TITLES 13 AND 17. CALIFORNIA AIR RESOURCES BOARD

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

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 (NOx) from the use of diesel-fueled auxiliary engines aboard ocean-going ships while docked, or hotelled, at a California port. Auxiliary engines are run to power lighting, ventilation, pumps, communication, and other onboard equipment while a ship is docked at a berth. The proposed regulations would require some vessels to turn off their auxiliary engines; it is expected, but not required, that many of those vessels would then receive their electrical power from shore while at berth. The regulations will also reduce emissions of carbon dioxide (CO_2), a greenhouse gas that is responsible for much of the global climate change.

Any person who owns, operates, charters, rents, or leases any container ship, passenger ship, or refrigerated cargo ship that visits a California port, or any person who owns or operates a port or terminal located at a port where container, passenger, or refrigerated cargo ships visit, would be subject to and have responsibilities under this regulation. This notice summarizes the proposed regulations. The Staff Report and Technical Support Document present the regulation and information supporting the adoption of the regulation in greater detail.

DATE: December 6, 2007

TIME: 9:00 a.m.

PLACE: Air Resources Board
Auditorium
9530 Telstar Avenue
El Monte, California 91731

This meeting location may change. This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., December 6, 2007, and may continue at 8:30 a.m., December 7, 2007. This item may not be considered until December 7, 2007. Please consult the agenda for the meeting, which will be available at least 10 days before December 6, 2007, to determine the location and 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 2299.3, title 13, California Code of Regulations (CCR) and new section 93118.3, title 17, CCR. The following documents would be incorporated in the regulations by reference: (1) "Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines," 13 CCR 2700 et seq.; (2) 40 Code of Federal Regulations (CFR) Part 94, "Control of Emissions from Marine Compression-Ignition Engines"; (3) Annex VI of the 1973 International Convention for the Prevention of Pollution from Ships, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78); (4) ARB Method 100 – Procedures for Continuous Gaseous Emission Stack Sampling," 17 CCR 94114; (5) International Standard ISO 8178-1(E):1996, "Reciprocating Internal Combustion Engines – Exhaust Emission Measurement – Part 1: Test-Bed Measurement of Gaseous and Particulate Exhaust Emissions"; (6) 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"; (7) International Standard ISO 8178-4(E):1996, "Reciprocating Internal Combustion Engines – Exhaust Emission Measurement – Part 4: Test Cycles for Different Engine Applications"; (8) Bay Area Air Quality Management District Source Test Procedure ST-1B, "Ammonia Integrated Sampling," dated January 1982; (9) International Standard ISO 8754:2003(E), "Petroleum Products – Determination of Sulfur Content – Energy-Dispersive X-Ray Fluorescence Spectrometry," Second Edition, 2003-07-15; and (10) United States Department of Homeland Security, Bureau of Customs and Border Protection, "Vessel Entrance or Clearance Statement," CBP Form 1300 (v. 02/02), 19 CFR Part 4.

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 marine vessels, which are considered to be off-road sources,[1] ARB adopted a series of regulations since 2004 that (1) require diesel fuel sold for use in harbor craft comply with ARB diesel specifications[2] 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.[3] Although the latter regulation will reduce air pollution from marine auxiliary engines while in port, significant opportunities exist to

[1] The California term "off-road" and the federal term "nonroad" refer to the same sources and are used interchangeably

[2] ARB's fuel standards for harbor craft are codified at title 13, CCR, section 2299.

[3] 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.

further reduce emissions from ocean-going vessels docked at California ports. Ships can be docked at a California port from several hours to several days.

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 toxics 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). 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 off-road diesel engines, such as those covered by the proposed regulation. 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 proposed regulation would reduce diesel PM emissions and the local health impacts from ships docked in California's ports and would assist the Board with meeting the 2020 Diesel RRP goal.

Attainment of Ambient Air Quality Standards

The federal Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (U.S. EPA) to establish National Ambient Air Quality Standards (National Standards) for pollutants considered harmful to public health, including fine particulate matter ($PM_{2.5}$) and ozone. Set to protect public health, the national standards are adopted based on a review of health studies by experts and a public process. Ambient $PM_{2.5}$ 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 national 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 $PM_{2.5}$; diesel PM emission reductions are needed because diesel PM contributes to ambient concentrations of $PM_{2.5}$. At this time, the South Coast Air Basin is required to attain the $PM_{2.5}$ standard by 2015. 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.

The ARB has adopted revisions to the ozone and $PM_{2.5}$ SIPs and, as part of that action, will request from U.S. EPA a reclassification of the Basin to “extreme” nonattainment for ozone, which will give the Basin until 2023 to attain the federal ozone standard. ARB will submit the SIPs to the U.S. EPA by the applicable due dates within the next year.

Air quality modeling indicates that significant reductions of NOx are crucial to help meet both these standards. At this time, the strategy to achieve attainment of the $PM_{2.5}$ standards in the South Coast Air Basin includes a 55 percent reduction in NOx emissions and a 15 percent reduction in direct $PM_{2.5}$ emissions from 2006 baseline levels. The NOx emission reductions from the proposed regulation would play an essential role in assisting the South Coast Air Basin with meeting its 2014 $PM_{2.5}$ deadline as well as its future ozone deadlines.

The federal CAA permits states to adopt more protective air quality standards if needed, and California has set standards for particulate matter and ozone that are more protective of public health than respective federal standards. The Bay Area, South Coast, and San Diego areas are nonattainment for the State standards for ozone and $PM_{2.5}$. Health and Safety Code section 40911 requires the local air districts to submit plans to the Board for attaining the State ambient air quality standards, and HSC section 40924 requires triennial updates of those plans. The NOx and $PM_{2.5}$ emission reductions from the proposed regulation will assist the local air districts in achieving attainment of the State ambient air quality standards.

Control of Emissions from Goods Movement-related Activities

In April 2006, the Board approved the *Emission Reduction Plan for the Ports and Goods Movement in California* (GMERP). The GMERP identifies strategies for reducing emissions created from the movement of goods through California ports and into other regions of the State. The GMERP is part of the broader Goods Movement Action Plan (GMAP) being jointly carried out by the California Environmental Protection Agency and the Business, Transportation, and Housing Agency. Phase I of the GMAP was released in September 2005 and highlighted the air pollution impacts of goods movement and the urgent need to mitigate localized health risk in affected communities. The final GMAP was released in January 2007 and includes a framework that identifies the key contributors to goods movement-related emissions.

The GMERP identifies numerous strategies for reducing emissions from all significant emission sources involved in goods movement, including ocean-going vessels, harbor craft, cargo handling equipment, locomotives, and trucks. The GMERP identifies several strategies for reducing emissions from ocean-going vessels. Specific to hotelling emissions, the GMERP establishes a goal of utilizing shore power for 20 percent of the ship visits to California ports by 2010, 60 percent of visits by 2015, and 80 percent of visits by 2020. The proposed regulation would represent a significant first step toward satisfying the GMERP goals by requiring specific vessel types to use shore power for 50 percent of a fleet's visits to a port by 2014 and 80 percent of visits by 2020. Furthermore, emission reductions would begin in 2010 for vessel owners or operators choosing an alternative emission control technology to reduce their hotelling emissions.

The California Global Warming Solutions Act of 2006

In June 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which established targets for reducing GHG emissions in California: roll back GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and finally to 80 percent below 1990 levels by 2050. In 2006, the Governor signed Assembly Bill (AB) 32 (Stats. 2006, ch. 488), which established the 2020 GHG emission reduction goal in State law (set forth in HSC §38500 et seq.) and made the ARB responsible for monitoring and reducing GHG emissions. AB 32 requires the Board, by January 1, 2009, to design and adopt an overall plan to reduce GHG emissions to 1990 levels by 2020. The Board has until January 1, 2011, to adopt the necessary regulations to implement that plan. Implementation begins no later than January 1, 2012, and the emission reduction target must be fully achieved by January 1, 2020. AB 32 also required the Board to identify a list of discrete early action GHG reduction measures by June 30, 2007. AB 32 defines discrete early action measures as regulations that are to be adopted by the Board and be enforceable by January 1, 2010.

In April 2007, ARB staff released a report identifying 37 proposed early action items the Board could undertake to mitigate GHG emissions in California. Port electrification was identified as a GHG emission reduction measure in this report. In September 2007,

ARB staff recommended reclassifying port electrification (now called Green Ports) from an early action measure to a discrete early action measure. Staff's recommended reclassifications will be considered by the Board at its October 25, 2007 hearing. The proposed regulation, while reducing diesel PM and NOx emissions, would also result in significant reductions of CO_2 emissions as a co-benefit of requiring cleaner grid-supplied electrical generation for ocean-going vessels while docked. These CO_2 emission reductions will help California meet its 2020 greenhouse gas emission reduction goal.

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 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 ocean-going vessels, for identified TACs such as diesel PM. As noted, ARB is also mandated under HSC section 38500 et seq. to reduce greenhouse gas emissions, which are emitted at significant levels by ships hotelling at California ports.

Emission Reductions and Public Health Benefits Projected

The proposed regulations are expected to significantly reduce emissions of diesel PM from at-berth ocean-going vessels. 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. In December 2005, the Board adopted an auxiliary engine fuel regulation that will provide significant emission reductions from auxiliary engines on ocean-going vessels. The proposed regulations are expected to provide additional significant emission reduction benefits. Staff projects that, by 2020, the proposed regulation would reduce hotelling diesel PM and NOx emissions from container ships, passenger ships, and refrigerated cargo ships by nearly 75 percent relative to levels expected to be emitted. These emission reductions will occur in areas at and near ports where environmental justice concerns are especially prevalent. In addition, hotelling CO_2 emissions are expected to be reduced by 136,000 to 269,000 metric tons in 2020, which will assist the State with meeting the AB 32 mandates for greenhouse gas reductions.

The proposed regulations would also reduce diesel PM and NOx emissions that contribute to exceedances throughout the State of ambient air quality standards for both

$PM_{2.5}$ and ozone. These reductions will assist California in its goal of achieving State and federal air quality standards.
Furthermore, in addition to reducing cancer impacts caused by diesel PM, the proposed regulation will provide a significant reduction in non-cancer health impacts, including premature death, due to reductions in directly-emitted PM and the secondary formation of PM from NOx

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 at-berth ocean-going vessels auxiliary engines.

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 38500 et seq., 43013 and 43018, which would apply to the emissions from diesel engines on ocean-going ships while docked at a California port (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 ocean-going vessels. These measures will hereinafter sometimes be referred to collectively as "the proposed regulations."

Applicability

The regulations would apply to any person who owns, operates, charters, rents, or leases any container ship, passenger ship, or refrigerated cargo ship that visits a California port, or any person who owns or operates a port or terminal located at a port where container, passenger, or refrigerated cargo(reefer) ships visit. These ports include Los Angeles, Long Beach, Oakland, San Diego, San Francisco, and Hueneme.

The regulations apply to both U.S.-flagged vessels and foreign-flagged vessels. Foreign-flagged vessels are vessels registered under the flag of a country other than the United States.

Exemptions

The proposed regulations contain general and specific exemptions. Under the general exemptions, vessels in "innocent passage"; vessels owned or operated by local, state, federal or foreign governments in government non-commercial service; steamships; and auxiliary engines using natural gas are exempt from the regulations in their entirety. A steamship is an ocean-going vessel whose primary propulsion and electrical power are provided by steam boilers. Further, there are particular exemptions from specified

portions of the regulations for emergency events and delays caused by federal agency inspections, as set forth in the proposal.

Limited Hours of Operation for Auxiliary Diesel Engines at Berth

The proposed regulations allows for two options to reduce hotelling emissions; ship operators can either shut down their auxiliary engines while in port (not including 3 or 5 permissible hours of total operation, as specified in the proposal), or they can reduce the emissions from those auxiliary engines by specified degrees while docked.

The "limited auxiliary engine operation" option in the proposed regulations requires that the operators of container ships, passenger ships, and reefers that visit California ports shut down their auxiliary engines for most of their stay while hotelling. Specifically, these auxiliary engines must be shut down for 50 percent of a fleet's total visits to a California port in 2014 and 80 percent of the fleet's total visits to a port in 2020. While auxiliary engines are shut down, the ship's onboard electrical requirements would need to be satisfied by some other source of power. The source of electrical power used instead of the auxiliary engines must be provided either by the grid or by another power source with specific emissions standards.

Fleets that do not make a minimum number of annual visits to a California port are exempt from the auxiliary engine limitations for that port. The engine shutdown requirement is applied when there are 25 or more total annual visits by a container vessel fleet or reefer vessel fleet to a port. For passenger vessel fleets, this threshold is five annual visits. However, regardless of the number of annual visits, the regulations require a vessel to use shore power if it is equipped to do so, and it visits a berth equipped to provide compatible shore power.

As noted, to provide for sufficient time to connect and disconnect electrical lines for shore power, the proposed regulations allow the auxiliary engines to operate for up to three hours during a visit, or five hours during a visit for vessels that lose power during the process of switching power from the vessel's auxiliary engines to shore power. This time period may be extended due to circumstances beyond the control of the vessel operators, such as emergency events or delays resulting from obligations imposed by federal agencies (for example, the Department of Homeland Security or the U.S. Coast Guard).

Emission Reduction Option

An alternative to the "limited auxiliary engine operation" approach is the "emissions reduction option"; operators choosing this option are required to reduce their auxiliary engine emissions at a port by specific amounts and by specific dates. The compliance dates vary based on the types of emission reduction techniques applied to the fleets. The emission reduction techniques that could be applied to a fleet include: 1) using selected vessels for grid-supplied power based on potential auxiliary engine emission reductions rather than fleet visit percentages; 2) using distributed generation equipment

to provide power to a vessel; 3) using alternative emission controls onboard a vessel or at the berth; and 4) using a combination of these techniques.

For option 1, the emission reduction targets are aligned with the limited engine operation approach: the NOx and PM emissions from the fleet's auxiliary engines at a port must be reduced by 50 percent from the baseline fleet emissions by 2014 and by 80 percent by 2020. For options 2 and 3, in which alternative control technologies are implemented, the NOx and PM emissions from the fleet's auxiliary engines at a port must be reduced by 20 percent from the baseline fleet emissions by 2010, 40 percent by 2012, 60 percent by 2014, and 80 percent by 2016. For option 4, in which a combination of approaches is implemented, NOx and PM emissions must be reduced by 20 percent from the baseline fleet emissions by 2012, 50 percent by 2014, and 80 percent by 2020.

The proposed regulations provide default values for making the emission reduction calculation, including default values for emission factors and power requirements, in lieu of more specific values. In addition, the proposal provides procedures for determining control factors and applicable emission testing procedures.

Sources of electrical power, other than the grid, that are used to comply with the emission reduction option would be subject to additional requirements. Before January 1, 2014, distributed generation equipment must satisfy the emission standards applicable to a newly manufactured spark-ignited off-road engine. By January 1, 2014, all distributed generation must satisfy a more stringent emission standard that is equivalent to a spark-ignited engine using Best Available Control Technology (BACT). Finally, the source of electrical power must emit no more CO_2 (a greenhouse gas) emissions than a combined-cycle gas turbine – the emissions level that the California Public Utilities Commission recommended for unspecified sources of power.

Recordkeeping and Reporting Requirements

The proposed regulations have reporting and recordkeeping requirements affecting the vessel owners and operators, terminals, and ports.

The reporting and recordkeeping requirements for vessel owners or operators depend upon the compliance option selected by the vessel owner or operator and terminal. The proposed regulations require a vessel fleet plan to be submitted to the Executive Officer of the ARB in the years prior to the fleet's regulatory compliance dates.

In addition to the vessel fleet plans, the proposal requires an annual statement of compliance to be submitted to the Executive Officer of the ARB certifying compliance with the regulatory requirements for the previous calendar year. As with the vessel fleet plans, the dates for the initial submittals depend upon the compliance option selected by the vessel owner or operator.

The recordkeeping and reporting requirements are simpler for the limited auxiliary engine use option because the vessel owner or operator choosing that option must track only those vessels that will comply with the 2014 and 2020 shore power requirements. The recordkeeping and reporting requirements for the emission reduction option are more significant because the vessel owner or operator choosing that option must track the emissions of each vessel in the fleet.

A terminal that receives more than 50 vessel visits in 2008 is required to submit a plan to ARB's Executive Officer by July 1, 2009, that identifies how the terminal will be upgraded to allow vessels to satisfy either the limited auxiliary engine operation option or the emissions reduction option. The terminal is also required to submit plan updates at a frequency dependant upon the control strategy selected by the vessel fleet owner or operator and the terminal.

The port is required to submit wharfinger data annually to ARB's Executive Officer, documenting when each vessel visits the port, the berth that the vessel visited, and the dates and times that the vessel was initially tied to the berth and subsequently released from the berth. In addition, the terminal operator is required to keep records of electricity usage for shore power and equipment breakdowns that affect a vessel's ability to comply with the limited auxiliary engine operation option or the emission reduction option.

Test Methods and Other Incorporated Documents

The proposal would incorporate by reference Parts 1, 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. Further, the proposal would incorporate by reference ISO 8754 (as adopted in 2003) for measuring the sulfur content of fuels used in auxiliary engines. The proposal would also incorporate by reference ARB's verification procedure requirements for diesel engine control measures as set forth in 13 CCR 2700 et seq. (June 2003), ARB's test method for NOx and CO_2 emissions as set forth in 17 CCR 94114 (July 1997), and the Bay Area Air Quality Management District's source test procedure for ammonia slip, ST-1B, dated January 1982. The proposal would also incorporate U.S. EPA's regulations for compression-ignition engines (40 CFR 94) and Annex VI of the 1973 International Convention for the Prevention of Pollution from Ships (as amended in 1978, also known as the MARPOL 73/78 Protocol); these would be incorporated to permit operators to submit engine test data measured pursuant to the federal regulation and international treaty, respectively.

Violations

The proposal specifies a violations provision that provides, among other things, that any violation of any part of the regulation would constitute a single, separate violation for each hour that the violation occurs. The exception to this would be for violations of the

recordkeeping and reporting requirements; a violation of those provisions would constitute a single, separate violation for each day that the violation occurs.

Severability

The 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 provide additional flexibility to affected owners and operators. In addition, the Board may consider revisions to the staff's proposal that result in requirements that are more or less stringent to those whom the proposed regulation is applicable.

COMPARABLE FEDERAL REGULATIONS

No federal standards or control requirements have been promulgated addressing emission reductions from at-berth ocean-going vessel auxiliary engines. Under CAA section 213, U.S. EPA is without authority to adopt in-use standards for nonroad engines, including marine engines.

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. See *Engine Manufacturers Association v. U.S. EPA* (D.C. Cir. 1996) 88 F.3d 1075, 1089-1091. Under CAA 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 requirements will be, in the aggregate, at least as protective of public health and welfare as applicable federal standards. CAA section 209(e)(2)(A). 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. *Ibid.*

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 Auxiliary Engines on Ocean-Going Ships while At-Berth at a California Port." The Technical Support Document is entitled, "Technical Support Document: Technical Support for the Proposed Rulemaking – Regulations to

Reduce Emissions from Diesel Auxiliary Engines on Ocean-Going Ships while At-Berth at a California Port."

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, 1st Floor, Sacramento, CA 95814, (916) 322-2990 at least 45 days prior to the scheduled hearing on December 6, 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, Mike Waugh, Manager of the Project Assessment Section, at (916) 445-6018, or by email at mwaugh@arb.ca.gov, or Grant Chin, Staff Air Resources Engineer, at (916) 327-5602, or by email at gchin@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/shorepwr07/shorepwr07.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.

While the proposal's engine shutdown requirement does not require vessels, ports, or terminals to install or modify any equipment, we anticipate vessel owners, operators, ports, and terminals will elect to install equipment that will allow vessels to use shore power while the auxiliary engines are shut down at berth. Assuming operators, ports, and terminals will make such investments, we estimate the total cost of regulatory compliance to be about $1.8 billion 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. This cost includes both capital and annual recurring costs. These costs would be spread over the years 2009 to 2020 for passenger ships and reefers and to 2030 for container ships. Two-thirds of this cost is the capital cost to add shore-power equipment to vessels. Annually, the costs are expected to vary from $15 million to $120 million. The total statewide annual costs to private business include recovery of capital expenditures, both aboard the ships and at the ports, and operating costs, which are labor costs and net energy costs, if any.

The total costs to a typical vessel operator complying with the proposed regulation, including capital costs, are estimated to be about $34 million. This cost would be distributed over a 22-year period, from 2009 to 2030. About 40 percent of the cost is associated with modifying additional vessels to replace vessels that have been re-deployed away from California ports. Annual costs would vary between $700,000 and $3 million per year, with the average cost of $1.7 million per year over this time period.

Similarly, the total costs to a typical terminal operator complying with the proposed regulation, including capital and ongoing costs are estimated to be about $17 million. About half of the cost is attributed to labor costs and the other half is for capital costs. This cost would be distributed over an 11-year period, from 2009 to 2020. Annual costs would vary between $500,000 and $1.7 million per year, with the average cost of $1.4 million per year over this time period. With 31 terminals and 35 vessel fleets affected by the proposed regulation, the cost to a typical business would be $26 million.

Vessel owners or operators, terminals, and ports would have additional recurring costs associated with recordkeeping and reporting. Reporting requirements begin July 1, 2009, and recordkeeping requirements begin January 1, 2010. For the vessel owner or operator, the costs associated with reporting and recordkeeping will vary between $600 and $12,000 annually. The higher cost for reporting and recordkeeping is based on the vessel owner or operator choosing to comply with the emission reduction option of the proposed regulation, and the lower end of the range represents the costs for vessel owners or operators complying with the limited auxiliary engine operation requirement. For the terminal operators and ports, the costs associated with reporting and recordkeeping are about $800 annually.

Staff estimates the cost-effectiveness of the proposed regulations, in terms of dollars per ton of PM emission reduction, to be is about $690,000 per ton if the total annualized cost is attributed solely to the PM reduction. Staff estimates the cost-effectiveness of the proposed regulation, in terms of dollars per ton of NOx emission reduction, to be about $12,800 per ton, if the total cost is attributed solely to the NOx emission reductions. Because the proposed regulation reduces significant amounts of both NOx and PM, staff also evaluated cost-effectiveness by attributing half the total annualized cost to the PM emission reductions and half to the NOx emission reductions. The resulting cost effectiveness values using that method are $6,400 per ton of NOx reduced and $345,000 per ton of PM reduced.

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. 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. Businesses may be created in California that install electrical infrastructure at ports, sell emission control technologies that reduce NOx or PM from auxiliary engines, or provide distributed energy, due to the regulatory requirements.

The Executive Officer has also determined, pursuant to title 1, CCR, section 4, that the proposed regulatory action would not affect small businesses; due to the large capital and operating costs associated with vessel operations, we do not anticipate any small businesses would be affected by the proposal.

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.

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 will not create costs or

savings to any state agency or in federal funding to the state, costs or mandate to any local agency or school district whether or not reimbursable by the state pursuant to Part 7 (commencing with section 17500), Division 4, Title 2 of the Government Code, except as discussed below, or other nondiscretionary savings to state or local agencies.

The governmental agencies affected by the proposed regulation are the port authorities, which are branches of the local city governments. The ports affected by the proposed regulation include the ports of Hueneme, Long Beach, Los Angeles, Oakland, San Diego, and San Francisco. In addition, the cruise terminal at the Port of Long Beach is owned by the City of Long Beach. The total costs to be expended by the port authorities to add shore-power equipment to their facilities range from $4 million to $86 million. Staff anticipates that the port authorities would begin to make payments during fiscal years 2008/2009 and 2009/2010 for the necessary shore-power equipment to satisfy the 2014 shore-power requirements. The estimated fiscal costs for the ports range from $600,000 to $7.4 million for fiscal years 2007/2008 and 2009/2010.

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, December 5, 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 38560, 38560.5, 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 38560, 38560.5, 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*, (1975) 14 Cal.3rd 411, 121 Cal.Rptr. 249.

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, 1st Floor, Sacramento, CA 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

/s/

Tom Cackette
Acting Executive Officer

Date: October 9, 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.