[6560-50-P]

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA-HQ-OAR-2006-0306; **FRL-**]

RIN 2060-AO27

National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Nine Metal Fabrication and Finishing Source Categories

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is proposing national emission standards for control of hazardous air pollutants (HAP) for nine metal fabrication and finishing area source categories. This rule proposes emission standards in the form of management practices and equipment standards for new and existing operations of dry abrasive blasting, machining, dry grinding and dry polishing with machines, spray painting and other spray coating, and welding operations. These proposed standards reflect EPA's determination regarding the generally achievable control technology (GACT) and/or management practices for the nine area source categories.

DATES: Comments must be received on or before [INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER], unless a public

hearing is requested by [INSERT DATE 10 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]. If a hearing is requested on this proposed rule, written comments must be received by [INSERT DATE 45 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]. Under the Paperwork Reduction Act, comments on the information collection provisions must be received by OMB on or before [INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2006-0306, by one of the following methods:

- www.regulations.gov: Follow the on-line instructions for submitting comments.
- E-mail: a-and-r-Docket@epa.gov.
- Fax: (202) 566-9744.
- Mail: National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Metal Fabrication and Finishing Operations Docket, Environmental Protection Agency, Air and Radiation Docket and Information Center, Mailcode: 2822T, 1200 Pennsylvania Ave., NW, Washington, DC 20460. Please include a total of two copies. In addition, please mail a copy of your comments on the information collection provisions to the Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), Attn: Desk Officer for EPA, 725 17th St., NW,

Washington, DC 20503.

- Hand Delivery: EPA Docket Center, Public Reading Room, EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC 20460. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA-HQ-OAR-2006-0306. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at http://www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be confidential business information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through www.regulations.gov or e-mail. The www.regulations.gov website is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through www.regulations.gov, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends

that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through www.regulations.gov or in hard copy at the NESHAP for Metal Fabrication and Finishing Area Sources Docket, at the EPA Docket and Information Center, EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Dr. Donna Lee Jones, Sector Policies and Programs Division, Office of Air Quality Planning

and Standards (D243-02), Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number: (919) 541-5251; fax number: (919) 541-3207; e-mail address: jones.donnalee@epa.gov.

SUPPLEMENTARY INFORMATION:

Outline. The information in this preamble is organized as follows:

I. General Information

A. Does this action apply to me?

The regulated categories and entities potentially affected by this proposed action are shown in the table below. This proposed rule applies only to facilities that are an area source of the compounds of cadmium, chromium, lead, manganese, and nickel, or an area source of volatile organic HAP (VOHAP) from spray painting operations, and which perform metal fabrication or finishing operations in one of the following nine source categories: (1) Electrical and Electronic Equipment Finishing Operations; (2) Fabricated Metal Products; (3) Fabricated Plate Work (Boiler Shops); (4) Fabricated Structural Metal Manufacturing; (5) Heating Equipment, except Electric; (6) Industrial Machinery and Equipment: Finishing Operations; (7)

Iron and Steel Forging; (8) Primary Metal Products Manufacturing; and (9) Valves and Pipe Fittings. Facilities affected by this proposed rule are not subject to the miscellaneous coating requirements in 40 CFR part 63, subpart HHHHHH, "National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources," for their affected source(s) that are subject to the requirements of this proposed rule. There potentially may be other sources at the facility not subject to the requirements of this proposed rule that are instead subject to subpart HHHHHH of this part.

Metal Fabrication and Finishing Category	NAICS Codes[1]	Examples of Regulated Entities
Electrical and Electronics Equipment Finishing Operations	335999 335312	Establishments primarily engaged in manufacturing motors and generators and electrical machinery, equipment, and supplies, not elsewhere classified. The electrical machinery equipment and supplies industry sector includes facilities primarily engaged in high energy particle acceleration systems and equipment, electronic simulators, appliance and extension cords, bells and chimes, insect traps, and other electrical equipment and supplies, not elsewhere classified. The Motors and Generators Manufacturing industry sector includes those establishments primarily engaged in manufacturing electric motors

		(except engine starting motors) and power generators; motor generator sets; railway motors and control equipment; and motors, generators and control equipment for gasoline, electric, and oil-electric buses and trucks.
Fabricated Metal Products	332117 332999	Establishments primarily engaged in manufacturing fabricated metal products, such as fire or burglary resistive steel safes and vaults and similar fire or burglary resistive products; and collapsible tubes of thin flexible metal. Also included are establishments primarily engaged in manufacturing powder metallurgy products, metal boxes; metal ladders; metal household articles, such as ice cream freezers and ironing boards; and other fabricated metal products not elsewhere classified.
Fabricated Plate Work (Boiler Shops)	332313 332410 332420	Establishments primarily engaged in manufacturing power and marine boilers, pressure and nonpressure tanks, processing and storage vessels, heat exchangers, weldments and similar products
Fabricated Structural Metal Manufacturing	332312	Establishments primarily engaged in fabricating iron and steel or other metal for structural purposes, such as bridges, buildings, and sections for ships, boats, and barges.
Heating Equipments, except Electric	333414	Establishments primarily engaged in manufacturing heating equipment, except electric and warm air furnaces, including gas, oil, and stoker coal fired equipment for the automatic utilization of gaseous, liquid, and solid fuels. Typical products produced in this source category include low-pressure heating (steam or hot water) boilers, fireplace inserts, domestic (steam or hot water) furnaces, domestic gas burners, gas room heaters, gas infrared heating

		units, combination gas-oil burners, oil or gas swimming pool heaters, heating apparatus (except electric or warm air), kerosene space heaters, gas fireplace logs, domestic and industrial oil burners, radiators (except electric), galvanized iron nonferrous metal range boilers, room heaters (except electric), coke and gas burning salamanders, liquid or gas solar energy collectors, solar heaters, space heaters (except electric), mechanical (domestic and industrial) stokers, wood and coal-burning stoves, domestic unit heaters (except electric), and wall heaters (except electric).
Industrial Machinery and Equipment: Finishing Operations	333120 333132 333911	Establishments primarily engaged in construction machinery manufacturing, oil and gas field machinery manufacturing, and pumps and pumping equipment manufacturing. Finishing operations include the collection of all operations associated with the surface coating of industrial machinery and equipment. The construction machinery manufacturing industry sector includes establishments primarily engaged in manufacturing heavy machinery and equipment of types used primarily by the construction industries, such as bulldozers; concrete mixers; cranes, except industrial plan overhead and truck-type cranes; dredging machinery; pavers; and power shovels. Also included in this industry are establishments primarily engaged in manufacturing forestry equipment and certain specialized equipment, not elsewhere classified, similar to that used by the construction industries, such as elevating

		platforms, ship cranes and capstans, aerial work platforms, and automobile wrecker hoists. The oil and gas filed machinery manufacturing industry sector includes establishments primarily engaged in manufacturing machinery and equipment for use in oil and gas fields or for drilling water wells, including portable drilling rigs. The pumps and pumping equipment industry sector includes establishments primarily engaged in manufacturing pumps and pumping equipment for general industrial, commercial, or household use, except fluid power pumps and motors. This category includes establishments primarily engaged in manufacturing domestic water and sump pumps.
Iron and Steel Forging	33211	Establishments primarily engaged in the forging manufacturing process, where purchased iron and steel metal is pressed, pounded or squeezed under great pressure into high strength parts known as forgings. The process is usually performed hot by preheating the metal to a desired temperature before it is worked. The forging process is different from the casting and foundry processes, as metal used to make forged parts is never melted and poured.
Primary Metals Products Manufacturing	332618	Establishments primarily engaged in manufacturing products such as fabricated wire products (except springs) made from purchased wire. These facilities also manufacture steel balls; nonferrous metal brads and nails; nonferrous metal spikes, staples, and tacks; and other primary metals products not elsewhere classified.
Valves and Pipe Fittings	332919	Establishments primarily engaged in manufacturing metal valves and pipe

		fittings; flanges; unions, with the exception of purchased pipes; and other valves and pipe fittings not elsewhere classified.

[1] North American Industry Classification System.

This table is not intended to be exhaustive, but rather provide a guide for readers regarding entities likely to be effected by this action. To determine whether your facility would be regulated by this action you can refer to the descriptions in section (II)(B) below. For descriptions of the North American Industry Classification System (NAICS) codes, you can view information on the U.S. Census site at http://www.census.gov/epcd/ec97brdg. If you have any questions regarding the applicability of this action to a particular entity, consult either the air permit authority for the entity or your EPA regional representative as listed in 40 CFR 63.13 of subpart A (General Provisions).

B. What should I consider as I prepare my comments to EPA?

Do not submit information containing CBI to EPA through www.regulations.gov or e-mail. Send or deliver information identified as CBI only to the following address: Roberto Morales, OAQPS Document Control Officer (C404-02), Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina 27711, Attention Docket ID EPA-HQ-OAR-2006-0306. Clearly mark the part or all of the

information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

C. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this proposed action will also be available on the Worldwide Web (WWW) through EPA's Technology Transfer Network (TTN). A copy of this proposed action will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at the following address: http://www.epa.gov/ttn/oarpg/. The TTN provides information and technology exchange in various areas of air pollution control.

D. When would a public hearing occur?

If anyone contacts EPA requesting to speak at a public hearing concerning this proposed rule by [INSERT DATE 10 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER], we will hold a public hearing on [INSERT DATE 15 DAYS AFTER PUBLICATION IN THE

FEDERAL REGISTER]. If you are interested in attending the public hearing, contact Ms. Pamela Garrett at (919) 541-7966 to verify that a hearing will be held. If a public hearing is held, it will be held at 10 a.m. at the EPA's Environmental Research Center Auditorium, Research Triangle Park, NC, or an alternate site nearby.

II. Background Information for Proposed Area Source Standards

A. What is the statutory authority and regulatory approach for the proposed standards?

Section 112(d) of the CAA requires us to establish national emission standards for hazardous air pollutants (NESHAP) for both major and area sources of HAP that are listed for regulation under CAA section 112(c). A major source emits or has the potential to emit 10 tons per year (tpy) or more of any single HAP or 25 tpy or more of any combination of HAP. An area source is a stationary source that is not a major source.

Section 112(k)(3)(B) of the CAA calls for EPA to identify at least 30 HAP which, as the result of emissions from area sources, pose the greatest threat to public health in the largest number of urban areas. EPA implemented this provision in 1999 in the Integrated Urban Air Toxics Strategy, (64 FR 38715, July 19, 1999). Specifically, in the Strategy, EPA identified 30 HAP that pose the greatest potential health threat in urban areas, and these HAP are referred to as the "30 urban

HAP." Section 112(c)(3) requires EPA to list sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the emissions of the 30 urban HAP are subject to regulation. We implemented these requirements through the Integrated Urban Air Toxics Strategy (64 FR 38715, July 19, 1999). A primary goal of the Strategy is to achieve a 75 percent reduction in cancer incidence attributable to HAP emitted from stationary sources.

Under CAA section 112(d)(5), we may elect to promulgate standards or requirements for area sources "which provide for the use of GACT or management practices by such sources to reduce emissions of hazardous air pollutants." Additional information on GACT is found in the Senate report on the legislation (Senate Report Number 101-228, December 20, 1989), which describes GACT as:

> . . . methods, practices and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts and the technical capabilities of the firms to operate and maintain the emissions control systems.

Consistent with the legislative history, we can consider costs and economic impacts in determining GACT, which is particularly important when developing regulations for source categories that may have many small businesses.

Determining what constitutes GACT involves considering the control technologies and management practices that are generally

available to the area sources in the source category. We also consider the standards applicable to major sources in the same industrial sector to determine if the control technologies and management practices are transferable and generally available to area sources. In appropriate circumstances, we may also consider technologies and practices at area and major sources in similar categories to determine whether such technologies and practices could be considered generally available for the area source category at issue. Finally, as noted above, in determining GACT for a particular area source category, we consider the costs and economic impacts of available control technologies and management practices on that category.

We are proposing these national emission standards in response to a court-ordered deadline that requires EPA to issue standards for 11 source categories listed pursuant to section 112(c)(3) and (k) by June 15, 2008 (Sierra Club v. Johnson, no. 01-1537, D.D.C., March 2006). We have already issued regulations addressing one of the 11 area source categories. See regulations for Wood Preserving (**Federal Register**, 72 (135), July 16, 2007.) Other rulemakings will include standards for the remaining source categories that are due in June 2008.

B. What source categories are affected by these proposed standards?

These proposed standards would affect any facility that

performs metal fabrication or finishing operations in one of the following nine metal fabrication and finishing area source categories: (1) Electrical and Electronic Equipment Finishing Operations; (2) Fabricated Metal Products; (3) Fabricated Plate Work (Boiler Shops); (4) Fabricated Structural Metal Manufacturing; (5) Heating Equipment, except Electric; (6) Industrial Machinery and Equipment: Finishing Operations; (7) Iron and Steel Forging; (8) Primary Metal Products Manufacturing; and (9) Valves and Pipe Fittings. Throughout this proposed rule, we refer to the nine metal fabrication and finishing source categories collectively as "metal fabrication or finishing operations."

The following are descriptions of the nine metal fabrication and finishing source categories:

Electrical and Electronic Equipment Finishing Operations: This category includes establishments primarily engaged in manufacturing motors and generators and electrical machinery, equipment, and supplies, not elsewhere classified, and includes facilities primarily engaged in high energy particle acceleration systems and equipment, electronic simulators, appliance and extension cords, bells and chimes, insect traps, and other electrical equipment and supplies not elsewhere classified. This category also includes those establishments primarily engaged in manufacturing electric motors (except

engine starting motors) and power generators; motor generator sets; railway motors and control equipment; and motors, generators and control equipment for gasoline, electric, and oil-electric buses and trucks.

Fabricated Metal Products, Not Elsewhere Classified: This category includes establishments primarily engaged in manufacturing fabricated metal products, such as fire or burglary resistive steel safes and vaults and similar fire or burglary resistive products; and collapsible tubes of thin flexible metal. Also included are establishments primarily engaged in manufacturing powder metallurgy products, metal boxes; metal ladders; metal household articles, such as ice cream freezers and ironing boards; and other fabricated metal products not elsewhere classified.

Fabricated Plate Work (Boiler Shops): This category includes establishments primarily engaged in manufacturing power and marine boilers, pressure and nonpressure tanks, processing and storage vessels, heat exchangers, weldments and similar products.

Fabricated Structural Metal Manufacturing: This category includes establishments primarily engaged in fabricating iron and steel or other metal for structural purposes, such as bridges, buildings, and sections for ships, boats, and barges.

Heating Equipment, except Electric: This category includes

establishments primarily engaged in manufacturing heating equipment, except electric and warm air furnaces, including gas, oil, and stoker coal fired equipment for the automatic utilization of gaseous, liquid, and solid fuels. Typical products produced in this source category include low-pressure heating (steam or hot water) boilers, fireplace inserts, domestic (steam or hot water) furnaces, domestic gas burners, gas room heaters, gas infrared heating units, combination gas-oil burners, oil or gas swimming pool heaters, heating apparatus (except electric or warm air), kerosene space heaters, gas fireplace logs, domestic and industrial oil burners, radiators (except electric), galvanized iron nonferrous metal range boilers, room heaters (except electric), coke and gas burning salamanders, liquid or gas solar energy collectors, solar heaters, space heaters (except electric), mechanical (domestic and industrial) stokers, wood and coal-burning stoves, domestic unit heaters (except electric), and wall heaters (except electric).

Industrial Machinery and Equipment Finishing Operations: This category includes establishments primarily engaged in construction machinery manufacturing, oil and gas field machinery manufacturing, and pumps and pumping equipment manufacturing. Finishing operations include the collection of all operations associated with the surface coating of industrial

machinery and equipment. This category includes establishments primarily engaged in manufacturing heavy machinery and equipment of types used primarily by the construction industries, such as bulldozers; concrete mixers; cranes, except industrial plant overhead and truck-type cranes; dredging machinery; pavers; and power shovels. Also included in this industry are establishments primarily engaged in manufacturing forestry equipment and certain specialized equipment, not elsewhere classified, similar to that used by the construction industries, such as elevating platforms, ship cranes and capstans, aerial work platforms, and automobile wrecker hoists. This category also includes establishments primarily engaged in manufacturing machinery and equipment for use in oil and gas fields or for drilling water wells, including portable drilling rigs. This category includes establishments primarily engaged in manufacturing pumps and pumping equipment for general industrial, commercial, or household use, except fluid power pumps and motors, and establishments primarily engaged in manufacturing domestic water and sump pumps.

Iron and Steel Forging: This category includes establishments primarily engaged in the forging manufacturing process, where purchased iron and steel metal is pressed, pounded or squeezed under great pressure into high strength parts known as forgings. The process is usually performed hot

by preheating the metal to a desired temperature before it is worked. The forging process is different from the casting and foundry processes, as metal used to make forged parts is never melted and poured.

Primary Metal Products Manufacturing: This source category includes establishments primarily engaged in manufacturing products such as fabricated wire products (except springs) made from purchased wire. These facilities also manufacture steel balls; nonferrous metal brads and nails; nonferrous metal spikes, staples, and tacks; and other primary metals products not elsewhere classified.

Valves and Pipe Fittings: This source category includes establishments primarily engaged in manufacturing metal valves and pipe fittings, flanges, and unions, with the exception of from purchased pipes; and other valves and pipe fitting products not elsewhere classified.

We added the nine metal fabrication and finishing source categories to the Integrated Urban Air Toxics Strategy Area Source Category List on November 22, 2002 (67 FR 70427). The inclusion of these source categories to the section 112(c)(3) area source category list is based on 1990 emissions data, as EPA used 1990 as the baseline year for that listing. The nine metal fabrication and finishing source categories were listed for regulation based on emissions of compounds of cadmium,

chromium, lead, manganese, and nickel in the 1990 inventory, hereafter referred to as "metal fabrication and finishing metal HAP" (MFHAP). Four of the metal fabrication and finishing source categories were also listed for emissions of the organic HAP trichloroethylene (TCE).[1] Chlorinated solvents such as TCE are used as degreasers in these metal fabrication and finishing source categories. We subsequently discovered that the 1990 emissions data for TCE was for metal fabrication and finishing facilities that used TCE in degreasing operations, which are not part of this source category. Rather, these emission units at both major and area sources are subject to standards for halogenated solvent cleaning under 40 CFR part 63, subpart T. Consequently, we are not proposing standards for TCE from metal fabrication and finishing facilities. The four metal fabrication and finishing source categories listed for TCE emissions remain listed source categories pursuant to section 112(c)(3) of this part. Therefore, we are clarifying that we do not need these four source categories to meet the section 112 (c) (3) 90 percent requirement regarding area source emissions of TCE.

Based on 2002 U.S. Census data and a survey of the industry that we conducted in 2006, we estimate that 5,800 metal

[1] These four source categories were Electrical and Electronic Equipment Finishing Operations; Fabricated Metal Products; Primary Metal Products Manufacturing; and Valves and Pipe Fittings.

fabrication and finishing area source facilities are currently operating in the U.S. Our analyses of 2002 U.S. Census data also indicate that more than 90 percent of the metal fabrication and finishing area source categories is comprised of small businesses, based on the Small Business Administration definition.

A majority of the metal fabrication and finishing area source facilities are estimated to be in urban areas, based on an estimate of 73 percent developed from EPA's 2002 National Emission Inventory (NEI).[2]

Facilities affected by this proposed rule are not subject to the miscellaneous coating requirements in 40 CFR part 63, subpart HHHHHH, "National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources," for their affected source(s) that are subject to the requirements of this proposed rule. There potentially may be other sources at the facility not subject to the requirements of this proposed rule that are instead subject to subpart HHHHHH of this part.

C. What are the production operations, emission sources, and available controls?

While these nine source categories produce a wide variety

[2] These urban areas are defined to be the urban 1 and urban 2 areas that formed the basis of the listing decisions under 112(c)(3) and (k).

of products, they perform very similar fabrication and finishing operations to create them. There are five general production operations common to metal fabrication and finishing source categories that can emit MFHAP. These five production operations are: (1) dry abrasive blasting; (2) dry grinding and dry polishing with machines; (3) machining; (4) spray painting and coating; and (5) welding.

As typical within any industry, there is variation in operations between facilities. Also, all facilities do not necessarily employ all five production areas. Information acquired from an EPA survey of 166 facilities showed that for the area sources in the source categories of interest, 39 percent perform dry abrasive blasting, 59 percent perform metal fabrication and finishing with machines, 60 percent perform painting or coating of some kind (that includes but is not limited to spray painting or spray coating), and 65 percent perform welding. More detailed analyses are available in the docket, including estimated percentages of the number of facilities in each category performing each operation.

Another metal fabrication and finishing operation that can emit MFHAP is plating. This operation was noted to be performed by some of the facilities in the nine metal fabrication and finishing source categories, but is not regulated by this proposed rule. Plating operations are not regulated by this

proposed rule because they are regulated elsewhere, as follows: Chromium electroplating tanks are subject to the Chromium Electroplating NESHAP (40 CFR 63, subpart N), while other plating operations at area sources are subject to the Plating and Polishing Area Source Rule (40 CFR part 63, subpart WWWWWW) which will be promulgated by June 15, 2008.

1. Metal Fabrication and Finishing Operations.

The nine Metal Fabrication and Finishing source categories produce a wide variety of products using five general production operations that can emit MFHAP: (1) dry abrasive blasting; (2) dry grinding and dry polishing with machines; (3) machining; (4) spray painting and coating; and (5) welding. The following is a brief description of each of these five fabrication and finishing operations regulated by this proposed rule.

Dry Abrasive Blasting Operations. This metal fabrication and finishing operation (also referred to in the industry as sand blasting, shot blasting, and shot peening) is used to clean or prepare a surface by forcibly propelling abrasive material against it. Commonly used abrasives include silica sand, glass beads, aluminum oxide, slag, garnet, steel shot, walnut shells, as well as other materials. Common applications of dry abrasive blasting include surface preparation for painting or coating; burr removal after machining, grinding, or welding; matte surface finishing; removal of flash from molded objects.

Two primary aspects differentiate the various types of abrasive blasting: the method of abrasive propulsion and the type of abrasive used. There are three primary methods of propelling the abrasive: air pressure, using compressed air to propel the abrasive; water pressure, using air or water pressure to propel a wet abrasive slurry; or centrifugal wheels, which use a rotating impeller to mechanically propel the abrasive.

Abrasive blasting covers numerous applications under widely varying conditions. Blasting is also performed outdoors with a portable apparatus or indoors within specially constructed cabinets or enclosures/chambers, either manually, or as part of an automated process line. Because the applications of abrasive blasting are widely varied, there is a similarly wide variety of abrasive blasting equipment available.

Dry abrasive blasting equipment consists of the following general types of systems, listed from small to large: portable blasters, blast cabinets or “glove boxes”, blast chambers which can be 3 or 4-sided structures, and “bulk” blasters that are totally enclosed and vented to a filtration device to collect and recycle the blast material. Shot peening is a common type of dry abrasive blasting that is a surface treatment used to increase the fatigue life of metal parts. In shot peening, a higher pressure is used to focus the abrasive on a localized area as opposed to general abrasive blasting that may be

directed over a larger surface area. Shot peening generally refers to abrasive blasting with metallic or steel pellets, like BB shot. Shot peening is almost always performed in a contained area so that the pellets can be recovered and reused. Similarly, blasting performed with sand other media is also often performed in a contained area so that the media can be recovered and reused.

Dry Grinding and Dry Polishing Operations. These metal fabrication and finishing operations are very similar and vary only as to their timing in the fabrication and extent of abrasion. Not all parts are polished but most are ground. Grinding is performed on a work piece prior to fabrication or finishing operations to remove undesirable material from the surface or to remove burrs or sharp edges. Grinding is done using belts, disks, or wheels consisting of or covered with various abrasives, e.g., silica, alumina, silicon carbide, garnet, alundum, or emery. Grinding may be performed dry or may use lubricants or coolants such as water or water-based mixtures, solutions, or emulsions containing cutting oils, soaps, detergents, wetting agents, or proprietary compounds. Polishing generally follows grinding. The purpose of the polishing operation is to remove any remaining metal and to prepare the surface for more refined finishing procedures. Burrs on castings or stampings may also be removed by polishing.

Polishing is performed using hard-faced wheels constructed of muslin, canvas, felt or leather. Abrasives are applied to the wheels with synthetic adhesives or cements, typically silicate-base cements. The types of abrasives that are used in polishing include both natural and artificial abrasives. Lubricants including oil, grease, tallow, and special bar lubricants are used to prevent gouging and tearing when a fine polished surface is required and also to minimize frictional heat. Polishing may also be performed by hand without machines; however, no emissions occur from hand polishing.

Machining Operations. This metal fabrication and finishing operation includes activities such as turning, milling, drilling, boring, tapping, planing, broaching, sawing, cutting, shaving, shearing, threading, reaming, shaping, slotting, hobbing, and chamfering, where stock is removed from a work piece as chips by a machine that forces a cutting piece against a work piece. Shearing operations cut materials into a desired shape and size, while forming operations bend or conform materials into specific shapes. Cutting and shearing operations include punching, piercing, blanking, cutoff, parting, shearing and trimming. Forming operations include bending, forming, extruding, drawing, rolling, spinning, coining, and forging the metal. Machining is usually totally enclosed, where the enclosure is part of the operating equipment. Many of these

machining operations use lubricants or liquid coolants either alone or in conjunction with enclosures.

Painting Operations. Paints and coatings (hereafter called "paints") are applied to metal fabrication and finishing products for surface protection, aesthetics, or both. Painting or coating (hereafter called "painting") is usually performed using a spray gun in a spray booth or with portable spray equipment. Paints may also be applied via dip tanks. The coated parts then pass through an open (flashoff) area where additional volatiles evaporate from the paint. The coated parts may pass through a drying/curing oven, or are allowed to air dry, where the remaining volatiles are evaporated.

Spray-applied painting operations include any hand-held device that creates an atomized mist of paint and deposits the paint on a substrate. For the purposes of this rule, spray-painting does not include thermal spray operations, also known as metallizing, flame spray, plasma arc spray, and electric arc spray, among other names, in which solid metallic or non-metallic material is heated to a molten or semi-molten state and propelled to the work piece or substrate by compressed air or other gas, where a bond is produced upon impact. Thermal spraying operations at area sources are subject to the Plating and Polishing Area Source NESHAP, subpart WWWWWW of this part.

Spray gun cleaning may be done by hand cleaning parts of

the disassembled gun in a container of solvent, by flushing solvent through the gun without atomizing the solvent and paint residue, or by using a fully enclosed spray gun washer. A combination of non-atomizing methods may also be used. A gun washer consists of a solvent reservoir and a covered enclosure that dispenses solvent for gun cleaning. The enclosure may also hold the gun for automated gun cleaning. During gun cleaning in a gun washer, the cleaning solvent is dispensed from the reservoir and sprayed through the gun while it is open.

Welding Operations. This metal fabrication and finishing operation joins two metal parts by melting the parts at the joint and filling the space with molten metal. The most frequently used method for generating heat is obtained either from an electric arc or a gas-oxygen flame. The type of welding most commonly used in the metal fabrication and finishing source categories is thought to be electric arc welding.

Electric arc welding includes many different variations that involve various types of electrodes, fluxes, shielding gases, and types of equipment. Electric arc welding can be divided into that which uses consumable electrodes vs. nonconsumable electrodes. In electric arc welding, a flow of electricity across the gap from the tip of the welding electrode to the base metal creates the heat needed for melting and joining the metal parts. The electric current melts both the

electrode and the base metal at the joint to form a molten pool, which solidifies upon cooling. Consumable welding rods are used when extra metal is needed as a filler for the joint to make a complete bond. The consumable rods must be close in composition to the base metals, and can vary with each application. An externally supplied gas (argon, helium, or carbon dioxide) can be used to shield the arc.

2. Metal Fabrication and Finishing HAP Emission Sources.

All five of the metal fabrication and finishing operations described above can emit MFHAP. The MFHAP that can be emitted from the metal fabrication and finishing operations are in the form of particulate matter (PM) produced from the material being fabricated, PM emitted from the use of consumable welding rods, and MFHAP used to color paints (as pigments). In addition, there are VOHAP emitted from painting operations, where the VOHAP are used as vehicles and solvents for the paints. Details on the HAP emissions from each of the five potential HAP-emitting operations follow below.

Dry Abrasive Blasting Emissions. The emissions from dry abrasive blasting are predominantly inert PM resulting from breakdown of the blast material which is composed of silica sand, glass beads, aluminum oxide, slag, garnet, steel shot, walnut shells, and other materials. Few if any blast materials contain MFHAP, therefore any MFHAP that is emitted from blasting

would originate from the part or product being blasted. Occasionally the blasted part or product may be painted, in which case the PM will contain additional MFHAP if present in the pigments in the paint. Painted substrates are uncommon in the metal fabrication and finishing industries, since these industries primarily produce new products rather than recondition old ones. The blasted substrates typically include metals such as: cadmium, chromium (primarily in stainless steel), iron, lead, magnesium, manganese (in both mild and stainless steels), mercury, molybdenum, nickel (in stainless steel), selenium, tin, vanadium, and zinc (in galvanized steel). All five MFHAP are potential components of blasting substrates.

Dry Grinding and Dry Polishing Emissions. Some metal fabrication and finishing machine operations, such as grinding and polishing, are often times dry operations which can emit PM that can contain MFHAP. Polishing by hand without the use of machines usually emits little or no PM or MFHAP due to the low level of abrasion that potentially can be induced by the worker's hands. All the PM or MFHAP in grinding and polishing is produced from the work piece itself. Thus, the composition of the PM and presence of MFHAP is dependent upon the metal being worked. As above for blasting, the metal fabrication and finishing substrates typically include metals such as: cadmium, chromium (primarily in stainless steel), iron, lead, magnesium,

manganese (in both mild and stainless steels), mercury, molybdenum, nickel (in stainless steel), selenium, tin, vanadium, and zinc (in galvanized steel). All five MFHAP are potential components of metal fabrication and finishing substrates and therefore, are also potential emissions from operations of dry grinding and dry polishing with machines.

Machining Emissions. Most of the machining operations in the metal fabrication and finishing industry are totally enclosed, where the enclosure is part of the equipment. Many of these operations use lubricants or liquid coolants, either alone or in conjunction with enclosures. Because any emissions generated by these machining operations, which would be in the form of PM, are captured or entrained in the liquid, little or no emissions are generated. Any MFHAP that is released from machining would originate from the part or product being machined.

Spray Painting Emissions. The sources of HAP emissions from spray painting operations are the metal pigments and solvents that are in the paints. A substantial fraction of paint that is atomized does not reach the part and becomes what is termed “overspray” and generates HAP emissions.

All five MFHAP are potential components of paint pigments that are used to provide color to the paint. The MFHAP are emitted when the paints are atomized during spray application.

The proposed spray painting requirements of this proposed rule would only apply to those spray painting operations that spray-apply paints that contain MFHAP. Paints are considered to contain MFHAP if they contain any individual MFHAP at a concentration greater than 0.1 percent by mass. For the purpose of determining whether paints contain MFHAP, facilities would be able to use formulation data provided by the manufacturer or supplier, such as the material safety data sheet, as long as it represents each MFHAP compound in the paint that is present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens and at 1.0 percent by mass or more for other MFHAP compounds.

Paint solvents are used as vehicles for the paint pigments. These solvents include VOHAP such as xylenes, toluene, phenol, cresols/cresylic acid, glycol ethers (including ethylene glycol monobutyl ether), styrene, methyl isobutyl ketone, and ethyl benzene. Paints used in spray painting are thinned with solvents so that the paints are fluid enough to be able to be delivered onto the parts and products via narrow spray gun nozzles. The solvents are considered to be completely volatilized during spray application of the paint and during curing or drying. Most solvents contain HAP. The solvents may also consist of volatile organic compound (VOC) emissions which contribute to ozone formation, an EPA-regulated criteria

pollutant.

The remaining HAP emissions are primarily from cleaning operations, such as cleaning of spray guns. The HAP emissions from both the cleaning solvent and the paint removed from the gun can be emitted during cleaning. Solvents used for equipment cleaning may contain the same HAP as the paints they remove. The HAP Emissions from gun cleaning are minimized when cleaning is performed in a manner such that an atomized mist or spray of gun cleaning solvent and paint residue is not created outside of a container that collects used gun cleaning solvent.

Mixing and storage are other sources of HAP emissions. The HAP emissions can occur from displacement of HAP-laden air in containers used to store HAP solvents or to mix paints containing HAP solvents. The displacement of vapor-laden air also can be caused by changes in temperature or barometric pressure, or by agitation during mixing.

Welding Emissions. The type of welding most commonly used in the metal fabrication and finishing source categories is thought to be electric arc welding. This is also the type of welding that can produce the most MFHAP emissions, since a consumable electrode is used. Emissions from welding are in the form of a fume, which is defined to be particles that are small enough to be airborne for extended periods of time and are visible to the human eye. The size of particles in welding fume

is highly variable with an average size around 1 micrometer (µm), corresponding to what is commonly called the "fume" size range. Welding fumes have a bimodal distribution, with maximum concentrations in "coarse" (approximately 1.5 µm) and "fine" (0.52µm) particle size ranges.

Welding fumes are a product of the base metal being welded, the consumable welding electrode or wire, the shielding gas, and any surface coatings or contaminants on the base metal. As much as 95 percent of the welding fume is thought to originate from the melting of the electrode or wire consumable. Welding fume constituents may include silica and fluorides, used to aid the welding operation, and HAP metals such as antimony, arsenic, beryllium, cobalt, mercury, and selenium, in addition to the five MFHAP: cadmium, chromium, lead, manganese, and nickel. As noted above for dry abrasive blasting, chromium and nickel are found primarily in stainless steel, whereas manganese is found in both mild and stainless steels.

Among the electric arc welding operations that use a consumable electrode, shielded metal arc welding (SMAW) is used in more than 50 percent of welding. SMAW also was the first welding type to use a consumable electrode and suits most general purpose welding applications. SMAW, also called manual metal arc welding (MMAW) or “stick” possibly because it uses replaceable welding electrode rods that look like sticks, has a

high fume formation rate as compared to other welding operations. The advantages of SMAW welding include its simplicity, low cost, portability, and the fact that a shielding gas is not needed. One restriction of SMAW is that since it uses metal rods that must be replaced, it is slower than the welding operations which use continuous electrodes.

Another type of welding that uses a consumable electrode and has a high fume formation rate is fluxed-core arc welding (FCAW). High fume formation occurs because the weld material is a liquid or "flux" and not a solid wire, and therefore is more volatile.

Gas metal arc welding (GMAW), originally called metal inert gas (MIG) welding because it used an inert gas for shielding, has a moderate fume formation rate as compared to other welding operations. The advantages of GMAW include its ability to be operated in semiautomatic or automatic modes. It is the only consumable welding type that can weld all commercially important metals, such as carbon steel, high-strength low alloy steel, stainless steel, nickel alloys, titanium, aluminum, and copper. With GMAW, a weld can be performed in all positions with the proper choice of electrode, shielding gas, and welding variables. Compared to SMAW, the rate of deposition of the electrode material and therefore welding rate is higher than with GMAW. The disadvantage is that the equipment for GMAW is

more complex, more expensive, and less portable than SMAW.

Another type of welding that uses a consumable electrode and has a low fume formation rate is submerged arc welding (SAW). In this type of welding, the welding rod is not exposed to the atmosphere which lowers the potential for emissions.

Two welding operations that use non-consumable electrodes are gas tungsten arc welding (GTAW) that is also called tungsten inert gas (TIG), and plasma arc welding (PAW). Because consumable electrodes are not used, this type of welding has low or no emissions.

The choice of welding method is determined by many variables that include but are not limited to substrate material and shape; type of weld needed; skill of welder; and amount of welding to be done, therefore, a change from one type of welding to another is not always possible.

The shape of the material is another variable that can affect fume formation rate. It also has been found that when the angle of welding is closer to 90°, lower fume formation occurs. If the shape of the part to be welded prevents re-positioning the welding equipment, this pollution prevention technique also cannot be used.

In terms of welding rod feed rate, it has been found that the higher the wire feed rate the higher the fume formation rate. Also, a low fume welding rod that reduces fume by 30

percent as compared to other available products has been reported as recently available for use with FCAW. Minor effects to reduce fume formation rate have also been attributed to the speed that the welding torch moves along the weld, i.e., the "travel speed."

Carrier or shielding gas type and flow rate are also variables that have been found to affect welding fume formation rate. Substitution of argon gas reduces the fume formation rate. A reduction in fume of approximately 40 percent has been reported if argon is replaced as the shielding gas. The shield gas flowrate also can be optimized, with 35 cubic feet per hour the reported optimum rate. This rate is in the middle of the usual operating range and is thought to be low enough to minimize turbulence but high enough to protect the worker.

Voltage and current play a key role in the welding fume formation rate. While low voltage and/or current is known to lower the fume formation rate, the use of a pulsed current has been found to lower fume formation by up to 90 percent of the rate with straight current for some types of welding operations. The reduction in welding fume with a pulsed current is due to the change in metal electrode transfer mode from globular to spray, that results from moderately increasing the voltage and delivering a pulsed rather than steady current. There is also a voltage window in which the fume rate reduction occurs, since

with too high voltage, a shift from spray to stream mode occurs along with a subsequent increase in emissions. Pulsed current is only successful if used with GMAW, which is itself a pollution prevention technique since it has one of the lowest fume formation rates of welding performed with consumable electrodes.

Welding emissions have been found to be reduced when automation is used. Since automated welding is faster and more efficient than manual welding, total emissions are lower even though the overall fume formation rate of the automated welding remains the same as with manual welding.

Emissions of MFHAP in welding fume are also subject to regulations by the OSHA, a U.S. government agency that develops work place emission standards. The sole goal of OSHA regulations is to protect the worker from being exposed to high concentrations of pollutants, such as MFAP. The OSHA regulations set standards for MFHAP concentration as measured in the breathing zone of the workers, as a time-weighted average over the time period of a typical work shift (usually 6 hours or more). The OSHA limits for MFHAP are as follows:

Welding MFHAP	OSHA Limit (micrograms per cubic meter)
cadmium fume	5
chromium, hexavalent	5
chromium, total metal	1,000

lead	50
manganese	5,000
nickel	1,000

The OSHA hexavalent chromium exposure limit was reduced in 2006 from 52 to 5 micrograms per cubic meter ($\mu g/m^3$). The American Conference of Government Industrial Hygienists, an association of occupational health professionals, recommends a worker exposure limit for "total welding fume" of 5,000 $\mu g/m^3$.

3. Metal Fabrication and Finishing HAP Emission Controls.

A variety of methods are used to control emissions from the metal fabrication and finishing operations. Some methods are designed to reduce emissions through pollution prevention or management practices, and other methods involve capturing emissions and exhausting them to an add-on emission control devices. The most widely-used methods of control employed by the metal fabrication and finishing operations are discussed below.

Dry Abrasive Blasting Controls. Small self-contained "glove box" dry abrasive blasting operations are used for small parts and typically have no vents to the atmosphere, thus no emissions. These devices are considered controlled operations as typically operated. When using glove boxes, the worker places their hands in openings or gloves that extend into the box and enables the worker to hold the objects as they are being

blasted without allowing air and blast material to escape the box. Because of the proximity of the worker to the glove box and the blasting operation, no abrasive material can be allowed to be emitted.

Larger dry abrasive blasting operations are performed in enclosures and are typically equipped with cartridge filters or other external add-on control devices that collect degraded or "used" blast material and particles removed from the parts or products. These control systems, which consist of enclosures and filters, can achieve at least 95 percent control of PM, as a surrogate for MFHAP, if operated according to the manufacturer's specifications. Used blast material is recycled via screening, sieving, or other methods to remove degraded media and return the blast material to its original condition. Significant cost savings are realized through recycling of the blast material. Some dry abrasive blasting operations are not completely enclosed, or are performed outdoors. Emissions from these operations are controlled or reduced via partial enclosures and also the use of management practices. These practices include good choice of blast media which is less likely to break down into fine PM; avoiding re-use of blast media, or filtration of blast media to remove broken particles; and avoiding blasting outside during periods of high winds.

Dry Grinding and Dry Polishing with Machines Controls.

These machine operations emit significant metal PM if uncontrolled, therefore, these operations, if not totally enclosed, use control systems to control the PM emitted. The control systems are composed of local capture devices with cartridge, fabric, or high-efficiency particulate air (HEPA) filters as control devices. These control systems are known to achieve 85 percent overall control of PM, as a surrogate for MFHAP, considering the efficiency of both the capture and control devices. The large amount of fine PM generated during these operations would make the work environment unbearable for the workers if not controlled, hence constant PM control is standard industry practice and an integral part of all dry grinding and dry polishing with machine operations at metal fabrication and finishing facilities.

Machining Controls. The MFHAP emitted by machining operations consist of large particles or metal shavings that are so large they immediately fall to the floor. The machines used today to perform precision cutting and forming are totally enclosed except for doors that open to allow placement of the part to be machined. The doors are closed before the machining begins; therefore, no MFHAP or PM is emitted into the workplace during machining operations. Some machining operations also use lubricants and cutting oils to keep the equipment cooled and working properly and, therefore, concurrently entrain any fine

particles that are generated. These "wet" machining operations also do not generate any MFHAP or PM emissions during operation. This industry has evolved since 1990, where machining operations were open and a large source of PM and MFHAP, to the current industry practice of totally enclosing the machining operations.

Spray Painting Controls. There are three primary means of controlling emissions from painting operations: reduction of overspray; capture of overspray with a spray booth and control of the MFHAP by filtration or a water scrubbing system; and changes to paint composition to reduce solvent and VOHAP content.

Reduction of overspray can have a significant effect on emissions of both MFHAP and VOHAP. The fraction of applied paint that becomes overspray depends on many variables, but two of the most important are the type of equipment and the skill of the painter. High velocity low pressure spray guns or other high-efficiency technologies, such as airless spray guns or electrostatic technologies, can significantly reduce the amount of overspray, and thus reduce emissions. Worker training is particularly important with these technologies, because they require even experienced painters to learn new techniques. Many types of training programs are available and many facilities perform their own training "in-house." The best known of the external training programs is the Spray Technique Analysis and

Research (STAR®) program study that originated at the University of Northern Iowa Waste Reduction Center and has now been adopted at 37 locations (primarily community colleges) throughout the United States.

Some overspray lands on surfaces of the spray booth and the masking paper that is usually placed around the surface being sprayed, but the rest of the overspray is contained by the spray booth and drawn into the spray booth exhaust system. The large amount of PM generated during paint spraying makes it necessary to control the PM emitted at all times to protect the worker and working environment. If the spray booth has filters, most of the overspray PM and metals are captured by the filters; otherwise, the emissions are exhausted to the atmosphere. Spray booths controlled by fabric filters can reduce PM and MFHAP emissions by 98 percent, if operated properly. Water curtains can also be used for controlling emissions from spray booths.

As a result of efforts to reduce the impact of HAP- and VOC-containing paint solvents on the environment, many paint manufacturers have developed lower solvent-content paints, also referred to as “water-based” paints. Water-based paints may have up to 30 percent VOHAP-containing solvent, with the balance of the paint vehicle consisting of water; however, the level of solvent in water-based paints is much less than the previous 80 percent or more VOHAP that is contained in solvent-based paints.

As a result of the lower VOHAP solvent content, water-based paints on general have a lower VOHAP content than solvent-based paints. The regulations promulgated to fulfill section 112 of the CAA for major sources had a direct effect on increasing the market availability of lower-HAP and -VOC paints in all market areas, including miscellaneous metal parts, plastic parts, large appliances, autobody refinishing, and architectural and industrial maintenance coatings. Many State air toxics regulations require the use of commonly called "compliant coatings," where the only paints or coatings allowed to be used in certain areas must contain a solvent content lower than a designated level in order to be "compliant" with the regulation. The use of compliant coatings is a pollution prevention control method.

Some regulations which require compliant coatings set one limit for all paints while others require different limits depending on the purpose of the paint. Other regulations permit a weighted averaging of the solvent content of the paints used, where facilities are permitted to use paints with higher solvent contents as long as their use is offset by paints with lower solvent content. This latter method of compliance is considered a more flexible approach that allows facilities to balance their use of solvents to where it is needed most. In addition, some facilities may choose to use add-on controls such as solvent

recovery units, thermal incineration, or carbon adsorbers to control VOHAP emissions for situations where the solvent content cannot be reduced to a compliant coating level. These add-on controls are known to achieve at least 95 percent control of VOHAP.

Welding Controls. Many different welding operations are commonly used in the metal fabrication and finishing industry, as discussed above under welding emissions. Consequently, there are many possible means of reducing emissions. Not all control methods are appropriate for all types of welding operations, however, and thus there is no one "best" method to reduce welding fume or PM, as a surrogate for MFHAP. The two primary categories of emission control for welding are fume reduction through pollution prevention and management practices, and capture and control of the welding fume.

The primary variable in pollution prevention for welding is the type of welding wire or electrode used. Over 95 percent of welding fume is thought to originate from the filler or electrode material with the remainder coming from the base material. If the wire consists of MFHAP-containing material, such as chromium or nickel, then the emissions of these MFHAP are more likely. Since the weld or wire material must closely match the material being welded in order to be effective, the choice of weld material may not be able to be altered by the

facility for some or all of its products. For example, if stainless steel is a required material due to the specifications of the part or product by the customers, the potential for chromium emissions in these operations cannot be prevented.

The choice of welding type, which impacts the potential fume formation rate, also provides opportunities for pollution prevention. The type of welding method used at metal fabrication and finishing facilities is determined by many variables that include but are not limited to substrate material and shape; type of weld needed; skill of welder; and amount of welding to be done. Therefore, a change from one type of welding to another is not always possible.

Welding which does not use a consumable electrode has a much lower emission potential, as noted above in the "Welding Emissions" discussion. Two common welding operations that use non-consumable electrodes are GTAW, also called TIG, and PAW. Switching from welding that uses a consumable electrode to one of the above operations that does not use a consumable electrode is a form of pollution prevention.

Among the welding operations that use a consumable electrode, SMAW, also called MMAW or "stick," is the most widely used electric arc welding. However, SMAW has a high fume formation rate as compared to other welding operations. Another welding type that also has a high fume formation rate is FCAW.

GMAW, also called MIG, has a moderate fume formation rate as compared to other welding operations. The disadvantage of GMAW is that the equipment for GMAW is more complex, more expensive, and less portable than SMAW. Another type of welding that uses consumable electrodes and has a relatively lower fume formation rate is SAW. Switching from welding that has a relatively higher fume formation rate, such as SMAW or FCAW, to one that has a lower rate, such as GMAW or SAW, is a form of pollution prevention.

Other welding variables have been determined to have a favorable effect on fume formation rates. Optimizing these variables for the specific task at hand is a form of pollution prevention. These variables include optimized welding rod feed rate, use of low fume welding rods; fast welding torch travel speed; optimized carrier or shielding gas flow rate; substitution of inert shielding gas, such as argon, for carbon dioxide shielding gas; lowering the welding voltage; pulsing the applied current; and the use of automation, i.e., robotics. Note that pulsing the current is only successful if used with GMAW, which is itself a pollution prevention technique since it has one of the lowest fume formation rates for welding performed with consumable electrodes.

In addition to the numerous management and pollution prevention practices that reduce welding fume generation, some

facilities use capture and control devices to collect welding fume after it is generated. Hoods and other local exhaust techniques are used to collect the welding fume which is then vented to cartridge, fabric, or HEPA filters. Some of these control systems may only partially capture the welding fume. The advantage of using local capture systems as opposed to room ventilation is that it provides the ability to move the control device to different welding stations as needed. Very few facilities in the metal fabrication and finishing source categories use full room ventilation and PM control to reduce welding emissions. This is due to the competing requirements to ventilate the breathing zone of the worker to comply with OSHA regulations and the need to minimize the amount of exhaust air going to ventilation and add-on control devices.

The use of control systems is not always possible because the capture systems may affect the air flow pattern around welding operations and, therefore, interfere with the success of the weld. Another difficulty with local exhaust is the need to position and sometimes reposition the capture equipment so as to be most effective during welding operations without causing more fumes to enter the breathing zone of the worker.

Fume control welding guns, commonly called fume guns, have been developed where the welding fume is captured by the same device that performs the welding. Mixed success has been

reported with these devices because of problems with the ergonomics of using the fume guns.

In the EPA survey of metal fabrication and finishing facilities, only 20 percent of facilities with welding stations used controls devices or fume guns. These control systems are known to achieve 85 percent overall PM control efficiency, as a surrogate for MFHAP, considering the efficiency of both the capture and control devices.

III. Summary of Proposed Standards

A. Do the proposed standards apply to my source?

The proposed subpart XXXXXX applies to new or existing affected metal fabrication and finishing area sources in one of the following nine source categories (listed alphabetically) that emit MFHAP: (1) Electrical and Electronic Equipment Finishing Operations; (2) Fabricated Metal Products; (3) Fabricated Plate Work (Boiler Shops); (4) Fabricated Structural Metal Manufacturing; (5) Heating Equipment, except Electric; (6) Industrial Machinery and Equipment: Finishing Operations; (7) Iron and Steel Forging; (8) Primary Metal Products Manufacturing; and (9) Valves and Pipe Fittings. A more detailed description of these source categories can be found in section II(B) above. If you have any questions regarding the applicability of this action to a particular entity, consult either the air permit authority for the entity

or your EPA regional representative as listed in 40 CFR 63.13 of subpart A (General Provisions). Facilities affected by this proposed rule are not subject to the miscellaneous coating requirements in 40 CFR part 63, subpart HHHHHH, "National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources," for their source(s) subject to the requirements of this proposed rule. There potentially may be other sources at the facility not subject to the requirements of this proposed rule that are instead subject to subpart HHHHHH of this part.

B. When must I comply with these proposed standards?

All existing area source facilities subject to this proposed rule would be required to comply with the rule requirements no later than 2 years after the date of publication of the final rule in the **Federal Register**.

C. For what processes is EPA proposing standards?

In our research for this proposed rule, we found that there are five general production operations common to the nine metal fabrication and finishing source categories that can emit MFHAP. These five production operations are: (1) dry abrasive blasting; (2) dry grinding and dry polishing with machines; (3) machining; (4) spray painting; and (5) welding. In our review of the available data, we observed significant differences for some of the five metal fabrication and finishing operations. As

explained below, as the result of these differences we have further differentiated some of the above five operations. We identify below nine distinct metal fabrication and finishing processes for the purposes of this proposed rule.

For dry abrasive blasting operations, we determined that there were two distinct sizes of products being blasted that affected the manner in which the blasting was performed: products more than 8 feet in any dimension, and products equal to or less than 8 feet. For products under 8 feet, we also observed that some of these products were blasted in completely enclosed chambers that did not allow any air or emissions to escape. Therefore, we developed three distinct dry abrasive blasting processes: (1) dry abrasive blasting of objects less than or equal to 8 feet in any dimension in completely enclosed and unvented blast chambers; (2) dry abrasive blasting of objects less than or equal to 8 feet in any dimension performed in vented enclosures, and (3) dry abrasive blasting of objects greater than 8 feet in any dimension.

In spray painting operations that emit MFHAP, we also determined that there were two distinct sizes of products being painted that affected the manner in which the process was performed: products more than 15 feet in any dimension, and products equal to or less than 15 feet in any dimension. Therefore we developed two distinct spray painting processes:

(1) spray painting of objects less than or equal to 15 feet in any dimension, and (2) spray painting of objects greater than 15 feet in any dimension. However, for the purposes of controlling VOHAP, we did not distinguish between object size, therefore the standards proposed for control of VOHAP emissions from spray painting includes only one proposed GACT requirement.

For dry grinding and dry polishing with machines, machining, and welding, we did not observe any distinct differences that would warrant further distinguishing the operations into separate processes. Therefore, these three processes combined with the three for dry abrasive blasting and three for painting results described above, results in nine total processes addressed by this proposed rule, as follows: (1) dry abrasive blasting objects less than or equal to 8 feet in any dimension, performed in completely enclosed and unvented blast chambers; (2) dry abrasive blasting of objects less than or equal to 8 feet in any dimension, performed in vented enclosures; (3) dry abrasive blasting of objects greater than 8 feet in any dimension; (4) dry grinding and dry polishing with machines; (5) machining; (6) control of VOHAP from spray painting; (7) control of MFHAP in the spray painting of objects less than or equal to 15 feet in any dimension; (8) control of MFHAP in the spray painting of objects greater than 15 feet in any dimension; and (9) welding.

D. What emissions control requirements is EPA proposing?

We are proposing control requirements for nine metal fabrication and finishing processes described above in section (C). The following is a description of these proposed control requirements. The emission control requirements proposed here do not apply to tool or equipment repair; or research and development operations.

1. Standards for Dry Abrasive Blasting of Objects Less Than or Equal To 8 Feet in Any Dimension, Performed in Completely Enclosed and Unvented Blast Chambers.

Completely enclosed and unvented blast chambers are generally small “glove box” type dry abrasive blasting operations. Because there are no vents or openings in the enclosures, there are no emissions directly from the operation itself.

This proposed rule would require owners or operators of completely enclosed and unvented blast chambers to comply with the following two management and pollution prevention practices: (1) minimize dust generation during emptying of the enclosure; and (2) operate all equipment used in the blasting operation according to manufacturer's instructions.

2. Standards for Dry Abrasive Blasting Of Objects Less than or Equal to 8 Feet in Any Dimension, Performed in Vented Enclosures.

This proposed rule would require owners or operators of affected new and existing dry abrasive blasting operations blasting substrates of less than or equal to 8 feet in any dimension to perform blasting with a control system that includes an enclosure, as a capture device, and a cartridge, fabric or HEPA filter as a control device that is designed to control PM emissions, as a surrogate for MFHAP, from the process. These control systems using filters can achieve at least 95 percent control efficiency of PM, as a surrogate for MFHAP, if operated according to the manufacturer's specifications.

An enclosure is defined to be any structure that includes a roof and at least two complete walls, with side curtains and ventilation as needed to insure that no air or PM exits the chamber while blasting is performed. Apertures or slots may be present in the roof or walls to allow for transport of the blasted objects using overhead cranes, or cable and cord entry into the blasting chamber. Facilities that would like to use equipment other than those listed above can seek approval to do so pursuant to the procedures in §63.6(g) of the General Provisions to part 63, which require the owner or operator to

demonstrate that the alternative means of emission limitation achieves at least equivalent HAP emission reductions as the controls specified in this proposed rule.

This proposed rule also would require owners or operators of all affected new and existing dry abrasive blasting operations blasting substrates of less than or equal to 8 feet in any dimension to comply with the following three management and pollution prevention practices: (1) keep work areas free of excess dust by regular sweeping or vacuuming to control the accumulation of dust and other particles; regular sweeping or vacuuming is defined to be sweeping or vacuuming conducted once per day, once per shift, or once per operation as needed, depending on the severity of dust generation; (2) enclose dusty material storage areas and holding bins, seal chutes and conveyors; and (3) operate all equipment according to manufacturer's instructions.

3. Standards for Dry Abrasive Blasting of Objects Greater than 8 Feet in Any Dimension.

This proposed rule would require owners or operators of affected new and existing dry abrasive blasting operations that blast substrates greater than 8 feet in any dimension to comply with the following management and pollution prevention practices to minimize MFHAP emissions from the processes: (1) do not perform blasting outside when wind velocity is greater than 25

miles per hour; (2) switch from high PM-emitting blast media (e.g., sand) to low PM-emitting blast media (e.g., steel shot, aluminum oxide), whenever practicable; (3) do not blast substrates having coatings containing lead (>0.1 percent lead), unless enclosures, barriers, or other PM control methods are used to collect the lead particles; and (4) do not re-use the blast media unless contaminants (i.e., any material other than the base metal, such as paint residue) have been removed by filtration or screening so that the abrasive material conforms to its original size and makeup.

This proposed rule would also require owners or operators of affected dry abrasive blasting operations that blast substrates greater than 8 feet in any dimension to comply with the following three management and pollution prevention practices: (1) keep work areas free of excess dust by regular sweeping or vacuuming to control the accumulation of dust and other particles; regular sweeping or vacuuming is defined to be sweeping or vacuuming conducted once per day, once per shift, or once per operation as needed, depending on the severity of dust generation; (2) enclose dusty material storage areas and holding bins, seal chutes and conveyors; and (3) operate all equipment according to manufacturer's instructions.

4. Standards for Dry Grinding and Dry Polishing with Machines.

Dry grinding and dry polishing with machines operations

often emit significant PM, which is a surrogate for MFPM. This proposed rule would require owners or operators of affected new and existing dry grinding and dry polishing with machines operations to capture PM emissions, as a surrogate for MFHAP, with capture devices and vent the exhaust to a cartridge, fabric, or HEPA filter. These control systems are known to achieve at least 85 percent overall PM control efficiency, as a surrogate for MFHAP, if operated according to the manufacturer's specifications. Facilities that would like to use equipment other than those listed above can seek approval to do so pursuant to the procedures in §63.6(g) of the General Provisions to part 63, which require the owner or operator to demonstrate that the alternative means of emission limitation achieves at least equivalent HAP emission reductions as the controls specified in this proposed rule.

This proposed rule would also require owners or operators of affected new and existing dry grinding and dry polishing with machines operations to comply with the following two management and pollution prevention practices: (1) keep work areas free of excess dust by regular sweeping or vacuuming to control the accumulation of dust and other particles; regular sweeping or vacuuming is defined to be sweeping or vacuuming conducted once per day, once per shift, or once per operation as needed, depending on the severity of dust generation; and (2) operate

all equipment used in dry grinding and dry polishing with machines according to manufacturer's instructions.

5. Standards for Machining.

The majority of the PM released by machining operations consists of large particles or metal shavings that fall immediately to the floor. Any MFHAP that is released would originate from the part or product being machined. Machining is totally enclosed and/or uses lubricants or liquid coolants that do not allow small particles to escape. This proposed rule would require owners or operators of affected new and existing machining operations to comply with the following two management and pollution prevention practices to minimize dust generation in the workplace: (1) keep work areas free of excess dust by regular sweeping or vacuuming to control the accumulation of dust and other particles; regular sweeping or vacuuming is defined to be sweeping or vacuuming conducted once per day, once per shift, or once per operation as needed, depending on the severity of dust generation; and (2) operate equipment used in machining operations according to manufacturer's instructions.

6. Standards for Control of VOHAP from Spray Painting Operations.

Spray painting operations can be significant sources of VOHAP emissions. This proposed rule would require owners or operators of spray painting operations from affected sources

that have the potential to emit VOHAP to use paints containing no more than 3.0 pounds VOHAP per gallon paint solids (0.36 kilograms per liter (kg/liter)) on an annual (12-month) rolling average basis. Two methods of complying with this standard are provided. One option would require that all paints are demonstrated as meeting the VOHAP limit. The second option would require facilities to meet the VOHAP limit using a 12-month rolling weighted average. In this second option, some paints can be above the VOHAP limit as long as their use is balanced by other paints that are below the limit, such that the overall weighted average of all paints and their VOHAP content is calculated to be at or below the VOHAP limit that would be required by this proposed rule.

This proposed rule would also require owners or operators of new and existing spray painting operations that have the potential to emit VOHAP to comply with the following two management and pollution prevention practices: (1) minimize VOHAP emissions during mixing, storage, and transfer of paints; and (2) keep paint and solvent lids tightly closed when not in use.

Based on reasonable assumptions about the practices included in the 1990 112(k) urban HAP inventory, we have concluded that painting processes that contributed to VOHAP and MFHAP emissions in these source categories most likely did not

include the following materials or activities and, therefore, we do not cover these materials or activities in this proposed rule:

(1) Paints applied from a hand-held device with a paint cup capacity that is less than 3.0 fluid ounces (89 cubic centimeters);

(2) Surface coating application using powder coating, hand-held, non-refillable aerosol containers, or non-atomizing application technology, including, but not limited to, paint brushes, rollers, hand wiping, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, or marking pens;

(3) Any painting or coating that normally requires the use of an airbrush or an extension on the spray gun to properly reach limited access spaces; or the application of paints or coatings that contain fillers that adversely affect atomization with high velocity low pressure (HVLP) or equivalent spray guns, and the application of coatings that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.).

7. Standards for Control of MFHAP from Spray Painting of Objects Greater than 15 Feet in Any Dimension.

This proposed rule would require owners or operators of affected new and existing spray painting of objects greater than

15 feet in any dimension to comply with one equipment standard, to use of low-emitting and pollution preventing spray gun technology. This proposed rule also would require two management practices: (1) spray painter training and (2) spray gun cleaning.

Based on reasonable assumptions about the practices included in the 1990 112(k) urban HAP inventory, we have concluded that painting processes that contributed to MFHAP emissions in these source categories most likely did not include the following materials or activities, and, therefore, we do not cover these materials or activities in this proposed rule:

(1) Paints applied from a hand-held device with a paint cup capacity that is less than 3.0 fluid ounces (89 cubic centimeters);

(2) Surface coating application using powder coating, hand-held, non-refillable aerosol containers, or non-atomizing application technology, including, but not limited to, paint brushes, rollers, hand wiping, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, or marking pens;

(3) Any painting or coating that normally requires the use of an airbrush or an extension on the spray gun to properly reach limited access spaces; or the application of paints or coatings that contain fillers that adversely affect

atomization with HVLP or equivalent spray guns, and the application of coatings that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.).

Spray painting also does not include thermal spray operations, also known as metallizing, flame spray, plasma arc spray, and electric arc spray, among other names, in which solid metallic or non-metallic material is heated to a molten or semi-molten state and propelled to the work piece or substrate by compressed air or other gas, where a bond is produced upon impact. Thermal spraying operations at area sources are subject to the Plating and Polishing Area Source NESHAP, subpart WWWWWW of this part.

Spray Gun Technology Requirements. This proposed rule would require all affected new and existing facilities using spray-applied paints to use HVLP spray guns, electrostatic application, or airless spray techniques. Alternatively, an equivalent technology can be used if it is demonstrated to achieve transfer efficiency comparable to one of the spray gun technologies listed above for a comparable operation, and for which written approval has been obtained from the Administrator or delegated authority.

The procedure to be used to demonstrate that spray gun transfer efficiency is equivalent to that of an HVLP spray gun should be equivalent to the California South Coast Air Quality

Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989" and "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002" (incorporated by reference, see §63.14 of subpart A of this part). The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy from the California South Coast Air Quality Management District website at http://www.aqmd.gov/permit/docspdf/TransferEfficiencyTestingGuidelinesforHVLPEquivalency.pdf and http://www.aqmd.gov/permit/docspdf/Spray-Eqpt-Trfr-Efficiency.pdf. You may inspect a copy at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. The proposed requirements of this paragraph do not apply to painting performed by students and instructors at paint training centers.

Spray Painting Training Requirements. This proposed rule would require all workers that perform spray painting at affected new and existing facilities to be trained, with certification made available that this training has occurred.

The painters would need to be certified as having completed classroom and hands-on training in the proper selection, mixing, and application of paints, or the equivalent. Refresher training would need to be repeated at least once every 5 years. These requirements would not apply to operators of robotic or automated surface painting operations. The initial and refresher training would need to address the following topics to reduce paint overspray, which has a direct effect on emissions reductions, as follows:

- Spray gun equipment selection, set up, and operation, including measuring paint viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate.
- Spray technique for different types of paints to improve transfer efficiency and minimize paint usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap, and reducing lead and lag spraying at the beginning and end of each stroke.
- Routine spray booth and filter maintenance, including filter selection and installation.

For the purposes of the proposed training requirements, the facility owner or operator may certify that their employees have completed training during “in-house” training programs. Also, facilities that can show by documentation or certification that

a painter's work experience and/or training has resulted in training equivalent to the training described above would not be required to provide the initial training required for these painters.

Spray painters have 180 days to complete training after hiring or transferring into a surface painting job from another job in the facility. These proposed training requirements would not apply to the students of an accredited surface painting training program who are under the direct supervision of an instructor who meets the requirements of this paragraph. The training and certification for this rule would be valid for a period not to exceed 5 years after the date the training is completed.

Spray Gun Cleaning Requirements. This proposed rule would require all paint spray gun cleaning operations at affected new and existing facilities to use an atomized mist or spray such that the gun cleaning solvent and paint residue is not created outside of the container that collects the used gun cleaning solvent. Spray gun cleaning may be done, for example, by hand cleaning of parts of the disassembled gun in a container of solvent, by flushing solvent through the gun without atomizing the solvent and paint residue, or by using a fully enclosed spray gun washer. A combination of these non-atomizing methods above may also be used.

8. Standards for Control of MFHAP from Spray Painting Objects Less Than or Equal to 15 Feet in Any Dimension.

This proposed rule would require affected new and existing facilities that are spray painting objects less than or equal to 15 feet in any dimension to comply with two equipment standards: (1) use of low-emitting and pollution preventing spray gun technology, and (2) use of spray booth PM filters. This proposed rule also would require two management practices: (1) spray painter training; and (2) spray gun cleaning.

Based on reasonable assumptions about the practices included in the 1990 112(k) urban HAP inventory, we have concluded that painting processes that contributed to MFHAP emissions in these source categories most likely did not include the following materials or activities:

(1) Paints applied from a hand-held device with a paint cup capacity that is less than 3.0 fluid ounces (89 cubic centimeters);

(2) Surface coating application using powder coating, hand-held, non-refillable aerosol containers, or non-atomizing application technology, including, but not limited to, paint brushes, rollers, hand wiping, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, or marking pens;

(3) Any painting or coating that normally requires the use of

an airbrush or an extension on the spray gun to properly reach limited access spaces; or the application of paints or coatings that contain fillers that adversely affect atomization with HVLP or equivalent spray guns, and the application of coatings that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.).

Spray painting also does not include thermal spray operations, also known as metallizing, flame spray, plasma arc spray, and electric arc spray, among other names, in which solid metallic or non-metallic material is heated to a molten or semi-molten state and propelled to the work piece or substrate by compressed air or other gas, where a bond is produced upon impact. Thermal spraying operations at area sources are subject to the Plating and Polishing Area Source NESHAP, subpart WWWWWW of this part.

Spray Gun Technology Standards. This proposed rule would require all affected new and existing facilities using spray-applied paints to use HVLP spray guns, electrostatic application, or airless spray techniques. Alternatively, an equivalent technology can be used if it is demonstrated to achieve transfer efficiency comparable to one of the spray gun technologies listed above for a comparable operation, and for which written approval has been obtained from the Administrator or delegated authority.

The procedure to be used to demonstrate that spray gun transfer efficiency is equivalent to that of an HVLP spray gun should be equivalent to the California South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989" and "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002" (incorporated by reference, see §63.14 of subpart A of this part). The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy from the California South Coast Air Quality Management District website at http://www.aqmd.gov/permit/docspdf/TransferEfficiencyTestingGuidelinesforHVLPEquivalency.pdf and http://www.aqmd.gov/permit/docspdf/Spray-Eqpt-Trfr-Efficiency.pdf. You may inspect a copy at the NARA. For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal register/code_of_federal_regulations/ibr_locations.html. The requirements of this paragraph would not apply to painting performed by students and instructors at paint training centers.

Spray Booth PM Control Requirement. This proposed rule

would require the surface preparation stations or spray booths[3] of affected new and existing facilities to be fitted with fiberglass or polyester fiber filters or other comparable filter technology that can be demonstrated to achieve at least 98 percent control efficiency of paint overspray (also referred to as "arrestance"). As an alternate compliance option, spray booths can be equipped with a water curtain, called a "waterwash" or "waterspray" booth.

98 Percent PM Control Filter--For spray booths equipped with a PM filter, the procedure used to demonstrate filter efficiency would need to be consistent with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Method 52.1, "Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter, June 4, 1992" (incorporated by reference, see §63.14 of subpart A of this part). The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy from the ASHRAE at 1791 Tullie Circle, N.E. Atlanta, GA 30329 or by electronic mail at orders@ashrae.org. You may inspect a copy at the NARA. For information on the availability of this material at NARA, call 202-741-6030, or go

[3] The spray booth roof may contain narrow slots for connecting the parts and products to overhead cranes, or for cord or cable entry into the spray booth.

to:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. Compliance with the filter efficiency standard also can be demonstrated through data provided by the filter manufacturer. The test paint for measuring filter efficiency would be a high solids bake enamel delivered at a rate of at least 135 grams per minute from a conventional (non-HVLP) air-atomized spray gun operating at 40 pounds per square inch air pressure; the air flow rate across the filter shall be 150 feet per minute. Affected facilities may use published filter efficiency data provided by filter vendors to demonstrate compliance with this proposed requirement and would not be required to perform this measurement.

Waterwash spray booths--As an alternative compliance option, spray booths may be equipped with a water curtain that achieves at least 98 percent control of MFHAP. The waterwash or "waterspray" spray booths would be required to operated and maintained according to the manufacturer's specifications.

Spray Painting Training Requirements. This proposed rule would require all workers that perform spray painting at affected new and existing facilities to be trained, with certification made available that this training has occurred. The painters would need to be certified as having completed classroom and hands-on training in the proper selection, mixing,

and application of paints, or the equivalent. Refresher training would need to be repeated at least once every 5 years. These requirements would not apply to operators of robotic or automated surface painting operations. The initial and refresher training would need to address the following topics to reduce paint overspray, which has a direct effect on emissions reductions, as follows:

- Spray gun equipment selection, set up, and operation, including measuring paint viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate.
- Spray technique for different types of paints to improve transfer efficiency and minimize paint usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap, and reducing lead and lag spraying at the beginning and end of each stroke.
- Routine spray booth and filter maintenance, including filter selection and installation.

For the purposes of the proposed training requirements, the facility owner or operator may certify that their employees have completed training during “in-house” training programs. Also, facilities that can show by documentation or certification that a painter's work experience and/or training has resulted in

training equivalent to the proposed training described above would not required to provide the initial training required for these painters.

Spray painters have 180 days to complete training after hiring or transferring into a surface painting job from another job in the facility. These proposed training requirements do not apply to the students of an accredited surface painting training program who are under the direct supervision of an instructor who meets the requirements of this paragraph. The training and certification for this proposed rule would be valid for a period not to exceed 5 years after the date the training is completed.

Spray Gun Cleaning Requirements. This proposed rule would require all paint spray gun cleaning operations at affected new and existing facilities to use an atomized mist or spray such that the gun cleaning solvent and paint residue is not created outside of the container that collects the used gun cleaning solvent. Spray gun cleaning may be done, for example, by hand cleaning of parts of the disassembled gun in a container of solvent, by flushing solvent through the gun without atomizing the solvent and paint residue, or by using a fully enclosed spray gun washer. A combination of these non-atomizing methods above may also be used.

9. Standards for Welding.

This proposed rule would require owners or operators of affected new and existing welding operations to minimize or reduce welding fume by implementing the following 11 management and pollution prevention practices to be used as practicable:

(a) Use low fume welding processes whenever possible. These welding processes include but are not limited to: GMAW- also called MIG; GTAW - also called TIG; PAW; SAW; and all welding processes that do not use a consumable electrode;

(b) Use shielding gases, as appropriate to the type of welding used;

(c) Use an inert carrier gas, such as argon, as practicable to the type of welding used;

(d) Use low or no-HAP welding materials and substrates;

(e) Operate with a welding angle close to $90^{o;}$

(f) Optimize electrode diameter;

(g) Operate with lower voltage and current;

(h) Use low fume wires, as appropriate to the type of welding used;

(i) Optimize shield gas flow rate, as applicable to the type of welding used;

(j) Use low or optimized torch speed; and

(k) Use pulsed-current power supplies, as applicable to the type of welding used.

As a compliance alternative to the management practices for

welding processes, facilities may use control systems that reduce at least 85 percent of the welding fume, as a surrogate for MFHAP, with operation of the capture and control devices according to the manufacturer's instructions.

E. What are the initial compliance requirements?

To demonstrate initial compliance with this proposed rule, owners or operators of affected new and existing sources with dry abrasive blasting, machining, dry grinding and dry polishing with machines, spray painting, and welding operations would certify that they have implemented all required management and pollution prevention practices.

In addition, owners or operators of new and existing affected sources with spray painting operations that have the potential to emit VOHAP or MFHAP would also certify that they are in compliance with the following requirements: limit the VOHAP content of spray-applied paints, use of spray booths and filters, use of approved spray delivery and cleaning systems, and proper training of workers in spray painting application techniques.

F. What are the continuous compliance requirements?

There are continuous requirements for all affected processes in metal fabrication and finishing sources. There are also additional continuous compliance requirements for specific processes or groups of processes, as follows: visual emissions

testing for dry abrasive blasting, machining, and dry grinding and dry polishing with machines; tests for VOHAP content of paints in spray painting; tests for spray painting for MFHAP control; and visual emissions testing for welding. These requirements are discussed below in more detail.

1. Continuous Compliance Requirements for All Sources.

This proposed rule would require owners or operators of all affected new and existing sources to demonstrate continuous compliance by adhering to the management and pollution prevention practices specified in this proposed rule and maintaining the appropriate records to document this compliance.

Owners or operators that comply with this proposed rule by operating capture and control systems would be required to operate and maintain each capture system and control device according to the manufacturer's specifications. They also would be required to maintain records to document conformance with this requirement, and to keep the manufacturer's instruction manual available at the facility at all times.

2. Visual Emissions Testing For Dry abrasive Blasting, Machining, and Dry Grinding and Dry Polishing with Machines, to Determine Continuous Compliance.

Visible Emissions Testing. For new and existing affected sources of dry abrasive blasting operations (except dry abrasive blasting in completely enclosed and unvented blast chambers),

machining operations, and dry grinding and dry polishing with machines, this proposed rule would require visible emissions testing to demonstrate continuous compliance with management and pollution prevention practices intended to reduce emissions of PM, as a surrogate for MFHAP.

The affected sources would perform visual determinations of fugitive emissions, according to the graduated schedule described below, using EPA Method 22 (40 CFR part 60, appendix A) for a period of 15 continuous minutes from the exhaust from either the stack to the control device or the stack from the building where the equipment is located, as applicable. For the purpose of this proposed rule, the presence of visible emissions would be noted if any emissions are observed for more than a total of 6 minutes during the 15-minute period. In case of failure in any Method 22 test, immediate correction action would be required to follow to reduce or eliminate the visible emissions. The affected source would then be required to perform more frequent visible emissions testing, as described in the graduated schedule below.

Graduated Testing Schedule. The graduated schedule for continuous compliance with visible emissions testing for this rule, which progresses from daily to weekly to monthly testing, is as follows.

Affected sources would be required to be tested daily for

visible emissions with Method 22 for 10 consecutive days that the source is in operation. If visible emissions are not observed during these 10 days, the affected source can be tested once every 5 consecutive days (weekly) that the source is in operation. If no visible emissions are observed during these 4 consecutive weekly Method 22 tests, the affected source can be tested once per consecutive 21 days (month) of operation. If any visible emissions are observed during the weekly and monthly testing, the affected source would resume visible emissions testing in the more frequent schedule, i.e., weekly visible emissions testing is increased to daily, and monthly testing is increased to weekly.

3. Tests for VOHAP Content of Paints in Spray Painting to Determine Continuous Compliance.

For owners and operators of new and existing affected spray painting operations, this proposed rule would allow two options for demonstrating compliance with the limitation on the mass of VOHAP contained in their paints: (1) compliance via paint VOHAP content limit, and (2) compliance via a weighted-average paint VOHAP content limit. Both of these options are pollution prevention strategies.

Since we do not have knowledge of any facilities using other control approaches to control VOHAP emissions, we have not included any other on control options in this proposed rule. We

are specifically requesting comments on this part of the proposed rule if our assumptions about the need for an additional compliance option are in error.

Option 1: Compliance via Paint VOHAP Content Limit. In this option, the facility determines the VOHAP content of their paints and the volume fraction of paint solids in the paints to compare to the limit of 3.0 pounds VOHAP per gallon paint solids (0.36 kg/liter) on an annual (12-month) rolling average basis.

Facilities may rely on manufacturer's formulation data for determining the VOHAP content of their paints and the volume fraction of paint solids; tests or analysis of the materials would not be required if formulation data are available. Alternatively, results from the following test methods may be used.

For determining the VOHAP content of paints, Method 311 of 40 CFR part 63, appendix A may be used. Nonaqueous volatile matter, excluding water (*i.e.,* VOC) may also be used as a surrogate for VOHAP, since VOC includes all VOHAP as well as any additional organic compounds present in the paint. To determine VOC content of the paints, facilities may use manufacturer's formulation data or Method 24 of 40 CFR part 60, appendix A. For determining the average density of volatile matter in the paint, facilities may use American Society of Testing and Materials (ASTM) method D1475-98, "Standard Test Method for

Density of Liquid Coatings, Inks, and Related Products" (incorporated by reference, see §63.14 of subpart A of this part). The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy of these standards from ASTM at www.astm.org or ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA. You may inspect a copy at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

For determining the volume fraction of paint solids, facilities may use: (1) ASTM Method D2697-03, "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings;" or (2) ASTM Method D6093-97 (Reapproved 2003), "Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer" (incorporated by reference, see §63.14 of subpart A of this part). The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy of these standards from ASTM at www.astm.org or ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA. You

may inspect a copy at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Option 2: Compliance via a Weighted-Average Paint VOHAP Content Limit. This option would allow a demonstration of compliance based on the VOHAP contained in the mix of paints used. This option offers facilities the flexibility to use some individual paints that do not by themselves meet the paint VOHAP limit, if they also use low-HAP or non-HAP paints such that overall weighted average VOHAP content of all paints used over a 12-month period meets the VOHAP limit. Facilities would likely need to use this option if they use HAP-containing thinners and/or other additives in addition to paints, since these additives usually have high VOHAP contents. Equations are provided in this proposed rule to demonstrate how to perform the calculations to demonstrate compliance.

Facilities would track the mass of VOHAP in each paint and the amount of paint used in affected sources each month of the compliance period. This information would then be used to determine the total mass of VOHAP in all paints along with the total volume of paint solids used during the compliance period by adding together all the monthly values for mass of VOHAP and

the monthly values for volume of paint solids used, for the 12 months of the initial compliance period. Facilities may subtract from the total mass of VOHAP the amount contained in waste materials sent to a hazardous waste treatment, storage, and disposal facility regulated under 40 CFR part 262, 264, 265, or 266, "Hazardous Waste."

Facilities would be required to calculate their overall weighted-average VOHAP paint content (in pound or kilogram VOHAP emitted per gallon or liter paint solids used) and show that this rate meets the VOHAP limit. Facilities may use readily available purchase records and manufacturer formulation data to determine the amount of each paint used and the VOHAP in each material.

In summary, if a facility chooses to demonstrate compliance using Option 2, *Compliance via a Weighted Average Paint VOHAP Content Limit,* they would be required to determine all the parameters listed below for their paints. Either manufacturer's formulation data or analysis of the materials by approved test methods would be allowable options for determining these values.

- Quantity of each paint, thinner and/or other additive used, from records.
- Mass of VOHAP in each paint, thinner, and other additives, from manufacturer's data or tests.
- Volume fraction of paint solids for each paint, from

manufacturer's data or tests.

• Total mass of VOHAP in all materials and total volume of paint solids used each month, by calculation.

• Total mass of VOHAP emissions and total volume of paint solids used for the initial compliance period, by calculation.

• Ratio of the total mass of VOHAP emitted to the total volume of paint solids used for the initial compliance period, by calculation.

With this option, facilities would need to record these calculations and results, and include them in the Notification of Compliance Status. EPA notes that the VOHAP composition of coatings subject to this proposed rule is "emissions data" under section 114 of the CAA, and EPA's regulatory definition of such term in 40 CFR part 2, because the information is necessary to determine compliance with applicable limits. As such, this information must be available to the public regardless of whether EPA obtains the information through a reporting requirement or through a specific request to the regulated entity. Therefore, such information is not eligible for treatment as "confidential business information."

4. Tests for Spray Painting for MFHAP Control to Determine Continuous Compliance.

Affected new and existing facilities that perform spray painting would need to ensure and certify that: (1) all new and

existing personnel, including contract personnel, who spray-apply surface paints with MFHAP are trained in the proper application of surface paints; (2) all spray-applied paints with MFHAP are applied with a HVLP spray gun, electrostatic application, airless spray gun, or equivalent; (3) emissions of MFHAP are minimized during mixing, storage, and transfer of paints; and (4) paint and solvent lids are kept tightly closed when not in use.

In addition, for spray painting objects less than 15 feet in any dimension, owners or operators of affected processes would also need to ensure and certify that surface preparation stations or spray booths are fitted with fiberglass or polyester fiber filters or other comparable filter technology that can be demonstrated to achieve at least 98 percent control efficiency of the MFHAP in the paint.

5. Visual Emissions Testing for Welding to Determine Continuous Compliance.

For new and existing affected sources with welding operations, this proposed rule would require visible emissions testing from a vent, stack, exit, or opening from the building containing the welding metal fabrication and finishing operations to demonstrate continuous compliance with management practices or add-on controls intended to control PM emissions, as a surrogate for MFHAP. This testing has a three-tier

compliance structure.

Tier 1. The first tier for welding compliance would require visual determinations of fugitive emissions using EPA Method 22, and allows the same graduated testing schedule described above in section (F)(2) for dry abrasive blasting, dry grinding and dry polishing with machines, and machining, which includes provisions for reducing the frequency of the Method 22 tests when no visible emissions are observed in consecutive time periods of operation. If no visible emissions are found, no corrective action would be required.

If visible emissions are present during any Method 22 test, immediate corrective action would be required that includes inspection of all fume sources and control methods in operation, and documentation of the visual emissions test results. The graduated schedule also would require the affected source to resume visible emissions testing in the previous, more frequent schedule, i.e., weekly visible emissions testing is increased to daily, and monthly testing is increased to weekly.

Tier 2. The second tier for welding compliance would be implemented if visible emissions are detected for the second time in any consecutive twelve-month period. The second tier would require corrective action and documentation of the detection of visible emissions and the corrective action taken. Corrective action would be required to take place immediately

after the failed Method 22 test. In addition, the second tier for welding compliance would require a facility to perform a visual determination of emissions opacity using EPA Method 9 (40 CFR part 60, appendix A) within 24 hours of the failed Method 22 test. In EPA Method 9, the average of 24 15-second intervals of opacity observation is determined, producing a total of 360 seconds or 6 minutes of opacity observation or 6-minute average opacity.

If in the second tier tests using Method 9 the average of the 6-minute opacities is determined to be 20 percent or less, implementation of Method 9 testing would be required with a graduated schedule of reduced frequency like that used for the Method 22 tests, described above in section (F)(2), from daily to weekly to monthly for consecutive successful tests. If opacity continues to be less than 20 percent and, pursuant to the graduated schedule the Method 9 testing for the welding processes is able to be reduced to once a month, the facility would have the choice of switching back to performing Method 22 tests on a monthly basis. Alternatively, the facility could choose to continue performing monthly Method 9 tests.

If the average of the 6-minute opacities is determined to be more than 20 percent in the Method 9 tests in the second tier, the third tier of welding compliance requirements would be required, as described below.

Tier 3. The third tier for welding compliance would include the development and implementation of a Site-specific Welding Emissions Management Plan (SWMP) within 30 days, and submittal of the SWMP to the delegated authority. The SWMP would be required to be kept at the facility in a readily accessed location for inspector review. Also, the facility would be required to report any exceedence of the 20 percent opacity annually along with their annual compliance report.

The purpose of the SWMP is to ensure that no visible emissions occur in the future from this process, as determined by EPA Method 22 tests or less than 20 percent opacity by EPA Method 9. Application of the SWMP may involve implementation of additional management and pollution prevention practices, as described above under Welding Controls, beyond those already in place at the facility or the use of capture equipment and add-on control devices. During the development of the SWMP, daily Method 9 tests would be required to continue to be performed, according to the graduated schedule. The SWMP would be required to be updated after any failures to meet 20 percent or less opacity as determined by Method 9. If opacity continues to be less than 20 percent and Method 9 testing of the welding processes at the facility falls to once a month, according to the graduated testing schedule, the facility would have a choice of changing to monthly Method 22 tests or remaining with monthly

Method 9, as above. The SWMP would be updated annually and would include revisions to reflect any changes in welding operations or controls at the facility.

The SWMP is estimated to require up to 16 hours to prepare initially. We are proposing that the SWMP would address the following: the type(s) of welding operation(s) currently used at the facility; the measures used to minimize welding fume at each of type of welding operation or each welding station; and procedures used by the facility to ensure that these measures are being implemented. No outside consultants or professional engineer certification is required or necessary to prepare the SWMP.

G. What are the notification, recordkeeping, and reporting requirements?

The affected new and existing sources would be required to comply with some requirements of the General Provisions (40 CFR part 63, subpart A), which are identified in Table 3 of this proposed rule. Each facility would be required to submit an Initial Notification and a Notification of Compliance Status according to the requirements in 40 CFR 63.9 in the General Provisions. The affected source would be required to prepare an annual compliance status report and keep this report in a readily available location for inspector review. If there are any exceedences during the year, the facility would submit this

annual compliance report with any exceedence reports prepared during the year. The exceedence reports would describe the circumstance of the exceedence and the corrective action taken. We specifically request comment on this proposed requirement for annual compliance report preparation and exceedence report submission.

Facilities also would be required to maintain all records that demonstrate initial and continuous compliance with this proposed rule, including records of all required notifications and reports, with supporting documentation; records showing compliance with management and pollution prevention practices. Owners and operators would also maintain records of the following, if applicable: date and results of all visual determinations of fugitive emissions, including any follow-up tests and corrective actions taken; date and results of all visual determinations of emissions opacity, and corrective actions taken; and a copy of the SWMP, if it is required.

IV. Rationale for this Proposed Rule

A. How did we select the source category?

The nine metal fabrication and finishing source categories were listed as area source categories on November 22, 2002 (67 FR 70427). The inclusion of these source categories on the area source category list was based on data from the CAA section 112(k) inventory, which represents 1990 urban air information.

Those data indicated that metal fabrication and finishing plants were contributors to MFHAP emissions in urban areas.

For these source categories, we performed site visits and written facility surveys, reviewed published literature, reviewed information from websites of vendors of air pollution control devices, and held discussions with trade organizations and industry experts. From this research we found that the nine source categories perform the same HAP-emitting processes, and, if the process was present, the emissions were controlled in the same way. Consequently, we decided to issue regulations for these nine metal fabrication and finishing area source categories in one rulemaking action.

B. How did we select the affected sources?

We found in on our research described above in section IV(A) that potential sources of HAP emissions from the nine metal fabrication and finishing source categories include the following five general metal fabrication and finishing operations: (1) dry abrasive blasting; (2) machining; (3) dry grinding and dry polishing with machines; (4) spray painting; and (5) welding. We found that MFHAP are used in and have the potential to be emitted from these operations. Therefore, we selected the facilities with these processes in the source categories as the affected sources for this proposed rule. Because the MFHAP may be emitted as fugitives, we have elected

to define the affected sources as the collection of all equipment and activities necessary to perform dry abrasive blasting, machining, dry grinding and dry polishing with machines, spray painting, and welding.

Four of the metal fabrication and finishing source categories were also listed for emissions of the organic HAP TCE.[4] Chlorinated solvents such as TCE are used as degreasers in these metal fabrication and finishing source categories. We subsequently discovered that the 1990 emissions data for TCE was for metal fabrication and finishing facilities that used TCE in degreasing operations, which are not part of this source category. Rather, these emission units at both major and area sources are subject to standards for halogenated solvent cleaning under 40 CFR part 63, subpart T. Consequently, we are not proposing standards for TCE from metal fabrication and finishing facilities. The four metal fabrication and finishing source categories listed for TCE emissions remain listed source categories pursuant to section 112(c)(3) of this part, and this proposed rule establishes standards for emissions of MFHAP and VOHAP. Therefore, we are clarifying that we do not need these four source categories to meet the section 112 (c) (3) 90 percent requirement regarding area source emissions of TCE.

[4] These four source categories were Electrical and Electronic Equipment Finishing Operations; Fabricated Metal Products; Primary Metal Products Manufacturing; and Valves and Pipe Fittings.

We also found that some metal fabrication and finishing facilities also perform plating. All chromium electroplating tanks are already subject to the Chromium Electroplating NESHAP (40 CFR 63, subpart N), while other plating operations at area sources are subject to the Plating and Polishing Area Source Rule (40 CFR part 63, subpart WWWWWW). Therefore, these sources would not be affected sources under this proposed rule for metal fabrication and finishing area sources.

C. How did we determine the regulated processes?

We found in our research for this proposed rule that there are five general production operations common to the nine metal fabrication and finishing source categories that can emit MFHAP: (1) dry abrasive blasting; (2) dry grinding and dry polishing with machines; (3) machining; (4) spray painting; and (5) welding. As part of our analyses, we considered whether there were differences in the operations, the products fabricated or finished, or other factors affecting emissions that would warrant different control strategies. Under section 112(d)(1) of the CAA, EPA "may distinguish among classes, types, and sizes within a source category or subcategory in establishing such standards..."

We observed significant differences in processes for two of the five metal fabrication and finishing operations: dry abrasive blasting and painting. Considering these differences

in the processes, we identified nine distinct metal fabrication and finishing processes for the purposes of this proposed rule. A discussion of how we identified these nine processes follows below.

1. Dry Abrasive Blasting Regulated Processes.

Some dry abrasive blasting operations for small parts with low-throughput are performed in completely enclosed units commonly called "glove boxes," which have no air outlet or ventilation and, hence, no emissions when designed and operated properly. These sources are distinctly different from larger operations which are not completely enclosed because of the limitations of their size.

Most dry abrasive blasting of larger objects and/or large throughput operations performed at metal fabrication and finishing area sources is performed in enclosed spaces, which are typically equipped with cartridge filters or other control devices on the air exhaust. However, it is not always practical to completely enclose dry abrasive blasting of very large objects (*e.g.*, oil derricks) because of the size and subsequent cost of the enclosure and also difficulty maneuvering the object into the enclosure. The impracticality of this effort is particularly evident when the operation is only performed intermittently. Consequently, dry abrasive blasting of very large objects is sometimes performed outdoors or in 2- or 3-

sided buildings that are open on one or more sides to allow the large articles to be easily moved into the blasting zone by heavy equipment or cranes.

We found State regulations that allow outdoor dry abrasive blasting operations for objects over 8 feet in any one dimension. We also found through our industry surveys that these very large objects were blasted outdoors. We also learned that facilities are motivated to enclose dry abrasive blasting operations whenever possible because of the potential cost savings from recovering the blast material which lowers blast material usage and also costs, so that outside blasting is only performed when necessary because of the size of the parts or products.

Consequently, we determined for the purposes of this proposed rule that there were two distinct sizes of products being blasted that affected the manner in which the process was performed: products more than 8 feet in any dimension, and products less than or equal to 8 feet. For products less than or equal to 8 feet, we also observed that some of these products were blasted in completely enclosed chambers that did not allow any air or emissions to escape. Therefore we developed three distinct dry abrasive blasting processes: (1) dry abrasive blasting of objects greater than 8 feet in any dimension; (2) dry abrasive blasting of objects less than or equal to 8 feet in

any dimension, performed in completely enclosed and unvented blast chambers; and (3) dry abrasive blasting of objects less than or equal to 8 feet in any dimension, performed in vented enclosures.

2. Spray Painting Regulated Processes.

Most spray painting performed at metal fabrication and finishing area sources is performed in enclosed spray paint booths, which are typically equipped with filters for PM control, where PM is a surrogate for MFHAP. Because of the impracticality of enclosing large objects in booths, similar to the discussion above for dry abrasive blasting, we found that it is common practice in the industry for these sources to spray paint large objects outside or in 2- or 3-sided buildings. We found that the size of objects typically spray painted outside are approximately 15 feet in any one dimension.

Therefore, we determined that there were two distinct sizes of products being painted that affected the manner in which the process was performed: (1) products more than 15 feet in any dimension; and (2) products equal to or less than 15 feet in any dimension. Therefore we developed two distinct spray painting processes for MFHAP control: (1) spray painting of objects less than or equal to 15 feet in any dimension; and (2) spray painting of objects greater than 15 feet in any dimension.

It should be noted that the object size cut-off for the

spray painting processes is more stringent than the one selected for dry abrasive blasting in that objects between 8 and 15 feet in dimension are enclosed for spray painting but not for blasting. This difference occurs because the MFHAP overspray from uncontrolled spray painting is higher, more hazardous, and more of a nuisance (*i.e.*, more odor, clean-up, etc.) than the inert PM and low level of MFHAP emitted from dry abrasive blasting. Therefore, painting spray booths need to be sealed better, whereas in dry abrasive blasting the structures can be partially enclosed.

We also determined that there was the potential for significant VOHAP emissions from painting that are not controlled by the PM capture and control equipment described above. We also observed that for the purposes of controlling VOHAP, it was not necessary to distinguish between sizes of the objects painted. Therefore, we are proposing one standard for control of VOHAP emissions from spray painting that would apply to all spray painting operations. Since this standard is a pollution prevention technique that restricts the types of coatings used in spray painting, it does not differentiate the size of the product being painted.

3. Other Regulated Processes.

For dry grinding and dry polishing with machines; machining; and welding we did not observe any distinct

differences that would warrant differentiating the operations into separate processes. Therefore, these three operations are included as individual regulated processes in this proposed rule.

4. The Nine Regulated Processes in the Metal Fabrication and Finishing Source Categories.

In the above section IV(C)(1), we discussed how we divided dry abrasive blasting operations into three processes for the purposes of this proposed rule. In the above section IV (C)(2), we discussed how we divided painting operations into three processes for regulation. The remaining three operations were not further divided, as discussed above in section (C)(3). The result of these analyses is that we have identified the following nine metal fabrication and finishing processes for this proposed rule:

(1) Dry abrasive blasting objects less than or equal to 8 feet in any dimension, performed in completely enclosed and unvented blast chambers;

(2) Dry abrasive blasting of objects less than or equal to 8 feet in any dimension, performed in vented enclosures;

(3) Dry abrasive blasting of objects greater than 8 feet in any dimension;

(4) Dry grinding and dry polishing with machines;

(5) Machining;

(6) Control of VOHAP from spray painting;

(7) Control of MFHAP in spray painting of objects less than or equal to 15 feet in any dimension;

(8) Control of MFHAP in spray painting of objects greater than 15 feet in any dimension; and

(9) Welding.

D. How was GACT determined?

We are proposing nine standards representing GACT for the metal fabrication and finishing source categories, as provided in CAA section 112(d)(5). The information used to determine the proposed GACT is derived from site visits and written facility surveys, published literature, information from websites of vendors of air pollution control devices, and discussions with trade organizations and industry experts. We found that the MFHAP emissions from the nine metal fabrication and finishing source categories are already well controlled by the industry, where MFHAP is controlled as PM, a surrogate for MFHAP. The facilities were motivated to control these MFHAP emissions to improve health and safety of the worker's environment and to save raw material use.

We evaluated the control technologies and management practices that are current industry practice for the nine metal fabrication and finishing area source categories. See Section II (C)(3) above, "Metal Fabrication and Finishing HAP Emission

Controls," for a discussion of the controls used in the metal fabrication and finishing source categories. We also evaluated the control technologies used in similar industries. We did not identify any major sources of MFHAP in these nine source categories.

We also considered costs and economic impacts in determining GACT. We believe the consideration of costs and economic impacts is especially important for metal fabrication and finishing sources because requiring additional controls would result in only marginal reductions in emissions at very high costs for a modest incremental improvement in MFHAP control, and because more than 90 percent of metal fabrication and finishing facilities are small businesses.

Since we have concluded that the industry was already well-controlled, we have developed GACT requirements to insure that these gains in emission control from the 1990 levels are continued. We explain below in detail our proposed GACT determinations.

1. GACT for Dry Abrasive Blasting.

Dry abrasive blasting generates much PM and to a lesser degree MFHAP from substrate material, and any dirt and paint if the substrate was previously used. We found that it is standard industry practice to control indoor blasting by either a total enclosure with no exhaust or a total enclosure exhausted to PM

filtration devices where PM is controlled as a surrogate for MFHAP. Facilities in the industry have enclosed these processes due to the significant cost savings that results from the ability to recycle the used blast material.

We also found that it is standard industry practice to perform blasting of large objects outdoors since they cannot fit easily inside enclosures. Many State laws allow dry abrasive blasting outdoors for objects over 8 feet in any one dimension. Therefore, we concluded that this is a separate process different from the indoor blasting which was described above.

Consequently, we developed three distinct processes for dry abrasive blasting operations the purposes of this proposed rule, as follows: (1) dry abrasive blasting objects less than or equal to 8 feet in any dimension, performed in completely enclosed and unvented blast chambers; (2) dry abrasive blasting of objects less than or equal to 8 feet in any dimension, performed in vented enclosures; and (3) dry abrasive blasting of objects greater than 8 feet in any dimension. The following is a discussion of how we developed GACT for these three processes.

a. *Dry Abrasive Blasting Objects Less Than or Equal to 8 Feet in Any Dimension, Performed in Completely Enclosed and Unvented Chambers.* We found that it is standard industry practice to use total enclosures with no exhaust for some dry abrasive blasting operations of objects less than or equal to 8

feet. Therefore, we are proposing that GACT for this dry abrasive blasting process is management practices because controls in the form of total enclosures are already a part of the process equipment and do not allow PM, as a surrogate for MFHAP, to be emitted during blasting. These two management practices are as follows: (1) minimize dust generation during emptying of the enclosure; and (2) operate all equipment used in the blasting operation according to manufacturer's instructions. These management practices are standard industry practice for "good housekeeping" in and around dusty processes, and are applicable when the chambers are opened for cleaning after blasting is competed.

b. Dry Abrasive Blasting of Objects Less than or Equal to 8 Feet in any Dimension, Performed in Vented Enclosures. We found that it is standard industry practice to control some indoor blasting operations of objects less than or equal to 8 feet by using an enclosure exhausted to PM filtration devices, where PM is controlled as a surrogate for MFHAP. Since these dry abrasive blasting operations are enclosed, capturing and filtering the exhaust enables recycling of the blast material, which is a cost savings to the facility and standard industry practice. We learned from the facilities in the industry that the indoor workplace would not be tolerable without the blasting controls that we are proposing as GACT. Therefore, we propose

that GACT for this process is an equipment standard of enclosures and filtration that captures and collects the PM emitted, as a surrogate for MFHAP. We are also proposing management practices as GACT that are standard industry practice or "good housekeeping" for in and around dusty processes, as follows: (1) keep work areas free of excess dust by regular sweeping or vacuuming to control the accumulation of dust and other particles; regular sweeping or vacuuming is defined to be sweeping or vacuuming conducted once per day, once per shift, or once per operation as needed, depending on the severity of dust generation; (2) enclose dusty material storage areas and holding bins, seal chutes and conveyors; and (3) operate all equipment according to manufacturer's instructions.

c. Dry Abrasive Blasting of Objects Greater Than 8 Feet in any Dimension. We found that it is standard industry practice to perform outdoor blasting of large objects that cannot fit easily inside an enclosure. We also found that many State laws allow dry abrasive blasting outdoors if performed on objects larger than 8 feet in any one dimension. It is not standard practice in metal fabrication and finishing facilities to enclose these processes and would be a significant cost to the facility to do so because of the large size of the objects, at approximately $110 million per ton of MFHAP removed.

Because of the burden an enclosure requirement would entail

for facilities that perform abrasive blasting of large objects, we propose the GACT requirement for objects greater than 8 feet in any dimension, where the blasting is performed outdoors, to be management practices that minimize MFHAP emissions, as follows: (1) do not perform blasting outside when wind velocity is greater than 25 mph; (2) switch from high PM-emitting blast media (e.g., sand) to low PM-emitting blast media (e.g., steel shot, aluminum oxide), whenever practicable; (3) do not blast substrates having coatings containing lead (>0.1 percent lead), unless enclosures, barriers, or other PM control methods are used to collect the lead particles; (4) do not re-use the blast media unless contaminants (i.e., any material other than the base metal, such as paint residue) have been removed by filtration or screening so that the dry abrasive material conforms to its original size and makeup; (5) keep work areas free of excess dust by regular sweeping or vacuuming to control the accumulation of dust and other particles; regular sweeping or vacuuming is defined to be sweeping or vacuuming conducted once per day, once per shift, or once per operation as needed, depending on the severity of dust generation; (6) enclose dusty material storage areas and holding bins, seal chutes and conveyors; and (7) operate all equipment according to manufacturer's instructions.

2. GACT for Dry Grinding and Dry Polishing with Machines.

We found that it is standard industry practice to capture PM emissions, as a surrogate for MFHAP, from dry grinding and dry polishing with machines, by the use of local exhaust, hoods, or other vacuum devices; and to collect the PM with filtration devices, such as cartridge filters. Facilities have reported that the indoor workplace would not be tolerable without these types of controls on dry grinding and dry polishing with machines.

Therefore, we propose that GACT for dry grinding and dry polishing with machines would be the equipment standard of capture and control with filtration devices. We also propose management practices that are standard industry procedures and common "good housekeeping" practices in and around dusty processes, as follows: (1) keep work areas free of excess dust by regular sweeping or vacuuming to control the accumulation of dust and other particles; regular sweeping or vacuuming is defined to be sweeping or vacuuming conducted once per day, once per shift, or once per operation as needed, depending on the severity of dust generation; and (2) operate all equipment used in dry grinding and dry polishing with machines according to manufacturer's instructions.

3. GACT for Machining.

The majority of the PM released by machining processes consists of large particles or metal shavings that fall

immediately to the floor. Any MFHAP that is released would originate from the part or product being machined. We found that it is general industry practice to totally enclose the machining process and/or use lubricants or liquid coolants that do not allow small particles to escape. Therefore, we are proposing that GACT for machining is the following two management and pollution prevention practices: (1) keep work areas free of excess dust by regular sweeping or vacuuming to control the accumulation of dust and other particles; regular sweeping or vacuuming is defined to be sweeping or vacuuming conducted once per day, once per shift, or once per operation as needed, depending on the severity of dust generation; and (2) operate all equipment used in machining operations according to manufacturer's instructions.

4. GACT for Spray Painting to Control MFHAP.

Emissions from spray painting include MFHAP from the paint pigments. Spray painting performed indoors at metal fabrication and finishing area sources is required by OSHA regulations to be performed in an enclosed spray paint booth. We found that these booths are typically equipped with filters for PM control, where PM is a surrogate for MFHAP. Because of the impracticality of enclosing very large objects in booths, we also found that it is common practice in the industry to spray paint large objects outside or in 2- or 3-sided structures. We found that the size

of objects typically spray painted outside are approximately 15 feet in any one dimension. Therefore, we determined that there were two distinct sizes of products being painted that affected the manner in which the process was performed: (1) products greater than 15 feet in any dimension, and (2) products less than or equal to 15 feet in any dimension. Accordingly, we developed GACT requirements for each of these two processes. The following describes our proposed GACT and the rationale for selecting the GACT requirements for these two processes.

a. *GACT requirements for control of MFHAP in spray painting objects greater than 15 feet in any dimension.*

The GACT requirements in this proposed rule would require owners or operators of affected new and existing spray painting operations to comply with one equipment standard: (1) use of low-emitting and pollution preventing spray gun technology. The proposed rule also would require two management practices: (1) spray painter training; and (2) spray gun cleaning.

Spray Gun Technology Requirements--We are proposing that GACT for this proposed rule would require all affected new and existing facilities using spray-applied paints to use HVLP spray guns, electrostatic application, or airless spray techniques. Alternatively, an equivalent technology can be used if it is demonstrated to achieve transfer efficiency comparable to one of the spray gun technologies listed above for a comparable

operation, and for which written approval has been obtained from the Administrator or delegated authority.

Spray Painting Training Requirements--We are proposing that GACT for this proposed rule would require all workers that perform spray painting at affected new and existing facilities to be trained, with certification made available that this training has occurred. For the purposes of the proposed training requirements, the facility owner or operator may certify that their employees have completed training during "in-house" training programs. Also, facilities that can show by documentation or certification that a painter's work experience and/or training has resulted in training equivalent to the training described above would not be required to provide the initial training required for these painters. The training would need to address the following topics to reduce paint overspray, which has a direct effect on emissions reductions: spray gun equipment selection, set up, and operation; spray technique for different types of paints to improve transfer efficiency and minimize paint usage and overspray; and routine spray booth and filter maintenance, including filter selection and installation. Spray painters have 180 days to complete training after hiring or transferring into a surface painting job from another job in the facility. The training and certification for this proposed rule would be valid for a period

not to exceed 5 years after the date the training is completed.

Spray Gun Cleaning Requirements--We are proposing that GACT for this proposed rule would require all paint spray gun cleaning operations at affected new and existing facilities to use an atomized mist or spray such that the gun cleaning solvent and paint residue is not created outside of the container that collects the used gun cleaning solvent. These gun cleaning methods include hand cleaning of parts, use of a fully enclosed spray gun washer, or a combination of these non-atomizing methods. Hand cleaning is considered equivalent to gun washers as long as the painters do not atomize cleaning solvent from the gun and the spent solvent is collected in a container that is closed when not in use.

b. Rationale for GACT to control MFHAP in spray painting objects greater than 15 feet in any dimension.

Some facilities paint large objects (greater than 15 feet) in open air or 2-sided buildings so that the objects can be moved in and out with cranes and other heavy equipment. It is not standard practice in metal fabrication and finishing facilities to enclose these operations in booths and would be a significant cost to the facility to do so because of the large size of the objects, at approximately $20 million per ton of MFHAP removed for large spray booths. However, in order to minimize paint waste and exposure of the worker to paint

overspray, it is standard industry practice for facilities that spray paint large objects to use HVLP equivalent high transfer efficiency spray techniques even though they are not enclosing the paint operation and filtering the exhaust air.

These HVLP spray painting technologies produce a 40 percent decrease in paint consumption and resultant emissions compared to conventional spray guns. Conventional high-pressure air-atomized spray guns have a typical transfer efficiency of about 30 percent while HVLP and other types of high-efficiency spraying use lower air pressures and achieve a transfer efficiency of about 50 percent, or greater, with appropriate operator training. The HVLP spray method we are proposing as GACT is a pollution prevention technology that is standard industry practice and reduces the amount of paint sprayed. The HVLP spray method reduces paint costs to the facility, reduces worker exposure to paint overspray, reduces clean-up requirements, and also reduces MFHAP emissions.

Because of the burden an enclosure requirement would entail for facilities that paint large objects, we propose the equipment standard for GACT for these sources to be a requirement for HVLP spray gun use. We chose the size requirement for indoor spray painting at 15 feet based on industry information. We specifically request comment on our size cut-off on affected sources of this requirement.

In addition, we are proposing management practices as GACT to ensure that workers are trained properly in the high efficiency spray painting techniques and that the spry equipment is washed in a way that minimizes atomization of the paint, which can cause MFHAP emissions to occur. The HVLP training and equipment cleaning procedures are common practice in this industry as well as other similar industries. To minimize the impact on small business, the facility owner or operator may perform this training during "in-house" training programs. Also, facilities can show that a painter's work experience and/or training have resulted in equivalent training and, therefore, would not be required to provide training at an external location for these painters.

This proposed rule would require all paint spray gun cleaning operations at affected new and existing facilities to be performed such that the gun cleaning solvent and paint residue is not created outside of the container that collects the used gun cleaning solvent. These gun cleaning methods include hand cleaning of parts, use of a fully enclosed spray gun washer, or a combination of these non-atomizing methods. Hand cleaning is considered equivalent to gun washers as long as the painters do not atomize cleaning solvent from the gun and the spent solvent is collected in a container that is closed when not in use. Since facilities that do not currently have an

automated gun washer can still comply with the proposed standards by cleaning guns by hand, we do not expect that sources would have any annualized capital costs or operating costs for spray gun cleaning.

c. GACT requirements for control of MFHAP in spray painting objects equal to or less than 15 feet in any dimension.

This proposed rule would require affected new and existing facilities that are spray painting objects less than or equal to 15 feet in any dimension to comply with two equipment standards: (1) use of low-emitting and pollution preventing spray gun technology, and (2) use of spray booth PM filters. This proposed rule also would require two management practices: (1) spray painter training, and (2) spray gun cleaning.

Spray Booth PM Control Requirement—We are proposing that GACT for this proposed rule would require the surface preparation stations or spray booths of affected new and existing facilities to be fitted with fiberglass or polyester fiber filters or other comparable filter technology that can be demonstrated to achieve at least 98 percent control efficiency of paint overspray (also referred to as “arrestance”). As an alternative compliance option, spray booths may be equipped with a water curtain that achieves at least 98 percent control of MFHAP. The waterspray booths would be required to be operated and maintained according to the manufacturer’s specifications.

Spray Gun Technology Requirements--We are proposing that GACT for this proposed rule would require all affected new and existing facilities using spray-applied paints to use HVLP spray guns, electrostatic application, or airless spray techniques. Alternatively, an equivalent technology can be used if it is demonstrated to achieve transfer efficiency comparable to one of the spray gun technologies listed above for a comparable operation, and for which written approval has been obtained from the Administrator or delegated authority.

Spray Painting Training Requirements--We are proposing that GACT for this proposed rule would require all workers that perform spray painting at affected new and existing facilities to be trained, with certification made available that this training has occurred. The training would need to address the following topics to reduce paint overspray, which has a direct effect on emissions reductions: spray gun equipment selection, set up, and operation; spray technique for different types of paints to improve transfer efficiency and minimize paint usage and overspray; and routine spray booth and filter maintenance, including filter selection and installation. Spray painters have 180 days to complete training after hiring or transferring into a surface painting job from another job in the facility. For the purposes of the proposed training requirements, the facility owner or operator may certify that their employees have

completed training during “in-house” training programs. Also, facilities that can show by documentation or certification that a painter's work experience and/or training has resulted in training equivalent to the training described above would not be required to provide the initial training required for their painters. The training and certification for this proposed rule would be valid for a period not to exceed 5 years after the date the training is completed.

Spray Gun Cleaning Requirements--We are proposing that GACT for this proposed rule would require all paint spray gun cleaning operations at affected new and existing facilities to use an atomized mist or spray such that the gun cleaning solvent and paint residue is not created outside of the container that collects the used gun cleaning solvent. These gun cleaning methods include hand cleaning of parts, use of a fully enclosed spray gun washer, or a combination of these non-atomizing methods. Hand cleaning is considered equivalent to gun washers as long as the painters do not atomize cleaning solvent from the gun and the spent solvent is collected in a container that is closed when not in use.

d. *Rationale for GACT to control MFHAP in spray painting objects equal to or less than 15 feet in any dimension.*

We are proposing that GACT for this process includes management practices and equipment standards. Our proposed GACT

for this process includes the use of the pollution prevention spray painting technologies such as HVLP spray guns or their equivalent. These spray painting technologies produce a 40 percent decrease in paint consumption and resultant emissions compared to conventional spray guns. Conventional high-pressure air-atomized spray guns have a typical transfer efficiency of about 30 percent while HVLP and other types of high-efficiency spraying use lower air pressures and achieve a transfer efficiency of about 50 percent, or greater, with appropriate operator training.

The HVLP spray method we are proposing as GACT is a pollution prevention technology that is standard industry practice in this industry as well as other similar industries, and reduces the amount of paint sprayed. The HVLP spray method reduces paint costs to the facility, reduces worker exposure to paint overspray, reduces clean-up requirements, and also reduces MFHAP emissions.

In addition, we are proposing management practices as GACT to ensure that workers are trained properly in the high efficiency spray painting techniques and that the spray equipment is washed in a way that minimizes atomization of the paint, which can cause MFHAP emissions to occur. The HVLP training and equipment cleaning procedures are common practice in this industry as well as other similar industries. To

minimize the impact on small business, the facility owner or operator may perform this training during “in-house” training programs. Also, facilities can show that a painter's work experience and/or training have resulted in equivalent training and, therefore, would not be required to provide training at an external location for their painters.

We also propose that GACT for spray painting objects less than or equal to 15 feet is the use of a spray booth equipped with a high efficiency PM filter that removes MFHAP. OSHA already requires that all indoor spray painting be performed in an enclosed booth or room, with the exhaust vented through a filter. Therefore, upgrade of a spray booth to include a PM filter to control MFHAP is only a small change to the current process. The PM filters that remove MFHAP also are available at no significant additional cost. Based on our research, we estimate that only 20 percent of the current facilities that do spray painting are expected to require a change in their filter type to be able to control MFHAP and meet the proposed GACT. The costs of the MFHAP filters as well as the costs of high efficiency spray equipment and training are estimated to be offset by the reduced paint costs attributed to the use of high efficiency spray equipment, for those facilities where HVLP is not already in use. In addition, the use of high efficiency spray paint techniques reduces the amount of time the worker

spends in painting, allowing the facility to use the worker for other operations or training, and thereby reducing labor costs.

This proposed rule would require all paint spray gun cleaning operations at affected new and existing facilities to be performed such that the gun cleaning solvent and paint residue is not created outside of the container that collects the used gun cleaning solvent. These gun cleaning methods include hand cleaning of parts, use of a fully enclosed spray gun washer, or a combination of these non-atomizing methods. Hand cleaning is considered equivalent to gun washers as long as the painters do not atomize cleaning solvent from the gun and the spent solvent is collected in a container that is closed when not in use. Since facilities that do not currently have an automated gun washer can still comply with the proposed standards by cleaning guns by hand, we do not expect that sources would have any annualized capital costs or operating costs for spray gun cleaning.

5. GACT for Control of VOHAP Emissions from Spray Painting.

We are proposing to set GACT for VOHAP emissions from spray painting because the CAA, in §112 (k)(3)(C), provides us with the discretion to regulate these HAP in order to reduce the public health risk posed by the release of any HAP. We found that VOHAP emissions from painting were over 60 percent of the total HAP emissions from the metal fabrication and finishing

area source categories in the 2002 EPA NEI and were over 30 times the MFHAP level. We also found that some facilities currently have State permits that allow them to emit high levels of VOHAP from their metal fabrication and finishing painting processes, although their actual emissions have historically been at lower levels. In this regard, we believe that in the time since data were collected for the 2002 NEI, most facilities have begun to use low-VOC and low-VOHAP paints that were developed as a result of a shift in market demand due to the recent paint and coating rules for other sources.

Therefore, we are proposing a spray painting VOHAP content limit of 3.0 pound VOHAP per gallon painting solids as GACT, based on information received from the industry in the 2006 EPA survey and data acquired in previously promulgated EPA rules for other similar industries. A VOHAP limit will also ensure that any new sources will use paints that meet the same VOHAP level as the current industry practice. We specifically request comment on the appropriateness of this part of GACT for metal fabrication and finishing sources.

The proposed GACT would require owners or operators of spray painting operations from affected sources that have the potential to emit VOHAP to use paints containing no more than 3.0 pounds VOHAP per gallon paint solids (0.36 kg/liter) on an annual (12-month) rolling average basis. We are proposing two

methods of complying with this GACT standard. One option would require that all paints are demonstrated as meeting the VOHAP limit. The second option would require facilities to meet the VOHAP limit using a 12-month rolling weighted average. In this second option, some paints can be above the VOHAP limit as long as their use is balanced by other paints that are below the limit, such that the overall weighted average of all paints and their VOHAP content is calculated to be at or below the VOHAP limit that would be required by this proposed rule.

The proposed GACT would also require owners or operators of new and existing spray painting operations that have the potential to emit VOHAP to comply with the following two management and pollution prevention practices: (1) minimize VOHAP emissions during mixing, storage, and transfer of paints; and (2) keep paint and solvent lids tightly closed when not in use.

6. GACT for Welding.

Welding generates a small particle size metal fume (<5 µm) that is visible to the human eye at high enough concentrations and which contains MFHAP. Because of recent OSHA rulings to reduce the worker exposure to hexavalent chromium, a common component of most welding fumes, facilities may consider ventilating their welding processes areas beyond the previous levels so that the welding exhaust goes quickly and directly

into the environment. Previous to the 2006 OSHA rule and at a lower ventilation rate, a large portion of the welding fumes would have collided with equipment and interior walls and would not been exhausted outside.

The amount of MFHAP emissions from welding is dependent on a variety of factors including welding techniques, amount of welding performed, and type of metal in the product being welded. In our research we found that welding operations at any one facility vary from day to day, and from product to product. We also found that a change from one type of welding process to another is not always technically possible for this industry as well as other similar industries. This is demonstrated by the fact that even at an individual facility, different types of welding and fume control strategies are in use. Thus, there is no one single method that is generally used to reduce welding fumes in this industry or other similar industries.

Because heat is needed to melt the welding rod and form the welded joint during the welding process, moving and/or cooling high velocity air in the vicinity of the weld can be detrimental to its success. Therefore, small enclosures or vacuum systems with high exhaust rates close to the welding cannot be used to capture welding fumes. Another difficulty with local exhaust is the need to position and sometimes re-position the capture equipment to be most effective during the welding process

without causing more fume to enter the breathing zone of the worker. We studied the practices of metal fabrication and finishing industry as well as other industries that use welding, and determined that control devices are usually used only as a last resort when process variables and/or products dictate a high fume-forming welding technique.

In addition to the technical difficulty of using add-on controls for welding fumes, the control devices are not cost-effective for control of MFHAP and would impose a significant burden on the facilities in the metal fabrication and finishing industry. The estimated that the costs for use of add-on control equipment for welding is greater than $7 million per ton of MFHAP. Therefore, based on the above technical and cost issues, we are not proposing that GACT is the use of add-on control equipment.

Most facilities have begun to use management and pollution prevention techniques to reduce welding fumes, since these practices are the most efficient and cost-effective way to protect their workers and meet the OSHA standards. Because of the difficulties with using control equipment for welding, we propose as GACT a set of management practices that minimize fume generation for welding, as practicable to the type of welding used or needed and the type of product being welded. We also propose that control systems with add-on control devices that

achieve at least 85 percent control can be used as a compliance option instead of the management practices, since these control systems provide an equivalent control of MFHAP.

The following are the management practices we are proposing as GACT for welding processes in the metal fabrication and finishing industries:

(a) Use low fume welding processes whenever practicable. These welding processes include but are not limited to: GMAW- also called MIG; GTAW - also called TIG; PAW; SAW; and all welding processes that do not use a consumable electrode.

(b) Use shielding gases, as practicable

(c) Use an inert carrier gas, such as argon, as practicable to the type of welding used;

(d) Use low or no-HAP welding materials and substrates as much as practicable;

(e) Operate with a welding angle close to 90°, as practicable to the type of welding used and physical characteristics of the substrate;

(f) Optimize electrode diameter, as practicable;

(g) Operate with lower voltage and current, as practicable;

(h) Use low fume wires, as practicable;

(i) Optimize shield gas flow rate, as practicable;

(j) Use low or optimized torch speed, as practicable; and

(k) Use pulsed-current power supplies, as practicable;

E. How did we select the compliance requirements?

We are proposing notification, reporting, and recordkeeping requirements to ensure compliance with this proposed rule. We are requiring an Initial Notification and Notification of Compliance Status. These requirements are consistent with Section 63.9(h) of the General Provisions of this part. For demonstrating initial compliance, this proposed rule would require affected facilities to certify that the required management practices have been implemented and that all equipment associated with the processes is being properly operated and maintained. For demonstrating continuous compliance, the proposed requirements include annual certifications that the management practices are being followed and all equipment associated with the processes is being properly operated and maintained. This proposed rule specifies recordkeeping requirements in accordance with Section 63.10 of the General Provisions. These records are needed for EPA to determine compliance with specific rule requirements.

Because MFHAP emissions from the metal fabrication and finishing sources are visible emissions, we are requiring visual emissions or opacity testing performed in a graduated schedule, from daily to weekly to monthly, to determine whether or not the process is in compliance for five of the nine standards

described above: two of the three process types of dry abrasive blasting (not to include dry abrasive blasting of objects less than or equal to 8 feet in completely enclosed chambers), machining, and dry grinding and dry polishing with machines, and welding.

We believe that compliance with GACT using the graduated testing schedule for visual emissions and opacity will enable facilities with a low level of emissions to quickly reach a low frequency of testing thereby minimizing the impact of this proposed rule on lower emitting sources. On the other hand, facilities with higher levels of emissions may be required to prepare a SWMP and give careful thought to the pollution prevention management practices that can reduce emissions at their facility. The use of visual emissions or opacity testing, as opposed to emission testing, is a lower cost method to determine compliance that accommodates the different levels of activity that can occur from facility to facility, and from product to product and day to day within the same facility, so that there is not a large cost impact on small businesses.

Under this proposed rule, each facility would prepare an annual compliance certification and keep it on site in a readily-accessible location. Facilities would be required to submit this annual compliance report only if there are any exceedences or deviations from the equipment and management

practice requirements during the year, and would include these exceedence reports with their compliance report. We recognize that many of these facilities are small businesses; therefore we are requiring the submission of this annual compliance certification only if exceedences occur during the year so that there is not an undue economic burden on small businesses.

We are proposing a 2-year period for existing facilities to achieve compliance. We believe the 2-year period provides sufficient time for facilities to identify their applicability to the rule and make any necessary changes to comply with the standards. All new area sources would be required to comply with this proposed rule on the date of publication of the final rule or upon startup, whichever is later.

F. How did we decide to exempt this area source category from title V permitting requirements?

We are proposing exemption from title V permitting requirements for affected facilities in the metal fabrication and finishing area source categories for the reasons described below.

Section 502(a) of the CAA provides that the Administrator may exempt an area source category from title V if he determines that compliance with title V requirements is "impracticable, infeasible, or unnecessarily burdensome" on an area source category. See CAA section 502(a). In December 2005, in a

national rulemaking, EPA interpreted the term “unnecessarily burdensome” in CAA section 502 and developed a four-factor balancing test for determining whether title V is unnecessarily burdensome for a particular area source category, such that an exemption from title V is appropriate. See 70 FR 75320, December 19, 2005 (“Exemption Rule”).

The four factors that EPA identified in the Exemption Rule for determining whether title V is “unnecessarily burdensome" on a particular area source category include: (1) whether title V would result in significant improvements to the compliance requirements, including monitoring, recordkeeping, and reporting that are proposed for an area source category (70 FR 75323); (2) whether title V permitting would impose significant burdens on the area source category and whether the burdens would be aggravated by any difficulty the sources may have in obtaining assistance from permitting agencies (70 FR 75324); (3) whether the costs of title V permitting for the area source category would be justified, taking into consideration any potential gains in compliance likely to occur for such sources (70 FR 75325); and (4) whether there are implementation and enforcement programs in place that are sufficient to assure compliance with the proposed NESHAP for the area source category, without relying on title V permits (70 FR 75326).

In discussing these factors in the Exemption Rule, we

further explained that we considered on "a case-by-case basis the extent to which one or more of the four factors supported title V exemptions for a given source category, and then we assessed whether considered together those factors demonstrated that compliance with title V requirements would be 'unnecessarily burdensome' on the category, consistent with section 502(a) of the Act." See 70 FR 75323. Thus, in the Exemption Rule, we explained that not all of the four factors must weigh in favor of exemption for EPA to determine that title V is unnecessarily burdensome for a particular area source category. Instead, the factors are to be considered in combination, and EPA determines whether the factors, taken together, support an exemption from title V for a particular source category.

In the Exemption Rule, in addition to determining whether compliance with title V requirements would be unnecessarily burdensome on an area source category, we considered, consistent with the guidance provided by the legislative history of section 502(a), whether exempting the area source category would adversely affect public health, welfare or the environment. See 70 FR 15254-15255, March 25, 2005. We have determined that the proposed exemptions from title V would not adversely affect public health, welfare and the environment. Our rationale for this decision follows here.

In considering the proposed exemption from title V requirements for sources in the category affected by this proposed rule, we first compared the title V monitoring, recordkeeping, and reporting requirements (factor one) to the requirements in this proposed NESHAP for the metal fabrication and finishing area source categories. EPA determined that the management practices currently used by metal fabrication and finishing facilities is GACT, and this proposed rule would require recordkeeping, which serves as monitoring and deviation reporting, to assure compliance with this NESHAP. The monitoring component of the first factor favors title V exemption because this proposed standard would provide for monitoring in the form of visible emissions and opacity testing and recordkeeping that would assure compliance with the requirements of this proposed rule. This proposed NESHAP would also require the preparation of annual compliance certification reports and submission of this report if there are any deviations during the year, which should call attention to those facilities in need of supervision to the State agency in the same way as a title V permit. Records would be required to ensure that the management practices are followed, including such records as results of the visual emissions and opacity tests, and spray painting training of the employees.

As part of the first factor, we have considered the extent

to which title V could potentially enhance compliance for area sources covered by this proposed rule through recordkeeping or reporting requirements. We have considered the various title V recordkeeping and reporting requirements, including requirements for a 6-month monitoring report, deviation reports, and an annual certification in 40 CFR 70.6 and 71.6. For any affected metal fabrication and finishing facility, this proposed NESHAP would require an initial notification and a notification of compliance status. This proposed Metal Fabrication and Finishing NESHAP also would require affected facilities to maintain records showing compliance with the required equipment standard and management practices. The information that would be required in the notifications and records is similar to the information that would be provided in the deviation reports required under 40 CFR 70.6(a)(3) and 40 CFR 71.6(a)(3). We acknowledge that title V might impose additional compliance requirements on this category, but we have determined that the monitoring, recordkeeping, and reporting requirements of this proposed NESHAP for the metal fabrication and finishing source categories would be sufficient to assure compliance with the provisions of this NESHAP, and title V would not significantly improve those compliance requirements.

For the second factor, we determine whether title V permitting would impose a significant burden on the area sources

in the category and whether that burden would be aggravated by any difficulty the source may have in obtaining assistance from the permitting agency. Subjecting any source to title V permitting imposes certain burdens and costs that do not exist outside of the title V program. EPA estimated that the average cost of obtaining and complying with a title V permit was $38,500 per source for a 5-year permit period, including fees. See Information Collection Request for Part 70 Operating Permit Regulations, January 2000, EPA ICR Number 1587.05. EPA does not have specific estimates for the burdens and costs of permitting the metal fabrication and finishing area sources; however, there are certain activities associated with the part 70 and 71 rules. These activities are mandatory and impose burdens on the facility. They include reading and understanding permit program guidance and regulations; obtaining and understanding permit application forms; answering follow-up questions from permitting authorities after the application is submitted; reviewing and understanding the permit; collecting records; preparing and submitting monitoring reports on a 6-month or more frequent basis; preparing and submitting prompt deviation reports, as defined by the State, which may include a combination of written, verbal, and other communications methods; collecting information, preparing, and submitting the annual compliance certification; preparing applications for permit revisions every

5 years; and, as needed, preparing and submitting applications for permit revisions. In addition, although not required by the permit rules, many sources obtain the contractual services of consultants to help them understand and meet the permitting program's requirements. The ICR for part 70 provides additional information on the overall burdens and costs, as well as the relative burdens of each activity. Also, for a more comprehensive list of requirements imposed on part 70 sources (hence, burden on sources), see the requirements of 40 CFR 70.3, 70.5, 70.6, and 70.7.

In assessing the second factor for metal fabrication and finishing facilities, we found that over 90 percent of the approximately 5,800 metal fabrication and finishing facilities affected by this proposed rule are small businesses. These small sources lack the technical resources that would be needed to comply with permitting requirements and the financial resources that would be needed to hire the necessary staff or outside consultants. As discussed above, title V permitting would impose significant costs on these area sources, and, accordingly, we propose that title V would be a significant burden for sources in this category. More than 90 percent of the facilities that would be subject to this proposed rule are small businesses with limited resources, and under title V they would be subject to numerous mandatory activities with which

they would have difficulty complying, whether they were issued a standard or a general permit. Furthermore, given the number of sources in the category and the relatively small size of many of those sources, it would likely be difficult for them to obtain assistance from the permitting authority. Thus, we believe that the second factor strongly supports the proposed title V exemption for metal fabrication and finishing facilities.

The third factor, which is closely related to the second factor, is whether the costs of title V permitting for these area sources would be justified, taking into consideration any potential gains in compliance likely to occur for such sources. We explained for the second factor that the costs of compliance with title V would impose a significant burden on nearly all of the approximately 5,800 metal fabrication and finishing facilities affected by this proposed rule. We also believe in considering the first factor that, while title V might impose additional requirements, the monitoring, recordkeeping and reporting requirements in the proposed NESHAP would assure compliance with the equipment standards and management practices imposed in the NESHAP. In addition, in our consideration of the fourth factor, we find that there are adequate implementation and enforcement programs in place to assure compliance with the NESHAP. Because the costs, both economic and non-economic, of compliance with title V are so high, and the potential for gains

in compliance is low, we propose that title V permitting is not justified for this source category. Accordingly, the third factor supports the proposed title V exemptions for metal fabrication and finishing area sources.

The fourth factor we considered in determining if title V is unnecessarily burdensome is whether there are implementation and enforcement programs in place that are sufficient to assure compliance with the NESHAP without relying on title V permits. There are State programs in place to enforce this area source NESHAP, and we believe that the State programs will be sufficient to assure compliance with this NESHAP. We also note that EPA retains authority to enforce this NESHAP anytime under CAA sections 112, 113 and 114. We further note that small business assistance programs required by CAA section 507 may be used to assist area sources that have been exempted from title V permitting. Also, States and EPA often conduct voluntary compliance assistance, outreach, and education programs (compliance assistance programs), which are not required by statute. These additional programs would supplement and enhance the success of compliance with this area source NESHAP. We believe that the statutory requirements for implementation and enforcement of this NESHAP by the delegated States and EPA, combined with the additional assistance programs would be sufficient to assure compliance with this area source NESHAP

without relying on title V permitting.

In applying the fourth factor in the Exemption Rule, where EPA had deferred action on the title V exemption for several years, we had enforcement data available to demonstrate that States were not only enforcing the provisions of the area source NESHAP that we exempted, but that the States were also providing compliance assistance to assure that the area sources were in the best position to comply with the NESHAP. See 70 FR 75325-75326. In proposing this rule, we do not have similar data available on the specific enforcement as in the Exemption rule, but we have no reason to think that States will be less diligent in enforcing this NESHAP. See 70 FR 75326. In fact, States must have adequate programs to enforce the section 112 regulations and provide assurances that they will enforce all NESHAP before EPA will delegate the program. See 40 CFR part 63, General Provisions, subpart E.

In light of all the information presented here, we believe that there are implementation and enforcement programs in place that are sufficient to assure compliance with the Metal Fabrication and Finishing NESHAP without relying on title V permitting. Balancing the four factors for this area source category strongly supports the proposed finding that title V is unnecessarily burdensome. While title V might add additional compliance requirements if imposed, we believe that there would

not be significant improvements to the compliance requirements in the NESHAP because the requirements in this proposed rule are specifically designed to assure compliance with the standards and management practices imposed on this area source category.

We further maintain that the economic and non-economic costs of compliance with title V, in conjunction with the likely difficulty this number of small sources would have obtaining assistance from the permitting authority, would impose a significant burden on the sources. In addition, the high relative costs would not be justified given that there is likely to be little or no potential gain in compliance if title V were required. And, finally, there are adequate implementation and enforcement programs in place to assure compliance with the NESHAP. Thus, we propose that title V permitting is "unnecessarily burdensome" for the metal fabrication and finishing area source categories.

In addition to evaluating whether compliance with title V requirements is "unnecessarily burdensome," EPA also considered, consistent with guidance provided by the legislative history of section 502(a), whether exempting the metal fabrication and finishing area source categories from title V requirements would adversely affect public health, welfare, or the environment. Exemption of the metal fabrication and finishing area source categories from title V requirements would not adversely affect

public health, welfare, or the environment because the level of control would remain the same if a permit were required. The title V permit program does not impose new substantive air quality control requirements on sources, but instead requires that certain procedural measures be followed, particularly with respect to determining compliance with applicable requirements. As stated in our consideration of factor one for this category, title V would not lead to significant improvements in the compliance requirements applicable to existing or new area sources.

Furthermore, one of the primary purposes of the title V permitting program is to clarify, in a single document, the various and sometimes complex regulations that apply to sources in order to improve understanding of these requirements and to help sources achieve compliance with the requirements. In this case, however, we do not believe that a title V permit is necessary to understand the requirements applicable to these area sources. We also have no reason to think that new sources would be substantially different from the existing sources. In addition, we explained in the Exemption Rule that requiring permits for the large number of area sources could, at least in the first few years of implementation, potentially adversely affect public health, welfare, or the environment by shifting State agency resources away from assuring compliance for major

sources with existing permits to issuing new permits for these area sources, potentially reducing overall air program effectiveness. Based on this analysis, we believe that title V exemptions for metal fabrication and finishing area sources would not adversely affect public health, welfare, or the environment for all of the reasons previously explained.

For the reasons stated here, we are proposing to exempt the metal fabrication and finishing area source categories from title V permitting requirements.

V. Impacts of the Proposed Standards

A. What are the air impacts?

Since 1990, the metal fabrication and finishing industry has reduced their air impacts by voluntary controls that were likely motivated by concerns for worker safety. These controls would have reduced approximately 122 tons of the MFHAP (cadmium, chromium, lead, manganese, and nickel) attributed to this industry in the 1990 urban HAP inventory. Although there are no additional air emission reductions as a result of this proposed rule, we believe that this proposed rule will assure that the emission reductions made by the industry since 1990 will be maintained.

Along with the HAP described above, there is an undetermined amount of VOHAP and PM that has been co-controlled in the metal fabrication and finishing processes that

contributed to criteria pollutant emissions in 1990.

B. What are the cost impacts?

For all metal fabrication and finishing processes except painting, all facilities are expected to be achieving the level of control required by the proposed standard. Therefore, no additional air pollution control devices or systems would be required. No capital costs are associated with this proposed rule, and no operational and maintenance costs are expected because facilities are already following the manufacturer's instructions for operation and maintenance of pollution control devices and systems. Many of the management practices required by this proposed rule are pollution prevention and have the co-benefit to provide a cost savings for facilities.

The annual cost of monitoring, reporting, and recordkeeping for this proposed rule is estimated at approximately $735 per facility per year after the first year with an additional $385 per facility for one-time costs in the first year. While most of these facilities are small, the costs are expected to be approximately 0.01 percent of revenues.

The annual estimate includes 2 hours per facility per year for preparing annual compliance reports. The annual estimate also includes an industry-wide average of 13 hours a year per facility for visible emissions monitoring of two buildings or sources. Although it is possible that some facilities would

initially be required by this proposed rule to perform daily visual emissions or opacity testing, the graduated compliance test schedule of this proposed rule allows for decrease in frequency to once a month if visible emissions are not found. This monitoring schedule is reflected in our estimate.

In the above estimated annual costs, we have included approximately 11,600 labor-hours among the 5,800 sources for exceedence reports and preparation of a SWMP. This estimate assumes that 80 percent of the facilities (4,640 facilities) will have no exceedences; 15 percent (870 facilities) will have one exceedence per year; 4 percent (232 facilities) will have two exceedences per year; and 1 percent (58 facilities) will have three exceedences per year and need to prepare an initial SWMP. The labor hours estimated for each exceedence report is 2 hours, 16 hours are estimated for preparation of the SWMP, and 0.25 hours for recording a test result. For subsequent years, facilities with a SWMP will only need to update their SWMP.

The above analysis shows that we expect that the maximum number of exceedences per year for any facility would be three exceedences. According to the monitoring requirements for welding sources, which are the only metal fabrication and finishing sources that are not required to use add-on control devices, the second exceedence in any one year requires the facility to perform an EPA Method 9 opacity test to determine

whether the exhaust from the process or building is less than or greater than 20 percent opacity. If the EPA Method 9 test shows an opacity greater than 20 percent, the facility would be required to prepare a SWMP to address the emission control strategy that the facility is planning for the future to minimize PM emissions from the process. We expect that the requirement to prepare a SWMP will cause the facility to initiate changes in the facility's management practices or use of add-on control equipment such that the facility will subsequently be able to meet the opacity or visible emission requirements in this proposed rule. Therefore, we expect no further exceedences by the facilities after being required to prepare a SWMP. We specifically invite comment on these assumptions for the proposed rule.

The total number of labor hours included in this annual cost estimate includes 2 hours for preparation of the Initial Notification in the first year; 4 hours for preparation of the Notification of Compliance Status in the first year, and 2 hours for preparing the Annual Compliance Certification at the end of the year, for an industry-wide average estimate of 24 hours per facility in the first year, which include the 13 hours per facility for monitoring. In the second year, the estimated industry-wide average labor hours per facility falls to 18 hours, of which 13 hours are due to monitoring.

We estimate that the proposed standards for spray painting VOHAP content will have no net annual cost to spray painting operations. The cost of lower VOHAP content paints has been reduced since the market for these paints has increased due to other paint and coating rules promulgated by EPA. Therefore, there is no additional cost estimated for lower VOHAP content paints required by this proposed rule.

We estimate that the proposed standards for spray painting will have no net annual cost to spray painting operations. The initial cost of complying with these proposed standards would be off-set and recovered over time by cost savings as a result of more efficient use of labor and materials by surface coating operations. The initial costs for surface coating operations may include purchase of improved spray booth filters, automated enclosed gun washers, HVLP spray guns, and painter training, if needed to comply with the proposed standards. However, spray painting processes are already required by OSHA standards to perform spray painting in a spray booth or similar enclosure, so theses costs would not be attributed to these proposed standards. Therefore, we have not estimated costs required to install spray booths to comply with the proposed standards. We specifically request comment on the appropriateness of this assumption for the metal fabrication and finishing industries.

The proposed standards specify that certain types of

filters have to be used on the spray booth exhaust to minimize MFHAP emissions, and these filters are not addressed by OSHA standards. Some spray painting facilities may need to replace their current filters for ones with higher control efficiency, but the higher efficiency filters are readily available and will not result in any additional cost.

This proposed rule also would require all affected new and existing facilities to perform their paint spray gun cleaning operations such that gun cleaning solvent and paint residue is not created outside of the container and used gun cleaning solvent is collected. These gun cleaning methods include hand cleaning of parts, use of a fully enclosed spray gun washer, or a combination of these non-atomizing methods. Hand cleaning is considered equivalent to gun washers as long as the painters do not atomize cleaning solvent from the gun and the spent solvent is collected in a container that is closed when not in use. Since facilities that do not currently have an automated gun washer can still comply with the proposed standards by cleaning guns by hand, we do not expect that sources would have any annualized capital costs or operating costs for spray gun cleaning. We specifically request comment on this assumption.

If spray gun washers are used, the annual costs for these washers would be offset by the reduced labor to clean spray guns and reduced costs for cleaning solvent purchase and disposal.

Spray gun washers are automated so that after loading the spray gun in the washer, the painters can perform other tasks while the spray guns are being cleaned. Automated spray gun washers are also capable of re-using solvent for gun cleaning to minimize solvent consumption and waste disposal.

This proposed rule also requires that facilities certify that their painters have knowledge of the proper use of HVLP or equivalent equipment. However, facilities can show that a painter's work experience and/or training have resulted in equivalent training and, therefore, would not be necessarily required to provide training at an external location for these painters. In addition, this proposed rule permits facilities to perform hands-on or in-house training to meet the training requirements. Therefore, we believe that painter training costs would have a low impact on the affected facilities. The following discussion summarizes and further illustrates this point.

First, many facilities already send their painters to training sponsored by paint companies and trade organizations. Paint companies sponsor painter training so that the paint company can reduce warranty claims on their paint products. These training courses already cover much of the same material required by this proposed rule. Therefore, this proposed rule would not impose new training costs on these facilities that

already participate in training. Second, facilities may perform training "in-house" or show that a painter's work experience and/or training have resulted in equivalent training and, therefore, would not be required to provide training at an external location for these painters. Third, the estimated training cost could be offset by reduced coating costs if the training results in reduced coating consumption. Data from the STAR® program indicate that painters who complete this training can decrease the amount of coating sprayed by about 20 percent per job. We estimate that if a typical facility reduced their coating consumption and costs by about 4 percent per year, the cost savings would equalize the increased cost of training after 1 year, and there would be no net cost in training. To recover the cost of training over 5 years, a typical facility would need to reduce their coating consumption by slightly less than 1 percent. Fourth, all painting in the metal fabrication and finishing industries is not done by spraying. Many metal fabrication and finishing facilities perform painting by dip painting or other coating techniques that are not subject to the spray painting standards of this proposed rule. Therefore, spray painting training impacts would be lower than that estimated based on typical assumptions of the number of spray painters per facility. In summary, EPA estimates that the proposed requirements for surface coating operations would not

result in any net increase in annual or capital costs from the control requirements for surface coating operations. We specifically request comment on this aspect of this proposed rule.

Information on our cost impact estimates on the sources is available in the docket for this proposed rule. (See Docket Number EPA-HQ-OAR-2006-0306).

C. What are the economic impacts?

The only measurable costs attributable to these proposed standards are associated with the monitoring, recordkeeping, and reporting requirements. These proposed standards are estimated to impact a total of 5,800 area source facilities. We estimate that over 5,300 of these facilities are small entities. Our analysis indicates that this proposed rule would not impose a significant adverse impact on any facilities, large or small since these costs are approximately 0.01 percent of revenues.

D. What are the non-air health, environmental, and energy impacts?

No detrimental secondary impacts are expected to occur from the non-painting sources because all facilities are currently achieving the GACT level of control. No facilities would be required to install and operate new or additional control devices or systems, or install and operate monitoring devices or systems. No additional solid waste would be generated as a

result of the PM emissions collected and there are no additional energy impacts associated with operation of control devices or monitoring systems for the non-painting sources.

We expect no increase in generation of wastewater or other water quality impacts. None of the control measures considered for this proposed rule generates a wastewater stream. The installation of spray booths and enclosed gun washers, and increased worker training in the proper use and handling of coating materials should reduce worker exposure to harmful chemicals in the workplace. This should have a positive benefit on worker health, but this benefit cannot be quantified in the scope of this rulemaking.

VII. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

This action is not a "significant regulatory action" under the terms of Executive Order 12866 (58 FR 51735, October 4, 1993) and is therefore not subject to review under the Executive Order.

B. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. The information collection request (ICR) document prepared by EPA has been assigned EPA ICR number 2298.01.

The recordkeeping and reporting requirements in this proposed rule are based on the requirements in EPA's NESHAP General Provisions (40 CFR part 63, subpart A). The recordkeeping and reporting requirements in the General Provisions are mandatory pursuant to section 114 of the CAA (42 U.S.C 7414). All information other than emissions data submitted to EPA pursuant to the information collection requirements for which a claim of confidentiality is made is safeguarded according to CAA section 114(c) and the Agency's implementing regulations at 40 CFR part 2, subpart B.

This proposed NESHAP would require metal fabrication and finishing area sources to submit an Initial Notification and a Notification of Compliance Status according to the requirements in 40 CFR 63.9 of the General Provisions (subpart A). Records would be required to demonstrate compliance with operation and maintenance of capture and control devices, VOHAP content of paints, and other management practices. The owner or operator of a metal fabrication and finishing facility also is subject to notification and recordkeeping requirements in 40 CFR 63.9 and 63.10 of the General Provisions (subpart A). Annual compliance certifications and annual exceedence reports would be required instead of the semiannual excess emissions reports required by the NESHAP General Provisions.

The annual burden for this information collection averaged over the first three years of this ICR is estimated to be a total of 35,268 labor hours per year at a cost of $1.1 million or approximately $580 per facility. The average annual reporting burden is six hours per response, with approximately three responses per facility for 1,933 respondents. The only costs attributable to these proposed standards are associated with the monitoring, recordkeeping, and reporting requirements. There are no capital, operating, maintenance, or purchase of services costs expected as a result of this proposed rule.

Although it is possible that some facilities would initially be required by this proposed rule to record the results of daily visual emissions or opacity testing, the graduated compliance test schedule of this proposed rule allows for decrease in frequency to once a month if emissions are not found. Also, the requirement for preparation of a SWMP is expected to result in a maximum of three exceedences from 1 percent (58) of the facilities because of the pollution prevention focus of the SWMP. Burden is defined at 5 CFR 1320.3(b)

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR part 63 are listed in 40

CFR part 9.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, EPA has established a public docket for this action, which includes this ICR, under Docket ID number EPA-HQ-OAR-2006-0306. Submit any comments related to the ICR for this proposed rules to EPA and OMB. See "Addresses" section at the beginning of this notice for where to submit comments to EPA. Send comments to OMB at the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street NW, Washington, DC 20503, Attention: Desk Officer for EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER], a comment to OMB is best assured of having its full effect if OMB receives it by [INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the

agency certifies that the rule would not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and small governmental jurisdictions.

For the purposes of assessing the impacts of this proposed rule on small entities, small entity is defined as: (1) a small business that meets the Small Business Administration size standards for small businesses, as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This proposed rule is estimated to impact a total of 5,800 area source metal fabrication and finishing facilities; over 5,300 of these facilities are estimated to be small entities. We have determined that small entity compliance costs, as assessed by the facilities' cost-to-sales ratio, are expected to be less than 0.01 percent. The analysis also shows that none of the small entities would incur economic impacts

exceeding three percent of its revenue. Although this proposed rule contains requirements for new area sources, we are not aware of any new area sources being constructed now or planned in the next three years, and consequently, we did not estimate any impacts for new sources.

Although this proposed rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this proposed rule on small entities. The standards represent practices and controls that are common throughout the sources engaged in metal fabrication and finishing. The standards also require minimal amount of recordkeeping and reporting needed to demonstrate and verify compliance. These standards were developed based on information obtained from small businesses in our surveys, consultation with small business representatives on the State and national level, and industry representatives that are affiliated with small businesses.

We continue to be interested in the potential impacts of this proposed action on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on

State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective, or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with

significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

EPA has determined that this proposed rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any one year. This proposed rule is not expected to impact State, local, or tribal governments. Thus, this proposed rule is not subject to the requirements of sections 202 and 205 of the UMRA. EPA has determined that this proposed rule contains no regulatory requirements that might significantly or uniquely affect small governments. This proposed rule contains no requirements that apply to such governments, and impose no obligations upon them. Therefore, this proposed rule is not subject to section 203 of the UMRA.

E. Executive Order 13132: Federalism

Executive Order 13132 (64 FR 43255, August 10, 1999) requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" is defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship

between the national government and the States, or on the distribution of power and responsibilities among the various levels of government."

This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. This proposed rule does not impose any requirements on State and local governments. Thus, Executive Order 13132 does not apply to this proposed rule.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed rule from State and local officials.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

Executive Order 13175 (65 FR 67249, November 6, 2000), requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." This proposed rule does not have tribal implications, as specified in Executive Order 13175. This proposed rule imposes no requirements on tribal governments.

Thus, Executive Order 13175 does not apply to this rule. EPA specifically solicits additional comment on this proposed rule from tribal officials.

G. Executive Order 13045: Protection of Children from Environmental Health and Safety Risks

EPA interprets Executive Order 13045 (62 F.R. 19885, April 23, 1997) as applying to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it is based solely on technology performance.

H. Executive Order 13211 (Energy Effects)

This rule is not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001) because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 ("NTTAA"), Public Law No. 104-113 (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards (VCS) in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods,

sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This proposed rulemaking involves technical standards. Therefore, the Agency conducted a search to identify potentially applicable VCS. However, we identified no such standards, and none were brought to our attention in comments. Therefore, EPA has decided to use EPA Methods 24 and 311 in this proposed rule. In addition, we are proposing to use ASHRAE Method 52.1, "Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter, June 4, 1992," to measure paint booth filter efficiency and to measure the control efficiency of paint overspray arrestors with spray-applied paintings. This method will enable owner/operators to determine their facility's compliance with the spray booth filter requirement of this proposed rule.

We are also proposing to use two methods from the California South Coast Air Quality Management District: "Spray Equipment Transfer Efficiency Test Procedure For Equipment User, May 24, 1989," and "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002," as methods to demonstrate the equivalency of spray

gun transfer efficiency for spray guns that do not meet the definition of HVLP, airless spray, or electrostatic spray. These methods will enable owner/operators to determine their facility's compliance with the HVLP requirement of this proposed rule.

We also cite in this proposed rule three ASTM methods: ASTM Method D2697-03, "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings," and ASTM D6093-97 (Reapproved 2003), "Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer," for determining the volume fraction of paint solids; and ASTM D1475-98, "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products," for determining the average density of volatile matter in the spray paints and coatings.

In addition to the VCS already cited in this proposed rule, EPA Method 24 and 311 already incorporate VCS. The EPA Method 311 is a compilation of five VCS: ASTM D1979-91, ASTM D3432-89, ASTM D4747-87, ASTM D4827-93, and ASTM PS 9-94. The EPA Method 24 incorporates six VCS: ASTM D1475-90, ASTM D2369-95, ASTM D3792-91, ASTM D4017-96a, ASTM D4457-85 (Reapproved 1991), and ASTM D5403-93.

EPA welcomes comments on this aspect of the proposed rulemaking and, specifically, invites the public to identify

potentially-applicable voluntary consensus standards and to explain why such standards should be used in this regulation.

Under §63.7(f) and §63.8(f) of subpart A of the General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994) establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately

high and adverse human health or environmental effects on any population, including any minority or low-income population. The nationwide standards would reduce HAP emissions and thus decrease the amount of emissions to which all affected populations are exposed.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Incorporations by reference, Reporting and recordkeeping requirements.

_____
Dated:

_____
Stephen L. Johnson,
Administrator.

For the reasons stated in the preamble, title 40, Chapter I, part 63 of the Code of Federal Regulations is amended as follows:

PART 63--[AMENDED]

1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, et seq.

Subpart A--[Amended]

2. Section 63.14 is amended by adding new paragraphs (b)(64) (65), and (66); (d)(9) and (10); and (l)(2) to read as follows:

§63.14 Incorporations by reference

* * * * *

(b) * * *

(64) ASTM D2697-03, Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings, IBR approved for §63.11516(e)(3)(ii)(A).

(65) ASTM D6093-97 (Reapproved 2003), Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer, IBR approved for §63.11516(e)(3)(ii)(A).

(66) ASTM D1475-98, Standard Test Method for Density of Liquid Coatings, Inks, and Related Products, IBR approved for §§63.11516(e)(3)(iii), 63.11516(e)(3)(iv), and 63.11516(e)(4)(iii).

(d) * * *

(9) Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989, IBR approved for §63.11516(d)(1)(ii).

(10) Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002, IBR approved for §63.11516(d)(1)(iv)(2).

(l) * * *

(2) ASHRE 52.1, Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter, June 4, 1992, IBR approved for §63.11516(d)(1)(ii).

* * * * *

3. Part 63 is amended by adding subpart XXXXXX consisting of §§63.11514 through 63.11523 and tables 1 through 4 to read as follows:

Subpart XXXXXX--National Emission Standards for Hazardous Air Pollutants Area Source Standards for 9 Metal Fabrication and Finishing Source Categories

Applicability and Compliance Dates

63. 11514 Am I subject to this subpart?

63. 11515 What are my compliance dates?

Standards and Compliance Requirements

63. 11516 What are my standards and management practices?

Other Requirements and Information

Tables to subpart XXXXXX

Subpart XXXXXX--National Emission Standards for Hazardous Air Pollutants Area Source Standards for 9 Metal Fabrication and Finishing Source Categories

Applicability and Compliance Dates

(a) You are subject to this subpart if you own or operate an area source of metal fabrication or finishing metal HAP (MFHAP), defined to be the compounds of cadmium, chromium, lead, manganese, and nickel, or a source of volatile organic HAP (VOHAP) from spray painting operations, which performs metal fabrication or finishing operations in one of the following nine source categories:

(1) Electrical and Electronic Equipment Finishing Operations;

(2) Fabricated Metal Products;

(3) Fabricated Plate Work (Boiler Shops);

(4) Fabricated Structural Metal Manufacturing;

(5) Heating Equipment, except Electric;

(6) Industrial Machinery and Equipment: Finishing Operations;

(7) Iron and Steel Forging;

(8) Primary Metal Products Manufacturing; and

(9) Valves and Pipe Fittings.

Descriptions of these source categories are shown in Table 1 of this subpart.

(b) The provisions of this subpart apply to each new and existing affected source listed and defined in paragraphs (b)(1) through (5) of this section at all times.

(1) A dry abrasive blasting metal fabrication or finishing

affected source is the collection of all equipment and activities necessary to perform dry abrasive blasting operations, which use MFHAP or perform metal fabrication or finishing operations that have the potential to emit MFHAP.

(2) A machining metal fabrication or finishing affected source is the collection of all equipment and activities necessary to perform machining metal fabrication or finishing operations which use MFHAP or perform metal fabrication or finishing operations that have the potential to emit MFHAP.

(3) A dry grinding and dry polishing with machines metal fabrication or finishing affected source is the collection of all equipment and activities necessary to perform dry grinding and dry polishing with machines metal fabrication or finishing operations which use MFHAP or perform metal fabrication or finishing operations that have the potential to emit MFHAP.

(4) A spray painting metal fabrication or finishing affected source is the collection of all equipment and activities necessary to perform spray-applied painting operations on metal substrates using paints which contain VOHAP or MFHAP. A spray painting metal fabrication or finishing affected source includes all equipment used to apply cleaning materials to a substrate to prepare it for paint application (surface preparation) or to remove dried paint; to apply a paint to a substrate (paint application) and to dry or cure the paint

after application; or to clean paint operation equipment (equipment cleaning). If you are subject to the provisions of this subpart, you are not subject to the provisions of subpart HHHHHH of this part, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, for affected source(s) subject to the requirements of paragraphs (b)(1) through (5) of this section.

(5) A welding metal fabrication or finishing affected source is the collection of all equipment and activities necessary to perform welding operations which use MFHAP, or perform metal fabrication or finishing operations that have the potential to emit MFHAP.

(c) An affected source is existing if you commenced construction or reconstruction of the affected source, as defined in §63.2, "General Provisions" to part 63, before [INSERT DATE OF PUBLICATION OF THIS PROPOSED RULE].

(d) An affected source is new if you commenced construction or reconstruction of the affected source, as defined in §63.2, "General Provisions" to part 63, on or after [INSERT DATE OF PUBLICATION OF THIS PROPOSED RULE].

(e) This subpart does not apply to research or laboratory facilities, as defined in section 112(c)(7) of the Clean Air Act (CAA).

(f) This subpart does not apply to tool or equipment repair operations, or facility maintenance as defined in §63.11522, "Definitions."

(g) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required by law to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart.

§63. 11515 What are my compliance dates?

(a) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions in this subpart within two years of the date of publication of the final rule in the FEDERAL REGISTER, except for spray painter training required by §63.11516(d)(8), "Standards for control of MFHAP in spray painting."

(b) If you start up a new affected source after the date of publication of the final rule in the FEDERAL REGISTER, you must achieve compliance with the provisions in this subpart upon startup of your affected source.

Standards and Compliance Requirements

§63. 11516 What are my standards and management practices?

(a) *Dry abrasive blasting metal fabrication or finishing standards*. If you own or operate a new or existing dry abrasive

blasting metal fabrication or finishing affected source you must comply with the requirements in paragraphs (a)(1) through (3) of this section, as applicable.

(1) *Standards for dry abrasive blasting of objects less than or equal to 8 feet in any one dimension, performed in totally enclosed and unvented blast chambers.* If you own or operate a new or existing dry abrasive blasting metal fabrication or finishing affected source which consists of an abrasive blasting chamber that is totally enclosed and unvented, as defined in §63.11522, "Definitions," you must implement management practices to minimize emissions of MFHAP. These management practices are the practices specified in paragraph (a)(1)(i) of this section. You must demonstrate that management practices are being implemented by complying with the requirements in paragraphs (a)(1)(ii) through (iv) of this section.

(i) Management practices for totally enclosed and unvented abrasive blasting chamber affected sources are to:

(A) Minimize dust generation during emptying of abrasive blasting enclosures; and

(B) Operate all equipment associated with dry abrasive blasting operations according to the manufacturer's instructions.

(ii) You must perform visual determinations of fugitive

emissions as specified in §63.11517(b), "Monitoring Requirements," in close proximity to the total enclosed and unvented dry abrasive blasting chamber.

(iii) You must keep a record of all visual determinations of fugitive emissions along with any corrective actions taken in accordance with the requirements in §63.11519(c)(2), "Notification, recordkeeping, and reporting requirements."

(iv) If visible fugitive emissions are detected, you must comply with the requirements in paragraphs (a)(1)(iv)(A) and (B) of this section.

(A) Perform corrective actions as needed until the visible emissions are eliminated, at which time you must perform a follow-up inspection for visible emissions in accordance with §63.11517(a), "Monitoring Requirements." Corrective actions include, but are not limited to, inspection and repositioning of the blasting chamber, adjusting the blasting mechanism, and repairing leaks.

(B) Report all instances when visible emissions are detected, along with the corrective actions taken and the results of subsequent follow-up determinations for visible emissions, along with your annual compliance report, as required by §63.11519(b)(5), "Notification, recordkeeping, reporting requirements."

(2) *Standards for dry abrasive blasting of objects less*

than or equal to 8 feet in any one dimension, performed in vented enclosures. If you own or operate a new or existing dry abrasive blasting metal fabrication or finishing affected source which consists of a dry abrasive blasting operation which has a vent allowing any air or blast material to escape, you must comply with the requirements in paragraphs (a)(2)(i) through (v) of this section. As an alternative, dry abrasive blasting operations for which the items to be blasted exceed 8 feet (2.4 meters) in any dimension, may be performed outdoors, subject to the requirements in paragraph (a)(3) of this section.

(i) You must capture emissions and vent them to a filtration control device. You must demonstrate compliance with this requirement by maintaining a record of the manufacturer's specifications for the capture and control devices, as specified by the requirements in §63.11519(c)(4), "Notification, recordkeeping, and reporting requirements." If you control emissions with a device other than a filtration device, you must establish that the alternate control device is at least equivalent, according to §63.6(g) of the "General Provisions" to part 63.

(ii) You must implement the management practices to minimize emissions of MFHAP as specified in paragraphs (a)(2)(ii) (A) through (C) of this section.

(A) You must keep work areas free of excess MFHAP material

by sweeping or vacuuming dust once per day, once per shift, or once per operation, as needed depending on the severity of dust generation; and

(B) You must enclose dusty material storage areas and holding bins, seal chutes and conveyors; and

(C) You must operate all equipment associated with dry abrasive blasting operations according to manufacturer's instructions.

(iii) To demonstrate that management practices are being implemented, you must perform visual determinations of fugitive emissions as specified in §63.11517(b), "Monitoring Requirements," at the outlet of the vent or stack to which the dry abrasive blasting operation and any control system are vented.

(iv) You must keep a record of all visual determinations of fugitive emissions along with any corrective action taken in accordance with the requirements in §63.11519(c)(2), "Notification, recordkeeping, and reporting requirements."

(v) If visible fugitive emissions are detected, perform corrective actions as needed until the visible fugitive emissions are eliminated, at which time you must comply with the requirements in paragraphs (a)(2)(v)(A) and (B) of this section.

(A) Perform a follow-up inspection for visible fugitive emissions in accordance with §63.11517(a), "Monitoring

Requirements." Corrective actions include, but are not limited to, inspecting and replacing filters; and inspecting, repairing, and/or correcting enclosure and exhaust air flow, so that the enclosure air is directed into the filtration device.

(B) Report all instances where visible emissions are detected, along with any corrective action taken and the results of subsequent follow-up inspections for visible emissions, along with your annual compliance report, as required by §63.11519(b)(5), "Notification, recordkeeping, and reporting requirements."

(3) *Standards for dry abrasive blasting of objects greater than 8 feet in any one dimension.* If you own or operate a new or existing dry abrasive blasting metal fabrication or finishing affected source which consists of a dry abrasive blasting operation which is performed outdoors, you must implement management practices to minimize emissions of MFHAP as specified in paragraph (a)(3)(i) of this section. You must demonstrate that management practices are being implemented by complying with the requirements in paragraphs (a)(3)(ii) through (iv) of this section.

(i) Management practices for outdoor dry abrasive blasting metal fabrication or finishing affected sources are the practices specified in paragraphs (a)(3)(i)(A) through (G) of this section.

(A) Keep work areas free of excess MFHAP material by sweeping or vacuuming dust once per day, once per shift, or once per operation, as needed depending on the severity of dust generation; and

(B) Enclose dusty material storage areas and holding bins, seal chutes and conveyors; and

(C) Operate all equipment associated with dry abrasive blasting operations according to manufacturer's instructions; and

(D) No dry abrasive blasting shall be performed during a wind event, as defined in §63.11522, “Definitions;” and

(E) No dry abrasive blasting shall be performed on substrates having paints containing lead (greater than 0.1 percent lead) unless enclosures or barriers are employed, or similar precautions are taken to collect the lead-bearing emissions or prevent them from being dispersed; and

(F) Dry abrasive blasting media shall not be re-used unless contaminants (i.e., any material other than the base metal, such as paint residue) have been removed by filtration or screening, and the abrasive material conforms to its original size; and

(G) Whenever practicable, switch from high particulate matter (PM)-emitting blast media (e.g., sand) to low PM-emitting blast media (e.g., steel shot, aluminum oxide.), where PM is a

surrogate for MFHAP.

(ii) You must perform visual determinations of fugitive emissions, as specified in §63.11517(b), "Monitoring Requirements," at the fenceline or property border nearest to the outdoor dry abrasive blasting operation.

(iii) Keep a record of all visual determinations of fugitive emissions along with any corrective action taken in accordance with the requirements in §63.11519(c)(2), "Notification, recordkeeping, and reporting requirements."

(iv) If visible fugitive emissions are detected, perform corrective actions until the visible fugitive emissions are eliminated, at which time you must comply with the requirements in paragraphs (a)(3)(iv)(A) and (B) of this section.

(A) Perform a follow-up inspection for visible fugitive emissions in accordance with §63.11517(a), "Monitoring Requirements."

(B) Report all instances where visible emissions are detected, along with any corrective action taken and the results of subsequent follow-up inspections for visible emissions, along with your annual compliance report as required by §63.11519(b)(5), "Notification, recordkeeping, and reporting requirements."

(b) *Standards for machining*. If you own or operate a new or existing machining metal fabrication or finishing affected

source, you must implement management practices to minimize emissions of MFHAP as specified in paragraph (b)(1) of this section. You must demonstrate that management practices are being implemented by complying with the requirements in paragraphs (b)(2) through (4) of this section.

(1) Machining affected sources must comply with the management practices specified in paragraphs (b)(1)(i) and (ii) of this section.

(i) Keep work areas free of excess MFHAP material by sweeping or vacuuming once per day, once per shift, or once per operation, as needed depending on the severity of dust generation; and

(ii) Operate all equipment associated with machining according to manufacturer's instructions.

(2) You must perform visual determinations of fugitive emissions, as specified in §63.11517(b), "Monitoring Requirements," at an exit or opening of the building containing the machining metal fabrication or finishing operation.

(3) You must keep a record of all visual determinations of fugitive emissions along with any corrective action taken in accordance with the requirements in §63.11519(c)(2), "Notification, recordkeeping, and reporting requirements."

(4) If visible fugitive emissions are detected, perform corrective actions until the visible fugitive emissions are

eliminated, at which time you must comply with the requirements in paragraphs (b)(4)(i) and (ii) of this section.

(i) You must perform a follow-up inspection for visible fugitive emissions in accordance with §63.11517(a), "Monitoring Requirements."

(ii) You must report all instances where visible emissions are detected, along with any corrective action taken and the results of subsequent follow-up inspections for visible emissions, along with your annual compliance report as required by §63.11519(b)(5), "Notification, recordkeeping, and reporting requirements."

(c) *Standards for dry grinding and dry polishing with machines*. If you own or operate a new or existing dry grinding and dry polishing with machines metal fabrication or finishing affected source, you must comply with the requirements of paragraphs (c)(1) through (5) of this section.

(1) You must capture emissions and vent them to a filtration control device. You must demonstrate compliance with this requirement by maintaining a record of the manufacturer's specifications for the capture and control devices, as specified by the requirements in §63.11519(c)(4), "Notification, recordkeeping, and reporting Requirements." If you control emissions with a device other than a filtration device, you must establish that the alternate control device is at least

equivalent, according to §63.6(g) of the “General Provisions” to part 63.

(2) You must implement management practices to minimize emissions of MFHAP as specified in paragraphs (c)(2)(i) and (ii) of this section.

(i) Keep work areas free of excess MFHAP material by sweeping or vacuuming once per day, once per shift, or once per operation, as needed depending on the severity of dust generation;

(ii) Operate all equipment associated with the operation of dry grinding and dry polishing with machines, including the emission control system, according to manufacturer's instructions.

(3) To demonstrate that the management practices are being implemented You must perform visual determinations of fugitive emissions, as specified in §63.11517(b), “Monitoring Requirements,” at an exit or opening of the building containing the dry grinding and dry polishing with machines.

(4) You must keep a record of all visual determinations of fugitive emissions along with any corrective action taken in accordance with the requirements in §63.11519(c)(2), “Notification, recordkeeping, and reporting Requirements.”

(5) If visible fugitive emissions are detected, perform corrective actions until the visible fugitive emissions are

eliminated, at which time you must comply with the requirements in paragraphs (c)(5)(i) and (ii) of this section. Corrective actions include, but are not limited to, inspecting and replacing filters; inspecting, repairing, and/or correcting the operation of the emission capture equipment and air flow into the capture system; and increasing the capture efficiency.

(i) You must perform a follow-up inspection for visible fugitive emissions in accordance with §63.11517(a), "Monitoring Requirements."

(ii) You must report all instances where visible emissions are detected, along with any corrective action taken and the results of subsequent follow-up inspections for visible emissions, along with your annual compliance report as required by §63.11519(b)(5), "Notification, recordkeeping, and reporting requirements."

(d) *Standards for control of MFHAP in spray painting*. If you own or operate a new or existing spray painting metal fabrication or finishing affected source, as defined in §63.11522, "Definitions," you must implement the management practices in paragraphs (d)(1) through (9) of this section.

(1) S*tandards for spray painting objects less than or equal to 15 feet in any dimension for MFHAP control*. All paints applied via spray-applied painting to objects which do not exceed 15 feet (4.57 meters) in any dimension, must be applied

in a spray booth or preparation station that meets the requirements of paragraphs (d)(1)(i) through (iii) of this section.

(i) Spray booths and preparation stations must have a full roof, at least two complete walls, and one or two complete side curtains or other barrier material so that all four sides are covered. The spray booths must be ventilated so that air is drawn into the booth and leaves only though the filter. The roof may contain narrow slots for connecting fabricated products to overhead cranes, and/or for cords or cables.

(ii) All spray booths, preparation stations, and mobile enclosures must be fitted with a type of filter technology that is demonstrated to achieve at least 98 percent capture of MFHAP. The procedure used to demonstrate filter efficiency must be consistent with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Method 52.1, "Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter, June 4, 1992" (incorporated by reference, see §63.14 of subpart A of this part). The test coating for measuring filter efficiency shall be a high solids bake enamel delivered at a rate of at least 135 grams per minute from a conventional (non-HVLP) air-atomized spray gun operating at 40 pounds per square inch (psi) air pressure; the air flow rate across the filter

shall be 150 feet per minute. Owners and operators may use published filter efficiency data provided by filter vendors to demonstrate compliance with this requirement and are not required to perform this measurement.

(iii) You must perform regular inspection and replacement of the filters in all spray booths, preparation stations, and mobile enclosures according to manufacturer instructions, and maintain documentation of these activities, as detailed in §63.11519(c)(5), "Notification, recordkeeping, and reporting requirements."

(iv) As an alternative compliance requirement, spray booths equipped with a water curtain, called "waterwash" or "waterspray" booths that are operated and maintained according to the manufacturer's specifications and that achieve at least 98 percent control of MFHAP, may be used in lieu of the spray booths requirements of paragraphs (d)(1)(i) through (iii) of this section.

(2) *Standards for spray painting of all objects for MFHAP control*. All paints applied via spray-applied painting must be applied with a high-volume, low-pressure (HVLP) spray gun, electrostatic application, airless spray gun, air-assisted airless spray gun, or an equivalent technology that is demonstrated to achieve transfer efficiency comparable to one of these spray gun technologies for a comparable operation, and for

which written approval has been obtained from the Administrator. The procedure used to demonstrate that spray gun transfer efficiency is equivalent to that of an HVLP spray gun must be equivalent to the California South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989" and "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002" (incorporated by reference, see §63.14 of subpart A of this part).

(3) *Spray system recordkeeping.* You must maintain documentation of the HVLP or other high transfer efficiency spray paint delivery methods, as detailed in §63.11519(c)(6), "Notification, recordkeeping, and reporting requirements."

(4) *Spray gun cleaning.* All cleaning of paint spray guns must be done with either non-HAP gun cleaning solvents, or in such a manner that an atomized mist of spray of gun cleaning solvent and paint residue is not created outside of a container that collects used gun cleaning solvent. Spray gun cleaning may be done with, for example, hand cleaning of parts of the disassembled gun in a container of solvent, by flushing solvent through the gun without atomizing the solvent and paint residue, or by using a fully enclosed spray gun washer. A combination of these non-atomizing methods may also be used.

(5) *Spray painting worker certification.* All workers

performing painting must be certified that they have completed training in the proper spray application of paints and the proper setup and maintenance of spray equipment. The minimum requirements for training and certification are described in paragraph (d)(6) of this section. The spray application of paint is prohibited by persons who are not certified as having completed the training described in paragraph (d)(6) of this section. The requirements of this paragraph do not apply to the students of an accredited painting training program who are under the direct supervision of an instructor who meets the requirements of this paragraph. The requirements of this paragraph do not apply to operators of robotic or automated painting operations.

(6) *Spray painting training program content.* Each owner or operator of an affected spray painting metal fabrication or finishing affected source must ensure and certify that all new and existing personnel, including contract personnel, who spray apply paints are trained in the proper application of paints as required by paragraph (d)(5) of this section. The training program must include, at a minimum, the items listed in paragraphs (d)(6)(i) through (iii) of this section.

(i) A list of all current personnel by name and job description who are required to be trained;

(ii) Hands-on, or in-house or external classroom

instruction that addresses, at a minimum, initial and refresher training in the topics listed in paragraphs (d)(6)(ii)(A) through (D) of this section.

(A) Spray gun equipment selection, set up, and operation, including measuring coating viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate.

(B) Spray technique for different types of paints to improve transfer efficiency and minimize paint usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap, and reducing lead and lag spraying at the beginning and end of each stroke.

(C) Routine spray booth and filter maintenance, including filter selection and installation.

(D) Environmental compliance with the requirements of this subpart.

(iii) A description of the methods to be used at the completion of initial or refresher training to demonstrate, document, and provide certification of successful completion of the required training. Alternatively, owners and operators who can show by documentation or certification that a painter's work experience and/or training has resulted in training equivalent to the training required in paragraph (d)(6)(ii) of this section

are not required to provide the initial training required by that paragraph to these painters.

(7) *Records of spray painting training.* You must maintain records of employee training certification for use of HVLP or other high transfer efficiency spray paint delivery methods as detailed in §63.11519(c)(7), "Notification, recordkeeping, and reporting requirements."

(8) *Spray painting training dates.* As required by paragraph (d)(5) of this section, all new and existing personnel at an affected spray painting metal fabrication or finishing affected source, including contract personnel, who spray apply paints must be trained by the dates specified in paragraphs (d)(8)(i) and (ii) of this section.

(i) If your source is a new source, all personnel must be trained and certified no later than 180 days after hiring or no later than 180 days after [INSERT DATE OF PUBLICATION OF THIS PROPOSED RULE IN THE FEDERAL REGISTER], whichever is later. Training that was completed within 5 years prior to the date training is required, and that meets the requirements specified in paragraph (d)(6)(ii) of this section satisfies this requirement and is valid for a period not to exceed 5 years after the date the training is completed.

(ii) If your source is an existing source, all personnel must be trained and certified no later than 60 days after hiring

or no later than 6 months after [INSERT DATE OF PUBLICATION OF THIS PROPOSED RULE IN THE FEDERAL REGISTER], whichever is later. Worker training that was completed within 5 years prior to the date training is required, and that meets the requirements specified in paragraph (d)(6)(ii) of this section satisfies this requirement and is valid for a period not to exceed 5 years after the date the training is completed.

(9) *Duration of training validity.* Training and certification will be valid for a period not to exceed 5 years after the date the training is completed, and all personnel must receive refresher training that meets the requirements of this section and be re-certified every 5 years.

(e) *Standards for VOHAP from **s**pray painting.* For a new or existing spray painting metal fabrication or finishing affected source, as defined in §63.11522, "Definitions," you must comply with the limits specified in either paragraph (e)(1) or (e) 2) of this section. You must demonstrate these limits are being implemented by complying with the requirements in paragraph (e)(3) or (e)(4) of this section, as applicable. You must also implement the management practices specified in paragraph (e)(5) of this section to minimize VOHAP emissions from mixing and storage.

(1) *Paint VOHAP content limit option.* Limit the VOHAP content of all paints applied via spray applied coating

operations to no more than 3 pounds of volatile organic HAP per gallon (lb/gal) (0.36 kg/l) paint solids, in accordance with paragraphs (e)(1)(i) through (iii) of this section.

(i) You may use the VOHAP content limit option for any individual painting operation, for any group of painting operations in the affected source, or for all the painting operations in the affected source.

(ii) You may not use any thinner and/or other additive that contains VOHAP as determined according to paragraph (e)(3)(i) of this section.

(iii) You must use the procedures in this section on each paint, thinner and/or other additive in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration.

(iv) You do not need to determine the VOHAP content of paints, thinners and/or other additives that are reclaimed on-site (or reclaimed off-site if you have documentation showing that you received back the exact same materials that were sent off-site) and reused in the painting operation for which you use the VOHAP content limit option, provided these materials in their condition as received were demonstrated to comply with the VOHAP content limit option.

(2) *Weighted-average paint VOHAP content limit option.* Limit the VOHAP content of the total mass of paints applied via

spray-applied coating operations to no more than 3 lb/gal (0.36 kg/l) paint solids on a 12-month rolling weighted-average basis.

(3) *Compliance with paint VOHAP content limit option.* If you comply with the VOHAP content limit in paragraph (e)(1) of this section, you must demonstrate compliance by complying with the requirements in paragraphs (e)(3)(i) through (vi) of this section.

(i) *Determine the mass fraction of VOHAP.* You must determine the mass fraction of VOHAP for each paint, thinner and/or other additive used during the compliance period by using one of the options in paragraphs (e)(3)(i)(A) through (E) of this section.

(A) *Information from the supplier or manufacturer of the material.* You may rely on information other than that generated by the test methods specified in paragraphs (e)(3)(i)(B) through (E) of this section, such as manufacturer's formulation data or material safety data sheets (MSDS), if it represents each VOHAP that is present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA) - defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is 0.5 percent of the material by mass, you do not have to count it. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the

atmosphere, you may rely on manufacturer's data that expressly states the VOHAP or volatile matter mass fraction emitted. If there is a disagreement between such information and results of a test conducted according to paragraphs (e)(3)(i)(B) through (D) of this section, then the test method results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(B) *Method 311.* You may use EPA Method 311 (appendix A to 40 CFR part 63, "Test Methods") for determining the mass fraction of VOHAP. Use the procedures specified in paragraphs (e)(3)(i)(B)(1) and (2) of this section when performing a EPA Method 311 test.

(1) Count each VOHAP that is measured to be present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is measured to be 0.5 percent of the material by mass, you do not have to count it. Express the mass fraction of each VOHAP you count as a value truncated to four places after the decimal point (e.g., 0.3791).

(2) Calculate the total mass fraction of VOHAP in the test material by adding up the individual VOHAP mass fractions and truncating the result to three places after the decimal point

(e.g., 0.763).

(C) *Method 24.* For paints, as defined in §63.11522, "Definitions," you may use EPA Method 24 (appendix A to 40 CFR part 60, "Test Methods") to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for mass fraction of VOHAP. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may use the alternative method contained in appendix A to subpart PPPP (Plastic Parts NESHAP) of this part, rather than EPA Method 24. You may use the volatile fraction that is emitted, as measured by the alternative method in appendix A to subpart PPPP (Plastic Parts NESHAP) of this part, as a substitute for the mass fraction of VOHAP.

(D) *Alternative method.* You may use an alternative test method for determining the mass fraction of VOHAP once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval.

(E) *Solvent blends.* Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may contain VOHAP which must be counted toward the total VOHAP mass fraction of the materials. When test data and manufacturer's data for solvent blends are not available, you may use the default values for the mass fraction of VOHAP in these solvent blends listed in

Table 2 or 3 to this subpart. If you use the tables, you must use the values in Table 2 for all solvent blends that match Table 2 entries according to the instructions for Table 2, and you may use Table 2 only if the solvent blends in the materials you use do not match any of the solvent blends in Table 2 and you know only whether the blend is aliphatic or aromatic. However, if the results of an EPA Method 311 test indicate higher values than those listed on Table 2 or 3 to this subpart, the EPA Method 311 results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(ii) *Determine the volume fraction of paint solids.* You must determine the volume fraction of paint solids (liters (gal) of paint solids per liter (gal) of paint) for each paint used during the compliance period by a test, by calculation, or by information provided by the supplier or the manufacturer of the material, using one of the options in paragraphs (e)(3)(ii)(A) through (C) of this section. If test results obtained according to paragraph (e)(3)(ii)(A) of this section do not agree with the information obtained under paragraph (e)(3)(ii)(B) or (C) of this section, the test results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(A) ASTM Method D2697-03 or ASTM Method D6093-97

(Reapproved 2003). You may use ASTM Method D2697-03, "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings" (incorporated by reference, see §63.14), or ASTM Method D6093-97 (Reapproved 2003), "Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer" (incorporated by reference, see §63.14), to determine the volume fraction of paint solids for each paint. Divide the nonvolatile volume percent obtained with the methods by 100 to calculate volume fraction of paint solids.

(B) *Alternative method.* You may use an alternative test method for determining the solids content of each coating once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval.

(C) *Information from the supplier or manufacturer of the material.* You may obtain the volume fraction of paint solids for each paint from the supplier or manufacturer.

(iii) *Calculation of volume fraction of paint solids.* You may determine the volume fraction of paint solids using Equation 1 of this section:

$$V_s = 1 - \frac{m_{volatiles}}{D_{avg}} \quad \text{(Eq. 1)}$$

Where:

V_s = Volume fraction of paint solids, liters (gal) paint solids per liter (gal) paint.

m = Total volatile matter content of the paint, including HAP, volatile organic compounds (VOC), water, and exempt compounds, determined according to EPA Method 24, grams volatile matter per liter paint.
D_{avg} = Average density of volatile matter in the paint, grams volatile matter per liter volatile matter, determined from test results using ASTM Method D1475-98, ``Standard Test Method for Density of Liquid Coatings, Inks, and Related Products'' (incorporated by reference, see §63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475-98 test results and other information sources, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(iv) *Determine the density of each paint.* Determine the density of each paint used during the compliance period from test results using ASTM Method D1475-98, "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products" (incorporated by reference, see §63.14), information from the supplier or manufacturer of the material can be used, or specific gravity data for pure chemicals. If there is disagreement between ASTM Method D1475-98 test results and the supplier's or manufacturer's information, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(v) *Determine the VOHAP content of each paint.* Calculate the VOHAP content, kg (lb) of VOHAP emitted per liter (gal)

paint solids used, of each paint used during the compliance period using Equation 2 of this section:

$$Hc = \frac{(Dc)(Wc)}{Vs} \quad \text{(Eq. 2)}$$

Where:

Hc = Organic HAP content of the paint, kg organic HAP emitted per liter (gal) paint solids used.
Dc = Density of paint, kg paint per liter (gal) paint, determined according to paragraph (e)(3)(iv) of this section.
Wc = Mass fraction of organic HAP in the paint, kg organic HAP per kg paint, determined according to paragraph (e)(3)(i) of this section.
Vs = Volume fraction of paint solids, liter (gal) paint solids per liter (gal) paint, determined according to paragraph (e)(3)(ii) of this section.

(vi) *Compliance demonstration for paint VOHAP content limit option.* To demonstrate continuous compliance, you must comply with the requirements in paragraphs (e)(3)(vi)(A) through (D) of this section.

(A) The calculated VOHAP content for each paint used must be less than or equal to the applicable HAP content limit in paragraph (e)(1) of this section, and each thinner and/or other additive used must contain no VOHAP, determined according to paragraph (e)(3)(i) of this section.

(B) You must keep all records required by §63.11519(c)(8) and (9), "Notification, recordkeeping, and reporting requirements."

(C) As part of the notification of compliance status

required in §63.11519(a)(2), "Notification, recordkeeping, and reporting requirements," you must identify the paint operation(s) for which you used the VOHAP content limit option and submit a statement that the paint operation(s) was (were) in compliance with the HAP content limit because you used no paints for which the VOHAP content exceeded the applicable limit in paragraph (e)(1) of this section, and you used no thinners and/or other additives that contained VOHAP, determined according to the procedures in paragraphs (e)(3)(i) through (v) of this section.

(D) If at any time the calculated VOHAP content for any paint exceeded the applicable limit in paragraph (e)(1) of this section, or any thinner and/or other additive used contained any VOHAP, this is an exceedence of the limitation for that compliance period and must be reported as specified in §63.11519(b)(8)(i), "Notification, recordkeeping, and reporting requirements."

(4) *Compliance with weighted-average paint VOHAP content limit option.* If you comply with the weighted-average VOHAP content in paragraph (e)(2) of this section, you must demonstrate compliance by complying with the requirements in paragraphs (e)(4)(i) through (ix) of this section. When calculating the weighted-average VOHAP content according to this section, do not include any paints, thinners and/or other

additives used on painting operations for which you use the HAP content limit option of paragraph (e)(1) of this section. You do not need to determine the mass of VOHAP in paints, thinners and/or other additives that have been reclaimed on-site (or reclaimed off-site if you have documentation showing that you received back the exact same materials that were sent off-site) and reused in the painting operation. If you use paints, thinners and/or other additives that have been reclaimed on-site, the amount of each used in a month may be reduced by the amount of each that is reclaimed. That is, the amount used may be calculated as the amount consumed to account for materials that are reclaimed.

(i) M*ass fraction of VOHAP*. Determine the mass fraction of VOHAP for each paint, thinner and/or other additive used during each month according to the requirements in paragraph (e)(3)(i) of this section.

(ii) V*olume fraction of paint solids.* Determine the volume fraction of paint solids for each paint used during each month according to the requirements in paragraph (e)(3)(ii) of this section.

(iii) *Density of materials*. Determine the density of each liquid paint, thinner and/or other additive used during each month from test results using ASTM Method D1475-98, ”Standard Test Method for Density of Liquid Coatings, Inks, and

Related Products" (incorporated by reference, see §63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475-98 test results and other such information sources, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine material density. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 3A, 3B, and 4 of this section.

(iv) V*olume of materials*. Determine the volume of each paint, thinner and/or other additive used during each month by measurement or usage records. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine the volume of each material used. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 3A and 3B of this section.

(v) *Mass of VOHAP*. The mass of VOHAP is the combined mass of VOHAP contained in all paints, thinners and/or other additives used during each month minus the VOHAP in certain waste materials. Calculate the mass of VOHAP using Equation 3 of this section.

$$He = A + B + R_w \quad \text{(Eq.3)}$$

Where:

He = Total mass of organic HAP used during the month, kg.
A = Total mass of organic HAP in the paints used during the month, kg, as calculated in Equation 3A of this section.
B = Total mass of organic HAP in the thinners and/or other additives used during the month, kg, as calculated in Equation 3B of this section.
Rw = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste treatment, storage, and disposal facility (TSDF) for treatment or disposal during the month, kg, determined according to paragraph (e)(4)(vi) of this section. (You may assign a value of zero to R w if you do not wish to use this allowance.)

Calculate the mass VOHAP in the paints used during the month using Equation 3A of this section:

$$\sum_{i=1}^{m}(Vol_{c,i})(D_{c,i})(W_{c,i}) \quad \text{(Eq. 3A)}$$

Where:

A = Total mass of organic HAP in the paints used during the month, kg.
Vol = Total volume of paint, i, used during the month, liters.
D_c= Density of paint, i, kg paint per liter paint.

W_c= Mass fraction of organic HAP in paint, i, kg organic HAP per kg paint. For reactive adhesives as defined in §63.11522, "Definitions," use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to subpart PPPP of this part.
m = Number of different paints used during the month.

Calculate the mass of VOHAP in the thinners and/or other additives used during the month using Equation 3B of this section:

$$\sum_{j=1}^{n}(Vol_{t,j})(D_{t,j})(W_{t,j})$$ (Eq. 3B)

Where:

B = Total mass of organic HAP in the thinners and/or other additives used during the month, kg.
$Vol_{t,j}$ = Total volume of thinner and/or other additive, j, used during the month, liters.
$D_{t,j}$ = Density of thinner and/or other additive, j, kg per liter.
$W_{t,j}$ = Mass fraction of organic HAP in thinner and/or other additive, j, kg organic HAP per kg thinner and/or other additive. For reactive adhesives as defined in §63.11522, "Definitions," use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to subpart PPPP of this part.
n = Number of different thinners and/or other additives used during the month.

(vi) *HAP in waste materials.* If you choose to account for the mass of VOHAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in Equation 3 of this section, then you must determine the mass according to paragraphs (e)(4)(vi)(A) through (D) of this section.

(A) You may only include waste materials in the determination that are generated by painting operations in the affected source for which you use Equation 3 of this section and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR part 262, 264, 265, or 266. The TSDF may be either off-site or on-site. You may not include VOHAP contained in wastewater.

(B) You must determine either the amount of the waste materials sent to a TSDF during the month or the amount

collected and stored during the month and designated for future transport to a TSDF. Do not include in your determination any waste materials sent to a TSDF during a month if you have already included them in the amount collected and stored during that month or a previous month.

(C) Determine the total mass of VOHAP contained in the waste materials specified in paragraph (e)(4)(vi)(A) of this section.

(D) You must document the methodology you use to determine the amount of waste materials and the total mass of VOHAP they contain, as required in §63.11519(c)(9)(viii), "Notification, recordkeeping, and reporting requirements." If waste manifests include this information, they may be used as part of the documentation of the amount of waste materials and mass of VOHAP contained in them.

(vii) *Paint solids.* Determine the total volume of paint solids used, in liters, which is the combined volume of paint solids for all the paints used during each month, using Equation 4 of this section:

$$V_{st} = \sum_{i=1}^{m} (Vol_{c,i})(V_{s,i}) \quad \text{(Eq. 4)}$$

Where:

V_{st} = Total volume of paint solids used during the month, liters.
$Vol_{c,i}$ = Total volume of paint, i, used during the month, liters.
$V_{s,i}$ = Volume fraction of paint solids for paint, i, liter

solids per liter paint, determined according to paragraph (e)(3)(ii) of this section.
m = Number of paints used during the month.

(viii) *Weighted-average VOHAP Content.* Calculate the weighted-average VOHAP content for all the paints used in the compliance period, in kg (lb) VOHAP emitted per liter (gal) paint solids used, using Equation 5 of this section:

$$H_{yr} = \frac{\sum_{y=1}^{n} H_e}{\sum_{y=1}^{n} V_{st}} \quad \text{(Eq.5)}$$

Where:

H_{yr} = Weighted-average organic HAP content of all paints used in the compliance period, kg VOHAP per liter paint solids used.
H_e = Total mass of organic HAP from all materials used during month, y, kg, as calculated by Equation 3 of this section.
V_{st} = Total volume of paint solids used during month, y, liters, as calculated by Equation 4 of this section.
y = Identifier for months.
n = Number of months in the compliance period (n equals 12).

(ix) *Compliance demonstration for weighted-average paint VOHAP content limit option.* To demonstrate continuous compliance, you must comply with the requirements in paragraphs (e)(4)(ix)(A) through (F) of this section.

(A) Calculate the weighted-average VOHAP content for each compliance period using Equation 5 of this section. A compliance period consists of 12 months. Each month is the end of a compliance period consisting of that month and the preceding 11 months. You must perform the calculations in

paragraph (e)(4) of this section on a monthly basis using data from the previous 12 months of operation.

(B) If the weighted-average VOHAP content of the total mass of paints applied via spray-applied coating operations for any 12-month compliance period exceeded the applicable VOHAP content limit in paragraph (e)(2) of this section this is an exceedence of the VOHAP content limitation for that compliance period and must be reported as specified in §63.11519(b)(8)(ii), "Notification, recordkeeping, and reporting requirements"

(C) As part of the notification of compliance status required by §63.11519(a)(2), "Notification, recordkeeping, and reporting requirements," you must include a list of processes that will comply with the weighted-average VOHAP content limit option, in accordance with paragraph (e)(2) of this section.

(D) As part of each annual compliance report required by §63.11519(b)(1), "Notification, recordkeeping, and reporting requirements," you must include a list of the rolling 12-month monthly calculated values of the VOHAP content calculated according to paragraph (e)(4)(viii) of this section, for each month for which 11 previous consecutive months of data are available. Thus, for the first annual report, no monthly VOHAP content will be reported, for the second, monthly VOHAP content will be reported for a portion of the year, and for subsequent reports, a full year (12 months) of monthly VOHAP content will

be reported.

(E) As part of each annual compliance report required by §63.11519(b)(1), "Notification, recordkeeping, and reporting requirements," you must identify the painting operation(s) for which you used the weighted-average VOHAP content limit option. If there were no exceedences of the VOHAP content limitations, you must submit a statement that the painting operation was in compliance with the VOHAP content limit during the reporting period because the VOHAP content for each compliance period was less than or equal to the applicable VOHAP limit in paragraph (e)(2) of this section, determined according to paragraph (e)(4) of this section.

(F) You must maintain records as specified in §63.11519(c)(8) and (9), "Notification, recordkeeping, and reporting requirements."

(5) You must implement the management practices described in paragraphs (e)(5)(i) through (v) of this section to minimize VOHAP emissions from mixing and storage.

(i) All VOHAP-containing paints, thinners and/or other additives, cleaning materials, and waste materials must be stored in closed containers.

(ii) Spills of VOHAP-containing paints, thinners and/or other additives, cleaning materials, and waste materials must be minimized.

(iii) VOHAP-containing paints, thinners and/or other additives, cleaning materials, and waste materials must be conveyed from one location to another in closed containers or pipes.

(iv) Mixing vessels which contain VOHAP-containing paints and other materials must be closed except when adding to, removing, or mixing the contents.

(v) Emissions of VOHAP must be minimized during cleaning of storage, mixing, and conveying equipment.

(f) *Standards for welding.* If you own or operate a new or existing welding metal fabrication or finishing affected source, you must comply with the requirements in paragraphs (f)(1) and (2) of this section. You must demonstrate that management practices or fume control measures are being implemented by complying with the requirements in paragraphs (f)(3) through (8) of this section.

(1) You must operate all equipment, capture, and control devices associated with welding operations according to manufacturer's instructions. You must demonstrate compliance with this requirement by maintaining a record of the manufacturer’s specifications for the capture and control devices, as specified by the requirements in §63.11519(c)(4), “Notification, recordkeeping, and reporting requirements.”

(2) You must implement management practices, as

practicable, to minimize emissions of MFHAP as specified in paragraphs (f)(2)(i) through (xi) of this section. Alternatively, you may use a welding fume control system that achieves at least 85 percent overall control of MFHAP, and operate this equipment according to the manufacturer's specifications.

(i) Use low fume welding processes whenever possible. These welding processes include but are not limited to: gas metal arc welding (GMAW)- also called metal inert gas welding (MIG); gas tungsten arc welding (GTAW)- also called tungsten inert gas (TIG); plasma arc welding (PAW); submerged arc welding (SAW); and all welding processes that do not use a consumable electrode.

(ii) Use shielding gases, as appropriate to the type of welding used;

(iii) Use an inert carrier gas, such as argon, as appropriate to the type of welding used;

(iv) Use low or no-HAP welding materials and substrates;

(v) Operate with a welding angle close to 90°;

(vi) Optimize electrode diameter;

(vii) Operate with lower voltage and current;

(viii) Use low fume wires, as appropriate to the type of welding used;

(ix) Optimize shield gas flow rate, as applicable to the

type of welding used;

(x) Use low or optimized torch speed; and

(xi) Use pulsed-current power supplies, as appropriate to the type of welding used.

(3) *Tier 1 compliance requirements for welding.* You must perform visual determinations of welding fugitive emissions as specified in §63.11517(b), "Monitoring requirements," at the primary vent, stack, exit, or opening from the building containing the welding metal fabrication or finishing operations. You must keep a record of all visual determinations of fugitive emissions along with any corrective action taken in accordance with the requirements in §63.11519(c)(2), "Notification, recordkeeping, and reporting requirements."

(4) *Requirements upon initial detection of visible emissions from welding.* If visible fugitive emissions are detected during any visual determination required in paragraph (f)(3) of this section, you must comply with the requirements in paragraphs (f)(4)(i) and (ii) of this section.

(i) Perform corrective actions that include, but are not limited to, inspection of welding fume sources, and evaluation of the proper operation and effectiveness of the management practices or fume control measures implemented in accordance with paragraph (f)(2) of this section. After completing such corrective actions, you must perform a follow-up inspection for

visible fugitive emissions in accordance with §63.11517(a), "Monitoring Requirements," at the primary vent, stack, exit, or opening from the building containing the welding metal fabrication or finishing operations.

(ii) Report all instances where visible emissions are detected, along with any corrective action taken and the results of subsequent follow-up inspections for visible emissions, and submit with your annual compliance report as required by §63.11519(b)(5), "Notification, recordkeeping, and reporting requirements."

(5) *Tier 2 requirements upon subsequent detection of visible emissions.* If visible fugitive emissions are detected more than once during any consecutive 12 month period (notwithstanding the results of any follow-up inspections), you must comply with paragraphs (f)(5)(i) through (iv) of this section.

(i) Within 24 hours of the end of the visual determination of fugitive emissions in which visible fugitive emissions were detected, you must conduct a visual determination of emissions opacity, as specified in §63.11517(c), "Monitoring requirements," at the primary vent, stack, exit, or opening from the building containing the welding metal fabrication or finishing operations.

(ii) In lieu of the requirement of paragraph (f)(3) of

this section to perform visual determinations of fugitive emissions with EPA Method 22, you must perform visual determinations of emissions opacity in accordance with §63.11517(d), "Monitoring Requirements," using EPA Method 9, at the primary vent, stack, exit, or opening from the building containing the welding metal fabrication or finishing operations.

(iii) You must keep a record of each visual determination of emissions opacity performed in accordance with paragraphs (f)(5)(i) or (ii) of this section, along with any subsequent corrective action taken, in accordance with the requirements in §63.11519(c)(3), "Notification, recordkeeping, and reporting requirements."

(iv) You must report the results of all visual determinations of emissions opacity performed in accordance with paragraphs (f)(5)(i) or (ii) of this section, along with any subsequent corrective action taken, and submit with your annual compliance report as required by §63.11519(b)(6), "Notification, recordkeeping, and reporting requirements."

(6) *Requirements for opacities less than 20 percent.* For each visual determination of emissions opacity performed in accordance with paragraph (f)(5) of this section for which the average of the six-minute average opacities recorded is less than 20 percent, you must perform corrective actions, including

inspection of all welding fume sources, and evaluation of the proper operation and effectiveness of the management practices or fume control measures implemented in accordance with paragraph (f)(2) of this section.

(7) *Tier 3 requirements for opacities exceeding 20 percent*. For each visual determination of emissions opacity performed in accordance with paragraph (f)(5) of this section for which the average of the six-minute average opacities recorded exceeds 20 percent, you must comply with the requirements in paragraphs (f)(7)(i) through (v) of this section.

(i) You must submit a report of exceedence of 20 percent opacity, along with your annual compliance report, as specified in §63.11519(b)(8)(iii), "Notification, recordkeeping, and reporting requirements," and according to the requirements of §63.11519(b)(1), "Notification, recordkeeping, and reporting requirements."

(ii) Within 30 days of the opacity exceedence, you must prepare and implement a Site-Specific Welding Emissions Management Plan, as specified in paragraph (f)(8) of this section. If you have already prepared a Site-Specific Welding Emissions Management Plan in accordance with this paragraph, you must prepare and implement a revised Site-Specific Welding Emissions Management Plan within 30 days.

(iii) During the preparation (or revision) of the Site-Specific Welding Emissions Management Plan, you must continue to perform daily visual determinations of emissions opacity as specified in §63.11517(c), "Monitoring Requirements," using EPA Method 9, at the primary vent, stack, exit, or opening from the building containing the welding metal fabrication or finishing operations.

(iv) You must maintain records of daily visual determinations of emissions opacity performed in accordance with paragraph (f)(7)(iii) of this section, during preparation of the Site-Specific Welding Emissions Management Plan, in accordance with the requirements in §63.11519(b)(9), "Notification, recordkeeping, and reporting requirements."

(v) You must include these records in your annual compliance report, according to the requirements of §63.11519(b)(1), "Notification, recordkeeping, and reporting requirements."

(8) *Site-Specific Welding Emissions Management Plan.* The Site-Specific Welding Emissions Management Plans must comply with the requirements in paragraphs (f)(8)(i) through (iii) of this section.

(i) Site-Specific Welding Emissions Management Plans must contain the information in paragraphs (f)(8)(i)(A) through (F) of this section.

(A) Company name and address;

(B) A list and description of all welding operations which currently comprise the welding metal fabrication or finishing affected source;

(C) A description of all management practices and/or fume control methods in place at the time of the opacity exceedence;

(D) A list and description of all management practices and/or fume control methods currently employed for the welding metal fabrication or finishing affected source;

(E) A description of additional management practices and/or fume control methods to be implemented pursuant to paragraph (f)(7)(ii) of this section, and the projected date of implementation; and

(F) Any revisions to a Site-Specific Welding Emissions Management Plan must contain copies of all previous plan entries, pursuant to paragraphs (f)(8)(i)(D) and (E) of this section.

(ii) The Site-Specific Welding Emissions Management Plan must be updated annually to contain current information, as required by paragraphs (f)(8)(i)(A) through (C) of this section, and submitted with your annual compliance report, according to the requirements of §63.11519(b)(1), "Notification, recordkeeping, and reporting requirements."

(iii) You must maintain a copy of the current Site-

Specific Welding Emissions Management Plan in your records in a readily-accessible location for inspector review, in accordance with the requirements in §63.11519(c)(11), "Notification, recordkeeping, and reporting requirements."

§63. 11517 What are my monitoring requirements?

(a) *Visual determination of fugitive emissions, general.* Visual determination of fugitive emissions must be performed according to the procedures of EPA Method 22, of 40 CFR part 60, appendix A. You must conduct the EPA Method 22 test while the affected source is operating under normal conditions. The duration of each EPA Method 22 test must be at least 15 minutes, and visible emissions will be considered to be present if they are detected for more than six minutes of the fifteen minute period.

(b) *Visual determination of fugitive emissions, graduated schedule.* Visual determinations of fugitive emissions must be performed in accordance with paragraph (a) of this section and according to the schedule in paragraphs (b)(1) through (3) of this section.

(1) *Daily Method 22 Testing.* Perform visual determination of fugitive emissions once per day, on each day the process is in operation, during operation of the process.

(2) *Weekly Method 22 Testing.* If no visible fugitive emissions are detected in consecutive daily EPA Method 22 tests,

performed in accordance with paragraph (b)(1) of this section for 10 days of work day operation of the process, you may decrease the frequency of EPA Method 22 testing to once per every five days of operation of the process. If visible fugitive emissions are detected during these tests, you must resume EPA Method 22 testing of that operation once per day during each day that the process is in operation, in accordance with paragraph (b)(1) of this section.

(3) *Monthly Method 22 Testing.* If no visible fugitive emissions are detected in four consecutive weekly EPA Method 22 tests performed in accordance with paragraph (b)(2) of this section, you may decrease the frequency of EPA Method 22 testing to once per 21 days of operation of the process. If visible fugitive emissions are detected during these tests, you must resume weekly EPA Method 22 in accordance with paragraph (b)(2) of this section.

(c) *Visual determination of emissions opacity for welding Tier 2 or 3, general.* Visual determination of emissions opacity must be performed in accordance with the procedures of EPA Method 9, of appendix A of part 60, and while the affected source is operating under normal conditions. The duration of the EPA Method 9 test shall be thirty minutes.

(d) *Visual determination of emissions opacity for welding Tier 2 or 3, graduated schedule.* You must perform visual

determination of emissions opacity in accordance with paragraph (c) of this section and according to the schedule in paragraphs (d)(1) through (4) of this section.

(1) *Daily Method 9 testing for welding, Tier 2 or 3.* Perform visual determination of emissions opacity once per day during each day that the process is in operation.

(2) *Weekly Method 9 testing for welding, Tier 2 or 3.* If the average of the six minute opacities recorded during any of the daily consecutive EPA Method 9 tests performed in accordance with paragraph (d)(1) of this section does not exceed 20 percent for 10 days of operation of the process, you may decrease the frequency of EPA Method 9 testing to once per five days of consecutive work day operation. If opacity greater than 20 percent is detected during any of these tests, you must resume testing every day of operation of the process according to the requirements of paragraph (d)(1) of this section.

(3) *Monthly Method 9 testing for welding Tier 2 or 3.* If the average of the six minute opacities recorded during any of the consecutive weekly EPA Method 9 tests performed in accordance with paragraph (d)(2) of this section does not exceed 20 percent for four consecutive weekly tests, you may decrease the frequency of EPA Method 9 testing to once per every 21 days of operation of the process. If visible emissions opacity greater than 20 percent is detected during any monthly test, you

must resume testing every five days of operation of the process according to the requirements of paragraph (d)(2) of this section.

(4) *Return to Method 22 testing for welding, Tier 2 or 3.* If, after two consecutive months of testing, the average of the six minute opacities recorded during any of the monthly EPA Method 9 tests performed in accordance with paragraph (d)(3) of this section does not exceed 20 percent, you may resume monthly EPA Method 22 testing as in paragraph (f)(2) of this section. In lieu of this, you may elect to continue performing monthly EPA Method 9 tests in accordance with paragraph (d)(3) of this section.

§63. 11518 [Reserved]

§63. 11519 What are my notification, recordkeeping, and reporting requirements?

(a) *What notifications must I submit*?

(1) *Initial Notification*. If you are the owner or operator of a metal fabrication or finishing operation as defined in §63.11514 "Am I subject to this subpart?," you must submit the Initial Notification required by §63.9(b) "General Provisions," for a new affected source no later than 120 days after initial startup or [DATE 120 DAYS AFTER THE DATE OF PUBLICATION IN THE FEDERAL REGISTER], whichever is later. For an existing affected source, you must submit the Initial

Notification no later than [DATE 1 YEAR AFTER THE DATE OF PUBLICATION THE FEDERAL REGISTER]. Your Initial Notification must provide the information specified in paragraphs (a)(1)(i) through (iv) of this section.

(i) The name, address, phone number and e-mail address of the owner and operator;

(ii) The address (physical location) of the affected source;

(iii) An identification of the relevant standard (i.e., this subpart); and

(iv) A brief description of the type of operation. For example, a brief characterization of the types of products (e.g., aerospace components, sports equipment, etc.), the number and type of processes, and the number of workers usually employed.

(2) *Notification of compliance status*. If you are the owner or operator of an existing metal fabrication or finishing affected source, you must submit a notification of compliance status on or before [DATE 2 YEARS AND 60 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]. If you are the owner or operator of a new metal fabrication or finishing affected source, you must submit a notification of compliance status within 120 days after initial startup, or by [DATE 120 DAYS AFTER THE DATE OF PUBLICATION IN THE FEDERAL REGISTER], whichever is later. You

are required to submit the information specified in paragraphs (a)(2)(i) through (iii) of this section with your notification of compliance status:

(i) Your company’s name and address;

(ii) A statement by a responsible official with that official’s name, title, phone number, e-mail address and signature, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart;

(iii) If you operate any spray painting affected sources, the information required by §63.11516(e)(3)(vi)(C), "Compliance demonstration," or §63.11516(e)(4)(ix)(C), "Compliance demonstration," as applicable; and

(iv) The date of the notification of compliance status.

(b) *What reports must I prepare or submit*?

(1) *Annual compliance reports.* You must prepare annual compliance reports for each affected source according to the requirements of paragraphs (b)(2) through (7) of this section. The annual compliance reporting requirements may be satisfied by reports required under other parts of the CAA, as specified in paragraph (b)(3) of this section. These reports do not need to be submitted unless an exceedence of the requirements of this subpart has occurred. In this case, the annual compliance

report must be submitted along with the exceedence reports.

(2) *Dates*. Unless the Administrator has approved or agreed to a different schedule for submission of reports under §63.10(a), "General Provisions," you must prepare and, if applicable, submit each annual compliance report according to the dates specified in paragraphs (b)(2)(i) through (iii) of this section. Note that the information reported for each of the months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

(i) The first annual compliance report must cover the first annual reporting period which begins the day after the compliance date and ends on December 31.

(ii) Each subsequent annual compliance report must cover the subsequent semiannual reporting period from January 1 through December 31.

(iii) Each annual compliance report must be prepared no later than January 31 and kept in a readily-accessible location for inspector review. If an exceedence has occurred during the year, each annual compliance report must be submitted along with the exceedence reports, and postmarked or delivered no later than January 31.

(3) *Alternate dates.* For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, "Title V."

(i) If the permitting authority has established dates for submitting annual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), "Title V," you may prepare or submit, if required, the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the date specified in paragraph (b)(2)(iii) of this section.

(ii) If an affected source prepares or submits an annual compliance report pursuant to this section along with, or as part of, the monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), "Title V," and the compliance report includes all required information concerning exceedences of any limitation in this subpart, its submission will be deemed to satisfy any obligation to report the same exceedences in the annual monitoring report. However, submission of an annual compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permitting authority.

(4) *General requirements.* The annual compliance report must contain the information specified in paragraphs (b)(4)(i) through (iii) of this section, and the information specified in paragraphs (b)(5) through (7) of this section that is applicable to each affected source.

(i) Company name and address;

(ii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report; and

(iii) Date of report and beginning and ending dates of the reporting period. The reporting period is the 12-month period ending on December 31. Note that the information reported for the 12 months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

(5) *Visual determination of fugitive emissions requirements.* The annual compliance report must contain the information specified in paragraphs (b)(5)(i) through (iii) of this section for each affected source which performs visual determination of fugitive emissions in accordance with §63.11517(a), "Monitoring requirements."

(i) The date of every visual determination of fugitive emissions which resulted in detection of visible emissions;

(ii) A description of the corrective actions taken subsequent to the test; and

(iii) The date and results of the follow-up visual determination of fugitive emissions performed after the corrective actions.

(6) Visual determination of emissions opacity requirements. The annual compliance report must contain the

information specified in paragraphs (b)(6)(i) through (iii) of this section for each affected source which performs visual determination of emissions opacity in accordance with §63.11517(c), "Monitoring requirements."

(i) The date of every visual determination of emissions opacity;

(ii) The average of the six-minute opacities measured by the test; and

(iii) A description of any corrective action taken subsequent to the test.

(7) *Paint limit reports.* The annual compliance report must contain the information specified in paragraphs (b)(7)(i) through (v) of this section for each spray painting affected source.

(i) Identification of the compliance option or options specified in §63.11516(e), "Spray painting VOHAP content requirements," that you used on each spray painting operation during the reporting period. If you switched between compliance options during the reporting period, you must report the beginning and ending dates of each option you used.

(ii) If you used the weighted-average VOHAP content compliance option in §63.11516(e)(2), "Weighted-average VOHAP content limit option," your annual compliance report must include the calculation results for rolling 12-month weighted-

average VOHAP content, according to §63.11516(e)(4)(ix)(C), "Compliance Demonstration."

(iii) If there were no exceedences of the limitations in §63.11516(e)(1), "VOHAP content limit option," or §63.11516(e)(2) "Weighted-average VOHAP content limit option," the annual compliance report must include a statement that there were no exceedences of the limitations during the reporting period.

(iv) *Exceedences of the VOHAP content limit option.* If you used the HAP content limit option and there was an exceedence of the applicable VOHAP content requirement in §63.11516(e)(1), "VOHAP content limit option," an exceedence report must be prepared to contain the information in paragraphs (b)(7)(iv)(A) through (D) of this section. This exceedence report must be submitted along with your annual compliance report, as required by paragraph (b)(1) of this section.

(A) Identification of each paint used that exceeded the applicable limit, and each thinner and/or other additive used that contained VOHAP, and the dates and time periods each was used.

(B) The calculation of the VOHAP content (via Equation 2 of §63.11516(e)(3), "Spray painting VOHAP content requirements") for each paint identified in paragraph (b)(7)(iv)(A) of this section. You do not need to submit background data supporting

this calculation (e.g., information provided by paint suppliers or manufacturers, or test reports).

(C) The determination of mass fraction of VOHAP for each thinner and/or other additive identified in paragraph (b)(7)(iv)(A) of this section (as determined according to §63.11516(e)(3)(i), "Spray painting VOHAP content requirements"). You do not need to submit background data supporting this calculation (e.g., information provided by material suppliers or manufacturers, or test reports).

(D) A statement of the cause of each exceedence of the VOHAP content requirement in §63.11516(e)(1), "VOHAP content limit option."

(v) *Exceedences of the weighted-average VOHAP content limit option*. If you used the weighted-average VOHAP content limit option and there was an exceedence of the applicable limit in §63.11516(e)(2), "Weighted-average VOHAP content limit option," an exceedence report must be prepared to contain the information in paragraphs (b)(7)(v)(A) through (C) of this section. This exceedence report must be submitted along with your annual compliance report, as required by paragraph (b)(1) of this section.

(A) The beginning and ending dates of each compliance period during which the 12-month weighted-average VOHAP content exceeded the applicable limit in §63.11516(e)(2), "Weighted-

average VOHAP content limit option."

(B) The calculations used to determine the weighted-average 12-month VOHAP content for the compliance period in which the exceedence of the limit in §63.11516(e)(2), "Weighted-average VOHAP content limit option" occurred. You must submit the calculations for Equations 3, 3A, 3B, and 4 of §63.11516(e)(4), "Spray painting VOHAP content requirements," and if applicable, the calculation used to determine mass of VOHAP in waste materials according to §63.11516(e)(4)(vi). You do not need to submit background data supporting these calculations (e.g., information provided by materials suppliers or manufacturers, or test reports).

(C) A statement of the cause of each exceedence of the limit in §63.11516(e)(2), "Spray Painting VOHAP content requirements."

(8) *Exceedence reports*. You must prepare and submit exceedence reports according to the requirements of paragraphs (b)(8)(i) through (iii) of this section, and submit these reports along with your annual compliance report, as required by paragraph (b)(1) of this section.

(i) *Exceedences of spray painting VOHAP content limits*. As required by §63.11516(e)(3)(vi)(D), "Spray painting VOHAP content requirements," you must prepare an exceedence report whenever the calculated VOHAP content for any paint used

exceeded the applicable limit, or any thinner and/or other additive used contained any VOHAP. This report must be submitted with your annual compliance report, according to the requirements of paragraph (b)(1) of this section, and must contain the information in paragraphs (b)(7)(iv)(A) through (D) of this section.

(ii) *Exceedences of spray painting weighted-average VOHAP content limits.* As required by §63.11516(e)(4)(ix)(B), "Spray painting VOHAP content requirements," you must prepare an exceedence report whenever the weighted-average VOHAP content of paints used in any 12-month compliance period exceeds the applicable limit. This report must be submitted along with your annual compliance report, according to the requirements of paragraph (b)(1) of this section, and must contain the information in paragraphs (b)(7)(v)(A) through (C) of this section.

(iii) *Exceedences of 20 percent opacity for welding affected sources.* As required by §63.11516(f)(7)(i), "Requirements for opacities exceeding 20 percent," you must prepare an exceedence report whenever the average of the six-minute average opacities recorded during a visual determination of emissions opacity exceeds 20 percent. This report must be submitted along with your annual compliance report according to the requirements in paragraph (b)(1) of this section, and must

contain the information in paragraphs (b)(8)(iii)(A) and (B) of this section.

(A) The date on which the exceedence occurred; and

(B) The average of the six-minute average opacities recorded during the visual determination of emissions opacity.

(9) *Site-specific Welding Emissions Management Plan reporting*. You must submit a copy of the records of daily visual determinations of emissions recorded in accordance with §63.11516(f)(7)(iv), "Tier 3 requirements for opacities exceeding 20 percent," and a copy of your Site-Specific Welding Emissions Management Plan and any subsequent revisions to the plan pursuant to §63.11516(f)(8), "Site-specific Welding Emission Management Plan," along with your annual compliance report, according to the requirements in paragraph (b)(1) of this section.

(c) *What records must I keep*?

You must collect and keep records of the data and information specified in paragraphs (c)(1) through (12) of this section, according to the requirements in paragraph (c)(13) of this section.

(1) *General compliance and applicability records*. Maintain information specified in paragraphs (c)(1)(i) through (ii) of this section for each affected source.

(i) Each notification and report that you submitted to

comply with this subpart, and the documentation supporting each notification and report.

(ii) Records of the applicability determinations as in §63.11514(b)(1) through (5), "Am I subject to this subpart," listing equipment included in its affected source, as well as any changes to that and on what date they occurred, for 5 years to be made available for inspector review at any time.

(2) *Visual determination of fugitive emissions records.* Maintain a record of the information specified in paragraphs (c)(2)(i) through (iii) of this section for each affected source which performs visual determination of fugitive emissions in accordance with §63.11517(a), "Monitoring requirements."

(i) The date and results of every visual determination of fugitive emissions;

(ii) A description of any corrective action taken subsequent to the test; and

(iii) The date and results of any follow-up visual determination of fugitive emissions performed after the corrective actions.

(3) Visual determination of emissions opacity records. Maintain a record of the information specified in paragraphs (c)(3)(i) through (iii) of this section for each affected source which performs visual determination of emissions opacity in accordance with §63.11517(c), "Monitoring requirements."

(i) The date of every visual determination of emissions opacity; and

(ii) The average of the six-minute opacities measured by the test; and

(iii) A description of any corrective action taken subsequent to the test.

(4) Maintain a record of the manufacturer's specifications for the control devices used to comply with §63.11516, "Standards and management practices."

(5) *Spray paint booth filter records*. Maintain a record of the demonstration of filter efficiency and regular spray paint booth filter maintenance and performed in accordance with §63.11516(d)(1)(ii), "Spray painting of objects less than 15 feet in all dimensions requirements."

(6) *HVLP or other high transfer efficiency spray delivery system documentation records*. Maintain documentation of HVLP or other high transfer efficiency spray paint delivery systems, in compliance with §63.11516(d)(3), "Requirements for spray painting of all objects." This documentation must include the manufacturer's specifications for the equipment and any manufacturer's operation instructions. If you have obtained written approval for an alternative spray application system in accordance with §63.11516(d)(2), "Spray painting of all objects," you must maintain a record of that approval along with

documentation of the demonstration of equivalency.

(7) *HVLP or other high transfer efficiency spray delivery system employee training documentation records.* Maintain certification that each worker performing spray painting operations has completed the training specified in §63.11516(d)(6), "Requirements for spray painting of all objects," with the date the initial training and the most recent refresher training was completed.

(8) General *records detailing compliance with the spray painting VOHAP limits.* Maintain a current copy of the information detailed in paragraphs (c)(8)(i) through (iii) of this section.

(i) Information provided by materials suppliers or manufacturers, such as manufacturer's formulation data, or test data used to determine the mass fraction of VOHAP and density for each paint, thinner and/or other additive and the volume fraction of paint solids for each paint.

(ii) Results of testing to determine mass fraction of VOHAP, density, or volume fraction of paint solids. You must keep a copy of the complete test report.

(iii) If you use information provided to you by the manufacturer or supplier of the material that was based on testing, you must keep the summary sheet of results provided to you by the manufacturer or supplier. You are not required to

obtain the test report or other supporting documentation from the manufacturer or supplier.

(9) *Periodic records detailing compliance with the VOHAP limits*. For each compliance period, you must keep the records specified in paragraphs (c)(9)(i) through (ix) of this section.

(i) The painting operations on which you used each compliance option and the time periods (beginning and ending dates and times) for each option you used.

(ii) For the HAP content limit option, a record of the calculation of the VOHAP content for each paint, using Equation 2 of §63.11516(e)(3), "Spray Painting VOHAP content requirements."

(iii) For the weighted-average VOHAP content limit option, you must keep the records of the information in paragraphs (c)(9)(iii)(A) through (C) of this section.

(A) Calculation of the total mass of VOHAP content for the paints, thinners and/or other additives used each month using Equations 3, 3A, and 3B of §63.11516(e)(4), "Spray painting VOHAP content requirements;"

(B) If applicable, the calculation used to determine mass of VOHAP in waste materials according to §63.11516(e)(4)(vi), "Spray painting VOHAP content requirements;"

(C) Calculation of the total volume of paint solids used each month using Equation 4 of §63.11516(e)(4), "Spray painting

VOHAP content requirements," and

(D) Calculation of the 12-month weighted-average VOHAP content using Equation 5 of §63.11516(e)(4), "Spray painting VOHAP content requirements."

(iv) The name and volume of each paint, thinner and/or other additive used during each compliance period. If you are using the HAP content limit option for all paints at the source, you may maintain purchase records for each material used rather than a record of the volume used.

(v) The mass fraction of VOHAP for each paint, thinner and/or other additive used during each compliance period unless the material is tracked by weight.

(vi) The volume fraction of paint solids for each paint used during each compliance period.

(vii) Records of the density for each paint, thinner and/or other additive used during each compliance period.

(viii) If you use an allowance in Equation 3 of §63.11516(e)(4), "Spray painting VOHAP content requirements," for VOHAP contained in waste materials sent to or designated for shipment to a treatment, storage, and disposal facility (TSDF) according to §63.11516(e)(4)(vi), you must keep records of the information specified in paragraphs (c)(9)(viii)(A) through (C) of this section.

(A) The name and address of each TSDF to which you sent

waste materials for which you use an allowance in Equation 3 of §63.11516(e)(4), "Spray painting VOHAP content requirements;" a statement of which subparts under 40 CFR parts 262, 264, 265, and 266, "Hazardous Waste Management," apply to the facility; and the date of each shipment.

(B) Identification of the painting operations producing waste materials included in each shipment and the month or months in which you used the allowance for these materials in Equation 1 of §63.11516(e)(4), "Spray painting VOHAP content requirements."

(C) The methodology used in accordance with §63.11516(e)(4), "Spray painting VOHAP content requirements," to determine the total amount of waste materials sent to or the amount collected, stored, and designated for transport to a TSDF each month; and the methodology to determine the mass of VOHAP contained in these waste materials. This must include the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment.

(ix) The date, time, and duration of each exceedence of the VOHAP content limits in §63.11516(e)(1),"VOHAP content limit option," or §63.11516(e)(2) "Weighted-average VOHAP content limit option."

(10) *Visual determination of emissions opacity performed during the preparation (or revision) of the Site-Specific Welding Emissions Management Plan.* You must maintain a record of each visual determination of emissions opacity performed during the preparation (or revision) of a Site-Specific Welding Emissions Management Plan, in accordance with §63.11516(f)(7)(iii), "Requirements for opacities exceeding 20 percent."

(11) *Site-Specific Welding Emissions Management Plan.* If you have been required to prepare a plan in accordance with §63.11516(f)(7)(iii), "Site-Specific Welding Emissions Management Plan," you must maintain a copy of your current Site-Specific Welding Emissions Management Plan in your records and readily available for inspector review.

(12) *Manufacturer's instructions.* If you comply with this subpart by operating any equipment according to manufacturer's instruction, you must keep these instructions readily available for inspector review.

(13) Your records must be maintained according to the requirements in paragraphs (c)(13)(i) through (iii) of this section.

(i) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1), "General Provisions." Where appropriate, the records may be

maintained as electronic spreadsheets or as a database.

(ii) As specified in §63.10(b)(1), "General Provisions," you must keep each record for 5 years following the date of each occurrence, measurement, corrective action, report, or record.

(iii) You must keep each record on-site for at least 2 years after the date of each occurrence, measurement, corrective action, report, or record according to §63.10(b)(1), "General Provisions." You may keep the records off-site for the remaining 3 years.

§63. 11520 [Reserved]

Other Requirements and Information

§63. 11521 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency, in addition to the EPA, has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are

not transferred to the State, local, or tribal agency.

(c) The authorities that cannot be delegated to State, local, or tribal agencies are specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of an alternative non-opacity emissions standard under §63.6(g), of the General Provisions of this part.

(2) Approval of an alternative opacity emissions standard under §63.6(h)(9), of the General Provisions of this part.

(3) Approval of a major change to test methods under §63.7(e)(2)(ii) and (f), of the General Provisions of this part. A "major change to test method" is defined in §63.90.

(4) Approval of a major change to monitoring under §63.8(f), of the General Provisions of this part. A "major change to monitoring" under is defined in §63.90.

(5) Approval of a major change to recordkeeping and reporting under §63.10(f), of the General Provisions of this part. A "major change to recordkeeping/reporting" is defined in §63.90.

§63.11522 What definitions apply to this subpart?

The terms used in this subpart are defined in the CAA; and in this section as follows:

Add-on control device means equipment installed on a process vent or exhaust system that reduces the quantity of a pollutant that is emitted to the air.

Adequate emission capture methods are hoods, enclosures, or any other duct intake devices with ductwork, dampers, manifolds, plenums, or fans designed to draw greater than 85 percent of the airborne dust generated from the process into the control device.

Capture system means the collection of components used to capture gases and fumes released from one or more emissions points and then convey the captured gas stream to an add-on control device or to the atmosphere. A capture system may include, but is not limited to, the following components as applicable to a given capture system design: duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.

Cartridge collector means a type of add-on control device that uses perforated metal cartridges containing a pleated paper or non-woven fibrous filter media to remove PM from a gas stream by sieving and other mechanisms. Cartridge collectors can be designed with single use cartridges, which are removed and disposed after reaching capacity, or continuous use cartridges, which typically are cleaned by means of a pulse-jet mechanism.

Confined abrasive blasting enclosure means an enclosure that includes a roof and at least two complete walls, with side curtains and ventilation as needed to insure that no air or PM exits the enclosure while dry abrasive blasting is performed.

Apertures or slots may be present in the roof or walls to allow for mechanized transport of the blasted objects with overhead cranes, or cable and cord entry into the dry abrasive blasting chamber.

Dry abrasive blasting means cleaning, polishing, conditioning, removing or preparing a surface by propelling a stream of abrasive material with compressed air against the surface. Hydroblasting, wet abrasive blasting, or other abrasive blasting operations which employ liquids to reduce emissions are not dry abrasive blasting.

Dry grinding and dry polishing with machines means grinding or polishing without the use of lubricating oils or fluids.

Fabric filter means a type of add-on air control device used for collecting PM by filtering a process exhaust stream through a filter or filter media; a fabric filter is also known as a baghouse.

Facility maintenance means operations performed as part of the routine repair or renovation of equipment, machinery, and structures that comprise the infrastructure of the affected facility and that are necessary for the facility to function in its intended capacity. Facility maintenance also includes operations associated with the installation of new equipment or structures, and any processes as part of janitorial activities. Facility maintenance includes operations on stationary

structures or their appurtenances at the site of installation, to portable buildings at the site of installation, to pavements, or to curbs. Facility maintenance also includes operations performed on mobile equipment, such as fork trucks, that are used in a manufacturing facility and which are maintained in that same facility. Facility maintenance does not include surface coating of motor vehicles, mobile equipment, or items that routinely leave and return to the facility, such as delivery trucks, rental equipment, or containers used to transport, deliver, distribute, or dispense commercial products to customers, such as compressed gas canisters.

Grinding means a process performed on a workpiece prior to fabrication or finishing operations to remove undesirable material from the surface or to remove burrs or sharp edges. Grinding is done using belts, disks, or wheels consisting of or covered with various abrasives.

Machining means dry metal turning, milling, drilling, boring, tapping, planing, broaching, sawing, cutting, shaving, shearing, threading, reaming, shaping, slotting, hobbing, and chamfering with machines. Shearing operations cut materials into a desired shape and size, while forming operations bend or conform materials into specific shapes. Cutting and shearing operations include punching, piercing, blanking, cutoff, parting, shearing and trimming. Forming operations include

bending, forming, extruding, drawing, rolling, spinning, coining, and forging the metal. Processes specifically excluded are hand-held devices and any process employing fluids for lubrication or cooling.

Manufacturer's formulation data means data on a material (such as a paint) that are supplied by the material manufacturer based on knowledge of the ingredients used to manufacture that material, rather than based on testing of the material with the test methods specified in §63.11516(e), "Spray Painting VOHAP content requirements." Manufacturer's formulation data may include, but are not limited to, information on density, VOHAP content, volatile organic matter content, and paint solids content.

Mass fraction of VOHAP means the ratio of the mass of volatile organic HAP (VOHAP) to the mass of a material in which it is contained, expressed as kg of organic HAP per kg of material.

Metal fabrication or finishing operations means dry abrasive blasting, machining, spray painting, or welding in any one of the nine metal fabrication and finishing source categories listed in Table 1 below.

Metal fabrication and finishing source categories are limited to operations described in Table 1 of this subpart.

Metal fabrication and finishing HAP (MFHAP) means cadmium,

chromium, lead, manganese, or nickel.

Organic HAP content means the mass of volatile organic HAP (VOHAP) emitted per volume of paint solids used for a paint calculated using Equation 2 of §63.11516(e), "Spray Painting VOHAP content requirements." The VOHAP content is determined for the paint in the condition it is in when received from its manufacturer or supplier and does not account for any alteration after receipt.

Paint means a material applied to a substrate for decorative, protective, or functional purposes. Such materials include, but are not limited to, paints, coatings, sealants, liquid plastic coatings, caulks, inks, adhesives, and maskants. Decorative, protective, or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances, or paper film or plastic film which may be pre-coated with an adhesive by the film manufacturer, are not considered paints for the purposes of this subpart.

Paint solids means the nonvolatile portion of the paint that makes up the dry film.

Polishing means an operation which removes fine excess metal from a surface to prepare the surface for more refined finishing procedures prior to plating or other processes. Polishing may also be employed to remove burrs on castings or stampings.

Polishing is performed using hard-faced wheels constructed of muslin, canvas, felt or leather, and typically employs natural or artificial abrasives. Polishing performed by hand without machines is not considered polishing for the purposes of this subpart.

Responsible official means responsible official as defined in 40 CFR 70.2.

Spray-applied painting means application of paints using a hand-held device that creates an atomized mist of paint and deposits the paint on a substrate. For the purposes of this subpart, spray-applied painting does not include the following materials or activities:

(1) Paints applied from a hand-held device with a paint cup capacity that is less than 3.0 fluid ounces (89 cubic centimeters).

(2) Surface coating application using powder coating, hand-held, non-refillable aerosol containers, or non-atomizing application technology, including, but not limited to, paint brushes, rollers, hand wiping, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, or marking pens.

(3) Painting operations that normally require the use of an airbrush or an extension on the spray gun to properly reach limited access spaces; the application of paints that contain

fillers that adversely affect atomization with HVLP spray guns, and the application of paints that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.).

(4) Thermal spray operations (also known as metallizing, flame spray, plasma arc spray, and electric arc spray, among other names) in which solid metallic or non-metallic material is heated to a molten or semi-molten state and propelled to the work piece or substrate by compressed air or other gas, where a bond is produced upon impact.

Thinner means an organic solvent that is added to a paint after the paint is received from the supplier.

Tool or equipment repair means equipment and devices used to repair or maintain process equipment or to prepare molds, dies, or other changeable elements of process equipment.

Totally enclosed and unvented means enclosed so that no air enters or leaves during operation.

Totally enclosed and unvented dry abrasive blasting chamber means a dry abrasive blasting enclosure which has no vents to the atmosphere, thus no emissions. A typical example of this sort of abrasive blasting enclosure would be a small “glove box” enclosure, where the worker places their hands in openings or gloves that extend into the box and enable the worker to hold the objects as they are being blasted without allowing air and

blast material to escape the box.

Vented dry abrasive blasting means dry abrasive blasting where the blast material is moved by air flow from within the chamber to outside the chamber into the atmosphere or into a control system.

Volatile organic compound (VOC) means any compound defined as VOC in 40 CFR 51.100(s).

Volume fraction of paint solids means the ratio of the volume of paint solids (also known as the volume of nonvolatiles) to the volume of a paint in which it is contained; liters (gal) of paint solids per liter (gal) of paint.

Welding means a process which joins two metal parts by melting the parts at the joint and filling the space with molten metal.

Wind event means an occurrence when the 60-minute average wind speed is greater than 25 miles per hour.

§63.11523 What General Provisions apply to this subpart?

The provisions in 40 CFR part 63, subpart A, applicable to sources subject to §63.11514(a) are specified in Table 4 of this subpart.

Tables to Subpart XXXXXX of Part 63

Table 1 to Subpart XXXXXX of Part 63. — Description of source categories affected by this Subpart

Metal Fabrication and Finishing	

Source Category	Description
Electrical and Electronic Equipment Finishing Operations	Establishments primarily engaged in high energy particle acceleration systems and equipment, electronic simulators, appliance and extension cords, bells and chimes, insect traps, and other electrical equipment and supplies not elsewhere classified. Also, establishments primarily engaged in manufacturing electric motors (except engine starting motors) and power generators; motor generator sets; railway motors and control equipment; and motors, generators and control equipment for gasoline, electric, and oil-electric buses and trucks.
Fabricated Metal Products	Establishments primarily engaged in manufacturing fabricated metal products, such as fire or burglary resistive steel safes and vaults and similar fire or burglary resistive products; and collapsible tubes of thin flexible metal. Also, establishments primarily engaged in manufacturing powder metallurgy products, metal boxes; metal ladders; metal household articles, such as ice cream freezers and ironing boards; and other fabricated metal products not elsewhere classified.
Fabricated Plate Work (Boiler Shops)	Establishments primarily engaged in manufacturing power marine boilers, pressure and nonpressure tanks, processing and storage vessels, heat exchangers, weldments and similar products.

Fabricated Structural Metal Manufacturing	Establishments primarily engaged in fabricating iron and steel or other metal for structural purposes, such as bridges, buildings, and sections for ships, boats, and barges.
Heating Equipment, except Electric	Establishments primarily engaged in manufacturing heating equipment, except electric and warm air furnaces, including gas, oil, and stoker coal fired equipment for the automatic utilization of gaseous, liquid, and solid fuels. Products produced in this source category include low-pressure heating (steam or hot water) boilers, fireplace inserts, domestic (steam or hot water) furnaces, domestic gas burners, gas room heaters, gas infrared heating units, combination gas-oil burners, oil or gas swimming pool heaters, heating apparatus (except electric or warm air), kerosene space heaters, gas fireplace logs, domestic and industrial oil burners, radiators (except electric), galvanized iron nonferrous metal range boilers, room heaters (except electric), coke and gas burning salamanders, liquid or gas solar energy collectors, solar heaters, space heaters (except electric), mechanical (domestic and industrial) stokers, wood and coal-burning stoves, domestic unit heaters (except electric), and wall heaters (except electric).
Industrial Machinery and Equipment Finishing Operations	Establishments primarily engaged in manufacturing heavy machinery and equipment of

	types used primarily by the construction industries, such as bulldozers; concrete mixers; cranes, except industrial plant overhead and truck-type cranes; dredging machinery; pavers; and power shovels. Also establishments primarily engaged in manufacturing forestry equipment and certain specialized equipment, not elsewhere classified, similar to that used by the construction industries, such as elevating platforms, ship cranes, and capstans, aerial work platforms, and automobile wrecker hoists. In addition, establishments primarily engaged in manufacturing machinery and equipment for use in oil and gas fields or for drilling water wells, including portable drilling rigs. Also, establishments primarily engaged in manufacturing pumps and pumping equipment for general industrial, commercial, or household use, except fluid power pumps and motors. This category includes establishments primarily engaged in manufacturing domestic water and sump pumps.
Iron and Steel Forging	Establishments primarily engaged in the forging manufacturing process, where purchased iron and steel metal is pressed, pounded or squeezed under great pressure into high strength parts known as forgings. The forging process is different from the casting and foundry processes, as metal used to make forged parts is never melted and poured.
Primary Metals Products	Establishments primarily

Manufacturing	engaged in manufacturing products such as fabricated wire products (except springs) made from purchased wire. These facilities also manufacture steel balls; nonferrous metal brads and nails; nonferrous metal spikes, staples, and tacks; and other primary metals products not elsewhere classified.
Valves and Pipe Fittings	Establishments primarily engaged in manufacturing metal valves and pipe fittings; flanges; unions, with the exception of purchased pipes; and other valves and pipe fittings not elsewhere classified.

Table 2 to Subpart XXXXXX or Part 63. — Default Organic HAP Mass Fraction for Solvents and Solvent Blends

Instructions for Table 2 — You may use the mass fraction valves in the following table for solvent blends for which you do not have test data or manufacturer's formulation data and which match either the solvent blend name or the chemical abstract series (CAS) number. If a solvent blend matches both the name and CAS number for an entry, that entry's organic HAP mass fraction must be used for that solvent blend. Otherwise, use the organic HAP mass fraction for the entry matching either the solvent blend name or CAS number, or use the organic HAP mass fraction from Table 2 to this subpart if neither the name nor CAS number match.

Solvent/solvent blend	CAS. No.	Average organic HAP mass fraction	Typical organic HAP, percent by mass
1. Toluene	108-88-3	1.0	Toluene.
2. Xylene(s)	1330-20-7	1.0	Xylenes, Ethylbenzene.
3. Hexane	110-54-3	0.5	n-hexane.
4. n-Hexane	110-54-3	1.0	n-hexane.
5. Ethylbenzene	100-41-4	1.0	Ethylbenzene.
6. Aliphatic 140		0	None.
7. Aromatic 100		0.02	1% xylene, 1% cumene.
8. Aromatic 150		0.09	Naphthalene
9. Aromatic naphtha	64742-95-6	0.02	1% xylene, 1% cumene.
10. Aromatic solvent	64742-94-5	0.1	Naphthalene.
11. Exempt mineral spirits	8032-32-4	0	None.
12. Ligroines (VM & P)	8032-32-4	0	None.
13. Lactol spirits	64742-89-6	0.15	Toluene.
14. Low aromatic white spirit	64742-82-1	0	None.
15. Mineral spirits	64742-88-7	0.01	Xylenes.
16. Hydrotreated naphtha	64742-48-9	0	None.
17. Hydrotreated light distillate	64742-47-8	0.001	Toluene.
18. Stoddard Solvent	8052-41-3	0.01	Xylenes.
19. Super high-flash naphtha	64742-95-6	0.05	Xylenes.
20. Varsol[reg] solvent	8052-49-3	0.01	0.5% xylenes, 0.5% ethylbenzene.
21. VM & P naphtha	64742-89-8	0.06	3% toluene, 3% xylene.
22. Petroleum Distillate mixtures	68477-31-6	0.08	4% naphthalene, 4% biphenyl.

Table 3 to Subpart XXXXXX of Part 63. – Default Organic HAP Mass Fraction for Petroleum Solvent Groups[a]

Instructions for Table 3 – You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data.

Solvent type	Average organic HAP mass fraction	Typical organic HAP, percent by mass
Aliphatic[b]	0.03	1% Xylene, 1% Toluene, 1% Ethylbenzene, 1% Ethylbenzene, 1% Toluene, 1% Ethylbenzene
Aromatic[c]	0.06	4% Xylene, 1% Toluene, 1% Ethylbenzene

[a]Use this table only if the solvent blend does not match any of the solvent blends in Table 2 to this subpart by either solvent blend name of CAS number and you only know whether the blend is aliphatic or aromatic.
[b]Mineral Spirits 135, Mineral Spirits 150 EC, Naphtha, Mixed Hydrocarbon, Aliphatic Hydrocarbon, Aliphatic Naphtha, Naphthol Spirits, Petroleum Spirits, Petroleum Oil, Petroleum Naphtha, Solvent Naphtha, Solvent Blend.
[c]Medium-flash Naphtha, High-flash Naphtha, Aromatic Naphtha, Light Aromatic Naphtha, Light Aromatic Hydrocarbons, Aromatic Hydrocarbons, Light Aromatic Solvent.

Table 4 to Subpart XXXXXX of Part 63. - Applicability of General Provisions to Metal Fabrication or Finishing Area Sources

Instructions for Table 4 – As required in §63.11523, "General Provisions Requirements," you much meet each requirement in the following table that applies to you.

Citation	Subject
63.1[1]	Applicability.....
63.2	Definitions.....
63.3	Units and abbreviations.....

Citation	Subject
63.4	Prohibited activities.....
63.5	Construction/reconstruction.....
63.6(a), (b)(1)-(b)(5), (c)(1), (c)(2), (c)(5), (g), (i), (j)	Compliance with standards and maintenance requirements
63.9(a)-(d)	Notification requirements.....
63.10(a), (b) except for (b)(2), (d)(1), (d)(4)	Recordkeeping and reporting.....
63.12	State authority and delegations..
63.13	Addresses of State air pollution control agencies and EPA regional offices
63.14	Incorporation by reference.....
63.15	Availability of information and confidentiality
63.16	Performance track provisions.....

[1] §63.11514(g), "Am I subject to this subpart?" exempts affected sources from the obligation to obtain title V operating permits.