

CHAPTER 5

CLEAN AIR ASHORE

5-1 Scope

This chapter applies to air emissions from stationary, mobile and area sources at all shore facilities within the United States, Commonwealth of Puerto Rico, U.S. Virgin Islands, Guam, American Samoa, and Commonwealth of the Northern Marianas Islands. Chapter 18 provides Navy policy with respect to installations in foreign countries.

- R) Refer to Chapter 6 for management of ozone depleting substances, Chapter 19 for the control of air emissions from ships and Chapter 26 for radon management.

5-1.1 References. Relevant references are:

- R) a. 40 CFR, Parts 50-91 & 93, Environmental Protection Agency (EPA) Air Programs Regulations;
- b. 29 CFR 1910.119, Process Safety Management of Hazardous Chemicals;
- D) A) c. Navy Title V Operating Permits Program Summary and Policy Guidance of 20 December 1995 (NOTAL);
- d. 41 CFR Subchapter H, Parts 41-47 GSA Disposal Regulations;
- e. 48 CFR Chapter 1, Federal Acquisition Regulation;
- D) f. DOD Directive 4170.10 of 8 August 1991, Energy Management Policy; (NOTAL);
- g. DOD Directive 5410.12 of 22 December 1987, Economic Adjustment Assistance to Defense-Impacted Communities; (NOTAL);

- h. DOD Base Reuse Implementation Manual, DOD 4165.66-M of July 1995; (NOTAL). (D)
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5-2 Legislation

5-2.1 Clean Air Act (CAA). The purpose of the CAA is "to protect and enhance the quality of the Nation's air resources so as to promote public health and welfare and the productive capacity of its population..." To achieve this goal, the CAA established two strategies for setting standards: (1) National Ambient Air Quality Standards (NAAQS) for six criteria pollutants; and (2) national emission standards for individual sources of hazardous air pollutants (HAPs). In addition, the CAA requires regulation of mobile sources of air emissions and a permit program for stationary sources. Refer to reference (a) for complete details of these requirements. (R)

Achieving CAA standards is the responsibility of the States which must develop State implementation plans (SIPs) that outline to EPA how each State will achieve and maintain the standards. SIPs implement CAA programs such as the Title V operating permit, new source performance standards (NSPS), new source review (NSR), and national emission standards for hazardous air pollutants (NESHAPs) at the State and local level. States may require pollution control and prevention measures which are more stringent than those mandated by EPA, but may not allow measures which are less stringent. Federal agencies must comply with the requirements of Federal, State, interstate, and local air pollution control regulations. (R)

The 1990 Amendments to the CAA introduced sweeping changes to the legislation. In order to improve air quality nationwide, the 1990 Amendments mandate the implementation of more

stringent pollution control and prevention measures which include: reclassification of nonattainment areas, regulation of mobile sources, regulation of 189 HAPs, regulation of sulfur dioxide (SO₂) and oxides of nitrogen (NO_x) for acid deposition control, implementation of an extensive operating permit program, and strengthening of the powers that allow EPA and State agencies to better enforce the provisions of the CAA.

5-2.2 Emergency Planning and Community Right to Know Act (EPCRA) of 1986. This Act, also known as Title III of the Superfund Amendments and Reauthorization Act (SARA), addresses the release of hazardous substances (HS) to the environment. EPCRA calls for reporting releases of certain extremely hazardous substances (EHS) to the environment. Certain chemicals subject to the HAPs and risk management provisions of CAA Section 112 are also subject to Title III. See Chapters 4 and 12 for detailed requirements.

5-2.3 The Alternative Motor Fuels Act of 1988 (AMFA). Congress passed AMFA in 1988 to achieve long-term energy security and improve air quality. Under AMFA, a portion of the new vehicles which the Federal government acquires each year must be alternative fuel vehicles (AFVs) in order to encourage the production of these vehicles for consumer use.

5-2.4 The Energy Policy Act of 1992 (EPACT). EPACT seeks to enhance the long-term energy security of the nation by reducing dependency on imported oil and providing for improved energy efficiency. EPACT establishes a Federal leadership strategy designed to encourage automobile manufacturers and fuel suppliers to expand the commercial availability of alternative fuels and vehicles. Under EPACT, Federal agencies must acquire increasing numbers of AFVs.

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5-3 Terms and Definitions

5-3.1 Acid Rain. The acidic precipitation formed by the atmospheric chemical transformation of SO₂ and NO_x emissions.

5-3.2 Air Pollution Emergency Episodes. Air pollution emergency episodes exist when the accumulation of air pollutants in any place is attaining or has attained levels which could, if such levels are sustained or exceeded, lead to a substantial threat to the health of individuals.

5-3.3 Alternative Fuels. Substitutes for traditional petroleum products such as gasoline and diesel fuel. EPACT defines alternative fuels to mean: methanol, denatured ethanol and other alcohols; mixtures containing 85 percent or more alcohol with the balance consisting of gasoline or other such fuels; natural gas; liquefied petroleum gas; hydrogen; coal-derived fuels; fuels derived from biological materials; electricity; and other substantially non-petroleum based fuels. (R)

5-3.4 Best Available Control Measures (BACM). Emission control measures that achieve the greatest possible reduction in the emission of particulate matter.

5-3.5 Best Available Control Technology (BACT). Emission control technology to be applied to new sources located in areas that are in attainment of the NAAQS for the pollutants emitted from the new source. States are to apply BACT on a case-by-case basis, taking into account economic considerations. BACT must be at least as stringent as the NSPS for similar facilities.

5-3.6 Clean Alternative Fuels. Any fuel (including methanol, ethanol, fuel blends containing 85 percent or more alcohol, reformulated gasoline, diesel, natural gas, liquefied petroleum gas, and hydrogen) or power source (including electricity) used in a clean-fuel vehicle that meets the requirements and emission standards of the CAA. (R)

5-3.7 Control Techniques Guidelines (CTG). Documents published by EPA designed to assist the States/localities in selecting the most appropriate technologies to apply for the control of major sources of air pollution.

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5-3.8 Federal Implementation Plan (FIP). A Federally-imposed air quality plan which supersedes a SIP due to a State's failure to develop an adequate plan to achieve and maintain the NAAQS.

5-3.9 Lowest Achievable Emission Rate (LAER). Rate of emissions that reflects the most stringent emission limitation contained in the implementation plan of any State for such class or category of source, or the most stringent emission limitation achieved in practice by such class or category of source, whichever is more stringent. The application of LAER shall not permit a proposed new or modified source to emit any pollutant in excess of the amount allowable under applicable NSPS.

R) **5-3.10 Major Source.** Any stationary source, or group of stationary sources located within a contiguous area and under common control, which emits, or has the potential to emit, air pollutants in excess of specified threshold levels. The threshold amounts vary according to the attainment classification of the area in which the source is located and the pollutant(s) emitted.

5-3.11 Maximum Achievable Control Technology (MACT). Emissions control technology that achieves the maximum emission reduction possible. MACT is applicable only to those pollutants listed as HAPs under Section 112 of the CAA.

5-3.12 Motor Vehicle. Any self-propelled vehicle designed for transporting persons or property on a street or highway.

5-3.13 National Ambient Air Quality Standards (NAAQS). Air quality standards

established by EPA for six criteria pollutants in order to provide an adequate margin of safety in protecting the general health and welfare of the public. Criteria pollutants include: ozone (O₃), carbon monoxide (CO), particulate matter 10 microns or smaller (PM-10), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and lead (Pb).

5-3.14 National Emissions Standards for Hazardous Air Pollutants (NESHAPs). Standards established for categories of stationary sources that emit one or more of the HAPs listed under CAA section 112. (A

5-3.15 New Source Performance Standards (NSPS). National emission standards that limit the amount of pollution allowed from new or modified sources.

5-3.16 New Source Review (NSR). State program for reviewing major sources and modifications prior to construction in nonattainment or prevention of significant deterioration (PSD) program areas.

5-3.17 Nonattainment Area. An area which fails to meet the NAAQS for one or more of the criteria pollutants.

5-3.18 Non-road Engine. An internal combustion engine (including the fuel system) that is not used in a motor vehicle or a vehicle used solely for competition, or that is not subject to standards for stationary internal combustion engines or emission standards for new motor vehicles or new motor vehicle engines.

5-3.19 Non-road Vehicle. A vehicle powered by a non-road engine and that is not a motor vehicle or a vehicle used solely for competition.

5-3.20 Offsets. Emission reductions obtained from one source in order to compensate for increased emissions from another.

5-3.21 Title V Operating Permit. A Federally enforceable document issued by the States to significant stationary sources of air pollution that defines emission standards, operational procedures, and all obligations of the source under the CAA.

5-3.22 Oxygenated Gasoline. Gasoline which is blended with any one of a number of additives in order to increase the oxygen content, resulting in a more complete combustion and reduced emissions.

5-3.23 Ozone (O₃). The major constituent of "smog," ozone is formed when volatile organic compounds (VOCs) and NO_x react in sunlight. The atmosphere has two distinct layers of ozone. For air quality purposes, interest rests in the formation and transport of ground level ozone. At ground level, ozone has been shown to adversely affect the respiratory system and has proven to be the primary criteria pollutant causing regions to be declared in nonattainment of the NAAQS. At altitudes above 7 miles, stratospheric ozone plays a vital role in blocking out dangerous ultraviolet radiation. Recent evidence of a decline in stratospheric ozone levels has resulted in a worldwide call for the banning of ozone depleting substances (see Chapter 6).

5-3.24 Ozone Depleting Substances. Any chemical listed as a Class I or Class II substance in Section 602 of the CAA (see Chapter 6, Tables 6-1 and 6-2 for a list of Class I and Class II substances).

R) **5-3.25 Particulate Matter (PM).** A criteria air pollutant that includes dust, soot, and other small, solid materials that are released into and move around in the air. PM-10 is that portion of the total suspended particulate matter with an aerodynamic diameter of 10 microns or less.

5-3.26 Prevention of Significant Deterioration (PSD) Program. Emission control program that affects those areas with air quality that meet or exceed the NAAQS.

5-3.27 Reasonably Available Control Technology (RACT). Emission control technology that achieves the lowest possible emissions level given technological and economic considerations. RACT is usually applied to existing stationary sources in nonattainment areas and often involves the installation of new control equipment on older sources.

5-3.28 Reformulated Gasoline. Gasoline which has undergone special distillation processes in order to meet performance requirements for NO_x emissions, oxygen content, benzene, heavy metals, VOCs, and toxic air pollutants.

5-3.29 State Implementation Plan (SIP). A plan developed by each State to implement, maintain, and enforce the NAAQS and other CAA goals within that State. While States have the primary responsibility for implementing the CAA, EPA maintains strong oversight in this process. (R)

5-3.30 Stationary Source. Any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a non-road engine or non-road vehicle. (R)

5-3.31 Volatile Organic Compounds (VOCs). Photochemically reactive organic compounds that evaporate readily under normal temperature and pressure conditions. As a result of the tendency to evaporate readily, VOCs are primary contributors to the formation of ground level ozone. (R)

5-4 Requirements

5-4.1 Regulatory Scheme. EPA has designated all areas in the country as unclassifiable, attainment, or nonattainment with respect to the NAAQS for each criteria pollutant. Areas are designated as follows:

a. **Unclassifiable.** Any area that cannot be classified on the basis of available information as

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meeting or not meeting the NAAQS for the pollutant.

b. **Attainment.** Any area that meets the NAAQS for the pollutant.

c. **Nonattainment.** Any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the NAAQS for the pollutant.

Certain regulatory requirements are fundamental and apply to all areas, regardless of their attainment status, while other more specific and stringent requirements apply only to nonattainment areas. For help in determining attainment designations, contact the State or local air pollution control office, or the appropriate EPA Regional Office (see Appendix C).

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5-4.2 General Requirements

5-4.2.1 Conformity Rule. Section 176(c) of the CAA prohibits Federal agencies from engaging in, supporting, providing financial assistance for, licensing, permitting, or approving any activity that does not conform to an applicable SIP or FIP. EPA issued criteria and procedures for determining conformity, found in reference (a). Federal agencies must make a determination that a Federal action conforms to the SIP or FIP before proceeding with the action. Conformity determinations will typically be done as part of the National Environmental Policy Act (NEPA) analysis and documentation procedures for the planned action (See NEPA Procedures in Chapter 2).

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5-4.2.2 Enforcement/Citizen Suit Provisions.

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a. **Waiver of Sovereign Immunity.** The broad waiver of Federal sovereign immunity in CAA Section 118(a) subjects Federal facilities to all Federal, interstate, State, and local air pollution requirements. States or local air districts generally enforce these CAA requirements; however, EPA also has enforcement authority for most CAA

violations. Methods of enforcement include compliance orders, field citations, administrative assessment of civil penalties, civil judicial enforcement, and criminal enforcement. The CAA provides for penalties of up to \$25,000 per day for each violation.

b. **State Civil Penalties.** In U.S. v. Georgia Department of Natural Resources, No. 1:94-CV-2993-JOF (Northern District Georgia, 2 August 1995), the Federal District Court held that CAA Section 118(a) does not waive Federal sovereign immunity for punitive civil fines and penalties assessed by a State government. (R)

c. **Citizen Suits.** Civil actions may be brought against any person (including the United States) for present or past (if repeated) CAA violations of an emission standard, limitation, or order issued by EPA or a State. In addition, actions may be brought against any person who constructs without a required permit. (R)

Penalties collected are deposited in a special U.S. Treasury fund to be used by EPA to finance air compliance and enforcement activities. At the Court's discretion, such funds can be used for beneficial mitigation projects consistent with the CAA and which enhance public health or the environment. The Court will ask EPA's view on any such projects. Amounts cannot exceed \$100,000.

5-4.3 Provisions For Stationary Sources. In addition to compliance with the general requirements outlined above, the following additional standards apply to stationary sources only.

5-4.3.1 Title V Operating Permits. Title V of the CAA created an operating permit program which the States must develop and implement per EPA regulations establishing minimum requirements for State programs. Although the States are responsible for implementing and enforcing the permit program, EPA retains significant authority to oversee State implementation. EPA must review

and approve State permit programs, review proposed permits, veto improper permits and, if a State fails to adopt or implement an approved program, EPA will develop and implement a Federal permit program. The permit program attempts to clarify, in a single document, all the requirements applicable to a source, including requirements from the SIP, the acid rain program, and the air toxics program. The permit program also includes a requirement for payment of permit fees to finance the State air programs. After the effective date of any permit program approved under Title V, it is unlawful to violate any requirement of such a permit, or to operate a source subject to the permit program, except in compliance with a Title V permit. The program applies to all stationary sources of air pollution, including those operated on Federal facilities, that are subject to Federal regulation under the CAA.

a. **Permit Application.** Applications must be "timely" and "complete." An application is "timely" if it is submitted within 1 year of either the date of State program approval or of commencing operations for sources required to obtain preconstruction permits under the CAA Title I parts C or D. States must establish specific criteria to define a "complete" permit application.

An "application shield" is created if a timely and complete application is filed, allowing the source to operate without a permit pending the State's action on the permit.

b. **Certification.** A responsible official must certify permit applications as to their truth, accuracy and completeness after making reasonable inquiry. The certification must include the compliance status of the facility, and the method used to determine the compliance status.

5-4.3.2 Hazardous Air Pollutants (HAPs). Section 112 of the CAA lists an initial 189 pollutants as hazardous and subject to regulation and details Federal requirements for the control of

HAPs. EPA retains the option of revising the list periodically as necessary.

a. **Source Definitions**

(1) **Major Source.** For HAPs, a major source is any stationary source, or group of stationary sources located within a contiguous area and under common control, which emits, or has the potential to emit, 10 tons per year (tpy) or more of any HAP or 25 tpy or more of any combination of HAPs.

(2) **Area Source.** An area source is any stationary source of HAPs that is not a major source. The term does not include motor vehicles or non-road vehicles.

b. **Source Categories.** Major and area sources are grouped into categories and subcategories. EPA must issue regulations establishing emission standards for the source categories and subcategories according to a phased-in schedule, with 25 percent of all categories and subcategories required to have standards by 1994, 50 percent by 1997, and 100 percent by 2000.

c. **Emission Standards.** EPA must establish technology-based emission standards that achieve the maximum degree of emissions reduction possible for new and existing sources in the appropriate category while giving consideration to cost, non-air quality health and environmental impacts, and energy requirements. Measures to achieve the desired emissions standards include: implementation of process changes; material substitutions; and measures to treat or control emissions, generally through the application of MACT.

d. **Accidental Releases/Risk Management Plans.** Owners and operators of stationary sources that manufacture, process, use, handle or store EPA-regulated substances which exceed specified thresholds are required by CAA Section 112(r) to identify hazards from releases of such substances

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and to design and maintain a safe facility to prevent releases and minimize the consequences of any accidental releases. Facilities that exceed the threshold limits must submit Risk Management Plans to EPA by 20 June 1999.

e. **Solid Waste Combustion.** Section 129 of the CAA directs EPA to establish NSPS for new solid waste incinerators and to develop performance guidelines for existing units. This includes municipal waste combustors, infectious waste incinerators, and industrial waste incinerators. Section 129 also requires incinerator emissions monitoring, training and certification programs.

5-4.3.3 Attainment Areas. The CAA mandates the implementation of emission limits and other measures for prevention of significant deterioration of air quality in those areas designated as being in attainment of the NAAQS. Facilities located in attainment areas must obtain a permit before any new construction or modification begins. The PSD permit application must include BACT review and selection; a growth-related impact analysis; ambient air quality analysis; and other information relative to preserving air quality.

5-4.4 Provisions For Mobile Sources

5-4.4.1 Aircraft. The CAA authorizes EPA, in consultation with the Secretary of Transportation, to develop emission standards applicable to the emission of any air pollutant from any class or classes of aircraft engines. No State or local air quality region may adopt or attempt to enforce any standard respecting emission of any air pollutant from any aircraft or engine unless such standard is identical to an applicable standard developed by EPA and the Secretary of Transportation. While limited regulation of aircraft engine emissions is possible, current regulations apply only to uninstalled aircraft engines (see 5-4.6.1).

R) **5-4.4.2 Non-road Engines.** Section 213(a) of the CAA directed EPA to conduct a study of emissions from non-road engines and vehicles to

determine if their contribution to ozone or CO is significant. Based on this study, completed in November 1991, EPA determined that emissions from non-road engines are significant and began promulgating new non-road engine requirements. EPA has issued standards for spark-ignition non-road engines at or below 19 kilowatts (kW), compression-ignition nonroad engines at or above 37 kW, and gasoline spark-ignition and diesel compression-ignition marine engines.

5-4.4.3 Vehicle Inspection and Maintenance (I/M). Vehicle emissions testing is required in certain nonattainment areas. Federal installations in these areas must demonstrate compliance with State I/M programs for all motor vehicles operated on the installation even if the vehicle is not registered in that state. This requirement applies to all employee, military, contractor and Federally-owned/leased vehicles operated more than 60 days per year on the installation. Military tactical vehicles are exempt from the I/M program.

5-4.4.4 Fuels

a. **Leaded Gasoline.** The CAA prohibits the use of gasoline containing lead or lead additives in motor vehicles. (R)

b. **Oxygenated Gasoline.** States that include all or part of an area designated nonattainment for CO and having a design value of 9.5 parts per million (ppm) or higher must include in their SIP a provision for the sale and dispensing of oxygenated gasoline in metropolitan areas within the nonattainment area. This provision is in effect during high CO portions of the year as determined by EPA. EPA may waive the requirement for oxygenated fuel if a State can satisfactorily demonstrate that imposition of such a provision interferes with the attainment of any other NAAQS.

c. **Reformulated Gasoline.** The nine worst ozone nonattainment areas with a 1980 population

greater than 250,000 were required to implement the use of reformulated gasoline beginning in 1995.

Other nonattainment areas may petition to opt-in to the reformulated gasoline program; however, if domestic supplies are found to be inadequate, EPA may delay by up to 3 years the extension of the program into these areas.

d. **Volatility.** To address the substantial release of VOCs into the atmosphere by volatilization of fuel, Federal guidelines limit the volatility of gasoline marketed during the high ozone season in the continental U.S. (CONUS).

R) e. **Diesel Fuel Sulfur Content.** Diesel fuel used in motor vehicles must not exceed a sulfur content of 0.05 percent by weight, or fail to meet a minimum cetane index of 40.

5-4.4.5 Clean Fuel Fleet/Alternative Fuel Vehicles. The CAA's clean-fuel vehicle requirements apply to owners/operators of centrally fueled fleets of 10 or more vehicles located in serious or above O₃ and serious CO nonattainment areas, with a 1980 Census population of 250,000 or more. Beginning with model year 1998, 30 percent of new light-duty fleet vehicle acquisitions must be clean-fuel vehicles; for model year 1999, that percentage increases to 50 percent, while after the year 2000, it must equal at least 70 percent.

The CAA mandates that any Federal facility that dispenses clean alternative fuels to Federal fleet vehicles must offer the fuel for sale to the public during reasonable business hours, subject to national security concerns and the commercial availability of such fuels in the vicinity of the facility.

5-4.5 Additional Requirements for Non-attainment Areas

5-4.5.1 Ozone (O₃)

a. **Marginal Nonattainment Areas.** Areas classified as marginal nonattainment for O₃ must institute the following provisions:

(1) The application of NSR requirements to major NO_x sources.

(2) The completion of an emissions inventory from all sources, to be updated every 3 years.

(3) The application of RACT requirements that were in effect prior to enactment of the CAA.

(4) A construction and operating permit program for new and modified sources.

(5) An emissions statement for stationary sources of VOCs and NO_x.

(6) An offset program that requires each new or modified major source of VOCs or NO_x to be offset by the ratio of 1.1 to 1.

In marginal nonattainment areas, a major source is defined as one which emits, or has the potential to emit, 100 tpy or more of VOCs or NO_x.

b. **Moderate Nonattainment Areas.** In addition to meeting the requirements of marginal areas, moderate nonattainment areas must also:

(1) Show reasonable further progress toward attainment through a 15 percent reduction in VOCs from the baseline by 1996.

(2) Apply RACT to all major stationary VOC and NO_x sources.

(3) Require Stage II vapor recovery systems for all facilities that distribute more than 10,000 gallons of gasoline per month or 50,000 gallons per month for independent small business marketers. Requirements for installation and operation of Stage II controls are effective for new

facilities (built after enactment of the CAA) within 6 months after a rule requiring Stage II controls is adopted in the State where the facility is located; within 1 year after adoption for existing facilities with 100,000 gallons or greater capacity (average monthly sales for 2 years prior to rule adoption date); or within 2 years for all other facilities.

(4) Initiate a basic vehicle I/M program.

(5) Have an offset program requiring each new or modified major source of VOCs or NO_x to be offset by the ratio of 1.15 to 1.

In moderate nonattainment areas, a major source is defined as one which emits, or has the potential to emit, 100 tpy or more of VOCs or NO_x.

c. Serious Nonattainment Areas. In addition to meeting the requirements of moderate nonattainment areas, serious nonattainment areas must also:

(1) Operate an enhanced ambient monitoring program for NO_x, O₃, and VOCs.

(2) Demonstrate that required provisions will lead to attainment through the use of computer modeling.

(3) Show reasonable further progress toward attainment through a 15 percent reduction in VOCs from the baseline by 1996, plus an additional 3 percent per year averaged over each consecutive 3 year period until attainment.

(4) Institute an enhanced vehicle I/M program to be enforced through denial of vehicle registration.

(5) Establish a clean-fuel fleet program in those areas having a 1980 census population of 250,000 or more.

(6) Have an offset program requiring each new or modified major source of VOCs or NO_x to be offset by the ratio of at least 1.2 to 1.

In serious nonattainment areas, a major source is defined as one which emits, or has the potential to emit, 50 tpy or more of VOCs or NO_x.

d. Severe Nonattainment Areas. In addition to meeting the requirements of serious nonattainment areas, severe nonattainment areas must also:

(1) Identify and adopt enforceable transportation control measures to offset growth in vehicle miles traveled, and require employers of 100 or more persons to increase average vehicle occupancy by 25 percent.

(2) Have an offset program requiring each new or modified major source of VOCs or NO_x to be offset by the ratio of at least 1.3 to 1.

(3) Submit a plan detailing enforcement provisions to EPA by 31 December 2000.

In severe nonattainment areas, a major source is defined as one which emits, or has the potential to emit, 25 tpy or more of VOCs or NO_x.

e. Extreme Nonattainment Areas. In addition to meeting the requirements of severe nonattainment areas, States with extreme nonattainment areas must also:

(1) Have an offset program requiring each new or modified major source of VOCs or NO_x to be offset by the ratio of at least 1.5 to 1. An increase in emissions at a major source is not considered to be a modification subject to the 1.5 to 1 offset requirement if the owner/operator of the source elects to offset the increased emissions by a reduction in emissions from other operations, units, or activities within the source at an internal offset ratio of at least 1.3 to 1.

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(2) Develop a plan requiring existing, new, or modified electric utility and industrial and commercial boilers emitting more than 25 tpy NO_x , to burn natural gas, methanol, ethanol or other clean fuel as their primary fuel or use advanced technology to control NO_x emissions.

In extreme nonattainment areas, a major source is defined as one which emits, or has the potential to emit, 10 tpy or more of VOCs or NO_x .

5-4.5.2 Carbon Monoxide (CO)

a. **Moderate Nonattainment Areas.** Areas designated moderate nonattainment have a design value between 9.1 and 16.4 ppm. Moderate nonattainment areas must:

(1) Submit an accurate inventory of all emission sources and update the inventory every 3 years until attainment of the NAAQS is achieved.

(2) Provide and update annually a forecast of vehicle miles traveled if the design value is 12.7 ppm or greater.

(3) Institute a vehicle I/M program with requirements equivalent to those for marginal ozone nonattainment areas, except that the program applies to CO. For those areas with a design value greater than 12.7 ppm, the requirements are the same as the enhanced I/M program required of serious ozone nonattainment areas, except that the program applies to CO.

(4) Institute a clean-fuel fleet program as is required in serious or above ozone nonattainment areas if the design value is 16 ppm or greater.

(5) Demonstrate attainment of the CO standard if the design value is greater than 12.7 ppm. Such a demonstration must incorporate specific annual emission reductions necessary to achieve attainment.

(6) Require the use of oxygenated fuel during high CO portions of the year in those areas with a design value of 9.5 ppm or above.

b. **Serious Nonattainment Areas.** Serious nonattainment areas have a design value of 16.5 ppm and above. In addition to all the requirements of moderate CO nonattainment areas with a design value of 12.7 ppm or higher, serious CO nonattainment areas must also:

(1) Require the same transportation control measures that apply to severe ozone nonattainment areas, except that CO is targeted.

(2) Implement an economic incentive program to encourage emissions reductions of 5 percent per year until attainment if compliance with the NAAQS is not attained by the specified attainment date.

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In those serious nonattainment areas where stationary sources are believed to contribute substantially to ambient CO levels, a major source is any stationary source which emits, or has the potential to emit, 50 tpy of CO.

c. **Multi-State CO Nonattainment Areas.** A multi-State CO area exists if a CO nonattainment area is part of more than one State. In such an interstate situation, the affected States must coordinate the revision and implementation of the CO SIPs as they apply to the affected areas.

5-4.5.3 **PM-10.** Areas designated as nonattainment for PM-10 are initially classified as moderate nonattainment areas; any area that fails to attain by the specified attainment date is reclassified as serious. In addition, if EPA makes a determination that moderate nonattainment areas are unable to practicably achieve the NAAQS by the specified attainment date, they will be reclassified as serious nonattainment areas.

a. **Moderate Nonattainment Areas.** Areas designated as moderate nonattainment must

achieve attainment as quickly as possible but no later than 6 years after being classified as nonattainment. Extensions of attainment dates are possible if implementation requirements have been met and performance standards have been achieved. Provisions to achieve attainment include:

(1) A construction and operating permit program for new and modified stationary PM-10 sources.

(2) A demonstration (including air quality modeling) that the plan will provide for attainment by the applicable attainment date or a demonstration that attainment by such date is impracticable.

R) (3) The use of reasonably available control measures (RACM), including RACT, within 4 years of an area being classified as moderate nonattainment.

b. **Serious Nonattainment Areas.** In serious nonattainment areas, a major source of PM-10 is defined as one which emits, or has the potential to emit, 70 tons per year of PM-10. All of the requirements that apply to moderate nonattainment areas also apply to serious nonattainment areas. In addition:

(1) BACM must be implemented within 4 years of an area being classified as serious nonattainment.

R) (2) The area must submit a demonstration of attainment (or demonstration of the impracticability of attainment for those areas seeking an extension) within 4 years of designation to serious. However, areas reclassified as serious due to a failure to achieve attainment by the applicable deadline must submit a demonstration proving attainment within 18 months of such reclassification. Provisions outlining the BACM to be employed are also required within 18 months.

(3) If a serious PM-10 nonattainment area fails to attain the NAAQS by the applicable deadline it must submit a demonstration of attainment that provides for an annual reduction of PM-10 emissions of at least 5 percent in the area, based upon the most recent emissions inventory. All attainment demonstrations must include quantitative milestones that demonstrate how reasonable further progress is to be achieved. Milestones must be achieved every 3 years until attainment is reached.

(4) EPA may waive any requirements for a serious PM-10 nonattainment area if it is determined that man-made sources do not significantly contribute to ambient PM-10 concentrations. Likewise, attainment dates may be waived if it is determined that sources which are not man-made contribute significantly to the violation of the NAAQS.

(5) Control measures for major stationary sources of PM-10 also apply to sources of PM-10 precursors, except where EPA has determined that such sources do not contribute to the elevated PM-10 concentrations observed in an area.

5-4.6 Miscellaneous Provisions

5-4.6.1 Jet Engine Test Cells. The CAA targets emissions from aircraft engine test cells by requiring EPA and the Department of Transportation (DOT), in consultation with DOD, to jointly study NO_x emissions from test cells. Following completion of the study, States may choose to adopt or enforce any standard for NO_x emissions from aircraft engine test cells "only after issuing a public notice stating whether such standards are in accordance with the findings of the study."

5-4.6.2 Federal Implementation Plans (FIPs). Section 110(c) of the CAA requires EPA to issue a FIP where a State has failed to make a required SIP submission, where the SIP submission does not satisfy the minimum criteria, or where a SIP

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submission has been disapproved in whole or in part and the State has not corrected the deficiency in a timely manner. Typically EPA disapproves a SIP because it does not contain sufficiently strict requirements to demonstrate attainment. A FIP will generally contain requirements that apply to more types of sources and that control emissions in a more stringent manner than did the SIP.

5-4.6.3 Emission Reduction Credits (ERCs). Sections 110(a)(2)(A) and 172(c)(6) of the CAA authorize States, or their local air quality districts (AQDs), to establish, by regulation, a trading system for ERCs. ERCs are created when equipment that emits pollutants is removed from service or emissions from equipment remaining in service are reduced, provided that the emission reductions would not otherwise be required by the CAA or a current SIP, and the owner applies under the AQD regulations for credit for the reduction. Each ERC constitutes permission from the AQD to emit a stated amount of a specific air pollutant. Following validation by the AQD, ERCs may be transferred by sale, lease or other disposal method, for use by other emission sources within the same air quality district.

5-4.6.4 Exemptions for Certain Territories. Upon petition by the Governor of Guam, American Samoa, the U.S. Virgin Islands, or the Commonwealth of the Northern Marianas Islands, the Administrator of EPA may exempt any person or source in such territory from any CAA requirement other than those provisions concerning hazardous air pollutants or implementation plans for the achievement of the NAAQS. EPA may grant such exemptions based on the finding that compliance is not feasible or is unreasonable due to unique geographical, meteorological, or economic factors.

5-4.6.5 Federal Contractor Restrictions. No Federal agency may enter into a contract with any person convicted of a criminal offense under the CAA. This restriction applies to the procurement of goods, materials, and services to perform such contract at any facility which gave rise to such

conviction if such facility is owned, leased, or supervised by such person.

5-4.6.6 Acid Rain. In order to reduce the detrimental environmental effects of acid rain, the CAA mandates large-scale reductions in the emissions of SO₂ and NO_x through an innovative market-based approach aimed at electric utility plants. The goal of Title IV is to reduce SO₂ emissions by 10 million tons past 1980 emission levels and to reduce NO_x emissions by 2 million tons past 1980 levels by the year 2000.

5-4.6.7 Aerospace and Marine Coatings. As required by the CAA, EPA issued NESHAPs and CTGs to control emissions from aerospace manufacturing and rework and shipbuilding and ship repair operations. The rules establish MACT and BACT requirements for aircraft and ship activities such as cleaning, painting, de-painting, maskant application, and waste handling. Generally, installations will achieve the necessary emission reductions through the use of compliant materials or control devices. Other requirements include testing, recordkeeping, and reporting protocols. Implementation of these rules may incur substantial cost and labor impacts.

5-4.6.8 Training. Every person who prepares or supervises the preparation of air emissions inventories, air emissions permit requests and air emissions reports must receive environmental overview training as specified in Chapter 24, specific comprehensive training in their assigned subject matter, and must be familiar with the provisions of this chapter. In addition, the CAA requires explicit training in many areas, including:

a. **Chemical Process Safety Management.** The CAA requires the issuance of a chemical process safety standard to protect employees from the dangers associated with accidental releases of highly hazardous chemicals in the workplace. The safety standard requires employers to: train employees in operating procedures; emphasize hazards and safe practices; ensure contractors and

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contract employees are provided with appropriate information and training; and train and educate employees and contractors in emergency response in a manner as comprehensive and effective as that required by SARA. The standard and a list of highly hazardous chemicals can be found in reference (b).

- R) **b. Solid Waste Incineration.** The CAA requires the training and certification of operators of high capacity (greater than 250 tons per day) solid waste incineration units and high-capacity fossil fuel fired plants. It is unlawful to operate any such unit unless each person with control over processes affecting emissions from the unit has satisfactorily completed a training program which meets EPA requirements.

5-5 Navy Policy

5-5.1 Stationary Sources

- A) **5-5.1.1 Title V Permits.** Policy guidance on Navy compliance with the CAA Title V Operating Permits Program is provided in reference (c).

5-5.1.2 Fuel Standards. Navy commands shall comply with Navy and regulatory fuel composition requirements applicable to solid, liquid, and gaseous fuels for stationary fuel-burning equipment.

5-5.2 Mobile Sources

5-5.2.1 Tampering with Emission Controls. Navy personnel shall not permanently remove or render inoperative any device, or element of design, which is installed in a government motor vehicle or engine to comply with air quality regulations.

5-5.2.2 Fuel Standards. Navy commands shall comply with Navy and regulatory requirements for composition of fuels used in motor vehicles. Installations dispensing gasoline shall be equipped to dispense unleaded gasoline. The Navy shall not

procure any gasoline-powered vehicle that cannot operate on unleaded gasoline.

5-5.2.3 Vehicle Inspection and Maintenance (I/M). Navy commands shall comply with State and local area vehicle emission I/M program requirements for fleet vehicles and all other vehicles operated on an installation. Commands shall furnish proof of compliance to the appropriate regulatory authority when required. Commands are authorized to develop I/M procedures for their fleet vehicles as a part of normal preventive maintenance programs. (R)

5-5.2.4 Introduction of Alternative Fuel Vehicles (AFVs). Per the requirements of EPACT, the Navy shall introduce light-duty AFVs into administrative vehicle fleets. Introduction of AFVs will target fleets within nonattainment areas in order to ensure compliance with CAA requirements which will be effective starting in 1998.

The Navy shall work with other Federal agencies to maintain compatibility and inter-operability of AFVs and refueling sites. The Navy will select implementation sites to minimize cost, maximize inter-Federal cooperative efforts and develop infrastructure.

The Navy prefers original equipment manufacturer AFVs to AFV conversions. Vehicles converted shall meet, as a minimum, California Air Resources Board (or equivalent) certification requirements.

The Assistant Secretary of the Navy (Installations and Environment) has the lead for oversight of Department of the Navy (DON) implementation of AFV programs.

5-5.3 Air Pollution Emergency Episodes. Where required, Navy shore facilities shall have an air pollution emergency episode contingency plan identifying all actions that can reasonably be taken without compromising essential services and mission responsibilities.

R) **5-5.4 Conformity.** The Navy issued draft interim guidance (CNO ltr Ser N457/4U596107 of 26 April 1994, (NOTAL)) for conducting conformity reviews which should be followed until final guidance is available.

R) **5-5.5 Penalty Assessments.** Navy activities should report all assessments of civil or administrative penalties by State or local air districts to the Regional Environmental Coordinator (REC) and refer them up through the claimant's chain of command and the Office of General Counsel chain of command to the Office of the Assistant General Counsel (Installations and Environment) (OAGC(I&E)) for guidance before paying any penalties.

R) **5-5.6 Emission Reduction Credits (ERCs).** ERCs shall be acquired and disposed of under references (d), (e), (f), (g), and (h) as if they were personal property.

a. For bases that are being closed or realigned under the Base Closure and Realignment Act of 1988 (Public Law 100-526) and the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510) process or any subsequent base closure law, ERCs shall be utilized and disposed of per DOD and DON policy.

b. For operating installations, ERCs will be utilized and disposed of in the following manner:

(1) ERCs generated from a change in operations, removal from service of equipment, or any other action that results in emissions reductions may be banked for:

(a) Future use by that same installation

(b) Transfer to another Navy installation within the same AQD or another AQD that will accept transfer of the credits

(c) Transfer to any DOD installation within the same AQD or another AQD that will accept transfer of the credits; or

(d) Transfer to any other Federal agency within the same AQD or another AQD that will accept transfer of the credits.

(2) ERCs may be transferred between military services under 10 U.S.C. Section 2571, with or without compensation.

(3) ERCs determined to be surplus to the Federal government shall be reported for screening and disposal using the existing personal property disposal mechanisms.

Installations requiring ERCs shall either:

(a) Purchase ERCs from other sources; or

(b) Obtain offsets from on-installation sources.

No ERCs may be disposed of or traded to non-Navy facilities unless such action has been coordinated with the appropriate REC.

5-5.6 Airborne Radionuclide Emissions.

Reference (a) regulates airborne radionuclide emissions into the environment. Within the Navy, the Naval Nuclear Propulsion Program Directorate is responsible for all aspects of compliance with Subpart I pertaining to nuclear propulsion. The Navy Radiation Safety Committee is responsible for compliance with Subpart I with respect to airborne radionuclide emissions from all other Navy sources under reference (a), Part 61.

5-6 Responsibilities

5-6.1 Deputy Chief of Naval Operations (Logistics) or designee shall:

a. Coordinate the overall implementation of CAA requirements.

b. Coordinate the review of proposed and final CAA regulations.

c. Issue policy and guidance as needed.

d. Coordinate the review of fines and penalties with OAGC(I&E).

5-6.2 Commander, Naval Facilities Engineering Command (COMNAVFACENG-COM) shall:

a. Revise technical documents and manuals to reflect design, operation, monitoring, and testing parameters required by emission and performance standards and permit requirements for shore facilities.

b. Provide technical assistance to shore commands, as requested, to:

(1) Determine permit and variance requirements, obtain data, and complete applications.

(2) Determine and implement requirements for mobile source controls.

c. Develop and provide to activity commanding officers required air applications/permits for preconstruction review/construction of Military Construction (MILCON)-funded air projects and pay related fees from the funds appropriated and budgeted for the projects. Such projects include initial source testing for startup of facilities and initial operating permits.

d. Maintain Navy-wide information on location and physical characteristics of Navy stationary sources, including key features of variances and delay compliance orders (DCOs).

e. Identify compliance requirements for new construction by coordination of all new projects or modifications with appropriate State/local

and/or EPA regional offices and the affected facility.

f. Identify appropriate emission offsets, where required for new construction, and prepare and coordinate projects to implement offset requirements.

g. Provide Navy-wide coordination and technical support for compliance with the CAA Title II requirements applicable to the Navy's vehicle fleets.

h. Assist Navy vehicle fleets in I/M testing.

5-6.3 Major claimants and subordinate commands shall:

a. Ensure that activities under their command comply with current Federal, State, interstate, and local air pollution control requirements.

b. Include requests for resources to meet air pollution control requirements in Program Objectives Memorandum (POM)/budget submissions.

5-6.4 Regional Environmental Coordinators shall:

a. Coordinate input and comments on all applicable CAA requirements in their area of responsibility.

b. Coordinate ERC trading among Navy facilities.

c. Notify CNO (N45) of any significant or precedent-setting State or local regulatory actions with the potential to impact Navy operations.

d. Perform the functions of Navy air pollution episode coordinator within air quality control regions, or portions thereof, under their jurisdiction. Air pollution episode coordinators

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shall ensure that air episode plans and actions are consistent in degree and timing for all Navy activities in the affected episode area and are also as consistent as possible with plans and actions of other Federal activities and State and local air pollution control authorities.

5-6.5 Commanding Officers of shore activities shall:

a. Identify and submit environmental compliance projects, per Chapter 1, required to bring air sources into compliance.

b. Assure CAA general conformity rule requirements are satisfied for all Navy actions on the installation.

c. Sign all permits and compliance statements for operations conducted on the installation unless multi-installation permits are to be signed by a higher authority. Develop specific host/tenant agreements to ensure tenants will comply with all CAA requirements.

d. Sign applications for permits related to demolition, preconstruction, and construction phases of projects unless multi-installation permit applications are to be signed by a higher authority. Develop applications and pay related fees for non-MILCON projects. Similarly, sign applications and pay related fees associated with operating permits and variances to temporarily operate sources out of compliance with emission limitations.

e. Budget sufficient resources to maintain and demonstrate compliance, including all routine air monitoring and scheduled sampling or testing.

f. Notify State and local authorities, to conform with permit requirements, of all instances of noncompliance.

g. Survey emission sources to identify potential reductions.

h. Report potential ERC sources to the REC.

i. Submit, via the chain of command, to CNO (N45) all instances in which compliance with fuel standards is impractical.

j. Maintain current records of physical, operational, and emission characteristics of air sources, including the potential to emit and actual emissions of sources as required by applicable Federal, state and local regulations. (R)

k. Ensure the development of air episode plans as required, and provide copies of plans to the REC.

l. Cooperate with the Navy air pollution episode coordinator, EPA, and State and local air pollution control authorities in the execution of air episode plans while in episode areas.

m. Ensure that motor vehicles and other mobile sources comply with applicable emission standards and other requirements.

n. Develop and implement transportation control measures as required by the SIP.

o. Where applicable, furnish to the appropriate regulatory authority proof of compliance with all State and local motor vehicle I/M requirements for all vehicles operated on the installation.

p. Implement and maintain proper adjustments in stationary heating and power plant operations, including those owned/operated by public work centers (PWCs), to reduce total emissions. Substantial fuel savings can also result from proper combustion operations and combustion air monitoring.

q. Ensure personnel are properly trained as required by the CAA.