

State of California  
AIR RESOURCES BOARD

**Notice of Public Availability of Modified Text and  
Availability of Additional Documents**

**PUBLIC HEARING TO CONSIDER THE ADOPTION OF REGULATIONS TO REDUCE  
EMISSIONS FROM DIESEL AUXILIARY ENGINES ON OCEAN-GOING VESSELS  
WHILE AT-BERTH AT A CALIFORNIA PORT**

Public Hearing Date: December 6, 2007  
Public Availability Date: August 22, 2008  
Deadline for Public Comment: September 8, 2008

At its public hearing on December 6, 2007, the Air Resources Board (the Board or ARB) approved the adoption of two identical regulations under different titles in the California Code of Regulations: 1) title 13, section 2299.3, and title 17, section 93118.3. Both sections will be referred to collectively hereafter as the “regulation.”

The regulation will reduce the public’s exposure to air pollutants from ships docked or “hotelled” at California’s major ports. Specifically, the regulation will significantly reduce emissions of oxides of nitrogen (NO<sub>x</sub>) and diesel particulate matter (diesel PM) from diesel-fueled auxiliary engines used aboard ocean-going ships while docked or at-berth at a California port. In addition, carbon dioxide (CO<sub>2</sub>, a greenhouse gas) emissions from at-berth, ocean-going vessels will also be reduced. The regulation supports the Board’s *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (approved in September 2000), the Goods Movement Emission Reduction Plan (2006), and the State’s Assembly Bill 32 (AB 32) (Stats. 2006, ch. 488) targets for greenhouse gas reductions.

**The Board’s Action**

At the December 6, 2007, hearing, the Board adopted Resolution 07-57 (appended to this notice as Attachment I), approving the adoption of the regulation with modifications. At the Board hearing, staff proposed suggested modifications (Attachment B to the Resolution) in response to comments received between the date the Initial Statement of Reasons was published (October 19, 2007) and the date of the Board hearing. The suggested modifications presented by staff and approved by the Board include:

1. Modify the operational requirements for onboard auxiliary diesel engines while vessels are at berth so that the requirements are based on a combination of shutting down auxiliary engines for specific percentages of a fleet’s visits and reducing, by the same percentages, the fleet’s onboard auxiliary engine power generation. Rename this option the “reduced onboard power generation” option. Add a new interim compliance date of January 1, 2017, to this option. Specifically, by January 1, 2014, require auxiliary engines to be shut down

(except for the allowable three or five hours of operation) for 50 percent of the fleet's vessel visits, and onboard auxiliary engine power generation of the fleet to be reduced by 50 percent. By January 1, 2017, require auxiliary engines to be shut down for 70 percent of the fleet's vessel visits, and onboard auxiliary engine power generation of the fleet to be reduced by 70 percent. By January 1, 2020, require auxiliary engines to be shut down for 80 percent of the fleet's vessel visits, and onboard auxiliary engine power generation of the fleet to be reduced by 80 percent.

2. Add a methodology for calculating the auxiliary engine power reductions required in the reduced onboard power generation option.
3. Consolidate the three technology-specific emission reduction compliance options to one technology-neutral emission reduction option and schedule. Rename this option the "equivalent emissions reduction option." Specifically, require 10 percent reduction of at-berth emissions by 2010, 25 percent reduction by 2012, 50 percent reduction by 2014, 70 percent reduction by 2017, and 80 percent reduction by 2020.
4. Allow reductions achieved earlier, or in excess of the 2010 requirement, to be applied to meeting the 2010, 2012, or 2017 emission reduction requirements and, similarly, allow reductions achieved in excess of the 2012 requirements to be used to meet the 2017 requirement, according to a specified procedure.
5. Add language to require a fleet operator that switches from the reduced onboard power generation option to the equivalent emissions reduction option to demonstrate compliance with the percent emission reduction requirement that applies at the time of the switch. In addition, not allow emission reductions that the fleet has achieved in excess of the applicable percent emission reduction to be used towards compliance with future requirements.
6. Modify the terminal plan requirements to clarify plan content and align plan submittals with the revised reduced onboard power generation and equivalent emissions reduction option schedules.
7. Modify the recordkeeping and reporting requirements to align with the revised reduced onboard power generation and equivalent emissions reduction option requirements and schedules.
8. Add a definition for "Regulated California Waters" and clarify the definitions for "Fleet" and "Person."
9. Allow alternative test methods for measuring engine emissions, add an emission limit for ammonia slip for onboard selective catalytic reduction (SCR) use, and add provisions for addressing onboard shore power equipment failures.

10. Add a methodology for determining the point of violation with the regulatory requirements.

At the hearing, the Board directed staff to make the following evaluations and modifications that were in addition to staff's suggested changes:

1. Evaluate the cost effectiveness of changing the de minimis fleet visit requirements, such that the minimum visits at which a fleet would be affected by the regulation would be based on the fleet's total ship visits to all affected ports in a year, not to each affected port. Allow staff to consider the results of these analyses before modifying the de minimis requirements for each affected ship category (container ships, passenger ships, and refrigerated cargo ships) to avoid including terminals that have only a few ship visits.
2. Modify the regulation to ensure a fleet is not penalized when a ship is unable to shut down auxiliary engines and connect to grid-based shore power when at berth because of an emergency event beyond the vessel's control. Allow these visits to be counted as shore-power visits; however, operation of the auxiliary engines during these visits would not be included in the fleet's compliance calculations. (For example, if a fleet chooses the reduced power generation option, not include the auxiliary engine power generation from these visits in the fleet's power reduction calculation, and if the fleet chooses the equivalent emissions reduction option, not include the auxiliary engine emissions from these visits in the fleet's emission reductions calculations.)

In Resolution 07-57, the Board directed the Executive Officer to incorporate the approved modifications set forth above into the proposed regulatory text, along with other modifications as may be appropriate, and to make such modifications available for a supplemental comment period of at least 15 days.

### **Modified Text Being Made Available**

At the Board's direction, staff worked with members of the affected industries, associations, and California ports to develop the required modifications. A more complete discussion of these proposed modifications is provided below. The proposed regulatory text, including staff's modifications, is appended to this notice as Attachment II. Additions to the initially noticed regulatory text are denoted by underline and deletions by ~~strikeout~~.

### **Summary of Proposed Modifications**

In addition to making the modifications suggested by staff at the Board hearing and the modifications requested by the Board, staff modified other areas of the regulation to clarify specific provisions and correct clerical errors.

The following is a summary of the substantive modifications made to each section and staff's rationale for making them. Because staff's original proposals for a new section 2299.3, title 13, and a new section 93118.3, title 17 are identical, identical modifications were made to both regulations.

**Modifications to title 13, California Code of Regulations, section 2299.3(b) and title 17, California Code of Regulations, section 93118.3(b): Applicability and General Exemptions**

Staff moved the fleet de minimis vessel visit criteria, originally in section (d)(1)(D), to the general exemption section of the regulation, because this was a more logical location for the language. The criteria specifies that container-ship fleets and refrigerated-cargo-ship fleets that visit a California port fewer than 25 times annually, and passenger-ship fleets that visit a California port fewer than 5 times, annually are exempt from the requirements in the regulation. (However, any shore-power equipped ship that visits a berth equipped with shore power must connect to the power during its visits, regardless of this exemption.) The de minimis visit criteria applies to all fleets, regardless of the compliance option they choose. Moving the language to this section, (b), ensures that the exemption applies to all fleets that may be subject to the regulation.

At the hearing, the Board directed staff to change these de minimis fleet visit requirements from a port-visit basis to a statewide-visit basis, depending on staff's economic analysis of such a modification. Staff's economic analysis for each vessel category—container ships, passenger ships, and refrigerated cargo ships—and conclusions are presented in Attachment III.

Staff concluded that, based on 2006 data, one container-ship fleet, two refrigerated-cargo-ship fleets, and five passenger-ship fleets would be affected by this proposed modification. A total of 45 ship visits would be affected, out of the 5,888 ship visits to California made by vessels in the 3 affected ship categories. The additional emission reductions, from requiring these visits to use shore power or an equivalent reduction measure, would be minimal. Because the estimated emission reduction benefits would be small, and the ships that would be affected are infrequent visitors to California, the cost-effectiveness of amending the de minimis visit criteria to a statewide basis would be 6 to 20 times the overall cost of the originally proposed regulation for NOx reductions, and 4 to 11 times the cost for diesel PM reductions.

Because of these substantial cost-effectiveness values, staff proposes to keep the de minimis criteria that are in the original proposal, and not to make any changes to this requirement. Staff will, however, monitor the vessel data in the fleets' annual compliance statements and the wharfinger data that must be submitted annually by the ports to determine if fleets are modifying their operations to stay below the 25-port-visit or 5-port-visit de minimis criteria. If, during the regulation's implementation, staff determines that vessel fleets appear to be circumventing the requirements of the regulation by manipulating their vessel visits to California ports, staff will consider proposing to the Board modifications to the regulation to prevent these practices in the future.

**Modifications to title 13, California Code of Regulations, section 2299.3(c) and title 17, California Code of Regulations, section 93118.3(c): Definitions**

Eight definitions were modified, three were deleted, and five were added to the definitions section of the regulation.

**Modified Definitions**

**Baseline Fleet Emissions:** The term “marine diesel fuel” has been changed to “marine gas oil or marine diesel oil” in the definition of “baseline fleet emissions” to be consistent with the emission rates specified in section (e)(3).

**Emergency Event:** The definition of “emergency event” has been modified to include a more comprehensive list of events where the utility may not be able to provide power to the port. These events now include the period of time when the utility cannot provide power because of a transmission or distribution emergency, when the utility must reduce grid-based shore power to the port because of a natural disaster such as an earthquake or fire, or when the utility must reduce grid-based power to the port in response to the California Independent System Operator, or the Los Angeles Department of Water and Power declaring a Stage 3 emergency, or to avoid a Stage 3 emergency, if one is anticipated. Staff added these types of emergency events to address the Board’s concern that fleets not be penalized if grid-based shore power is not available at the berth due to emergencies beyond the vessel’s control.

**Fleet:** The definition of “fleet” has been modified to clarify that a fleet is based on one type of vessel and includes both owned and chartered vessels. Staff also clarified that the master’s control of a vessel does not constitute “direct control,” as that term pertains to fleet operators.

**Person:** The definition of “person” has been modified to clarify the inclusion of consortiums and other business relationships that are found in the shipping industry.

**Post-Baseline Fleet Emissions:** The definition of “post-baseline fleet emissions” has been modified to clarify that control techniques, that could be used to reduce fleet emissions in the equivalent emissions reduction compliance option, include grid-based shore power, non-grid-based shore power (distributed generation), and alternative control technologies. In addition, the term “marine diesel fuel” in this definition has been changed to “marine gas oil or marine diesel oil” to be consistent with the emission rates specified in section (e)(3).

**Terminal and Terminal Operator:** The definitions for “terminal” and “terminal operator” have been modified to clarify the intent that affected terminals should also include facilities used for loading and unloading of passengers, as passenger vessels are affected by the regulation.

**Utility:** A clerical correction was made to the definition of “utility” to correct the Public Resources Code section number referenced in this definition.

**Visit:** Staff modified the definition of “visit” to clarify that when a vessel makes separate and sequential visits to berths at a port within a specified amount of time, the fleet can count these types of visits as one visit for purposes of calculating the number of visits the fleet’s vessels made to the port.

### **Deleted Definitions**

Definitions for “IMO,” “Landlord Port,” and “Operate an Auxiliary Diesel Engine” were deleted from the regulation. These terms are not located in the regulation, and are, therefore, not necessary to define.

### **Added Definitions**

**Baseline Fleet Power Generation:** A definition has been added for “baseline fleet power generation” because this term is used in the new reduced onboard power generation calculation requirements.

**Charter Agreement:** A definition of “charter agreement” has been added because this term is now used in the definition of “fleet.”

**Marine Diesel Oil:** A definition of “marine diesel oil” has been added because this term is now used in the emission rates specified in section (e)(3).

**Marine Gas Oil:** A definition of “marine gas oil” has been added because this term is used in the emission rates specified in section (e)(3).

**Regulated California Waters:** A definition of “regulated California waters” has been added because the term is used in the exemption to the regulation for vessels passing through these waters without stopping at a California port (i.e., “innocent passage”).

### **Modifications to title 13, California Code of Regulations, section 2299.3(d) and title 17, California Code of Regulations, section 93118.3(d): Vessel In-Use Operational Requirements**

**Reduced Onboard Power Generation Option (d)(1):** At the Board hearing, staff proposed modifying this section so that at-berth operational requirements for auxiliary engines are based on a combination of limiting engine use during a specific percentage of a fleet’s vessel visits, and reducing power generation from the fleet’s vessels’ auxiliary engines by the same percentage. Staff also proposed to add interim requirements for 2017 and to rename this compliance option the “reduced onboard power generation option.”

In the original proposal, staff included only a requirement for limiting engine use for a specific percentage of vessel visits because this was a relatively simple, straightforward approach to reducing the fleet’s hotelling emissions. However, the hotelling emissions from each vessel visit will vary depending on a number of factors, such as the size of

ship, berthing time, and power load. Consequently, a specific percentage of shore power visits may not necessarily result in the same percentage of emission reductions. Staff determined that an additional mechanism was needed to better capture the emission reductions expected to be achieved from this control measure. Requiring a fleet to reduce the power generated from the vessels' auxiliary engines while the ships are at berth, in combination with requiring auxiliary engines to be shut down for a specific number of vessel visits, will result in emission reductions that are more aligned with staff's emission reduction targets.

Staff made numerous changes to section d(1) to address the new operational requirements. New requirements for 2017 have been added and the original requirements for 2014 and 2020 have been modified. Some of the language in the original 2014 and 2020 requirements has been moved to new subsections within this section, and the language in section (e) of the original regulation has been moved to a new subsection within this section. A discussion on the specific modifications made to each subsection follows:

**2014 Requirements (d)(1)(A):** Requirements for 2014 have been modified to: 1) reword, but not change, the requirement for limiting onboard auxiliary engine use for 50 percent of a fleet's visits to a California port, and 2) add a new requirement for the fleet to reduce, by at least 50 percent, its baseline at-berth power generation from the vessels' auxiliary engines. In addition, the language restricting engine use to three or five hours has been moved to a new subsection, (d)(1)(D).

**2017 Requirements (d)(1)(B):** Requirements have been added for 2017 to limit auxiliary engine use for 70 percent of a fleet's visits to a California port, and reduce, by at least 70 percent, the fleet's baseline at-berth power generation from the vessels' auxiliary engines.

**2020 Requirements (d)(1)(C):** Requirements for 2020 have been modified to: 1) reword, but not change, the requirement for limiting auxiliary engine use for 80 percent of a fleet's visits to a California port, and 2) add a new requirement for the fleet to reduce, by at least 80 percent, its baseline at-berth power generation from the vessels' auxiliary engines. In addition, the language restricting engine use to three or five hours has been removed from this subsection and inserted into a new subsection, (d)(1)(D), as discussed below.

**Limits on Hours of Operation (d)(1)(D):** To reduce redundancy, the three-hour or five-hour auxiliary engine use limitations that were in the 2014 and 2020 requirements sections in the original regulation have been moved to this subsection. In addition, staff clarified that the hour limitations apply to the hours a vessel is at a berth. The hour limitation in the original language could be interpreted as applying to the total hours a vessel visits a port. However, some vessels stop at multiple berths during a port visit, and it was staff's intent to apply the hour limitations to the operation of auxiliary engines at each berth.

**Exemptions to Hour Limitations (d)(1)(E):** The emergency event and federal inspection delay exemptions to the three-hour or five-hour auxiliary engine use

limitations that were in section (e) of the original regulation have been moved to this subsection because this is now a more logical location for these requirements. The phrase “or should have known the emergency event is over” was removed from the emergency event exemptions because staff determined that this language would be difficult to enforce.

**Adjustments for Visits Meeting Exemption Criteria (d)(1)(F):** At the hearing, the Board wanted to ensure that a fleet was not penalized when one of its vessels intended to connect to grid-based shore power, but was unable to do so within the three-hour or five-hour auxiliary engine limitation due to an emergency event or other circumstances beyond its control. Staff addressed this concern by adding provisions to clarify how these types of visits would be treated in the fleet’s compliance calculations. Visits exceeding the three-hour or five-hour engine use limitation, during an exempted condition specified in subsection (d)(1)(E) above, will be counted toward compliance with the fleet’s limited engine use visits requirement (i.e., considered a shore power visit). However, the power generated from the auxiliary engines during these visits shall be excluded from the fleet’s baseline and post-baseline auxiliary engine power generation calculation, essentially having a neutral impact on the fleet’s reduced onboard power requirements.

**Shore-Power Equipped Ships (d)(1)(I):** Staff modified the requirement that a shore-power equipped ship must use shore power whenever it visits a berth equipped with compatible shore power, regardless of the fleet’s requirements in (d)(1)(A) through (d)(1)(C). Staff has clarified that this requirement would not apply if the shore-power-equipped berth at the terminal the ship is visiting is already occupied with a vessel receiving shore power. In addition, as proposed at the Board hearing, an exemption has been added to this requirement for visits where shore power equipment on a vessel fails and the master of the ship is unable to repair it during the visit. Finally, staff deleted language regarding the Stage 3 emergency exemption because Stage 3 emergencies are now included in the definition of emergency event, and these types of events are already exempt from the requirements of this subsection in (d)(1)(I)2.

**Equivalent Emissions Reduction Option (d)(2):** Staff’s original proposal included three technology-specific emissions reduction compliance options, each with different compliance schedules. At the Board hearing, staff proposed consolidating the three options to one technology-neutral compliance option and schedule to streamline the emission-reduction option, and to provide more flexibility to affected fleets. It was also proposed to rename this option the “equivalent emissions reduction option.” A discussion on the specific modifications made to each subsection follows:

**Requirements and Compliance Schedule (d)(2)(A):** Fleets choosing the equivalent emissions reduction option will now have only one compliance schedule and can achieve the percent reductions by choosing one or more control techniques, including grid-based shore power, non-grid-based shore power (distributed generation), and alternative control technologies. Specifically, at-berth auxiliary engine emissions must be reduced by 10 percent by January 1, 2010, 25 percent by January 1, 2012, 50 percent by January 1, 2014, 70 percent by January 1, 2017, and 80 percent by January 1, 2020. To provide incentives for the early reduction requirements, the 2010



and 2012 requirements may be met on an annual basis, but the subsequent requirements must be met on a quarterly basis.

**Vessels Using Grid-Based Shore Power (d)(2)(B):** Similar to provisions in the reduced onboard power option, provisions have been added to the emission reduction option to clarify how visits should be treated in the fleet's compliance calculations when a vessel intends to use grid-based shore power as a control technique, but is unable to do so due to an emergency event beyond its control. Based on the Board's directive, staff has clarified that the emissions from operating the auxiliary engines during these visits shall be excluded in the fleet's baseline and post-baseline emissions calculations, essentially having a neutral impact on the fleet's emissions reduction requirements.

**Applying Early or Excess Emissions Reduction to Future Requirements (d)(2)(C):** As staff proposed at the Board hearing, provisions have been added to allow emissions reduction achieved by a fleet that are earlier than, or in excess of, the January 1, 2010, requirements to be applied towards compliance with the fleet's 2010, 2012, and 2017 requirements. In addition, emissions reduction achieved in excess of the 2012 requirements can be used toward compliance with the 2017 requirements. However, excess emissions reduction cannot be used toward compliance with the 2014 or 2020 requirements.

**Emission Limits for Selective Catalytic Reduction (d)(2)(F):** As proposed at the Board hearing, staff has added a limit for ammonia slip when Selective Catalytic Reduction (SCR) is used as an onboard alternative emissions control technology, similar to the requirement already in the regulation for SCR used with non-grid shore power equipment (d)(2)(E)4.

**Limitation on Changing Compliance Options (d)(3):** Provisions have been added to limit the conditions under which a fleet can switch from the reduced onboard power generation option to the equivalent emissions reduction option. At the Board hearing, staff proposed adding language to the regulation to prevent fleets from circumventing the earlier emissions reduction of the equivalent emissions reduction option by initially choosing the reduce onboard power generation option, then subsequently switching to the equivalent emissions reduction option. Fleets will now have to demonstrate, and the Executive Office must concur, that the fleet will comply with the 2010 or 2012 requirement, whichever applies, before switching options.

**Modifications to title 13, California Code of Regulations, section 2299.3(e) and title 17, California Code of Regulations, section 93118.3(e): Calculations for Reduced Onboard Power Generation Option and Equivalent Emissions Reduction Option**

**Reduced Onboard Power Generation Calculations (e)(1):** As proposed at the Board hearing, staff has added procedures for a fleet to use to calculate the percent reduction of its vessels' at-berth auxiliary engine power generation. The reduction in a fleet's at-berth onboard power generation is expected to occur when the vessels shift their power loads from their auxiliary engines to grid-based shore power while at berth. The default power loads by ship category, and the measured power requirements that

were originally in the emission reduction calculations section (renumbered (e)(2)), have been moved to this section because the information will now be needed in the power reduction calculations. As was discussed in subsection (d)(1)(F), auxiliary engine power generated during visits meeting the exemptions to the three-hour or five-hour engine use limitations shall be excluded from the fleet's power reduction calculations.

**Equivalent Emissions Reduction Calculations (e)(2):** Provisions added to this section include adjustments to the emission reduction calculations for visits involving a vessel intending to use grid-based shore power as a control technique, but unable to do so due to an emergency event. As was discussed in subsection (d)(2)(B), the auxiliary engine emissions from these visits shall not be included in the fleet's emission reduction calculations. As proposed at the Board hearing, provisions have also been added for fleets to obtain fleet emission credits (FEC) for early and excess emission reductions, and to apply these credits toward the fleet's future compliance requirements. The new language prohibits fleets that switch compliance options from the reduced onboard power generation option to the equivalent emissions reduction option from accumulating emission credits at the time of the switch. In addition, fleets cannot receive emission credits for early or excess emission reductions that are a result of a project that has received incentive funds, through a contract or other binding agreement, from ARB or a local air district.

Staff has clarified the default emission rates for diesel PM to address the fact that at-berth auxiliary engines can operate on marine gas oil fuel and marine diesel oil fuel. The default power requirements by vessel category and measured power requirements have been removed from this section because they are now included in the reduced onboard power generation calculations in renumbered section (e)(1), as discussed earlier. As proposed at the Board hearing, language has been added to allow fleets to use alternatives to the test methods specified in the regulation to determine auxiliary engine emission rates, if the alternative methods are approved by the Executive Officer prior to use. Finally, language has been added to clarify that the Executive Officer may request periodic testing of distributed generation equipment used to provide non-grid shore power to a vessel.

**Modifications to title 13, California Code of Regulations, section 2299.3(f) and title 17, California Code of Regulations, section 93118.3(f): Terminal Plan Requirements**

As staff suggested at the Board hearing, the terminal plan requirements have been modified for two purposes: 1) to align with the new reduced onboard power generation and equivalent emissions reduction options; and 2) to include more criteria for terminal operators to follow when developing the plan.

Staff revised Table 2 to reflect the fleets' new compliance options and dates. The plan requirements are now specific to either the "reduced onboard power generation option" or the "equivalent emissions reduction option." A schedule has been added for reviewing and approving terminal plans. The Executive Officer will now have 30 days upon receipt of a plan to review and determine its completeness. When the plan has been deemed complete, the Executive Officer will have 60 days to determine if it meets

the requirements in section (f), and based on that determination, to approve or disapprove the plan.

The reduced onboard power generation option plan requirements, (f)(2), expand upon the requirements in the original grid-based shore power option, which includes a discussion of modifications to the terminal infrastructure, the port infrastructure, and the utility infrastructure that are needed to allow affected fleets to satisfy requirements in (d)(1). Additional discussion must now be included on ship activity at the terminal and projected power demands. Terminals will now have to provide information on the number of ships and associated visits to the terminal, and the annual and maximum power that will be required at the terminal for all affected fleets visiting the terminal to comply with requirements in (d)(1) by the 2014, 2017, and 2020 compliance dates. The maximum power requirement would represent the total power needed if multiple ships were to connect to grid-based shore power at the terminal at the same time. The terminal plan must also include a discussion of currently available power at the terminal. In addition, it must provide a schedule for each activity needed to implement any necessary improvements to the terminal, port, or utility infrastructure to supply any additional power that will be needed at the terminal by the 2014, 2017 and 2020 compliance dates.

The equivalent emissions reduction option plan, (f)(3), must now include information on ship activity at the terminal and a description of, and implementation schedule for, the control techniques that will be used to reduce the at-berth emissions of affected fleets so that the fleets can satisfy the requirements in (d)(2) by the 2010, 2012, 2014, 2017, and 2020 compliance dates. The control techniques can include grid-based shore power, non-grid-based shore power (distributed generation), or alternative control technologies, both ship-side and shore-side.

**Modifications to title 13, California Code of Regulations, section 2299.3(g) and title 17, California Code of Regulations, section 93118.3(g): Reporting and Recordkeeping Requirements**

As proposed at the Board hearing, the vessel plan, annual statement of compliance, and recordkeeping requirements have been modified to align with the new provisions in the reduced onboard power generation and equivalent emissions reduction options. Staff has also modified this section to clarify some requirements. A discussion on the reporting and recordkeeping requirements for each compliance option follows:

**Reduced Onboard Power Generation Option (g)(1):** Staff has clarified that a vessel fleet plan is required for each California port that is visited by the fleet, where the fleet's visits do not fall below the de minimis visit limits specified in (b)(3)(E). Also, an update plan is now required for July 1, 2016, to conform to the new January 1, 2017, compliance date in this option. The plan must now include specific fleet information, including vessel category, number of ships, and annual ship visits to the port, and the terminals visited at the port. Information must also be included on vessels in the fleet that are capable, or will be capable, of connecting to shore power. This information will better assist ARB staff in determining the fleet's ability to meet the requirements for the applicable compliance dates.

Staff has clarified that the annual statement of compliance must demonstrate that the fleet is in compliance with the regulatory requirements at each California port visited by the fleet. Additional information on each vessel in the fleet is now required in the annual statement to assist ARB staff with determining the fleet's compliance with the new provisions in the reduced onboard power option.

The recordkeeping logbooks must now include the name of the vessel, the port, and terminal visited, and the at-berth power requirement. These requirements were inadvertently omitted from the original language. Additional information is being requested for emergency events and federal agency delays that require the ships to run auxiliary engines beyond the three-hour or five-hour limitations. This information will assist ARB staff with verifying these exemptions. More information is also being requested when a shore-power equipped ship is unable to connect to a berth equipped with compatible shore power because of on-board equipment failure. This information will assist the staff with determining the efforts made to repair the on-board equipment. The requirement for copies of specific United States Department of Homeland Security documents has been eliminated because staff determined that this requirement was too burdensome to the operators.

**Equivalent Emissions Reduction Option (g)(2):** Staff has clarified that a vessel fleet plan is required for each California port that is visited by the fleet, where the fleet's visits do not fall below the de minimis visit limits specified in (b)(3)(E). Table 3 has been eliminated because there is now only one compliance schedule for the emissions reduction option. The initial plan is now due July 1, 2009, and updates are due July 1 of 2011, 2013, 2016, and 2019, to conform to the new compliance dates in this option. The plans must now include specific fleet information and information on vessels in the fleet that will have their emissions reduced to satisfy the requirements in (d)(2). The plan must also include a description of the control techniques that will be used to reduce the emissions from the vessels, including the expected emissions reduction and the basis for determining those reductions.

Language has been added to ensure that fleets switching from the reduced onboard power compliance option to the equivalent emissions reduction option submit an update vessel plan that complies with the requirements in this subsection.

Table 4 has been eliminated because there is now only one emissions reduction compliance option. The initial annual statement of compliance for this option is due by March 1, 2011. Staff has clarified that the annual statement of compliance must demonstrate that the fleet is in compliance with the NO<sub>x</sub> and diesel PM reduction requirements at each California port visited by the fleet. Staff has specified that the baseline and post-baseline emissions must be calculated on a calendar year basis to demonstrate compliance with the 2010 and 2012 requirements, and on a quarterly basis to demonstrate compliance with the 2014, 2017, and 2020 requirements. To better assist ARB staff with determining the fleet's compliance with the equivalent emissions reduction option, specific information is now required for each vessel in the fleet. In addition, the fleet must indicate if fleet emission credits (FEC) will be used to meet the applicable reduction requirements.

Recordkeeping requirements have been modified to specify that emissions must be calculated on a calendar year basis to demonstrate the fleet's compliance at each California port, with the 2010 and 2012 emissions reduction requirements, and on a quarterly basis to demonstrate compliance with the 2014, 2017, and 2020 reduction requirements. Staff determined that information on the number of refrigerated containers imported and exported on a container vessel is unnecessary, and is no longer required. Additional recordkeeping requirements have been added for a vessel intending to use grid-based shore power, but is unable to do so due to an emergency event. The additional required information will assist ARB staff with verifying these events.

**Modifications to title 13, California Code of Regulations, section 2299.3(h) and title 17, California Code of Regulations, section 93118.3(h): Violations**

At the Board hearing, staff proposed adding provisions to the violations section to address the challenges in determining when a fleet is in violation with the regulation's requirements. Compliance with the regulation's requirements is calculated on a quarterly basis or, for the 2010 and 2012 equivalent emissions reduction option requirements, on an annual basis. Determining the exact point in the quarterly or annual compliance period when the fleet is out of compliance would be difficult to achieve. Consequently, staff added formulas for determining the number of violations within the applicable compliance period when a fleet or ship is found to be out of compliance.

Staff developed violation formulas that would provide an appropriate and effective disincentive for noncompliance with the regulatory requirements. Formulas for calculating the number of violations within the applicable compliance period were developed for five scenarios: fleets failing to achieve the baseline power reduction requirements; fleets failing to achieve the limited engine use visits percentages; fleets failing to achieve both of these requirements; fleets failing to achieve the applicable emission reduction percentages; and shore-power equipped ships failing to use shore power during a visit to a berth that had compatible shore power. Examples of calculating number of violations can be found in Attachment IV.

**Supporting Documents and Information**

In accordance with Government Code section 11347.1, staff has added to the rulemaking record the following documents that support the proposed action (Attachments III and IV):

- 1) Attachment III: Staff's Cost Analysis and Conclusions for Potentially Modifying the De Minimis Fleet Visits Criteria From an Individual Port Basis to a Statewide Basis.
- 2) Attachment IV: Examples of Calculating Number of Violations.

Staff has also added the following document, which is incorporated by reference in the regulation, to the rulemaking record:

- 3) International Standard ISO 8217, "Specifications of Marine Fuels Requirements for Marine Residual Fuels," (as revised in 2005).

By this notice, the modified regulation, Resolution 07-57, and additional documents are being made available for public comment prior to the final action by the Board's Executive Officer. All of the documents referenced above are available for public inspection at the ARB website at the following internet address:

<http://www.arb.ca.gov/regact/2007/shorepwr07/shorepwr07.htm> , or from the Public Information Office, Air Resources Board, Visitors and Environmental Services Center, 1001 I Street, First Floor, Sacramento, California, 95814.

### **Submittal of Comments and Subsequent Action**

In accordance with section 11346.8 of the Government Code, the Board directed the Executive Officer to adopt section 2299.3, title 13, chapter 5.1, California Code of Regulations, and section 93118.3, title 17, chapter 1, subchapter 7.5, California Code of Regulations, after making the modified regulatory language available to the public for a supplemental written comment period of at least 15 days. The Board further provided that the Executive Officer shall consider such written comments as may be submitted during this period, shall make such modifications as may be appropriate in light of comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

Written comments on the modifications approved by the Board must be submitted by postal mail, electronic mail, or facsimile as follows:

Postal mail is to be sent to:

Clerk of the Board  
Air Resources Board  
1001 "I" Street, Floor 23  
Sacramento, California 95814

Electronic submittal: <http://www.arb.ca.gov/lispub/comm/bclist.php>

Facsimile submissions must be transmitted to the Clerk of the Board at (916) 322-3928.

Please note that under the California Public Records Act (Government Code section 6250 et seq.), your written and oral comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request. Additionally, this information may become available via Google, Yahoo, and any other search engines.

In order to be considered by the Executive Officer, comments must be directed to tARB in one of the three forms described above and received by ARB by 5:00 p.m., on the

deadline date for public comment listed at the beginning of this notice. Only comments relating to the modifications to the text of the regulation, or to the additional documents referenced above, shall be considered by the Executive Officer.

For individuals with sensory disabilities, this document and other related material can be made available in Braille, large print, audiocassette, or computer disk. For assistance, please contact ARB's Reasonable Accommodation/Disability Coordinator at (916) 323-4916 by voice, or through the California Relay Services at 711 to place your request for disability services, or go to <http://www.arb.ca.gov/html/ada/ada.htm>.

Attachments (4)