

## **TITLES 13 AND 17. CALIFORNIA AIR RESOURCES BOARD**

### **NOTICE OF PUBLIC HEARING TO CONSIDER THE ADOPTION OF PROPOSED REGULATIONS TO REDUCE EMISSIONS FROM DIESEL ENGINES ON COMMERCIAL HARBOR CRAFT OPERATED WITHIN CALIFORNIA WATERS AND 24 NAUTICAL MILES OF THE CALIFORNIA BASELINE**

The Air Resources Board (the Board or ARB) will conduct a public hearing at the time and place noted below to consider adoption of regulations to reduce emissions of diesel particulate matter (PM) and oxides of nitrogen (NO<sub>x</sub>) from the use of diesel engines on commercial harbor craft operating in any California port, roadstead or terminal facility or within all California inland waters; all California estuarine waters; and within 24 nautical miles, except as otherwise specified in this proposal, of the California baseline (collectively referred to hereinafter as "Regulated California Waters"). Any person who sells, supplies, offers for sale, purchases, owns, operates, leases, charters, or rents any commercial harbor craft that operates in any of the Regulated California Waters would be subject to and have responsibilities under these regulations. This notice summarizes the proposed regulations. The Staff Report and Technical Support Document present the regulations and information supporting the adoption of the regulations in greater detail.

DATE: October 25, 2007

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency  
Air Resources Board  
Byron Sher Auditorium, Second Floor  
1001 I Street  
Sacramento, CA 95814

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., October 25, 2007, and may continue at 8:30 a.m., October 26, 2007. This item may not be considered until October 26, 2007. Please consult the agenda for the meeting, which will be available at least 10 days before October 25, 2007, to determine the day on which this item will be considered.

For individuals with sensory disabilities, this document is available in Braille, large print, audiocassette or computer disk. Please contact ARB's Disability Coordinator at (916) 323-4916 by voice or through the California Relay Services at 711, to place your request for disability services. If you are a person with limited English and would like to request interpreter services, please contact ARB's Bilingual Manager at (916) 323-7053.

## **INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW**

**Sections Affected:** Proposed adoption of new section 2299.5, title 13, California Code of Regulations (CCR) and new section 93118.5, title 17, CCR. The following documents would be incorporated in the regulations by reference: (1) International Standard ISO 8178-4(E):1996, "Reciprocating Internal Combustion Engines – Exhaust Emission Measurement – Part 4: Test Cycles for Different Engine Applications"; (2) International Standard ISO 8178-2(E):1996, "Reciprocating Internal Combustion Engines – Exhaust Emission Measurement – Part 2: Measurement of Gaseous and Particulate Exhaust Emissions at Site;" (3) U.S. Environmental Protection Agency (U.S. EPA) Marine Engine standards, Tier 1 and Tier 2, as set forth in 40 Code of Federal Regulation (CFR) Part 94; (4) U.S. EPA proposed Marine Engine standards, Tier 3 and Tier 4, as set forth in "Control of Emissions of Air Pollution from Locomotive Engines and Marine Compression-Ignition Engines Less Than 30 Liters Per Cylinder" (72 Federal Register 15937 et seq. (April 3, 2007)); (5) the following National Oceanic and Atmospheric Administration (NOAA) Nautical Charts, as authored by the NOAA Office of Coast Survey: (A) Chart 18600, Trinidad Head to Cape Blanco (January 2002), (B) Chart 18620, Point Arena to Trinidad Head (June 2002), (C) Chart 18640, San Francisco to Point Arena (August 2005), (D) Chart 18680, Point Sur to San Francisco (June 2005), (E) Chart 18700, Point Conception to Point Sur (July 2003), (F) Chart 18720, Point Dume to Purisima Point (January 2005), and (G) Chart 18740, San Diego to Santa Rosa Island (April 2005); (6) ASTM D975-81, "Standard Specification for Diesel Fuel Oils" (as modified in May 1982); (7) "Control of Emissions of Air Pollution from New Marine Compression Ignition Engines At or Above 37 KW" (64 FR 73299 et seq., December 29, 1999); and (8) "Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines," 13 CCR 2700 et seq.

**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. To reduce emissions from off-road sources, such as marine vessels, ARB has adopted a series of regulations since 2004 that: (1) require diesel fuel sold for use in harbor craft comply with CARB diesel specifications<sup>1</sup> and, (2) require ocean-going vessels with diesel auxiliary engines to comply with specified diesel fuel and other requirements while operating in Regulated California Waters.<sup>2</sup> Although those regulations are reducing air pollution from marine vessels, significant opportunities exist to further reduce emissions from the thousands of commercial harbor craft vessels that operate within the State and in Regulated California Water

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<sup>1</sup> ARB's fuel standards for harbor craft are codified at title 13, CCR, section 2299.

<sup>2</sup> ARB's fuel standards and other requirements for diesel auxiliary engines on ocean-going vessels are codified at title 13, CCR, section 2299.1 and title 17, CCR, section 93118.

### *Control of Criteria Air Pollutants*

Health and Safety Code (HSC) 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 various mobile source categories, including off-road diesel engines and equipment such as marine vessels, through the setting of emission control requirements. Specifically, HSC section 43013(b) directs ARB to adopt such standards and regulations for marine vessels to the extent permitted by federal law.

### *Control of Toxic Air Contaminants*

The California Toxic Air Contaminant Identification and Control Program (Air Toxics Program), established under California law by Assembly Bill 1807 (Stats. 1983, ch. 1047) and set forth in HSC sections 39650 through 39675, requires ARB to identify and control air toxicants in California. The identification phase of the Air Toxics Program requires ARB, with participation of other state agencies such as the Office of Environmental Health Hazard Assessment, to evaluate the health impacts of, and exposure to substances, and to identify those substances that pose the greatest health threat as toxic air contaminants (TACs). The ARB's evaluation is made available to the public and is formally reviewed by the Scientific Review Panel (SRP) established under HSC section 39670. Following ARB's evaluation and the SRP's review, the Board may formally identify a TAC at a public hearing. Following identification, HSC sections 39658, 39665, and 39666 require 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 (a "needs assessment") and to adopt airborne toxic control measures (ATCMs).

In 1998, the Board identified diesel PM as a TAC with no Board-specified threshold exposure level. A needs assessment for diesel PM was conducted between 1998 and 2000, which resulted in ARB staff developing and the Board approving a Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (Diesel RRP) in 2000. 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, and included control measures for private and public fleets of off-road diesel engines, such as those covered by the proposed regulations. The ultimate goal of the Diesel RRP is to reduce California's diesel PM emissions and associated cancer risks from 2000 baseline levels by 85 percent by 2020.

The purpose of this proposed regulatory action is to reduce emissions of diesel PM and NO<sub>x</sub>. Diesel PM emission reductions are needed to reduce the potential cancer risk and other adverse effects from PM exposure to people who live in the vicinity of California's major ports, harbors, and shipping lanes. Reductions in diesel PM and NO<sub>x</sub> (which forms "secondary" nitrate PM in the atmosphere) will also contribute to regional

PM reductions that will assist in California's progress toward achieving State and federal air quality standards. Reductions in NOx, an ingredient in the formation of ozone pollution, will also help reduce regional ozone levels.

Diesel engines on commercial harbor craft vessels are a significant source of diesel PM and NOx emissions in California. A recent ARB exposure study for the ports of Los Angeles and Long Beach showed commercial harbor craft to be the third highest source for elevated cancer risk at the ports. The United States Environmental Protection Agency (U.S. EPA) has proposed "Tier 3" standards for new marine engines, such as those used in commercial harbor craft, beginning in 2009 and more stringent "Tier 4" standards for new engines beginning in 2014.<sup>3</sup> However, the U.S. EPA proposed standards, even if promulgated, apply only to new marine engines and would not affect in-use engines. Thus, significant opportunities exist to further reduce emissions from the approximately 1900 diesel engines on in-use ferries, excursion vessels, tugboats, and towboats that currently operate in the State.

#### *Attainment of Ambient Air Quality Standards*

The federal Clean Air Act (CAA) requires U.S. EPA to establish National Ambient Air Quality Standards (Standards) for pollutants considered harmful to public health, including fine particulate matter (PM2.5) and ozone. Set to protect public health, the Standards are adopted based on a review of health studies by experts and a public process. Ambient PM2.5 is associated with premature mortality, aggravation of respiratory and cardiovascular disease, asthma exacerbation, chronic and acute bronchitis and reductions in lung function. Ozone is a powerful oxidant. Exposure to ozone can result in reduced lung function, increased respiratory symptoms, increased airway hyper-reactivity, and increased airway inflammation. Exposure to ozone is also associated with premature death, hospitalization for cardiopulmonary causes, and emergency room visits for asthma.

Areas in the State that exceed the Standards are required by federal law to develop State Implementation Plans (SIPs) describing how they will attain the standards by certain deadlines. The NOx emission reductions are needed because NOx leads to formation in the atmosphere of both ozone and PM2.5; diesel PM emission reductions are needed because diesel PM contributes to ambient concentrations of PM2.5. At this time, the South Coast and San Joaquin Valley air basins are both required to attain the PM2.5 standard by 2015. The U.S. EPA further requires that all necessary emission reductions be achieved one calendar year sooner – by 2014 – in recognition of the annual average form of the standard. By contrast, San Joaquin Valley and South Coast air basins are expected to have until 2023 to attain the federal ozone standard, by invoking the "bump-up" provision in the CAA.

The ARB and the districts are working to complete the ozone and PM2.5 SIPs and expect to submit them to the U.S. EPA by this fall and April 2008, respectively. Air

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<sup>3</sup> See *Control of Emissions of Air Pollution from Locomotive Engines and Marine Compression-Ignition Engines Less Than 30 Liters Per Cylinder* (72 Fed.Reg. 15937 et seq. (Apr. 3, 2007)).

quality modeling indicates that significant reductions of NO<sub>x</sub> are crucial to help meet both these standards. At this time, staff estimates that a 60 percent reduction in NO<sub>x</sub> emissions from 2006 levels (i.e., a total reduction of hundreds of tons per day) and a 12 percent reduction in direct PM<sub>2.5</sub> emissions will be necessary for attainment of the PM<sub>2.5</sub> standards in the South Coast Air Basin. Emission reduction targets have not yet been set for achieving the PM<sub>2.5</sub> standard in the San Joaquin Valley Air Basin, but are expected to be significantly lower. While all sources of NO<sub>x</sub> emissions are important contributors to PM<sub>2.5</sub>, marine vessels, which include commercial harbor craft engines, constitute one of the key categories that will determine whether California is able to meet the 2014 deadline for PM<sub>2.5</sub> attainment in the South Coast Air Basin.

### *Control of Emissions from Goods Movement-related Activities*

In January 2005, a Goods Movement Cabinet Workgroup, created by Governor Schwarzenegger and led by the California Environmental Protection Agency and the Business, Transportation and Housing Agency, established a policy for goods movement and ports to improve and expand California's goods movement industry and infrastructure while improving air quality and protecting public health. The workgroup worked collaboratively with the logistics industry, local and regional governments, neighboring communities, business, labor, environmental groups, and other interested stakeholders to create a two-phased Goods Movement Action Plan (GMAP), which outlines a comprehensive strategy to address the economic and environmental issues associated with moving goods via the state's highways, railways, and ports. In a related activity, the Board adopted the Goods Movement Emission Reduction Plan (GMERP) in April 2006. The GMERP identified a variety of measures to be investigated by ARB for reducing goods movement-related emissions, including regulations for commercial harbor craft. The final phase of the GMAP was completed in January 2007 and includes a framework for action, which identifies projects needed to reduce emissions from goods movement-related sources, including those from commercial harbor craft engines.

### *The California Global Warming Solutions Act of 2006*

The California Global Warming Solutions Act of 2006 established the first-in-the-world comprehensive program of regulatory and market mechanisms to achieve real, quantifiable, cost-effective reductions of greenhouse gases (GHG).<sup>4,5</sup> The legislation gave ARB responsibility for monitoring and reducing GHG emissions. The statute requires ARB to adopt regulations and other requirements that would reduce by 2020 statewide greenhouse gas emissions to the equivalent of 1990 levels.

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<sup>4</sup> Established under California law by Assembly Bill 32 (Stats. 2006, ch. 488) and set forth in HSC § 38500 et seq.

<sup>5</sup> Greenhouse gases are those that tend to increase average global temperatures through absorption of infrared radiation or other mechanisms. These include, but are not limited to, carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>).

Some actions required by the proposed regulations may result in slightly increased carbon dioxide (CO<sub>2</sub>) for some applications. This may occur, for example, if vessel operators choose to comply with the regulations by using exhaust treatment technologies that use vessel power (e.g., scrubbers, selective catalytic reduction), increase the weight of the vessel, or require a larger engine to be installed on the vessel. However, other actions required by the rule will likely offset this effect. For instance, the accelerated phase in of newer engines, which employ modern, less polluting technologies, should reduce GHG emissions from each new engine relative to the older, in-use engines. In addition, the proposed regulations will reduce emissions of black carbon (a component of diesel PM and a likely contributor to global warming), which will further offset the minor increases in CO<sub>2</sub> emissions that may occur in some applications. Thus, staff expects the proposed regulations to have an overall negligible effect on global warming.

#### *Authority*

The ARB has authority under California law to adopt the proposed regulations. Health and Safety Code sections 43013(b) and 43018 provide broad authority for ARB to adopt emission standards and other regulations to reduce emissions from new and in-use vehicular, nonvehicular and other mobile sources. Under HSC sections 43013(b) and 43018, ARB is directly authorized to adopt emission standards and other regulations for marine vessels, as expeditiously as possible and to the extent permitted by federal law, to meet state ambient air quality standards. The ARB is further mandated by California law under HSC section 39666 to adopt ATCMs for new and in-use nonvehicular sources, including marine vessels such as commercial harbor craft, for identified TACs such as diesel PM.

#### *Emission Reductions and Public Health Benefits Projected*

The proposed regulations are expected to significantly reduce emissions of diesel PM from in-use commercial harbor craft engines. Diesel PM emission reductions are needed to reduce premature mortality, cancer risk, and other adverse impacts from exposure to this TAC. The proposal would help achieve the 2020 goal set forth in the 2000 Diesel RRP of reducing diesel PM by 85 percent from 2000 baseline levels and the 2015 and 2020 goals of the GMAP. Staff projects that, by 2020, the proposed regulations, in conjunction with U.S. EPA cleaner marine new engine standards, use of low sulfur fuel in harbor craft, port clean air plans, engine replacement incentive programs, and a negative growth factor for California's fishing fleet, would reduce in-use commercial harbor craft diesel PM emissions about 70 percent and NO<sub>x</sub> emissions about 60 percent relative to the 2004 baseline. These emission reductions will occur in areas along waterways and near ports where environmental justice concerns are especially prevalent, as well as further inland.

The proposed regulations would also reduce diesel PM and NO<sub>x</sub> emissions that contribute to exceedances throughout the State of ambient air quality standards for both

PM2.5 and ozone. These reductions will assist California in its goal of achieving state and federal air quality standards.

The diesel PM and NOx emission reductions from the proposal, along with the other efforts and factors mentioned above, are expected to reduce the number of people exposed to a cancer risk of 10 in a million within the 20 square miles surrounding the Los Angeles/Long Beach Ports from 1.7 million in 2004, to 940,000 in 2015, and 630,000 in 2020. Statewide, the emission reductions due specifically to the regulations would be expected to prevent 310 premature deaths and 8,100 cases of asthma-related and other lower respiratory symptoms by the year 2025, as well as other health benefits. The economic benefit for these avoided premature deaths and health costs is estimated to be \$1.3 to \$2.0 billion.

In contrast to the diesel PM and NOx reductions, we are not projecting significant reductions in oxides of sulfur (SOx) from the proposed action. Currently, all diesel fuel sold to harbor craft is required to meet ARB's on-road diesel specifications (CARB diesel). These specifications help reduce SOx emissions, among other pollutants. However, the existing regulation (title 13, CCR section 2299) only prohibits the sale of noncomplying diesel to harbor craft operators; it does not actually require the use of CARB diesel by operators while their vessels are operating in Regulated California Waters. Thus, to supplement the existing diesel fuel regulation, the proposed action will require harbor craft operators to fuel their diesel engines only with CARB diesel or equivalent fuel, as specified in the proposal.

#### *Staff Report and Further Information*

As described in more detail below, ARB staff has prepared two documents as part of this rulemaking, a Staff Report: Initial Statement of Reasons (Staff Report) and a Technical Support Document. Together with the needs assessment (i.e., the Diesel RRP), these two documents serve as the report on the need and appropriate degree of regulation for new and in-use commercial harbor craft in Regulated California Waters.

#### **Description of the Proposed Regulatory Action**

Under the approach proposed by staff, the Board would adopt a regulation, pursuant to its authority under HSC sections 43013 and 43018, which would apply to the emissions from diesel engines on commercial harbor craft operating within any of the Regulated California Waters (as defined in the proposal). The Board would also approve adoption of essentially identical provisions as an ATCM, pursuant to its authority under HSC section 39666, which would complement the regulation and provide maximum notice to the regulated community of the regulatory requirements on commercial harbor craft. These measures will hereinafter sometimes be referred to collectively as "the proposed regulations."

## *Applicability*

The proposed regulations apply to any person who owns or operates a commercial harbor craft operating within any of the Regulated California Waters, which 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. Regulated California Waters also include all ports, roadsteads, and terminal facilities in California. In general, commercial harbor craft include a variety of vessel types such as ferries, excursion vessels, tugboats, ocean-going tugboats, tow boats, crew vessels, work boats, fishing boats, barges, and others. Industries that use these vessels, such as those providing ferry services, offshore platform suppliers, commercial fishing, touring and excursion services, and many others would be subject to these regulations. Government agencies that own or operate diesel powered harbor craft, such as those engaged in fire protection, dam inspections and repair, marine research and education, and ferry services operated by local municipalities would also be affected.

The proposed regulations include language explicitly stating and clarifying that the proposal does not change or supersede any existing United States Coast Guard (U.S.CG) regulations and that vessel owners and operators are responsible for ensuring that they meet all applicable U.S.CG regulations, as well as the proposed regulations.

## *Exemptions*

The proposed regulations include a number of exemptions. First, the proposal does not apply to vessels that travel within the 24 nautical mile boundary off California's coastline without stopping or anchoring. This exemption includes vessels that stop or anchor within 24 nautical miles only under limited situations, such as when the vessel is in distress or must stop to comply with U.S.CG regulations. Also, the following vessel types are exempted from this proposal in its entirety: temporary emergency rescue/recovery vessels, recreational vessels, ocean-going vessels that are not ocean-going tugboats (i.e., ocean-going tugboats and tow boats are subject to the proposal), vessel engines registered with the ARB Portable Engine Registration Program at the time the proposed regulation is approved by the Office of Administrative Law, military tactical support vessels, and all U.S. Coast Guard vessels. Further, temporary replacement vessels and registered historic vessels are exempt from the proposed engine standards and compliance schedule but are otherwise subject to all other requirements. Similarly, low use engines (i.e., those used less than 300 hours per year) would not be subject to the proposed engine standards and compliance schedule but are otherwise subject to all other requirements.

## *Emission Limits*

A regulated diesel engine generally would be limited to the U.S. EPA marine engine standards in effect at the time the engine is due to be brought into compliance with the proposal's requirements. The proposal specifies the compliance schedule for regulated



engines. The proposal's requirements involving U.S. EPA's proposed Tier 3 and Tier 4 standards would come into effect only if U.S. EPA finalizes and promulgates those standards as they were specified in 72 Fed.Reg. 15937 et seq. (Apr. 3, 2007). If U.S. EPA promulgates different Tier 3 and Tier 4 standards, a separate rulemaking will be needed to incorporate those Tier 3 and Tier 4 standards.

### *Newly Acquired Engines and Vessels*

The proposed regulations include requirements for newly acquired commercial harbor craft vessels and those engines acquired for use on a vessel after the vessel's initial purchase. These requirements cover both the acquisition of diesel engines for use in harbor craft and the acquisition of new and in-use harbor craft vessels. These requirements are included to ensure that California's commercial harbor craft fleet becomes cleaner as vessels are added to the California fleet and engines are replaced. The proposed regulations require that only engines meeting the applicable U.S. EPA marine engine standards on the date of engine acquisition (e.g., date when a contract for the purchase of the engine by the vessel owner was executed) be sold for installation on in-use commercial harbor craft. A limited sell-through provision is included in the regulation. The engines on new harbor craft would be required to meet the standards in effect on the date of vessel acquisition (e.g., date when a contract to buy the vessel was executed). The sale of in-use vessels would be subject to the engine compliance schedule but would not be otherwise restricted. The propulsion engines on new ferries would have additional requirements for NO<sub>x</sub> or PM emissions to be cleaner than the U.S. EPA marine engine standards in effect on the date of vessel acquisition.

### *In-Use Vessels*

In addition to the above, the proposed regulations would require that currently unregulated (a.k.a. "Tier 0") and Tier 1 in-use propulsion and auxiliary marine engines on ferries, excursion vessels, tugboats, and towboats meet emission limits equal to or cleaner than the U.S. EPA marine engine standards in effect for the year that in-use engine compliance is required under this proposal. In other words, engines that are not currently subject to any emission standards (Tier 0) will eventually be brought into compliance with standards specified in the proposal. A compliance schedule, designed to clean up the oldest dirtiest high use engines first, would be based on the in-use engine model year and hours of operation. The proposed regulations include an accelerated compliance schedule for harbor craft with homeports in the South Coast Air Quality Management District to provide early benefits for the South Coast Air Basin, which is in non-attainment for both ozone and PM<sub>2.5</sub>.

While there are other options available in the proposal, ARB staff believes that most owners and operators of regulated harbor craft will choose to replace their existing engine with a new Tier 2 or Tier 3 engine. However, some operators may choose one of the other compliance options, such as demonstrating that the current engine meets the applicable emission limits. Options are also provided to extend the compliance

date, such as implementing an emission control strategy and demonstrating that the engine was previously rebuilt to a cleaner standard. The proposed regulations also include a provision governing the failure of a diesel emission control strategy employed through an elected compliance option.

### *Compliance Extensions*

The proposed regulations provide for owners and operators to apply to ARB for an extension of the compliance date in certain cases. These circumstances are specified in the proposal and include situations when a vessel is near retirement, there is a change in operation or ownership, there is no suitable replacement engine available, difficulties occur in obtaining or installing a replacement engine, and owners with multiple vessels would need to comply in the same year for all the vessels.

### *Recordkeeping*

Starting on January 1, 2009, owners or operators of commercial harbor craft operating within the Regulated California Waters will be required to maintain specified records for a minimum of three years.

### *Monitoring, Reporting, and Recordkeeping*

The proposed regulations would require that diesel engines on all commercial harbor craft have a properly operating, non-resettable hour meter installed so that hours of operation can be monitored.

The recording and maintenance of specified information would begin on January 1, 2009. All owners or operators of commercial harbor craft would be required to submit an initial report containing specified information, including a plan for compliance with the regulation if applicable, by February 28, 2009. An additional report would be required upon compliance with the required engine emission limits, upon changes in engine or vessel operation, or if there are changes in ownership or use. This required reporting will provide staff with more complete up-to-date information on commercial harbor craft vessels to be used in developing the emission inventory and for the consideration of further regulatory measures. Owners or operators of commercial harbor craft would also need to supply additional information as requested that may be necessary to determine compliance with the proposed regulations. The specified information that owners or operators will be required to record and maintain would have to be supplied to an agent or employee of ARB upon request. Finally, for enforcement purposes, owners or operators would have to provide vessel access to ARB employees or officers or the local air districts.

### *Alternative Control of Emissions*

The proposed regulations contain an alternative control of emissions (ACE) option, which would allow an owner or operator to submit for approval by the Executive Officer

an alternative compliance approach. Under the ACE, owners or operators would be required to achieve and demonstrate equivalent or greater emission reductions than that which would have been achieved with direct compliance with the emission limits. Alternative emission control strategies may include any feasible and enforceable strategy not otherwise required by law, regulation, or statute. The detailed application process is specified and includes substantial public participation.

### *Fuel Requirement*

The proposed regulations would require that commercial harbor craft engines be fueled with diesel fuel meeting ARB's on-road diesel fuel standards (CARB diesel), an alternative diesel fuel, a diesel fuel meeting ARB's Verification Procedure requirements, a CARB diesel used with fuel additives that meets the requirements of the Verification Procedure, or any combination of the above.

### *Test Methods and Other Incorporated Documents*

The proposal would incorporate by reference Parts 2 and 4 of International Standard ISO 8178, as revised in 1996 by the International Organization for Standardization (ISO). This standard includes test methods for reciprocating internal combustion engines. The proposal would also incorporate by reference the U.S. EPA marine engine standards, Tiers 1 and 2, as set forth in 40 Code of Federal Regulation (CFR) Part 94, and the proposed U.S. EPA Marine Engine standards, Tiers 3 and 4, as set forth in 72 Fed. Reg. 15937 et seq. (April 3, 2007).

### *Violations*

The proposal specifies that any violation of the requirements or other provisions would subject the person who committed the violation to the penalties, injunctive relief, and other remedies available under Health and Safety Code section 42400 et seq., other applicable sections of the Health and Safety Code, and other applicable provisions of California law for each violation. The proposal further specifies that each failure to meet a requirement, criteria, or provision of the regulations would constitute a single, separate violation for each hour that a person operates the commercial harbor craft within Regulated California Waters until the provision, criteria, or requirement has been met.

### *Severability*

This proposed regulation states that if any part of the regulation is held to be invalid, the remainder of the regulation shall continue to be effective.

At the hearing, the Board may consider other elements that may provide additional flexibility to affected owners and operators.

## **COMPARABLE FEDERAL REGULATIONS**

As noted above, U.S. EPA has already promulgated Tier 1 and Tier 2 standards for new marine engines. And U.S. EPA has recently proposed Tier 3 and Tier 4 standards for new marine engines to become effective beginning in 2009 and 2014, respectively. 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 nonroad engines, including marine engines.<sup>6</sup>

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.<sup>7</sup> 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 proposed regulations 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. To obtain authorization, the Board must make a finding that the California adopted standards will be, in the aggregate, at least as protective of public health and welfare as applicable federal standards.<sup>8</sup> The Administrator must grant a request for authorization from California unless he finds that ARB's protectiveness finding is arbitrary and capricious, that California does not need the standards to meet compelling and extraordinary conditions, or that the standards and accompanying enforcement procedures are not consistent with CAA section 209.

## **AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS**

As noted above, the Board staff has prepared two documents for the proposed regulatory action: a Staff Report, which includes a summary of the economic and environmental impacts of the proposal, and a Technical Support Document, which describes the basis of the proposed action in more detail. The Staff Report is entitled, "Staff Report: Initial Statement of Reasons for the Proposed Rulemaking – Regulations to Reduce Emissions from Diesel Engines on Commercial Harbor Craft Operated Within California Waters and 24 Nautical Miles of the California Baseline." The Technical Support Document is entitled, "Technical Support Document: Technical Support for the Proposed Rulemaking – Regulations to Reduce Emissions from Diesel Engines on Commercial Harbor Craft Operated Within California Waters and 24 Nautical Miles of the California Baseline."

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<sup>6</sup> The California term "off-road" and the federal term "nonroad" refer to the same sources and are used interchangeably.

<sup>7</sup> See *Engine Manufacturers Association v. U.S. EPA* (D.C. Cir. 1996) 88 F.3d 1075, 1089-1091.

<sup>8</sup> CAA section 209(e)(2)(A). Other states may subsequently opt into the California program, but their regulations must be identical to California's requirements. CAA section 209(e)(2)(B).

Copies of the Staff Report with the full text of the proposed regulatory language and the Technical Support Document may be accessed on the ARB's web site listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1<sup>st</sup> Floor, Sacramento, CA 95814, (916) 322-2990 at least 45 days prior to the scheduled hearing on October 25, 2007.

Upon its completion, the Final Statement of Reasons (FSOR) will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on the ARB's web site listed below.

Inquiries concerning the substance of the proposed regulation may be directed to the designated agency contact persons, Cherie Rainforth, Manager of the Control Strategies Section, at (916) 327-7213, or by email at [crainfor@arb.ca.gov](mailto:crainfor@arb.ca.gov), or Todd Sterling, Air Pollution Specialist, at (916) 445-1034, or by email at [tsterlin@arb.ca.gov](mailto:tsterlin@arb.ca.gov).

Further, the agency representative and designated back-up contact persons to whom nonsubstantive inquiries concerning the proposed administrative action may be directed are Alexa Malik, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-4011, and Amy Whiting, Regulations Coordinator, (916) 322-6533. The Board has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

This notice, the Staff Report, Technical Support Document, and all subsequent regulatory documents, including the FSOR, when completed, are also available on the ARB Internet site for this rulemaking at [www.arb.ca.gov/regact/2007/chc07/chc07.htm](http://www.arb.ca.gov/regact/2007/chc07/chc07.htm)

## **COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED**

### *Costs to Businesses and Private Individuals*

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred by public agencies and private persons and businesses in reasonable compliance with the proposed regulations are presented below.

The total cost of regulation compliance is expected to be about \$140 million in 2006 expenditure-equivalent dollars (2006 dollars). This represents the total cost of the regulation if all money required to comply with the proposed regulation were spent in 2006. The total regulation cost is based on costs associated with early retirement or replacement of engines, the addition of diesel exhaust control systems (DECS) to new ferry propulsion engines, and reporting and recordkeeping. The costs associated with engine early retirement include the residual value of the replaced engine; any recent major engine maintenance costs, also referred to as engine rebuild; and the time-value-of-money to pay for an early engine repower. The costs associated with the addition of DECS to new ferry propulsion engines include the purchase and installation of the

control systems and costs for recurring control technology maintenance. These costs would be spread over the years 2009 to 2022. On an annual basis, the cost would vary between \$2.5 million and \$26 million per year, averaging about \$10 million per year. Approximately 70 percent of the compliance costs will be incurred by the ferry and excursion fleets and 30 percent by the tugboat and tow boat fleets.

No costs were included for additional fuel use for the new ferry vessels with added control technology. This was balanced by the fact that no fuel savings were included for replacing old engines with more efficient new Tier 2 or Tier 3 engines. For vessels that are repowered (i.e., the engines are replaced with a new engine), no costs were included for vessel out-of-service time to install the engine due to the difficulty in assigning a value to this cost (i.e., the down time and installation costs are highly variable and case-dependent).

New equipment and reporting and recordkeeping costs for owners or operators of commercial harbor craft, which would include purchasing and installing new engines in existing vessels, installing DECS in new ferries, and reporting and recordkeeping, are approximately \$460 million. This cost would be spread over the years 2009 to 2022, with an average annual cost of about \$33 million. These costs are the estimated out-of-pocket costs to vessel owners and operators, which include costs that are normal and customary costs of doing business with or without the proposed regulations in place. Specifically, a portion of these costs – the new equipment costs for purchasing and installing a new engine – are costs that the vessel owner would eventually pay, but the proposed regulation requires this service to be performed earlier than normal. In contrast, the total regulation cost of \$140 million (2006 dollars) includes those costs related to performing this service early, but not the normal and customary costs of doing business.

Staff estimates the cost-effectiveness of the proposed regulation in terms of dollars per pound of PM emission reduction to be \$29 per pound if all the total annualized cost is attributed solely to the PM reduction. Since the proposal would also result in NO<sub>x</sub> emission reductions, staff also evaluated cost-effectiveness by attributing half the total annualized cost to the PM emission reductions and half to the NO<sub>x</sub> emission reductions. The resulting cost-effectiveness values using the latter method are \$14 per pound of PM and \$1,800 per ton of NO<sub>x</sub>. These values are based on the cost of regulatory compliance.

California businesses are affected by the proposed annual cost of the regulation to the extent that the implementation of the proposed regulation reduces their profitability. Overall, most affected businesses will be able to absorb the costs of the proposed regulation with no significant adverse impacts on their profitability. This finding is based on the staff's analysis of the estimated change in "return on owner's equity" (ROE). Dun and Bradstreet financial data were used for the analysis, when available, to determine the change in ROE for typical businesses from each industry category. The staff found that the overall change in ROE ranges average from negligible to a four percent decline. The decline in ROE was highest for ferries and excursion fleets and lowest for tugboat

fleets. This range in ROE reduction is not considered to represent a significant impact on profitability. Because the proposed regulation would not alter significantly the profitability of most businesses, we do not expect a noticeable change in employment, business creation, elimination, or expansion, and business competitiveness in California for these industries. The change in ROE is expected to be larger for a small business.

The Executive Officer has made an initial determination that the proposed regulatory action will not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons based on the estimated change in ROE. A number of businesses are integrally linked to California ports. However, we do not believe that the added costs of the proposed regulations are high enough for harbor craft operators to consider alternate ports outside of California. The ARB staff has considered proposed alternatives that would lessen any adverse economic impact on businesses and invites you to submit proposals. Submissions may include the following approaches for consideration:

- (i) Establishment of differing compliance or reporting requirements or timetables that take into account the resources available to businesses.
- (ii) Consolidation or simplification of compliance and reporting requirements for businesses.
- (iii) Use of performance standards rather than prescriptive standards.
- (iv) Exemption or partial exemption from the regulatory requirements for businesses.

Alternatives that staff considered are described in more detail in the Staff Report.

In accordance with Government Code section 11346.3, the Executive Officer has determined that the proposed regulatory action may affect the creation or elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California. Some businesses that provide vessel repower services could expand due to the volume of business created by the regulatory requirements.

The Executive Officer has also determined, pursuant to title 1, CCR, section 4, that the proposed regulatory action would affect small businesses.

In accordance with Government Code sections 11346.3(c) and 11346.5(a)(11), the Executive Officer has found that the reporting requirements of the regulations which apply to businesses are necessary for the health, safety, and welfare of the people of the State of California.

In accordance with Health and Safety Code sections 43013(a) and (b), the Executive Officer has determined that the standards and other requirements in the proposed

regulations are necessary, cost-effective, and technologically feasible for diesel engines on commercial harbor craft operated within Regulated California Waters.

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the Board or that has otherwise been identified and brought to the attention of the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

#### *Costs to Local and State Government Agencies*

Pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the Executive Officer has determined that the proposed regulatory action would create costs to some State and local agencies. Most State and local agencies will incur only reporting costs. Staff has estimated these one-time reporting costs to range from about \$100 to \$3,000 depending on the number of vessels operated by the agency. Agencies operating ferries, excursion vessels, tugboats, or towboats with diesel engines would also incur engine replacement costs ranging from a total compliance cost of \$100,000 to \$10 million. These agencies include the City of Vallejo, which operates the Baylink Ferry; the Golden Gate Bridge and Highway Transportation District; the Port of Los Angeles; and the California Department of Transportation.

A detailed assessment of the economic impacts of the proposed regulatory action can be found in the Staff Report.

#### **SUBMITTAL OF COMMENTS**

Interested members of the public may also present comments orally or in writing at the meeting, and in writing or by e-mail before the meeting. To be considered by the Board, written comments submissions not physically submitted at the meeting must be received **no later than 12:00 noon, Pacific Standard Time, October 24, 2007**, and addressed to the following:

Postal mail: Clerk of the Board, Air Resources Board  
1001 I Street, Sacramento, California 95814

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

Facsimile submittal: (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 other search engines.



The Board requests but does not require that 30 copies of any written statement be submitted and that all written statements be filed at least 10 days prior to the hearing so that ARB staff and Board Members have time to fully consider each comment. The Board encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action.

### **STATUTORY AUTHORITY AND REFERENCES**

This regulatory action is proposed under the authority granted to ARB in Health and Safety Code sections 39600, 39601, 39650, 39658, 39659, 39666, 41511, 43013, and 43018. This action is proposed to implement, interpret, or make specific Health and Safety Code sections 39000, 39001, 39515, 39516, 39650, 39658, 39659, 39666, 41510, 41511, 43013, 43016, and 43018; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3rd 411, 121 Cal.Rptr. 249 (1975).

### **HEARING PROCEDURES**

The public hearing will be conducted in accordance with the California Administrative Procedure Act, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340) of the Government Code.

Following the public hearing, the Board may adopt the regulatory language as originally proposed, or with non-substantial or grammatical modifications. The Board may also adopt the proposed regulatory language with other modifications if the text as modified is sufficiently related to the originally proposed text that the public was adequately placed on notice that the regulatory language as modified could result from the proposed regulatory action. In the event that such modifications are made, the full regulatory text, with the modifications clearly indicated, will be made available to the public for written comment at least 15 days before it is adopted.

The public may request a copy of the modified regulatory text from the ARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1<sup>st</sup> Floor, Sacramento, CA 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

/s/

Tom Cackette  
Acting Executive Officer

Date: August 28, 2007

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs see our Website at [www.arb.ca.gov](http://www.arb.ca.gov).*