



2017 Advisory

To: Vessel Fleets and Terminal Operators Subject to ARB's Ships At-Berth Regulation

NOVEMBER 2016

AIRBORNE TOXIC CONTROL MEASURE FOR AUXILIARY DIESEL ENGINES OPERATED ON OCEAN-GOING VESSELS AT-BERTH IN A CALIFORNIA PORT

The purpose of this Advisory is to inform affected vessel fleets and terminal operators as to how Air Resources Board (ARB) staff will proceed with enforcement of the Airborne Toxic Control Measure for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At-Berth in a California Port¹ (At-Berth Regulation or Regulation), beginning January 1, 2017.

The provisions in this Advisory will cover actions beginning January 1, 2017, and ending when ARB revokes this Advisory. ARB will evaluate eligibility for the flexibility provided in this Advisory on a case-by-case basis, as set forth below. As of January 1, 2017, this Advisory supersedes previous advisories (dated December 2013 and March 2015) regarding the At-Berth Regulation. Vessel fleet and terminal compliance plans for the 2017 calendar year may follow the guidance in this Advisory.

Regulatory Background

ARB's At-Berth Regulation is intended to reduce emissions of diesel particulate matter (PM) and oxides of nitrogen (NOx) from auxiliary engines on ocean-going vessels while at-berth at California ports. Fleets affected by the Regulation include those composed of container vessels, passenger vessels, or refrigerated cargo vessels. Fleets can comply through one of two paths: the Reduced Onboard Power Generation Option (that relies on use of shore-based electrical power), or the alternative Equivalent Emissions Reduction Option.

The Regulation requires fleets complying under the Reduced Onboard Power Generation Option to satisfy the following two criteria beginning on January 1, 2017:

- **Visits:** At least 70 percent of a fleet's visits to a port must satisfy the following limit on engine operation: for each visit, the auxiliary engines on the vessel cannot operate for more than three hours during the entire time the vessel is at-berth (e.g., a shore power visit); and
- **Power Reductions:** The fleet's total onboard auxiliary engine power generation must be reduced by at least 70 percent from the fleet's baseline power generation.

Fleets that comply under the Equivalent Emission Reduction Option pathway must reduce NOx and PM by 70 percent or more through use of an ARB-approved technology².

On January 1, 2020, the requirements under the existing regulation increase to 80 percent for the visit, power reduction, and equivalent emission reduction requirements.

¹ Section 93118.3, title 17, chapter 1, subchapter 7.5, California Code of Regulations (CCR)

² ARB-approved technologies include shore power, or alternatives with an ARB Executive Order which states control efficiencies, as well as monitoring, reporting, recordkeeping requirements, and operating conditions. Executive Orders for alternative technologies can be found on ARB's website at: <http://www.arb.ca.gov/ports/shorepower/eo/eo.htm>

Fleet Options

ARB understands it may not be possible for regulated entities to satisfy certain provisions in the Regulation under certain circumstances. As a result, ARB will offer six possible scenarios, which may apply on a case-by-case basis, with the objective of providing flexibility to fleets that have equipped their vessels to use shore power or contracted to use an alternative control technology to comply with the At-Berth Regulation. Fleets are expected to make every effort to reduce emissions to meet the requirements of the At-Berth Regulation. ARB staff will review each fleet's efforts to meet the scenario conditions on a case-by-case basis. The burden is on the fleet operator to provide proof and documentation sufficient to qualify for the scenarios in this Advisory. Staff may request additional information to verify a fleet's claims. If staff is unable to verify a fleet's claim, the fleet's request to utilize one or more scenarios in this Advisory will be denied. As noted above, the provisions in this Advisory will cover actions beginning January 1, 2017, and ending when ARB revokes this Advisory.

Scenario 1. The vessel visiting the port is equipped to receive shore power, but the terminal's shore power berth is not able to provide shore power.

Scenario 1 applies to visits by shore power equipped vessels where, for reasons beyond the fleet operator's control, the terminal's shore power berth is not able to provide shore power and the terminal is actively working to restore shore power at the berth. For example, the shore side infrastructure is undergoing construction to upgrade shore power capability or shore side equipment has failed and is being repaired. In these cases, the visit may count toward the visit requirement as a shore power visit, and the hours the auxiliary engines operate during the visit may be excluded from the calculations for the percent power reduction or equivalent emission reduction requirements. Scenario 1 does not apply to visits where the vessel's shore power equipment is unable to reach a vault, a shore power berth is already occupied by another vessel, or there is a lack of availability of labor from the terminal or port. These issues are the responsibility of the vessel fleet, the terminal operator, and the port to resolve together to support full utilization of shore power equipment.

To utilize this scenario, for each visit that falls under this scenario, the fleet operator must provide ARB staff with the next annual report the following information about the visit: vessel name, Lloyds or IMO number, date and time of arrival, terminal, berth, and reason for berth unavailability. In addition, the fleets must provide the following information about the terminal: contact person at the terminal, detailed reason for berth unavailability including documentation provided from the terminal regarding the berth unavailability, and estimated date the shore power berth will return to service.

Terminals and ports that do not make shore power available may be subject to ARB enforcement action, as appropriate under the specific circumstances of each case.

Scenario 2. A vessel makes a commissioning visit to a terminal, and during the visit, the auxiliary engines operate longer than three hours.

Commissioning of the vessel is undertaken to ensure that the vessel is compatible with the shore side power hardware and that there are no safety issues for both the equipment and the personnel handling the connection. Scenario 2 applies to fleets with shore power equipped vessels that have yet to commission the shore power equipment at a terminal. The first commissioning visit made by a vessel to a terminal, regardless of the time necessary to connect or disconnect to shore power, will count towards the visit requirement of the Regulation as long as the vessel was able to successfully connect to shore power during that visit. The time required to commission will also be excluded from the power reduction or emission reduction requirements from the Regulation as long as the vessel was able to successfully connect to shore power during that visit. At the request of the fleet operator, ARB staff may count an additional commissioning visit as compliant, on a case-by-case basis, in circumstances where a fleet demonstrates that the commissioning process could not be accomplished in a single visit or the vessel needed to be recommissioned due to changes in the shore power infrastructure.

To utilize this scenario, a fleet operator must provide documentation to verify that the scheduled commissioning occurred, including vessel name, Lloyd's number, date and time the vessel commissioned, terminal and berth at which the vessel commissioned, and a copy of the commissioning test results.

Scenario 3. A vessel uses shore power, but fails to meet the three/five-hour time limit for connecting or disconnecting shore power.

Scenario 3 applies to fleets that have elected to comply with the Reduced Onboard Power Generation Option. Staff has been informed of many circumstances that could result in the auxiliary engines operating for more than the three/five hour time limits, including delays lowering the gangway, securing the vessel, waiting for clearance, or waiting for labor to connect the vessel. A vessel visit that successfully uses shore power during the visit but was not able to meet the three/five hour time limits may request relief under this scenario to count toward the visit requirement as a compliant visit.

To utilize this scenario, a fleet operator must provide a summary in the next annual report of their visit times including the total number of vessel visits, and shore power visits, and a summary of the auxiliary engine operating time for visits that exceeded the three/five-hour time limits. For each vessel visit where the engines operated for longer than the three/five hour time limits, the fleet must provide the vessel name, the date of the visit, and the reasons for operating engines longer than three hours.

Scenario 4. Vessels are using an approved alternative control technology to comply with the At-Berth Regulation.

Scenario 4 applies to fleets that are complying under the Reduced Onboard Power Generation Option that want to use an approved alternative control technology during a visit to reduce emissions. Use of an alternative control technology, with ARB-approved control efficiencies, during a visit allows the visit to count towards the fleet visit requirement. Furthermore, the approved reductions may count toward an equivalent power reduction requirement based on the ARB-approved control factors. Fleets may reduce the calculation of power provided by the auxiliary engine, as determined under subsection (e)(1)(B) of the Regulation, by determining the equivalent power reduction. To determine the equivalent power reduction, fleets may multiply the auxiliary engine emission rate for NOx and PM by the emission reductions for NOx and PM calculated from the equations in the alternative technology's Executive Order. If the equivalent power reduction for NOx and PM differ, fleets must use the lower equivalent power reduction.

To utilize this scenario, a fleet must provide the name of the approved alternative control technology, the number of vessel visits using the control technology, the total hours of operation by the fleet of the control technology, and any additional information required by the applicable technology's Executive Order.

Scenario 5. Fleet participates in testing an alternative control technology with an ARB-approved test plan.

In order to assist with testing new alternative control technologies, fleets that participate in testing of an alternative technology during a vessel's visit may claim an experimental exemption under the following conditions: (a) The alternative technology must have an ARB-approved test plan; (b) the testing must be specified in the approved test plan; and (c) the testing must be conducted in accordance with the approved test plan. The visit may count as compliant with the fleet's visit requirement, and the fleet may elect to exclude the power or emissions associated with the testing from the compliance calculations of power reduction or emission reduction in the Regulation. If the alternative control technology receives ARB approval, the fleet may elect to include the power or emissions associated with the testing in the compliance calculations of power reduction or emission reduction in the Regulation, based on the effectiveness documented in the ARB Executive Order.

To utilize this scenario, for each visit where experimental testing was conducted, a fleet must provide the name of the alternative control technology, the name of the vessels using the control technology, the type of test specified in the approved test plan, the date and time the testing was conducted, and the total hours of operation by the control technology during the visit. If the alternative control technology receives ARB approval, and the fleet elects to include the emissions associated with the testing in the compliance calculations of power reduction or emission reduction, then the fleet must also provide any additional information required by the technology's ARB Executive Order.

Scenario 6. A fleet meets the percent reduction requirements for visits, power, or emissions, averaged on an annual basis.

Scenario 6 applies to fleets that demonstrate they have met the percent reduction requirements for visits, power, or emissions, averaged on an annual basis, from January 1 to December 31. For each of the visit, power, and equivalent emission reduction requirements, an annual rather than quarterly compliance period provides fleets with flexibility to meet the required reductions over the year. Fleets that are unable to meet a quarterly requirement have the other three quarters of the year to adjust to meet the requirements. This flexibility is intended to provide fleets better ability to make up for any unforeseen issues in the year. Fleets should submit reports of annual compliance starting with the 2017 compliance report due on March 1, 2018.

Reporting Compliance Actions Taken Under this Advisory

To utilize any of the scenarios described in this Advisory, an affected vessel fleet operator must report, under penalty of perjury, specific information to ARB by emailing that information to ShorePower@arb.ca.gov. The attached "Annual Reporting Form" identifies the information that needs to be reported for fleets using any of the six scenarios, or a combination of those scenarios, in 2017 and beyond. The Annual Reporting Form for each scenario utilized must be submitted by March 1st of the following year, at the same time that the fleet submits its annual compliance statement. In addition, fleets must also provide the records required to be kept pursuant to the Regulation (Section 93118.3(g)(1)(B) or (g)(2)(B)). Failure to provide the required documentation for each scenario used will result in denial of the compliance relief. Again, the burden is on the fleet operator to provide proof and documentation in order to use the above listed scenarios, and ARB will review each scenario request on a case-by-case basis to determine whether to grant the requested scenario relief.

Proposition 1B Grants for Shore Side Infrastructure

ARB-approved use of Scenarios 2 and 3 is permitted to count toward the performance requirements and Scenarios 4 and 5 should be excluded from the performance requirements for grid-based shore power infrastructure projects funded by the Proposition 1B: Goods Movement Emission Reduction Program. For additional information, please refer to Supplemental Procedures for Ships at Berth and Cargo Handling Equipment Projects located at: www.arb.ca.gov/gmbond.

For Additional Information

Please visit <http://www.arb.ca.gov/ports/shorepower/shorepower.htm>, contact ARB staff at ShorePower@arb.ca.gov, or call Ms. Lynsay Carmichael at (916) 327-5784.