officer:

- 1. A status report, due to the Executive Officer by March 1, 2014, regarding the ocean-going vessels that would be affected by the requirements of (d)(1)(A) and the ability of that ocean-going vessel to use shore power. The report should contain the following items:

- a. If no ocean-going vessels are affected, the report should indicate no ocean-going vessels satisfy the criteria of (d)(1)(A); or

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- b. List of ocean-going vessels that would be subject to the criteria of (d)(1)(A). The list should have the following information:
    - i. Name of the ocean-going vessel, Lloyd's number, vessel category, and for container ocean-going vessels, the size of the ocean-going vessel, in terms of TEU capacity; and
    - ii. The port(s) each ocean-going vessel(s) typically visit that satisfied the ocean-going vessel visit criteria
2. An annual statement of compliance
- a. The initial annual statement of compliance is due to the Executive Officer by March 1, 2016. This statement is for the 2015 calendar year. Thereafter, the annual compliance statement is due to the Executive Officer by March 1 of each year certifying compliance with the requirements for the previous calendar year.
  - b. The annual statement of compliance shall include the following:
    - i. A statement signed by the Responsible Official that the requirements of (d)(1)(A) are being satisfied or a statement signed by the Responsible Official that the requirements of (d)(1)(A) are largely satisfied. In the latter case, all noncompliant situations shall be identified, including identifying the affected ocean-going vessel, date of activity, port where the incident occurred, and an explanation given for noncompliance; and
    - ii. A summary of ocean-going vessel activity for the applicable calendar year, including identifying each ocean-going vessel subject to these requirements, Lloyd's number for the ship, vessel type, the number of visits made by this ocean-going vessel to each California port, and for container ocean-going vessels,

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the size of the ocean-going vessel in TEU capacity.

- iii. Beginning in the compliance report for the year 2020, if applicable, list all reefer ships that made at least 5 visits to the same California port and averaged less than 40 hours for each visit.
- c. If no ocean-going vessels are subject to the criteria of (d)(1)(A), an annual compliance statement must still be filed with the Executive Officer indicating no ocean-going vessels are subject to the requirements of the regulation.

(2) Fleet Emissions

(A) The Responsible Official shall provide the following reports to the Executive Officer:

1. A status report, due to the Executive Officer by March 1, 2014, that includes the following items:
  - a. List of the ocean-going vessels included in the company's fleet; Lloyd's number for each vessel, vessel category, and identifying whether the ocean-going vessel would be subject to (d)(1)(A); and
  - b. For each ocean-going vessel in the fleet, information on the auxiliary engines, including the maximum KW rating of each engine; and
  - c. Identify the potential alternative control techniques that may be used to achieve the requirements of (d)(2)(B) for each ocean-going vessel, including the expected emissions reductions (e.g., percent emissions of each pollutant is reduced), status of implementation of the alternative control technique, and basis of expected reduction; and
  - d. Estimate of the fleet's annual emissions for NO<sub>x</sub> and PM after implementation of alternative control techniques, including a summary of the emissions

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for each ocean-going vessel (auxiliary engines only) that are part of the fleet

2. An annual statement of compliance
  - a. The initial annual statement of compliance is due to the Executive Officer by March 1, 2016. This statement is for the 2015 calendar year. Thereafter, the annual compliance statement is due to the Executive Officer by March 1 of each year certifying compliance with the requirements for the previous calendar year.
  - b. The following items, applicable to the calendar year in question, should be included with the statement of compliance:
    - i. A statement signed by the Responsible Official indicating that the NOx and PM emissions of the fleet are the same or less than the emissions of the fleet if the fleet complied with (d)(1)(A) or a statement signed by the Responsible Official that the requirements of (d)(1)(B) are largely satisfied. In the latter case, all noncompliant situations shall be identified, including identifying the affected ocean-going vessel, date of activity, and port where the incident occurred and explanation given for noncompliance; and
    - ii. A list of ocean-going vessels that are subject to (d)(1)(A), including, vessel type, the name of the vessel, and the vessel's Lloyd's number; and
    - iii. A list of ocean-going vessels in the fleet, including the name of the vessel and the vessel's Lloyd's number. For each ocean-going vessel in the fleet, provide information on the auxiliary engines, including the make, model, year of manufacture, maximum kw rating, emission rates of NOx and PM, in g/bhp-hr, and alternative control technique, if applicable; and

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- iv. If alternative controls are to be used to achieve the emission levels in section (d)(1)(C), provide a description of the technology used, achievable emission reduction, and supporting documentation (e.g., source test results or verification documentation); and
- v. A monthly summary of emissions which demonstrates compliance with the applicable emission standard (2015 or 2020), which includes the following:
  - 1. The fleet's NOx and PM emissions assuming compliance with (d)(1)(A); and
  - 2. The fleet's NOx and PM emissions based upon use of alternative control technologies
- vi. Detailed summary listing NOx and PM emissions for each ocean-going vessel. The summary shall include the NOx and PM emissions for each visit, the berthing time, and the auxiliary engine power load; and
- vii. Beginning in the compliance report for the year 2020, if applicable, list all reefer ships that made at least 5 visits to the same California port and averaged less than 40 hours for each visit
- viii. In determining v, and vi above, use appropriate emission factors and control factors, as described in section (d)(1)(B)2.

(B) Compliance shall be determined on a monthly basis

(3) Cleaner engines

(A) The Responsible Official shall provide the following reports to the Executive Officer:

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1. A status report, due to the Executive Officer by March 1, 2014, that includes the following items:
  - a. List of the ocean-going vessels included in the company's fleet; including the name of the vessel, vessel type, and the vessel's Lloyd's number; and
  - b. For each ocean-going vessel, power output capacity of each auxiliary engine, in KW, and
  - c. Description of alternative controls that may be used to achieve the emission levels in section (d)(1)(C), including status of implementation of the controls on the fleet.
  
2. An annual statement of compliance
  - a. The initial annual statement of compliance is due to the Executive Officer by March 1, 2016. This statement is for the 2015 calendar year. Thereafter, the annual compliance statement is due to the Executive Officer by March 1 of each year certifying compliance with the requirements for the previous calendar year; and
  - b. The following items, applicable for the calendar year in question, should be included with the statement of compliance:
    - i. A statement signed by the Responsible Official indicating the requirements of (d)(1)(C) are satisfied or a statement signed by the Responsible Official that the requirements of (d)(1)(C) are largely satisfied. In the latter case, all noncompliant situations shall be identified and explanation given for noncompliance;
    - ii. List of ocean-going vessels in the fleet, including the name of the vessel, vessel type, and the vessel's Lloyd's number;. For each vessel in the fleet, provide information on the auxiliary engines, including the make, model, year of manufacture, maximum kw rating, emission rates

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of NO<sub>x</sub> and PM, in g/bhp-hr, and description of the alternative control technique, if applicable; and

- iii. If alternative controls are to be used to achieve the emission levels in section (d)(1)(C), provide a description of the technology used, achievable emission reduction, and supporting documentation (e.g., source test results or verification documentation).
- iv. Beginning in the compliance report for the year 2020, if applicable, list all reefer ships that made at least 5 visits to the same California port and averaged less than 40 hours for each visit
- v. Demonstration of compliance with (d)(1)(C):
  - 1. List of ocean-going vessels in fleet, including identifying ocean-going vessels that are able to satisfy the applicable emissions standards given in section (d)(1)(C); and
  - 2. Estimate total visits made by the fleet and total visits made by ocean-going vessels that are able to satisfy the applicable emissions standards given in section (d)(1)(C).

(4) Port Reporting Requirements

(A) Ports where vessels subject to the provisions of (d)(1)(A) frequent must provide a report on the status of providing electrical shore infrastructure at the port

- 1. Status reports shall be submitted to the Executive Officer by the following dates:
  - a. March 1, 2010
  - b. March 1, 2013.

(B) Affected ports shall provide wharfinger information to the Executive Officer annually, beginning with the wharfinger information for the calendar year 2013. This information shall

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be provided to the Executive Officer no later than April 1 of the following year. At a minimum, the wharfinger information shall include for each ocean-going vessel visiting the port, the name of the ocean-going vessel, vessel type, vessel's Lloyds number, the operator of the ocean-going vessel, and the date and time the ocean-going vessel was initially tied to the berth and subsequently released from the berth.

- (5) Utilities shall provide to the Executive Officer the annual power usage, on a month-by-month basis, for each terminal equipped with shore power. This information shall be provided to the Executive Officer no later than April 1 of the following year, beginning in 2016 for power usage for the calendar year 2015.