State of California
Air Resources Board

UPDATED INFORMATIVE DIGEST

AMENDMENTS TO THE REGULATIONS TO REDUCE EMISSIONS FROM DIESEL ENGINES ON COMMERCIAL HARBOR CRAFT OPERATED WITHIN CALIFORNIA WATERS AND 24 NAUTICAL MILES OF THE CALIFORNIA BASELINE

Sections Affected

Amendment of title 13, California Code of Regulations (Cal. Code Regs.), section 2299.5 and title 17, Cal. Code Regs., section 93118.5. The following documents are incorporated by reference: (1) the following National Oceanic and Atmospheric Administration (NOAA) Nautical Chart, as authored by the NOAA Office of Coast Survey: (G) Chart 18740, San Diego to Santa Rosa Island (March 2007); (2) U.S. Environmental Protection Agency (U.S. EPA) Tier 2 Nonroad Emission Standards, set forth in title 40, Code of Federal Regulations (CFR) Part 89.112(a), (as it existed on April 27, 2010); (3) the U.S. EPA Tier 2 Family Emissions Limit set forth in title 40, CFR Part 89.112(d), (as it existed on April 27, 2010); (4) U.S. EPA Tier 3 Nonroad Emission Standards set forth in title 40, CFR Part 89.112(a), (as it existed on April 27, 2010); (5) the U.S. EPA Tier 3 Family Emissions Limit set forth in title 40, CFR Part 89.112(d) (as it existed on April 27, 2010); (6) the U.S. EPA Final Tier 4 Nonroad Emission Standards, set forth in title 40, CFR section Part 1039.101, (as it existed on April 27, 2010); (7) the U.S. EPA Tier 4 FEL set forth in title 40, CFR Part 1039.101 (as it existed on April 27, 2010); (8) the U.S. EPA Interim Tier 4 Nonroad Emission Standards, set forth in title 40, CFR Part 1039.101, (as it existed on April 27, 2010); (9) The methods and procedures set forth in title 40, CFR Parts 94 and 1042 (as they existed on April 27, 2010); and (10) The methods and procedures set forth in title 40, CFR Parts 89 and 1039 (as they existed on April 27, 2010).

Background

Over 90 percent of Californians breathe unhealthful air at times. To improve air quality and human health, ARB establishes requirements to reduce emissions from new and in-use on-road and off-road vehicles, engines, and other sources. The Commercial Harbor Craft regulation (CHC regulation) (title 17, Cal. Code Regs., § 93118.5) and the corresponding Low Sulfur Fuel Requirement for Commercial Harbor Craft (title 13, Cal. Code Regs., § 2299.5) are part of ARB's ongoing effort to reduce PM and NO_x emissions from diesel-fueled engines and vehicles and improve air quality associated with goods movement.

Health and Safety Code (H&SC) sections 43013 and 43018 direct ARB to adopt standards and regulations that the Board has found to be necessary, cost-effective, and technologically feasible for all mobile source categories, including off-road diesel engines and equipment such as marine vessels, through

the setting of emission control requirements. Specifically, H&SC 43013 directs ARB to adopt such standards and regulations on marine vessels to the extent permitted by federal law.

The California Toxic Air Contaminant Identification and Control Program, established under California law by Assembly Bill 1807 (Stats. 1983, Ch. 1047) and set forth in H&SC sections 39650-39675, requires ARB to identify and control air toxicants in California. In 1998, the Board identified diesel PM as a toxic air contaminant (TAC) with no Board-specified threshold exposure level.

Following the identification of a substance as a TAC, H&SC section 39665 requires ARB, with participation of the air pollution control and air quality management districts (districts) and in consultation with affected sources and interested parties, to prepare a report on the need and appropriate degree of regulation for that substance. H&SC section 39665(b) requires that this "needs assessment" address, among other things, the technological feasibility of airborne toxic control measures (ATCMs) and the availability, suitability, and relative efficacy of substitute products or processes of a less hazardous nature.

A needs assessment for diesel PM was conducted between 1998 and 2000, which resulted in ARB's development of the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (Diesel RRP). The Diesel RRP presented information that identified the available options for reducing diesel PM and recommended control measures to achieve further reductions. The scope of the Diesel RRP was broad, addressing all categories of engines, both mobile and stationary.

Once ARB has evaluated the need and appropriate degree of regulation for a TAC, H&SC section 39666(c) requires ARB to adopt regulations to reduce emissions of the TAC from nonvehicular sources to the lowest level achievable through the application of best available control technology (BACT) or a more effective control method, in consideration of cost, risk, environmental impacts, and other specified factors. In developing the amendments, State law also requires an assessment of the appropriateness of substitute products or processes.

The purpose of this regulatory action is to reduce emissions of diesel PM and NOx from in-use engines on crew and supply, barge, and dredge vessels. Diesel PM emission reductions from commercial harbor craft are needed to reduce cancer risk, premature mortality, and other adverse health impacts from exposure to people who live in the vicinity of California's major ports and shipping lanes. The amendments help to achieve the 2020 goals set forth in the 2000 Diesel RRP and the 2006 Emission Reduction Plan for Ports and Goods Movement of reducing diesel PM emissions and health risks by 85 percent. Reductions in diesel PM and NOx (which forms "secondary" nitrate PM in the atmosphere as well as contributes to the formation of ozone) will also assist

California in its goal of achieving and maintaining State and federal air quality standards.

Staff estimates about a 55 percent reduction in diesel PM emissions and a 25 percent reduction in NOx emissions from crew and supply, barge, and dredge vessels due to the amendments in 2025. The amendments will reduce about 275 tons of diesel PM and 3,475 tons of NOx emissions between 2011 and 2025. These emission reductions will occur in areas along waterways and near ports where environmental justice concerns are especially prevalent.

ARB staff has prepared a Staff Report: Initial Statement of Reasons (Staff Report) as part of this rulemaking. Together with the needs assessment (i.e., the Diesel RRP), this document serves as a report on the need and appropriate degree of regulation of diesel engines used on in-use crew and supply boats, barges, and dredges operating in Regulated California Waters.

Description of the Regulatory Action

On June 24, 2010, the Board adopted the proposed amendments to the CHC regulation (title 17, Cal. Code Regs., § 93118.5). The CHC regulation was originally adopted on November 17, 2007, and the requirements went into effect January 1, 2009. The amendments primarily subject the diesel-fueled engines on crew and supply, barge, and dredge vessels to in-use engine requirements in the CHC regulation. Other clarifying and/or editorial amendments were also included. A more detailed description of the amendments is presented below. Additionally, minor amendments were completed which aligned the section numbering in the Low Sulfur Fuel Regulation for Commercial Harbor Craft (title 13, Cal. Code Regs., § 2299.)

<u>Commercial Harbor Craft Regulation (title 17, CAL. CODE REGS., section 93118.5)</u>

Applicability

The amendments extend the applicability of in-use engine requirements of the CHC regulation to in-use (existing) crew and supply, barge, and dredge vessels operating within any of the Regulated California Waters. Regulated California Waters include all California inland waters, all California estuarine waters, and all waters within a zone 24 nautical miles seaward of the California coastline, except for specified areas along the Southern California coastline.

Emission Limits

The amendments require in-use diesel engines on crew and supply, barge, and dredge vessels to meet United States Environmental Protection Agency (U.S. EPA) Tier 2 or Tier 3 marine or off-road (nonroad) engine standards in effect at

the time the engine is required to comply with the in-use emission requirements.

In-Use Vessels

The amendments require that currently unregulated ("Tier 0") and Tier 1 in-use propulsion and auxiliary engines on crew and supply, barge, and dredge vessels meet emission limits equal to or more stringent than the U.S. EPA engine standards in effect for the year that in-use engine compliance is required. The regulation lists separate compliance schedules for crew and supply vessels and for barge and dredge vessels. The compliance schedules are based on engine model and horsepower and designed to remove the oldest, dirtiest engines first.

Allowing Certified Off-Road or Nonroad Engines to be used as Auxiliary or Propulsion Engines

The amendments allow vessel owners/operators more flexibility to comply with the CHC regulation by allowing currently available Tier 2 or higher certified off-road engines to meet the regulatory requirements for auxiliary or propulsion engines. Owners/operators may elect to install a Tier 3 (marine or off-road) engine on a vessel as a replacement auxiliary engine after Tier 4 marine, interim Tier 4, or final Tier 4 off-road standards are in effect, but only if the engine being replaced is not a Tier 4 certified engine.

Adding "Swing Engine" Recordkeeping Requirements

The amendments add a definition and reporting and recordkeeping requirements for swing engines. A swing engine is used to replace an existing engine that has to be removed from service for maintenance or repair. Swing engines are considered in-use engines and must meet the applicable in-use engine compliance requirements.

Delete Multipurpose Harbor Craft Definition and Low-Use Exemption

The "multipurpose harbor craft" term and definition, and the low-use exemption in section (c)(12), have been removed with these amendments. Instead, language has been added that allows a vessel owner/operator to operate vessel engines for up to 300 hours per year in any single category or combination of categories that are subject to in-use requirements. Barge and dredge vessels are limited to operating less than 80 hours per year to be exempt from the in-use engine compliance.

Special Circumstances to Use Non-CARB Diesel Fuel

The CHC regulation, prior to being amended, required CARB diesel fuel or specific alternative diesel fuel to be used in all circumstances. The amendments allow the use of U.S. EPA on-road diesel fuel or U.S. EPA nonroad diesel fuel

(after June 1, 2010), in those situations where the vessel operator cannot obtain CARB diesel fuel prior to operating in Regulated California Waters.

Deadline for Alternative Control of Emission Plans

The original CHC regulation does not specify the date by which a vessel owner/operator must submit an annual Alternative Control of Emission (ACE) Plan. The amendments require the ACE to be submitted prior to or before February 28 of the year the vessel engine compliance is required.

Out-of-State Vessels Operating in California

The amendments clarify that out-of-state CHC vessel owners/operators must complete an initial report within 30 days of a vessel being brought into California to operate in Regulated California Waters and to submit a Compliance Plan within 90 days demonstrating how the in-use engine requirements shall be met. All other applicable requirements of the CHC regulation shall be met upon initial operation of a vessel in Regulated California Waters.

Replacement Engine Exemption

The original CHC regulation requires that if an engine is replaced, the replacement engine must meet the U.S. EPA current model year marine engine standards. The amendments provide the vessel owner/operator an exemption, in specific cases, to install a non-compliant engine if the owner/operator can demonstrate that a suitable engine replacement is not available, or that a new engine will not operate properly with the existing engines. The Executive Officer must approve any exemption request.

Allowing the Use of an Available Engine to Replace an Older Engine Subject to In-use Requirements

The amendments allow, in certain situations, an engine that does not meet the Tier 2 or Tier 3 requirements to be used on a temporary basis. The engine must be within the same fleet, and the original compliance date of the older, replaced engine must be kept.

Clarification of Requirements Applicable to Newly Acquired Ferry Vessels

The amendments include reworded regulatory language which clarifies existing requirements that owners/operators of new ferries, having the capacity to transport 75 or more passengers, are required to equip diesel propulsion engines that meet either Tier 2 or Tier 3 marine standards with BACT. BACT is not required for diesel propulsion engines that are certified to Tier 4 marine standards.

Compliance Extensions

The amendments expand the availability of the current compliance extension of subsection (e)(6)(E)4 to allow an owner to also request a compliance extension in situations where that owner has multiple vessels that are subject to compliance dates of 2011 or 2012 for crew and supply, barge, and dredge vessels, similar to the current compliance extension allowed for ferries, excursion vessels, tugboats, towboats, and push boats.

Exemptions

The amendments eliminate the exemption in section (c)(7)(C) of the current CHC regulation. This change will make harbor craft engines registered in the Portable Equipment Registration Program (PERP) or permitted by air districts prior to January 1, 2009, subject to the CHC regulation. This amendment aligns the CHC regulation with recent amendments to PERP, making all commercial harbor craft vessels, including barge and dredge vessels, subject to a single statewide regulation.

Definitions

The amendments revise section (d) of the existing regulation by adding several definitions and deleting one to clarify the amended language. Definitions that were added include, “certified nonroad engine”, “dredge”, “family emission limit”, “permanently affixed to a harbor craft”, “regulated in-use vessel”, “swing engine”, ”tier 1 off-road or nonroad emission standards”, ”tier 2 off-road or nonroad emission standards”, ”tier 3 off-road or nonroad emission standards”, ”tier 4 final off-road or nonroad emission standards”, ”tier 4 interim off-road or nonroad emission standards” and deleting the definition of “multipurpose harbor craft.” The amendments will also update a new chart incorporated by reference in “California Baseline” - “Chart 18740, San Diego to Santa Rosa Island” (March 2007 for April 2005).

<u>Low Sulfur Fuel Requirements for CHC (title 13, CAL. CODE REGS., section 2299.5)</u>

The amendments to the CHC regulation change the section numbers that are referenced in the Low Sulfur Fuel Requirement for CHC regulation. Amendments to section 2299.5, title 13, Cal. Code Regs., align section numbers with amendments to section 93118.5, title 17, Cal. Code Regs.

Comparable Federal Regulations

U.S. EPA has already promulgated Tier 3 and Tier 4 standards for new marine and off-road (nonroad) engines. However, no federal standards have been promulgated addressing emission reductions from in-use commercial harbor craft

engines. Under federal Clean Air Act (CAA) section 213, U.S. EPA is without authority to adopt in-use standards for off-road (nonroad) engines, including marine engines.[1]

California is the only governmental entity in the United States authorized by the CAA, in the first instance, to adopt emission requirements for in-use off-road engines.[2] Section 209(e)(1) of the CAA conclusively preempts states, including California, from adopting requirements for new off-road engines less than 175 horsepower that are used in farm or construction equipment. However, the amendments address off-road engines used in marine vessels, rather than those used in farm or construction equipment. Under section 209(e)(2), California may adopt and enforce emission standards and other requirements for off-road engines and equipment not conclusively preempted by section 209(e)(1), so long as California applies for and receives authorization from the Administrator of U.S. EPA.

[1] The California term "off-road" and the federal term "nonroad" refer to the same sources and are used interchangeably.
[2] See *Engine Manufacturers Association v. U.S. EPA* (D.C. Cir. 1996) 88 F.3d 1075, 1089-1091.