

**1990 CLEAN AIR ACT AMENDMENT PROVISIONS RELATED
TO SPECIFIC STATIONARY SOURCE CATEGORIES**

NOTE TO THE READER: Although a thorough review of the 1990 Clean Air Act Amendments was conducted in order to compile this listing of provisions related to specific stationary source categories, this listing may not represent the universe of source categories which are addressed by the Amendments.

INTRODUCTION

The 1990 Clean Air Act Amendments (CAAA) contain a number of provisions that pertain to specific stationary source categories. These source categories representing both anthropogenic and natural sources include:

- Aerospace
- Boat Manufacturing
- Coke Ovens
- Consumer and Commercial Products
- Electric Utilities
- Gasoline Dispensing Facilities
- Hazardous Waste Treatment/Storage Disposal Facilities
- Marine Vessels
- Medical and Research Facilities
- Oil and Gas Wells
- Outer Continental Shelf Sources
- Publicly Owned Treatment Works
- Rocket Engines and Motor Firing
- Sources which Emit Methane
- Sources which Emit Radionuclides
- Solid/Municipal Waste Combustion
- Surface Coal Mines

Summaries of the provisions affecting these source categories are presented by Title and section number in the following paragraphs.

AEROSPACE

Title I

Control Technique Guidelines (CTG)

Section 183 (b) (3) requires EPA within 3 years of enactment of the CAAA, to issue control techniques guidelines (CTGs) for reducing emissions of volatile organic compounds (VOCs) from the aerospace coatings and solvents industry. The CTGs shall specify the best achievable control measures (BACM) to use in reducing the emissions of VOCs from coating operations and solvent usage in the aerospace industry. The EPA shall consult with the Departments of Defense and Transportation and the National Aeronautics and Space Administration in developing these CTGs.

BOAT MANUFACTURING

Title III

List of Source Categories

Section 112 (c) (8) requires EPA to list boat manufacturing as a separate subcategory when establishing emission standards for styrene, unless EPA determines that such a listing is inconsistent with the goals and requirements of the Clean Air Act (CAA).

COKE OVENS

Title III

Petitions to Modify the Hazardous Pollutant List

Section 112 (b)(3) allows persons to petition the EPA to remove certain unique substances from the pollutants listed in Section 112 (b)(1) which do not have CAS numbers, with the exception of coke oven emissions, mineral fibers, and polycyclic organic matter.

Emissions Standards

Section 112 (d)(8)(A) requires EPA to promulgate technology-based emissions standards for coke oven batteries by December 31, 1992. The regulations shall require that coke oven batteries not exceed 8 per centum leaking doors, 1 per centum leaking lids, 5 per centum leaking oftakes, and 16 seconds visible emissions per charge with no exclusion for emissions during the period after the closing of self-sealing doors. The compliance date for existing coke oven batteries for meeting the emissions standards is December 31, 1995. Section 112 (d)(8)(B) requires EPA to promulgate regulations for work practices applicable to coke oven batteries. The compliance date for these regulations will be 3 years from the enactment date of the 1990 CAAA.

Extensions from the Health Based Standards

Sections 112 (d)(8)(C) and 112 (i)(8) extend the compliance date for coke ovens until January 1, 2020 for the health based standards promulgated under Section 112 (f). Coke oven batteries which elect to qualify for such compliance extension must comply with the emissions standards promulgated under Section 112 (d) (8) (A) as well as comply with other requirements specified in Section 112 (i)(8)(A), (B), (C), and (E).

Coke Oven Production Technology Study

Section 112 (n) (2) requires the EPA and the Department of Energy (DOE) to undertake a 6 year study of coke oven production emission control technologies in order to develop and commercialize such technologies which may potentially significantly reduce emissions of hazardous air pollutants from coke oven production facilities.

CONSUMER OR COMMERCIAL PRODUCTS

Title I

Study and Report

Section 183 (e)(2) requires the EPA to submit a report to Congress within 3 years of enactment of the CAAA on the results of a study of the emissions of VOCs from commercial and consumer products.

Regulations

Section 183 (e) (3) requires EPA to list categories of consumer or commercial products that account for at least 80% of the VOC emissions (reactivity-adjusted) in areas violating the NAAQS for ozone. These listed categories are required to be divided into four groups establishing priorities for regulations. EPA must promulgate regulations requiring best available controls for each group every 2 years (beginning after the list is promulgated) until all four groups are regulated.

ELECTRIC UTILITIES

Title I

SIP Revisions

Section 182 (e) (3) requires States which contain all or part of an extreme ozone nonattainment area to submit SIP revisions, within 3 years after enactment, that require new, modified and existing electric utilities and industrial and commercial boiler units which emit more than 25 tons per year of NOx to (1) burn natural gas, methanol or ethanol (or a comparably low polluting fuel) as the primary fuel, and (2) use advanced control technologies (such as catalytic control technology or other comparable control methods) to reduce emissions of oxides of nitrogen.

Title III

EPA Report on Health Hazards

Section 112 (n) (1) (A) requires EPA to report to Congress, within 3 years after enactment, the results of a study on the public health hazards that are reasonably anticipated to occur as a result of emissions of listed hazardous air pollutants from electric utility steam generating units after imposition of CAA requirements. The report must include alternative control strategies for emissions that may warrant regulation. EPA must regulate electric utility steam generating units if the Agency determines that it is appropriate and necessary based on the results of the health effects assessment study.

Mercury Emissions Study

Section 112 (n) (1) (B) and (C) requires EPA to conduct and transmit to Congress no later than 4 years after enactment of the CAAA, a study of mercury emissions from electric utility steam generating units and other sources, including area sources.

The National Institute for Environmental Health Sciences (NIEHS) shall conduct a study, within 3 years of enactment, to

determine the threshold effect level of mercury exposure below which adverse human health effects are not expected to occur.

Other Categories of Radionuclide Emissions

Section 112 (q)(3) stipulates that requirements in effect prior to enactment of the CAAA for radionuclide emissions from (1) non-DOE federal facilities that are not licensed by the NRC; (2) coal-fired utility and industrial boilers; (3) underground uranium mines; (4) surface uranium mines; and (5) disposal of uranium mill tailings piles, shall remain in effect unless EPA applies to these radionuclide sources the requirements as modified by the CAAA.

Title IV

SO₂ Allowance Program

In general, all Title IV provisions affect electric utilities. Title IV establishes a two-phase program for reducing sulfur dioxide (SO₂) emissions by 10 million tons from 1980 emission levels. Phase I emission reductions begins in 1995 and the Phase II reduction program will begin in the year 2000. For each phase of the reduction program, sources will receive "allowances" equal to the number of tons of sulfur dioxide it is permitted to emit. One allowance is defined as the authorization to emit one ton of SO₂. In general, electric utilities will be given allowances in accordance with the following table:

<u>Phase</u>	<u>Date</u>	<u>Allowance Level</u>	<u>Applicability</u>
I	1/1/1995	2.5 lbs. SO ₂ /mmBtu	111 Listed Power Plants
II	1/1/2000	1.2 lbs. SO ₂ /mmBtu	All Power Plants

Sources which reduce their emissions by more than the required emissions levels can sell their extra allowance(s) to other sources which will allow these sources to increase their emissions while remaining in compliance. As this two-phase program will affect primarily utility power plants, industrial facilities with boilers over a certain size which use more than one-third of their Btu output to produce electricity may also be affected. Furthermore, EPA is required to conduct studies of SO₂ emissions from industrial facilities and take the appropriate steps to ensure that emissions from such sources do not exceed 5.6 million tons per year (TPY). Subsequent reports to Congress of such studies are required every 5 years.

During the Phase I reduction program, Section 404 allows for additional allowances to be given to certain sources listed in Illinois, Indiana, and Ohio and defines the criteria for other utilities to qualify for these additional allowances.

Section 405 allows for bonus allowances for the following four groups of electric utilities during the Phase II program: (1) existing utility units which serve generators with a capacity equal to or above 75 megawatts and with an actual 1985 emission rate equal to or greater than 1.2 lbs/mmBtu; (2) coal or oil-fired existing utility units which serve generators of less than 75 megawatts and with actual 1985 emission rates equal to or greater than 1.2 lbs/mmBtu; (3) existing coal-fired utility units for which the lesser of actual or allowable 1985 emission rates were less than 1.2 lbs/mmBtu; and (4) oil and gas-fired units whose annual average fuel consumption during 1980 to 1989 exceeded 90 percent in the form of natural gas. In lieu of these bonus allowances, "clean" States may elect to have allocated special bonus allowances under Section 406 for all fossil fuel-fired utility steam generating units.

NO_x Reduction Program

Title IV also includes a program for reducing emissions of nitrous oxides (NO_x) from utility boilers by 2 million tons from the year 2000 projected levels. Section 407 requires EPA to promulgate regulations for setting emission standards for utility boilers which are to be applicable to tangentially-fired and dry bottom wall-fired boilers by 1995. Title IV sets maximum allowable emission rates above which the standards cannot be set unless EPA determines that such emission rates cannot be achieved using low NO_x burner technology. By 1997, the EPA must conduct a study of the feasibility of trading SO₂ allowances for NO_x allowances.

Other Requirements

Additional Title IV requirements for electric utilities include (1) installing continuous emission monitors (CEMs) or an EPA-defined alternate monitoring system; (2) developing compliance plans; (3) implementing quality assurance procedures for emission data systems; (4) assessing annual fees of \$2,000 per ton for emissions in excess of allowance levels; and (5) provisions for clean coal technology demonstration projects. Title IV also requires EPA to undertake additional studies by November 1993 to determine if additional controls are necessary to control acidic deposition.

Title IX

Pollution Prevention and Emission Control Research

Section 901 (c) of the CAAA amends Section 103 (g) of the CAA by requiring EPA to conduct a research program to develop, evaluate, and demonstrate nonregulatory strategies and technologies for air pollution prevention for air pollutants which pose a significant human health and environmental risk.

The research program must include improvements in nonregulatory strategies and techniques for preventing or reducing multiple air pollutants including SO_x, NO_x, heavy metals, PM-10, CO, and CO₂ from stationary sources including fossil fuel power plants.

GASOLINE DISPENSING FACILITIES

Title I

SIP Provisions

Section 182 (b)(3) requires States which contain all or part of a moderate ozone nonattainment area(s) to submit to EPA, within 2 years after enactment, a SIP revision which requires gasoline dispensing facilities (which sell more than 10,000 gallons per month or 50,000 gallons per month in the case of an independent small business marketer of gasoline) to install and operate a gasoline vapor recovery system for recovering emissions caused from the refueling of motor vehicles.

HAZARDOUS WASTE TREATMENT/STORAGE/DISPOSAL FACILITIES

Title I

Control Technique Guidelines (CTG)

Section 183 (b)(2) requires EPA to give priority, in developing CTGs, to those source categories which are the most significant contributors to ozone air pollution in ozone nonattainment areas. Such categories shall include hazardous waste treatment, storage, and disposal facilities (TSDF) permitted under subtitle C of the Solid Waste Disposal Act.

Title III

Clean Air Act versus RCRA Regulations

Section 112 (n)(7) requires EPA to ensure to the maximum extent practicable that the requirements pertaining to any category or subcategory of sources of air emissions regulated under subtitle C of the Solid Waste Disposal Act (e.g., hazardous waste treatment, storage, and disposal facilities (TSDF)) and Title III are consistent.

MARINE VESSELS

Title I

Control Technique Guidelines (CTG)

Section 183 (b)(4) requires EPA, within 3 years of enactment of the CAAA, to issue control techniques guidelines (CTGs) for reducing emissions of volatile organic compounds (VOCs) and PM-10 from painting, coating and solvents operations in the shipbuilding and ship repair industry. The guidelines shall specify the best achievable control measures (BACM) to use in reducing the emissions of VOCs and PM-10 from operations at these industries. The EPA is also required to consult with the appropriate Federal agencies in developing these CTGs.

Emission Standards

Section 183(f)(1) requires EPA, within 2 years after enactment, to promulgate standards applicable to VOC emissions and any other pollutant from the loading and unloading of marine tank vessels that may reasonably be anticipated to endanger public health or welfare. The standards would require reasonably available control technology (RACT), considering costs, any non-air quality benefits, environmental impacts, energy requirements,

and safety factors associated with alternative control techniques.

Equipment Safety

Section 183 (f) (2) requires the U.S. Coast Guard, within 6 months after enactment, to issue regulations for ensuring the safety of equipment and operations which are to control emissions from the loading and unloading of tank vessels. Standards and regulations promulgated by EPA and State agencies shall be consistent with regulations promulgated by the Coast Guard.

Title VIII

Contaminated used Oil in Ships

Section 813 requires the EPA (in consultation with the Secretary of Transportation and Secretary of the Department in which the Coast Guard is operating), within 2 years of enactment, to submit a report to Congress which evaluates the health and environmental impacts of the combustion of contaminated used oil in ships, the reason for using such oil, the alternatives to such use, and the costs of such alternatives.

MEDICAL AND RESEARCH FACILITIES

Title III

Specific Source Categories

Section 112 (c) requires the EPA, in publishing the list of categories of major and area sources, to establish a separate category for research or laboratory facilities to assure equitable treatment of these facilities.

Emissions Standards for Medical Facilities

Section 112 (q)(4) stipulates that emissions standards promulgated prior to enactment of the CAAA for medical research or treatment facilities shall not take effect until 2 years after enactment, unless EPA determines otherwise under Section 112 (d)(9).

OIL AND GAS WELLS

Title III

Source Categorization

Section 112 (n) stipulates that emissions from any oil or gas exploration or production well and pipeline compressor or pump station may not be aggregated with emissions from other similar units for purposes of determining if such sources are major sources. Furthermore, oil and gas production wells may not be listed as an area source category, except in the case where emissions from oil and gas production wells located in a Metropolitan Statistical Area (MSA) or a Consolidated Metropolitan Statistical Area (CMSA) with a population of 1 million or more are determined to present more than a negligible risk of adverse effects to public health.

Hydrogen Sulfide Emissions Assessments

Section 112 (n)(5) requires the EPA to assess the hazards to public health and environment resulting from hydrogen sulfide emissions from the extraction of oil and natural gas. The results of this study must be submitted to Congress within 24 months after enactment.

Title VI

Domestic Methane Source Inventory and Control

Sec. 603 (b) requires the EPA, DOE and Department of Agriculture to study methane emissions (including an inventory of methane generation) from (1) natural gas operations which shall include but are not limited to, accidental and intentional releases from natural gas and oil wells, pipelines, processing facilities, and gas burners; (2) coal extraction processes which shall include, but are not limited to, accidental and intentional releases from mining shafts, degasification wells, gas recovery wells and equipment, and coal processing and use operations (including an inventory of methane generation); (3) solid waste operations which shall include an inventory of emissions from waste management operations, including storage, treatment and disposal; (4) agricultural operations to include an inventory of emissions from rice and livestock production in the U.S.; (5) emissions from biomass burning to include an inventory of emissions from the intentional burning of agricultural wastes, wood, grasslands and forests; and (6) other methane emissions from human activities deemed significant by the EPA and other agencies.

Title VIII

Exemptions for Stripper Wells

Section 819 stipulates that ozone, CO, PM-10, SO₂, NO₂ and lead nonattainment provisions contained in Title I shall not apply with respect to the production of and equipment used in the exploration, production, development, storage or processing of oil from stripper well property or stripper well natural gas except that the Title I provisions cover (1) serious nonattainment areas having a population of 350,000 or more, or (2) severe or extreme nonattainment areas.

OUTER CONTINENTAL SHELF (OCS) SOURCES

Title VIII

Regulations

Section 801 of the CAAA adds Section 328 to the CAA which requires EPA (following consultation with the Secretary of the Interior and the Commandant of the U.S. Coast Guard), within 12 months after enactment, to establish requirements (including emissions controls, emission limitations, offsets, permitting, monitoring, testing and reporting) to control air pollution from OCS sources to attain and maintain Federal and State ambient air quality standards and comply with Prevention of Significant Deterioration (PSD) provisions. These requirements are applicable to OCS sources located offshore of the States along the Pacific, Arctic, and Atlantic Coast, and the U.S. Gulf Coast off the State of Florida. New OCS sources are required to comply with the requirements on the date of promulgation and existing sources must comply within 24 months after promulgation. EPA may exempt an OCS source from a control technology requirement if it is technically infeasible or would cause an unreasonable threat to health and safety. If a State is located adjacent to an OCS source, the State may promulgate regulations to implement and enforce the requirements of this subsection. If EPA determines that the regulations are adequate, the EPA may grant authority to the State to implement and enforce these regulations.

Requirements for Other Offshore Areas and Research

Section 801 of the CAAA adds Section 328 (b) to the CAA which requires that the EPA and Coast Guard assure the coordination of regulations for OCS emissions off the coast of Texas, Louisiana, Mississippi, and Alabama. Within 3 years of enactment, the Coast Guard must conduct a research study

examining the impact of emissions from OCS activities in areas which fail to meet the ozone or NO₂ NAAQS.

PUBLICLY OWNED TREATMENT WORKS (POTW)

Title III

Emission Standards

Section 112 (e)(5) requires EPA to promulgate technology-based (MACT) emission standards for POTWs within 5 years after enactment of the CAAA.

Hazardous Air Pollutant Emissions Studies

Section 112 (n)(3) authorizes the EPA to conduct studies in cooperation with the owners and operators of POTWs to characterize hazardous air pollutant emissions, identify industrial, commercial, and residential discharges that contribute to such emissions, and to demonstrate control measures for such emissions.

ROCKET ENGINE AND MOTOR FIRING SOURCES

Title I

Emission Offsets

Section 173 (e) requires States which permit rocket engine and motor firing facilities to allow emissions offsets from new and existing facilities provided that (1) facility modifications are for the sole purpose of testing and firing rocket engines or motors; (2) the source has used all reasonable means to obtain and utilize emissions offsets; (3) the DOE, DOT, NASA and other appropriate Federal agencies have determined that the rocket

testing at such facilities is essential to the national security; and (4) the source complies with other alternative offset measures imposed by the permitting agency.

SOURCES WHICH EMIT METHANE

Title VI

Methane Studies

Section 603 requires the EPA, within 2 years after enactment, to prepare and submit to Congress a report that identifies activities, substances, processes, or combinations thereof that could reduce emissions of methane and which are economically and technologically justified with and without consideration of environmental benefit. The study (to be conducted in coordination with the DOE and Department of Agriculture) is to examine methane emissions (including an inventory of methane generation) from (1) natural gas operations which shall include but are not limited to, accidental and intentional releases from natural gas and oil wells, pipelines, processing facilities, and gas burners; (2) coal extraction processes which shall include, but are not limited to, accidental and intentional releases from mining shafts, degasification wells, gas recovery wells and equipment, and coal processing and use operations (including an inventory of methane generation); (3) solid waste operations which shall include an inventory of emissions from waste management operations, including storage, treatment, and disposal; (4) agricultural operations to include an inventory of emissions from rice and livestock production in the U.S.; (5) emissions from biomass burning to include an inventory of emissions from the intentional burning of agricultural wastes, wood, grasslands, and forests; and (6) other

methane emissions from human activities deemed significant by the EPA and other agencies. In addition, the study shall examine methane emissions from biogenic sources such as tropical, temperate and subarctic forests, tundra, and freshwater and saltwater wetlands.

SOURCES WHICH EMIT RADIONUCLIDES

Title III

Emissions Standards

Section 112 (d)(9) requires that EPA is not to promulgate standards for radionuclide emissions from a source category that is licensed by the NRC if EPA determines (by rule and after consultation with the NRC) that the NRC regulatory program provides an ample margin of safety to protect public health.

Special Rule

Section 112 (q)(2) stipulates that the EPA shall not promulgate standards for radionuclide emissions from elemental phosphorous plants, phosphogypsum stacks, or grate calcination elemental phosphorous plants.

Other Categories of Radionuclide Emissions

Section 112 (q) (3) stipulates that requirements in effect prior to enactment of the CAAA for radionuclide emissions from (1) non-DOE federal facilities that are not licensed by the NRC; (2) coal-fired utility and industrial boilers; (3) underground uranium mines; (4) surface uranium mines; and (5) disposal of uranium mill tailings piles, shall remain in effect unless EPA applies to these radionuclide sources the requirements as modified by the CAAA.

Accident Prevention

Section (r)(7)(D) stipulates that emissions of radionuclides from the construction or operation of sources regulated by the NRC are not subject to the accidental release prevention regulations which EPA is required to promulgate.

SOLID/MUNICIPAL WASTE COMBUSTION

Title III

Mercury Emissions Study

Section 112 (n)(1) (B) and (C) requires EPA to conduct and transmit to Congress, no later than 4 years after enactment of the CAAA, a study of mercury emissions from municipal waste combustion units and other sources, including area sources.

NIEHS shall conduct a study within 3 years of enactment to determine the threshold effect level of mercury exposure below which adverse human health effects are not expected to occur.

New Source Performance Standards

Section 129 (a) requires the EPA to establish performance standards and other requirements (pursuant to the NSPS requirements) for each category of solid waste incineration units, including emissions limits and other requirements for new units, and guidelines and other requirements for existing units. For solid waste incineration units with capacity greater than 250 tons per day combusting municipal waste, standards must be promulgated no later than 12 months after enactment. For such units with a capacity equal to or less than 250 tons per day and units combusting hospital waste, medical and infectious waste, the standards must be promulgated no later than 24 months after enactment. For other categories of

solid waste incineration units, the EPA must publish a schedule for promulgation of standards no later than 18 months after enactment.

The emission standards must reflect the maximum degree of emissions reduction, considering cost, and any non-air quality health and environmental impacts and energy requirements deemed achievable for new or existing units in each category. EPA may distinguish between classes, types and sizes of units within a category.

For new units, the emission reduction deemed achievable must not be less stringent than the control achieved in practice by the best controlled similar unit (as determined by EPA).

For solid waste incineration units, the standards must be based on removal or destruction technologies before, during, or after combustion, and must include siting requirements for new units to minimize (to the maximum extent practicable) potential risks to human health or the environment, on a site-specific basis.

Numerical emissions limits must be established for particulate matter, opacity, sulfur dioxide, hydrogen chloride, NO_x, CO, lead, cadmium, mercury, dioxins, and dibenzofurans. EPA may promulgate numerical emissions limits for other pollutants as well.

Existing Solid Waste Incineration Units

Section 129(b) requires that EPA establish guidelines for existing units, including emission limits, monitoring, operator training, and permit requirements as specified. For existing units, the emissions standards may be less stringent than for new units in the same category, but not less stringent than the average emissions limit achieved by the best performing 12% of units in the category (excluding units that first met the lowest achievable emissions rates 18 months prior to proposal of the

standards, or 30 months prior to the date the standards are promulgated, whichever is later).

States are required to submit, within 1 year after promulgation of the guidelines, plans to implement and enforce the guidelines, providing for compliance no later than 3 years after approval of the State plan but also no later than 5 years after promulgation of the guidelines.

EPA has 180 days to approve or disapprove the plan; reasons for disapproval must be put in writing.

EPA must develop, implement, and enforce a federal plan for existing units if the State has not submitted an approvable plan within 2 years after promulgation of the guidelines. The federal plan must assure compliance no later than 5 years after promulgation of the guidelines.

Monitoring

Section 129(c) requires EPA, as part of the performance standards, to promulgate regulations requiring owners or operators of each solid waste incineration unit to monitor emissions and report findings. The regulations must include requirements on the frequency of monitoring, test methods and procedures, and the form and frequency of reports.

Operator Training

Section 129(d) requires EPA, within 24 months after enactment, to establish a model state training and certification program for solid waste incineration unit operators and high-capacity fossil fuel-fired plant operators. This section also stipulates that it will be unlawful for any person having control over processes affecting emissions from applicable solid waste incineration units and high-capacity fossil fuel-fired plants to

operate such units beginning 36 months after promulgation of the performance standards and guidelines, unless the person has satisfactorily completed an approved training program.

Permit Requirements

Section 129(e) stipulates that, beginning 36 months after promulgation of the performance standard for a solid waste incineration unit (or the effective date of the applicable state program, whichever is later), all units must have a permit issued under Title V. Permits for solid waste incineration units combusting municipal waste are to be issued for a period up to 12 years and must be reviewed every 5 years.

Residual Risk

Section 129 (h)(3) requires that EPA promulgate health based standards if such standards are required by Section 112 (f).

SURFACE COAL MINES

Title II

Emission Factors

Section 234 requires EPA to review and revise, as necessary, AP-42 emission factors used for modeling fugitive particulate emissions from surface coal mines for demonstrating compliance with the NAAQS or for purposes of new source review.