HAP STATUS BINDER WEB SITE

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STATUS OF THE 1990 CLEAN AIR ACT HAZARDOUS AIR POLLUTANT (HAP) REGULATIONS AND MILITARY SERVICE COMPLIANCE EFFORTS

Purpose:

The purpose of this web site is to provide comprehensive information to military installation environmental managers to help them plan for and comply with final and future HAP regulations. This resource provides: 1) current information on the status of developing Federal HAP regulations that affect the military; 2) summaries of final rules and subsequent amendments; 3) compliance cost information if available, and 4) links and references to extensive compliance guidance resources. This web site is a product of the Clean Air Act Services Steering Committee's HAP Subcommittee and funded primarily by the Naval Facilities Engineering Command's Naval Environmental Protection Support Service.

Disclaimer:

This information resource does not represent Service policy nor is it reviewed for accuracy or concurrence by the <u>Services Steering Committee</u>. Unless otherwise noted, any recommendations or compliance guidance contained in this document are from the <u>HAP Subcommittee</u>. Before implementing any compliance action, consult the appropriate authority within your Federal agency.

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ABOUT THIS WEB SITE

History

The original version of this <u>HAP Subcommittee</u> document was first published on January 28, 1993. Between January 1993 and January 1999, sixteen update packages were published and mailed to over 500 military installation environmental personnel. We estimate that over six tons of paper was published and mailed during that time. With the advent of the World Wide Web and nearly universal Internet access by military environmental personnel, it became possible to transition to a paperless, electronic document.

Internet Version

The <u>HAP Status Binder</u> was redesigned in May 1999 to become primarily an Internet resource. The Internet version published on <u>DENIX</u> contains and provides links to extensive information and guidance on each NESHAP regulation. We recommend that you use this resource electronically and add pages of interest to your browser's list of favorites or bookmarks.

The Final Hard Copy

In June 1999, we mailed a hard copy of the redesigned binder to all persons on our distribution list. Each appendix was redesigned into a consistent abbreviated format and contains useful but limited information about each rule (e.g., Synopsis Table, Regulation Status, Rule Summary, Subsequent Regulatory Activity, Military Sources, Compliance Cost, and Contacts). We removed items such as EPA Fact Sheets and guidance documents, military policy and guidance documents, and other information that can be easily accessed through the Internet. Those who prefer to maintain hard copies can print out supplementary information of interest and add it to the appropriate binder appendix. To reduce solid waste generation, we encourage folks with reliable Internet access to discontinue maintenance of hard copies and to rely on the <u>HAP Status Binder Web Site</u>.

We no longer publish hard copies of this document. Those who want to generate a hard copy will need to print the PDF file for each section of the binder.

Binder Updates

If you want to receive e-mail messages announcing significant changes to the HAP Status Binder web site or late breaking news regarding HAP regulations, send an e-mail message to <u>join-hapbinder@www.denix.osd.mil</u>. Please leave the subject line and body of this message blank.

HOW TO USE THIS WEB SITE

The quickest way to navigate this document is to first read <u>Section 1.0</u>, then:

For the regulatory schedule (dates not details) for CAA §112, §129, & §183:

1. Refer to <u>Appendix 112B</u>, <u>Table 6</u>, <u>Table 7</u>, and <u>Table 8</u>.

To determine if any CAA §112 NESHAP standards affect your facility:

- 1. Read the definitions in <u>Section 2.0</u> of this document.
- 2. Review the list of NESHAP source categories and definitions in <u>Tables 4 and 5</u>. If a source category definition potentially describes a source on your facility, look for an <u>appendix</u> dedicated to your source category for more specific information. If you have any questions, contact the appropriate agency-specific contact identified in the appendix. Alternatively, contact a <u>HAP subcommittee member</u>. If a source category of concern is not located in the appendix, it is likely that EPA has not begun development of this standard. In some appendices, we have concluded that a HAP standard will not directly impact DOD. Please inform the HAP subcommittee if you believe otherwise.

To determine if CAA §112(r) Accidental Release Prevention (Risk Management Plan) requirements affect your facility:

1. Read <u>Appendix G</u>.

For CAA §129 Solid Waste Combustion Standards:

- 1. Read <u>Section 3.0</u> of this document.
- 2. If you have a solid waste combustor (medical, municipal, residential, agricultural, wood, construction and demolition, crematory, contaminated soil, or sewage sludge.) refer to the relevant 129 series appendix, if applicable.

For CAA §183 Federal Ozone Measures:

If you are in an ozone nonattainment area:

- 1. Read <u>Section 4.0</u> of this document.
- 2. Refer to 183 series appendices to find HAP (VOC) related control techniques guideline documents which may affect sources at your facility.

1.0 INTRODUCTION

The 1990 <u>Clean Air Act</u> (CAA) contains three sections that generate regulations affecting hazardous air pollutant (HAP), or air toxics, air emission sources. All three sections affect both new and existing sources. Appendices <u>112A</u>, <u>129A</u>, and <u>183A</u> of this document contain the actual text of CAA §112, §129, and §183, respectively.

<u>Section 112 National Emission Standards for Hazardous Air Pollutants (NESHAP)</u>: Section 112 requires EPA to regulate all identified significant HAP sources by the year 2000. In general, EPA must establish source specific emission standards based on maximum achievable control technology (MACT).

<u>Section 129 Solid Waste Combustion Standards</u>: Section 129 requires both HAP and criteria pollutant emission standards for municipal, medical, and other solid waste combustors.

<u>Section 183 Federal Ozone Measures</u>: Section 183 establishes volatile organic compound (VOC), oxides of nitrogen (NOx), and particulate matter (PM) control requirements. These requirements will primarily affect facilities in ozone nonattainment areas. However, it may also affect facilities subject to New Source Review or Prevention of Significant Deterioration permit processes. This section can overlap with HAP requirements because many VOCs are HAPs. These types of VOCs are also referred to as VOHAPs. This document will only address VOHAP related activities resulting from CAA §183.

The body of this document contains information about the EPA's HAP regulation strategy which potentially affect DOD compliance costs through the year 2009. The appendices detail the status of specific EPA HAP regulations, identify DOD and EPA contacts, and document Federal compliance efforts.

Note! This document only addresses Federal EPA HAP regulations. States must implement standards at least as stringent as Federal standards which implies that they may be more stringent. Determine how your State intends to implement specific HAP standards before committing to a compliance strategy. Some States, like California, already have existing HAP standards and in some cases have obtained authority to enforce a State rule in place of a Federal NESHAP.

DENIX

The HAP Status Binder is published on the Defense Environmental Network Information eXchange (<u>DENIX</u>) Web Site. This and other HAP regulatory compliance information can be found on the HAP Subcommittee Home Page at <u>http://www.denix.osd.mil/denix/DOD/Working/CAASSC/Hap/HAPSubcommittee.html</u>. This page is only available on the DOD menu which is restricted to DENIX registered DOD employees and their contractors.

1.1 HAP SUBCOMMITTEE

The Deputy Assistant Secretary of Defense (Environment) designated the Navy as the lead Service for issues arising from implementation of the <u>Clean Air Act</u> Amendments of 1990. In response, the Navy established the <u>Services Steering</u> <u>Committee</u> (SSC) and associated subcommittees to jointly address upcoming CAA issues. The goal of this coordination is to minimize redundant efforts and encourage proactive compliance efforts. Topic specific subcommittees and workgroups are formed (and ended) as needed to address current issues. <u>Appendix A</u> lists contacts for the Services Steering Committee and associated subcommittees.

The <u>Naval Facilities Engineering Command</u> tasked the <u>Naval Facilities Engineering</u> <u>Service Center (ESC426)</u> to organize and chair the SSC Hazardous Air Pollutant (HAP) Subcommittee. The <u>HAP Subcommittee</u> was established in August of 1992 to support the SSC's regulatory tracking efforts. The following Federal agencies are represented on the HAP Subcommittee: Army, Air Force, Marine Corps, Coast Guard, NASA, and Navy.

This HAP Status Binder is the HAP Subcommittee's primary means of communication to military environmental managers to help them plan for and comply with Federal HAP regulations. This resource provides: 1) current information on the status of developing Federal HAP regulations that may affect the military; 2) summaries of final rules and subsequent amendments; 3) compliance cost information if available, and 4) links and references to extensive compliance guidance resources.

Bi-Monthly HAP Subcommittee Status Reports are published as part of the SSC Meeting Minutes and posted on the SSC Web Page which is located at <u>http://www.denix.osd.mil/denix/DOD/Working/CAASSC/caassc.html</u>.

1.2 TITLE CLARIFICATION - CAA90 vs. CAA

Do not confuse the titles in the 1990 Clean Air Act *Amendments* (CAA90) with the titles in the Clean Air Act (CAA) as it now exists after incorporation of the amendments. The CAA90 contains Titles I-XI. The CAA contains Titles I-III, two Title IVs, Titles V-VI, and Title X. The CAA90 titles do not necessarily correspond with CAA titles. The CAA90, Title III primarily amends CAA Title I by completely revising §112, National Emission Standard for Hazardous Air Pollutants, and adding §129, Solid Waste Combustion Standards.

Congress did not make this easy on us. The CAA is not well organized. CAA section numbers do not necessarily correspond with title numbers. Fortunately, all section 100-series numbers are in Title I and all 500-series section numbers are in Title V. In contrast note the following. Title II contains all 200 series sections and §711. Titles III and IV contain some 300 and 400-series sections, respectively. Use caution when citing §402 and §403, because both CAA Title IV's contain these section numbers. Title VI contains a potpourri including 300, 400, 600, and 800-series sections. Title X has all 1000-series and several 400-series section numbers. The CAA should be completely reorganized.

Use <u>**Table 1**</u> to avoid confusing CAA90 titles with CAA titles. To minimize confusion, this document refers primarily to CAA sections. <u>**Table 2**</u> outlines the contents of §112, §129, and §183. Appendices <u>112A</u>, <u>129A</u>, and <u>183A</u> of this document contain the actual CAA text for these sections.

1990 CAA Amendments		CAA Titles Amended ^a		
Title Description		Title	Part	Section
	National Ambient Air Quality Standards	I	D	
II	Provisions Relating To Mobile Sources	П		
	Hazardous Air Pollutants	I	А	112, 129
IV	Acid Deposition Control	IV ^b		
V	Permits	V		
VI	Stratospheric Ozone Protection	VI		
VII	Provisions Relating To Enforcement	I	А	113
VIII	Miscellaneous Provisions	Note ^c		
IX	Clean Air Research	I	А	103-104
Х	Disadvantaged Business Concerns	Х		
XI Employment Transition Assistance III B 326		326		
Notes: ^a Not comprehensive: Only the primary CAA title amended by the CAA90 title is			CAA90 title is	
listed. ^b Adds a second Title IV to CAA. ^c VIII amends several CAA titles.				

TABLE 1: TITLE CLARIFICATION

CAA	A §112, National Emission Standards for Hazardous Air Pollutants	
112(a) Definitions		
112(b)	List of Pollutants	
112(c)	List of Source Categories	
112(d)	Emission Standards	
112(e)	Schedule for Standards and Review	
112(f)	Standards to Protect Health and the Environment (Residual Risk)	
112(g)	Modifications	
112(h)	Work Practice Standards and Other Requirements	
112(i)	Schedule for Compliance	
112(J)	Equivalent Emission Limitations by Permit (Permit Hammer)	
112(K)	Area Source Program	
112(1)	State Programs Atmospheric Deposition to Great Lakes and Coastal Waters	
112(11) 112(n)	Attriospheric Deposition to Great Lakes and Coastal Waters	
112(1) 112(0)	National Academy of Sciences Study	
112(0) 112(n)	Mickey Leland Lirban Air Toxics Research Center	
112(p) 112(q)	Savings Provisions	
112(q) 112(r)	Prevention of Accidental Releases	
112(s)	Periodic Report (EPA Status Report To Congress)	
	CAA §129, Solid Waste Combustion	
129(a)	New Source Performance Standards	
129(b)	Existing Units (Emission Guidelines)	
129(c)	Monitoring	
129(d)	Operator Training	
129(e)	Permits	
129(f)	Effective Date and Enforcement	
129(g)	Definitions	
129(h)	Other Authority	
CAA §183, Federal Ozone Measures		
183(a)	Control Technique Guidelines (CTGs) for VOC Sources	
183(b)	Existing and New CTGs	
183(c)	Alternative Control Techniques	
183(d)	Guidance for Evaluating Cost-Effectiveness	
183(e)	Control of Emissions From Certain Sources	
183(†)	Tank Vessel Standards	
183(†)	Ozone Design Value Study	

TABLE 2TABLE OF CONTENTS, CAA TITLE I, PART A, SECTIONS 112, 129, & 183

Appendices <u>112A</u>, <u>129A</u>, and <u>183A</u> of this document contain the CAA text.

2.0 CAA §112 NESHAP

The 1990 Clean Air Act (CAA) amendments dramatically changed the National Emission Standards for Hazardous Air Pollutants (NESHAP) development process.

In the past, EPA developed HAP standards that were pollutant-specific and healthbased. In many cases, a single NESHAP regulated many emission sources of a given HAP. This old process was slow because the health-based process was too rigorous the scope of the NESHAPs were often too broad. The Code of Federal Regulations, 40 CFR 61, contains NESHAP regulations promulgated before CAA90.

Post-1990 NESHAPs are source-specific and technology-based. The new NESHAPs are located in 40 CFR 63. All significant sources of HAPs will have their own NESHAP. The regulatory process is described below by summarizing the contents of CAA §112 paragraphs in alphabetical order. <u>Appendix 112A</u> contains the text of CAA §112.

CAA §112(a) Definitions

This section contains definitions unique to CAA §112 NESHAP legislation. Other CAA sections may have different definitions for identical terms. EPA promulgated the General Provisions common to all NESHAPs on 16 Mar 94 (40 CFR 63 Subpart A). The definitions in CAA §112(a) and in §63.2 of the NESHAP General Provisions must be understood in order to determine the applicability of each NESHAP. General Provision definitions can be found in Appendix 112C which contains the HAP Subcommittee's Plain Language Guide to the General Provisions. CAA §112(a) definitions can be found in Appendix 112A.

The definitions of "major" and "area" source are the most crucial to understand. To determine if a NESHAP will affect your source, you need to know how EPA interprets these definitions.

As promulgated:

Major source: means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

Area source: means any stationary source of hazardous air pollutants that is not a major source as defined in this part.

The definitions are confusing because both terms can refer to an individual source or an entire facility. The term "stationary source" itself can also refer to an individual source or an entire facility.

The HAP Subcommittee has had numerous discussions and meetings with various EPA rule developers to find out exactly what the terms mean. Are they mutually

exclusive or not? We received the following answers: "yes", "no", and "yes and no". During a meeting in Jan 95, Ms. Vicki Boothe (U.S. EPA) assured the HAP Subcommittee (off-the-record) that the terms can be considered mutually exclusive. It was pointed out to EPA that if the terms are mutually exclusive then a hypothetical NESHAP that only applies solely to area sources would not affect any source located on an installation that was a major source of HAPs. Ms. Boothe agreed with this statement but indicated that EPA is not likely to issue a NESHAP that affects only area sources.

Bottom line: All sources, no matter how small, which are located within the contiguous area of an installation that is a major HAP source are considered major sources.

Most of the NESHAPs that EPA is developing apply to major HAP sources. Some NESHAPs affect both major and area sources.

Major source NESHAPs affect any source in the NESHAP source category (unless a specific NESHAP excludes certain sizes, classes, or types of sources) that is either:

1) a major source individually, (HAP emissions from the source itself exceeds the 10 or 25 tons per year HAP threshold for major sources.)

or

2) located on an installation that is a major source. (HAP emissions from all sources on the installation exceed the 10 or 25 tons per year HAP threshold for major sources.)

For example, a small industrial process cooling tower emitting 2 tons per year of chromium is subject to the Cooling Tower NESHAP only if it is located on a installation that is a major HAP source.

CAA §112(b) HAP List

This section contains an initial HAP list of 189 chemicals, compounds, or groups of compounds and procedures governing modifications of the HAP list. The original list is shown in <u>Appendix 112A</u> which contains the text of CAA §112. This list includes several technical errors including the accidental listing of hydrogen sulfide. Hydrogen sulfide is not a HAP and is not counted in the original 189 HAPs. EPA continues to correct the errors and modify the list. <u>Table 3</u> contains EPA's current working draft list. This draft list includes current EPA staff recommendations for technical corrections and clarifications. EPA will eventually propose and seek comment on the draft revision of the HAP list. EPA must issue NESHAPs for all significant sources of these HAPs.

CAA §112(c) Source Category List

Section 112(c) directs EPA to develop a list of source categories that emit one or more HAPs. EPA promulgated the initial source category list on 16 Jul 92 (57 FR 31576) and a final schedule for regulating these source categories on 03 Dec 93

(58 FR 63941). Since then EPA has made a number of revisions to the source category list.

In CAA §112(c)(6), Congress requires EPA to ensure the list will result in the regulation of sources that account for 90 percent of the emissions of hexachlorobenzene, polychlorinated biphenyls, dioxins, furans, alkylated lead, mercury, and polycyclic organic matter. The pollutants are commonly emitted by combustion sources with incinerators being the worst offenders.

<u>Tables 4 and 5</u> show the latest source category list and corresponding definitions. The source category definitions in were obtained from EPA document 450/3/91-030, <u>Documentation for Developing the Initial Source Category List</u>, Jul 92 and from the Federal Register citations shown in <u>Table 6</u> where EPA modified the source category list. The results of mandated studies and the implementation of the criteria specified in both §112(c)(6) and §112(k) continue to influence this list.

NESHAP Source Category List History

EPA's preliminary draft source category list (56 FR 28548, June 21, 1991) contained 766 source categories and subcategories organized in 18 broad industry groups. More than 50% (400) of these categories are in the synthetic organic chemical manufacturing industry (SOCMI). This list changed dramatically after Office of Management and Budget review. The initial source category list (57 FR 31576, July 16, 1992) contained 174 source categories. Sources were not eliminated from the preliminary draft list; the change was organizational. For example, the 400 chemical manufacturing categories were combined into one broad category called SOCMI.

Do not ignore major source categories if your installation is an area source. Your area source may have to comply with the major source NESHAP for one of the following reasons.

- 1. The number of area source categories will increase. The initial HAP source category list contained only eight area source categories. There were only eight because EPA did not have enough information to make an area source determination for the other major source categories. EPA will make an area source determination for each major source category after they begin developing the regulation.
- 2. EPA may establish a lesser-quantity emission rate (LQER), for a source category or a HAP, which is below the 10/25 tpy major source threshold. Therefore, your area source may become a major HAP source
- 3. Your State regulatory agency is independent and may implement stricter standards. Your State may decide to regulate all sources in a category, regardless of size.

Reminder: If your facility is classified as a major HAP source, all stationary sources on your facility will be regulated as major sources unless a specific NESHAP contains different regulations based on class, type, or size. Your entire facility (contiguous area, under common control) is classified as a major source if it contains one or more sources that emit 10 tpy of a single HAP or 25 tpy of multiple HAPs.

CAA §112(d) Emission Standard Requirements

Section 112(d) requires EPA to promulgate NESHAPs for all source categories by the year 2000. In general, EPA must require maximum achievable control technology (MACT) for major and area sources (CAA §112(d)(3)). Alternatively, EPA may require generally available control technology (GACT) for area sources (CAA §112(d)(5)). Where possible, EPA will specify emission concentration or rate limits based on their MACT or GACT determinations and not mandate specific control devices. In addition to emission standards, EPA may establish work practice standards per §112(h). EPA is also making efforts to incorporate pollution prevention alternatives when developing the standards.

CAA §112(e) Regulatory Schedule

After finalizing the source category list, EPA must publish a schedule, satisfying specific quotas, showing when each NESHAP will be promulgated. EPA published the initial NESHAP regulatory schedule on 3 Dec 93 (58 FR 63941). Both the source category list and regulatory schedule are dynamic. Refer to <u>Appendix 112B</u> for the latest NESHAP source category list and regulatory schedule. Links to web pages dedicated to all of these rules can be found on the EPA Unified Air Toxics Website at <u>http://www.epa.gov/ttn/uatw/eparules.html</u>.

CAA §112(f) Residual Risk

The NESHAP development process has another significant step. Within eight years after each NESHAP is promulgated, EPA must evaluate the residual risk associated with the controlled emissions of the HAP source categories. If significant risk remains, NESHAPs may become more stringent. In March 1999, EPA published a Report to Congress (EPA 453/R-99-001) which outlines their strategy for assessment of any residual risks to public and environmental health. The first risk based regulations are expected in 2002.

CAA §112(g) Modifications

Appendix E contains a summary of the regulations EPA promulgated on 27 Dec 96 (61 FR 68384) to implement this section of the CAA. Ironically, the final rule does not affect "modified" sources only new and "reconstructed" major HAP sources. This rule only affects sources undergoing construction or reconstruction that qualify as major HAP sources in-and-of themselves; e.g., they emit 10 tpy of a single HAP or 25 tpy of multiple HAPs. Owners or operators of sources subject to this rule must apply for and obtain a case-by-case MACT determination. The control technologies and or work practice standards identified in the MACT determination must be in place upon startup.

CAA §112(h) Work Practice Standards and Other Requirements

In cases where it is difficult to prescribe or enforce a specific emission standard, this section gives EPA the flexibility to promulgate any combination of design, equipment, work practice, or operational standards.

CAA §112(i) Compliance Deadlines and Extensions

New Source Compliance Deadline: A new source must comply upon start-up.

Existing Source Compliance Deadline: An existing source will have no more than three years after NESHAP promulgation to demonstrate compliance. Each NESHAP will specify the compliance deadline for existing sources.

State or Federal Extension: States or EPA may grant a one-year extension if time is needed to install controls.

Presidential Exemption (Extension): The President may grant one or more two-year extensions for any stationary source subject to a NESHAP if the technology to comply with the requirement is not available and if the national security interests of the United States requires that the source continue to operate.

Compliance Extension For Early Reductions: Source owners may participate in an early reductions program and receive a six-year MACT compliance extension by reducing actual HAP emissions 90% (95% for particulate HAPs) prior to proposal of a NESHAP. The baseline year for calculating early emission reductions is 1987 or later. In addition to documenting baseline year emissions, you must submit evidence that the baseline emissions are not artificially or substantially higher than other years.

EPA promulgated regulations governing the NESHAP early reduction program on 29 Dec 92 (57 FR 61970). 40 CFR Part 63 Subpart D contains these provisions.

Few commercial facilities and no military installations have taken advantage of this extension. There are several reasons why participation is so limited. It takes substantial resources to apply for the extension and to implement the emission reductions. In many cases, the measures that facilities would have to take to qualify for the extension would be as expensive as the eventual MACT requirements.

CAA §112(j) Equivalent Emission Limitation By Permit (Permit Hammer)

Section 112(j) establishes requirements for regulation of existing major HAP sources in the event that EPA lags more than 18 months behind schedule in promulgating a NESHAP. If EPA fails to promulgate by the 18 month deadline, the owner or operator of the existing major source is required to request (by application to the permitting authority) a MACT determination. This rule specifies what information the major source owner or operator must include in an application for a MACT determination. Once the permitting authority makes a MACT determination, the major source must comply with MACT by the date set by the permitting authority. This date must be no later than three years after the permit is issued. Congress included §112(j) to ensure that MACT standards appear in Title V permits even if EPA fails to develop a NESHAP for a listed source category. That is why §112(j) is referred to as the "permit hammer".

<u>Appendix F</u> contains a summary of the permit hammer regulations which EPA finalized on 20 May 94 (59 FR 26426).

CAA §112(k) Urban Area Source Program

Section 112(k) requires EPA to regulate area source categories that emit 90 percent of the urban area HAP emissions and reduce cancers attributed to these emissions by 75 percent. <u>Appendix C</u> contains information on the status of EPA's efforts to implement this requirement.

CAA §112(I) State Programs

Section 112(l) primarily provides direction to EPA and States regarding how to integrate State and Federal HAP programs. The provisions implementing 112(l) are found in <u>40 CFR 63 Subpart E</u>. EPA has granted 112(l) authority to some State and local agencies allowing them to enforce their own rules in place of a NESHAP. EPA is in the process of revising Subpart E to make it easier for State and local agencies to substitute their own HAP rules for NESHAPs. The revisions were expected to be finalized in 1998 but did not materialize.

CAA §112(m) Atmospheric Deposition to the Great Lakes and Coastal Waters

This section requires EPA to study the Great Lakes and coastal waters to determine the extent of pollution attributable to hazardous air pollutants and the sources that emit the pollutants. EPA must determine if additional regulations beyond the NESHAP program are necessary to protect these resources.

On 24 Mar 98 (63 FR 14090), EPA announced that no additional emission standards or control measures will be issued under the authority of §112(m)(6). EPA has determined that the existing provisions of §112 are adequate to prevent serious adverse effects to public health and serious or widespread environmental effects associated with the deposition of HAP to the Great Waters.

This determination is based on the state of current scientific information. If future events or additional information indicate that the determinations are not correct, EPA retains its discretion to promulgate any necessary and appropriate regulations.

All Reports to Congress on the Great Waters are published on the Internet at <u>http://www.epa.gov/ttncaaa1/t3rc.html</u>.

CAA §112(n) Other Provisions

This section requires EPA to study and characterize hazardous air pollutant emissions from several specific sources including:

• Electric Utility Steam Generating Units,

- Coke Oven Production Technology,
- Publicly Owned Treatment Works, and
- Oil and Gas Wells.

All Reports to Congress on these studies are published on the Internet at <u>http://www.epa.gov/ttncaaa1/t3rc.html</u>.

CAA §112(o) National Academy of Sciences Study

This section requires EPA to arrange for the Academy to review the risk assessment methodology used by EPA in assessing carcinogenic risk from HAP emissions and recommend any improvements to the methodology.

CAA §112(p) Mickey Leland Urban Air Toxics Research Center

This section requires EPA to establish this research center in Harris County, Texas. Refer to <u>http://www.sph.uth.tmc.edu/www/ctr/leland/tindex.htm</u> for more information.

CAA §112(q) Savings Provisions

This section contains a few unique criteria that EPA must consider in their rulemaking process. It specifies some sources that EPA cannot regulate and prevents EPA from regulating other sources too quickly. None of these criteria are of particular interest to DOD.

CAA §112(r) Accidental Releases

This section directs EPA to promulgate accidental release prevention, detection, and correction requirements to prevent catastrophic releases of HAPs. EPA must promulgate a list of chemicals and threshold quantities that will determine which facilities are subject to subsequently promulgated accidental release prevention requirements. Owners of affected facilities must establish a risk management program and submit a risk management plan (RMP) which consists of data elements that prove the existence of a program. EPA has promulgated these requirements. Affected installations were required to establish their risk management program and submit their RMPs by 20 Jun 99. <u>Appendix G contains a comprehensive summary of the RMP rule.</u>

CAA §112(s) Periodic Report

Every three years after 1990, EPA must provide Congress with a report on their progress in implementing the requirements of CAA §112. These reports are published on the Internet at <u>http://www.epa.gov/ttncaaa1/t3rc.html</u>.

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TABLE 3 HAZARDOUS AIR POLLUTANT LIST (EPA DRAFT LIST 5/4/99)

CAS No.	Pollutant
75-07-0	Acetaldehyde
60-35-5	Acetamide
75-05-8	Acetonitrile
98-86-2	Acetophenone
53-96-3	2-Acetylaminofluorene
107-02-8	Acrolein
79-06-1	Acrylamide
79-10-7	Acrylic acid
107-13-1	Acrylonitrile
107-05-1	Allyl chloride
92-67-1	4-Aminobiphenyl
62-53-3	Aniline
90-04-0	o-Anisidine
1332-21-4	Asbestos
71-43-2	Benzene (including benzene from
	gasoline)
92-87-5	Benzidine
98-07-7	Benzotrichloride
100-44-7	Benzyl chloride
92-52-4	Biphenyl
117-81-7	Bis(2-ethylhexyl)phthalate (DEHP)
542-88-1	Bis(chloromethyl) ether
75-25-2	Bromoform
106-99-0	1,3-Butadiene
156-62-7	Calcium cyanamide
105-60-2	Caprolactam (Removed 6/18/96,
	61FR30816)
133-06-2	Captan
63-25-2	
75-15-0	Carbon disulfide
56-23-5	Carbon tetrachionde
463-58-1	Carbonyi suinde
120-60-9	Calechol
133-90-4	Chlorampen
57-74-9	Chloring
70 11 0	Chloropaetia asid
79-11-0 522 27 4	
109 00 7	Chlorobonzono
510-15-6	Chlorobenzilate
67 66 3	Chloroform
107-30-2	Chloromethyl methyl ether
126-00-8	Chloroprene
1310-77-3	Cresol/Cresylic acid (mixed isomers)
95-48-7	o-Cresol
108-39-4	m-Cresol
106-44-5	n-Cresol
98-82-8	Cumene
N/A	2 4-D (2 4-Dichlorophenoxyacetic Acid)
	(including salts and esters)
72-55-9	DDE (1,1-dichloro-2,2-bis(p-chlorophenyl)
334-88-3	Diazomethane
132-64-9	Dibenzofuran
96-12-8	1.2-Dibromo-3-chloropropane
84-74-2	Dibutyl phthalate
106-46-7	1,4-Dichlorobenzene

CAS No.	Pollutant
91-94-1	3,3-Dichlorobenzidine
111-44-4	Dichloroethyl ether (Bis[2-
	chloroethyljether)
542-75-6	1,3-Dichloropropene
62-73-7	Dichlorvos
111-42-2	Diethanolamine
64-67-5	Diethyl sulfate
119-90-4	3,3'-Dimethoxybenzidine
60-11-7	4-Dimethylaminoazobenzene
121-69-7	N,N-Dimethylaniline
119-93-7	3,3'-Dimethylbenzidine
79-44-7	Dimethylcarbamoyl chloride
68-12-2	N,N-Dimethylformamide
57-14-7	1,1-Dimethylhydrazine
131-11-3	Dimethyl phthalate
77-78-1	Dimethyl sulfate
N/A	4,6-Dinitro-o-cresol (including salts)
51-28-5	2,4-Dinitrophenol
121-14-2	2,4-Dinitrotoluene
123-91-1	1,4-Dioxane (1,4-Diethyleneoxide)
122-66-7	1,2-Diphenylhydrazine
106-89-8	Epichlorohydrin (I-Chloro-2,3-
	epoxypropane)
106-88-7	1,2-Epoxybutane
140-88-5	Ethyl acrylate
100-41-4	Ethylbenzene
51-79-6	Ethyl carbamate (Urethane)
75-00-3	Ethyl chloride (Chloroethane)
106-93-4	Ethylene dibromide (Dibromoethane)
107-06-2	Ethylene dichloride (1,2-Dichloroethane)
107-21-1	Ethylene glycol
151-56-4	Ethyleneimine (Aziridine)
75-21-8	Ethylene oxide
96-45-7	Ethylene thiourea
75-34-3	Ethylidene dichloride (1,1-Dichloroethane)
50-00-0	Formaldehyde
76-44-8	Heptachlor
118-74-1	Hexachlorobenzene
87-68-3	Hexachlorobutadiene
N/A	1,2,3,4,5,6-Hexachlorocyclyhexane (all
	stereo isomers, including lindane)
77-47-4	Hexachlorocyclopentadiene
67-72-1	Hexachloroethane
822-06-0	Hexamethylene diisocyanate
680-31-9	Hexamethylphosphoramide
110-54-3	Hexane
302-01-2	Hydrazine
7647-01-0	Hydrochloric acid (Hydrogen chloride [gas
	only])
7664-39-3	Hydrogen fluoride (Hydrofluoric acid)
123-31-9	Hydroquinone
78-59-1	Isophorone
108-31-6	Maleic anhydride
67-56-1	Methanol
72-43-5	Methoxychlor
74-83-9	Methyl bromide (Bromomethane)
74-87-3	Methyl chloride (Chloromethane)

TABLE 3 HAZARDOUS AIR POLLUTANT LIST (EPA DRAFT LIST 5/4/99)

CAS No.	Pollutant
71-55-6	Methyl chloroform (1,1,1-Trichloroethane)
78-93-3	Methyl ethyl ketone (2-Butanone)
60-34-4	Methylhydrazine
74-88-4	Methyl iodide (lodomethane)
108-10-1	Methyl isobutyl ketone (Hexone)
624-83-9	Methyl isocyanate
80-62-6	Methyl methacrylate
1634-04-4	Methyl tert-butyl ether
101-14-4	4,4'-Methylenebis(2-chloroaniline)
75-09-2	Methylene chloride (Dichloromethane)
101-68-8	4,4'-Methylenediphenyl diisocyanate (MDI)
101-77-9	4,4°-Methylenedianiline
91-20-3	Naphthalene
98-95-3	Nitrobenzene
92-93-3	4-Mitrophenol
70-46-0	2-Nitropropage
681-03-5	N-Nitroso-N-methylurea
62-75-9	N-Nitrosodimethylamine
59-89-2	N-Nitrosomorpholine
56-38-2	Parathion
82-68-8	Pentachloronitrobenzene (Quintobenzene)
87-86-5	Pentachlorophenol
108-95-2	Phenol
106-50-3	p-Phenylenediamine
75-44-5	Phosgene
7803-51-2	Phosphine
N/A	Phosphorus Compounds
85-44-9	Phthalic anhydride
1336-36-3	Polychlorinated biphenyls (Aroclors)
1120-71-4	1,3-Propane sultone
57-57-8	beta-Propiolactone
123-38-6	Propionaldehyde
114-26-1	Proposur (Baygon)
78-87-5 75 50 0	Propylene dichioride (1,2-Dichioropropane)
75-50-9 75 55 0	Propylene oxide
01-22-5	
106-51-4	Quinoine Quinone (n-Benzoquinone)
100-42-5	Styrene
96-09-3	Styrene oxide
1746-01-6	2.3.7.8-Tetrachlorodibenzo-p-dioxin
79-34-5	1,1,2,2-Tetrachloroethane
127-18-4	Tetrachloroethylene (Perchloroethylene)
7550-45-0	Titanium tetrachloride
108-88-3	Toluene
95-80-7	Toluene-2,4-diamine
584-84-9	2,4-Toluene diisocyanate
95-53-4	o-Toluidine
8001-35-2	Toxaphene (chlorinated camphene)
120-82-1	1,2,4-Trichlorobenzene
79-00-5	1,1,2-Trichloroethane
79-01-6	Irichloroethylene
95-95-4	2,4,5-1 richlorophenol
88-06-2	2,4,6- I richlorophenol
ı∠ı-44-8	пешуанне

CAS No.	Pollutant
1582-09-8	
540-84-1	2,2,4- I rimethylpentane
108-05-4	Vinyl acetate
593-60-2	Vinyl bromide
75-01-4	Vinyi chionde
1220 20 7	Vinylidene chloride (1,1-Dichloroethylene)
05 47 6	
108-38-3	m-Xylene
106-42-3	n-Xylene
100 12 0	Antimony Compounds
	Arsenic Compounds (inorganic including
	arsine)
	Beryllium Compounds
	Cadmium Compounds
	Chromium Compounds
	Cobalt Compounds
	Coke Oven Emissions
	Cyanide Compounds1
	Glycol ethers2
	Lead Compounds
	Manganese Compounds
	Mercury Compounds
	Nickel Compounds
	Polycyclic Organic Matter4
	Radionuclides (including radon)5
	Selenium Compounds
NOTE: For a "compounds" Unless othen including any named chem	Il listings above which contain the word and for glycol ethers, the following applies: wise specified, these listings are defined as unique chemical substance that contains the ical (i.e., antimony, arsenic, etc.) as part of that
chemical's in	frastructure.
dissociation r	nay occur. For example, KCN or Ca(CN)2.
2 On January the definition ethoxylates a	v 12, 1999 (FR64:1780), EPA proposed to modify of glycol ethers to exclude surfactant alcohol nd their derivatives (SAED). This proposal was
concentration	as inding that emissions, ambient
not reasonab	ly be anticipated to cause adverse human health
or environme	ntal effects. EPA also proposed to make
respect to the	e designation of hazardous substances under the
Comprehens Liability Act (ive Environmental Response, Compensation, and CERCLA).
The proposa	reads as follows:
"The definitio pollutants, as	n of the glycol ethers category of hazardous air established by 42 U.S.C. 7412(b)(1) includes ethers of ethylene glycol, diethylene glycol, and
triethylene gl	ycol ycol
Where: n= 1	, 2, or 3
R= alkyl C7 c R'= H_or alky	r less, or phenyl or alkyl substituted phenyl
phosphate, n	itrate, or sulfonate."
3 (Under Rev	view)
4 (Under Rev	/IEW)
5 A type of at	

NOVEMBER 1992 PROMULGATION DEADLINE

Commercial Dry Cleaning Dry-to-Dry Machines Commercial Dry Cleaning Transfer Machines Industrial Dry Cleaning Dry-to-Dry Machines Industrial Dry Cleaning Transfer Machines Synthetic Organic Chemical Manufacturing Industry

NOVEMBER 1994 PROMULGATION DEADLINE

Acrylonitrile-Butadiene-Styrene Producction Aerospace Industries (Surface Coatings) **Butyl Rubber Production** Chromic Acid Anodizing **Coke Oven Batteries Commercial Sterilization & Fumigation Facilities Decorative Chromium Electroplating** Epichlorohydrin Elastomers Production **Epoxy Resins Production** Ethylene-Propylene Rubber Production Gasoline Distribution (Stage I) Halogenated Solvent Cleaners Hard Chromium Electroplating Hypalon Production Industrial Process Cooling Towers Magnetic Tape Manufacturing Operations Marine Tank Vessel Loading Operations Methyl Methacrylate Acrylonitrile Butadiene Styrene Methyl Methacrylate-Butadiene-Styrene Terpolymers Neoprene Production Nitrite Butadiene Rubber Production Non-Nylon Polyamides Production Off Site Waste and Recovery Operations Petroleum Refineries (Other Sources Not Listed) Polybutadiene Rubber Production Polyethylene Terephthalate Production **Polystyrene Production** Polysulfide Rubber Production Printing/Publishing (Surface Coating) Secondary Lead Smelting Shipbuilding and Ship Repair (Surface Coatings) Styrene-Acrylonitrile Production Styrene-Butadiene Rubber and Latex Production Wood Furniture (Surface Coating)

NOVEMBER 1997 PROMULGATION DEADLINE

Acetal Resins Production Acrylic/Modacrylic Fibers Production Amino Resins Production Ferroalloys Production: Silicomanganese & Ferromanganese Flexible Polyurethane Foam Production Hydrogen Fluoride Production Mineral Wool Production Oil And Natural Gas Production Pesticide Active Ingredient Production Pharmaceuticals Production

Appendix 112B provides references (CFR and FR) for each source category. Table 5 contains definitions.

Phenolic Resins Production Phosphate Fertilizers Production Phosphoric Acid Manufacturing Polycarbonates Production Polyether Polyols Production Portland Cement Manufacturing Primary Aluminum Production Primary Lead Smelting Publicly Owned Treatment Works (POTW) Secondary Aluminum Production Steel Pickling-HCI Process Facilities & HCI Regeneration Plants Wool Fiberglass Manufacturing

NOVEMBER 2000 PROMULGATION DEADLINE

Alkvd Resins Production Alumina Processing Ammonium Sulfate Production-Caprolactam By-Product Plants Asphalt Concrete Manufacturing Asphalt Processing Asphalt Roofing Manufacturing Asphalt/Coal Tar Application-Metal Pipes Auto and Light Duty Truck (Surface Coating) Benzyltrimethylammonium Chloride Production Boat Manufacturing Brick and Structural Clay Products Manufacturing Carbon Black Manufacturing Carbonyl Sulfide Production Carboxymethylcellulose Production **Cellophane Production Cellulose Ethers Production** Cellulose Food Casing Manufacturing Cellulosic Sponge Manufacturing Ceramics Manufacturing Chelating Agents Production Chlorinated Paraffins Production **Chlorine Production** Clay Minerals Manufacturing **Coke By-Product Plants** Coke Ovens: Pushing, Quenching & Battery Stacks Combustion Turbines Cyanide Chemicals Manufacturing Dry Cleaning (Petroleum Solvent) **Engine Test Facilities Ethylene Processes Ethylidene Norbornene Production** Explosives Production Flexible Polyurethane Foam Fabrication Frictional Products Manufacturing Fumed Silica Production Gasoline Distribution-Aviation Fuel Hazardous Waste Combustors Hydrazine Production Hydrochloric Acid Production Industrial Boilers

Institutional/Commercial Boilers Integrated Iron and Steel Manufacturing Iron Foundries Large Appliance (Surface Coating) Leather Tanning and Finishing Operations Lightweight Aggregate Manufacturing Lime Manufacturing Maleic Anhydride Copolymers Production Manufacture of Paints, Coatings & Adhesives Manufacturing of Nutritional Yeast Metal Can (Surface Coating) Metal Coil (Surface Coating) Metal Furniture (Surface Coating) Methylcellulose Production Misc. Metal Parts & Products (Surface Coating) Municipal Landfills Natural Gas Transmission and Storage Nitrile Resins Production OBPA/1,3-Diisocyanate Production Open Burning of Scrap Tires Organic liquids Distribution (Non-Gasoline) Paint Stripping Operations Paper And Other Webs (Surface Coating) Petroleum Refineries (FCC Units, Reformers, Sulfur Plants) Photographic Chemicals Production Phthalate Plasticizers Production Plastic Parts & Products (Surface Coating) Plywood & Composite Wood Products Polyester Resins Production Polymerized Vinylidene Chloride Production Polymethyl Methacrylate Resins Production Polyvinyl Acetate Emulsions Production **Polyvinyl Alcohol Production** Polyvinyl Butyral Production Polyvinyl Chloride & Copolymers Production Primary Copper Smelting Primary Magnesium Refining Printing, Coating and Dyeing of Fabrics Process Heaters Pulp and Paper Production Quaternary Ammonium Compounds Production **Rayon Production Reciprocating Internal Combustion Engines** Refractories Manufacturing **Reinforced Plastic Composites Production Rocket Testing Facilities** Rubber Chemicals Manufacturing Rubber Tire Manufacturing Semiconductor Manufacturing Site Remediation Spandex Production Steel Foundries Symmetrical Tetrachloropyridine Production Taconite Iron Ore Processing Uranium Hexafluoride Production

Vegetable Oil Production Wood Building Products (Surface Coating)

NOVEMBER 2002 PROMULGATION DEADLINE

Wet-Formed Fiberglass Mat Production

NOVEMBER 2004 PROMULGATION DEADLINE

Cyclic Crude and Intermediate Production (Area Source Rule) Flexible Polyurethane Foam Fabrication Operations (Area Source Rule) Gasoline Distribution (Stage I) (Area Source Rule) Hospital Sterilizers (Area Source Rule) Industrial Inorganic Chemical Manufacturing (Area Source Rule) Industrial Organic Chemical Manufacturing (Area Source Rule) Mercury Cell Chlor-Alkali Plants (Area Source Rule) Municipal Landfills (Area Source Rule) Oil and Natural Gas Production (Area Source Rule) Paint Stripping Operations (Area Source Rule) Plastic Materials and Resins Manufacturing (Area Source Rule) Publicly Owned Treatment Works (Area Source Rule) Synthetic Rubber Manufacturing (Area Source Rule)

NOVEMBER 2002 PROMULGATION DEADLINE

Research and Development Facilities

DELISTED SOURCE CATEGORIES

Aerosol Can Filling Facilities Antimony Oxides Manufacturing Asbestos Processing Chromium Chemicals Manufacturing Cyanuric Chloride Production Lead Acid Battery Manufacturing Non-SS Manufacturing-Electric Arc Furnace Nylon 6 Production Sewage Sludge Incineration SS Manufacturing-Electric Arc Furnace Wood Treatment

SOURCE CATEGORIES ALPHABETIZED BY THE NAME SHOWN IN TABLE 4

Acetal Resins Production - includes any facility which manufactures homopolymers and/or copolymers of alternating oxymethylene units. Acetal resins are also known as polyoxymethylenes, polyacetals, and aldehyde resins. They are generally produced by polymerizing formaldehyde and the CH2 functional group and are characterized by repeating CH20 (oxymethylene) units in the polymer backbone. [Editor's note: this source category is covered by the Generic MACT NESHAP 40 CFR 63 Subpart YY.]

Acrylic/Modacrylic Fibers Production - includes any facility engaged in-manufacturing fibers in which the fiberforming substance is any long-chain, synthetic polymer composed of at least 85 percent, by weight, of acrylonitrile units. The category includes polymerization reactions, wet solvent spinning, dry solvent spinning, solvent recovery, washing, filtration, stretching, cutting (into staple), crimping, twisting, baling, drying, and packaging processes. [Editor's note: this source category is covered by the Generic MACT NESHAP 40 CFR 63 Subpart YY.]

Acrylonitrile-Butadiene-Styrene Production - includes any facility which manufactures styrenic terpolymers consisting primarily of acrylonitrile, 1,3-butadiene, and styrene monomer units. Acrylonitrile-butadiene- styrene is usually composed of a styrene-acrylonitrile copolymer continuous phase with dispersed butadiene derived rubber and can be manufactured by emulsion, continuous mass (bulk), or suspension processes or a combination of more than one process.

Aerospace Industries (Surface Coating) - includes any facility engaged in the surface coating of aerospace vehicles and plastic, metal, and other composites used as components of aerospace aircraft and parts. This category includes, but is not limited to, the following: any machine (military or commercial) designed to travel through the air, whether heavier or lighter than air, including airplanes, balloons, dirigibles, helicopters, and missiles. [Refer to Appendix 112J.]

Alkyd Resins Production - includes any facility which polymerizes a dihydric or polyhydric alcohol and a polybasic acid. Alkyd resins are conventionally produced by condensation polymerization, although other reaction processes may be used.

Alumina Processing - includes any facility engaged in processing of ores to produce alumina. The base ore for alumina is bauxite. After the ores are purified to alumina, the alumina is reduced to elemental aluminum. This source category does not include the production of aluminum from alumina. This category includes, but is not limited to, facilities which produce alumina by the Bayer process. In the Bayer process, the ore is dried, ground in ball mills, and mixed with a leaching solution of sodium hydroxide to produce a sodium aluminate solution. The solution is separated from the bauxite impurities and then cooled. As the solution cools, hydrated aluminum oxide precipitates. After separation and washing to remove impurities, the aluminum oxide is dried and is calcined to produce a crystalline form of alumina.

Amino Resins Production - includes any facility engaged in the manufacturing of the amino resin, ureaformaldehyde; the amino resin, melamine-formaldehyde; or any other resin in which formaldehyde is a portion. The category includes, but is not limited to, formaldehyde resins produced for building and construction material, bonding adhesives, decorative laminates, electrical moldings, flexible foams, coatings, textile treatments, paper processing, and plastics. The category also includes, but is not limited to, the following production process units: reactors, distillation units, and condensation units. The production process includes operation such as dehydrogenation, oxidation, condensation, and polymerization processes.

Ammonium Sulfate Production -- Caprolactam By-Product Plants - includes the production of ammonium sulfate as a by-product in the production of caprolactam, which is used as an intermediate for Nylon 6. The category includes, but is not limited to, ammonium sulfate produced when sulfuric acid is used to rearrange cyclohexanone oxime to caprolactam sulfate, which is then reacted with ammonia to yield ammonium sulfate and caprolactam.

Asphalt Concrete Manufacturing - includes any facility engaged in the manufacture of asphaltic concrete. Asphaltic concrete is a mixture of well graded, high quality aggregate and liquid asphaltic cement which is heated and mixed in measured quantities to produce bituminous pavement material. Manufacturing processes for asphaltic concrete include batch mix, continuous mix, and drum mix operations. The category includes, but is not limited to, the following process units: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing and recycling hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

Asphalt Processing - includes any facility engaged in the preparation of asphalt at asphalt processing plants, petroleum refineries, and asphalt roofing plants. Asphalt preparation, called "blowing," involves the oxidation of asphalt flux by bubbling air through the liquid asphalt flux at 2600C for 1 to 4.5 hours, depending upon the desired characteristics of the asphalt. The category includes, but is not limited to, the following processes: asphalt heating, blowing still, and asphalt storage tanks.

Asphalt Roofing Manufacturing - includes any facility engaged in the manufacturing of asphalt roofing products such as asphalt saturated felt rolls, roll roofing with mineral granules on the surface, and smooth roll roofing. The category includes, but is not limited to, the following processes: asphalt storage, felt saturation, coating, and mineral surfacing. The asphalt preparation process (blowing) is not included in this category.

Asphalt/Coal Tar Application -- Metal Pipes - includes any facility engaged in coating the surfaces of metal pipes with asphalt or coal tar. The category includes all process units associated with the coating of metal pipes.

Auto and Light Duty Truck (Surface Coating) - includes any facility engaged in the surface coating of automobile and light duty truck bodies or body parts for inclusion in new vehicles. Automobile means a motor vehicle capable of carrying no more than 12 passengers. Light-duty truck means any motor vehicle rated at 3,850 kilograms gross vehicle weight or less, designed mainly to transport property. Excluded from this source category are auto customizers, body shops, and refinishers.

Benzyltrimethylammonium Chloride Production - is defined to include any facility which manufactures this quaternary ammonium salt. Benzyltrimethylammonium chloride can be produced from benzyl chloride and trimethylamine, although other methods may be used.

Boat Manufacturing - includes any facility which manufactures aquatic vessels using synthetic materials as the primary component although other materials (i.e., wood, metals, glass) may be used to provide structural reinforcement. The typical synthetic material used to fabricate the body of components of the vessel is styrene. This category includes, but is not limited to, the following production areas: molding material application, and mold preparation. [Editor's note: EPA expanded this source category to include aluminum boat manufacturing and painting on 18 Nov 99 (64 FR 63025).]

Brick and Structural Clay Products Manufacturing - [Editor's note: EPA separated the Clay Products Manufacturing category into four distinct categories of which this is one. Clay Products Manufacturing - includes any facility engaged in manufacturing of clay products such as brick, vitrified clay pipe, structural clay tile, and clay refractories. The category includes, but is not limited to, the following processes: grinding; screening and blending of the raw materials; cutting or forming; and drying, curing, and firing.]

Butyl Rubber Production - includes any facility which manufactures copolymers of isobutylene and isoprene. A typical composition of butyl rubber is approximately 97 percent isobutylene and three percent isoprene. Modified, derivative, and halogenated copolymers and lattices are also included in this source category. Butyl rubber is typically made by a precipitation (slurry) polymerization process in which isobutylene and a minor amount of isoprene are copolymerized in methyl chloride diluent. Halogenated butyl rubbers are produced commercially by dissolving butyl rubber in hydrocarbon solvent and contacting the solution with gaseous or liquid elemental halogens such as chlorine or bromine.

Carbon Black Manufacturing - includes facilities that manufacture carbon black using the channel, thermal, or furnace process. The primary emission point for the process offgases from the main filter unit. HAP emitted include carbonyl sulfide, carbon disulfide, and hydrogen cyanide. Carbon black is used to color and strengthen industrial rubber products, primarily automotive tires, belts, and hoses. Other major end uses for carbon black include specialty black coloring used in toner cartridges for copying machines and colorants in inks, paints, and vinyl plastic. [Source category added on 4 Jun 96, 61 FR 28197.]

Carbonyl Sulfide Production - includes any facility engaged in the production of carbonyl sulfide, a colorless, odorless gas, used in the production of certain thiocarbamate herbicides. This category includes, but is not limited to, carbonyl sulfide formed by high temperature reactions with chemical donors of oxygen and sulfur or carbonyl sulfide resulting as a by-product in the production of carbon disulfide.

Carboxymethylcellulose (CMC) Production - includes any facility which manufactures a type of cellulose ether polymer in which CH2OOH (carboxymethyl) groups are substituted on the glucose units of the cellulose chain through an ether linkage. CMC is commonly produced by reacting monochloroacetic acid, ether acid of sodium salt, and alkali cellulose although other methods may be used. [Editor's note: On 18 Nov 99 (64 FR 63025), EPA announced their intention to combine this source category with Cellulose Ethers Production.]

Cellophane Production - includes, but is not limited to, any facility which manufactures such film produced from wood pulp by the viscose process. This process includes the purifying of cotton and wood cellulose with carbon disulfide, though other methods may be used. Production of coated and noncoated films are included in this category. [Editor's note: On 18 Nov 99 (64 FR 63025), EPA announced their intention to combine this source category with three other source categories into a new category called Miscellaneous Vicose Processes.]

Cellulose Ethers Production - includes any facility which manufactures polymers, based on cellulose, which are comprised of linear chains of (beta) -anhydroglucose rings. The manufacture of cellulose ethers typically involves the treatment of alkalai cellulose with ethyl chloride and ethylene oxide. [Editor's note: On 18 Nov 99 (64 FR 63025), EPA announced their intention for this source category to subsume the Carboxymethylcellulose (CMC) Production source category.]

Cellulose Food Casing Manufacturing - includes any facility engaged in manufacturing cellulose food casing. The category includes any cellulose tubular production used in stuffing and packaging of hotdogs, sausages, poultry, and other meat products. The category includes, but is not limited to viscose, polymerization, filtration, aeration, drying, shredding, shirring and packaging processes. The category also includes the following production process units: viscose spin tank, viscose blender, vissolver, shredders, filters, deareators, slurry units, dryers, and packaging systems. [Editor's note: On 18 Nov 99 (64 FR 63025), EPA announced their intention to combine this source category with three other source categories into a new category called Miscellaneous Vicose Processes.]

Cellulose Sponge Manufacturing - Definition not yet available. [Editor's note: On 18 Nov 99 (64 FR 63025), EPA announced the addition of this source category and their intention to combine this source category with three other source categories into a new category called Miscellaneous Vicose Processes.]

Ceramics Manufacturing - [Editor's note: EPA separated the Clay Products Manufacturing category into four distinct categories of which this is one. Clay Products Manufacturing - includes any facility engaged in manufacturing of clay products such as brick, vitrified clay pipe, structural clay tile, and clay refractories. The category includes, but is not limited to, the following processes: grinding; screening and blending of the raw materials; cutting or forming; and drying, curing, and firing.]

Chelating Agents Production - includes any facility engaged in the production of chelating agents, which are compounds usually used in cleansing operations. The category includes, but is not limited to, the following chelating agents: phosphoric acids, polyphosphates, aminocarboxylic acids, 1,3-diketones, hydrocarboxylic acids, polyamines, and amino acids.

Chlorinated Paraffins Production - includes any facility engaged in the production of dry chlorinated paraffins, which are mainly straight-chain, saturated hydrocarbons. The category includes, but is not limited to, production of chlorinated paraffins by passing gaseous chlorine into a paraffin hydrocarbon or by chlorination by using solvents, such as carbon tetrachloride, under reflux.

Chlorine Production - includes any facility engaged in the production of chlorine. The category includes, but is not limited to facilities producing chlorine by the following production methods: diaphragm cell, mercury cell, membrane cell, hybrid fuel cell, Downs cell, potash manufacture, hydrochloric acid decomposition, nitrosyl chloride process, nitric acid/salt process, Kel-Chlor process, and sodium chloride/sulfuric acid process.

Chromic Acid Anodizing - includes any facility which uses chromic acid to form an oxide layer on aluminum to provide corrosion resistance. Chromic acid anodizing is used primarily on aircraft parts and architectural structures that are subject to high stress and corrosive conditions, although other parts or structures may be so treated. Although other types of operations performed at metal finishing plants involve chromium in some form, this source category includes only those chromic acid anodizing processes that use chromic acid in an electrolytic cell to deposit chromium metal or to form an oxide film on a product. [Refer to Appendix 112F.]

Clay Minerals Manufacturing - [Editor's note: EPA separated the Clay Products Manufacturing category into four distinct categories of which this is one. Clay Products Manufacturing - includes any facility engaged in manufacturing of clay products such as brick, vitrified clay pipe, structural clay tile, and clay refractories. The category includes, but is not limited to, the following processes: grinding; screening and blending of the raw materials; cutting or forming; and drying, curing, and firing.]

Coke By-Product Plants - source category includes the by-product recovery plant component of a by-product recovery coke oven battery. A by-product coke oven battery manufactures metallurgical coke by destructive distillation of coal in ovens. Volatile compounds are driven from the coal, collected from each oven, and processed in an adjacent plant (by-product plant) for recovery of combustible gases and other coal by- products. The coke by-product recovery plant includes, but is not limited to, the following process units: flushing liquor decanter, dehydrator primary cooler decanter, primary cooler, final tar extractor, electrostatic precipitator, weak ammonia liquor settling tank, phenol extractor, ammonia still, exhauster, precipitator reheater, ammonia absorber, final cooler, light oil scrubber, hydrogen sulfide scrubber, gas holder, and booster station.

Coke Ovens: Charging, Top Side, and Door Leaks - includes emissions occurring during the charging process, from topside ports and offtake systems, and from oven doors of a coke oven battery. A coke oven battery is defined as a facility engaged in the manufacturing of metallurgical coke by the destructive distillation of coal. The charging process includes the following steps: transfer of coal from bunker into larry car; positioning of larry car on wide-gauge railroad tracks over an empty, hot oven; opening of the lids on the charging ports; discharge of coal from the hoppers of the larry car through the charging pots into the coke oven; and the closing of the charging port lids. The top side leaks include emissions from closed charge ports, ascension pipes, and the collector main, which are located on the top of the coke oven. The door leaks include emissions from the coke oven doors when they are closed and the oven is in operation.

Coke Ovens: Pushing, Quenching, and Battery Stacks - includes emissions from pushing and quenching operations, and battery stacks at a coke oven battery. A coke oven battery is defined as a facility engaged in the manufacturing of metallurgical coke by the destructive distillation of coal. The pushing process includes the following steps: opening of the doors at both ends of the coke oven; positioning of the pusher machine by the open oven; removal of the incandescent coke from the coke side of the oven by a ram which is extended from the pusher machine; and the receiving of incandescent coke by the rail quench car. The quenching process, which follows the pushing process, includes the quench tower, where several thousand gallons of water are sprayed onto the coke mass to cool it. The battery stack component of the coke oven includes, the underfire or combustion stack, which receives hot gases from the oven flues.

Combustion Turbines (formerly Stationary Turbines) - includes combustion turbines used by electric and gas utilities, industrial establishments, and commercial/institutional operations to provide electricity, gas compression, or other functions. Included in the category are turbines fired by fuel oil, natural gas, and mixed or other fuel. The Stationary Turbine source category includes simple cycle and regenerative cycle turbines, and the turbine portion of a combined cycle steam/electric generating system. [Refer to Appendix 112R.]

Dry Cleaning (Perchloroethylene)- Dry-to-Dry Machines, Commercial - [EPA did not include a definition of this source category in the documentation supporting the initial source category list. The description would be a combination of the definitions of commercial transfer machines and industrial dry-to-dry machines. Refer to Appendix 112D.]

Dry Cleaning (Perchloroethylene)-Transfer Machines, Commercial - includes facilities engaged in cleaning soiled apparel, leather and other fine goods, which are usually small independently operated neighborhood shops, franchise shops and small specialty shops. This category includes facilities that use perchloroethylene (PCE) as a cleaning agent. Facilities that use petroleum solvents or 1,1,1- trichloroethane as cleaning agents are not included in this source category. The category includes transfer cleaning operations, a washing unit and a drying unit, which are separate machines. [Refer to Appendix 112D.]

Commercial Sterilization Facilities - includes facilities which use ethylene oxide in any equipment which destroys bacteria, viruses, fungi, insects, or other unwanted microorganisms or materials when such facilities are engaged in the growth, manufacture, construction, transportation, retail or wholesale trade, or storage of commercial products, or when such facilities are engaged in the operation of museums, art galleries, arboreta, or botanical or zoological gardens or exhibits. Not included in this category are hospitals, doctor offices, veterinary offices, clinics and other facilities where medical services are rendered. [Refer to Appendix 112H.]

Cyanide Chemicals Manufacturing - includes any facility engaged in the production of hydrogen cyanide or sodium cyanide. The category includes, but is not limited to, production of hydrogen cyanide using any of the following methods: reaction of methane and ammonia over a platinum catalyst; reaction of methane and ammonia over a platinum-rhodium catalyst; co-production with acrylonitrile (via Sohio process); and pyrolysis of formamide. The category also includes sodium cyanide manufactured via a neutralization process, or so-called wet process, in which hydrogen cyanide reacts with sodium hydroxide solution usually in a unit system that embodies evaporation of water and crystallization of the product.

Cyclic Crude and Intermediate Production (Area Source Rule) - Definition not yet available.

Decorative Chromium Electroplating - includes any facility which plates a base material (e.g., aluminum, brass, plastic or steel), generally with a layer of nickel, followed by a relatively thin layer of chromium to provide a bright surface with wear and tarnish resistance. Decorative plating is used for items such as automotive trim, metal furniture, bicycles, hand tools, and plumbing fixtures, although other items may be plated. Although other types of operations performed at metal finishing plants involve chromium in some form, this source category includes only those decorative chromium electroplating processes that use chromic acid in an electrolytic cell to deposit chromium metal or to form an oxide film on a product. [Refer to Appendix 112F.]

Dry Cleaning (Petroleum Solvent) - includes any facility engaged in the cleaning of apparel using petroleum solvents, and includes both commercial (i.e. suits, coats, dresses) and industrial (i.e. uniforms, shop towels, rugs) dry cleaners. The category includes, but is not limited to, petroleum solvents with the following structures: aliphatic, alicyclic, and aromatic. The category also includes, but is not limited, to the following process units: washers, centrifugal extractors, and dryers. Emission sources in the Dry Cleaning (Petroleum Solvent) category include, but are not limited to, dryers, and solvent filtration and distillation systems.

Engine Test Facilities - includes any facility engaged in the testing of stationary and mobile engines, including turbines and reciprocating engines. Testing purposes include determining conformity with applicable standards and/or new product testing. [Refer to Appendix 112E.]

Epichlorohydrin Elastomers Production - includes any facility which polymerizes or copolymerizes epichlorohydrin (ECH) to form elastomers. The main products of this source category are polyepichlorohydrin, epi-ethylene oxide (EO) copolymer, epi-allyl glycidyl ether (AGE) copolymer, and epi-EO-AGE terpolymer.

Epoxy Resins Production - includes any facility which manufactures basic liquid epoxy resins or advanced epoxy resins. An epoxy resin contains an epoxide functional group.

Ethylene Processes - includes any chemical manufacturing process unit in which ethylene and/or propylene are produced by separation from petroleum refining process streams or by subjecting hydrocarbons to high temperatures in the presence of steam. The ethylene process unit includes the separation of ethylene and/or propylene from associated streams such as a C4 product, pyrolysis gasoline, and pyrolysis fuel oil. The ethylene process does not include the manufacture of SOCMI chemicals such as the production of butadiene from the C4 stream and aromatics from pyrolysis gasoline. [Source category added on 4 Jun 96, 61 FR 28197.]

Ethylene-Propylene Rubber Production - includes any facility engaged in the production of ethylene- propylene copolymers or ethylene-propylene terpolymers. Ethylene-propylene copolymers (EPM) result from the polymerization of ethylene and propylene and contain a saturated chain of the polymethylene type. Ethylene-propylene terpolymers (EPDM) are produced in a similar manner as EPM except that a moderate amount of the third monomer is added to the reaction sequence. The third monomer can be either ethylidene norbornene, 1,4-hexadiene, or dicyclopentadience, the most commonly used being ethylidene norbornene. Uses for these elastomers include, but are not limited to, the following sectors: automotive (radiator and heater hoses, weather stripping, door and window seals, gaskets, and various body and chassis parts); industrial (single- ply roofing membranes); construction plastics blending; wire and cable (insulating and jacketing); additives; or other miscellaneous uses. The production process includes, but is not limited to, polymerization, recycle, recovery, and packaging operations. The polymerization reaction occurs under solution or slurry conditions.

Ethylidene Norbornene Production - includes any facility engaged in the production of the diene, ethylidene norbornene, which is typically used as a monomer in the production of ethylene-propylene rubber products. The associated HAP emissions from the production processes include 1,3-butadiene.

Explosives Production - includes any facility engaged in the production of explosives. Explosives are chemical compounds or their mixtures that rapidly produce large volumes of hot gases when properly initiated. The category includes, but is not limited to, facilities that produce primary explosives, such as lead azide, and secondary explosives, such as trinitrotoluene (TNT). [Editor's note: this source category will be regulated under the Miscellaneous Organics NESHAP.]

Ferroalloys Production: Silicomanganese & Ferromanganese (formerly Ferroalloys Production) - includes any facility engaged in producing ferroalloys such as ferrosilicon, ferromanganese, and ferrochrome. A ferroalloy is an alloy of iron and one or more other elements, such as silicon, manganese, or chromium. Ferroalloys are used as additives to impart unique properties to steel and cast iron. Ferroalloys production includes, but is not limited to, the following processes: unloading, storage, sintering, crushing, weigh-feeding, smelting, tapping, casting, and screening. The smelting process can be performed in a variety of furnace types including, but not limited to: submerged electric arc furnaces, induction furnaces, vacuum furnaces, exothermic reaction furnaces, and electrolytic cells.

Flexible Polyurethane Foam Fabrication Operations - includes facilities engaged in cutting, gluing, and/or laminating pieces of flexible polyurethane foam. This includes fabrication operations which are located at the sites of foam production plants as well as those which are located off-site of foam plants. Emissions from foam fabrication primarily result from the use of HAP-based adhesives in the gluing process. Methylene chloride is currently the most frequently used HAP in adhesives. [Source category added on 4 Jun 96, 61 FR 28197.]

Flexible Polyurethane Foam Fabrication Operations (Area Source Rule) - Refer to definition of the major source category.

Flexible Polyurethane Foam Production - includes any facility which manufactures foam made from a polymer containing a plurality of carbamate linkages in the chain backbone (polyurethane). Polyurethane is commonly made by reacting a polyisocyanate with an organic polyhydroxyl material in the presence of water. Application of blowing agents, catalysts, surfactants, and fillers transform the polyurethane into a foam with specialized properties.

Friction Products Manufacturing - includes facilities and processes that manufacture or remanufacture friction products including automobile brake linings and disc pads. HAP are emitted from solvents added during the proportioning and mixing of raw materials and the solvents contained in the adhesives used to bond the linings to the brake shoes. Most HAP emissions occur during heated processes such as curing, bonding and debonding processes. Pollutants from friction products facilities include phenol, toluene, methyl chloroform and methylethylketone. [Source category added on 4 Jun 96, 61 FR 28197.]

Funed Silica Production - includes any facility engaged in the production of fume silica. Fume silica is a fine white powder used as a thickener, thixotropic, or reinforcing agent in inks, resins, rubber, paints, and cosmetics. The category includes the production of fume silica by the combustion of silicon tetrachloride in hydrogen-oxygen furnaces.

Gasoline Distribution (Stage I) - includes the storage and transfer facilities associated with the movement of gasoline. This category includes, but is not limited to, the gasoline vapor emissions associated with the loading of transport trucks or rail cars, storage tank emissions, and equipment leaks from leaking pumps, valves, and connections at bulk terminals, bulk plants, and pipeline facilities. Also included in this category are the storage tank filling operations that occur at public and private gasoline dispensing facilities (e.g., service stations, convenience stores, etc.). [Refer to Appendix 112I.]

Gasoline Distribution (Stage I) (Area Source Rule) - Refer to definition of the major source category.

Gasoline Distribution-Aviation Fuel - includes evaporative losses from the transfer and storage of aviation fuel, and aircraft refueling and associated spillage. This category emitted 78 percent of the estimated 1990 emissions of alkylated lead and is the only known remaining source of alkylated lead emissions. [Source category added on 10 Apr 98, 63 FR 17838.]

Halogenated Solvent Cleaners - includes any facility engaged in any type of solvent cleaning activity occurring within a solvent cleaning unit; it does not include wipe cleaning or other cleaning occurring outside the confines of a cleaning unit. This source category includes, but is not limited to, the following solvents or solvent blends: 1,1,1trichloroethane (TCA), trichloroethylene (TCE), perchloroethylene (PCE) and methylene chloride (MC). These activities include, but are not limited to, open top vapor cleaning, cold batch cleaning, and conveyorized (cold and vapor) cleaning. The sizes of the units range from bench-top units to large, industrial units. The emission points to be considered for regulation in this source category, include process emissions. [Refer to Appendix 112G.]

Hard Chromium Electroplating - includes any facility which deposits a relatively thick layer of chromium directly onto a base metal (usually steel) to provide a surface with wear resistance, a low coefficient of friction, hardness, and corrosion resistance. Hard plating is used for items such as hydraulic cylinders and rods, industrial rolls, zinc die castings, plastic molds, engine components, and marine hardware, or other items or devices. Although other types of operations performed at metal finishing plants involve chromium in some form, this source category includes only those hard chromium electroplating processes that use chromic acid in a electrolytic cell to deposit chromium metal or to form an oxide file on a product. [Refer to Appendix 112F.]

Hazardous Waste Combustors - includes the incineration of hazardous waste which is described as, but is not limited to, a solid waste, or combination of solid wastes which, because of its quantity, concentration, or physical, chemical or infectious characteristics may (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. An incinerator is any furnace, or other device, used in the process of burning waste for the primary purpose of reducing the volume of the waste by removing combustible matter. [Refer to Appendix 112Q.]

Hospital Sterilizers (Area Source Rule) - Definition not yet available.

Hydrazine Production - includes any facility engaged in the production of hydrazine, a colorless, fuming, hygroscopic liquid used in rocket engine fuel, agricultural chemicals, and pharmaceuticals. The category includes, but is not limited to, hydrazine produced by the Rasching process or the ketazine process. [Editor's note: this source category will be regulated under the Miscellaneous Organics NESHAP.]

Hydrochloric Acid Production - includes any facility engaged in the production of hydrochloric acid. The category includes, but is not limited to, production of hydrochloric acid via any of the following methods: (1) production of hydrochloric acid as a by-product in the manufacture of organic chemicals; (2) direct reaction of salts and sulfuric acid (Mannheim process); (3) reaction of a salt, sulfur dioxide, oxygen, and water (Hargreaves process); or (4) burning chlorine in the presence of hydrogen gas.

Hydrogen Fluoride Production - includes any facility engaged in the production of hydrogen fluoride. The category includes, but is not limited to, production of hydrogen fluoride by reacting calcium fluoride with sulfuric acid. [Editor's note: this source category is covered by the Generic MACT NESHAP 40 CFR 63 Subpart YY.]

HypalonTM Production - includes any facility engaged in the production of HypalonTM. HypalonTM is produced by reacting polyethylene with chloric, and sulfur dioxide, transforming the thermoplastic polyethylene into a vulcanizable elastomer. The reaction is conducted in a solvent (carbon tetrachloride) reaction medium. HypalonTM (chlorosulfonated polyethylene) is a synthetic rubber produced for uses such as wire and cable insulation, shoe soles and heels, automotive components, and building products.

Industrial Boilers - includes boilers used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity. The category includes, but is not limited to, boilers fired by wood, coal, oil, natural gas, waste-type fuel, and mixed or other fuel. Boiler types include watertube and firetube. Firing methods include pulverized dry bottom, pulverized wet bottom, underfeed stoker, spreader stoker, and hand stoker. [Refer to Appendix 112R.]

Dry Cleaning (Perchloroethylene)- Dry-to-Dry Machines, Industrial - includes facilities engaged in cleaning rental uniforms, and other items (such as cleaning rags) used by business, industrial, and institutional customers. The category includes facilities that use perchloroethylene (PCE) as a cleaning agent. Not included in this source category are facilities that use petroleum solvents or 1,1,1-trichloroethane (TCA) as cleaning agents. This category includes dry-to-dry cleaning operations (one single unit) only. [Refer to Appendix 112D.]

Dry Cleaning (Perchloroethylene)- Transfer Machines, Industrial - includes facilities engaged in cleaning rental uniforms, and other items, (such as cleaning rags) used by business, industrial, and institutional customers. The category includes facilities that use perchloroethylene (PCE) as a cleaning agent. Not included in this source category are facilities that use petroleum solvents or 1,1,1-trichloroethane (TCA) as cleaning agents. This category includes transfer cleaning operations and separate washing and drying units which are separate machines. [Refer to Appendix 112D.]

Industrial Inorganic Chemical Manufacturing (Area Source Rule) - Definition not yet available.

Industrial Organic Chemical Manufacturing (Area Source Rule) - Definition not yet available.

Industrial Process Cooling Towers - includes cooling towers located at any industrial site. In addition to industrial cooling towers which are major source emitters of HAP'S, this category includes industrial cooling towers co-located at the individual facilities covered under other categories of major sources. [Refer to Appendix 112U.]

Institutional/Commercial Boilers - includes, but is not limited to, boilers used in commercial establishments, medical centers, research centers, institutions of higher education, hotels, and laundries to provide electricity, steam, and/or hot water. The category includes, but is not limited to, boilers fired by wood, coal, oil, natural gas, waste- type fuel, and mixed or other fuel. Firing methods include pulverized dry bottom, 'pulverized wet bottom, underfeed stoker, spreader stoker, and hand stoker. Boiler types include watertube and firetube. [Refer to Appendix 112R.]

Integrated Iron and Steel Manufacturing - includes any integrated iron and steel facility engaged in producing steel. Integrated Iron and Steel Manufacturing includes the following processes: sinter production, iron production, iron preparation (hot metal desulfurization), steel production, semifinished product preparation, finished product preparation, and handling and treatment of raw, intermediate, and waste materials. The iron production process includes the production of iron in blast furnaces by the reduction of iron-bearing materials with a hot gas. The steel production process includes basic oxygen furnaces and open hearth furnaces.

Iron Foundries - includes any facility engaged in producing final shape castings from grades of iron that include, but are not limited to, gray iron (also known as pig iron), malleable iron (also known as white cast iron), and ductile iron (also known as nodular cast iron). Gray iron is a high-carbon iron that serves as the basic raw material for steel and cast iron. Malleable iron contains about three percent carbon, in the form of cementite and fine pearlite, and contains little or no graphite. Ductile iron is gray iron which has been treated with magnesium (0.01 - 1.0 percent). The Iron Foundries category includes the following four major production steps: raw materials handling and preparation, metal melting, mold and core production, and casting and finishing. Raw materials handling and preparation includes the following processes: receiving, unloading, storing, and conveying of all raw materials for both furnace charging and mold and core preparation. Metal melting includes, but is not limited to, the following processes: furnace charging, melting, backcharging, refining and treatment, slag removing, and tapping. casting and finishing includes the following steps: tapping of molten metal into ladle, ductile iron inoculation, molten metal treatment with magnesium, ladling into molds, transport to cooling area, removal of unwanted appendages, and abrasive blast cleaning and/or tumbling.

Large Appliance (Surface Coating) - includes any facility engaged in the surface coating of any large appliance part or product. The category includes, but is not limited to, coating of the following large, metal appliance parts or products: ranges, conventional ovens, microwave ovens, refrigerators, freezers, washers, dryers, dishwashers, water heaters or trash compactors manufactured for household, commercial, or recreational use.

Leather Tanning and Finishing Operations - includes facilities and processes that use chemical and mechanical processes to produce leather having hundreds of different finished characteristics. Leather tanning involves primarily wet chemical processes that produce a stable, usable product. Leather finishing involves a number of conditioning and enhancement processes that give tanned leather distinctive and desirable qualities required by end users of the material. Sources of HAP emissions in the leather tanning and finishing processes include leather finishing operations, waterproofing operations, solvent degreasing operations, and miscellaneous fugitive sources. HAP from this category include toluene, xylene, glycol ethers, methyl isobutyl ketone, and methyl ethyl ketone. [Source category added on 4 Jun 96, 61 FR 28197.]

Lightweight Aggregate Manufacturing - [Editor's note: EPA separated the Clay Products Manufacturing category into four distinct categories of which this is one. Clay Products Manufacturing - includes any facility engaged in manufacturing of clay products such as brick, vitrified clay pipe, structural clay tile, and clay refractories. The category includes, but is not limited to, the following processes: grinding; screening and blending of the raw materials; cutting or forming; and drying, curing, and firing.]

Lime Manufacturing - includes any facility engaged in producing high calcium lime, dolomitic lime, and dead burned dolomitic. Lime is the high temperature product of the calcination of limestone. The basic processes in the production of lime are: quarrying raw limestone, preparing limestone for the kilns by crushing and sizing, calcining limestone, processing the lime further by hydrating, and miscellaneous transfer, storage, and handling operations. This category includes, but is not limited to, the following process units: crushing and sizing units, rotary kilns, vertical/shaft kilns, rotary hearth kilns, fluidized bed kilns, and hydrators. Also included in the lime kiln category are a facility's associated lime storage and handling.

Magnetic Tape Manufacturing Operations - includes any facility engaged in the surface coating of magnetic tapes. The category includes, but is not limited to, the following magnetic tape products: audio and video recording tape, computer tape, the magnetic stripes on media involved in credit cards and toll tickets, bank transfer ribbons, instrumentation tape, and dictation tape.

Maleic Anhydride Copolymers Production - includes any facility engaged in the manufacturing of maleic anhydride copolymers. The category includes, but is not limited to the copolymerization of maleic anhydride with one or more of the following monomers: ethylene, styrene, methyl vinyl ether and vinyl chloride (i.e., ethylene-maleic anhydride, and styrene-maleic anhydride). Some of the uses of maleic anhydride copolymers are for oil-well drilling muds, stabilizers and thickeners. The production processes include operations such as step-growth and chain- growth polymerization.

Manufacture of Paints, Coatings, and Adhesives - includes any facility engaged in their manufacture without regard to the particular end-uses or consumers of such products. The manufacturing of these products may occur in any combination at any facility.

Manufacturing of Nutritional Yeast (formerly Baker's Yeast Manufacturing) - includes any facility engaged in manufacturing nutritional yeast by fermentation (both active dry yeast and compressed yeast). The category includes, but is not limited to, the following manufacturing process units: fermentation vessel, and drying and packaging system.

Marine Tank Vessel Loading Operations - includes marine terminals which emit HAP from the direct loading and unloading of bulk liquids from marine vessels. This category does not include emissions from offshore vessel-to-vessel bulk liquid transfer operations (i.e., lightering operations). The reader is also referred to a 19 Sept 95 notice (60 FR 48399) for specific applicability of the marine vessel loading operations source category. [Source category added on 12 Nov 93, 58 FR 60021. Refer to Appendix 112U.]

Mercury Cell Chlor-Alkali Plants (Area Source Rule) - Definition not yet available.

Metal Can (Surface Coating) - includes any facility engaged in the surface coating of two-piece or three- piece metal cans or can parts. A two-piece can consists of a body manufactured and formed from a single piece of metal and a separate top end. A three- piece can consists of a cylindrical body formed from a sheet of metal and separate top and bottom ends.

Metal Coil (Surface Coating) - includes any facility engaged in the surface coating of metal coil. Metal coil is defined as any continuous metal strip (with a thickness of 0.15 mm or more) that is packaged in a roll or coil.

Metal Furniture (Surface Coating) - includes any facility engaged in the surface coating and manufacture of metal furniture parts or products. Such products may include chairs, tables, cabinets and bookcases.

Methyl Methacrylate-Acrylonitrile-Butadiene-Styrene (MABS) Production - includes any facility which manufactures styrenic polymers containing methyl methacrylate, acrylonitrile, 1,3-butadiene, and styrene. The MABS copolymers are prepared by dissolving or dispersing polybutadiene rubber in a mixture of methyl methacrylate-acrylonitrile-styrene and butadiene monomer. The graft polymerization is carried out by a bulk or a suspension process.

Methyl Methacrylate-Butadiene-Styrene (MBS) Terpolymers Production - includes any facility which manufactures styrenic polymers containing methyl methacrylate, 1,3-butadiene, and styrene. Production of MBS terpolymers is achieved using an emulsion process in which methyl methacrylate and styrene are grafted on to a styrene-butadiene rubber.

Methylcellulose Production - includes any facility engaged in the production of methylcellulose, a water- soluble resin. The category includes, but is not limited to, any facility that converts cellulose to alkali cellulose which is then reacted with methyl chloride, dimethyl sulfate, or reethanol and dehydrating agents. Methylcellulose may be used as a protective colloid; as a gum and thickener in pharmaceuticals, cosmetics, adhesives, paint, concrete, and gypsum; for film and sheeting; for leather tanning, as a dispersing and sizing agent; as a food additive; and as a binder in ceramic glazes. The Methylcellulose Production processes include operations such as polymerization and etherification.

Mineral Wool Production - includes any facility engaged in producing mineral wool fiber from slag or rock. Mineral wool is a material used mainly for thermal and acoustical insulation. This category includes, but is not limited to, the following process units: a cupola furnace for melting the mineral charge; a blow chamber in which air and, in some cases, a binder is drawn over the fibers forming them to a screen, a curing oven to bond the fibers, and a cooling compartment.

Miscellaneous Metal Parts and Products (Surface Coating) - includes any facility engaged in the surface coating of miscellaneous metal parts and products such as: magnet wire; medium/heavy duty trucks; large farm machinery (tractors, harvesting, fertilizing, and planting machines, combines, etc.); small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.); small appliances (fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, etc.); commercial machinery (computer and auxiliary equipment, typewriters, calculators, vending machines, etc.); industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.); railroad transportation; and fabricated metal products (metal covered doors, frames, etc.). The source category does not include the surface coating of metal parts covered under other distinct source categories. [Refer to Appendix 112L.]

Municipal Landfills - is described as an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. A municipal landfill may also receive commercial waste, sludges, and industrial waste. Household waste means any solid waste (including, but not limited to, garbage, trash, and sanitary waste in septic tanks) derived from households (including, but not limited to, single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas). Commercial waste includes, but is not limited to, solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes. Sludge includes, but is not limited to, any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant. Industrial solid waste means solid waste generated by manufacturing or industrial processes, that is not a hazardous waste regulated under subtitle C of the Resource Conservation and Recovery Act. Such waste may include, but is not limited to, waste from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products/byproducts; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste. Portions of an MSW landfill may be separated by access roads. An MSW landfill may be publicly or privately owned.

Municipal Landfills (Area Source Rule) - Refer to definition of the major source category.

Natural Gas Transmission and Storage - includes transmission pipelines used for the long distance transport of natural gas and underground natural gas storage facilities. These facilities typically extend from the natural gas processing plant to the local distribution company that delivers natural gas to the final end user. In cases where there is no processing, these facilities may be located anywhere from the well to the final end user. Types of industry under this category involve condensate tank batteries, glycol dehydration units, natural gas processing plants, and natural gas transmission and storage facilities. [Source category added on 6 Feb 98, 63 FR 8288.]

Neoprene Production - includes any facility which polymerizes chloroprene (2-chloro-1,3-butadiene). The free radical emulsion process is generally used to produce neoprene, although other methods may be used.

Nitrile Resins Production - includes any facility which polymerizes acrylonitrile, methyl acrylate, and butadiene latex using an emulsion process. [Source category added on 29 Mar 95, 60 FR 16090.]

Nitrile Butadiene Rubber Production - includes any facility which manufactures copolymers of unsaturated nitriles and dienes, usually acrylonitrile and 1,3- butadiene. The emulsion, bulk, or solvent processes are generally used to produce nitrile rubber, although other methods may be used.

Non-Nylon Polyamides Production - includes any facility engaged in manufacturing non-nylon polyamide polymers. At least 85 percent of the recurring amide linkages in non-nylon polyamides are aromatic in structure (aromatic polyamides). The category includes, but is not limited to, non-nylon polyamide polymers produced for use in flame resistant clothing, dust-filter bags, tire cord, bullet-resistant structures, electrical insulation, filtration, conveyor belts, ironing board covers, carpets, upholstery, drapes, boat covers, tents and parachutes. Non-Nylon Polyamide Production includes operations such as direct amidation, polymerization, and condensation.

Oxybisphenoxarsine (OBPA)/1,3-Diisocyanate Production - includes any facility engaged in the production of oxybisphenoxarsine (OBPA) or 1,3-Diisocyanate. Oxybisphenoxarsine is a fungicide combined with rubber to prevent mold growth on gaskets and seals, and 1,3- diisocyanate is an intermediate in the production of polyurethane resins. Both production processes use chloroform as a solvent.

Off-Site Waste and Recovery Operations (formerly Solid Waste Treatment, Storage, and Disposal Facilities (TSDF)) - includes facilities that treat, store, or dispose of any solid waste received from off-site, as well as facilities that recycle, recover, and re-refine wastes received from off-site. Treatment is described as any method, technique, or process designed to change the physical, chemical, or biological character of the waste. Storage means the holding of waste for a temporary period, at the end of which the waste is treated, disposed of, or stored elsewhere. Disposal is defined as the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that such solid waste, or constituent thereof, may enter the environment or be emitted into the air or discharged into any waters, including ground waters. Recovery is defined as the removal or recapture of a usable product or products from waste. Recycling or re-refining is defined as the processing of a waste either to regenerate or to recover a usable product. [Editors' note: EPA changed the title to emphasize that it applies to facilities that process waste received from off-site. Also EPA changed this definition by removing the word commercial. It now applies to both commercial and noncommercial facilities. Refer to Appendix 112N.]

Oil and Natural Gas Production - includes the processing and upgrading of crude oil prior to entering the petroleum refining process and natural gas prior to entering the transmission line. This source category excludes the aggregation of oil or gas exploration or production wells (and equipment associated with individual wells) and emissions from any pipeline compressor or pump stations. The production and processing phases for crude oil include, but are not limited to, the following: removal of water, salts, and solids, and removal of entrained gases. The production and processing phases for natural gas include, but are not limited to, the following: removal of sulphur and other contaminants. The emissions sources associated with these phases include, but are not limited to, equipment leaks, storage tanks, power generating equipment, wastewater treatment, and process vents. Processes that may have vents include, but are not limited to, dehydration, sour gas processing (sweetening), and dewatering.

Oil and Natural Gas Production (Area Source Rule) - Refer to definition of the major source category.

Open Burning of Scrap Tires – includes the category that accounts for the largest portion of polycyclic organic matter emissions from sources that remain unregulated in 1997. Although scrap tires are not routinely burned in the open, there are numerous storage piles of scrap tires across the country created through both legal and illegal practices. These storage piles are often set on fire by arson, accident, or natural causes such as lightning. Some states and organizations have created rules and guidelines designed to reduce and eventually eliminate the fire threat posed by stockpiled tires. The EPA will consider these efforts in developing a standard for this source category. [Source category added on 10 Apr 98, 63 FR 17838.]

Organic Liquids Distribution (Non-Gasoline) - includes, but is not limited to, those activities associated with the storage and distribution of organic liquids other than gasoline, at sites which serve as distribution points from which organic liquids may be obtained for further use and processing.

Paint Stripping Operations (formerly Paint Stripper Users) - includes any facility engaged in commercial or industrial paint stripping. The paint stripping process involves four basic steps. First, paint stripper is applied to the surface to be stripped. Second, the stripper is allowed to penetrate or dissolve the coating. Third, the paint and residual stripper are removed from the treated surface. Finally, the stripped paint is cleaned up and disposed. The category includes, but is not limited to, original equipment manufacturing and maintenance facilities engaged in the paint stripping of paint spray booths, paint stripping in large open areas, and paint stripping in dip tanks, and other high volume/high usage activities that use methylene chloride, or other HAP's in the removal of paints or other coatings. [Refer to Appendix 112M.]

Paint Stripping Operations (Area Source Rule) - Refer to definition of the major source category.

Paper and Other Webs (Surface Coating) - includes any facility engaged in the coating of paper, plastic film, metallic foil, and other web surfaces. The category may include, but is not limited to, decorative coatings on gift wraps or packaging. This category does not include paper or other web printing operations covered under the source category of Printing/Publishing.

Pesticide Active Ingredient (PAI) Production - includes any facility engaged in the manufacture of a PAI. PAI means any material that is an active ingredient within the meaning of FIFRA section 2(a); that is used to produce an insecticide, herbicide, or fungicide end use pesticide product; that consists of one or more organic compounds; and that must be labeled in accordance with 40 CFR part 156 for transfer, sale, or distribution. These materials are typically described by North American Industrial Classification System (NAICS) Codes 325199 and 32532 (i.e., previously known as Standard Industrial Classification System Codes 2869 and 2879). These materials are identified by product classification codes 01, 21, 02, 04, 44, 07, 08, and 16 in block 19 on EPA form 3540-16, the Pesticides Report for Pesticide-Producing Establishments. [Editor's note: on 18 Nov 99 (64 FR 63025), this source category subsumed (absorbed) the following eleven specific PAI chemical source categories: 4-Chloro-2-Methylphenoxyacetic Acid Production, 2,4-D Salts and Esters Production, 4,6-Dinitro-o-Cresol Production, Butadiene-Furfural Cotrimer (R-11) Production, Captafol Production, Captan Production, and Tordon (tm) Acid Production.]

Petroleum Refineries -- Catalytic Cracking (Fluid and Other) Units, Catalytic Reforming Units, and Sulfur Plant Units - includes any facility engaged in producing gasoline, naphthas, kerosene, jet fuels, distillate fuel oils, residual fuel oils, lubricants, or other Products from crude oil or unfinished petroleum derivatives. This category includes the following refinery process units: catalytic cracking (fluid and other) units, catalytic reforming units, and sulfur plant units.

Petroleum Refineries - Other Sources Not Distinctly Listed - includes any facility engaged in producing gasoline, naphthas, kerosene, jet fuels, distillate fuel oils, residual fuel oils, lubricants, or other products from crude oil or unfinished petroleum derivatives. The category includes refinery process units not listed in the Petroleum Refineries - Catalytic Cracking (Fluid and Other) Units, Catalytic Reforming units, and Sulfur Plant Units Source Category. The refinery process units in this source category include, but are not limited to, thermal cracking, vacuum distillation, crude distillation, hydroheating/ hydrorefining, isomerization, polymerization, lube oil processing, and hydrogen production.

Pharmaceuticals Production - includes any facility engaged in manufacturing, fabricating or processing pharmaceuticals for either human or veterinary uses. The category includes both bulk pharmaceuticals (active ingredients) and final pharmaceutical products. The main processes and operations used in pharmaceutical manufacture are chemical synthesis, fermentation, biological extraction, fractionation, botanical extraction, product coating, formulation, and packaging. Processes using HAP reactants, producing HAP's (if .any) or using process aids that are HAP's are those that will be subject to MACT standards. Example production activities are: Production of blood and blood derivatives, vaccines, antitoxins, diagnostics, and other biological for human or veterinary use. Production of synthetic organic and inorganic medicinal chemicals, as well as botanicals produced and shipped in bulk. Production of pharmaceutical preparations such as ampuls, tablets, capsules, vials, ointments, medicinal powders, solutions, and suspensions for human or veterinary use. Production of cosmetic preparations which function primarily as skin treatments. Production of products with multiple end uses, where at least one use is as a component of a pharmaceutical preparation (i.e., fillers, binders and capsules). Pharmaceutical research which includes biological, and chemical research, product development, clinical and pilot plant activities.

Phenolic Resins Production - includes any facility which manufactures synthetic resin obtained by the condensation polymerization of phenol and/or substituted phenols with aldehydes such as formaldehyde, acetaldehyde, and furfural. This source category includes, but is not limited to, phenol- formaldehyde, phenol-furfural, and resorcinol-formaldehyde.

Phosphate Fertilizers Production - includes any facility engaged in the production of phosphate-based fertilizers including, but not limited to, plants with bulk-blend processes, fluid-mix processes, or ammonia granulation processes. Examples of phosphate fertilizers are: ammonium phosphates, triple superphosphates, and diammonium phosphates.

Phosphoric Acid Manufacturing - includes any facility engaged in the production of phosphoric acid. The category includes, but is not limited to, production of wet-process phosphoric acid and superphosphoric acid.

Photographic Chemicals Production - includes any facility engaged in the production of photographic chemicals, including, but not limited to, chemicals for black and white photo processing, color photo processing, and film, plate and paper manufacturing. The category includes the process units involved in the manufacture of the following chemicals: developing agents, activators, preservatives, restrainers, calcium precipitants, wetting agents, neutralizers, fixatives, hardeners, intensifiers, and reducers.

Phthalate Plasticizers Production - includes any facility engaged in the manufacture of phthalate plasticizers using phthalic anhydride as a reactant. Plasticizers are additives that soften and increase flexibility of inherently rigid, and even brittle, polymers such as polyvinyl chloride (PVC). Phthalate plasticizers are a family of monomeric plasticizers.

Plastic Materials and Resins Manufacturing (Area Source Rule) - Definition not yet available.

Plastic Parts and Products (Surface Coating) - includes any facility engaged in the surface coating of plastic parts and products, including panels, housings, bases, covers, and other components formed of synthetic polymers. The category includes, but is not limited to, the surface coating of the following plastic parts and products: business machines (typewriters, computers, calculators, telephones, telegraph equipment, photocopy machines, etc.); entertainment equipment (radios, recorders, televisions, etc.); automotive, truck and other transportation parts (fascia, bumpers, dashboards, doors, etc.); and miscellaneous plastic parts (gas pumps, toys, doors, window frames, signs, etc.).

Plywood & Composite Wood Products (formerly Plywood/Particle Board Manufacturing) - includes any facility engaged in the manufacturing of plywood and/or particle boards. This category includes, but is not limited to, manufacturing of chip waferboard, strandboard, waferboard, hardboard/cellulosic fiber board, oriented strandboard (OSB), hardwood plywood, medium density fiberboard, particle board, softwood plywood, or other process using wood and binder systems. Emissions of HAP's have been associated with, but are not limited to, the drying of binders.

Polybutadiene Rubber Production - includes any facility which polymerizes 1,3-butadiene. Polybutadiene may be produced by the solution or emulsion polymerization processes, although other methods may be used.

Polycarbonates Production - includes any facility which manufactures a special class of polyester formed from any dihydroxy compound and any carbonate diester or by ester interchange. Polycarbonates may be produced by solution or emulsion polymerization, although other methods may be used. A typical method for the manufacture of polycarbonates includes the reaction of bisphenol-A with phosgene in the presence of pyridine to form a polycarbonate. Methylene chloride is used as a solvent in this polymerization reaction. [Editor's note: this source category is covered by the Generic MACT NESHAP 40 CFR 63 Subpart YY.]

Polyester Resins Production - includes any facility which manufactures homopolymers or copolymers formed when a difunctional alcohol is reacted with a dibasic acid or anhydride. Polyester resin is usually produced by condensation polymerization, although other methods may be used. However, only those processes emitting HAP's will be considered for the application of standards.

Polyether Polyols Production - includes any facility which manufactures these polymers by starting with cyclic ethers (e.g., oxides, epoxides, etc.) and initiating polymerization by adding ethylene oxide, butylene oxide, propylene oxide or other chemicals which would result in the potential emission of HAP'S. The reaction is base-catalyzed, with potassium hydroxide being the most.commonly used catalyst. The physical properties of the polyols are influenced primarily by the functionality of the initiator molecules and by the type and quantity of alkylene oxide and hydroxyl groups present in the polyol.

Polyethylene Terephthalate (PET) Production - includes any facility which manufactures a polyester formed from ethylene glycol. Polyethylene terephthalate is usually produced by the dimethyl terephthalate (DMT) process or the terephthalic acid (TPA) process, although other methods may be used.

Polymerized Vinylidene Chloride Production - includes any facility which manufactures a homopolymer or copolymer using vinylidene chloride as the principle monomer unit. Polyvinylidene chloride may be produced by using the solution, slurry, suspension, or emulsion polymerization process, although other methods may be used.

Polymethyl Methacrylate Resins Production - includes any facility which manufactures homopolymers or copolymers consisting of methyl methacrylate monomer units. Other additions such as ultralight light absorbers, dyes, pigments, etc., may also be included. Methods for polymerization of methyl methacrylate include, but are not limited to, bulk, solution, emulsion, and suspension processes.

Polystyrene Production - includes any facility which manufactures homopolymers or copolymers consisting of styrene units. Styrene may be copolymerized with elastomers to form impact polystyrene or rubber- modified polystyrenes. The styrene content of impact polystyrene (IPS) is approximately 88 to 97 percent, by weight. Polystyrene can be produced by bulk (mass), solution, suspension, or emulsion polymerization.

Polysulfide Rubber Production - includes any facility engaged in the production of polysulfide rubber, a synthetic rubber. This rubber is resilient and has low temperature flexibility. The polysulfide elastomers Thiokol FATM and Thiokol STTM are compounded in standard rubber processing equipment (i.e., rubber mills or sigmoid-bladed mixers). The process steps involved in polysulfide rubber production include the following: preparation of sodium sulfide from aqueous caustic and aqueous sodium hydroxide sulfide in a polar solvent, removal of water from this feedstock by distillation, production of polymer from the sodium sulfide stream and p-dichlorobenzene at elevated temperature in the polar solvent, polymer recovery, washing to remove the sodium chloride produced as a by-product, drying and packaging.

Polyvinyl Acetate Emulsions Production - includes any facility which manufactures polymers of vinyl acetate units dispersed in water. Polyvinyl acetate can be made by bulk, solution, suspension, and emulsion polymerization techniques.

Polyvinyl Alcohol Production - includes any facility which manufactures polymers produced by replacing the ester groups of polyvinyl acetate or other polyvinyl ester with hydroxyl groups although other methods may be used. Polyvinyl alcohol production usually involves alcoholysis in methanol or ethanol using an acid catalyst.

Polyvinyl Butyral Production - includes, but is not limited to, any facility which manufactures polymers produced by reacting polyvinyl alcohol with a butyraldehyde. Polyvinyl butyral may be produced by condensation polymerization, although other methods may be used.

Polyvinyl Chloride and Copolymers Production - includes any facility which manufactures polymerized vinyl chloride. Polyvinyl Chloride may be produced by the suspension, mass emulsion/dispersion, and solution processes, although other methods may be used.

Portland Cement Manufacturing - includes any facility engaged in manufacturing portland cement by either the wet or dry process. The category includes, but is not limited to, the following process units: kiln, clinker cooker, raw mill system, finish mill system, raw mill dryer, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging, and bulk loading and unloading systems.

Primary Aluminum Production - includes any facility engaged in producing primary aluminum by electrolytically reducing alumina. The category includes, but is not limited to, the following process units: carbon mix plants, reduction plants, anode bake plants, holding furnaces in the casting area, casting processes, and refining processes. The reduction plant consists of electrically linked cells which can be one of the following types: prebake, horizontal stud Soderberg, and vertical stud Soderberg. Reduction plants using prebake cells require a separate anode bake plant facility, which utilizes either a ring furnace or tunnel kiln in anode production.

Primary Copper Smelting - includes any facility engaged in the pyrometallurgical process used for the extraction of copper from sulfur oxides, native ore concentrates, or other copper bearing minerals. The category includes, but is not limited to, the following smelting process units: roaster, smelting furnace, and converter. The roaster smelting process unit can utilize a multiple-hearth roaster or a fluid- bed roaster. The smelting furnace process unit can utilize a fossil fuel-fired reverberatory furnace, electric furnace, Outo-kumpu flash furnace, Noranda continuous smelter, Inco flash smelting furnace, or other furnace type. The converter process unit can consist of a Smith, "siphon," or other type converter.

Primary Lead Smelting - includes any facility engaged in producing lead metal from ore concentrates. The category includes, but is not limited to, the following smelting processes: sintering, reduction, preliminary treatment, and refining operations. The sintering process includes an updraft or downdraft sintering machine. The reduction process includes the blast furnace, electric smelting furnace with a converter or reverberatory furnace, and slag fuming furnace process units. The preliminary treatment process includes the drossing kettles and dross reverberatory furnace process units. The refining process includes the refinery process unit.

Primary Magnesium Refining - includes any facility engaged in producing metallic magnesium. The source category includes, but is not limited to, metallic magnesium produced using the Dow sea-water process or the Pidgeon process. The Dow sea-water process involves the electrolysis of molten magnesium chloride. The Pidgeon process involves the thermal reduction of magnesium oxide with ferrosilicon.

Printing, Coating, and Dyeing of Fabrics - includes any facility engaged in those operations. In fabric printing, a decorative pattern or design is applied to fabric by methods such as roller, flat screen, or rotary screen. Fabric coating is an operation that imparts to a textile substrate additional properties such as strength, stability, water or acid repellency, or other specific characteristics of appearance. Fabric dyeing is the process in which color is added to a substrate. This category includes, but is not limited to, coating of industrial and electrical tapes, tire cord, utility meter seals, imitation leathers, tarpaulins, shoe material, and upholstery fabrics.

Printing/Publishing (Surface Coating) - includes the application of inks utilizing a graphics arts operation to any substrate including, but not limited to, paper, plastic, metal foil, wood, vinyl, metal, and glass. This category does not include the printing of fabric. The source category includes facilities which use lithography, rotogravure, and other methods to print products such as magazines, newspaper supplements, packaging, and wallpaper.

Process Heaters - includes, but is not limited to, secondary metals process heaters, petroleum and chemical industry process heaters, and other process heaters. A process heater is defined as a piece of equipment (usually a furnace-type device) used to heat chemical process stream materials (liquids, gases, or solids) in plant or on-site operations. Heater types include, but are not limited to,, direct-fired, indirect-fired, and pebble heaters. The category includes process heaters fired by natural gas, oil, coal, wood, waste, mixed, and other types of fuel. [Refer to Appendix 112R.]

Publicly Owned Treatment Works (Area Source Rule) - Refer to definition of the major source category.

Publicly Owned Treatment Works (POTW) - includes emissions from wastewaters which are treated at a POTW. These wastewaters are produced by industrial, commercial, and domestic sources. Emissions from these wastewaters can occur within the collection system (sewers) as well as during treatment at the POTW. Control options include, but are not limited to, reduction of HAP's at the source before they enter the collection system, add-on emission controls on the collection system and at the POTW, and/or treatment process modifications/substitutions. [Editor's Note: The definition of POTW in the final rule includes certain federally owned treatment works (FOTW). Refer to Appendix 112P.]

Pulp and Paper Production - includes any facility engaged in the production of pulp and/or paper. This category includes, but is not limited to, integrated mills (where pulp alone or pulp and paper or paperboard are manufactured on-site), non-integrated mills (where paper or paperboard are manufactured, but no pulp is manufactured on-site), and secondary fiber mills (where waste paper is used as the primary raw material). Examples of pulping methods include Kraft, soda, sulfite, semi-chemical, and mechanical. The pulp and paper production process units include operations such as pulping, bleaching, and chemical recovery.

Quaternary Ammonium Compounds Production - includes any facility engaged in the production of quaternary ammonium compounds, which are usually tetra- substituted ammonium salts. Quaternary ammonium compounds are produced by the reaction of a tertiary amine with an alkylating agent, usually an alkyl ester; other methods can be used depending on the desired product.

Rayon Production - includes any facility engaged in manufacturing fibers composed of regenerated cellulose as well as manufactured fibers composed of regenerated cellulose in which substituents have replaced not more than 15 percent of the hydrogens of the hydroxyl groups. The source category includes production of regular (conventional) rayon, modified high tenacity rayon, high-wet-modulus rayon, and polymosic rayon. The category also includes polymerization reactions, washing, stretching, cutting (into staple), crimping, twisting, drying and packaging processes. The category includes, but is not limited to the following production process units: mixers, filters, reactors, finishing baths, polymer dryers, pelletizers, stretching, cutting, crimping and twisting units, packaging and transport systems. [Editor's note: On 18 Nov 99 (64 FR 63025), EPA announced their intention to combine this source category with three other source categories into a new category called Miscellaneous Vicose Processes.]

Reciprocating Internal Combustion Engines (formerly Stationary Internal Combustion Engines) - includes utility, industrial, and commercial reciprocating internal combustion engines used for compressor and pump drives, electricity generation, and other industrial processes. The category includes, but is not limited to, internal combustion engines that are fueled by gasoline, diesel fuel, natural gas, sewage gas, and any other types of fuel. [Refer to Appendix 112R.]

Refractories Manufacturing (formerly Chromium Refractories Production) - includes any facility engaged in producing chromium-containing refractories. Refractories are heat-resistant materials which are used to build or line high- temperature industrial furnaces. Chromium-containing refractories are produced from chrome ore or chromic oxide along with other raw materials such as alumina, zirconia, silica, and magnesia. This category includes, but is not limited to, facilities which manufacture magnesia-chrome, chrome-magnesite, chrome- alumina, and chromic oxide refractories. Also included are facilities which manufacture either formed (bricks) or unformed (mortar, castables) chromium- containing refractories. The production of chromium refractory materials can contain from one to four general operations, depending on the type being produced. These operations include raw materials processing, forming, firing, and final product preparation. Production processes for producing chromium-containing refractories include the fusion- casting, casting, and pressing processes. The processes differ most prominently in the forming and firing operations. In the fusion-casting process, the processed raw materials are fusion-melted together in an electric arc furnace and cast into molds. In the casting and pressing processes, the raw materials are mixed, cast into molds or pressed into bricks, and then fired in a kiln.

Reinforced Plastic Composites Production - includes any facility engaged in the manufacturing of homopolymers and/or copolymers which contain materials designed to enhance the chemical, physical, and/or thermal properties of the polymer. This category includes, but is not limited to, processing techniques such as hard layup and spray layup of gel coats that incorporate styrene.

Research and Development Facilities - Source category is not yet listed.

Rocket Testing Facilities (formerly Rocket Engine Test Firing) - includes any facility engaged in the test firing of rocket engines. The category includes facilities which test fire rocket engines to determine performance specifications or compliance with other functional standards. The category includes, but is not limited to, test firing of solid and liquid fuel rocket engines. [Refer to Appendix 112E.]

Rubber Chemicals Manufacturing - includes any facility engaged in the manufacturing of rubber-processing chemicals. Rubber-processing chemicals are synthetic organic compounds that are added to natural or synthetic rubber to produce or enhance specific properties in the final product. The category includes, but is not limited to, the manufacturing of rubber-processing chemicals such as Vulcanizing agents, accelerators, antioxidants, antiozonants, peptizing agents, tackifying agents, vulcanizing retarders, bonding agents, and lubricants.

Rubber Tire Manufacturing (formerly Tire Production) - includes, but is not limited to, any facility engaged in producing passenger car and light duty truck tires, heavy duty truck tires, off-the-road tires, aircraft tires, and miscellaneous other tires. The category includes the following processes: rubber compounding; tread rubber, cord and bead production; tire building; green tire spraying; and tire curing and finishing.

Secondary Aluminum Production - includes any facility engaged in the cleaning, melting, refining, alloying, and pouring of aluminum recovered from scrap, foundry returns., and dross, to form aluminum products such as alloy ingots, billets, notched bars, shot, hot metals, and hardeners. The category includes, but is not limited to, the following process steps: inspection, sorting, pretreatment, smelting/refining, and coating. The pretreatment of the aluminum scrap, foundry returns, and dross can include.the following treatments: crushing/screening, bailing, shredding, burning, drying, hot dross processing, dry milling, leaching, roasting, and sweating. The smelting/refining of the treated aluminum scrap includes, but is not limited to, the following steps: charging, melting, fluxing, alloying, mixing, demagging, degassing, skimming, and pouring. Smelting/refining incorporates the following processes: reverberating (chlorine) smelting/refining, reverberating (fluorine) smelting/refining, crucible smelting/refining, and induction smelting/refining.

Secondary Lead Smelting - includes any facility engaged in the production of purified lead from lead scrap by melting and separating lead from metal and nonmetallic contaminants and by reducing lead compounds to elemental lead. The category includes processes associated with secondary lead smelting such as battery breaking, smelting in reverberatory, blast, rotary and electric furnaces, refining, alloying and casting. [Refer to Appendix 112U.]

Semiconductor Manufacturing - includes any facility engaged in the manufacturing of p-type and n-type semiconductors. Semiconductors may be crystalline (e.g., GaAs, GaP, GaSb), amorphous, or organic. The source category encompasses the manufacture of any class of materials that exhibit electrical conductivities between those of conductors (metals) and non-conductors (insulation). The category includes production processes such as crystal growth, synthesis, doping, chemical modification, diffusion, metathesis and electrolysis processes.

Shipbuilding and Ship Repair (Surface Coating) - is the surface coating of ships and ship assemblies in public and private shipyards. [Refer to Appendix 112K.]

Site Remediation - includes the cleanup of sites that possess contaminated media. Sites undergoing remediation of contaminated media include, but are not limited to, National Priorities List Sites, Corrective Action Sites, and underground storage tank sites. Units requiring cleanup can include hazardous waste dumps, industrial surface impoundments, leaking tanks, and municipal, industrial, and combined landfills. site remediation includes, but is not limited to, the following activities: contaminated soils cleaning; soil vapor extraction (SVE); groundwater cleanup; oil recovery from below ground; surface flow control; waste material removal from the site; treatment of waste material after removal; and cleansing of water mains, sewers, wetlands, and water bodies that have been contaminated by wastes. Site remediation does not include the installation of controls to municipal solid waste landfills to comply with the New Source Performance Standards (NSPS) or Clean Air Act (CAA), Section III(D) emission guidelines.

Spandex Production - includes any facility engaged in manufacturing fiber in which the fiber forming substance is a long-chain, synthetic polymer comprised of at least 85 percent of a segmented polyurethane. The category includes polymerization reactions, dry solvent spinning, solvent recovery washing, stretching, cutting (into staple), crimping, twisting, drying and packaging processes. The category includes, but is not limited to, the following production process units: mixers, filter, reactors, dry spinning cabinets, solvent recovery systems, finishing baths, polymer dryers, pelletizers, stretching, cutting, crimping, twisting, and baling units, packaging and transport systems.

Steel Foundries - includes any facility engaged in producing final shape steel castings by the melting, alloying, and molding of pig iron and steel scrap. The category includes, but is not limited to, the following steel foundry process operations: raw materials handling, metal melting, mold and core production, and casting and finishing.

Steel Pickling-HCl Process Facilities & HCl Regeneration Plants (formerly Steel Pickling - HCl Process) - includes any facility engaged in the pickling of steel using hydrochloric acid (HCl) as the pickling acid. Pickling is defined as a process which chemically removes oxides and scale from the surface of steel by the action of aqueous solutions of inorganic acids. Not included in this category are facilities which pickle steel using other acids. The category includes both batch and continuous pickling operations. In the batch pickling process, the steel is immersed in an acid solution until the scale or oxide film is removed, lifted from the bath, allowed to drain, and then rinsed by sequential immersion in rinse tanks. In the continuous pickling process, pickling lines pass the steel through the pickler in a countercurrent direction to the flow of the acid solution; next, the steel is lifted from the acid, allowed to drain, and then rinsed in a series of rinse tanks.

Styrene-Acrylonitrile Production - includes any facility which manufactures copolymers consisting primarily of styrene and acrylonitrile monomer units. Styrene-Acrylonitrile typically consists of approximately 70 percent styrene and 30 percent acrylonitrile and can be made by emulsion, solution, and continuous mass polymerization processes, although other methods may be used.

References: EPA 450/3/91-030 (Jul 92) and subsequent Federal Register notices listed in Table 6.

Styrene-Butadiene Rubber and Latex Production - includes any facility which manufactures copolymers consisting of styrene and butadiene monomer units. Styrene-Butadiene Rubber and Latex may be produced by emulsion and solution polymerization, although other methods may be used.

Symmetrical Tetrachloropyridine Production - includes any facility engaged in the production of symmetrical tetrachloropyridine, by using carbon tetrachloride or other HAP's as part of the reaction of other production process.

Synthetic Organic Chemical Manufacturing - includes, but is not limited to, manufacturing processes that produce one or more chemicals and that either (1) use an organic HAP as a reactant or (2) produce an organic HAP as a product, co-product, by-product, or isolated intermediate. The five types of emission points to be considered in the development of regulations are: equipment leaks, process vents, transfer operations, storage tanks (raw material, intermediate, and final product), and wastewater collection and treatment systems associated with this source category. [Editor's note: on 18 Nov 99 (64 FR 63025), this source category subsumed the Tetrahydrobenzaldehyde Production (Formerly Butadiene Dimers Production) source category.]

Synthetic Rubber Manufacturing (Area Source Rule) - Definition not yet available.

Taconite Iron Ore Processing - includes any facility engaged in separating and concentrating iron ore from taconite, a low grade iron ore. The category includes, but is not limited to, the following processes: liberation of the iron ore by wet or dry crushing and grinding in gyratory crushers, cone crushers, rod mills, and ball mills; concentration of the iron ore by magnetic separation or flotation; pelletization by wet tumbling with a balling drum or balling disc, and induration using a vertical shaft furnace, straight grate, circular grate, or grate/kiln.

Uranium Hexafluoride Production - includes any facility engaged in the production of uranium hexafluoride, a colorless, volatile crystal, usually used in the gaseous diffusion process for separating isotopes of uranium. The category includes, but is not limited to, the following production methods: (1) the direct fluorination of uranium tetrafluoride; and (2) the conversion of triuranium octoxide directly to uranium hexafluoride with hydrogen fluoride and fluorine.

Vegetable Oil Production - includes any facility engaged in producing vegetable oils, which include, but are not limited to soybean, corn, cottonseed, safflower, and peanut oil. The category includes seed preparation, oil extraction, oil refining, solvent extraction, bleaching, hydrogeneration, and deodorization processes. Emissions of HAP's have been associated with the solvent extraction processes that often use hexane as the solvent. Residual HAP emissions can also occur in the areas of the dryer, cooler, conveyor, etc. The category includes, but is not limited to, the following production process units: extractor, desolventizer-toaster, dryer, solvent-water separator, cooler, pneumatic conveyor and condensers.

Wet-Formed Fiberglass Mat Production - not specifically defined but wet-formed fiberglass mat is used as a substrate for asphalt shingles and roll roofing, as a reinforcement for reinforced plastic composite products (including thermosets and thermoplastics) and for cement and gypsum products, and in miscellaneous specialty applications such as battery separators and for pipe-wrapping and flooring. Fiberglass mat is manufactured by binding glass fibers with urea-formaldehyde resin. Emissions from drying and curing ovens are the target of this source category.

Wood Building Products (Surface Coating) (formerly Flat Wood Paneling (Surface Coating)) - includes facilities that coat flat wood construction products made from wood materials such as plywood, particleboard, hardboard, and waferboard. Coating types may include fillers, sealers, groove coats, stains, inks, primers, basecoats, and topcoats. Typical coating processes may include roll coating and curtain coaters. This source category does not include facilities that apply preservatives to wood products or facilities that coat assembled wood furniture.

Wood Furniture (Surface Coating) - includes any facility engaged in the surface coating and manufacture of objects made of solid wood, wood composition, or objects made of simulated wood material used in combination with solid wood or wood composites. This category includes, but is not limited to, facilities that glue and coat the following types of objects: kitchen and bath cabinets; household furniture; upholstered, household furniture; cabinets or cases (televisions, radios, phonographs, and sewing machines); other household furniture; office furniture; public building and related furniture; office and store fixtures; partitions; shelving; and lockers. [Refer to Appendix 112O.]

Wool Fiberglass Manufacturing - includes any facility engaged in producing wool fiberglass from sand, feldspar, sodium sulfate, anhydrous borax, boric acid, or any other materials. In the wool fiberglass manufacturing process, molten glass is formed into fibers that are bonded with an organic resin to create a wool-like material that is used as thermal or acoustical insulation. The category includes, but is not limited to the following processes: glass melting furnace, marble forming, refining unit, forming the fibers into a mat, adding binder, oven curing, & cooling.

DELISTED SOURCE CATEGORIES

Aerosol Can-Filling Facilities - includes any facility engaged in the filling of aerosol cans. The aerosol can-filling process includes mixing of the product ingredients, dispensing of the product into aerosol cans, insertion of the valve stem and valve, propellant charging, and sealing the product in the can. The category includes facilities which add hazardous air pollutants (HAP's), primarily chlorinated solvents (e.g., methylene chloride), to the product in the mixing tank and facilities which add the HAP's directly to the aerosol can. Types of aerosol products include, but are not limited to, spray paints, insecticides, lubricants, cleaners, adhesives, and paint strippers. [Editor's note: EPA delisted this source category on 18 Nov 99 (64 FR 63025).]

Antimony Oxides Manufacturing - includes any facility engaged in the production of antimony oxides, typically white, odorless, crystalline powders, mainly used as a synergistic flame retardant in plastics and textiles. The category includes antimony oxides produced from sulfide ores containing antimony or as a by-product of the treatment of sulfide ores of base metals and silver. The production of antimony oxides from sulfide ores containing antimony includes operations such as roasting, smelting in a blast furnace, and melting in a crucible or reverberatory furnace with a reducing atmosphere. [Editor's note: EPA delisted this source category on 18 Nov 99 (64 FR 63025).]

Asbestos Processing - [Editor's note: EPA determined that the justification for listing this category no longer applies to the asbestos processing industry. Consequently, the asbestos processing source category has been deleted from the source category list. For further information, [Refer to 60 FR 61550 (30 Nov 95).]

Chromium Chemicals Manufacturing - includes any facility engaged in the production of chromium-based chemicals. The category includes, but is not limited to, production of: sodium chromate, produced by roasting chromate ore with soda ash or with soda ash and lime in a kiln; sodium dichromate, produced by converting sodium chromate by treatment with sulfuric acid; and secondary chromitum chemicals derived from sodium dichromate, such as potassium chromate and dichromate, ammonium dichromate, chromic acid, basic chromic sulfate, chromic oxide, and chrome pigments. [Editor's note: EPA determined that there are only two chromium chemicals manufacturing facilities in the United States and both are area sources. EPA decided not to regulate these area sources based on the results of a quantitative risk assessment and the fact that there exists limited opportunities for additional HAP reductions, due to the relatively high levels of control already evident at each source.]

Cyanuric Chloride Production - includes any facility engaged in the production of cyanuric chloride, a crystalline compound used in chemical synthesis, dyestuffs, herbicides, and optical brighteners. The category includes, but is not limited to, production of cyanuric chloride by the reaction of sodium cyanide with chlorine to produce cyanogen chloride, which then trimerizes to yield cyanuric chloride. [EPA delisted this source category on 12 Feb 98 (63 FR 7155).]

Lead Acid Battery Manufacturing - includes any facility engaged in producing lead-acid or lead-acid storage batteries, including, but not limited to, starting-lighting-ignition (SLI) batteries and industrial storage batteries. The category includes, but is not limited to, the following lead-acid battery manufacturing steps: lead oxide production, grid casting, paste mixing, and three-process operation (plate stacking, burning, and assembly). [Editor's note: EPA delisted this source category because there are no major sources in this category and all existing (and new) facilities are subject to the new source performance standards (NSPS) for lead acid battery manufacturing plants.]

Non-Stainless Steel Manufacturing -- Electric Arc Furnace (EAF) Operation - includes any facility that uses electric arc furnaces to melt steel scrap and cast semifinished non-stainless steel shapes that must be mechanically worked to form final products. The steel may contain small amounts of alloying elements such as vanadium, molybdenum, manganese, silicon, and copper. The plant includes the following process units: electric arc furnace, forming facilities, and rolling facilities. In steel production, the electric- arc furnace is used as a metal melter and a refining vessel. In the production process, additives are added either directly to the furnace or added to the ladle during a tap. The electric arc furnace process steps include charging, meltdown, refining, and tapping. [Editor's note: EPA delisted this source category because there are no major sources in this category and existing facilities are already subject to the NSPS for EAF operations which regulate the air pollution control device outlet concentration and visible emissions from the EAF meltshop. Any new facilities would also be subject to the NSPS.]

Nylon 6 Production - includes any facility which manufactures polyamides formed by the reaction of diamine and a dibasic acid in which less than 85 percent by weight of the repeating units are aliphatic, alicyclic or a mixture of aromatic moieties. Nylon is a generic term for any long-chain synthetic, polymeric amide in which recurring amide groups are integral to the main polymer chain. Nylon 6 products may be in the forms of fibers, plastics, or other forms. The hazardous air pollutant emitted is caprolactam. [Editor's note: EPA delisted this source category on 12 Feb 98 (63 FR 7155).]

Sewage Sludge Incineration - includes, but is not limited to, facilities that combust wastes containing more than 10 percent sewage sludge on a dry basis. An incinerator is described as any furnace or other device used in the process of burning waste for the primary purpose of reducing the volume of the waste by removing combustible matter. Types of sewage sludge incinerators include, but are not limited to, multiple hearth, fluidized bed, and electric sludge incinerators. [EPA delisted this source category because they plan to regulate in under CAA §129. See Appendix 129E.]

Stainless Steel Manufacturing - Electric Arc Furnace (EAF) Operation - includes any facility that uses electric arc furnaces to melt steel scrap and cast semifinished stainless steel shapes that must be mechanically worked to form final products. Stainless steel, by definition, contains four percent or more chromium.- Additional elements such as silicon and manganese can be added to give the steel certain properties, such as greater strength. A stainless steel plant includes the following process units: EAF, argon-oxygen decarburization (AOD) vessel, and forming and rolling facilities. The EAF functions primarily as a metal melter and the AOD vessel is used to refine the molten metal. Electric arc furnace stainless steel production processes include consumable-electrode melting and electroslag remelting. The production process steps include charging to the EAF, meltdown, tapping from the AOD vessel, and refining in the AOD vessel. Raw materials used to produce stainless steels include No. 1 grade scrap; stainless scrap; and alloys such as ferromanganese, ferrochrome, high carbon chrome, nickel, molybdenum oxide, aluminum, manganese, silicon, and others. [Editor's note: See note regarding Non-SS EAF.]

Wood Treatment - includes any facility engaged in the treatment of wood products for preservation or other purposes. Wood treatment is accomplished by impregnating or treating the wood with creosote or other chemicals such as pentachlorophenol. Wood treatment using waterborne preservatives will not be covered by this source category. Wood treatment is performed using either pressure or non-pressure processes. To initiate either process, wood products are debarked and conditioned. Conditioning, primarily moisture removal, is performed by air seasoning or kiln drying. Depending on the particular preservative to be applied, conditioning may also be performed by steaming the wood in the treatment retort, heating the wood in oil under reduced pressure, or exposing it to hot vapors of organic solvents (vapor drying). Typical treated wood products include crossties, switch ties, utility poles, crossarms, foundation pilings, and lumber.

3.0 CAA §129 SOLID WASTE COMBUSTION STANDARDS

Section 129 requires both HAP and criteria pollutant emission standards for municipal, medical, and other solid waste combustors. <u>Appendix 129A</u> is the actual CAA text of §129. EPA is behind schedule on all §129 standards. Refer to <u>Table 7</u> or the 129-series appendices for the latest status information on these emission standards. Some of the §129 paragraphs are discussed below.

CAA §129(g) Definitions

Refer to CAA §129(g) for a complete list of definitions pertaining to solid waste combustion standards. The following definitions are abbreviated.

Solid Waste Incineration Unit: A distinct operating unit of any facility which combusts any solid waste material from commercial or industrial establishments or the general public. Such term does not include incinerators or other units required to have a permit under §3005 of the Solid Waste Disposal Act. The term "solid waste incineration unit" does not include metal recovery facilities, qualifying small power production facilities, qualifying cogeneration facilities, or air curtain incinerators that only burn wood wastes, yard wastes and clean lumber.

New Solid Waste Incineration Unit: A solid waste incineration unit the construction of which is commenced after the Administrator proposes requirements establishing emissions standards or other requirements which would be applicable to such unit or a modified solid waste incineration unit.

Modified Solid Waste Incineration Unit: A solid waste incineration unit at which modifications have occurred after the effective date of a standard under subsection (a) if the cumulative cost of the modifications exceed 50 per centum of the original cost of construction and installation of the unit, or the modification increases the amount of any air pollutant emitted by the unit for which standards have been established.

Existing Solid Waste Incineration Unit: A solid waste unit which is not a new or modified solid waste incineration unit.

Municipal Waste: Refuse (and refuse-derived fuel) collected from the general public and from residential, commercial, institutional, and industrial sources consisting of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials and non-combustible materials such as metal, glass and rock. This definition does not include industrial process wastes or medical wastes. An incineration unit shall not be considered to be combusting municipal waste if it combusts a fuel feed stream, 30 percent or less of the weight of which is comprised, in aggregate, of municipal waste.

CAA §129(a) and 129(b) New & Existing Units

These sections direct EPA to promulgate standards and guidelines for new and existing medical and municipal waste combustors by November 1992 and for new commercial and industrial waste combustors by November 1994. EPA is also directed to publish a schedule for promulgating standards and guidelines for other

solid waste combustors. <u>Appendix 129B</u> contains information on the medical waste incineration rules. Appendices <u>129C1</u>, <u>129C2</u>, and <u>129C3</u> contain information on rules for large, small, and very small municipal waste combustors, respectively.

CAA §129(c) Monitoring

EPA must include continuous emission monitor, stack test, and process monitoring requirements in the regulations as necessary to protect public health.

CAA §129(d) Operator Training

Beginning three years after solid waste combustion standards and guidelines are promulgated, all combustor operators must be certified by satisfactorily completing an operator training program.

CAA §129(f) Effective Dates

The compliance deadline for CAA §129 standards and guidelines is less stringent than the §112 NESHAP standards. <u>Table 7</u> shows when EPA issued or expects to issue municipal, medical, and other solid waste combustor rules. After promulgation, States must prepare their rules and submit them to EPA for approval within one year. EPA then has one year to approve the State rules. Once EPA approves the State rules, sources will have 3 years to comply. Assuming the State rules develop at this pace, the compliance deadline is effectively 5 years after promulgation. It is possible but unlikely for States and EPA to accelerate the rule submittal and approval process.

4.0 CAA §183 FEDERAL OZONE MEASURES

Section 183 establishes volatile organic compound (VOC), oxides of nitrogen (NOx), and particulate matter (PM) control requirements affecting facilities that are located in ozone nonattainment areas or facilities that are subject to New Source Review or Prevention of Significant Deterioration permit processes. This section overlaps into HAP requirements because many VOCs are HAPs. EPA is developing some §183 regulations jointly with corresponding §112 NESHAPs. <u>Table 8</u> and the 183-series appendices show the status of EPA's §183 activities. Note: Only HAP (VOC) related regulatory information will be included in the 183-series appendices.

Definitions

The following definitions are not in §183. They are based on language in a draft glossary of terms prepared by Mohamed Serageldin (EPA). See §183(e) for other definitions.

Control Technique Guidelines (CTGs) are documents that provide guidance on reasonably available control technology (RACT) to States and local agencies for reducing emissions of VOCs which contribute to ozone levels in nonattainment areas.

Ozone nonattainment areas are counties which violate the national ambient air quality standard (NAAQS) for ozone. States and local regulatory agencies must require RACT on sources for which a CTG is issued.

Alternative Control Techniques (ACTs) are documents that provide technical information such as available controls for use by State and local agencies to develop their regulations. Unlike a CTG, State and local agencies are not required to adopt ACT control recommendations.

CAA §183(a) and 183(b) CTGs

EPA must issue 11 new CTGs for stationary VOC sources by November 1993. EPA must also review and update existing CTGs.

CAA §183(c) ACTs

This section requires EPA to issue ACTs for all categories of stationary sources that have the potential to emit 25 tons per year of VOCs or NOx. ACTs identify VOC and NOx controls options for stationary sources. States, are not required to but, may establish regulations based on the ACT document. ACTs are primarily reference documents used to identify control devices for new sources. Facilities in nonattainment areas subject to the New Source Review (NSR) and facilities in attainment areas subject to PSD review may be required to control new sources using ACT identified options. ACTs being developed by EPA include: industrial cleanup solvents (formerly drafted as a CTG), stage II gasoline distribution, and 11 NOx related ACTs.

CAA §183(e) Certain Sources

Section 183 mandates EPA to quantify VOC emissions that are attributable to consumer and commercial products by November 1993. Once the study is complete EPA must regulate 80% of these emissions in ozone nonattainment areas within eight years.

CAA §183(f) Tank Vessels

This section requires EPA to issue emission standards for tank vessel loading and unloading facilities by November 1992. To the extent practical, these standards will apply to loading and unloading facilities only; not tank vessels.

5.0 REGULATORY STATUS, CAA §112, §129, AND §183

<u>Table 6</u>, <u>Table 7</u>, and <u>Table 8</u> document EPA's progress in implementing the requirements of CAA §112, §129, and §183, respectively. <u>Appendix 112B</u> shows EPA's progress in promulgating specific CAA §112 NESHAP regulations.

Most rules of interest to military installations either are or will be addressed in one of the appendices. The <u>Table of Contents</u> and <u>Appendix 112B</u> identify these appendices.

TABLE 6: REGULATORY STATUS CAA §112					
			HAP Binder	CFR	
	Date	FR Citation	Reference ^a	Reference	
Hazardous Air Pollutant List [112(b)]			Table 3		
Original List CAA90	15 NOV 90	N/A			
(Delist Caprolactum) Final Rule	18 JUN 96	<u>61 FR 30816</u>			
Notice of Complete MEK Delist Petition	23 JUN 99	<u>64 FR 33453</u>			
Notice of Complete Methanol Delist Petition	19 JUL 99	<u>64 FR 38668</u>			
Notice of Complete EGBE Delist Petition	3 AUG 99	<u>64 FR 42125</u>			
NESHAP Source Category List [112(c)] and R	egulatory Scl	nedule [112(e)]	<u>112B</u>		
(Original) Final List	16 JUL 92	<u>57 FR 31576</u>			
(Original) Final Schedule	03 DEC 93	<u>58 FR 63941</u>			
Schedule Revision	18 JUL 96	<u>61 FR 37542</u>			
Proposal to List R&D Facilities	12 MAY 97	<u>62 FR 25877</u>			
Updated List	12 FEB 98	<u>63 FR 7155</u>			
(112(c)(6)) List Revision	10 APR 98	<u>63 FR 17838</u>			
(112(c)(6)) Correction	26 MAY 98	<u>63 FR 28554</u>			
Schedule Revision and Correction	17 MAY 99	<u>64 FR 26743</u>			
List/Schedule Revision, Updated List	18 NOV 99	<u>64 FR 63025</u>			
NESHAPs Promulgation Progress [112(e)] ^b					
40 Source Categories	NOV 96	N/A			
25% of the Source Categories	NOV 96	N/A			
50% of the Source Categories	DEC 99	N/A			
100% of the Source Categories	MAY 02	N/A			
General Provisions for NESHAPs			<u>112C</u>	40 CFR 63	
Final Rule	16 MAR 94	<u>59 FR 12408</u>		<u>Subpart A</u>	
(R&R) Final Amendment	12 FEB 99	<u>64 FR 7457</u>			
Constructed and Reconstructed Major Sources [112(g)]			E	40 CFR 63	
Final Rule	27 DEC 96	<u>61 FR 68384</u>		<u>Subpart B</u>	
Direct Final Amendment	30 JUN 99	<u>64 FR 35029</u>			
Interpretive Rule	25 MAY 00	<u>65 FR 34009</u>			
Compliance Extensions Program Guidance [112(i)]				40 CFR 63	
(Early Reductions) Final Rule	29 DEC 92	<u>57 FR 61970</u>		<u>Subpart D</u>	
Direct Final Amendment	29 NOV 93	<u>58 FR 62539</u>			
Final Amendment	21 OCT 94	<u>59 FR 53109</u>			

TABLE 6: REGULATORY STATUS CAA §112				
	Dete	EB Citation	HAP Binder	CFR
	Dale		Reference	Kelefelice
Equivalent Emission Limitations by Permit (F	lammer) [112([j]]	E	40 CFR 63
Final Rule	20 MAY 94	<u>59 FR 26429</u>		<u>Subpart B</u>
Direct Final Amendment	10 MAY 96	<u>61 FR 21370</u>		
Final Amendment	14 MAY 99	<u>64 FR 26311</u>		
Urban Area Sources [112(k)]			<u>C</u>	
Notice of Final Strategy	19 JUL 99	<u>64 FR 38705</u>		
Accidental Releases [112(r)] Chemical List &	Thresholds		G	40 CFR 68
Final Rule	31 JAN 94	<u>59 FR 4478</u>		Subpart F
Final Stay	20 JUN 96	<u>61 FR 31667</u>		
Final Amendment	25 AUG 97	<u>62 FR 45129</u>		
Final Amendment	6 JAN 98	<u>63 FR 640</u>		
Regulatory Relief Act (Site Security/Fuels)	5 AUG 99	P.L. 106-40		
Direct Final Amendment	26 MAY 99	64 FR 28695		
Final Amendment (Re: P.L. 106-40, etc.)	13 MAR 00	65 FR 13243		
Accidental Releases [112(r)] Risk Manageme	nt Plan Rule		G	<u>40 CFR 68</u>
Final Rule	20 JUN 96	61 FR 31667		
Final Amendment	6 JAN 99	64 FR 963		
(RMP*Submit Software Availability) Notice	1 MAR 99	<u>64 FR 9989</u>		
(OCA Data Distribution) Proposed Rule	27 APR 00	65 FR 24833		
Notes:	•		•	
^a Refers to a HAP Status Binder Appendix or Table. ^b See <u>Appendix 112B</u> for regulatory schedule of specific NESHAPs.				

TABLE 7: REGULATORY STATUS CAA §129					
	Date	FR Citation	HAP Binder Reference ^a	CFR Reference	
Hospital/Medical/Infectious Waste Incinerato	rs: All Units				
Existing Source Emission Guidelines			<u>129B</u>	40 CFR 60	
Final Rule	15 SEP 97	<u>62 FR 48348</u>		Subparts Cc	
New Source Performance Standards			<u>129B</u>	40 CFR 60	
Final Rule	15 SEP 97	<u>62 FR 48348</u>		Subparts Ec	
Municipal Waste Combustors: Large Units (>	250 Tons Per	<u>Day</u>)			
Existing Source Emission Guidelines			<u>129C1</u>	40 CFR 60	
Final Rule	15 DEC 95	60 FR 65387		Subparts Cb	
Direct Final Amendment	25 AUG 97	<u>62 FR 45115</u>			
Federal Plan for States Without Approved Pla	an for Existing	g Sources		40 CFR 62	
Federal Plan	12 NOV 98	<u>63 FR 63191</u>		Subpart FFF	
Correction	8 APR 99	<u>64 FR 17219</u>			
New Source Performance Standards			<u>129C1</u>	40 CFR 60	
Final Rule	15 DEC 95	60 FR 65387		Subpart Eb	
Direct Final Amendment	25 AUG 97	<u>62 FR 45115</u>			
Proposed Amendment	23 JAN 98	<u>63 FR 3509</u>			
Correction	4 FEB 98	<u>63 FR 5834</u>			
Municipal Waste Combustors: Small Plants (
Existing Source Emission Guidelines			<u>129C2</u>	40 CFR 60	
Proposed Rule	30 AUG 99	<u>64 FR 47233</u>		Sub. BBBB	
Final Rule	MAR 01				
New Source Performance Standards			<u>129C2</u>	40 CFR 60	
Proposed Rule	30 AUG 99	<u>64 FR 47275</u>		Sub. AAAA	
Final Rule	MAR 01				
Municipal Waste Combustors: Very Small Pla	ants (<35 Tons	s Per Day)			
Existing Source Emission Guidelines			<u>129C3</u>		
Proposed Rule	TBA				
New Source Performance Standards			<u>129C3</u>		
Proposed Rule	TBA				
Other Solid Waste Incinerator List & Regulate	<u>129E</u>				
Initial List	02 NOV 93	58 FR 58498			
Advanced Notice of Proposed Rulemaking	28 DEC 94	<u>59 FR 66850</u>			
List Revision	14 JAN 97	<u>62 FR 1868</u>			
Commercial and Industrial Solid Waste Incinerators					
Proposed Rule	30 NOV 99	<u>64 FR 67091</u>	<u>129D</u>		
Final Rule	30 NOV 00				

TABLE 7: REGULATORY STATUS CAA §129						
	Date	FR Citation	HAP Binder Reference ^a	CFR Reference		
Agricultural Waste Incinerators						
Proposed Rule	ТВА					
Crematories						
Proposed Rule	TBA					
Residential Waste Incinerators						
Proposed Rule	ТВА					
Notes:						
^a Refers to a HAP Status Binder Appendix or Ta	ble.					

TABLE 8: REGULATORY STATUS CAA §183					
	Date	FR Citation	HAP Binder Reference ^a	CFR Reference	
Consumer & Commercial Products (CCP) VO	C Rule			40 CFR 59	
Notice CCP Regulatory Schedule	23 MAR 95	<u>60 FR 15264</u>		Subpart C	
Final Rule	11 SEP 98	<u>63 FR 48819</u>			
Correction	30 SEP 98	<u>63 FR 52319</u>			
Notice	18 MAR 99	<u>64 FR 13422</u>			
Notice	5 APR 99	<u>64 FR 16477</u>			
Notice	13 JUL 99	<u>64 FR 37783</u>			
Marine Tank Vessel Loading RACT Standard	<u>ş</u>		<u>112U3</u>	40 CFR 63	
Final Rule	19 SEP 95	<u>60 FR 48388</u>		<u>Subpart Y</u>	
Architectural Surface Coatings Negotiated R	<u>ule</u>			40 CFR 59	
Final Rule	11 SEP 98	<u>63 FR 48848</u>		<u>Subpart D</u>	
Correction	14 OCT 98	<u>63 FR 55175</u>			
Correction	15 JUN 99	<u>64 FR 32103</u>			
Correction	30 JUN 99	<u>64 FR 34997</u>			
Final Amendment	16 FEB 00	<u>65 FR 7736</u>			
Automobile Refinishing Rule				40 CFR 59	
Final Rule	11 SEP 98	<u>63 FR 48806</u>		<u>Subpart B</u>	
Correction	23 NOV 98	<u>63 FR 64761</u>			
Notice	5 APR 99	<u>64 FR 16477</u>			
Aerospace Surface Coatings CTG			<u>183C</u>		
Final CTG (<u>EPA 453/R-97-004, Dec 97</u>)	27 MAR 98	<u>63 FR 15005</u>			
Shipbuilding/Repair Surface Coatings CTG			<u>183D</u>		
Final CTG (EPA-453/R-94-032, Apr 94 + FR)	27 AUG 96	<u>61 FR 44050</u>			
Volatile Organic Liquid Storage CTG					
Interim ACT (EPA 453/R-94-001, Jan 94)	02 DEC 93	58 FR 63577			
CTG Status Unknown					
Industrial Wastewater Treatment CTG					
Draft CTG (EPA 453/D-93-056, Sep 92)	29 DEC 93	58 FR 68906			
Final CTG Status Unknown					
Offset Lithograph CTG					
Final ACT	08 NOV 93	58 FR 59261			
Draft CTG (EPA 453/R-94-054, Jun 94)					
Final CTG Status Unknown					
Plastic Parts Surface Coating CTG					
CTG Status Unknown					

TABLE 8: REGULATORY STATUS CAA §183					
	Date	FR Citation	HAP Binder Reference ^a	CFR Reference	
Chemical Mfg. Batch Processes CTG					
Final ACT (EPA 453/R-93-017, Feb 94)	29 DEC 93	58 FR 68905			
CTG Status Unknown					
Chemical Mfg. Dist. Processes CTG					
CTG Status Unknown					
Wood Furniture Manufacturing CTG					
Final CTG (EPA 453/R-R6-007, Apr 96)	20 MAY 96	<u>61 FR 25223</u>			
Addendum	27 SEP 96	<u>61 FR 50823</u>			
Industrial Cleanup Solvents ACT					
Final ACT (EPA 453/R-94-015, Feb 94)					
Notes:					
^a Refers to a HAP Status Binder Appendix.					
CTG = Control Technique Guideline (Document)					
ACT = Alternative Control Techniques (Document)					