OVERVIEW OF

The Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards

Rule to achieve significant emission reductions and protect public health

Rubber-Tired Gantry Crane

The California Air Resources Board (ARB) has in place a regulation, which took effect in 2006, to reduce emissions from mobile cargo handling equipment (CHE) operating at California's ports and intermodal rail yards. The regulation requirements, which are in section 2479 of title 13 of the California Code of Regulations, are applicable to all diesel-fueled equipment used at a California port or intermodal rail yard to lift or move containers, bulk or liquid cargo, or to perform routine or predictable maintenance and repair activities. Equipment at low-throughput ports meeting certain criteria are exempted.

What is mobile cargo handling equipment?

Mobile CHE is any motorized vehicle used to handle cargo delivered by ship, train, or truck, or used for scheduled or routine maintenance activities. The type of equipment used depends on the type of cargo handled or the type of activity. Equipment that handles cargo containers includes yard trucks, top handlers, side handlers, reach stackers, forklifts, and rubber-tired gantry (RTG) cranes. Equipment that is used to handle bulk cargo includes dozers, excavators, loaders, and railcar movers. Forklifts, aerial lifts, and other types of equipment used in maintenance operations at ports and intermodal rail yards are also considered CHE for the purposes of this regulation.

What does the Cargo Handling Equipment Regulation require?

The regulation establishes best available control technology (BACT) for new and in-use CHE that operates at California's ports and intermodal rail yards. Below is a list of the general requirements. A more detailed explanation can be found in the staff reports for the original rulemaking and subsequent amendments, available at: *www.arb.ca.gov/regact/cargo2005/isor.pdf* and *www.arb.ca.gov/regact/2011/cargo11/cargoisor.pdf*, respectively.

Yard Truck

New Yard Trucks: New yard trucks must be equipped with either a certified on-road engine meeting the current engine emissions standards or a certified Tier 4 final off-road diesel engine. (See § 2479(e)(1)(A).)

New Non-Yard Truck Equipment: New non-yard truck equipment must be equipped with a certified on-road engine meeting the current emissions standards or a certified Tier 4 final off-road engine. If neither is available, the engine must be certified to the highest level off-road diesel engine standards, and the highest level available verified diesel emission control strategy (VDECS) must be installed within one year, if applicable. Engines certified to Tier 4 Family Emission Limit (FEL) Alternate PM emission standards must be retrofitted with highest level VDECS within one year of acquisition, if available. CHE owners/operators may rent the cleanest available non-yard truck equipment until new equipment is delivered in cases where new compliant equipment is purchased but delivery is delayed. (See § 2479(e)(1)(B).)

In-use Yard Trucks: The regulation requires in-use yard trucks to meet BACT performance standards primarily through accelerated turnover of older yard trucks to those equipped with certified engines meeting current on-road engine emissions standards or Tier 4 final off-road engine emissions standards. Compliance is phased in for owners and operators who have more than three yard trucks in their fleet. (See § 2479(e)(2).)

In-use Non-Yard Truck Equipment: Non-yard truck equipment are also required to meet BACT per a phased compliance schedule. This includes replacement to cleaner on-road or off-road engines and/or the use of retrofits. (See § 2479(e)(3).)

Compliance Schedule: Compliance with the regulation was phased in beginning in 2007 based on the age of the engine, whether or not it was equipped with VDECS, and the size of the fleets. All yard trucks must be compliant with the regulation by December 31, 2017, and all non-yard truck equipment were required to be compliant by December 31, 2013.

The regulation includes provisions that would allow operators to delay compliance with the in-use performance standards if an engine is within one year of retirement, if no VDECS is available for non-yard truck equipment, if an experimental diesel particulate matter emission control strategy is used for non-yard truck equipment, if there are delivery delays, or the equipment operates 200 hours per year or less. (See § 2479(f).)

Opacity Monitoring: All CHE engines must be tested annually for exhaust opacity and equipment with excessive opacity must receive maintenance and repair before being returned to service. New engines are exempt from the opacity monitoring requirements until four years after the model year of the engine (regardless of when they were acquired or placed into service). For example, a 2015 model year engine is exempt until January 1, 2019.

Non-Yard Truck Equipment Transfer: A port terminal or intermodal rail yard owner/operator may request a transfer of their owned or leased non-yard truck CHE if the locations that the equipment is transferred from and to are both under the control of the same owner or operator and the equipment is compliant with the performance requirements of the regulation prior to being used in the new location. ARB approval must be obtained prior to the transfer. (See § 2479(k).)

Recordkeeping and Reporting: Owners and operators are required to maintain records for all mobile CHE, submit a compliance plan, and perform annual reporting by submitting their contact information and location of their equipment, and a demonstration of compliance for vehicles that have complied during the year. Compliance plans and the first annual report were due to the ARB on January 31, 2007. Records of opacity testing results must also be maintained. (See § 2479(i) and (j).)

What are the benefits of the regulation?

ARB staff developed this regulation to reduce emissions of diesel particulate matter (PM) and oxides of nitrogen (NO_x) from new and existing (in-use) mobile CHE at ports and intermodal rail yards. ARB staff estimated mobile CHE at ports and intermodal rail yards emitted approximately 200 tons per year (0.54 tons per day) of diesel PM and 4,890 tons per year (13 tons per day) of NO_x in 2006. Diesel PM emissions are estimated to be reduced by 90 percent (about 0.5 tpd) and NO_x emissions by 73 percent (about 10 tpd) by the end of 2017.

In 1998, ARB identified diesel PM as a toxic air contaminant based on its potential to cause cancer and other non-cancer impacts such as premature deaths, asthma attacks, and lost work days. Implementation of the rule is anticipated to provide significant public health benefits including an 80 percent reduction in cancer risk associated with PM emissions from CHE. Additional benefits include the prevention of 32 cumulative premature deaths and the reduction of many other non-cancer health effects associated with both diesel PM and NO_x emissions.

For more information

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