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MARINE VESSEL EMISSIONS REDUCTION ACT OF 2007

JULY 10 (legislative day, JULY 9), 2008.—Ordered to be printed

Mrs. BOXER, from the Committee on Environment and Public Works, submitted the following

R E P O R T

together with

MINORITY VIEWS

[To accompany S. 1499]

[Including cost estimate of the Congressional Budget Office]

The Committee on Environment and Public Works, to which was referred the bill (S. 1499) to amend the Clean Air Act to reduce air pollution from marine vessels, having considered the same, reports favorably thereon without amendment and recommends that the bill do pass.

PURPOSE OF THE LEGISLATION

The Marine Vessel Emissions Reduction Act is intended to reduce emissions of air pollutants from marine vessels that contribute to air pollution and failure to meet air quality standards in certain areas in the United States.

GENERAL STATEMENT AND BACKGROUND

Marine vessels operating in the vicinity of many U.S. ports and coastal areas in many cases are a significant source of air pollutants contributing to poor air quality and adverse health effects. Air pollution from larger ocean-going vessels is weakly regulated; these vessels operate under international standards that permit use of high-sulfur fuel and do not require installation of available emissions control technologies.

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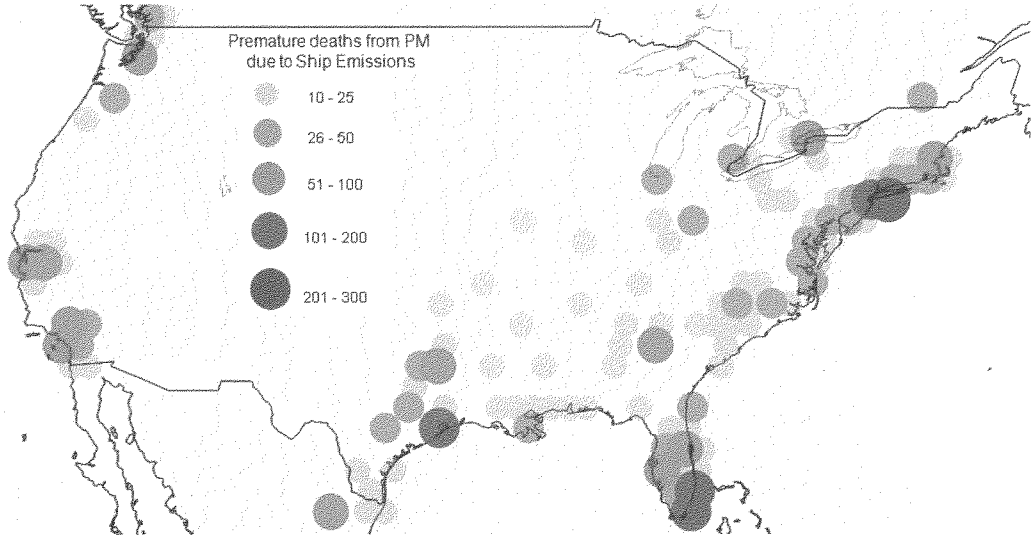
Studies have concluded that marine vessel emissions contribute to thousands of premature deaths and illnesses in the U.S. every year.[1] Based on data reported by Corbett et al. in December 2007,[2] deaths caused by ship pollution are occurring in large numbers in areas all around the country, as illustrated on the map below:

[1] See Corbett, et al., "Mortality from Ship Emissions: A Global Assessment," Environmental Sci. Technol, American Chemical Society, 42(24), p. 8512–8518, Dec. 15, 2007; Corbett et al., "Mitigating Health Impacts of Ship Pollution through Low Sulfur Fuel Options: Initial Comparison of Scenarios," Jan. 23, 2008; see also U.S. EPA Clean Air Nonroad Diesel Rule, May 2004, EPA420–R–04–032, available online at: *http://www.epa.gov/nonroad-diesel/2004fr/420f04032.htm*.

[2] Corbett, et al., "Mortality from Ship Emissions: A Global Assessment," Environmental Sci. Technol, American Chemical Society, 42(24), p. 8512–8518, Dec. 15, 2007.

Health Impacts from Ships are a Nationwide Problem

At least 2,000 to 5,000 Premature Deaths Per Year in the Continental U.S. are Caused by Particulate Pollution from Oceangoing Vessels



Cleaner marine fuels would reduce nationwide ship health impacts by ~ 60 %

Source: Corbett, J. J.; Winebrake, J. J.; Green, E. H.; Kasibhatla, P.; Eyring, V.; Lauer, A., Mortality from Ship Emissions: A Global Assessment. *Environmental Science & Technology* 2007, *41*, (24), 8512–8518

Areas where ship pollution is causing premature deaths, disease and health impacts include, but are not limited to, ports in the Atlantic seaboard (Ports of New York and New Jersey, Wilmington, Philadelphia, Baltimore, Hampton Roads, Charleston, Savannah, Jacksonville, Miami), the Gulf Coast (Ports of Tampa, Mobile, New Orleans, Baton Rouge, Houston and Galveston), the Great Lakes (Ports of Chicago and Detroit) and the West Coast (Ports of San Diego, Los Angeles and Long Beach, Oakland, Portland and Seattle).[3] In addition to these direct health impacts of ship pollution, U.S. Environmental Protection Agency data indicate that more than 40 U.S. ports in these regions are located in areas that have failed to meet air quality standards for one or more pollutants emitted or caused by large ship emissions, including ports in Louisiana, Texas, California, New York, New Jersey, Illinois, Maryland, Michigan, Pennsylvania, Connecticut and Delaware.[4] Accordingly, the Committee concluded that ship pollution is a serious national threat to health and air quality that requires an urgent Federal response.

The Marine Vessel Emissions Reduction Act amends the Clean Air Act by adding new requirements relating to marine vessel fuel sulfur content and advanced marine vessel emissions controls.

The Administrator of the U.S. Environmental Protection Agency (EPA) is required to promulgate regulations effective as of December 31, 2010, requiring that marine vessels operating within specified distances from U.S. ports use fuel that contains not more than 1,000 parts per million of sulfur, unless the Administrator finds that such limitation is not feasible, in which case fuel content may not exceed 2,000 parts per million of sulfur. The Act provides that certain alternative mechanisms may be authorized to comply with the fuel sulfur content requirements.

The Act would further amend the Clean Air Act by adding a new subsection relating to advanced marine vessel emission controls. It requires the Administrator to promulgate regulations establishing standards for emissions of certain air pollutants from newly-manufactured and in-use main and auxiliary engines in oceangoing marine vessels that enter or leave a port or offshore terminal of the United States. The regulations would require the greatest degree of emission reduction achievable through the application of technology that the Administrator determines, with reference to specified factors, will be available for the affected engines.

The Committee is aware that ongoing International Maritime Organization negotiations over new marine vessel standards under Annex VI of the MARPOL Convention could lead to potential improvements in the international regulatory regime. However, the precise standards, timing, and other specifics of those negotiations have not been finally determined or approved, the details of the implementation of such new standards has not yet been agreed to or commenced, and the adequacy of any international IMO standards to fully protect the United States public's health and well being re-

[3] See supra, notes 1 & 2.

[4] U.S. EPA "Greenbook" of Clean Air Act Non-attainment Areas, available online at: *http://www.epa.gov/air/oaqps/greenbk/multipol.html*; U.S. EPA Advance Notice of Proposed Rulemaking for Control of Emissions from New Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder, November 2007, available online at: *http://www.epa.gov/OMS/regs/nonroad/marine/ci/420f07050.htm.*

mains uncertain, so the Committee believes that this legislation is needed.

SECTION-BY-SECTION ANALYSIS

Section 1. Short title

Section 1 would provide that the Act may be cited as the "Marine Vessel Emissions Reduction Act of 2007".

Section 2. Findings

Section 2 sets forth Congress's findings that:

(1) emissions of air pollutants from marine vessels contribute significantly to dangerous air pollution in many areas in the United States;

(2) current levels of control on those emissions are not adequate to protect air quality and public health;

(3) to protect air quality and public health, efforts by State and local governments to control emissions from marine vessels must be augmented by the Federal Government;

(4) although the Environmental Protection Agency may require additional controls on domestic and international marine vessels entering United States ports, significant emission reductions must be achieved in the near future; and

(5) it is urgent and necessary to require the Administrator of the Environmental Protection Agency to establish standards to reduce emissions of air pollutants from marine vessels in a sufficient period of time to allow all areas in the United States to meet air quality standards in accordance with applicable deadlines.

Section 3. Marine Vessel Fuel Sulfur

Section 3 would amend Section 211 of the Clean Air Act (42 U.S.C. § 7545) and insert a new subsection (p) entitled "Marine Vessel Fuel Sulfur."

The EPA Administrator would be required to promulgate regulations, effective beginning on December 31, 2010, that require all marine vessels (a) within 200 miles of the west coast of the continental United States; and (b) within such distance of the east coast or gulf coast of the United States, or the shoreline of the Great Lakes or St. Lawrence Seaway, as the Administrator determines to be appropriate for the purpose of protecting public health and the environment, to use fuel containing not more than 1,000 parts per million of sulfur in the main and auxiliary engines of the vessels.

The regulations would apply to all marine vessels, including any vessel flagged in a country other than the United States, at any time at which the vessels are, on entering or leaving a port or offshore terminal of the United States, within the specified distances from the United States' coasts.

Section 3 would authorize the Administrator to promulgate an interim requirement, pursuant to which marine vessel fuel sulfur content in excess of 1,000 parts per million would be permitted if the Administrator determines that compliance with the 1,000 parts per million requirement is not technically feasible by December 31, 2010. However, vessels operating under the interim requirement would be required to use fuel that contains the lowest quantity of sulfur that is technically feasible by that date, and in no event a

quantity of sulfur in excess of 2,000 parts per million. They would be required to achieve compliance with 1,000 parts per million standard on the earliest practicable date by which compliance is technically feasible.

Section 3 would further authorize the Administrator to provide for an alternative mechanism of compliance if the Administrator determines that: (a) The marine vessel employs a control technology that reduces emissions from the vessel of sulfur oxides and particulate matter to at least the same degree as the reduction that would be achieved by the vessel through compliance with the applicable fuel sulfur content limitation; and (b) the emission reductions achieved are in addition to any reductions required to achieve compliance with an applicable engine emission standard issued by the Administrator or the head of another Federal agency.

Finally, section 3 clarifies that nothing in the bill limits or otherwise affects any authority to regulate fuels or fuel additives for use in marine vessels or any other nonroad vehicle or engine under this Act or any other provision of law.

Section 4. Advanced Marine Vessel Emission Controls

Section 4 would add a new subsection (d) to Section 213 of the Clean Air Act (42 U.S.C. § 7547), entitled "Advanced Marine Vessel Emission Controls".

Section 4 would require the Administrator to promulgate, and from time to time revise, regulations that establish standards for emissions of oxides of nitrogen, particulate matter, hydrocarbons, and carbon monoxide from newly-manufactured and in-use main and auxiliary engines in oceangoing marine vessels that enter or leave a port or offshore terminal of the United States.

The standards promulgated would require, effective beginning on January 1, 2012, that the engines achieve the greatest degree of emission reduction achievable through the application of technology that the Administrator determines will be available for the affected engines. In promulgating these standards, the Administrator would be directed to take into consideration: (a) whether the engine is newly-manufactured or in-use (and, if the engine is in-use, the age of the engine); (b) the cost of applying an emission reduction technology in a period of time sufficient to achieve compliance with the standard; (c) noise, energy, and safety factors associated with the application of the technology; and (d) the feasibility, benefits, and costs of requiring—(i) the maximum level of control required by regulations applicable to on-road, nonroad, and stationary engines; and (ii) the maximum level of control achieved by sources from which control technologies may be transferred, including sources that use advanced aftertreatment technologies.

Section 4 provides that if the Administrator determines, after consideration of the factors described, that a maximum level of control will not be technically achievable by January 1, 2012, the Administrator shall promulgate standards that require the maximum level of control that the Administrator determines will be technically achievable by that date, and that in that event the Administrator shall promulgate additional standards that require, effective beginning on January 1, 2016, (a) the maximum level of control or (b) if the Administrator determines, after consideration of the factors described, that a maximum level of control is not technically

achievable by January 1, 2016, the maximum level of control that the Administrator determines will be technically achievable by that date.

Section 4 requires that standards applicable to marine engines and marine vessels promulgated under that Section would be applicable to vessels that enter or leave a port or offshore terminal of the United States, including vessels flagged in any country other than the United States.

Section 4 provides for enforcement at the discretion of the Administrator, of any standard established relating to in-use engines, against: (a) the owner or operator of an in-use engine; (b) any person that rebuilds or maintains an in-use engine; or (c) such other person as the Administrator determines to be appropriate.

Finally, section 4 makes it clear that nothing in the bill limits or otherwise affects any authority to regulate emissions of engines in marine vessels under this Act or any other provision of law.

LEGISLATIVE HISTORY

S. 1499 was introduced by Senators Boxer and Feinstein on May 24, 2007. Additional cosponsors are Senators Cardin, Carper, Clinton, Warner and Whitehouse. The bill was read twice and referred to the Senate Committee on Environment and Public Works. The Committee met on May 21, 2008, when S. 1499 was ordered reported favorably without amendment by a voice vote.

HEARINGS

On August 9, 2007, the Senate Committee on Environment and Public Works held a field hearing in San Pedro, California, on "Port Pollution and the Need for Additional Controls on Large Ships." On February 14, 2008, the Senate Committee on Environment and Public Works held a hearing on S. 1499.

ROLL CALL VOTES

The Committee on Environment and Public Works met to consider S. 1499 on May 21, 2008. A quorum of the Committee being present, S. 1499 was reported favorably without amendment by a voice vote, with Senator Alexander requesting that he be recorded as voting aye. An amendment offered by Senator Vitter, which would have modified the findings in the bill and replaced the regulatory provisions of the bill with a provision requiring that EPA issue a rule "relating to marine vessel fuel sulfur in accordance with the standards and timing requirement established in Annex VI of the MARPOL Convention," failed by roll call vote, 8–11. (Ayes—Alexander, Barrasso, Bond, Craig, Inhofe, Isakson, Vitter, Voinovich. Nays—Baucus, Cardin, Carper, Clinton, Klobuchar, Lautenberg, Lieberman, Sanders, Warner, Whitehouse, Boxer).

REGULATORY IMPACT STATEMENT

In compliance with section 11(b) of rule XXVI of the Standing Rules of the Senate, the committee notes that the Congressional Budget Office has found that "EPA already regulates marine fuel emissions, and either that agency or the USCG must enforce such regulations. The two agencies are currently carrying out those re-

sponsibilities." CBO also has found that S. 1499 contains no intergovernmental mandates and would impose no costs on state, local, or tribal governments.

MANDATES ASSESSMENT

In compliance with the Unfunded Mandates Reform Act of 1995 (Public Law 104–4), the Committee agrees with the Congressional Budget Office that S. 1499 contains no intergovernmental mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

In compliance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office:

S. 1499—Marine Vessel Emissions Reduction Act of 2007

As ordered reported by the Senate Committee on Environment and Public Works on May 21, 2008.

S. 1499 would limit the sulfur content in marine fuel and set emissions standards for vessels in U.S. waters. Under current law, the Environmental Protection Agency (EPA) and the U.S. Coast Guard (USCG) enforce similar, but less stringent, standards on marine fuels.

Based on information from EPA, CBO estimates that implementing S. 1499 would have no significant impact on the federal budget because EPA already regulates marine fuel emissions, and either that agency or the USCG must enforce such regulations. The two agencies are currently carrying out those responsibilities. Enacting this legislation would not affect revenues or direct spending.

S. 1499 contains no intergovernmental mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

CBO has determined that S. 1499 would impose private-sector mandates, as defined in UMRA, and that the aggregate cost of those mandates would exceed the annual threshold established in UMRA ($136 million in 2008, adjusted annually for inflation). The bill would direct EPA to issue regulations requiring marine vessels to use low-sulfur fuel when entering or leaving a U.S. port or offshore terminal beginning on December 31, 2010. Based on information from EPA, CBO estimates that the cost of complying with a low-sulfur fuel requirement could be about $500 million in the first year and that the cost would increase in subsequent years. The bill also would direct EPA to set standards for emissions of nitrogen oxides, particulate matter, carbon monoxide, and hydrocarbons from new and in-use main and auxiliary engines of oceangoing vessels that enter or leave a U.S. port or offshore terminal. The bill would direct EPA to set emissions standards that would be comparable to standards for other on-road, nonroad, and stationary engines. The cost to comply with the mandate would depend on requirements established by EPA.

The CBO staff contacts for this estimate are Susanne S. Mehlman and Jeffrey LaFave (for federal costs), and Amy Petz (for

the private-sector impact). This estimate was approved by Peter H. Fontaine, Assistant Director for Budget Analysis.

MINORITY VIEWS OF SENATORS INHOFE, VITTER, AND VOINOVICH

S. 1499, the Marine Vessel Emissions Reduction Act of 2007, should be opposed and returned to the Environment and Public Works Committee by the full Senate because this legislation enforces a national solution to a problem than can and should be enforced locally. The legislation would require oceangoing vessels which use U.S. ports to significantly lower the sulfur content of their fuel.

Specifically, S. 1499 would require fuel sulfur content to drop from an average level of 27,000 parts per million to 1,000 parts per million, along with requiring emissions reductions from both new and existing engines beginning in 2012 by requiring use of the most advanced available technologies. This bill imposes a national standard that forces ports with clean air to comply with rules that are needed for dirty ports. Although California port pollution has exacerbated its continued nitrogen oxide and particulate matter problems, most American ports do not have air quality issues. This legislation would penalize all American ports, regardless of their air quality standards, and impose an unfair economic burden on ports without poor air quality.

If enacted, this law would disrupt U.S. international competitiveness by raising the costs of exporting goods and lessening export capability, regardless of whether those goods are shipped on U.S. or foreign vessels. Rate-sensitive cargo, such as grain, could be particularly affected. U.S. ports situated within close proximity to international ports may be disproportionately affected. These forced emissions reductions would also require vessels to pay high costs for engine upgrades and control technology.

Additionally, there is no certainty that appropriate technology can be adopted within the time-frame of this legislation. A letter from the Engine Manufacturers Association on May 19, 2008 opposing S. 1499, states that "the ability of fuel produces to supply sufficient quantities of 1,000 ppm sulfur fuel and the feasibility of ship owners and operators to make the needed physical changes to ships to use such a fuel by the December 2010 date have not been analyzed or demonstrated (and certainly seems unlikely)." [1]

In addition to potentially unachievable time-frames for emission reductions, efforts to reduce emissions from oceangoing vessels within the international trading community are already underway. The United States, which has signed onto the International Convention for the Prevention of Pollution from Ships of 1973 (MARPOL 73/78), has ratified Annex VI-regulations for the Prevention of Air Pollution from Ships. Necessary implementing legisla-

[1] Engine Manufacturers Association, Letter to Senators Boxer and Inhofe. Re: Position of the Engine Manufacturers Association on Senate Bill 1499, the Marine Vessel Emissions Reduction Act of 2007. May 19, 2008.

tion has been passed by both the House and the Senate. Joe Accardo, Jr., Executive Director of the Ports Association of Louisiana suggested in his testimony to the Environment and Public Works Committee on February 14, 2008 that "if the ultimate goal of Congress is to achieve the more restrictive standards proposed in S. 1499, we recommend that this be achieved through amendments to Annex VI." The U.S. EPA has been a strong leader in proposing stricter emissions standards for oceangoing vessels under the MARPOL Treaty Annex VI regulations.

In conclusion, S. 1499 would harm American shipping, from our ports to our vessels. If this solution is not going to be fixed locally, Congress should encourage adoption of the international action agreed to in MARPOL Annex VI. The stringent action and expedited compliance periods called for in this legislation will ensure greater harm to the American economy.

CHANGES IN EXISTING LAW

In compliance with section 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill as reported are shown as follows: Existing law proposed to be omitted is enclosed in [black brackets], new matter is printed in *italic*, existing law in which no change is proposed is shown in roman:

CLEAN AIR ACT

* * * * * * *

SEC. 101. (a) The Congress finds—

(1) * * *

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REGULATION OF FUELS

SEC. 211. (a) The Administrator may by regulation designate any fuel or fuel additive (including any fuel or fuel additive used exclusively in nonroad engines or nonroad vehicles) and, after such date or dates as may be prescribed by him, no manufacturer or processor of any such fuel or additive may sell, offer for sale, or introduce into commerce such fuel or additive unless the Administrator has registered such fuel or additive in accordance with subsection (b) of this section.

(b)(1) * * *

* * * * * * *

(o) RENEWABLE FUEL PROGRAM.—

(1) DEFINITIONS.—In this section:

(A) CELLULOSIC BIOMASS ETHANOL.—The term "cellulosic biomass ethanol" means ethanol derived from any lignocellulosic or hemicellulosic matter that is available on a renewable or recurring basis, including—

(i) * * *

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(p) MARINE VESSEL FUEL SULFUR—

(1) IN GENERAL.—Subject to paragraph (3), not later than December 15, 2008, the Administrator shall promulgate regulations that, effective beginning on December 31, 2010, require marine vessels described in paragraph (2) to use fuel that contains not more than 1,000 parts per million of sulfur in the main and auxiliary engines of the vessels.

(2) APPLICABILITY.—The regulations promulgated pursuant to paragraph (1) shall apply to all marine vessels, including any vessel flagged in a country other than the United States, at any time at which the vessels are, on entering or leaving a port or offshore terminal of the United States—

(A) within 200 miles of the west coast of the continental United States; and

(B) within such distance of the east coast or Gulf coast of the United States, or the shoreline of the Great Lakes or St. Lawrence Seaway, as the Administrator determines to be appropriate for the purpose of protecting public health and the environment.

(3) INTERIM REQUIREMENT—

(A) IN GENERAL.—Notwithstanding the requirement of paragraph (1), the Administrator may promulgate regulations under that paragraph that permit marine vessel fuel sulfur content in excess of 1,000 parts per million if the Administrator determines that compliance with the requirement of paragraph (1) is not technically feasible by December 31, 2010.

(B) REGULATIONS.—If the Administrator makes a determination described in subparagraph (A), the Administrator shall promulgate regulations that require marine vessels—

(i) beginning on December 31, 2010, to use fuel that contains—

(I) the lowest quantity of sulfur that is technically feasible by that date; and

(II) in no event a quantity of sulfur in excess of 2,000 parts per million; and

(ii) to achieve compliance with the requirement of paragraph (1) on the earliest practicable date by which compliance is technically feasible.

(4) ALTERNATIVE COMPLIANCE MECHANISM.—The Administrator may provide for an alternative mechanism of compliance under this subsection for a marine vessel if the Administrator determines that—

(A) the vessel employs a control technology that reduces emissions from the vessel of sulfur oxides and particulate matter to at least the same degree as the reduction that would be achieved by the vessel through compliance with the applicable fuel sulfur content limitation under this subsection; and

(B) the emission reductions achieved as described in subparagraph (A) are in addition to any reductions required to achieve compliance with an applicable engine emission standard issued by the Administrator or the head of another Federal agency.

(5) NO EFFECT ON OTHER AUTHORITY.—Nothing in this subsection limits or otherwise affects any authority of the Administrator to regulate fuels or fuel additives for use in marine vessels or any other nonroad vehicle or engine under this Act or any other provision of law.

[(r)] *(u)* FUEL AND FUEL ADDITIVE IMPORTERS AND IMPORTATION.—For the purposes of this section, the term "manufacturer" includes an importer and the term "manufacture" includes importation.

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SEC. 213. NONROAD ENGINES AND VEHICLES.

(a) EMISSIONS STANDARDS.—(1) The Administrator shall conduct a study of emissions from nonroad engines and nonroad vehicles (other than locomotives or engines used in locomotives) to determine if such emissions cause, or significantly contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such study shall be completed within 12 months

of the date of the enactment of the Clean Air Act Amendments of 1990.

(2) * * *

* * * * * * *

(c) SAFE CONTROLS.—Effective with respect to new engines or vehicles to which standards under this section apply, no emission control device, system, or element of design shall be used in such a new nonroad engine or new nonroad vehicle for purposes of complying with such standards if such device, system, or element of design will cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation or function. In determining whether an unreasonable risk exists, the Administrator shall consider factors including those described in section 202(a)(4)(B).

(d) ADVANCED MARINE VESSEL EMISSION CONTROLS.—

(1) STANDARDS FOR OCEANGOING VESSELS.—

(A) IN GENERAL.—Not later than December 15, 2008, the Administrator shall promulgate, and from time to time revise, regulations that establish standards for emissions of oxides of nitrogen, particulate matter, hydrocarbons, and carbon monoxide from newly-manufactured and in-use main and auxiliary engines in oceangoing marine vessels that enter or leave a port or offshore terminal of the United States.

(B) REQUIREMENT.—The standards under subparagraph (A) shall require, effective beginning on January 1, 2012, that the engines described in that subparagraph achieve the greatest degree of emission reduction achievable through the application of technology that the Administrator determines, in accordance with this paragraph, will be available for the affected engines.

(C) ADDITIONAL FACTORS FOR CONSIDERATION.—

(i) IN GENERAL.—In promulgating a standard under this paragraph, the Administrator shall take into consideration—

(I) whether the engine is newly-manufactured or in-use (and, if the engine is in-use, the age of the engine);

(II) the cost of applying an emission reduction technology in a period of time sufficient to achieve compliance with the standard;

(III) noise, energy, and safety factors associated with the application of the technology; and

(IV) the feasibility, benefits, and costs of requiring—

(aa) the maximum level of control required by regulations applicable to on-road, nonroad, and stationary engines; and

(bb) the maximum level of control achieved by sources from which control technologies may be transferred, including sources that use advanced aftertreatment technologies.

(ii) DETERMINATION.—

(I) IN GENERAL.—If the Administrator determines, after consideration of the factors described in clause (i), that a maximum level of control described in clause (i)(IV) will not be technically achievable by January 1, 2012, the Administrator shall promulgate standards under subparagraph (A) that require the maximum level of control that the Administrator determines will be technically achievable by that date.

(II) ADDITIONAL STANDARDS.—If the Administrator makes a determination under subclause (I), the Administrator shall promulgate additional standards under subparagraph (A) that require, effective beginning on January 1, 2016—

(aa) the maximum level of control described in clause (i)(IV); or

(bb) if the Administrator determines, after consideration of the factors described in clause (i), that a maximum level of control described in subclause (IV) of that clause is not technically achievable by January 1, 2016, the maximum level of control that the Administrator determines will be technically achievable by that date.

(2) APPLICABILITY.—Standards applicable to marine engines and marine vessels promulgated under this section shall be applicable to vessels that enter or leave a port or offshore terminal of the United States, including vessels flagged in any country other than the United States.

(3) ENFORCEMENT.—

(A) IN GENERAL.—The standards established under this subsection shall be enforced in accordance with subsection (f).

(B) ENFORCEMENT AGAINST CERTAIN PERSONS.—At the discretion of the Administrator, any standard established under this subsection relating to in-use engines may be enforced against—

(i) the owner or operator of an in-use engine;

(ii) any person that rebuilds or maintains an in-use engine; or

(iii) such other person as the Administrator determines to be appropriate.

(4) NO EFFECT ON OTHER AUTHORITY.—Nothing in this subsection limits or otherwise affects any authority of the Administrator to regulate emissions of engines in marine vessels under this Act or any other provision of law.

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[(d)**]** *(f)* ENFORCEMENT.—The standards under this section shall be subject to sections 206, 207, 208, and 209, with such modifications of the applicable regulations implementing such sections as the Administrator deems appropriate, and shall be enforced in the same manner as standards prescribed under section 202. The Administrator shall revise or promulgate regulations as may be

necessary to determine compliance with, and enforce, standards in effect under this section.

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