

ENVIRONMENTAL PROTECTION AGENCY

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RIN-2060-AE83

National Emission Standards for Hazardous Air Pollutants Pesticide Active Ingredient Production

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule and notice of public hearing.

SUMMARY: This action proposes national emission standards for hazardous air pollutants (NESHAP) for the pesticide active ingredient (PAI) production source category under section 112 of the Clean Air Act as amended (CAA). The intent of the proposed standard is to reduce emissions of hazardous air pollutants (HAP) from existing and new facilities that manufacture PAI used in herbicides, insecticides, and fungicides. The proposed standards protect human health and the environment by reducing HAP emissions to the level corresponding to the maximum achievable control technology (MACT) through the use of pollution prevention measures and control strategies. The major HAP emitted by facilities covered by this proposed rule include toluene, methanol, methyl chloride, and hydrogen chloride (HCl). All of these pollutants can cause reversible or irreversible toxic effects following exposure. The proposed rule is estimated to reduce HAP emissions from existing facilities by 5,150 megagrams per year (Mg/yr) (5,680 tons per year (tons/yr)), a reduction of 76 percent from the baseline emission level. Because many of these pollutants are also volatile organic compounds (VOC), which are precursors to ambient ozone, the proposed rule would aid in the reduction of tropospheric ozone. The emission reductions achieved by

these standards, when combined with the emission reductions achieved by other similar standards, will achieve the primary goal of the Clean Air Act (the Act), as amended in 1990, which is to "enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population."

The July 16, 1992 source category list included an agricultural chemicals industry group that contained 10 source categories. Today's notice groups these 10 agricultural chemicals source categories into one source category, renames the source category, and adds additional chemicals to the source category.

DATES: *Comments.* Comments must be received on or before January 9, 1998.

Public Hearing. If anyone contacts EPA requesting to speak at a public hearing by December 1, 1997, a public hearing will be held on December 10, 1997 beginning at 10 a.m. Persons interested in attending the hearing should call Ms. Maria Noell at (919) 541-5607 to verify that a hearing will be held.

Request to Speak at Hearing. Persons wishing to present oral testimony must contact EPA by December 1, 1997 by contacting Ms. Maria Noell, Organic Chemicals Group, (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541-5607.

ADDRESSES: *Comments.* Comments should be submitted (in duplicate, if possible) to: Air Docket Section (LE-131), Attention: Docket No. A-95-20, U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460. The EPA requests that a separate copy also be sent to the contact person listed under the **FOR FURTHER INFORMATION CONTACT** section.

Comments on the proposed NESHAP may also be submitted electronically by following the instructions provided in the **SUPPLEMENTARY INFORMATION** section.

No Confidential Business Information (CBI) should be submitted through e-mail.

Public Hearing. The public hearing, if required, will be held at the EPA's Office of Administration Auditorium, Research Triangle Park, North Carolina.

Docket. Docket No. A-95-20, containing supporting information used in developing the proposed standards, is available for public inspection and copying between 8:30 a.m. and 3:30 p.m., Monday through Friday, at EPA's Air Docket Section, Waterside Mall, Room 1500, 1st Floor, 401 M Street SW., Washington, DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For information concerning the MACT standard, contact Mr. Lalit Banker at (919) 541-5420, Organic Chemicals Group, Emission Standards Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

SUPPLEMENTARY INFORMATION:

Electronic filing. Electronic comments can be sent directly to the EPA at: a-and-r-docket@epamail.epa.gov. Electronic comments must be submitted as an ASCII file avoiding the use of special characters and any form of encryption. Comments and data will also be accepted on disks in WordPerfect 5.1 or 6.1 format or ASCII file format. All comments and data in electronic form must be identified by the docket number [A-95-20]. Electronic comments on this proposed determination may be filed online at many Federal Depository Libraries.

Regulated entities. Entities potentially regulated are those which produce as primary intended products PAI's that are used in herbicides, insecticides, or fungicides and are located at facilities that are major sources as defined in section 112 of the Act. Regulated categories and entities include:

Category	Regulated entities
Industry	<ul style="list-style-type: none"> • Producers of the active ingredients (as defined under FIFRA section 2(a)) used in herbicides, insecticides, or fungicides. Typically, production of these compounds is described by the SIC codes 2879 and 2869. • Producers of any integral intermediate used in the onsite production of an active ingredient used in a herbicide, insecticide, or fungicide, provided that 50 percent or more of the annual production of the intermediate is used in pesticide active ingredient processes.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that EPA is now aware could potentially be regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether your facility, company, business, organization, etc., is regulated by this action, you should carefully examine the applicability criteria in § 63.1360 of the rule. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

Basis and Purpose and Supplementary Information Documents. The contents of this notice are available in Docket No. A-95-20, on the Technology Transfer Network (TTN), or from the EPA contact person listed in the **FOR FURTHER INFORMATION CONTACT** section. The TTN, a network of electronic bulletin boards developed and operated by the Office of Air Quality Planning and Standards, provides information and technology exchange in various areas of air pollution control. The service is free, except for the cost of a telephone call. Dial (919) 541-5742 for up to a 14,400 bps modem transfer. The TTN may also be accessed via TELNET at the Internet web site address <http://ttnwww.rtpnc.epa.gov>. For further information, contact the TTN HELP line at (919) 541-5384, from 1 p.m. to 5 p.m. Monday through Friday.

The basis and purpose document (BPD), containing much of the rationale for these proposed standards, is also available on the TTN. The supplementary information document (SID) for the proposed standard, which contains a compilation of technical memoranda, may be obtained from the docket or from the U.S. EPA Library (MD-35), Research Triangle Park, North Carolina 27711, telephone number (919) 541-2777. Please refer to "Emissions from Pesticide Active Ingredient Production—Supplementary Information Document" (located in docket No. A-95-20).

The information presented in this preamble is organized as follows:

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I. List of Source Categories

Section 112 of the Act requires that EPA evaluate and control emissions of HAP. The control of HAP is achieved through promulgation of emission standards under sections 112(d) and 112(f) and work practice and equipment standards under section 112(h) for categories of sources that emit HAP. On July 16, 1992, EPA published an initial list of major and area source categories to be regulated (57 FR 31576). Today's notice groups the original agricultural chemicals source categories into one source category, renames the source category, and adds additional chemicals to the category.

A. Original Source Categories

Included on the original list were major sources emitting HAP from 10 categories of agricultural chemicals production; in addition to being an agricultural chemical, each of these compounds is also a PAI. One source category on the original source category list, butadiene furfural cotrimer (R-11) production, was moved from the polymers and resins industry group to this industry group on June 4, 1996 (61 FR 28197). Butadiene furfural cotrimer (R-11) is an insecticide commonly used for delousing cows. The EPA decided to include butadiene furfural cotrimer (R-11) production with the agricultural chemicals source categories because: (1) There are similarities in process operations, emission characteristics, and control device applicability and costs, and (2) it is a PAI.

B. Addition of Other Pesticide Active Ingredients

In developing the proposed rule, the EPA identified a number of other PAI production operations that were not on the initial source category list. It was

determined that production of these compounds is similar to the production of the compounds in the 11 initial agricultural chemical source categories. Production of these other PAI's are being added to the source category list under section 112(c) of the Act based on information obtained during the gathering of HAP emission data for this proposed rule. From this information, it was determined that: (1) There are similarities in process operations, emission characteristics, control device applicability and costs, and opportunities for pollution prevention of these PAI's with the listed agricultural chemicals, and (2) the production of these PAI's occurs at facilities that are major sources. Like the original agricultural chemicals, these PAI's are those that are used in herbicides, insecticides, and fungicides that are registered as end-use products under section 3 of Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

C. Single Source Category

In developing the proposed rule, EPA decided not to set MACT for each individual PAI chemical but, rather, to aggregate all PAI's together under the same source category. The PAI's that EPA proposes to include in this source category are all PAI's that are used to produce insecticide, herbicide, or fungicide products. Data gathered from the PAI production industry indicate that the process equipment, emission characteristics, and applicable control technologies are sufficiently similar for the broad group of sources that EPA intends to regulate under a single set of standards. There are no significant differences in the types of control technologies applicable to controlling emissions from the various PAI processes. Common HAP control technologies are applicable to the production operations at all of the facilities. Based on these factors, EPA concluded that determining MACT for each individual PAI is not warranted.

The EPA believes that it is technically feasible to regulate emissions from a variety of PAI processes by a single set of emission standards. Similar to the Hazardous Organic NESHAP (HON) for the Synthetic Organic Chemical Manufacturing Industry (SOCMI), separate requirements are proposed for process vents, storage tanks, equipment leaks, and wastewater HAP emission points (often referred to as planks). The set of standards also establishes different control requirements based on distinctions in the size of the emission points. Variability in the characteristics of the production processes for each

individual PAI chemical may affect the quantity of HAP emissions. This variability has been addressed by incorporating cutoffs for uncontrolled emissions in the standards for individual plants.

Several other reasons support the development of a single set of emission standards for a group of PAI processes. Many of these PAI's are only produced at a single facility or by a single company. In addition, data indicate that many of the PAI processes that EPA is proposing to regulate by this set of standards are collocated within individual facilities; at some facilities, multiple PAI's are also produced in the same equipment (i.e., flexible processing equipment). Facilities with collocated PAI manufacturing could more easily comply with a single set of emission standards than with individual standards for each of the collocated processes. Several industry representatives in the partnership group also expressed interest in a generic regulation that would specify consistent requirements for a wide range of processes.

Another justification for developing a single set of emission standards to regulate production of a variety of PAI's is that it is more efficient and less costly for EPA to develop a single standard than to develop separate standards for several individually listed source categories which have similar emission characteristics and applicable control technologies. Development of a single set of standards would avoid the costs associated with having to develop emission standards for separate source categories of PAI's. A single set of standards for PAI manufacturing will ensure that process equipment with comparable HAP emissions and control technologies are subject to consistent emission control requirements. In addition, compliance and enforcement activities would be more efficient and less costly.

D. Change of the Source Category Name

Under today's action, EPA is revising the source category list published under section 112(c) of the Act to add a source category called "Pesticide Active Ingredient Production" and to subsume the 11 original, separate PAI production source categories into that category, as well as to include other identified PAI operations which are major sources of HAP. All 11 agricultural chemicals on the initial source category list are PAI's; all of the other pesticide chemicals identified during data gathering and that have been added to the list are also PAI's. Because these other PAI's have been added to the source category list

and because they have been grouped with the 11 agricultural chemicals, which are also PAI's, the EPA decided that it is appropriate to change the title of this NESHAP source category. Effective by this notice, EPA is changing the title of the source category to "pesticide active ingredient production." This change is appropriate to avoid confusion regarding the definition of the source category and to aid in distinguishing the types of air emission sources addressed by this source category.

II. Background

A. Summary of Collected Data

Data on this industry were collected from 20 major sources that manufacture PAI's. Production methods used in the manufacture of PAI's include both batch and continuous operations. Batch operations make up approximately two-thirds of the processes, but continuous processes produce more than 50 percent of the annual PAI production. The sizes of the facilities that are major sources of HAP emissions range from those that make one active ingredient at the rate of several hundred Mg/yr to those that produce numerous intermediates and active ingredients on the scale of tens of thousands Mg/yr. Air emissions of HAP compounds originate from breathing and withdrawal losses from storage tanks, venting of process vessels, leaks from piping equipment used to transfer HAP compounds (equipment leaks), and volatilization of HAP from wastewater streams. Data obtained from the 20 major sources show at least 40 different HAP are emitted from various PAI production processes. Among the most prevalent are toluene and methanol, which account for almost 40 percent of all baseline HAP emissions at these 20 plants. Detailed information describing manufacturing processes and emissions can be found in chapters 3 and 5 of the Basis and Purpose Document (located in docket No. A-95-20).

As of 1991, over 250 U.S. companies at approximately 329 facilities (both major and area sources) were producing PAI's. This is the number of facilities that were registered with EPA under section 7 of FIFRA as producers of technical material or active ingredients for manufacturing use only. The number of plants producing active ingredients for use in herbicides, insecticides, and fungicides may be less than 329 because the section 7 data base reported some formulated products as active ingredients and it also included research facilities in the category of active ingredient manufacturers. Also, some plants may be producing active

ingredients only for use in rodenticides or antimicrobials. Typically, manufacturing operations covered by this NESHAP are classified under North American Industrial Classification System (NAICS) Codes 325199 and 32532 (i.e., previously known as Standard Industrial Classification System Codes 2869 and 2879). An estimated 78 facilities are considered to be major sources according to the Act criteria of having the potential to emit 10 tons/yr or more of any one HAP or 25 tons/yr or more of any combination of HAP. This estimate is based on the extrapolation of information from 12 State regulatory agencies that identified which of the 329 facilities in their States were major sources of HAP.

The proposed standards would apply to all major sources that produce any of the PAI's that are used to produce insecticide, herbicide, or fungicide end-use products. Facilities that are area sources, facilities that produce only active ingredients that are not used in insecticide, herbicide, or fungicide products, and facilities that only formulate or repackage pesticide products would not be subject to these standards.

B. Summary of Considerations Made in Developing This Rule

The Act was created in part "to protect and enhance the quality of the Nation's air resources so as to promote the health and welfare and the productive capacity of its population" (the Act, section 101(b)(1)). Section 112(b) of the Act lists 189 HAP believed to cause adverse health or environmental effects. Section 112(d) of the Act requires that emission standards be promulgated for all categories and subcategories of major sources of these HAP and for many smaller "area" sources listed for regulation under section 112(c) in accordance with the schedules listed under section 112(c). Major sources are defined as those that emit or have the potential to emit at least 10 tons/yr of any single HAP or 25 tons/yr of any combination of HAP.

On July 16, 1992 (57 FR 31576), EPA published the initial list of categories of sources slated for regulation. As noted above, this list included 10 categories of Agricultural Chemicals Production; with today's notice, these source categories are combined into a single category called Pesticide Active Ingredient Production, and additional PAI processes are added to the source category. The statute requires emissions standards for the listed source categories to be promulgated between November 1992 and November 2000. On December 3, 1993, the EPA published a schedule

for promulgating these standards (58 FR 83841).

In the Act, Congress specified that each standard for major sources must require the maximum reduction in emissions of HAP that EPA determines is achievable considering cost, health and environmental impacts, and energy requirements. In essence, these MACT standards would ensure that all major sources of air toxic emissions achieve the level of control already being achieved by the better controlled and lower emitting sources in each category. This approach provides assurance to citizens that each major source of toxic air pollution will be required to effectively control its emissions.

Available emissions data, collected during development of this proposed rule, show that pollutants that are listed in section 112(b)(1) of the Act and are emitted in substantial amounts by the PAI production source category include toluene, methanol, methyl chloride, and HCl. The PAI production source category also emits small amounts of other listed pollutants including benzene, benzyl chloride, 1,3-butadiene, carbon tetrachloride, chloroform, ethylbenzene, ethyl chloride, ethylene dichloride, hexachlorobenzene, hexachlorocyclopentadiene, hexachloroethane, hexane, methylene chloride, tetrachloroethylene, trichlorobenzene, trichloroethylene, xylenes, acetonitrile, captan, formaldehyde, glycol ethers, hydroquinone, methyl ethyl ketone, methyl isobutyl ketone, methyl isocyanate, naphthalene, phosgene, chlorine, and hydrogen cyanide. Some of these pollutants have been classified as known, possible, or probable human carcinogens when inhaled, and all can cause reversible and irreversible toxic effects following exposure. These effects include respiratory and skin irritation, neurological disorders (e.g., dizziness, headache, and narcosis), effects upon the eye (including blindness), damage to organ systems (e.g., liver, kidney, and testes), and in extreme cases, death. These pollutants have the potential to be reduced by implementation of the proposed emission limits.

The list of HAP in section 112(b) of the Act includes 22 HAP compounds (or classes of compounds) that have been reported to be possible endocrine disruptors. Many of these 22 HAP are PAI's, or are used in the production of PAI's, and, thus, could possibly be emitted from PAI manufacturing plants. Only one of the 22 HAP compounds was reported to be emitted from 20 surveyed plants in the source category, and the quantity emitted was very low relative to the quantity of the total HAP

emissions from the source category. The other HAP that are possible endocrine disruptors are each produced (or used) by only one or a small number of facilities, and their vapor pressures tend to be low relative to the solvents and raw materials used in the PAI manufacturing processes (the lower the vapor pressure, the less material that will volatilize). As a result, the HAP that are possible endocrine disruptors are likely emitted in small quantities, if at all, relative to the HAP listed above. The EPA is requesting comments and information on the emission levels of these possible endocrine disruptors from PAI manufacturing processes.

The Agency is also requesting comments on whether the risk posed by endocrine disruptors warrants more stringent requirements than those proposed. Based upon the criteria used in selecting the proposed regulatory option, the Agency judged that the existing information on emissions and health effects did not justify the additional cost of more stringent standards. Therefore, in providing comments, commenters should (to the extent possible) provide a quantitative risk assessment to support the need for the adoption of more stringent requirements.

The alternatives considered in the development of this regulation, including those alternatives selected as standards for new and existing sources, are based on process and emissions data received from 20 of the existing facilities known by EPA to be in operation. Regulatory alternatives more stringent than the MACT floor (the minimum control level required by the Act) were selected when they were judged to be reasonable, considering cost, nonair impacts, and energy requirements.

The proposed standards give existing facilities 3 years from the date of promulgation to comply. This is the maximum amount of time allowed by the Act. New facilities are required to comply with the standard upon startup.

Included in the proposed rule are methods for determining initial compliance as well as monitoring, recordkeeping, and reporting requirements. All of these components are necessary to ensure that affected sources will comply with the standards both initially and over time. However, the EPA has made every effort to simplify the requirements in the rule. The EPA has also attempted to maintain consistency with existing regulations by either incorporating text from existing regulations or referencing the applicable sections.

Representatives from other interested EPA offices and programs, State environmental agency personnel, and industry participated in the regulatory development process as MACT partnership members. The partnership members were given opportunities to review and comment on the regulation prior to proposal. Industry, regulatory authorities, environmental groups, and other interested parties will have another opportunity to comment on the proposed standards and provide additional information during the public comment period.

C. Regulatory Background

The proposed rule implements section 112(d) of the Act, which requires the Administrator to regulate emissions of HAP listed in section 112(b) of the Act. The intent of this rule is to protect the public health and the environment by requiring new and existing major sources to reduce generation of emissions by using pollution prevention strategies or to control emissions to the level achievable by the maximum achievable control technology (MACT), taking into consideration the cost of achieving such emission reductions, any nonair quality and other air quality related health and environmental impacts, and energy requirements.

In 1994, EPA promulgated National Emission Standards for Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks (59 FR 19587). Processes producing Captafol[®], Captan[®], Chlorothalonil, Dacthal, and Tordon[™] acid that use butadiene, carbon tetrachloride, methylene chloride, or ethylene dichloride as a reactant or process solvent, are subject to the Negotiated Regulation for Equipment Leaks. The EPA is proposing today to require control of leaking components that are currently not subject to the Negotiated Regulation for Equipment Leaks, but that contain HAP and are associated with processes in this source category.

III. Authority for NESHAP Decision Process

A. Source of Authority for NESHAP Development

Section 112 of the Act gives the EPA the authority to establish national standards to reduce air emissions from sources that emit one or more HAP. Section 112(b) contains a list of HAP to be regulated by NESHAP. Section 112(c) directs the Agency to use this pollutant list to develop and publish a list of source categories for which NESHAP

will be developed; this list was published in the **Federal Register** on July 16, 1992 (57 FR 31576). The Agency must list all known categories and subcategories of "major sources" that emit one or more of the listed HAP. A major source is defined in section 112(a) as any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit in the aggregate, considering controls, 10 tons/yr or more of any one HAP or 25 tons/yr or more of any combination of HAP.

Under section 112(c)(1) of the Act, List of Source Categories, the Administrator has the authority to establish additional source categories as seems appropriate. Ten (revised to 11) categories of agricultural chemicals were included on the original list. Because the processes, HAP emissions, control technologies, and control costs for these 11 agricultural chemicals are similar to the processes, HAP emissions, control technologies, and control costs for other PAI's, the Administrator included other PAI's on the source category list and grouped the agricultural chemicals and the PAI's together into one source category.

B. Criteria for Development of NESHAP

The NESHAP are to be developed to control HAP emissions from both new and existing sources according to the statutory directives set out in section 112(d) of the Act. The statute requires the standards to reflect the maximum degree of reduction in emissions of HAP that is achievable for new or existing sources. This control level is based on the "maximum achievable control technology" (MACT). The selection of MACT must reflect consideration of the cost of achieving the emission reduction, any nonair quality health and environmental impacts, and energy requirements for control levels more stringent than the floor (described below).

The MACT floor is the least stringent level for MACT standards. For new sources, the standards for a source category or subcategory "shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator" (section 112(d)(3)). Existing source standards can be no less stringent than the average emission limitation achieved by the best performing 12 percent of the existing sources for categories and subcategories with 30 or more sources or the average emission limitation achieved by the best performing 5 sources for categories or subcategories with fewer than 30

sources (section 112(d)(3)). The determination of the MACT floor for existing sources under today's rule is that the average emission limitation achieved by the best performing sources is based on a measure of central tendency, such as the arithmetic mean, median, or mode.

In establishing the floors, the EPA adopted a different approach in order to reduce the paperwork burden on the industry. Through literature reviews, State contacts, and plant visits, EPA identified companies which appeared to have the best controlled plants and sent data collection requests only to these companies. In identifying these companies, EPA also considered the need to include a variety of process and product types in the survey. Data for the PAI production industry were collected from facilities that achieve high emissions reductions, produce a variety of PAI's, use a variety of production processes, and are major sources. As the standards for existing sources are based on the best-performing 12 percent of sources, the number of best-performing sources for this source category is 9 facilities (i.e., 12 percent of 78 facilities). Information from the data collection requests was received from 20 facilities. The best-performing 9 facilities are included in these 20 surveyed facilities.

C. Authority for Development of Risk-Based Standards

The Act includes an exception to the general statutory requirement to establish emission standards based on MACT. Section 112(d)(4) of the Act provides EPA with authority, at its discretion, to develop risk-based standards for HAP "for which a health threshold has been established," provided that the standard achieves an "ample margin of safety." Under this authority, EPA may propose not to regulate HAP emissions if the results of exposure assessment modeling show exposure levels to HAP emissions to be below the health threshold value by an ample margin of safety, and if no significant or widespread adverse environmental effects from HAP emissions are expected.

The following discussion in today's notice summarizes the Agency's determination of HCl as a threshold pollutant, an ecological assessment of HCl, and the data that would have to be provided for EPA to consider adopting a risk-based approach to regulate HCl emissions from PAI manufacturing facilities.

Based on negative carcinogenicity data in one animal study, and on EPA's knowledge of how HCl reacts in the

body and its likely mechanism of action, the Agency presumptively considers HCl to be a threshold pollutant. For HCl (and other pollutants that are considered to have a "threshold of safety" below which adverse effects are not expected), information on noncarcinogenic effects must be evaluated to determine the potential hazards associated with exposure. One approach for determining the potential hazards of a pollutant is to use its Inhalation Reference Concentration (RfC). The RfC for HCl is 20 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$); this value was derived from a single animal study.

The emissions standards must also protect against significant and widespread adverse environmental effects to wildlife, aquatic life, and other natural resources. Based on a review of published studies, the Agency concluded that the RfC can reasonably be expected to protect against widespread adverse effects in animal species, and that effects on plant tissues and aquatic organisms likely will be local rather than widespread. The HCl concentrations were more than an order of magnitude above the RfC in some of the studies in which deleterious effects were observed; other studies did not report the HCl concentrations.

The Agency has not conducted an exposure assessment for the PAI manufacturing industry because the data needed in the analysis, including the identity of some of the 78 estimated affected sources, are not available. Furthermore, the burden to EPA and the industry of collecting and analyzing the data may not be warranted given the relatively small potential reduction in HCl control costs that could occur. However, the Agency solicits comments on the adequacy, desirability, and feasibility of developing a risk-based standard for HCl emissions from PAI manufacturing facilities. For EPA to develop a risk-based standard for HCl emissions from PAI manufacturing facilities, the industry would need to provide data for each affected source. Specifically, the HCl emissions and stack parameters for each HCl emission point (stack and fugitive sources) at the contiguous facility (i.e., both PAI and all other processes) for each affected source would be needed.

IV. Summary of Proposed Standards

This section describes the source category and pollutants covered, defines an affected source, and summarizes the proposed rule requirements for each emission point. A pollution prevention alternative is also summarized in this section. For an explanation of the process and rationale used to select

these requirements, see chapters 6 and 8 of the Basis and Purpose Document (located in docket No. A-95-20).

A. Source Categories To Be Regulated

The proposed standards would regulate HAP emissions from facilities that are major sources that produce PAI's for use in insecticide, herbicide, or fungicide products. The standards would apply to existing sources as well as new sources.

B. Pollutants To Be Regulated and Associated Environmental and Health Benefits

Pesticide Active Ingredients production facilities emit an estimated 6,750 Mg/yr of organic and inorganic HAP. Organic HAP's include methylene chloride, methanol, and toluene as well as other HAP. Hydrogen chloride is an inorganic HAP emitted by this industry. The proposed rule would reduce HAP emissions from PAI facilities by 76 percent. Some of these pollutants are considered to be carcinogenic, and all can cause toxic health effects following exposure, including nausea, headaches, and possible reproductive effects. The EPA does recognize that the degree of adverse effects to human health can range from mild to severe. The extent and degree to which the human health effects may be experienced is dependent upon (1) the ambient concentration observed in the area (e.g., as influenced by emission rates, meteorological conditions, and terrain), (2) the frequency of and duration of exposures, (3) characteristics of exposed individuals (e.g., genetics, age, pre-existing health conditions, and lifestyle) which vary significantly with the population, and (4) pollutant specific characteristics (toxicity, half-life in the environment, bioaccumulation, and persistence).

Most of the organic HAP emitted from this industry are classified as VOC. The proposed emission controls for HAP will reduce non-HAP VOC emissions as well. Emissions of VOC have been associated with a variety of health and welfare impacts. Volatile organic compound emissions, together with nitrogen oxides, are precursors to the formation of tropospheric ozone. Exposure to ambient ozone is responsible for a series of public health impacts, such as alterations in lung capacity; eye, nose, and throat irritation; nausea; and aggravation of existing respiratory disease. Among the welfare impacts from exposure to ambient ozone include damage to selected commercial timber species and economic losses for commercially valuable crops such as soybeans and cotton.

Hydrogen chloride is listed under section 112(r) of the CAA. The intent of section 112(r), Prevention of Accidental Releases, is to focus on chemicals that pose a significant hazard to the community should an accident occur, to prevent their accidental release, and to minimize consequences should a release occur. Hydrogen chloride, along with the other substances listed under section 112(r)(3), is listed because it is known to cause, or may be reasonably anticipated to cause death, injury, or serious adverse effects to human health or the environment (see 59 FR 4478, January 31, 1994). Sources that handle hydrogen chloride in greater quantities than the established threshold quantity under section 112(r)(5) will be subject to the risk management program requirements under section 112(r)(7) (see 58 FR 54190, October 20, 1993).

In essence, the MACT standards mandated by the CAA will ensure that all major sources of air toxic emissions achieve the level of control already being achieved by the better controlled and lower emitting sources in each category. This approach provides assurance to citizens that each major source of toxic air pollution will be required to effectively control its emissions. In addition, the emission reductions achieved by these proposed standards, when combined with the reductions achieved by other MACT standards, will contribute to achieving the primary goal of the CAA, which is to "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population" (the CAA, section 101(b)(1)).

C. Affected Sources

The affected source for the purpose of this regulation is the facility-wide collection of emission points; these emission points include process vents, storage tanks, waste management units and associated treatment residuals, heat exchange systems, and equipment components that are associated with PAI manufacturing operations.

New sources occur as a result of reconstructing existing sources, constructing new "greenfield" facilities, or adding PAI manufacturing operations at a plant site that currently does not produce PAI's. Additionally, if a facility adds to the PAI manufacturing operations at a plant site that is an existing affected source, the addition will be subject to the requirements for new sources provided that the addition meets the definition of construction in § 63.2 of subpart A of part 63 (General Provisions) and the addition has the

potential to emit 10 tons/yr or more of any one HAP or 25 tons/yr or more of any combination of HAP. Otherwise, the added PAI manufacturing operations are considered part of the existing source and would be subject to existing source standards.

D. Format of the Standards

The proposed standards for gaseous organic HAP and HCl emissions from process vents are presented in a combination of percent reduction and mass limit format. Facilities will have the option of using any control technology, as long as the HAP reductions or mass limits are achieved. The format of the proposed standards for storage tanks is a combination of equipment standard and performance standard—tanks that must be controlled are required to be fitted with floating roofs or with add-on devices meeting a percent removal requirement. The proposed standards for wastewater emission points allow: (1) Several percent mass removal options, (2) concentration limit, (3) mass limit, or (4) equipment design and operation formats. The proposed wastewater standards, and thus the format of the standards, are the same as in the HON, except that only a percent mass removal option is allowed for facilities that have total HAP loading greater than a specified cutoff. Equipment leak standards are in the form of equipment/work practice standards. Facilities would be required to implement the program specified in the proposed regulation to achieve compliance with the standards. The proposed standards for particulate HAP emissions from bag dumps and product dryers are presented in a concentration format. Additional information pertaining to the selection of the proposed standards is provided in Chapter 8 of the Basis and Purpose Document (located in docket No. A-95-20).

An alternative pollution prevention standard is also being proposed. This standard can be met in lieu of meeting separate standards for process vents, equipment leaks, storage tanks, wastewater, bag dumps, and heat exchange systems associated with each PAI production process. The format for this alternative standard is a mass reduction in HAP consumption per unit mass of product produced in the process.

E. Proposed Standards

1. Standards

Table 1 summarizes the proposed standards for process vents, storage tanks, wastewater, equipment leaks, bag

dumps and product dryers, and heat exchange systems at existing and new affected sources. The proposed standards are based on the MACT floor level of control, except where a more stringent level of control was determined to be technically feasible at a reasonable cost. Detailed information describing the approach used to determine the MACT floor and regulatory alternatives is presented in the Basis and Purpose Document (located in docket No. A-95-20).

TABLE 1.—PROPOSED STANDARDS FOR PAI PRODUCTION

Emission source	Applicability	Requirement
Process vents	Existing: Processes having uncontrolled organic HAP emissions ≥ 0.15 Mg/yr. Processes having uncontrolled HCl emissions ≥ 6.8 Mg/yr. Individual process vents meeting TRE criteria that have gaseous organic HAP emissions controlled to less than 90% as of proposal date. New: Processes having uncontrolled organic HAP emissions ≥ 0.15 Mg/yr. Processes having uncontrolled HCl emissions ≥ 6.8 Mg/yr and < 191 Mg/yr. Processes having uncontrolled HCl emissions ≥ 191 Mg/yr.	90% for organic HAP per process or < 20 ppmv TOC. 94% for HCl per process. 98% gaseous organic HAP control per vent or < 20 ppmv TOC. 98% for organic HAP per process or < 20 ppmv TOC at control device outlet. 94% for HCl per process. 99.9% for HCl per process.
Storage tanks	Existing: ≥ 0.11 Mg/yr uncontrolled HAP emissions: • ≥ 38 m ³ < 76 m ³ capacity	41% control per tank. 95% control per tank.
	• ≥ 76 m ³ capacity	98% control per tank or < 20 ppmv TOC at control device outlet.
	New: ≥ 0.45 kg/yr uncontrolled HAP emissions and ≥ 26 m ³ capacity.	
Wastewater ^a	Existing: $\geq 10,000$ ppmw Table 9 compounds at any flowrate or $\geq 1,000$ ppmw Table 9 compounds at ≥ 10 L/min. New: Same criteria as for existing sources	Reduce concentration of total Table 9 compounds to < 50 ppmw (or other options). Reduce concentration of total Table 9 compounds to < 50 ppmw (or other options).
	Total HAP load in wastewater POD streams $\geq 2,100$ Mg/yr.	99% reduction of Table 9 compounds from all streams.
Equipment leaks	Subpart H	Subpart H with minor changes.
Bag dumps and product dryers	All	Particulate HAP concentration not to exceed 0.01 gr/dscf.
Heat exchange systems	Each heat exchange system used to cool process equipment in PAI manufacturing operations.	Monitoring and leak repair program as in HON.

^a Table 9 is listed in the appendix to subpart G of 40 CFR part 63.

a. *Process Vents.* The proposed standards would require existing sources to reduce organic HAP and HCl emissions from process vents. Specifically, existing sources would be required to reduce organic HAP emissions by 90 percent from each process where the sum of uncontrolled organic HAP emissions from all vents in the process is greater than or equal to 0.15 Mg/yr (330 pounds per year [lb/yr]). Alternatively, the proposed rule would require that combustion, recovery, or recapture control devices meet an outlet total organic carbon (TOC) concentration of 20 parts per million by volume (ppmv); the 90 percent reduction requirement would apply to the sum of uncontrolled organic HAP emissions from all other vents in the process. Additionally, the proposed rule would require organic HAP emissions from any individual vent that meets certain annual emissions and flowrate criteria to be reduced by 98 weight percent or to an

outlet concentration of 20 ppmv; the 90 percent requirement would apply to the sum of organic HAP emissions from all other vents in the process. The proposed standards would also require existing sources to reduce HCl emissions by 94 percent from each process where the sum of uncontrolled emissions from all vents in the process is greater than or equal to 6.8 Mg/yr (7.5 tons/yr). New sources would be required to meet various process-based control levels. Specifically, for each process where the sum of the uncontrolled organic HAP emissions from all vents in the process is greater than or equal to 0.15 Mg/yr (330 lb/yr), the proposed standards would require an overall 98 percent reduction in the organic HAP emissions per process. Alternatively, the proposed standards would require that combustion, recovery, or recapture devices meet an outlet TOC concentration of 20 ppmv, and the 98 percent reduction requirement would apply to the sum of uncontrolled

organic HAP emissions from all other vents in the process. The proposed standards would also require a 94 percent reduction of HCl emissions from each process where the sum of uncontrolled HCl emissions from all vents in the process is greater than or equal to 6.8 Mg/yr (7.5 tons/yr) and less than 191 Mg/yr (211 tons/yr). The proposed standards would require new sources to reduce HCl emissions by 99.9 percent from each process where the sum of uncontrolled HCl emissions from all vents in the process is greater than or equal to 191 Mg/yr (211 tons/yr). The proposed standards for organic HAP from process vents at existing sources are based on a regulatory alternative that consists of the MACT floor level of control for most vents and a more stringent level of control for vents that meet certain applicability criteria. An applicability cutoff, based on a linear equation relating vent flowrate and annual HAP load, is used to determine the vents that have organic

HAP emissions that must be controlled to the more stringent level of 98 percent. The cost of this alternative above the MACT floor is \$2,500/Mg and was judged to be reasonable. The proposed standards for HCl from process vents at existing sources are based on the MACT floor level. The proposed standards for both organic HAP and HCl emissions from process vents at new sources are based on the MACT floor level for new sources. For additional information, see chapters 6 and 8 of the Basis and Purpose Document (located in docket No. A-95-20).

b. *Storage Tanks.* The proposed standards would require existing sources to control storage tanks that have a capacity greater than or equal to 38 cubic meters (m^3) (10,000 gal) and uncontrolled organic HAP emissions greater than or equal to 0.11 Mg/yr (240 lb/yr). Specifically, the proposed standards would require that organic HAP emissions be reduced by 41 percent from storage tanks having volumes greater than or equal to 38 m^3 (10,000 gal) and less than 76 m^3 (20,000 gallons) and by 95 percent from storage tanks with capacities greater than or equal to 76 m^3 (20,000 gallons). However, storage tanks greater than or equal to 76 m^3 (20,000 gallons) that are currently controlled at or above the floor level (41 percent) would not be required to achieve 95 percent. One of the following control systems can be applied to meet these requirements:

- (1) An internal floating roof with proper seals and fittings;
- (2) An external floating roof with proper seals and fittings;
- (3) An external floating roof converted to an internal floating roof with proper seals and fittings; or
- (4) A closed vent system with either a 41 percent or a 95 percent efficient control device, as appropriate.

New sources would be required to reduce uncontrolled organic HAP emissions from storage tanks with capacities greater than or equal to 26 m^3 (7,000 gal) and uncontrolled HAP emissions greater than or equal to 0.45 kg/yr (1.0 lb/yr) by 98 percent or use a combustion, recovery, or recapture control device that meets an outlet TOC concentration of 20 ppmv. This requirement can be met with a closed vent system with a 98 percent efficient control device.

At existing sources, the proposed standards for storage tanks that have uncontrolled emissions greater than or equal to 0.11 Mg/yr (240 lb/yr) and capacities less than 76 m^3 (20,000 gal) are based on the MACT floor control level. The proposed standards for storage tanks at existing sources that

have uncontrolled emissions greater than or equal to 0.11 Mg/yr (240 lb/yr) and capacities greater than or equal to 76 m^3 (20,000 gal) are based on a regulatory alternative that is more stringent than the MACT floor. Floating roof technology is considerably less expensive than add-on controls for storage tanks with capacities greater than or equal to 76 m^3 (20,000 gal); therefore, there is no additional cost for the regulatory alternative above the MACT floor. The proposed standards for storage tanks at new sources are based on the MACT floor level for new sources.

c. *Wastewater.* The wastewater provisions are similar to the HON wastewater provisions (subpart G of 40 CFR part 63), with modifications made for the PAI production industry. The proposed standards would require existing and new sources to control Group 1 wastewater streams. Under the proposed standards, existing and new sources would be required to determine Group 1 status for both process wastewater streams and maintenance wastewater streams. A wastewater stream is a Group 1 stream for compounds listed in Table 9 of the appendix to subpart G of 40 CFR part 63 (i.e., "Table 9" compounds in the remainder of this discussion) if:

- (1) The total annual average concentration of Table 9 compounds is greater than or equal to 10,000 ppmw at any flowrate; or
- (2) The total annual average concentration of Table 9 compounds is greater than or equal to 1,000 ppmw and the annual average flowrate is greater than or equal to 10 liters per minute (L/min) (2.6 gallons per minute (gal/min)).

The proposed standards would require existing sources with Group 1 wastewater streams for Table 9 compounds:

- (1) To reduce the concentration of Table 9 compounds to less than 50 ppmw;
- (2) To use a steam stripper with specific design and operating requirements;
- (3) To reduce the mass flow rate of Table 9 compounds by at least 99 percent;
- (4) To reduce the mass flow rate of Table 9 compounds by an amount equal to or greater than the Fr value in Table 9;
- (5) For a source using biotreatment for at least one wastewater stream that is Group 1 for Table 9 compounds, to achieve a required mass removal greater than or equal to 95 percent for Table 9 compounds; or
- (6) To treat wastewater streams with permitted RCRA units or by discharging

to a permitted underground injection well.

The proposed standards would require new sources with Group 1 wastewater streams for Table 9 compounds to control Table 9 compounds to the same level required for existing sources. In addition, new sources with a total mass flow rate from the source of 2,100 Mg/yr (2,300 tons/yr) or more of Table 9 compounds would be required to reduce the mass flow rate of Table 9 compounds from all wastewater streams by 99 percent. This difference from the HON was needed because the MACT floor for new sources is more stringent than the provisions in the HON for facilities that exceed this mass flow rate cutoff.

A source is exempted from the wastewater standards if:

- (1) The total mass flow rate of Table 9 compounds in Group 1 streams is less than 1 Mg/yr (1.1 tons/yr); or
- (2) If the total mass flow rate of Table 9 compounds in untreated Group 1 wastewater streams and in Group 1 wastewater streams that are treated to levels less stringent than the levels required by the standard is less than 1 Mg/yr (1.1 tons/yr).

The proposed standards for wastewater at existing sources are based on a regulatory alternative more stringent than the MACT floor control level. The cost of the regulatory alternative was determined to be \$3,070/Mg. This value was judged to be acceptable based on decisions for previously promulgated part 63 rules for sources with organic HAP emissions. In addition, this regulatory alternative requires the same degree of control as the HON. The wastewater streams from PAI units are similar to those released from HON units, and often occur at the same plant sites.

The proposed standards for wastewater at new sources with a total HAP load less than 2,100 Mg/yr (2,300 tons/yr) are based on a regulatory alternative more stringent than the MACT floor level for new sources. These proposed standards are the same as the proposed standards for existing sources; therefore, the cost was judged to be reasonable. Proposed standards for new sources with a total HAP load greater than or equal to 2,100 Mg/yr (2,300 tons/yr) are based on the MACT floor control level for new sources, which, as noted above, is more stringent than the standards for new sources that have a mass flow rate below the mass flow rate cutoff. For additional information, see chapters 6 and 8 of the Basis and Purpose Document (located in docket No. A-95-20).

d. *Equipment Leaks.* The proposed standards would require that new and existing PAI production sources implement for each process a leak detection and repair (LDAR) program that is slightly modified from the program specified in the Negotiated Regulation for Equipment Leaks (40 CFR part 63, subpart H). The LDAR program specified under subpart H requires specific equipment modifications and work practices that reduce emissions from equipment leaks. This program was modified to consider the emissions from receivers and surge control vessels to be from process vents rather than equipment leaks.

For existing sources, the MACT floor for equipment leaks was determined to be no control, and the regulatory alternative consisted of the LDAR program specified under subpart H. The proposed standards for existing sources are based on the regulatory alternative because the LDAR program was determined to be technically feasible, and the cost of \$550/Mg was judged to be reasonable. For new sources, the proposed standards are based on the MACT floor level of control.

The EPA will consider consolidating the equipment leaks program specified in this subpart (subpart MMM) with the subpart H LDAR program after promulgation of subpart MMM. The EPA will also consider cross-referencing the Consolidated Air Rule (CAR) if the CAR is complete before this rule is promulgated.

e. *Bag Dumps and Process Dryers.* Under the proposed standards, particulate HAP emissions from bag dumps and dryers at both new and existing sources would not be allowed to exceed 0.01 grains per dry standard cubic feet (gr/dscf). The standard is based on the MACT floor for both new and existing sources. For additional information, see chapters 6 and 8 of the Basis and Purpose Document (located in docket No. A-95-20).

f. *Heat Exchange Systems.* Heat exchange systems that cool process equipment or materials used in PAI manufacturing are also emissions points subject to the proposed rule. The proposed standards are based on HON provisions. A source must (1) monitor monthly for leaks in the cooling water for 6 months and quarterly thereafter, and (2) repair leaks and test to demonstrate that the leak has been repaired.

2. Alternative Pollution Prevention Standard

For existing sources, the proposed rule also includes a pollution prevention (P2) alternative standard that

meets the requirements of the MACT standards, and can be implemented in lieu of the requirements described above. The P2 alternative standard provides a way for facilities to comply with the MACT standards by reducing overall consumption of HAP from their processes. The two options that were developed are described in Table 2 and are discussed below. This alternative does not apply to HAP that are used as reactants (below the stoichiometric amount needed to produce the product) or to HAP that are generated in the process.

TABLE 2.—ALTERNATIVE P2 STANDARD

Option	Description of P2 option
1	Demonstrate an 85% reduction in the kg consumption/kg production factor from a baseline year of 1987.
2	Demonstrate a 50% reduction in the kg consumption/kg production factor and additional reduction from add-on control equivalent to yield 85% overall reduction in kg consumption/kg production.

In the first option, an owner or operator can satisfy the MACT requirements for all process vents, storage tanks, equipment leaks, wastewater, bag dumps, and heat exchange systems associated with an existing process by demonstrating that the production-indexed consumption of HAP has decreased by 85 percent from a baseline set at the first 12-month period for which data are available but no earlier than the 1987 calendar year. (1987 was the first year industrial facilities had to report their estimated toxic releases to the EPA under the Emergency Planning and Community Right-to-Know Act of 1986). Emissions from product dryers are excluded from the P2 option because reductions in consumption would not affect product emissions. The production-indexed consumption factor is expressed as kg HAP consumed per kg product produced (kg consumed/kg produced factor). The numerator in the kg consumed/kg produced factor is the total consumption of material, which describes all the different areas where material can be consumed, either through losses to the environment, consumption in the process as a reactant, or otherwise destroyed. Consumption, rather than emissions, is tracked because it can be used as a true measure of pollution prevention; any decrease in consumption for the same unit of product generated must involve

some type of increase in process efficiency, including reduction of waste, increased product yield, and in-process recycling. Because HAP are used generally as raw materials and solvents in this industry, reductions in consumption can be generally associated with reductions in emissions to air, water, or solid waste.

The second option also uses the production-indexed consumption factor and is also applied to existing processes. It encourages and allows an owner or operator to supplement reductions achieved with P2 with add-on controls. The EPA believes that such an option will provide greater flexibility and cost efficiency to the operators who already may have some add-on controls. An owner or operator would be required to demonstrate reductions in the kg consumed/kg produced factor of 50 percent via P2 measures, and actual mass emission reductions equivalent to 35 percent of the kg consumed/kg produced factor would be required using add-on controls. Thus, the total reduction required by option 2 would be equivalent to or greater than an 85 percent reduction in the kg consumed/kg produced factor, the same as in option 1.

F. Compliance and Performance Test Provisions

1. Proposed Standards

a. *Process Vents.* To determine compliance with the percent reduction requirements for gaseous HAP and HCl emissions from PAI process vents, the owner or operator would be required to quantify the uncontrolled and controlled gaseous emissions from all process vents to demonstrate the appropriate overall reduction requirements. For process vents controlled by a device with an inlet of less than 10 tons/yr of HAP, the owner or operator can either test or use calculational methodologies to determine the uncontrolled and controlled emission rates from individual process vents. For process vents controlled by a device with an inlet of 10 tons/yr or more of HAP, performance tests would be required to determine the reduction efficiency of each device. Because of their cyclic nature, batch operations tend to have variable emissions. Therefore, performance test provisions were structured to account for the peak-case emissions. Continuous processes tend to have more consistent emissions, but for simplicity, the same performance test provisions are applied to controls for continuous processes. This approach essentially considers emissions from

continuous processes to be peak-case at all times. Control devices that have previously been tested under conditions required by this standard and condensers are exempt from performance testing.

b. *Storage Tanks.* For demonstrating compliance with various requirements, the proposed rule allows the owner or operator to either conduct performance tests or to document compliance using engineering calculations. Appropriate compliance and monitoring provisions are included in the regulation.

c. *Wastewater.* For demonstrating compliance with the various requirements, owners and operators have a choice of using a specified design, conducting performance tests, or documenting engineering calculations. Appropriate inspection, monitoring, reporting, and recordkeeping requirements are included in the regulation.

d. *Equipment Leaks.* To determine compliance with the standard for equipment leaks, facilities would have to demonstrate that an LDAR program meeting the requirements of the modified subpart H is in use.

e. *Bag Dumps and Product Dryers.* To demonstrate compliance with the particulate HAP emission limit of 0.01 gr/dscf, the owner or operator would be required to conduct a performance test.

2. Pollution Prevention Alternative Standard

Initial demonstration of compliance with the P2 alternative standard would be accomplished by documenting yearly quantities of HAP raw materials and products using available records, including standard purchasing and accounting records, and calculating the kg consumed/kg produced values. Procedures are also specified to demonstrate that the required reductions are achieved by the control devices used to meet option 2.

G. Monitoring Requirements

1. MACT Emission Standards

Monitoring would be required by the proposed standards to determine whether a source is in compliance on an ongoing basis. This monitoring is done either by (1) continuously measuring emission reductions directly or (2) continuously measuring a site-specific operating parameter, the value of which is established by the owner or operator during the initial compliance determination. The operating parameter value is defined as the minimum or maximum value established for a control device or process parameter that, if achieved on a daily average by

itself or in combination with one or more other operating parameter values, determines that the owner or operator is complying with the applicable emission standards. Except for the bag leak detectors, these parameters are required to be monitored at 15-minute intervals throughout the operation of the control device. For a device controlling streams that, in aggregate, contain less than 1 ton/yr of HAP, only a site-specific periodic verification that the device is operating as designed is required to demonstrate continuous compliance. Owners and operators must determine the most appropriate method of verification and propose this method to the Agency for approval in the Precompliance Report, which is due 1 year prior to the compliance date of the standard.

Under the proposed NESHAP, the owner or operator must install a bag leak detection system for each fabric filter used to control particulate HAP emissions from bag dumps or product dryers. The bag leak detection system is required because opacity is not a good indicator of performance at the low, controlled particulate levels characteristic of these sources. The bag leak detection system would be equipped with an audible alarm that automatically sounds when an increase in particulate emissions above a predetermined level is detected. The proposed rule requires that the monitor provide an output of relative or absolute particulate emissions. Such a device would serve as an indicator of the performance of the fabric filter and would provide an indication of when maintenance of the fabric filter is needed. An alarm by itself does not indicate noncompliance with the particulate HAP limit, but would indicate an increase in PM emissions and trigger an inspection of the fabric filter to determine the cause of the alarm. The owner or operator would initiate corrective actions according to procedures submitted with their Notification of Compliance Status report. The owner or operator would be considered in violation of the particulate HAP standard upon failure to initiate corrective actions within 1 hour of the alarm. If the alarm is activated for more than 5 percent of the total operating time during the 6-month reporting period, the EPA proposes that the owner or operator develop and implement a written quality improvement plan (QIP) consistent with subpart D of the draft approach to compliance assurance monitoring.

2. Alternative Standard

An owner or operator electing to use the P2 alternative can demonstrate ongoing compliance by calculating the rolling average of the kg consumed/kg produced factor for each applicable process or portions of the process. For continuous processes, the rolling average is calculated every 30 days, and for batch processes, the rolling average is calculated every 10 batches. In both cases, the rolling average is based on data from the previous 12 months. In addition, an owner or operator electing to use P2 Option 2 would have to monitor the emission reduction obtained through the use of traditional controls using the methods described above.

H. Reporting and Recordkeeping Requirements

The owner or operator of any PAI production facility subject to these standards would be required to fulfill all reporting requirements outlined in the General Provisions of subpart A to 40 CFR part 63. A table included in the proposed rule designates which sections of subpart A apply to the proposed rule. Specific recordkeeping and reporting requirements for each type of emission point are also included in the proposed rule.

V. Summary of Environmental, Energy, Cost, and Economic Impacts

The emission reductions that would be required by this regulation could be met using one or more of several different techniques. Impacts were estimated for control scenarios based on traditional control techniques that were judged to be the most feasible for meeting the requirements of the proposed standards from a technical and cost standpoint. Energy, cost, and economic impacts of the P2 alternative would be equivalent to or lower than the estimated impacts for traditional controls because it is likely that an owner or operator would elect to implement only those P2 techniques that have lower impacts than traditional controls.

A. Facilities Affected by These NESHAP

These NESHAP would affect PAI production facilities that are major sources in and of themselves, or constitute a portion of a major source. There are estimated to be approximately 329 existing facilities manufacturing PAI's, 78 of which were estimated to be major sources for the purpose of developing these standards and calculating impacts. The rate of growth for the PAI production industry is

estimated to be 2 percent per year for the next 5 years.

B. Air Impacts

The proposed standards would reduce HAP emissions from existing sources by 5,150 Mg/yr (5,680 tons/yr) from the baseline level, a reduction of 76 percent from baseline, and 93 percent from uncontrolled. These reductions would also occur if facilities elect to implement the alternative pollution prevention standard. In addition to reducing HAP emissions, VOC will also be reduced. This reduction includes VOC that are HAP and other VOC that are not HAP. Volatile organic compounds are precursors in the atmospheric reaction with oxides of nitrogen that generates tropospheric ozone. The amount of VOC reduction (beyond the HAP portion of the VOC) due to implementation of the PAI standards cannot be quantified.

C. Water and Solid Waste Impacts

With the assumption that overheads from steam stripping will be recoverable as material or fuel, no solid waste is expected to be generated from steam stripping wastewater streams. Additionally, no solid waste is expected to be generated from controls of other emission points.

The proposed standards would increase wastewater generated from water scrubbers used to control HCl emissions by an estimated 10.8 million liters per year (2.9 million gallons per year). The volume of wastewater generated would also increase at plants that choose a water scrubber to control certain water soluble organic HAP; however, the increase is expected to be minimal because the use of water scrubbers for this purpose is expected to be uncommon.

D. Energy Impacts

The proposed standards would require an additional energy usage of $4,880 \times 10^9$ British thermal units per year (Btu/yr).

E. Cost Impacts

The total control cost includes the capital cost to install control devices (including floating roofs), the costs involved in operating control devices (energy and operating and maintenance costs), costs associated with monitoring control devices to ensure compliance, costs associated with implementing work practices, and the cost savings generated by reducing the loss of valuable product in the form of emissions. Monitoring costs include the cost to purchase and operate monitoring devices, as well as reporting and

recordkeeping costs required to demonstrate compliance. Average cost effectiveness, \$/Mg of HAP removed, is also presented as part of cost impacts and is determined by dividing the annual cost by the annual emission reduction.

The estimated total capital costs for existing and new sources would be \$70.3 million and \$10.4 million, respectively (June 1995 dollars). The total annual costs for control at existing and new sources are estimated to be approximately \$39.0 million and \$5.73 million, respectively (June 1995 dollars). The average cost effectiveness of the standards is estimated to be about \$7,600/Mg for existing sources and \$7,700/Mg for new sources. The EPA estimates that industry's nationwide annual cost burden will average \$0.37 million for monitoring, recordkeeping, and reporting requirements over the first 3 years following promulgation.

It is expected that the actual compliance cost impacts of the proposed rule would be less than described above because of the potential to use common control devices, upgrade existing control devices, use other less expensive control technologies, implement pollution prevention technologies, or use emissions averaging. Since the effect of such practices is highly site-specific and data were unavailable to estimate how often the lower cost compliance practices could be utilized, it is not possible to quantify the amount by which actual compliance costs would be reduced. The EPA believes that the overall control costs and the monitoring, reporting, and recordkeeping costs will be substantially reduced for the facilities opting to comply via the P2 option.

F. Economic Impacts

The control costs imposed on producers in the PAI production industry will increase their cost of production. The effects of the changes in production costs are evaluated in the "Economic Impact Analysis of the Proposed NESHAP for the Production of Pesticide Active Ingredients." The resulting increase in production costs will increase the market price by less than 1 percent and decrease market output by less than 1 percent. In addition, the regulation's impact on foreign competition is relatively small. Social cost incorporates the changes in welfare to consumers, unaffected producers, and foreign producers and consumers to the cost of the regulation. These costs were determined to be negligible for the PAI production industry; therefore, the total social cost

is estimated to be equal to the total control cost. No plant closures are expected from compliance with this set of alternatives.

VI. Emissions Averaging

The proposed rule includes provisions that would allow emissions averaging among process vents, storage tanks, and wastewater within an existing affected source. New affected sources are not allowed to use emissions averaging. Under emissions averaging, a system of "credits" and "debits" is used to determine whether an affected source is achieving the required emissions reductions. The new sources have historically been held to a stricter standard than existing sources, because it is most cost-effective to integrate state-of-the-art controls into equipment design and to install the technology during the construction of new sources. One reason for allowing averaging is to permit existing sources flexibility to achieve compliance at diverse points with varying degrees of control already in place in the most economically and technically reasonable fashion. This concern does not apply to new sources because they can and should be designed and constructed with compliance in mind.

VII. Solicitation of Comments

The Administrator welcomes comments from interested persons on any aspect of the proposed rule, and on any statement in the preamble or the referenced supporting documents. The proposed rule was developed on the basis of available information. The Administrator is specifically requesting factual information that may support either the approach taken in the proposed standards or an alternate approach. To receive proper consideration, documentation or data should be provided. This section requests comments on specific issues identified during the development of the standard.

The EPA is requesting comment on the addition of other PAI's to this source category. The original source category contained 10 agricultural chemicals (i.e., PAI's); during information gathering for this proposed standard, other PAI's with similar processes, emissions, and control equipment were identified and added to the source category.

The EPA is requesting comments on the clarity of the approach used to identify PAI processes subject to the standards. Under FIFRA, all facilities producing PAI's (and other pesticide products) are required to be registered. Further, all of these registered pesticide-

producing establishments are required to report, on EPA form 3540-16, the amount of each PAI that they produced in the previous year and an estimate of the amount to be produced in the current year. The facilities also must classify each PAI in one of 18 product classification categories. Under today's proposed rule, PAI processes subject to the standards are those that are used in the production of insecticide, herbicide, or fungicide products. For the purposes of the proposed rule, PAI processes that satisfy this definition are those that are classified as an insecticide, insecticide-fungicide, fungicide, herbicide, herbicide-fungicide, plant regulator, defoliant, desiccant, or multi-use active ingredient on form 3540-16. The EPA also evaluated and rejected other approaches for identifying the processes that would be subject to the standards. One approach would be to list each subject PAI process. This approach was rejected because new products are always being developed and existing products are discontinued so that a list would soon be out of date. Another option would be to cover only registered PAI's. Drawbacks of this option are that PAI's produced only for export need not be registered, the ongoing reregistration process is likely to result in the cancellation of many currently registered PAI's in the next few years, and the registration process does not classify the PAI as an insecticide, herbicide, or fungicide. The Agency requests comments on the benefits and drawbacks of these and any other approaches to identify PAI processes subject to the standards.

The EPA is requesting particulate emissions data from bag dumps and product dryers in the PAI production industry. The proposed standard for particulates for bag dumps and product dryers was based on information for a product dryer from a single facility; this was the only surveyed facility that dried a PAI that is also a HAP. Other facilities that manufacture PAI's that have PM HAP emissions from bag dumps or product dryers may submit available test data or engineering estimates of the emissions, along with any available information about the design and operation of the control device.

The EPA is requesting information and data on equipment leak emissions in the PAI production industry. During the development of this proposed regulation, various industry representatives commented that (1) SO₂MI emission factors used to estimate emissions from equipment leaks overestimate the actual emissions, (2) the proposed equipment leak requirements (HON, subpart H of this

part) are too stringent, i.e., the frequent monitoring requirements associated with the HON are burdensome, especially because industry believes equipment components are well-controlled, and (3) the requirements in the Consolidated Air Rule (CAR) are possible alternatives to the HON requirements for equipment leak standards. To support their comments, industry has submitted a summary of test results to EPA to demonstrate that the industry is already well-controlled with respect to equipment leaks. The EPA has reviewed these data and believes that the data are insufficient to support the industry position. The EPA is requesting additional information and test data [screening data] on this issue. These data should be collected in accordance with accepted EPA protocol (Protocol for Equipment Leak Emission Estimates, EPA Document No. EPA-453/R-95-017).

The EPA is soliciting comments on several aspects of performance testing and monitoring. The rule currently requires performance testing to document efficiencies for control devices that are used to reduce uncontrolled emissions of 10 tons per year or more. The rule currently requires that the performance test be conducted under "peak-case" conditions and provides for three options—absolute, representative, and hypothetical peak-case. The EPA is soliciting comments on appropriate test conditions to be defined for different types of control devices, especially scrubbers and carbon adsorbers.

The proposed rule provides for parametric monitoring to comply with the standard and includes specific operating parameters to be monitored. The EPA is soliciting comments on the use of alternative parameters without the requirement of prior notification in the Precompliance report. Parameters other than those specified in the rule that could be used to demonstrate compliance include: (1) For condensers, coolant temperature and flow (only with emissions testing), (2) for scrubbers, measurement of pressure drop, scrubber fluid composition, or pH, and (3) for carbon adsorbers, adsorption cycle and regeneration frequency, bed temperature, regeneration stream flow, periodic test for bed poisoning, and periodic vent testing and/or predetermined scheduled replacement. The EPA is soliciting comment on the adequacy of these parameters for demonstrating continuous compliance with the rule.

An issue raised by industry associated with parametric monitoring is related to the setting of a parameter based on an

initial compliance determination at conditions which represent the upper limit (with regard to achievable control) of conditions that will be encountered during the course of operations. The concern is that the rule effectively requires a control level that is greater than the standard because the control devices will presumably achieve higher control on conditions that are below this upper limit, which may occur frequently in this industry because of the predominance of batch processes. The EPA has tried to resolve this issue by allowing owners and operators to set more than one parameter level for a given control device for processes or portions of processes not requiring control levels as high as the peak-case or upper limit. These parametric levels are required to be defined in advance in the Notification of compliance report. If more than one level is set, owners and operators must make a determination of compliance with the standards based on what processes or emission characteristics are routed to the device at the time in which a monitoring reading is taken. Additionally, the determination of an exceedance is based on a maximum of 24 hours worth of data, or 96 15-minute readings, per process. Therefore, readings outside of acceptable ranges can be averaged in with readings that are within range and effectively normalized. The EPA believes that the approach taken offers the industry needed flexibility while preserving the assurance of continuous compliance.

Currently, the Notification of Compliance report is the compliance "blueprint" for implementation of the standard. All information regarding documentation of the facility's compliance status with regard to the standard should be included in this report. Process descriptions, emission estimates, control device performance documentation, and continuous compliance demonstration strategies, including monitoring, are to be presented in the report. This report could be incorporated by reference into the facility's title V permit. If a change occurred at the facility which required the submittal of additional information, or if the plant chose to revise procedures that had been previously documented in the notification, this information would be submitted in quarterly reports, thus ensuring that the notification and associated reports would always contain the most current compliance strategy for the facility. Only changes requiring site-specific approval, such as the use of a monitoring parameter that was not

specifically identified in the standard, would trigger some significant review action under title V. This would allow the facility enough flexibility to change processes, operating, and compliance procedures as necessary without prior approval, if the changes were straightforward, and would assure that the compliance plan for the facility would always be current. The EPA is also soliciting comments on the incorporation by reference of the Notification of Compliance report into the title V permit, and comments on the types of changes that should trigger review actions under title V.

VIII. Administrative Requirements

A. Public Hearing

A public hearing will be held, if requested, to discuss the proposed standard in accordance with section 307(d)(5) of the Act. Persons wishing to make oral presentation on the proposed standards for PAI production should contact EPA at the address given in the ADDRESSES section of this preamble. Oral presentations will be limited to 15 minutes each. Any member of the public may file a written statement before, during, or within 30 days after the hearing. Written statements should be addressed to the Air Docket Section address given in the ADDRESSES section of this preamble and should refer to Docket No. A-95-20.

A verbatim transcript of the hearing and written statements will be available for public inspection and copying during normal working hours at EPA's Air Docket Section in Washington, DC (see ADDRESSES section of this preamble).

B. Docket

The docket is an organized and complete file of all the information submitted to or otherwise considered by EPA in the development of this proposed rulemaking. The principal purposes of the docket are:

1. To allow interested parties to readily identify and locate documents so that they can intelligently and effectively participate in the rulemaking process; and

2. To serve as the record in case of judicial review (except for interagency review materials (section 307(d)(7)(A))).

C. Executive Order 12866

Under Executive Order 12866, [58 FR 51735 (October 4, 1993)] the Agency must determine whether the regulatory action is "significant" and therefore subject to Office of Management and Budget (OMB) review and the requirements of this Executive Order.

The Order defines "significant regulatory action" as one that is likely to result in a rule that may:

1. Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or Tribal governments or communities;

2. Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

3. Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

4. Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

Pursuant to the terms of Executive Order 12866, the OMB has notified the EPA that it considers this a "significant regulatory action" under criterion four of the Executive Order. The EPA has submitted this action for OMB review. Changes made in response to suggestions or recommendations from the OMB will be documented and included in the public record.

D. Enhancing the Intergovernmental Partnership Under Executive Order 12875

In compliance with Executive Order 12875, EPA has involved State governments in the development of this rule. These governments will implement the rule and collect permit fees to offset the resource burden of implementing the rule. Representatives of four State governments are members of the MACT partnership group. This partnership group was consulted throughout the development of this proposed regulation. Comments from the partnership members were carefully considered. In addition, all States are encouraged to comment on this proposed rule during the public comment period, and the EPA intends to fully consider these comments in the final rulemaking.

E. 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.* An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 1807.01), and a copy may be obtained from Sandy Farmer, OPPE Regulatory Information Division (2137); U. S. Environmental Protection Agency; 401 M Street SW; Washington, DC 20460, or

by calling (202) 260-2740. The public reporting burden for this collection of information is estimated to average 1,360 hours per respondent for the first year and 990 hours for each of the second and third years, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. 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 are listed in 40 CFR part 9 and 48 CFR chapter 15.

Comments are requested on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques. Send comments on the ICR to the Director, OPPE Regulatory Information Division, U.S. Environmental Protection Agency (2137), 401 M St., SW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, marked "Attention: Desk Officer for EPA." Include the ICR number in any correspondence. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after November 10, 1997, a comment to OMB is best assured of having its full effect if OMB receives it by December 10, 1997. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

F. Regulatory Flexibility

The Regulatory Flexibility Act (RFA) generally requires an agency to conduct a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements unless the agency certifies that the rule will 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. This proposed rule will not have a significant economic impact on a substantial number of small entities. In a screening of potential impacts on small entities, the EPA found that there are three small companies operating in the PAI production industry. The majority of facilities are owned by large chemical manufacturers having greater than 500 employees. In all instances, the average total annual cost for affected firms is

less than 1 percent of company-wide revenues. The screening analysis for this rule is detailed in the Economic Impact Analysis (see Docket No. A-95-20). Therefore, I certify that this action will not have a significant economic impact on a substantial number of small entities.

G. Unfunded Mandates

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), P.L. 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 to State, local, and Tribal governments, in the aggregate, or to 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.

The EPA has determined that the proposed standards do not include a Federal mandate that may result in estimated costs of, in the aggregate, \$100 million or more to either State, local or Tribal governments, or to the private sector, nor do the standards significantly or uniquely impact small governments, because they contain no requirements that apply to such

governments or impose obligations upon them. Therefore, the requirements of the UMRA do not apply to this proposed rule.

H. Miscellaneous

In accordance with section 117 of the Act, publication of this proposal was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies. The Administrator will welcome comments on all aspects of the proposed regulation, including health, economic and technical issues, and on the proposed requirements for testing.

This regulation will be reviewed 8 years from the date of promulgation. This review will include an assessment of such factors as evaluation of the residual health and environmental risks, any overlap with other programs, the existence of alternative methods, enforceability, improvements in emission control technology and health data, and the recordkeeping and reporting requirements.

List of Subjects in 40 CFR Part 63

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

Dated: October 27, 1997.

Carol M. Browner,
Administrator.

For the reasons set out in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is proposed to be amended as follows:

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

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

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

2. It is proposed that part 63 be amended by adding subpart MMM to read as follows:

Subpart MMM—National Emission Standards for Hazardous Air Pollutants From Pesticide Active Ingredient Production

Sec.

- 63.1360 Applicability.
- 63.1361 Definitions.
- 63.1362 Standards.
- 63.1363 Compliance dates.
- 63.1364 Test methods and compliance procedures.
- 63.1365 Monitoring and inspection requirements.
- 63.1366 Recordkeeping requirements.
- 63.1367 Reporting requirements.
- 63.1368 Delegation of authority.

Table 1 to Subpart MMM—General Provisions Applicability to Subpart MMM

Table 2 to Subpart MMM—Proposed Standards for PAI Production

Subpart MMM—National Emission Standards for Hazardous Air Pollutants From Pesticide Active Ingredient Production

§ 63.1360 Applicability.

(a) The provisions of this subpart apply to each affected source. Except as specified in paragraph (d) of this section, the affected source subject to this subpart is the facility-wide collection of process vents, storage tanks, waste management units, heat exchange systems, cooling towers, equipment identified in § 63.149, and equipment components (pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems) in pesticide active ingredient (PAI) manufacturing operations at a major source of hazardous air pollutant (HAP) emissions. Pesticide active ingredient manufacturing operations also include the manufacturing of each intermediate:

- (1) That is integral to a PAI production process; and
- (2) For which 50 percent or more of the annual production of the intermediate is used in any onsite PAI processes.

(b) Except as specified in paragraph (d) of this section, a new source is defined as a source meeting the criteria of paragraph (b) (1), (2), or (3) of this section.

(1) A plant site previously without HAP emissions points that is part of a major source on which construction of PAI manufacturing operations commenced after November 10, 1997;

(2) Additions to an existing plant meeting the criteria in paragraph (g) of this section; or

(3) A reconstructed source that meets the definition of reconstruction in § 63.2 and for which reconstruction commenced after November 10, 1997.

(c) Table 1 of this subpart specifies the provisions of subpart A of this part that apply to an owner or operator of an affected source subject to this subpart, and clarifies specific provisions in subpart A of this part as necessary for this subpart.

(d) The provisions of this subpart do not apply to:

- (1) Research and development facilities;
- (2) Emission points in pesticide active ingredient manufacturing operations that meet the applicability requirements

under subparts F, G, H, and I of this part;

(3) Emission points in pesticide active ingredient manufacturing operations that meet the applicability criteria under any other existing MACT standard; and

(4) The following emission points listed:

(i) Stormwater from segregated sewers;

(ii) Water from fire-fighting and deluge systems, including testing of such systems;

(iii) Spills;

(iv) Water from safety showers;

(v) Noncontact steam boiler

blowdown and condensate;

(vi) Laundry water;

(vii) Vessels and equipment storing and/or handling material that contain no organic HAP and/or organic HAP as impurities only; and

(viii) Equipment that is intended to operate in organic HAP service for less than 300 hours during the calendar year.

(e) An owner or operator shall follow the startup, shutdown, and malfunction provisions specified in paragraphs (e)(1) and (2) of this section.

(1) For batch processes, the provisions of this subpart shall apply during startup and shutdown, and periods of malfunction shall be regulated according to § 63.6 of subpart A of this part.

(2) For continuous processes, startup, shutdown, and malfunction shall be regulated according to § 63.6 of subpart A of this part.

(f) An owner or operator shall follow the procedures specified in paragraphs (f)(1) through (3) of this section to determine whether a storage tank is part of the PAI manufacturing operations. If the storage tank is determined to be part of the PAI manufacturing operations, and the PAI manufacturing operations are located at a major source of HAP emissions, then the storage tank is part of the affected source to which this subpart applies.

(1) If a storage tank is already subject to another subpart of 40 CFR part 63 on November 10, 1997, said storage tank shall belong to the process unit or manufacturing process subject to the other standard.

(2) The storage tank is part of the PAI manufacturing operations if either the input to the tank from PAI manufacturing processes, collectively, is greater than or equal to the input from all other sources or the output from the tank to PAI manufacturing processes, collectively, is greater than or equal to the output to all other sources. If the use varies from year to year, then the use for purposes of this subpart shall be based on the utilization that occurred during

the year preceding November 10, 1997. This determination shall be reported as part of an operating permit application or as otherwise specified by the permitting authority.

(3) Where a storage tank is located in a tank farm (including a marine tank farm), the provisions in paragraphs (f)(3)(i) and (ii) of this section shall be used to determine if the storage tank is considered part of the PAI manufacturing operations.

(i) The storage tank is not part of the PAI manufacturing operations if all of the PAI manufacturing processes that utilize the tank have an intervening storage tank. With respect to a PAI manufacturing process, an intervening storage tank means a storage tank connected by hard-piping to the PAI manufacturing process and to the storage tank in the tank farm so that product or raw material entering or leaving the PAI manufacturing process flows into (or from) the intervening storage tank and does not flow directly into (or from) the storage tank in the tank farm.

(ii) For storage tanks that do not meet the provisions of paragraph (f)(3)(i) of this section, the provisions in paragraph (f)(2) of this section shall be used to determine if the storage tank is part of the PAI manufacturing operations.

(5) If the storage tank begins receiving material from (or sending material to) other manufacturing operations, or ceasing to receive material from (or send material to) PAI manufacturing operations, or if the applicability of this subpart has been determined according to the provisions of paragraph (f)(2) of this section and there is a significant change in the use of the storage tank, the owner or operator shall reevaluate the applicability of this subpart to the storage tank.

(g) If a facility adds PAI manufacturing operations at a plant site, the addition shall be subject to the requirements for a new source in this subpart if the addition meets the criteria in paragraph (g)(1) and either (g)(2) or (3) of this section.

(1) The addition meets the definition of construction in § 63.2 of subpart A of this part and construction commenced after November 10, 1997; and

(2) The addition has the potential to emit 10 tons/yr or more of any HAP or 25 tons/yr or more of any combination of HAP, unless the Administrator establishes a lesser quantity at a plant that currently is an affected source; or

(3) The addition is at a plant site that does not currently produce PAI's and the plant site meets, or after the addition is constructed will meet, the definition

of a major source in § 63.2 of subpart A of this part.

(h) An owner or operator may elect to include any of the intermediates manufacturing operations that are identified in paragraphs (h)(1) and (2) of this section in the PAI manufacturing operations subject to this subpart:

(1) The manufacturing of integral intermediates for which less than 50 percent of the intermediate is used in onsite manufacturing of PAI's.

(2) The manufacturing of isolated intermediates.

§ 63.1361 Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this section. If the same term is defined in subpart A of this part and in this section, it shall have the meaning given in this section for the purposes of this subpart MMM.

Air pollution control device means equipment installed on a process vent or storage tank or wastewater treatment exhaust stack or stacks that reduces the mass of HAP emitted to the air.

Examples include incinerators, carbon adsorption units, condensers, and gas absorbers. Process condensers are not considered air pollution control devices.

Batch cycle refers to manufacturing a PAI or integral intermediate from start to finish in a batch unit operation.

Batch emission episode means a discrete venting episode that may be associated with a single unit operation. A unit operation may have more than one batch emission episode. For example, a displacement of vapor resulting from the charging of a vessel with HAP will result in a discrete emission episode that will last through the duration of the charge and will have an average flowrate equal to the rate of the charge. If the vessel is then heated, there will also be another discrete emission episode resulting from the expulsion of expanded vessel vapor space. Both emission episodes may occur in the same vessel or unit operation. There are possibly other emission episodes that may occur from the vessel or other process equipment, depending on process operations.

Batch operation or Batch process means a noncontinuous operation involving intermittent or discontinuous feed into PAI or integral intermediate manufacturing equipment, and, in general, involves the emptying of the equipment after the batch operation ceases and prior to beginning a new operation. Addition of raw material and withdrawal of product do not occur simultaneously in a batch operation.

Closed-vent system means a system that is not open to the atmosphere and

is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device.

Combustion device means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of organic HAP vapors.

Consumption means the makeup quantity of HAP materials entering a process that are not used as reactant. The quantity of material used as reactant is the theoretical amount needed assuming a 100 percent stoichiometric conversion. Makeup is the net amount of material that must be added to the process to replenish losses.

Container, as used in the wastewater provisions, means any portable waste management unit that has a capacity greater than or equal to 0.1 m³ (3.5 ft³) in which a material is stored, transported, treated, or otherwise handled. Examples of containers are drums, hoses, barrels, tank trucks, barges, dumpsters, tank cars, dump trucks, and ships.

Continuous process means a process where the inputs and outputs flow continuously throughout the duration of the process. Continuous processes are typically steady state.

Continuous seal means a seal that forms a continuous closure that completely covers the space between the wall of the storage tank and the edge of the floating roof. A continuous seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal.

Controlled emissions means the quantity of HAP components discharged to the atmosphere from the air pollution control device.

Cover, as used in the wastewater provisions, means a device or system which is placed on or over a waste management unit containing wastewater or residuals so that the entire surface area is enclosed and sealed to minimize air emissions. A cover may have openings necessary for operation, inspection, and maintenance of the waste management unit such as access hatches, sampling ports, and gauge wells provided that each opening is closed and sealed when not in use. Examples of covers include a fixed roof installed on a wastewater tank, a lid installed on a container, and an air-supported enclosure installed over a waste management unit.

External floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a storage tank or waste management unit with no fixed roof.

FIFRA means the Federal Insecticide, Fungicide, and Rodenticide Act.

Filling means the introduction of organic HAP into a storage tank or the introduction of a wastewater stream or residual into a waste management unit, but not necessarily to complete capacity.

Fixed roof means a cover that is mounted on a waste management unit or storage tank in a stationary manner and that does not move with fluctuations in liquid level.

Floating roof means a cover consisting of a double deck, pontoon single deck, internal floating cover or covered floating roof, which rests upon and is supported by the liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and waste management unit or storage tank wall.

Group 1 process vent means any process vent from a process at an existing or new affected source for which the uncontrolled emissions from the sum of all process vents are greater than or equal to 150 kg/yr (330 lb/yr).

Group 2 process vent means any process vent that does not meet the definition of a Group 1 process vent.

Group 1 storage tank means a storage tank at an existing affected source that has uncontrolled emissions greater than or equal to 110 kg/yr (240 lb/yr) and capacity equal to or greater than 37 m³ (10,000 gal), or a storage tank at a new affected source that has uncontrolled emissions greater than or equal to 0.45 kg/yr (1 lb/yr) and capacity equal to or greater than 26 m³ (7,000 gal).

Group 2 storage tank means a storage tank that does not meet the definition of a Group 1 storage tank.

Group 1 wastewater stream means wastewater at an existing or new source that meets the criteria for Group 1 status in § 63.132(c) of subpart G of this part for Table 9 compounds in Table 9 of subpart G of this part (as defined in § 63.111 of subpart G of this part).

Group 2 wastewater stream means any wastewater stream that does not meet the definition of a Group 1 wastewater stream.

Hard-piping means tubing that is manufactured and properly installed using good engineering judgment and standards, such as ANSI B31-3.

Individual drain system means the stationary system used to convey wastewater streams or residuals to a waste management unit. The term includes hard piping, all process drains and junction boxes, together with their associated sewer lines and other junction boxes, manholes, sumps, and lift stations, conveying wastewater streams or residuals. A segregated

stormwater sewer system, which is a drain and collection system designed and operated for the sole purpose of collecting rainfall-runoff at a facility, and which is segregated from all other individual drain systems, is excluded from this definition.

Integral intermediate process means a process manufacturing an intermediate that is used in on-site production of any PAI's and is not removed to storage before used to produce the PAI(s).

Intermediate means a compound produced in a chemical reaction that is further processed or modified in one or more additional chemical reactions to produce a PAI.

Internal floating roof means a cover that rests or floats on the liquid surface (but not necessarily in complete contact with it) inside a storage tank or waste management unit that has a permanently affixed roof.

Isolated Intermediate means any intermediate that is removed from the manufacturing process for temporary or permanent storage or transferred to shipping containers.

Junction box means a manhole or access point to a wastewater sewer line or a lift station.

Liquid-mounted seal means a foam liquid-filled seal mounted in contact with the liquid between the wall of the storage tank or waste management unit and the floating roof. The seal is mounted continuously around the tank or unit.

Metallic shoe seal or mechanical shoe seal means metal sheets that are held vertically against the wall of the storage tank by springs, weighted levers, or other mechanisms and is connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

Pesticide active ingredient manufacturing operations means all of the processing equipment; storage tanks; waste management units; components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems; and associated equipment such as heat exchange systems that are located at a facility for the purpose of manufacturing PAI's.

Pesticide active ingredient or PAI means any material that is an active ingredient within the meaning of FIFRA section 2(a); that is used to produce an insecticide, herbicide, or fungicide end use pesticide product; and that must be labeled in accordance with 40 CFR part 156 for transfer, sale, or distribution. These materials are typically described

by North American Industrial Classification System (NAICS) Codes 325199 and 32532 (i.e., previously known as Standard Industrial Classification System Codes 2869 and 2879). These materials are identified by product classification codes 01, 21, 02, 04, 44, 07, 08, and 16 in block 19 on EPA form 3540-16, the Pesticides Report for Pesticide-Producing Establishments.

Point of determination (POD) means the point where a wastewater stream exits the process, storage tank, or equipment components. The POD may be at the equipment or following the last recovery device.

Note: The regulation in this subpart allows determination of the characteristics of a wastewater stream (1) at the point of determination or (2) downstream of the point of determination if corrections are made for changes in flow rate and annual average concentration of Table 8 or Table 9 compounds as determined in § 63.144 of subpart G of this part. Such changes include losses by air emissions; reduction of annual average concentration or changes in flow rate by mixing with other water or wastewater streams; and reduction in flow rate or annual average concentration by treating or otherwise handling the wastewater stream to remove or destroy HAP.

Process means a logical grouping of processing equipment which collectively function to produce a PAI. For the purpose of this subpart, process includes all or a combination of reaction, recovery, separation, purification, or other activity, operation, or manufacture which are used to produce a PAI, including each integral intermediate. The physical boundaries of a process are flexible, providing a process ends with an active ingredient. Solvent recovery operations are considered part of a process; formulation of pesticide products is not considered part of the process.

Process condenser means a condenser whose primary purpose is to recover material as an integral part of a unit operation. The condenser must support a vapor-to-liquid phase change for periods of source equipment operation that are above the boiling or bubble point of substance(s). Examples of process condensers include distillation condensers, reflux condensers, process condensers in line prior to the vacuum source, and process condensers used in stripping or flashing operations.

Process tank means a tank that is physically located within the bounds of a process that is used to collect material discharged from a feedstock storage tank or unit operation within the process and transfer this material to another unit operation within the process or a

product storage tank. Surge control vessels and bottoms receivers that fit these conditions are considered process tanks.

Process vent means a vent from a unit operation through which a HAP-containing gas stream is, or has the potential to be, released to the atmosphere. Examples of process vents include, but are not limited to, vents on condensers used for product recovery, bottom receivers, surge control vessels, reactors, filters, centrifuges, process tanks, and product dryers. Process vents do not include vents on storage tanks regulated under § 63.1362(c), vents on wastewater emission sources regulated under § 63.1362(d), pieces of equipment regulated under § 63.1362(e), or bag dumps.

Product dryer vent means a vent from an atmospheric dryer through which a gas stream containing gaseous organic HAP, particulate matter HAP, or both is, or has the potential to be, released to the atmosphere. Gaseous organic HAP emissions are considered to be process vent emissions.

Production-indexed HAP consumption factor (HAP factor) is the result of dividing the annual consumption of total HAP by the annual production rate, per process.

Production-indexed VOC consumption factor (VOC factor) is the result of dividing the annual consumption of total VOC by the annual production rate, per process.

Publicly owned treatment works (POTW) means any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature as defined in section 212(2)(A) of the Clean Water Act, as amended (33 U.S.C. 1292(2)(A)). A POTW includes the treatment works, intercepting sewers, outfall sewers, sewage collection systems, pumping, power, and other equipment. The POTW is defined at 40 CFR 403.3(0).

Reactor means a device or vessel in which one or more chemicals or reactants, other than air, are combined or decomposed in such a way that their molecular structures are altered and one or more new organic compounds are formed.

Recapture device means an individual unit of equipment capable of and used for the purpose of recovering chemicals, but not normally for use, reuse, or sale. For example, a recapture device may recover chemicals primarily for disposal. Recapture devices include, but are not limited to, absorbers, carbon adsorbers, and condensers.

Recovery device means an individual unit of equipment capable of and

normally used for the purpose of recovering chemicals for fuel value (i.e., the recovered stream must have a net positive heating value), use, reuse, or for sale for fuel value, use, or reuse.

Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators, or organic-water separators or organic removal devices such as decanters, strippers, or thin-film evaporation units. For purposes of the monitoring, recordkeeping, and reporting requirements of this subpart, recapture devices are considered recovery devices.

Research and development facility means research or laboratory operations whose primary purpose is to conduct research and development, where the operations are under the close supervision of technically trained personnel, and is not engaged in the manufacture of products for commercial sale, except in a de minimis manner.

Residual means any liquid or solid material containing Table 9 compounds (as defined in § 63.111 of subpart G of this part) that is removed from a wastewater stream by a waste management unit or treatment process that does not destroy organics (nondestructive unit). Examples of residuals from nondestructive wastewater management units are: the organic layer and bottom residue removed by a decanter or organic-water separator and the overheads from a steam stripper or air stripper. Examples of materials which are not residuals are: Silt; mud; leaves; bottoms from a steam stripper or air stripper; and sludges, ash, or other materials removed from wastewater being treated by destructive devices such as biological treatment units and incinerators.

Sewer line means a lateral, trunk line, branch line, or other conduit including, but not limited to, grates, trenches, etc., used to convey wastewater streams or residuals to a downstream waste management unit.

Single-seal system means a floating roof having one continuous seal that completely covers the space between the wall of the storage tank and the edge of the floating roof. This seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal.

Storage tank means a tank or other vessel that is used to store organic liquids that contain one or more HAP. The following are not considered storage tanks for the purposes of this subpart:

(1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;

(2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;

(3) Vessels storing and/or handling material that contains no organic HAP and/or organic HAP only as impurities;

(4) Wastewater storage tanks; and

(5) Process tanks.

Surface impoundment means a waste management unit which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or waste containing free liquids. A surface impoundment is used for the purpose of treating, storing, or disposing of wastewater or residuals, and is not an injection well. Examples of surface impoundments are equalization, settling, and aeration pits, ponds, and lagoons.

Treatment process means a specific technique that removes or destroys the organics in a wastewater or residual stream such as a steam stripping unit, thin-film evaporation unit, waste incinerator, biological treatment unit, or any other process applied to wastewater streams or residuals to comply with § 63.138 of this subpart. Most treatment processes are conducted in tanks. Treatment processes are a subset of waste management units.

Uncontrolled HAP emissions means a gas stream containing HAP which has exited the last recovery device, but which has not yet been introduced into an air pollution control device to reduce the mass of HAP in the stream. If the process vent is not routed to an air pollution control device, uncontrolled emissions are those HAP emissions released to the atmosphere.

Unit operation means those processing steps that occur within distinct equipment that are used, among other things, to prepare reactants, facilitate reactions, separate and purify products, and recycle materials. Equipment used for these purposes includes but is not limited to reactors, distillation columns, extraction columns, absorbers, decanters, dryers, condensers, and filtration equipment.

Vapor-mounted seal means a continuous seal that completely covers the annular space between the wall, the storage tank or waste management unit and the edge of the floating roof and is mounted such that there is a vapor space between the stored liquid and the bottom of the seal.

Volatile organic compounds are defined in 40 CFR 51.100.

Wastewater means water that:

(1) Contains either:

(i) An annual average concentration of compounds in Table 9 of subpart G of this part (as defined in § 63.111 of subpart G of this part) of at least 5 ppmw and has an average flow rate of 0.02 L/min or greater; or

(ii) An annual average concentration of Table 9 compounds (as defined in § 63.111 of subpart G of this part) of at least 10,000 ppmw at any flow rate; and

(2) Is discarded from PAI manufacturing operations at a major source.

(3) Wastewater is process wastewater or maintenance wastewater.

Waste management unit means the equipment, structures, and/or devices used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include wastewater tanks, surface impoundments, individual drain systems, and biological treatment units. Examples of equipment that may be waste management units include containers, air flotation units, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. If such equipment is used for recovery then it is part of a PAI process and is not a waste management unit.

Wastewater tank means a stationary waste management unit that is designed to contain an accumulation of wastewater or residuals and is constructed primarily of nonearthen materials (e.g., wood, concrete, steel, plastic) which provide structural support. Wastewater tanks used for flow equalization are included in this definition.

Water seal controls means a seal pot, p-leg trap, or other type of trap filled with water (e.g., flooded sewers that maintain water levels adequate to prevent air flow through the system) that creates a water barrier between the sewer line and the atmosphere. The water level of the seal must be maintained in the vertical leg of a drain in order to be considered a water seal.

§ 63.1362 Standards.

(a) On and after the compliance dates specified in § 63.1363 of this subpart, each owner or operator of an affected source subject to the provisions of this subpart shall control HAP emissions to the levels specified in Table 2 of this subpart and paragraphs (b) through (g) of this section.

(b) *Process vents.* (1) The owner or operator of an existing source shall comply with the requirements of paragraphs (b)(2) and (3) of this section. The owner or operator of a new source

shall comply with the requirements of paragraphs (b)(4) and (5) of this section. Compliance with this section shall be demonstrated through the applicable test methods and procedures in § 63.1364(c).

(2) For each process, the owner or operator of an existing source shall comply with the requirements of either paragraph (b)(2)(i) of this section or both paragraphs (b)(2)(ii) and (iii) of this section.

(i) The uncontrolled organic HAP emission rate shall not exceed 0.15 Mg/yr (330 lb/yr) from the sum of all process vents within a process.

(ii) The owner or operator shall comply with the requirements specified in either paragraph (b)(2)(ii)(A) or (B) of this section.

(A) The uncontrolled organic HAP emissions from the sum of all process vents within a process, excluding process vents that meet the criteria for 98 percent control in paragraph (b)(2)(iii)(A) of this section, shall be reduced by 90 weight percent or greater, or

(B) The uncontrolled organic HAP emissions from one or more process vents within a process shall be controlled by combustion, recovery, or recapture devices meeting an outlet TOC concentration of 20 ppmv or less. Uncontrolled organic HAP emissions from the sum of all other process vents within the process shall be reduced by 90 weight percent or greater.

(iii) Uncontrolled organic HAP emissions from each process vent meeting the requirements of paragraph (b)(2)(iii)(A) of this section shall be reduced by 98 weight percent or greater, or the emissions shall be controlled by combustion, recovery, or recapture devices meeting an outlet TOC concentration of 20 ppmv or less.

(A) Process vents having a flowrate equal to or less than the flowrate calculated when multiplying the uncontrolled yearly HAP emissions, in lb/yr, by 0.02 and subtracting 1,000 according to the following equation:

$$FR = 0.02 * (HL) - 1,000$$
 where:

FR = flowrate, scfm.
 HL = yearly uncontrolled HAP emissions, lb/yr.

(B) If the owner or operator can demonstrate that a control device installed on a process vent subject to the requirements of paragraph (b)(2)(iii)(A) of this section on or before November 10, 1997 was designed to reduce inlet emissions of total organic HAP by greater than or equal to 90 percent but less than 98 percent, then the control device is required to be operated to

reduce inlet emissions of total organic HAP by 90 percent or greater.

(3) For each process, the owner or operator of an existing source shall comply with the requirements of either paragraph (b)(3) (i) or (ii) of this section.

(i) The uncontrolled HCl and Cl₂ emissions, including HCl generated from the combustion of halogenated process vent emissions, from the sum of all process vents within a process shall not exceed 6.8 Mg/yr (7.5 tons/yr).

(ii) HCl and Cl₂ emissions, including HCl generated from combustion of halogenated process vent emissions, from the sum of all process vents within a process shall be reduced by 94 percent or greater.

(4) For each process, the owner or operator of a new source shall comply with the requirements of either paragraph (b)(4)(i), (ii), or (iii) of this section.

(i) The uncontrolled organic HAP emissions shall not exceed 0.15 Mg/yr (330 lb/yr) from the sum of all process vents within a process.

(ii) The uncontrolled organic HAP emissions from the sum of all process vents within a process shall be reduced by 98 weight percent or greater; or

(iii) The uncontrolled organic HAP emissions from one or more process vents within a process shall be controlled by combustion, recovery, or recapture devices meeting an outlet TOC concentration of 20 ppmv or less. The uncontrolled emissions from the sum of all other process vents within the process shall be reduced by 98 weight percent or greater.

(5) For each process, the owner or operator of a new source shall comply with the requirements of either paragraph (b)(5)(i), (ii), or (iii) of this section.

(i) The uncontrolled HCl and Cl₂ emissions, including HCl generated from combustion of halogenated process vent emissions, from the sum of all process vents within a process shall not exceed 6.8 Mg/yr (7.5 tons/yr).

(ii) If HCl and Cl₂ emissions, including HCl generated from combustion of halogenated process vent emissions, from the sum of all process vents within a process are greater than or equal to 6.8 Mg/yr (7.5 tons/yr) and less than 191 Mg/yr (211 tons/yr), these HCl and Cl₂ emissions shall be reduced by 94 percent.

(iii) If HCl and Cl₂ emissions, including HCl generated from combustion of halogenated process vent emissions, from the sum of all process vents within a process are greater than 191 Mg/yr (211 tons/yr), these HCl and Cl₂ emissions shall be reduced by 99.9 percent or greater.

(c) *Storage tanks.* (1) The owner or operator of a Group 1 storage tank with a design capacity greater than or equal to 75 m³ (20,000 gal) at an existing affected source shall equip the affected storage tank with a fixed roof and internal floating roof, an external floating roof, an external floating roof converted to an internal floating roof, or a closed vent system and control device that meets the requirements of paragraphs (c)(1)(i) and (ii) of this section.

(i) Except as provided in paragraph (c)(1)(ii) of this section, the control device shall be designed and operated to reduce inlet emissions of organic HAP by 95 percent or greater, as demonstrated through the test methods and procedures in § 63.1364(d).

(ii) If the owner or operator can demonstrate that a control device installed on a storage tank on or before November 10, 1997 is designed to reduce inlet emissions of organic HAP by greater than 41 percent but less than 95 percent, then the control device is required to be operated to reduce inlet emissions of organic HAP by 41 percent or greater, as demonstrated through the test methods and procedures in § 63.1364(d).

(2) The owner or operator of a Group 1 storage tank with a design capacity less than 75 m³ (20,000 gal) at an existing affected source shall equip the affected storage tank with a fixed roof and internal floating roof, an external floating roof, an external floating roof converted to an internal floating roof, or a closed vent system and control device that is designed and operated to reduce emissions of total organic HAP by 41 percent or greater, as demonstrated through the test methods and procedures in § 63.1364(d).

(3) The owner or operator of a Group 1 storage tank at a new affected source shall equip the affected storage tank with a closed vent system and control device that is designed and operated to reduce emissions by 98 weight percent or to an outlet TOC concentration of 20 ppmv or less, and compliance shall be demonstrated through the test methods in § 63.1364(b) and the procedures in § 63.1364(d).

(d) *Wastewater.* The owner or operator of each affected source shall comply with the requirements of §§ 63.131 through 63.149 of subpart G of this part, with the differences noted in paragraphs (d)(1) through (10) of this section for the purposes of this subpart.

(1) When the determination of equivalence criteria in § 63.102(b) is referred to in §§ 63.132, 63.133, and 63.137, the provisions in § 63.6(g) shall apply.

(2) When the storage tank requirements contained in §§ 63.119 through 63.123 are referred to in §§ 63.132 through 63.148, §§ 63.119 through 63.123 are applicable, with the exception of the differences noted in paragraphs (d)(2) (i) through (iv) of this section.

(i) When the term "storage vessel" is used in §§ 63.119 through 63.123, the definition of the term "storage tank" in § 63.1361 shall apply for the purposes of this subpart.

(ii) When December 31, 1992, is referred to in § 63.119, November 10, 1997, shall apply for the purposes of this subpart.

(iii) When April 22, 1994 is referred to in § 63.119, [date of publication of the final rule] shall apply for the purposes of this subpart.

(iv) The compliance date for storage tanks at affected sources subject to the provisions of this section is specified in § 63.1363.

(3) To request approval to monitor alternative parameters, as referred to in § 63.146(a), the owner or operator shall comply with the procedures in § 63.8(h), as referred to in § 63.1367(a)(2)(i), instead of the procedures in § 63.151 (f) or (g).

(4) When the Notification of Compliance Status requirements contained in § 63.152(b) are referred to in §§ 63.146, the Notification of Compliance Status requirements in § 63.1367(a)(1)(d) shall apply for the purposes of this subpart.

(5) When the recordkeeping requirements contained in § 63.152(f) are referred to in § 63.147(d), the recordkeeping requirements in § 63.1366(a) shall apply for the purposes of this subpart.

(6) When the Periodic Report requirements contained in § 63.152(c) are referred to in §§ 63.146 and 63.147, the Periodic Report requirements contained in § 63.1367(b) shall apply for the purposes of this subpart.

(7) The term "process wastewater" in §§ 63.132 through 63.149 shall mean "wastewater" as defined in § 63.1361 for the purposes of this subpart.

(8) The term "Group 1" in §§ 63.132 through 63.149 shall have the meaning as defined in § 63.1361 for both new sources and existing sources for the purposes of this subpart.

(9) When the total load of Table 9 compounds in the sum of all process wastewater from PAI manufacturing operations at a new affected source is 2,100 Mg/yr (2,300 tons/yr) or more, the owner or operator shall reduce, by removal or destruction, the mass flow rate of all compounds in Table 9 of subpart G of this part in all wastewater

(process and maintenance wastewater) by 99 percent or more. Alternatively, the owner or operator may treat the wastewater in a unit identified in and complying with § 63.138(h) of subpart G of this part. The removal/destruction efficiency shall be determined by the procedures specified in § 63.145(c) of subpart G of this part, for noncombustion processes, or § 63.145(d) of subpart G of this part, for combustion processes.

(10) The compliance date for the affected source subject to the provisions of this section is specified in § 63.1363.

(e) *Equipment leaks.* (1) Except as provided in paragraph (e)(2) of this section, the owner or operator of an affected source shall comply with the requirements of subpart H of this part to control emissions from equipment leaks. Compliance shall be demonstrated through the test methods and procedures in § 63.180 of subpart H of this part.

(2) Standards for surge control vessels and bottom receivers as described in § 63.170 of this part do not apply. Surge control vessels and bottoms receivers shall be considered to be process equipment with process vents. Emissions from these process vents shall be controlled according to the provisions of paragraph (c) of this section.

(f) *Bag dumps and product dryers.* The owner or operator shall reduce particulate HAP emissions from bag dumps and product dryers to a concentration not to exceed 0.01 gr/dscf. Gaseous organic HAP emissions from product dryers shall be controlled in accordance with the provisions for process vent emissions in paragraph (b) of this section.

(g) *Heat exchange system requirements.* (1) Unless one or more of the conditions specified in § 63.104(a) (1) through (6) of subpart F of this part are met, an owner or operator of an affected source subject to this subpart shall monitor each heat exchange system that is used to cool process equipment in PAI manufacturing operations meeting the conditions of § 63.1360(a) according to the provisions in either paragraph (g) (2) or (3) of this section. Whenever a leak is detected, the owner or operator shall comply with the requirements in paragraph (g)(4) of this section.

(2) An owner or operator who elects to comply with the requirements of paragraph (g)(1) of this section by monitoring the cooling water for the presence of one or more organic HAP or other representative substances whose presence in cooling water indicates a leak shall comply with the requirements

specified in § 63.104(b) (1) through (6) of subpart F of this part. The cooling water shall be monitored for total HAP, total VOC, total organic carbon, one or more speciated HAP compounds, or other representative substances that would indicate the presence of a leak in the heat exchange system.

(3) An owner or operator who elects to comply with the requirement of paragraph (g)(1) of this section by monitoring using a surrogate indicator of heat exchange system leaks shall comply with the requirements specified in paragraphs (g)(3) (i) through (iii) of this section. Surrogate indicators that could be used to develop an acceptable monitoring program are ion specific electrode monitoring, pH, and conductivity or other representative indicators.

(i) The owner or operator shall prepare and implement a monitoring plan that documents the procedures that will be used to detect leaks of process fluids into cooling water. The plan shall include the information specified in § 63.1365(f)(2).

(ii) If a substantial leak is identified by methods other than those described in the monitoring plan and the method(s) specified in the plan could not detect the leak, the owner or operator shall revise the plan and document the basis for the changes. The owner or operator shall complete the revisions to the plan no later than 180 days after discovery of the leak.

(iii) The owner or operator shall maintain, at all times, the monitoring plan that is currently in use. The current plan shall be maintained onsite, or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request. A superseded plan shall be retained onsite (or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request) for at least 6 months after it is superseded.

(4) If a leak is detected according to the criteria of paragraphs (g) (2) or (3) of this section, the owner or operator shall comply with the requirements in paragraphs (g)(4) (i) and (ii) of this section, except as provided in paragraph (g)(5) of this section.

(i) The leak shall be repaired as soon as practical but not later than 45 calendar days after the owner or operator receives results of monitoring tests indicating a leak. The leak shall be repaired unless the owner or operator demonstrates that the results are due to a condition other than a leak.

(ii) Once the leak has been repaired, the owner or operator shall confirm that the heat exchange system has been

repaired within 7 calendar days of the repair or startup, whichever is later.

(5) Delay of repair of heat exchange systems for which leaks have been detected is allowed under the conditions specified in § 63.104(e) of subpart F of this part. If an owner or operator elects to delay repair of heat exchange systems, the owner or operator shall also comply with the documentation requirements in § 63.104(e).

(6) The owner or operator shall retain the records specified in § 63.1366(g) and include the information identified in § 63.1367(e) in reports.

(h) *Planned routine maintenance.* The specifications and requirements in paragraphs (b), (c), and (f) of this section for control devices do not apply during periods of planned routine maintenance. Maintenance wastewaters meeting the definition of a Group 1 wastewater stream shall be treated in accordance with the requirements of paragraph (d) of this section.

(i) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of paragraphs (b), (c), and (f) of this section, as applicable, shall not exceed 240 hr/yr.

(j) *Pollution prevention.* Except as provided in paragraph (j)(1) of this section, an owner or operator may choose to meet the pollution prevention alternative requirement specified in either paragraph (j) (2) or (3) of this section for any process, in lieu of the requirements specified in paragraphs (b), (c), (d), (e), and (f) of this section. Compliance with the requirements of paragraphs (j) (2) and (3) of this section shall be demonstrated through the procedures in § 63.1364(g).

(1) HAP that are generated in the process shall be controlled according to the requirements of paragraphs (b), (c), (d), (e), and (f) of this section.

(2) The production-indexed HAP consumption factor (HAP factor) shall be reduced by 85 percent from an average baseline established no earlier than the 1987 calendar year, or the first year thereafter in which the process was operational and data are available. No increase in the production-indexed VOC consumption factor (VOC factor) for the applicable period of demonstration shall occur.

(3) Both requirements specified in paragraph (j)(3) (i) and (ii) of this section are met.

(i) The HAP factor shall be reduced by 50 percent from an average baseline established no earlier than the 1987 calendar year, or the first year thereafter in which the process was operational

and data are available. No increase in the VOC factor for the applicable period of demonstration shall occur.

(ii) The total process HAP emissions shall be reduced from an uncontrolled baseline by an amount, in kg/yr, that, when divided by the annual production rate, in kg, will yield a value of at least 35 percent of the average baseline HAP factor established in paragraph (j)(3)(i) of this section. The annual reduction in HAP air emissions must be due to the use of the following control devices:

(A) Combustion control devices such as incinerators, flares, or process heaters.

(B) Recovery control devices such as condensers and carbon adsorbers whose recovered product is destroyed or shipped offsite for destruction.

(C) Any control device that does not ultimately allow for recycling of material back to the process.

(D) Any control device for which the owner or operator can demonstrate that the use of the device in controlling HAP emissions will have no effect on the HAP factor for the process.

(k) *Emissions averaging provisions.* Except as provided in paragraphs (k) (1) through (6) of this section, the owner or operator of an existing affected facility may choose to comply with the emission standards in paragraphs (b), (c), and (d) of this section by using emissions averaging procedures specified in § 63.1364(i) for organic HAP emissions from any storage tank, process, or waste management unit that is part of an affected source subject to this subpart.

(1) A State may restrict the owner or operator of an existing source to use only the procedures in paragraphs (b), (c), and (d) of this section to comply with the emission standards where State Authorities prohibit averaging of HAP emissions.

(2) Group 1 emission points that are controlled as specified in paragraphs (k)(2) (i) through (iii) of this section may not be used to calculate emissions averaging credits, unless the control technology has been approved for use in a different manner, and a higher nominal efficiency has been assigned according to the procedures in § 63.150(i) of subpart G of this part.

(i) Storage tanks with capacity equal to or greater than 76 m³ (20,000 gal) controlled with an internal floating roof meeting the specifications of § 63.119(b) of subpart G of this part, and external floating roof meeting the specifications of § 63.119(c) of subpart G of this part, an external floating roof converted to an internal floating meeting the specifications of § 63.119(d) of subpart G of this part, or a closed-vent system

to a control device achieving 95 percent reduction in organic HAP emissions.

(ii) Process vents controlled with a combustion, recovery, or recapture device used to reduce organic HAP emissions by 98 weight percent or to an outlet TOC concentration of 20 ppmv.

(iii) Wastewater controlled as specified in paragraphs (k)(2)(iii) (A) through (C) of this section.

(A) With controls specified in § 63.133 through § 63.137 of subpart G of this part;

(B) With a steam stripper meeting the specifications of § 63.138(d) of subpart G of this part, or any of the other alternative control measures specified in § 63.138 (b), (c), (e), (f), (g), or (h) of subpart G of this part; and

(C) With a control device to reduce by 95 percent (or to an outlet concentration of 20 ppmv for combustion devices or for noncombustion devices controlling air emissions from waste management units other than surface impoundments or containers) the organic HAP emissions in the vapor streams vented from wastewater tanks, oil-water tanks, oil-water separators, containers, surface impoundments, individual drain systems, and treatment processes (including the steam stripper specified in paragraph (k)(2)(iii)(B) of this section) managing wastewater.

(3) Maintenance wastewater streams and wastewater streams treated in biological treatment units may not be included in any averaging group.

(4) Processes which have been permanently shut down, and storage tanks permanently taken out of HAP service may not be included in any averaging group.

(5) Processes, storage tanks, and wastewater streams already controlled on or before November 15, 1990 may not be used to generate emissions averaging credits, unless the level of control is increased after November 15, 1990. In these cases, credit will be allowed only for the increase in control after November 15, 1990.

(6) Emission points controlled to comply with a State or Federal rule other than this subpart may not be included in an emissions averaging group, unless the level of control has been increased after November 15, 1990, above what is required by the other State or Federal rule. Only the control above what is required by the other State or Federal rule will be credited. However, if an emission point has been used to generate emissions averaging credit in an approved emissions average, and the point is subsequently made subject to a State or Federal rule other than this subpart, the point can continue to generate emissions

averaging credit for the purpose of complying with the previously approved average.

§ 63.1363 Compliance dates.

(a) An owner or operator of an existing affected source shall comply with the provisions of this subpart no later than 3 years after the effective date of the standard.

(b) An owner or operator of a new or reconstructed affected source, for which construction or reconstruction commences after November 10, 1997, shall comply with the provisions of this subpart immediately upon startup.

§ 63.1364 Test methods and compliance procedures.

(a) Emissions testing or engineering evaluations, as specified in paragraphs (c), (d), (e), (f) and (g) of this section, are required to demonstrate initial compliance with § 63.1362 (b), (c), (d), (f) and (j), respectively, of this subpart.

(b) When testing is conducted to measure emissions from an affected source, the test methods specified in paragraphs (b)(1) through (b)(10) of this section shall be used. Compliance tests shall be performed under conditions specified in paragraph (b)(11) of this section.

(1) EPA Method 1 or 1A of appendix A of 40 CFR part 60 shall be used for sample and velocity traverses.

(2) EPA Method 2, 2A, 2C, or 2D of appendix A of 40 CFR part 60 shall be used for velocity and volumetric flow rates.

(3) EPA Method 3 of appendix A of 40 CFR part 60 shall be used for gas analysis.

(4) EPA Method 4 of appendix A of 40 CFR part 60 shall be used for stack gas moisture.

(5) EPA Methods 2, 2A, 2C, 2D, 3, and 4 shall be performed, as applicable, at least twice during each test period.

(6) Method 25A and/or Methods 18 and 25A, as appropriate, of appendix A of 40 CFR part 60 shall be used to determine the organic HAP concentration of air exhaust streams.

(7) The methods in either paragraph (b)(7) (i) or (ii) of this section shall be used to determine the concentration, in mg/dscm, of total hydrogen halides and halogens.

(i) EPA Method 26 or 26A of 40 CFR part 60, appendix A.

(ii) Any other method if the method or data has been validated according to the applicable procedures of Method 301 of appendix A of this part.

(8) Method 5 shall be used to determine the concentration of particulate matter HAP in exhaust gas streams from bag dumps and product dryers.

(9) Wastewater analysis shall be conducted in accordance with § 63.144(b)(5)(i) through (iii) of subpart G of this part.

(10) For emission streams controlled using condensers, a direct measurement of condenser outlet gas temperature to be used in predicting upper concentration limits at saturated conditions is allowed in lieu of concentration measurements described in paragraph (b)(6) of this section.

(11) Test conditions and durations shall be as specified in paragraphs (b)(11)(i) through (v) of this section, as appropriate.

(i) Testing of process vents on equipment operating as part of a continuous process shall consist of three 1-hour runs. Gas stream volumetric flow rates shall be measured every 15 minutes during each 1-hour run. Organic HAP concentration shall be determined from samples collected in an integrated sample over the duration of each 1-hour test run, or from grab samples collected simultaneously with the flow rate measurements (every 15 minutes). If an integrated sample is collected for laboratory analysis, the sampling rate shall be adjusted proportionally to reflect variations in flow rate. For continuous gas streams, the emission rate used to determine compliance shall be the average emission rate of the three test runs.

(ii) Testing of process vents on equipment where the flow of gaseous emissions is intermittent (batch operations) shall include testing for the largest (or peak) HAP emission episode or aggregated episodes in the batch cycle or cycles (in the event that equipment may be manifolded and vented through a common stack). Testing shall be conducted at absolute peak-case conditions, representative peak-case conditions, or hypothetical peak-case conditions as required by paragraph (c)(3)(iii) of this section. Gas stream volumetric flow rates shall be measured at 15-minute intervals. Organic HAP or TOC concentration shall be determined from samples collected in an integrated sample over the duration of the peak case episode(s), or from grab samples collected simultaneously with the flow rate measurements (every 15 minutes). If an integrated sample is collected for laboratory analysis, the sampling rate shall be adjusted proportionally to reflect variations in flow rate. The absolute peak-case, representative peak-case, or hypothetical peak-case conditions shall be characterized by the criteria presented in paragraphs (b)(11)(ii)(A), (B), and (C) of this section. In all cases, a site-specific plan shall be

submitted to the Administrator for approval prior to testing in accordance with § 63.7(c) of subpart A of this part. The test plan shall include the emissions profile described in paragraph (b)(11)(iii) of this section.

(A) Absolute peak-case conditions are defined by any of the criteria presented in paragraphs (b)(11)(ii)(A)(1) through (3) of this section.

(1) The period in which the inlet to the control device will contain at least 50 percent of the maximum HAP load (in kg) capable of being vented to the control device over any 8 hour period. An emission profile as described in paragraph (b)(11)(iii) of this section shall be used to identify the 8-hour period that includes the maximum projected HAP load.

(2) A 1-hour period of time in which the inlet to the control device will contain the highest HAP mass loading rate, in kg/hr, capable of being vented to the control device. An emission profile as described in paragraph (b)(11)(iii) of this section shall be used to identify the 1-hour period of maximum HAP loading.

(3) If a condenser is used as a control device, absolute peak-case conditions shall represent a 1-hour period of time in which the gas stream capable of being vented to the condenser will require the maximum heat removal capacity, in kW, to cool the stream to a temperature that, upon calculation of HAP concentration, will yield the required removal efficiency for the process. The calculation of maximum heat load shall be based on the emission profile described in paragraph (b)(11)(iii) of this section and a concentration profile that will allow calculation of sensible and latent heat loads.

(B) Representative peak-case conditions are defined by any of the criteria presented in paragraphs (b)(11)(ii)(B)(1) and (2) of this section. Representative peak-case conditions shall include the worst-case process as well as any other processes that are emitting to the control device during the test.

(1) A 1-hour period of time that contains the highest HAP mass loading rate, in kg/hr, from a single process;

(2) If a condenser is used as the control device, the 1-hour period of time in which the vent from a single process will require the maximum heat removal capacity, in kW, to cool the stream to a temperature that, upon calculation of HAP concentration, will yield the required removal efficiency for the process.

(C) Hypothetical peak-case conditions are simulated test conditions that, at a minimum, contain the highest total

average hourly HAP load of emissions that would be predicted to be vented to the control device from the emissions profile described in paragraph (b)(11)(iii) of this section.

(iii) For batch operations, the owner or operator may choose to perform tests only during those periods of the peak-case episode(s) that the owner or operator selects to control as part of achieving the required emission reduction. The owner or operator shall develop an emission profile for the vent to the control device, based on either process knowledge, engineering analyses, or test data collected, to identify the appropriate test conditions. The emission profile must include average HAP loading rate (in kg/hr) versus time for all emission episodes contributing to the vent stack for a period of time that is sufficient to include all batch cycles venting to the stack. Examples of information that could constitute process knowledge include calculations based on material balances, and process stoichiometry. Previous test results may be used provided the results are still relevant to the current process vent stream conditions. The average hourly HAP loading rate may be calculated by first dividing the HAP emissions from each episode by the duration of each episode, in hours, and selecting the highest hourly block average.

(iv) For testing of process vents of duration greater than 8 hours, the owner or operator shall perform a maximum of 8 hours of testing. The test period must include the one hour period in which the highest HAP loading rate, in kg/hr, is predicted by the emission profile.

(v) For testing durations of greater than 1 hour, the emission rate from a single test run may be used to determine compliance. For testing durations less than or equal to 1 hour, testing shall include three runs.

(c) *Compliance with process vent provisions.* An owner or operator of an affected source shall demonstrate compliance with the process vent standards in § 63.1362(b) using the procedures described in paragraphs (c)(1) through (5) of this section.

(1) Except as provided in paragraph (c)(4) of this section, compliance with the process vent standards in § 63.1362(b) shall be demonstrated in accordance with the provisions specified in paragraphs (c)(1)(i) through (viii) of this section.

(i) Compliance with the emission limit cutoffs in § 63.1362(b)(2)(i) and (4)(i) is demonstrated when the uncontrolled organic HAP emissions from the sum of all process vents within a process are less than or equal to 330

lb/yr. Uncontrolled HAP emissions shall be determined using the procedures described in paragraph (c)(2) of this section.

(ii) Compliance with the emission limit cutoffs in § 63.1362(b)(3)(i) and (5)(i) is demonstrated when the uncontrolled HCl and Cl₂ emissions from the sum of all process vents within a process are less than or equal to 6.8 Mg/yr (7.5 tons/yr). Compliance with the emission limit cutoffs in § 63.1362(b)(5)(ii) and (iii) is demonstrated when the uncontrolled HCl and Cl₂ emissions are greater than or equal to 6.8 Mg/yr (7.5 tons/yr) or greater than or equal to 191 Mg/yr (211 tons/yr), respectively. Uncontrolled emissions shall be determined using the procedures described in paragraph (c)(2) of this section.

(iii) Compliance with the organic HAP percent removal efficiency specified in § 63.1362(b)(2)(ii) is demonstrated when the annual uncontrolled organic HAP emissions from the sum of all process vents within a process are reduced by 90 percent. This demonstration shall be based on controlled HAP emissions determined using the procedures described in paragraph (c)(3) of this section and uncontrolled HAP emissions determined using the procedures described in paragraph (c)(2) of this section or by controlling the process vents using a device meeting the criteria specified in paragraph (c)(4) of this section.

(iv) Compliance with the HCl and Cl₂ percent removal efficiency specified in § 63.1362(b)(3)(ii) and (5)(ii) is demonstrated when the annual uncontrolled HCl and Cl₂ emissions from the sum of all process vents within a process are reduced by 94 percent. Compliance with the HCl and Cl₂ percent removal efficiency specified in § 63.1362(b)(5)(iii) is demonstrated when the annual HCl and Cl₂ emissions from the sum of all process vents within a process are reduced by 99.9 percent. This demonstration shall be based on controlled emissions of HCl and Cl₂ determined using the procedures described in paragraph (c)(3) of this section and uncontrolled emissions of HCl and Cl₂ determined using the procedures described in paragraph (c)(2) of this section.

(v) Compliance with the organic HAP percent removal efficiency specified in § 63.1362(b)(4)(ii) is demonstrated when the annual uncontrolled organic HAP emissions from the use of all process vents within a process are reduced by 98 percent. This demonstration shall be based on controlled HAP emissions determined using the procedures described in paragraph (c)(3) of this

section and uncontrolled HAP emissions determined using the procedures described in paragraph (c)(2) of this section or by controlling the process vents using a device meeting the criteria specified in paragraph (c)(4) of this section.

(vi) Compliance with the emission reduction requirement in § 63.1362(b)(2)(iii) is demonstrated when the annual uncontrolled HAP emissions from each process vent meeting the flowrate cutoff specified in § 63.1362(b)(2)(iii)(A) are reduced by 98 percent or greater. This demonstration shall be based on controlled HAP emissions determined using the procedures described in paragraph (c)(3) of this section and uncontrolled HAP emissions determined using the procedures described in paragraph (c)(2) of this section or by controlling the process vents using a device meeting the criteria specified in paragraph (c)(4) of this section.

(vii) Compliance with the emission reduction requirement in § 63.1362(b)(2)(iii)(B) is demonstrated when the annual uncontrolled HAP emissions from each process vent meeting the flow rate cutoff of § 63.1362(b)(2)(iii)(A) are reduced by 90 percent. This demonstration shall be based on controlled HAP emissions determined using the procedures described in paragraph (c)(3) of this section and uncontrolled HAP emissions determined using the procedures described in paragraph (c)(2) of this section or by controlling the process vents using a device meeting the criteria specified in paragraph (c)(4) of this section.

(viii) Compliance with the outlet TOC concentration limit in § 63.1362(b)(2)(ii)(B), (2)(iii), and (4)(iii) is demonstrated by the method specified in paragraph (c)(l)(viii)(A) of this section for combustion devices or by the method specified in either paragraph (c)(l)(viii)(B) or (C) of this section for recovery or recapture devices.

(A) An initial Method 18 performance test shall be conducted. An operating parameter, as specified by the owner or operator in the Notification of Compliance Status report, shall be monitored continuously. The level of the parameter shall be established during the performance test.

(B) The TOC concentration shall be monitored continuously using an FID. The organic HAP used as the calibration gas shall be the predominant HAP in the vent stream.

(C) An initial performance test shall be conducted at absolute peak-case conditions using Method 25A. An operating parameter shall be monitored

continuously. The value of the parameter shall be established during the performance test.

(2) An owner or operator of an affected source complying with the emission limitation required by § 63.1362(b)(2)(i), (3)(i), (4)(i) or (5)(i), or the emission reductions specified in § 63.1362(b)(2)(ii)(A), (2)(iii), (3)(ii), (4)(ii), (4)(iii), (5)(ii), or (5)(iii) for each process vent within a process, shall calculate uncontrolled emissions according to the procedures described in paragraph (c)(2)(i) or (ii) of this section, as appropriate.

(i) An owner or operator shall determine uncontrolled emissions of HAP using emission measurements and/or calculations for each batch emission episode within each unit operation according to the engineering evaluation methodology in paragraphs (c)(2)(i)(A) through (F) of this section.

(A) Individual HAP partial pressures in multicomponent systems shall be determined in accordance with the methods specified in paragraphs (c)(2)(i)(A)(1) through (6) of this section.

(1) If the components are miscible in one another, use Raoult's law to calculate the partial pressures;

(2) If the solution is a dilute aqueous mixture, use Henry's law constants to calculate partial pressures;

(3) If Raoult's law or Henry's law are not appropriate or available, use experimentally obtained activity coefficients, Henry's law constants, or solubility data;

(4) If Raoult's law or Henry's law are not appropriate or available, use experimentally obtained activity coefficients or models such as the group-contribution models, to predict activity coefficients;

(5) If Raoult's law or Henry's law are not appropriate or available, assume the components of the system behave independently and use the summation of all vapor pressures from the HAP as the total HAP partial pressure;

(6) Chemical property data can be obtained from standard reference texts.

(B) Emissions from vapor displacement due to transfer of material shall be calculated according to equation (1):

$$E = \frac{(y_i)(V)(P_T)(MW)}{(R)(T)} \quad (1)$$

Where:

E = mass emission rate.

y_i = saturated mole fraction of HAP in the vapor phase.

V = volume of gas displaced from the vessel.

R = ideal gas law constant.

T = temperature of the vessel vapor space; absolute.

P_T = pressure of the vessel vapor space.

MW = molecular weight of the HAP.

(C) Emissions from purging shall be calculated using Equation 1, except that for purge flow rates greater than 100 scfm, the mole fraction of HAP will be

assumed to be 25 percent of the saturated value.

(D) Emissions caused by the heating of a vessel shall be calculated using the procedures in either paragraph (c)(2)(i)(D)(1), (2), or (3) of this section, as appropriate.

(1) If the final temperature to which the vessel contents are heated is lower

than 50K below the boiling point of the HAP in the vessel, then emissions shall be calculated using equations (2) through (5) in paragraphs (c)(2)(i)(D)(1)(i), (ii), (iii), and (iv) of this section.

(i) The mass of HAP emitted per episode shall be calculated using equation 2:

$$E = \frac{\sum (P_i)_{T_1} + \sum (P_i)_{T_2}}{2} \times \Delta\eta \times MW_{HAP} \quad (2)$$

Where:

E = mass of HAP vapor displaced from the vessel being heated.

(P_i)_{T_n} = partial pressure of each HAP in the vessel headspace at initial (n = 1) and final (n = 2) temperatures.

Pa₁ = initial noncondensable gas pressure in the vessel.

Pa₂ = final noncondensable gas pressure.

MW_{HAP} = The average molecular weight of HAP present in the vessel.

(ii) The moles of noncondensable gas displaced is calculated using equation 3:

$$\Delta\eta = \frac{V}{R} \left[\left(\frac{Pa_1}{T_1} \right) - \left(\frac{Pa_2}{T_2} \right) \right] \quad (3)$$

where n is the number of different HAP compounds in the emission stream.

(2) If the vessel contents are heated to a temperature greater than 50K below the boiling point, then emissions from the heating of a vessel shall be calculated as the sum of the emissions calculated in accordance with paragraphs (c)(2)(i)(D)(2)(i) and (ii) of this section.

(i) For the interval from the initial temperature to the temperature 50K below the boiling point, emissions shall be calculated using Equation 2, where T₂ is the temperature 50K below the boiling point.

(ii) For the interval from the temperature 50K below the boiling point to the final temperature, emissions shall be calculated as the summation of emissions for each 5K increment, where the emission for each increment shall be calculated using Equation 2.

Where:

Δη = number of lb-moles of noncondensable gas displaced.

V = volume of free space in the vessel.

R = ideal gas law constant.

Pa₁ = initial noncondensable gas pressure in the vessel.

Pa₂ = final noncondensable gas pressure.

T₁ = initial temperature of vessel.

T₂ = final temperature of vessel.

(iii) The initial and final pressure of the noncondensable gas in the vessel shall be calculated according to the equation 4:

$$Pa_n = P_{atm} - \sum (P_i)_{T_n} \quad (4)$$

Where:

$$MW_{HAP} = \frac{\sum_{i=1}^n (\text{mass of HAP})_i}{\sum_{i=1}^n \frac{(\text{mass of HAP})_i}{(\text{HAP molecular weight})_i}} \quad (5)$$

(A) If the final temperature of the heatup is lower than 5K below the boiling point, the final temperature for the last increment shall be the final temperature of the heatup, even if the last increment is less than 5K.

(B) If the final temperature of the heatup is higher than 5K below the boiling point, the final temperature for the last increment shall be the temperature 5K below the boiling point, even if the last increment is less than 5K.

(C) If the vessel contents are heated to the boiling point and the vessel is not operating with a process condenser, the final temperature for the final increment shall be the temperature 5K below the boiling point, even if the last increment is less than 5K.

(3) If the vessel is operating with a process condenser, and the vessel contents are heated to the boiling point, the primary condenser is considered

Pa_n = partial pressure of noncondensable gas in the vessel headspace at initial (n = 1) and final (n = 2) temperatures.

P_{atm} = atmospheric pressure.

(P_i)_{T_n} = partial pressure of each condensable volatile organic compound (including HAP) in the vessel headspace at the initial temperature (n = 1) and final (n = 2) temperature.

(iv) The average molecular weight of HAP in the displaced gas shall be calculated using equation 5:

part of the process. Emissions shall be calculated as the sum of Equation 2, which calculates emissions due to heating the vessel contents to the temperature of the gas exiting the condenser, and Equation 1, which calculates emissions due to the displacement of the remaining saturated noncondensable gas in the vessel. The final temperature in Equation 2 shall be set equal to the exit gas temperature of the process condenser. In Equation 1, V shall be set equal to the free space volume, and T₂ shall be set equal to the condenser exit gas temperature.

(E) Emissions from depressurization shall be calculated using the procedures in paragraphs (c)(2)(i)(E)(1) through (5) of this section.

(1) The moles of HAP vapor initially in the vessel are calculated using the ideal gas law in equation 6:

$$N_{\text{HAP}} = \frac{(Y_{\text{HAP}})(V)(P_1)}{R T} \quad (6)$$

Where:

Y_{HAP} = mole fraction of HAP (the sum of the individual HAP fractions, ΣY_i).

V = free volume in the vessel being depressurized.

P_1 = initial vessel pressure.

R = gas constant.

T = vessel temperature, absolute units.

(2) The moles of noncondensable gas present initially in the vessel are calculated using equation 7:

$$n_1 = \frac{VP_{\text{nc1}}}{RT} \quad (7)$$

Where:

V = free volume in the vessel being depressurized.

P_{nc1} = initial partial pressure of the noncondensable gas, $P_1 - \Sigma P_i$.

R = gas law constant, K .

T = temperature, absolute units.

(3) The moles of noncondensable gas present at the end of depressurization are calculated using Equation 8:

$$n_2 = \frac{VP_{\text{NC2}}}{RT} \quad (8)$$

Where:

V = free volume in the vessel being depressurized.

P_{nc2} = final partial pressure of the noncondensable gas, $P_2 - \Sigma X_i P_i$.

R = gas law constant.

T = temperature, absolute.

(4) The moles of HAP emitted during the depressurization are calculated by taking an approximation of the average ratio of moles of HAP to moles of noncondensable and multiplying by the total moles of noncondensables released during the depressurization using Equation 9:

$$\frac{\left(\frac{n_{\text{HAP}}}{n_1} + \frac{n_{\text{HAP}}}{n_2} \right)}{2} [n_1 - n_2] = N_{\text{HAP}} \quad (9)$$

Where:

N_{HAP} = moles of HAP emitted.

(5) The moles of HAP emitted can be converted to a mass rate using Equation 10:

$$\frac{N_{\text{HAP}} * MW_{\text{HAP}}}{t} = E_{\text{rHAP}} \quad (10)$$

Where:

E_{rHAP} = emission rate of the HAP.

MW_{HAP} = molecular weight of the HAP.

t = time of the depressurization.

(F) Emissions from vacuum systems may be calculated if the air leakage rate

is known or can be approximated, using Equation 11:

$$E_r = MW_s \frac{La}{29} \left(\frac{P_{\text{system}}}{P_{\text{system}} - P_i} - 1 \right) \quad (11)$$

Where:

E_r = rate of HAP emission, in lb/hr.

P_{system} = absolute pressure of receiving vessel or ejector outlet conditions, if there is no receiver.

P_i = vapor pressure of the HAP at the receiver temperature, in mmHg.

La = total air leak rate in the system, lb/hr.

29 = molecular weight of air, lb/lbmole.

(ii) For emission episodes in which an owner or operator can demonstrate that the methods in paragraph (c)(2)(i) of this section are not appropriate according to the criteria specified in paragraph (c)(2)(iii) of this section, an owner or operator shall calculate uncontrolled emissions by conducting an engineering assessment which includes, but is not limited to, the information and procedures described in paragraphs (c)(2)(ii)(A) through (E) of this section:

(A) Previous test results provided the tests are representative of current operating practices at the process unit.

(B) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(C) Maximum flow rate, HAP emission rate, concentration, or other relevant parameter specified or implied within a permit limit applicable to the process vent.

(D) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(1) Use of material balances based on process stoichiometry to estimate maximum organic HAP concentrations;

(2) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities; and

(3) Estimation of HAP concentrations based on saturation conditions.

(E) All data, assumptions, and procedures used in the engineering assessment shall be documented in accordance with § 63.1366(b). Data or other information supporting a finding that the emissions estimation equations are inappropriate shall be reported in the Notification of Compliance Status.

(iii) The emissions estimation equations in paragraph (c)(2)(i) of this section shall be considered inappropriate for estimating emissions for a given batch emissions episode if one or more of the criteria in paragraphs (c)(2)(iii)(A) and (B) of this section are met.

(A) Previous test data are available that show a greater than 20 percent discrepancy between the test value and the estimated value.

(B) The owner or operator can demonstrate to the Administrator through any other means that the emissions estimation equations are not appropriate for a given batch emissions episode.

(3) An owner or operator shall determine controlled emissions using emission measurements and/or calculations for each process vent using the control efficiency calculated for each device that controls process vents with total HAP emissions of less than 9.1 Mg/yr (10 tons/yr), before control, according to the design evaluation described in paragraph (c)(3)(i) of this section, or using the emission estimation equations described in paragraph (c)(2) of this section, as appropriate. An owner or operator shall determine controlled emissions for each process vent using the control efficiency determined for each device that controls process vents with total HAP emissions of greater than 9.1 Mg/yr (10 tons/yr), before control, by conducting a performance test on the control device as described in paragraphs (c)(3)(ii) through (iv) of this section, or by using the results of a previous performance test as described in paragraph (c)(5) of this section. An owner or operator is not required to conduct performance tests for devices described in paragraphs (c)(4) and (c)(5) of this section that control total emissions of greater than 10 tons/yr, before control.

(i) The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency during the emission episodes in which it is functioning in reducing emissions. This documentation shall include a description of the gas stream which enters the control device, including flow and HAP concentration, and the information specified in paragraphs (c)(3)(i)(A) through (G) of this section, as applicable.

(A) If the control device receives vapors, gases or liquids, other than fuels, from emission points other than storage tanks subject to this subpart, the efficiency demonstration shall include consideration of all vapors, gases, and liquids, other than fuels, received by the control device.

(B) If an enclosed combustion device with a minimum residence time of 0.5 seconds and a minimum temperature of 760 °C is used to meet any of the emission reduction requirements specified in § 63.1362(c), documentation that those conditions exist is sufficient

to meet the requirements of paragraph (c)(3)(i) of this section.

(C) Except as provided in paragraph (c)(3)(i)(B) of this section, for thermal incinerators, the design evaluation shall include the autoignition temperature of the organic HAP, the flow rate of the organic HAP emission stream, the combustion temperature, and the residence time at the combustion temperature.

(D) For carbon adsorbers, the design evaluation shall include the affinity of the organic HAP vapors for carbon, the amount of carbon in each bed, the number of beds, the humidity of the feed gases, the temperature of the feed gases, the flow rate of the organic HAP emission stream, the desorption schedule, the regeneration stream pressure or temperature, and the flow rate of the regeneration stream. For vacuum desorption, pressure drop shall be included.

(E) For condensers, the design evaluation shall include the final temperature of the organic HAP vapors, the type of condenser, and the design flow rate of the organic HAP emission stream.

(F) For gas absorbers, the design evaluation shall include the flow rate of the emission stream, the type of solvent, and solvent flow rate, pH of the inlet solvent, and the design of the absorber.

(G) For fabric filters, the design evaluation shall include the pressure drop through the device, and the net gas-to-cloth ratio.

(ii) Except for control devices that meet an outlet TOC concentration of 20 ppmv, the performance test shall be conducted by performing emission testing on the inlet and outlet of the control device following the test methods and procedures of paragraph (b) of this section. For control devices that meet an outlet TOC concentration of 20 ppmv, the performance testing shall be conducted by performing emission testing on the outlet of the control device following the test methods and procedures of paragraph (b) of this section. Each owner or operator seeking to demonstrate that the outlet stream from a combustion, recovery, or recapture device has a TOC concentration below 20 ppmv shall calculate the concentration according to the procedures specified in paragraphs (c)(3)(ii)(A) and (B) of this section.

(A) The TOC concentration (C_{TOC}) is the sum of the concentrations of the individual components and shall be computed for each run using equation 12:

$$C_{TOC} = \sum_{i=1}^x \left(\frac{\sum_{j=1}^n C_{ji}}{x} \right) \quad (12)$$

Where:

C_{TOC} = concentration of TOC, dry basis, ppmv.

C_{ji} = concentration of individual component j in sample i, dry basis, ppmv.

n = number of individual components in the sample.

x = number of samples in the sample run.

(B) The concentration of TOC shall be corrected to 3 percent oxygen. The integrated sampling and analysis procedures of Method 3B of 40 CFR part 60, appendix A, shall be used to determine the oxygen concentration (percent O_{2d}) that is used in the TOC concentration correction factor calculation. The samples shall be taken during the same time that the TOC samples are taken. The concentration corrected to 3 percent oxygen (C_c) shall be computed using Equation 13:

$$C_c = C_m \left(\frac{17.9}{20.9 - \%O_{2d}} \right) \quad (13)$$

Where:

C_c = concentration of TOC corrected to 3 percent oxygen, dry basis, ppmv.

C_m = concentration of TOC, dry basis, ppmv.

$\%O_{2d}$ = concentration of oxygen, dry basis, percent by volume.

(iii) Performance testing shall be conducted under the conditions specified in paragraphs (c)(3)(iii)(A) and (B) of this section.

(A) Except as specified in paragraphs (c)(3)(iii)(B) through (D) of this section, the owner or operator shall test over absolute or hypothetical peak-case conditions for all control devices.

(B) For thermal incinerators, the owner or operator may also choose to test over representative peak-case conditions; however, if the owner or operator chooses to test over representative peak-case conditions, the maximum allowable vent stream flowrate into the thermal incinerator is restricted to the level for which it was designed. The design basis of the incinerator shall be included as part of the Notification of Compliance Status.

(C) For carbon adsorbers, the owner or operator may also choose to test over representative peak-case conditions.

(D) For wet scrubbers, the owner or operator may also choose to test over representative peak-case conditions. The results of the performance test shall be used to calibrate or validate the

results of validated models used to establish the operating parameter values.

(iv) The owner or operator may elect to conduct more than one performance test on the control device for the purpose of establishing operating conditions associated with a range of achievable control efficiencies.

(4) An owner or operator is not required to conduct a performance test when a control device specified in paragraphs (c)(4)(i) through (v) of this section is used to comply with the organic HAP emission reductions required by § 63.1362(b)(2)(ii), (2)(iii), or (4)(ii). Emissions from these devices are considered in compliance with the reductions required by § 63.1362(b)(2)(ii), (2)(iii), and (4)(ii).

(i) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.

(ii) A boiler or process heater where the vent stream is introduced with the primary fuel or is used as the primary fuel.

(iii) A boiler or process heater burning hazardous waste for which the owner or operator:

(A) Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H, or

(B) Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(iv) A hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O.

(v) A flare that complies with the provisions in § 63.11(b) of subpart A of this part.

(5) An owner or operator is not required to conduct a performance test for any of the control systems described in paragraphs (c)(5)(i) and (ii) of this section.

(i) Any control device for which a previous performance test was conducted, provided the test was conducted using the same procedures specified in § 63.1364(b) of this subpart over conditions typical of the appropriate worst-case, as defined in paragraph (c)(3)(iii)(A) of this section. The results of the previous performance test shall be used to demonstrate compliance.

(ii) A condenser system that is equipped with a temperature sensor and recorder, such that the condenser exit gas temperature can be measured at 15-minute intervals when the condenser is

functioning in cooling a vent stream. The condenser exit gas temperature shall be used to calculate removal efficiency of the condenser in demonstrating compliance.

(d) *Compliance with storage tank provisions.* The owner or operator of an affected storage tank shall demonstrate compliance with § 63.1362(c)(1) and (2), as applicable, by fulfilling the requirements of paragraph (d)(1) and either paragraph (d)(2), (3), or (4) of this section. The owner or operator of an affected storage tank shall demonstrate compliance with § 63.1362(c)(3) by fulfilling the requirements of paragraph (d)(1) and either paragraph (d)(2), (3), or (5) of this section.

(1) To determine the Group 1 status of a tank, the owner or operator shall determine the uncontrolled emissions using the methods described in American Petroleum Institute Publication 2518, *Evaporative Loss From Fixed-Roof Tanks* (incorporated by reference as specified in § 63.14 of subpart A of this part).

(2) For each Group 1 storage tank, the owner or operator shall compute the mass rate of total organic HAP (E_i , E_o) to demonstrate compliance with the percent reduction requirement of § 63.1362(c)(1), (2) or (3).

(i) Equations 14 and 15 shall be used:

$$E_i = K_2 \left(\sum_{j=1}^n C_{ij} M_{ij} \right) Q_i \quad (14)$$

$$E_o = K_2 \left(\sum_{j=1}^n C_{oj} M_{oj} \right) Q_o \quad (15)$$

Where:

C_{ij} , C_{oj} =concentration of sample component j of the gas stream at the inlet and outlet of the control device, respectively, dry basis, ppmv.

E_i , E_o =mass rate of total organic HAP at the inlet and outlet of the control device, respectively, dry basis, kg/hr.

M_{ij} , M_{oj} =molecular weight of sample component j of the gas stream at the inlet and outlet of the control device, respectively, g/gmole.

Q_i , Q_o =flow rate of gas stream at the inlet and outlet of the control device, respectively, dscmm.

K_2 =constant, 2.494×10^{-6} (parts per million)⁻¹ (gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature is 20 °C.

(ii) The percent reduction in total organic HAP shall be calculated using equation 16:

$$R = \frac{E_i - E_o}{E_i} \quad (100) \quad (16)$$

Where:

R=control efficiency of control device, percent.

E_i =mass rate of total organic HAP at the inlet to the control device as calculated under paragraph (d)(1)(i) of this section, kilograms organic HAP per hour.

E_o =mass rate of total organic HAP at the outlet of the control device, as calculated under paragraph (d)(2)(i) of this section, kilograms organic HAP per hour.

(iii) A performance test is not required to be conducted if the control device used to comply with § 63.1362(c) (storage tank provisions) is also used to comply with § 63.1362(b) (process vent provisions), and compliance with § 63.1362(b) has been demonstrated in accordance with paragraph (c)(2) of this section.

(iv) A performance test is not required if the control device meets any of the conditions specified in paragraphs (c)(4) or (5) of this section.

(3) To demonstrate compliance with the percent reduction requirement of § 63.1362(c)(1), (2) or (3), a design evaluation shall be prepared. The design evaluation shall include documentation showing that the control device being used achieves the required control efficiency during reasonably expected maximum filling rate. This documentation shall include a description of the gas stream which enters the control device, including flow and organic HAP content under varying liquid level conditions, and the information specified in paragraphs (c)(3)(i)(A) through (E) of this section, as applicable.

(4) If the owner or operator of an affected source chooses to comply with the provisions of § 63.1362(c)(1) or (2) by installing a floating roof, the owner or operator shall comply with the procedures described in § 63.119(b), (c), or (d) of subpart G of this part and the procedures described in § 63.120 of subpart G of this part, with the differences specified in § 63.1362(d)(2)(i) through (iv).

(5) Except as provided in paragraphs (d)(5)(i) through (iv) of this section, compliance with the concentration requirement of § 63.1362(c)(3) shall be demonstrated by determining the outlet concentration of organic HAP using the applicable test methods described in paragraph (b) of this section. If a combustion control device is used, the organic HAP concentration shall be corrected to 3 percent oxygen according

to the procedures specified in paragraph (c)(3)(ii)(B) of this section.

(i) A performance test is not required if the conditions described in paragraph (d)(2)(iii) of this section apply.

(ii) A performance test is not required if the control device meets any of the conditions specified in paragraphs (c)(4)(i) through (v) of this section.

(iii) A performance test is not required for any control device for which a previous test was conducted, provided the test was conducted using the same procedures specified in paragraph (b) of this section.

(iv) A performance test is not required for a condenser system operated in accordance with the provisions specified in paragraph (c)(5)(ii) of this section.

(e) *Compliance with wastewater provisions.* An owner or operator shall demonstrate compliance with the wastewater requirements by complying with the provisions in §§ 63.131 through 63.149, except that the owner or operator need not comply with the requirement to determine visible emissions that is specified in § 63.145(j)(1).

(f) *Compliance with the bag dump and product dryer provisions.* Compliance with the particulate HAP concentration limits specified in § 63.1362(f) is demonstrated when the concentration of particulate HAP is less than 0.01 gr/dscf, as measured or estimated using one of the procedures described in paragraph (f) (1) or (2) of this section.

(1) The concentration of particulate HAP shall be measured using the method described in paragraph (a)(8) of this section.

(2) The concentration of particulate HAP shall be calculated based on knowledge of the process. The owner or operator shall provide sufficient information to document the concentration. An example of information that could constitute such knowledge include previous test results, provided the results are still representative of current operating practices at the process unit.

(g) *Pollution prevention alternative standard.* The owner or operator shall demonstrate compliance with § 63.1362(j) using the procedures described in either paragraph (g) (1) or (2) of this section.

(1) Compliance with § 63.1362(j)(2) is demonstrated when the annual HAP factor is reduced to a value equal to or less than 15 percent of the baseline HAP factor, and the annual VOC factor is equal to or less than the baseline VOC factor. Factors shall be calculated in accordance with the procedures

specified in paragraphs (g)(1) (i) and (ii) of this section.

(i) The baseline HAP and VOC factors shall be calculated by dividing the consumption of total HAP and total VOC by the production rate, per process, for the first 12-month period for which data are available, to begin no earlier than January 1, 1987.

(ii) The annual HAP and VOC factors shall be calculated in accordance with the procedures specified in paragraphs (g)(1)(ii) (A) through (C) of this section.

(A) The consumption of both total HAP and total VOC shall be divided by the production rate, per process, for 12-

month periods at the frequency specified in either paragraph (g)(1)(ii) (B) or (C) of this section, as applicable.

(B) For continuous processes, the annual factors shall be calculated every 30 days for the 12-month period preceding the 30th day (annual rolling average calculated every 30 days).

(C) For batch processes, the annual factors shall be calculated every 10 batches for the 12-month period preceding the 10th batch (annual rolling average calculated every 10 batches).

(2) Compliance with § 63.1362(j)(3) is demonstrated when the requirements of

paragraphs (g)(2) (i) through (iv) of this section are met.

(i) The annual HAP factor is reduced to a value equal to or less than 50 percent of the baseline HAP factor, and the annual VOC factor is equal to or less than the baseline VOC factor. Factors shall be calculated in accordance with the procedures specified in paragraphs (g)(1) (i) and (ii) of this section.

(ii) The yearly reduction, in kg HAP/yr, associated with add-on controls that meet the criteria of § 63.1362(j)(3)(ii) (A) through (D), is equal to or greater than the mass of HAP calculated using equation 17:

$$[\text{kg/kg}]_b * .35 * [\text{kg produced}]_a = [\text{kg reduced}]_a \quad (17)$$

Where:

$[\text{kg/kg}]_b$ = the baseline HAP factor, kg HAP consumed/kg product.

$[\text{kg produced}]_a$ = the annual production rate, kg/yr.

$[\text{kg reduced}]_a$ = the annual HAP emissions reduction required by add-on controls, kg/yr.

(iii) Demonstration that the criteria in §§ 63.1362(j)(3)(ii) (A) through (D) are met shall be accomplished through a description of the control device and of the material streams entering and exiting the control device.

(iv) The annual reduction achieved by the add-on control shall be quantified using the methods described in paragraph (c) of this section.

(h) *Planned maintenance.* The owner or operator shall demonstrate compliance with the requirements of § 63.1362(b), and (c) by including in each Periodic Report required by § 63.1367 the periods of planned routine maintenance specified by date and time (planned routine maintenance of a control device, during which the control device does not meet the specifications of § 63.1362, as applicable, shall not exceed 240 hours per year).

(i) *Compliance with emissions averaging provisions.* An owner or operator shall demonstrate compliance with the emissions averaging provisions of § 63.1362(k) by fulfilling the requirements of paragraphs (i)(1) through (6) of this section.

(1) The owner or operator shall develop and submit for approval an Implementation Plan containing all the information required in § 63.1366(f). The Implementation Plan shall be submitted 18 months prior to the compliance date of the standard. The Administrator shall have 60 days to approve or disapprove the emissions averaging plan after which time the plan

shall be considered approved. The plan shall be considered approved if the Administrator either approves the plan in writing, or fails to disapprove the plan in writing. The 60 day period shall begin when the Administrator receives the request. If the request is denied, the owner or operator must still be in compliance with the standard by the compliance date.

(2) For all points included in an emissions average, the owner or operator shall comply with the procedures that are specified in paragraphs (i)(2)(i) through (v) of this section.

(i) Calculate and record monthly debits for all Group 1 emission points that are controlled to a level less stringent than the standard for those emission points. Equations in paragraph (i)(5) of this section shall be used to calculate debits.

(ii) Calculate and record monthly credits for all Group 1 and Group 2 emission points that are overcontrolled to compensate for the debits. Equations in paragraph (i)(6) of this section shall be used to calculate credits. All process vent, storage tank, and wastewater emission points except those specified in § 63.1362(k)(1) through (6) may be included in the credit calculation.

(iii) Demonstrate that annual credits calculated according to paragraph (i)(6) of this section are greater than or equal to debits calculated according to paragraph (i)(5) of this section for the same annual compliance period. The initial demonstration in the Implementation Plan or operating permit application that credit-generating emission points will be capable of generating sufficient credits to offset the debit-generating emission points shall be made under representative operating conditions. After the compliance date,

actual operating data shall be used for all debit and credit calculations.

(iv) Demonstrate that debits calculated for a quarterly (3-month) period according to paragraph (i)(5) of this section are not more than 1.30 times the credits for the same period calculated according to paragraph (i)(6) of this section. Compliance for the quarter shall be determined based on the ratio of credits and debits from that quarter, with 30 percent more debits than credits allowed on a quarterly basis.

(v) Record and report quarterly and annual credits and debits as required in §§ 63.1366(f) and 63.1367(d).

(3) Credits and debits shall not include emissions during periods of malfunction. Credits and debits shall not include periods of startup and shutdown for continuous processes.

(4) During periods of monitoring excursions credits and debits shall be adjusted as specified in paragraphs (i)(4) (i) through (iii) of this section.

(i) No credits would be assigned to the credit-generating emission point.

(ii) Maximum debits would be assigned to the debit-generating emission point.

(iii) The owner or operator may demonstrate to the Administrator that full or partial credits or debits should be assigned using the procedures in § 63.150(l) of subpart G of this part.

(5) Debits are generated by the difference between the actual emissions from a Group 1 emission point that is uncontrolled or controlled to a level less stringent than the applicable standard and the emissions allowed for the Group 1 emission point. Debits shall be calculated in accordance with the procedures specified in paragraphs (i)(5) (i) through (iv) of this section.

(i) Source-wide debits shall be calculated using Equation 18 of this subpart:

Debits=

$$\text{Debits} = \sum_{i=1}^n (EPV_{iA} - (0.10)(EPV_{iU})) + \sum_{i=1}^n (ES_{iA} - (0.05)(ES_{iU})) + \sum_{i=1}^n (EWW_{iA} - (EWW_{iC})) \quad (18)$$

Where:

Debits and all terms of Equation 18 are in units of Mg/month, and

EPV_{iU}=uncontrolled emissions from process i calculated according to the procedures specified in paragraph (i)(5)(ii) of this section.

EPV_{iA}=actual emissions from each Group 1 process i that is uncontrolled or is controlled to a level less stringent than the applicable standard. EPV_{iA} is calculated using the procedures in paragraph (i)(5)(ii) of this section.

ES_{iU}=uncontrolled emissions from storage tank i calculated according to the procedures specified in paragraph (i)(5)(iii) of this section.

ES_{iA}=actual emissions from each Group 1 storage tank i that is uncontrolled or is controlled to a level less stringent than the applicable standard. ES_{iA} is calculated using the procedures in paragraph (i)(5)(iii) of this section.

EWW_{iC}=emissions from each Group 1 wastewater stream i if the standard had been applied to the uncontrolled emissions. EWW_{iC} is calculated using the procedures in paragraph (i)(5)(iv) of this section.

EWW_{iA}=actual emissions from each Group 1 wastewater stream i that is uncontrolled or is controlled to a level less stringent than the applicable standard. EWW_{iA} is calculated using the procedures in paragraph (i)(5)(iv) of this section.

n=the number of emission points being included in the emissions average. The value of n is not necessarily the same for process vents, storage tanks, and wastewater.

(ii) Emissions from process vents shall be calculated in accordance with the procedures specified in paragraphs (i)(5)(ii) (A) through (C) of this section.

(A) Except as provided in paragraph (i)(5)(ii)(C) of this section, uncontrolled emissions for process vents shall be calculated using the procedures that are specified in paragraph (c)(2) of this section.

(B) Except as provided in paragraph (i)(5)(ii)(C) of this section, actual emissions for process vents shall be calculated using the procedures specified in paragraph (c)(3) of this section.

(C) As an alternative to the procedures described in paragraphs (h)(5)(ii) (A) and (B) of this section, for continuous processes, uncontrolled and actual emissions may be calculated by the procedures described in § 63.150(g)(2) of subpart G of this part. For purposes of complying with this paragraph, the 98 percent reduction in § 63.150(g)(2)(iii) of subpart G of this part shall mean 90 percent.

(iii) Uncontrolled emissions from storage tanks shall be calculated in accordance with the procedures described in paragraph (d)(1) of this section. Actual emissions from storage tanks shall be calculated using the

procedures specified in § 63.150(g)(3) (ii), (iii), or (iv) of subpart G of this subpart, as appropriate, except as provided in paragraphs (i)(5)(iii) (A) and (B) of this section.

(A) When § 63.150(g)(3)(ii)(C) refers to § 63.119(e)(2) and 90-percent reduction, § 63.1362(d)(1)(ii) and 41-percent reduction shall apply for the purposes of this subpart.

(B) When § 63.150(g)(3)(ii)(B) refers to the procedures in § 63.120(d) for determining percent reduction for a control device, § 63.1364(d) (2) or (3) shall apply for the purposes of this subpart.

(iv) Emissions from wastewater shall be calculated using the procedures specified in § 63.150(g)(5) of subpart G of this part.

(6) Credits are generated by the difference between emissions that are allowed for each Group 1 and Group 2 emission point and the actual emissions from that Group 1 or Group 2 emission point that has been controlled after November 15, 1990 to a level more stringent than what is required in this subpart or any other State or Federal rule or statute. Credits shall be calculated in accordance with the procedures specified in paragraphs (i)(6) (i) through (v) of this section.

(i) Source-wide credits shall be calculated using Equation 19 in this paragraph (i)(6)(i):

Credits=

$$\begin{aligned} \text{Credits} = & D \sum_{i=1}^n ((0.10)(EPV1_{iU}) - EPV1_{iA}) + D \sum_{i=1}^m (EPV2_{iB} - EPV2_{iA}) + \\ & D \sum_{i=1}^n ((0.05)(ES1_{iU}) - ES1_{iA}) + D \sum_{i=1}^m (ES2_{iB} - ES2_{iA}) + \sqrt{\quad} (19) \\ & D \sum_{i=1}^n (EWW1_{iC} - EWW1_{iA}) + D \sum_{i=1}^m (EWW2_{iB} - EWW2_{iA}) \end{aligned}$$

Where: Credits and all terms in equation 19 are in units of Mg/month, the baseline date is November 15, 1990, the terms consisting of a constant multiplied by the uncontrolled emissions are the emissions from each emission point subject to the

standards in § 63.1362 (b) and (c) that is controlled to a level more stringent than the standard, and

EPV1_{iU} = uncontrolled emissions from each Group 1 process i calculated according to the procedures in

paragraph (i)(6)(iii)(A) of this section.

EPV1_{iA} = actual emissions from each Group 1 process i that is controlled to a level more stringent than the applicable standard. EPV_{iA} is calculated according to the

procedures in paragraph (i)(6)(iii)(B) of this section.

EPV_{2iB} = emissions from each Group 2 process i at the baseline date. EPV_{2iB} is calculated according to the procedures in paragraph (i)(6)(iii)(C) of this section.

EPV_{2iA} = actual emissions from each Group 2 process i that is controlled. EPV_{2iA} is calculated according to the procedures in paragraph (i)(6)(iii)(C) of this section.

$ES1_{iU}$ = uncontrolled emissions from each Group 1 storage tank i calculated according to the procedures in paragraph (i)(6)(iv) of this section.

$ES1_{iA}$ = actual emissions from each Group 1 storage tank i that is controlled to a level more stringent than the applicable standard. $ES1_{iA}$ is calculated according to the procedures in paragraph (i)(6)(iv) of this section.

$ES2_{iB}$ = emissions from each Group 2 storage tank i at the baseline date. $ES2_{iB}$ is calculated according to the procedures in paragraph (i)(6)(iv) of this section.

$ES2_{iA}$ = actual emissions from each Group 2 storage tank i that is controlled. $ES2_{iA}$ is calculated according to the procedures in paragraph (i)(6)(iv) of this section.

$EW1_{iC}$ = emissions from each Group 1 wastewater stream i if the standard had been applied to the uncontrolled emissions. $EW1_{iC}$ is calculated according to the procedures in paragraph (i)(6)(v) of this section.

$EW1_{iA}$ = emissions from each Group 1 wastewater stream i that is controlled to a level more stringent than the applicable standard. $EW1_{iA}$ is calculated according to the procedures in paragraph (i)(6)(v) of this section.

$EW2_{iB}$ = emissions from each Group 2 wastewater stream i at the baseline date. $EW2_{iB}$ is calculated according to the procedures in paragraph (i)(6)(v) of this section.

$EW2_{iA}$ = actual emissions from each Group 2 wastewater stream i that is controlled. $EW2_{iA}$ is calculated according to the procedures in paragraph (i)(6)(v) of this section.

n = number of Group 1 emission points that are included in the emissions average. The value of n is not necessarily the same for process vents, storage tanks, and wastewater.

m = number of Group 2 emission points included in the emissions average. The value of m is not necessarily the same for process vents, storage tanks, and wastewater.

D = discount factor equal 0.9 for all credit-generating emission points except those controlled by a pollution prevention measure, which will not be discounted.

(ii) For an emission point controlled using a pollution prevention measure, the nominal efficiency for calculating credits shall be as determined as described in § 63.150(j) of subpart G of this part.

(iii) Emissions from process vents shall be calculated in accordance with the procedures specified in paragraphs (i)(6)(iii) (A) through (C) of this section

(A) Uncontrolled emissions from Group 1 process vents shall be calculated according to the procedures in paragraph (i)(5)(ii) (A) or (C) of this section.

(B) Actual emissions from Group 1 process vents with a nominal efficiency greater than the applicable standard or a pollution prevention measure shall be calculated using equation 20:

$$EPV1_{Ai} = EPV1_{Ui} \times [(1 - (\text{Nominal efficiency, \%}) / 100\%)] \quad (20)$$

(C) Baseline and actual emissions from Group 2 process vents shall be calculated according to the procedures in § 63.150(h)(2) (iii) and (iv) with the following modifications:

(1) The term "98 percent reduction" shall mean "90 percent reduction"; and

(2) The references to paragraph (g)(2) of this section shall mean paragraph (i)(5)(ii) of this section.

(iv) Uncontrolled emissions from storage tanks shall be calculated according to the procedures described in paragraph (d)(1) of this section. Actual and baseline emissions from storage tanks shall be calculated according to the procedures specified in § 63.150(h)(3) of subpart G of this part, except when § 63.150(h)(3) refers to § 63.150(g)(3)(i), paragraph (d)(1) of this section shall apply for the purposes of this subpart.

(v) Emissions from wastewater shall be calculated using the procedures in § 63.150(h)(5) of subpart G of this part.

§ 63.1365 Monitoring and inspection requirements.

(a) The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard. During the initial compliance demonstration, maximum or minimum operating parameters, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter. If the

operating parameter to be established is a maximum and if performance testing has been required, the value of the parameter shall be the average of the maximum values from each of the three test runs. If the operating parameter to be established is a minimum and if performance testing has been required, the value of the parameter shall be the average of the minimum values from each of the three test runs. Parameter values for process vents from batch operations shall be determined as specified in paragraphs (b)(1) and (2) of this section. The owner or operator shall operate processes and control devices within these parameters to ensure continued compliance with the standard. Monitoring parameters are specified for continuous process vent control scenarios in paragraphs (a)(1) through (8) of this section.

(1) For all control devices that are used to control process vent streams totaling less than 0.91 Mg/yr (1 ton/yr) HAP emissions, before control, monitoring shall consist of a periodic verification that the device is operating properly. This verification shall include, but not be limited to, a periodic demonstration that the unit is working as designed. This demonstration shall be included in the Precompliance report, to be submitted 12 months prior to the compliance date of the standard.

(2) For affected sources using water scrubbers that are used to control process vent streams totaling greater than 0.91 Mg/yr (1 ton/yr), before controls, the owner or operator shall establish a minimum scrubber water flow rate as a site-specific operating parameter which must be measured and recorded every 15 minutes. The affected source will be in violation of the emission standard if the scrubber water flow rate, averaged over the operating day, is below the minimum value established during the initial compliance demonstration.

(3) For affected sources using condensers that are used to control process vent streams totaling greater than 0.91 Mg/yr (1 ton/yr), before controls, the owner or operator shall establish the maximum condenser outlet gas temperature as a site-specific operating parameter which must be measured and recorded every 15 minutes. The affected source will be in violation of the emission standard if the condenser outlet gas temperature, averaged over the operating day, is greater than the maximum value established during the initial compliance demonstration.

(4) For affected sources using carbon adsorbers that are used to control process vent streams totaling greater

than 0.91 Mg/yr (1 ton/yr), before controls, the owner or operator shall establish the site-specific operating parameter(s) specified in either paragraph (a)(4) (i), (ii), or (iii) of this section.

(i) A maximum outlet HAP concentration shall be specified as the site-specific operating parameter. The affected source will be in violation of the emission standard if the outlet HAP concentration, averaged over the operating day, is greater than the maximum value established during the initial compliance demonstration.

(ii) The outlet TOC concentration shall be established as the site-specific operating parameter. The affected source will be in violation of the emission standard if the outlet TOC concentration, averaged over the operating day for each process, is greater than 20 ppmv.

(iii) The adsorption/regeneration cycle characteristics shall be established under absolute peak-case conditions, and the frequency of monitoring for the operating parameters specified below shall be described in the Notification of Compliance Status Report. The affected source will be in violation of the emission standard if any of the values for these parameters established during the initial compliance demonstration are exceeded.

(A) Maximum time of adsorption;

(B) Minimum bed temperature during regeneration;

(C) Maximum bed temperature after cooling;

(D) Minimum regeneration stream flow rate; and

(E) Maximum time between tests to determine bed poisoning.

(5) For affected sources using flares that are used to control process vent streams totaling greater than 0.91 Mg/yr (1 ton/yr), before controls, the presence of the pilot flame shall be monitored every 15 minutes. Loss of pilot flame is a violation of the emission standard.

(6) For affected sources using combustion devices that are used to control process vents totaling greater than 0.91 Mg/yr (1 ton/yr), before controls, the owner or operator shall monitor the temperature of the gases exiting the combustion chamber as the site-specific operating parameter which must be measured and recorded every 15 minutes. The affected sources will be in violation of the emission standard if the chamber temperature averaged over the operating day, is greater than the maximum value established during the initial compliance demonstration.

(7) For each fabric filter used to control particulate HAP emissions from bag dumps and product dryers totaling

more than 0.91 Mg/yr (1 ton/yr), before controls, the owner or operator shall install, calibrate, maintain, and continuously operate a bag leak detection system that meets the requirements in paragraphs (a)(7) (i) through (viii) of this section.

(i) The bag leak detection system sensor must provide output of relative or absolute PM emissions.

(ii) The bag leak detection system must be equipped with an alarm system that will sound when an increase in PM emissions over a preset level is detected.

(iii) For positive pressure fabric filters, a bag leak detector must be installed in each fabric filter compartment or cell. If a negative pressure or induced air filter is used, the bag leak detector must be installed downstream of the fabric filter. Where multiple bag leak detectors are required (for either type of fabric filter), the system instrumentation and alarm may be shared among detectors.

(iv) The bag leak detection system shall be installed, operated, calibrated and maintained in a manner consistent with available guidance from the U.S. Environmental Protection Agency or, in the absence of such guidance, the manufacturer's written specifications and instructions.

(v) Calibration of the system shall, at a minimum, consist of establishing the relative baseline output level by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(vi) The owner or operator shall not adjust the range, averaging period, alarm set points, or alarm delay time contained in the Notification of Compliance Status report without written approval from the Administrator.

(vii) If the alarm on a bag leak detection system is triggered, the owner or operator shall inspect the control device to determine the cause of the deviation and initiate within 1 hour of the alarm the corrective actions specified in the Notification of Compliance Status report. Failure to initiate the corrective action procedures within 1 hour of the alarm is a violation of the particulate HAP emission standard.

(viii) If the bag leak detection system alarm is activated for more than 5 percent of the total operating time during a 6-month reporting period, the owner or operator shall develop and implement a written quality improvement plan consistent with subpart D of this part of the draft approach to compliance assurance monitoring.

(8) For each waste management unit, treatment process, or control device used to comply with § 63.1362(d), the owner or operator shall comply with the procedures specified in § 63.143 of subpart G of this part, except that when the procedures to request approval to monitor alternative parameters according to the procedures in § 63.151(f) are referred to in § 63.143(d)(3), the procedures in paragraph (c) of this section shall apply for the purposes of this subpart.

(b) The owner or operator of any existing, new, or reconstructed affected source that chooses to comply with the emission limit or emission reduction requirement for batch process vents and combined streams from process vents and storage tanks shall provide evidence of continued compliance with the standard. As part of the initial compliance demonstrations for batch process vents and storage tanks, test data, compliance calculations, or information from the control device design evaluation shall be used to establish a maximum or minimum level of a relevant operating parameter for each control device that the owner or operator selects to operate as part of achieving the required emission reduction or emission limitation. The owner or operator shall operate processes and control devices within these parameters to ensure continued compliance with the standard.

(1) For devices that are used to control batch process vent streams totaling less than 0.91 Mg/yr (1 ton/yr) HAP emissions, before control, monitoring shall consist of a periodic verification that the device is operating properly. This verification shall include, but not be limited to, a periodic demonstration that the unit is working as designed. This demonstration shall be included in the Precompliance report, to be submitted 12 months prior to the compliance date of the standard.

(2) For batch process vents that are routed to a device that receives HAP in excess of 0.91 Mg/yr (1 ton/yr), before control, the level(s) shall be established in accordance with paragraphs (b)(2) (i) through (iv) of this section.

(i) If more than one batch emission episode or more than one portion of a batch emission episode has been selected to be controlled, a single level for the batch cycle(s) or process(es) shall be calculated from the initial compliance demonstration. The appropriate parameter shall be determined for the peak-case conditions, as determined in § 63.1364(b)(7) (ii) and (iii), selected to be controlled. The average parameter monitoring level for the cycle(s) or

process(es) shall be based on the parameter value determined from the peak-case conditions.

(ii) Instead of establishing a single level for the batch cycle(s) or process(es), as described in paragraph (b)(2)(i) of this section, an owner or operator may establish separate levels for each batch emission episode, or portion thereof, selected to be controlled.

(iii) For devices controlling at least 9.1 Mg/yr (10 tons/yr) for which a performance test is required, the owner or operator may establish the parametric monitoring level(s) based on the performance test supplemented by engineering assessments and manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of expected parameter values. The rationale for the specific level for each parameter, including any data and calculations used to develop the level(s) and a description of why the level indicates proper operation of the control device shall be provided in the Precompliance report. The procedures specified in this section have not been approved by the Administrator and determination of the parametric monitoring level using these procedures is subject to review and approval by the Administrator.

(iv) For devices controlling at least 9.1 Mg/yr (10 tons/yr) for which a performance test is conducted at routine conditions, the owner or operator shall establish the parametric monitoring level(s) at conditions of the test. The level(s) established shall be provided in the Notification of Compliance Status report.

(3) Except as provided in paragraphs (b) (4) through (8) of this section, if the sum of HAP emissions, before control, routed to the device is greater than 0.91 Mg/yr (1.0 ton/yr), the appropriate parameter shall be monitored at 15-minute intervals, or at least once for batch emission episodes of duration shorter than 15 minutes, for the entire period in which the control device is functioning in achieving required removals.

(4) Affected sources with condensers on process vents shall establish the maximum condenser outlet gas temperature as a site-specific operating parameter. The affected source will be in violation of the emission standard if the condenser outlet gas temperature, averaged over the operating day for each process, is greater than the value established during the initial compliance demonstration.

(5) For affected sources using water scrubbers, the owner or operator shall

establish a minimum scrubber water flow rate as a site-specific operating parameter. The affected source will be in violation of the emission standard if the scrubber water flow rate, averaged over the operating day for each process, is below the minimum flow rate established during the initial compliance demonstration.

(6) For affected sources using carbon adsorbers, the owner or operator shall establish and monitor the site-specific operating parameter(s) in either paragraph (b)(6)(i), (ii), or (iii) of this section:

(i) A maximum outlet HAP concentration shall be established as the site-specific operating parameter. The affected source will be in violation of the emission standard if the outlet HAP concentration, averaged over the operating day for each process, is greater than the value established during the initial compliance demonstration.

(ii) The outlet TOC concentration shall be established as the site-specific operating parameter. The affected source will be in violation of the emission standard if the outlet TOC concentration, averaged over the operating day for each process, is greater than 20 ppmv.

(iii) The adsorption/regeneration cycle characteristics shall be established under absolute peak-case conditions, and the frequency of monitoring for the operating parameters specified below shall be described in the Notification of Compliance Status Report. The affected source will be in violation of the emission standard if any of the values for these parameters established during the initial compliance demonstration are exceeded.

(A) Maximum time of adsorption;
(B) Minimum bed temperature during regeneration;
(C) Maximum bed temperature after cooling;
(D) Minimum regeneration stream flow rate; and
(E) Maximum time between tests to determine bed poisoning.

(7) For affected sources using flares, the presence of the pilot flame shall be monitored. Loss of pilot flame is a violation of the emission standard.

(8) For affected sources using combustion devices, the temperature of the gases exiting the combustion chamber shall be monitored. The affected source will be in violation of the emission standard if the combustion chamber temperature, averaged over the operating day for each process, is less than the value established during the initial compliance demonstration.

(c) An owner or operator may request approval to monitor parameters other

than those required by paragraphs (a)(2) through (8) and (b)(5) through (8) of this section. The request shall be submitted according to the procedures specified in § 63.8(f) of subpart A of this part or in the Precompliance Report (as specified in § 63.1367(a)(2)).

(d) Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur under the conditions described in paragraph (d)(1) or (2) of this section.

(1) For continuous processes, during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan.

(2) For batch processes, during a malfunction, and the facility follows its startup, shutdown, and malfunction plan.

(e) *Equipment leaks.* The owner or operator of any affected source complying with the requirements of subpart H of this part shall meet the monitoring requirements specified in subpart H of this part.

(f) *Heat exchangers.* The owner or operator of an affected source complying with the requirements of § 63.1362(g) shall meet the monitoring requirements specified in paragraph (f)(1) or (2) of this section.

(1) An owner or operator that elects to comply with the requirements of § 63.1362(g)(2) shall meet the monitoring requirements specified in § 63.104(b) of subpart F of this part.

(2) An owner or operator that elects to comply with the requirements of § 63.1362(g)(3) shall prepare and implement a monitoring plan that includes the information specified in paragraphs (f)(2) (i) through (iv) of this section. The plan shall require monitoring of one or more surrogate indicators or monitoring of one or more process parameters or other conditions that indicate a leak. Monitoring that is already being conducted for other purposes may be used to satisfy the requirements of this section.

(i) A description of the parameter or condition to be monitored and an explanation of how the selected parameter or condition will reliably indicate the presence of a leak.

(ii) The parameter level(s) or condition(s) that shall constitute a leak. This shall be documented by data or calculations showing that the selected levels or conditions will reliably identify leaks. The monitoring must be sufficiently sensitive to determine the range of parameter levels or conditions when the system is not leaking. When the selected parameter level or

condition is outside that range, a leak is detected.

(iii) The monitoring frequency which shall be no less frequent than monthly for the first 6 months and quarterly thereafter to detect leaks.

(iv) The records that will be maintained to document compliance with the requirements of § 63.1362(f).

(g) *Pollution prevention.* The owner or operator of an affected source that chooses to comply with the requirements of § 63.1362(j)(2) or (3) shall calculate annual rolling average values of the HAP and VOC factors in accordance with the procedures specified in § 63.1364(g)(1) (i) and (ii).

The owner or operator will be considered out of compliance any time the annual HAP factor exceeds the baseline HAP factor by the amount specified in either § 63.1364 (g)(1) or (2)(i), or the annual VOC factor exceeds the baseline VOC factor.

(h) *Emissions averaging.* The owner or operator of an affected source that chooses to comply with the requirements of § 63.1362(k) shall meet all monitoring requirements specified in paragraphs (a), (b), (c), and (d) of this section, as applicable, for all processes, storage tanks, and waste management units included in the emissions average.

§ 63.1366 Recordkeeping requirements.

(a) The owner or operator of an affected source shall keep records of daily values of equipment operating parameters specified to be monitored under § 63.1365, or specified by the Administrator. Records shall be kept in accordance with the requirements of applicable paragraphs of § 63.10 of subpart A of this part, as specified in the General Provisions applicability table of this subpart (Table 1). The owner or operator shall keep records up-to-date and readily accessible.

(1) A daily (24-hour) average shall be calculated as the average of all values for a monitored parameter recorded during the operating day.

(2) The operating day shall be the period defined in the operating permit or the Notification of Compliance Status in § 63.9(h) of subpart A of this part. It may be from midnight to midnight or another continuous 24-hour period.

(3) For every operating day in which the daily average value for an operating parameter is outside its established range, the owner or operator shall keep records of each parameter value reading taken during the day on which the excursion occurred.

(4) For processes subject to § 63.1362(j), records shall be maintained of annual HAP and VOC factors calculated every 30 days for continuous

processes and every 10 batches for batch processes.

(5) For each bag leak detector used to monitor particulate HAP emissions from a fabric filter, the owner or operator shall maintain records of any bag leak detection alarm, including the date and time, with a brief explanation of the cause of the alarm and the corrective action taken.

(b) The owner or operator of an affected source that complies with the standards for process vents, storage tanks, and wastewater systems shall maintain up-to-date, readily accessible records of the information specified in paragraphs (b) (1) through (5) of this section to document that HAP emissions or HAP loadings (for wastewater) are below the limits specified in § 63.1362:

(1) The emissions of gaseous organic HAP and HCl per batch for each process.

(2) The wastewater concentrations and flowrates per POD and process.

(3) The number of batches per year for each batch process.

(4) The operating hours per year for continuous processes.

(5) The number of tank turnovers per year.

(c) The owner or operator of an affected source subject to the standards in § 63.1362(e), and implementing the leak detection and repair program specified in subpart H of this part, shall implement the recordkeeping requirements specified in § 63.181 of subpart H of this part. All records shall be retained for a period of 5 years, in accordance with the requirements of § 63.10(b)(1) of subpart A of this part.

(d) For unit operations occurring more than once per day, exceedances of established parameter limits shall result in no more than one violation per operating day for each monitored item of equipment utilized in the unit operation.

(e) For certain items of monitored equipment used for more than one type of unit operation in the course of an operating day, exceedances shall result in no more than one violation per operating day, per item of monitored equipment, for each type of unit operation in which the item is in service.

(f) An owner or operator of an affected source that chooses to comply with the requirements of § 63.1362(k) shall maintain up-to-date records of the following information:

(1) An Implementation Plan which shall include in the plan, for all emission points included in each of the emissions averages, the information listed in paragraphs (f)(1) (i) through (v) of this section.

(i) The identification of all emission points in each emissions average.

(ii) The values of all parameters needed for input to the emission debits and credits equations in § 63.1364(i).

(iii) The calculations used to obtain the debits and credits.

(iv) The estimated values for all parameters required to be monitored under § 63.1365(h) for each emission point included in an average. These parameter values, or as appropriate, limited ranges for parameter values, shall be specified as enforceable operating conditions for the operation of the process, storage tank, or waste management unit, as appropriate. Changes to the parameters must be reported as required by § 63.1367(d).

(v) A statement that the compliance demonstration, monitoring, inspection, recordkeeping and reporting provisions in § 63.1364(i), § 63.1365(h), and § 63.1367(d) that are applicable to each emission point in the emissions average will be implemented beginning on the date of compliance.

(2) The Implementation Plan shall demonstrate that the emissions from the emission points proposed to be included in the average will not result in greater hazard or, at the option of the operating permit authority, greater risk to human health or the environment than if the emission points were controlled according to the provisions in § 63.1362(b) through (d).

(i) This demonstration of hazard or risk equivalency shall be made to the satisfaction of the operating permit authority.

(A) The Administrator may require an owner or operator to use specific methodologies and procedures for making a hazard or risk determination.

(B) The demonstration and approval of hazard or risk equivalency shall be made according to any guidance that the Administrator makes available for use or any other technically sound information or methods.

(ii) An Implementation Plan that does not demonstrate hazard or risk equivalency to the satisfaction of the Administrator shall not be approved. The Administrator may require such adjustments to the Implementation Plan as are necessary in order to ensure that the average will not result in greater hazard or risk to human health or the environment than would result if the emission points were controlled according to § 63.1362(b) through (d).

(iii) A hazard or risk equivalency demonstration must satisfy the requirements specified in paragraphs (f)(2)(iii)(A) through (C) of this section.

(A) Be a quantitative, comparative chemical hazard or risk assessment;

(B) Account for differences between averaging and non-averaging options in chemical hazard or risk to human health or the environment; and

(C) Meet any requirements set by the Administrator for such demonstrations.

(3) Records as specified in paragraphs (a), (b) and (d) of this section.

(4) A calculation of the debits and credits as specified in § 63.1364(i) for the last quarter and the prior four quarters.

(g) The owner or operator of an affected source subject to the requirements in § 63.1362(g) shall retain the records identified in paragraphs (g)(1) through (4) of this section as specified in paragraph (a) of this section.

(1) Monitoring data required by § 63.1362(g)(2) or (3) indicating a leak was detected, and if demonstrated not to be a leak, the basis for that determination.

(2) Records of any leaks detected by procedures subject to § 63.1362(g)(3)(ii) and the date the leak was discovered.

(3) The dates of efforts to repair leaks.

(4) The method or procedure used to confirm repair of a leak and the date repair was confirmed.

§ 63.1367 Reporting requirements.

(a) The owner or operator of an affected source that elects to comply with the emission limit or emission reduction requirements for process vents, storage tanks, and waste management units, shall comply with the reporting requirements of applicable paragraphs of §§ 63.9 and 63.10 of subpart A of this part, as specified in the General Provisions applicability table.

(1) The Notification of Compliance Status report required under § 63.9(h) shall be submitted within 150 calendar days of the compliance date and shall include the information specified in paragraphs (a)(1)(i) through (iv) of this section.

(i) The results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP emissions from applicable sources.

(ii) The results of emissions profiles, performance tests, engineering analyses, design evaluations, or calculations used to demonstrate compliance. For performance tests, results should include descriptions of sampling and analysis procedures and quality assurance procedures.

(iii) Descriptions of monitoring devices, monitoring frequencies, and the values of monitored parameters established during the initial compliance determinations, including data and calculations to support the levels established.

(iv) For fabric filters that are monitored with bag leak detectors, descriptions of procedures for the proper operation and maintenance of the fabric filters and corrective actions to be taken when the particulate concentration exceeds the standard and activates the alarm.

(2) The Precompliance report shall be submitted 12 months prior to the compliance date of the standard. For new sources, the Precompliance report shall be submitted to the Administrator with the application for approval of construction or reconstruction. The Administrator shall have 60 days to approve or disapprove the plan. The plan shall be considered approved if the Administrator either approves the plan in writing, or fails to disapprove the plan in writing. The 60 day period shall begin when the Administrator receives the request. If the request is denied, the owner or operator must still be in compliance with the standard by the compliance date. The Precompliance report shall include the information specified in paragraphs (a)(2)(i) through (iii) of this section.

(i) Requests for approval to use alternative monitoring parameters according to the procedures specified in § 63.8(f) of subpart A of this part or requests to set monitoring parameters according to § 63.1365(b)(2)(iii).

(ii) Descriptions of how the control devices subject to § 63.1365(a)(1) and (b)(1) will be checked to verify that they are operating as designed.

(iii) A description of test conditions and limits of operation for control devices tested under normal conditions, and the corresponding monitoring parameter values.

(b) *Quarterly reports.* The owner or operator shall submit to the Administrator, as part of the quarterly excess emissions and continuous monitoring system performance report and summary report required by § 63.10(e)(3) of subpart A of this part, the recorded information specified in paragraphs (b)(1) through (3) of this section.

(1) Reports of monitoring data, including 15-minute monitoring values, daily average values of monitored parameters for all operating days when the average values were outside the ranges established in the Notification of Compliance Status or operating permit, and records of all alarms from the bag leak detection systems.

(2) Reports of the duration of periods when monitoring data are not collected for each excursion caused by insufficient monitoring data. An excursion means either of the two cases listed in paragraph (b)(2)(i) or (ii) of this

section. For a control device where multiple parameters are monitored, if one or more of the parameters meets the excursion criteria in paragraph (b)(2)(i) or (ii) of this section, this is considered a single excursion for the control device.

(i) When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in paragraph (a)(2)(iii) of this section, for at least 75 percent of the operating hours.

(ii) When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data.

(iii) Monitoring data are insufficient to constitute a valid hour of data, as used in paragraphs (b)(2)(i) and (ii) of this section, if measured values are unavailable for any of the 15-minute periods within the hour.

(3) Whenever a process change, as defined in § 63.115(e) of subpart G of this part, is made that causes the emission rate from a de minimis emission point to become a process vent with an emission rate of 0.45 kg/yr (1 lb/yr) or greater, or a change is made in any of the information submitted in the Notification of Compliance Report, the owner or operator shall submit a report within 180 calendar days after the process change. The report may be submitted as part of the next summary report required under § 63.10(e)(3) of subpart A of this part. The report shall include:

(i) A description of the process change;

(ii) The results of the recalculation of the emission rate;

(iii) Revisions to any of the information reported in the original Notification of Compliance Status under § 63.1367(a)(1); and

(iv) Information required by the Notification of Compliance Status under § 63.1367(a)(1) for changes involving the addition of processes or equipment.

(c) *Equipment leaks.* The owner or operator of an affected source subject to the standards in § 63.1362(e), shall implement the reporting requirements specified in § 63.182 of this part. Copies of all reports shall be retained as records for a period of 5 years, in accordance with the requirements of § 63.10(b)(1) of subpart A of this part.

(d) *Emissions averaging.* An owner or operator of an affected source that chooses to comply with the requirements of § 63.1362(k) shall submit all information as specified in § 63.1366(f) for all emission points included in the emissions average. The

owner or operator shall also submit to the Administrator all information specified in paragraph (b) of this section for each emission point included in the emissions average.

(1) The reports shall also include the information listed in paragraphs (c)(1)(i) through (iv) of this section:

(i) Any changes of the processes, storage tanks, or waste management unit included in the average.

(ii) The calculation of the debits and credits for the reporting period.

(iii) Changes to the Implementation Plan which affect the calculation methodology of uncontrolled or controlled emissions or the hazard or risk equivalency determination.

(iv) Any changes to the parameters monitored according to § 63.1365(h).

(2) Every 4th quarter report shall include the results according to § 63.1366(f)(4) to demonstrate the emissions averaging provisions of § 63.1362(k), § 63.1364(i), § 63.1365(h), and § 63.1366(f) are satisfied.

(e) *Heat exchange systems.* If an owner or operator of an affected source invokes the delay of repair provisions for a heat exchange system as specified in § 63.1362(g)(5), the information in paragraphs (e) (1) through (5) of this section shall be submitted in the next excess emissions report required in paragraph (b) of this section. If the leak remains unrepaired, the information shall also be submitted in each subsequent report, until repair of the leak is reported.

(1) The presence of the leak and the date the leak was detected.

(2) Whether or not the leak has been repaired.

(3) The reason(s) for delay of repair. If delay of repair is invoked due to the reasons described in § 63.104(e)(2) of subpart F of this part, documentation of emissions estimates shall also be submitted.

(4) If the leak remains unrepaired, the expected date of repair.

(5) If the leak is repaired, the date the leak was successfully repaired.

(f) An owner or operator who submits an operating permit application instead of an Implementation plan shall submit the information specified in paragraphs (e) (1) through (3) of this section with the operating permit.

(1) The information specified in § 63.1366(f) for emission points included in the emissions average;

(2) The information specified in § 63.9(h) of subpart A of this part, as applicable; and

(3) The information specified in paragraph (a)(2) of this section, as applicable.

§ 63.1368 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(l) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) [Reserved]

TABLE 1 TO SUBPART MMM.—GENERAL PROVISIONS APPLICABILITY TO SUBPART MMM

Reference to subpart A	Applies to subpart MMM	Comment
§ 63.1(a)(1)	Yes	Additional terms are defined in § 63.1361.
§ 63.1(a)(2)–(3)	Yes.	
§ 63.1(a)(4)	Yes	Subpart MMM (this table) specifies applicability of each paragraph in subpart A to subpart MMM.
§ 63.1(a)(5)	N/A	Reserved.
§ 63.1(a)(6)–(7)	Yes.	
§ 63.1(a)(8)	No	Discusses State programs.
§ 63.1(a)(9)	N/A	Reserved.
§ 63.1(a)(10)–(14)	Yes.	
§ 63.1(b)(1)	No	§ 63.1360 specifies applicability.
§ 63.1(b)(2)–(3)	Yes.	
§ 63.1(c)(1)	Yes	Subpart MMM (this table) specifies the applicability of each paragraph in subpart A to sources subject to subpart MMM.
§ 63.1(c)(2)	No	Area sources are not subject to subpart MMM.
§ 63.1(c)(3)	N/A	Reserved.
§ 63.1(c)(4)–(5)	Yes.	
§ 63.1(d)	N/A	Reserved.
§ 63.1(e)	Yes.	
§ 63.2	Yes	Additional terms are defined in § 63.1361; when overlap between subparts A and MMM occurs, subpart MMM takes precedence.
§ 63.3	Yes	Other units used in subpart MMM are defined in that subpart.
§ 63.4(a)(1)–(3)	Yes.	
§ 63.4(a)(4)	N/A	Reserved.
§ 63.4(a)(5)–(c)	Yes.	
§ 63.5(a)	Yes	Except replace the terms “source” and “stationary source” in § 63.5(a)(1) of subpart A with “affected source”.
§ 63.5(b)(1)	Yes.	
§ 63.5(b)(2)	N/A	Reserved.
§ 63.5(b)(3)–(5)	Yes.	
§ 63.5(b)(6)	No	§ 63.1360(g) specifies requirements for determining applicability of added PAI equipment.
§ 63.5(c)	N/A	Reserved.
§ 63.5(d)–(e)	Yes.	
§ 63.5(f)(1)	Yes	Except replace “source” in § 63.5(f)(1) of subpart A with “affected source”.
§ 63.5(f)(2)	Yes.	
§ 63.6(a)	Yes.	
§ 63.6(b)(1)–(2)	No	§ 63.1363 specifies compliance dates.
§ 63.6(b)(3)–(4)	Yes.	
§ 63.6(b)(5)	Yes.	
§ 63.6(b)(6)	N/A	Reserved.
§ 63.6(b)(7)	Yes.	

TABLE 1 TO SUBPART MMM.—GENERAL PROVISIONS APPLICABILITY TO SUBPART MMM—Continued

Reference to subpart A	Applies to subpart MMM	Comment
§ 63.6(c)(1)–(2)	Yes	Except replace “source” in § 63.6(c)(1)–(2) of subpart A with “affected source”.
§ 63.6(c)(3)–(4)	N/A	Reserved.
§ 63.6(c)(5)	Yes.	
§ 63.6(d)	N/A	Reserved.
§ 63.6(e)	Yes	Except § 63.1360 specifies that the standards in subpart MMM apply during startup and shutdown for batch processes; therefore, these activities would not be covered in the startup, shutdown, and malfunction plan.
§ 63.6(f)	Yes	Except § 63.1360 specifies that the standards in subpart MMM also apply during startup and shutdown for batch processes.
§ 63.6(g)	Yes	An alternative standard has been proposed; however, affected sources will have the opportunity to demonstrate other alternatives to the Administrator.
§ 63.6(h)	No	Subpart MMM does not contain any opacity or visible emissions standards.
§ 63.6(i)(1)	Yes.	
§ 63.6(i)(2)	Yes	Except replace “source” in § 63.6(2)(i) and (ii) of subpart A with “affected source.”
§ 63.6(i)(3)–(14)	Yes.	
§ 63.6(i)(15)	N/A	Reserved.
§ 63.6(i)(16)	Yes.	
§ 63.6(j)	Yes.	
§ 63.7(a)(1)	Yes.	
§ 63.7(a)(2)(i)–(vi)	Yes	§ 63.1367 specifies that test results must be submitted in the Notification of Compliance Status due 150 days after the compliance date.
§ 63.7(a)(2)(vii)–(viii)	N/A	Reserved.
§ 63.7(a)(2)(ix)–(c)	Yes.	
§ 63.7(d)	Yes	Except replace “source” in § 63.7(d) of subpart A with “affected source.”
§ 63.7(e)(1)	Yes	§ 63.1364 contains test methods specific to PAI sources.
§ 63.7(e)(2)	Yes.	
§ 63.7(e)(3)	Yes	Except § 63.1364 specifies less than 3 runs for certain tests.
§ 63.7(e)(4)	Yes.	
§ 63.7(f)	Yes.	
§ 63.7(g)(1)	Yes	Except § 63.1367(a) specifies that the results of the performance test be submitted with the Notification of Compliance Status report.
§ 63.7(g)(2)	N/A	Reserved.
§ 63.7(g)(3)	Yes.	
§ 63.7(h)	Yes.	
§ 63.8(a)(1)–(2)	Yes.	
§ 63.8(a)(3)	N/A	Reserved.
§ 63.8(a)(4)	Yes.	
§ 63.8(b)(1)	Yes.	
§ 63.8(b)(2)	No	§ 63.1365 specifies CMS requirements.
§ 63.8(b)(3)–(c)(3)	Yes.	
§ 63.8(c)(4)	No	§ 63.1365 specifies monitoring frequencies.
§ 63.8(c)(5)–(8)	No.	
§ 63.8(d)–(f)(3)	Yes.	
§ 63.8(f)(4)	Yes	Except § 63.1367(b) specifies that requests may also be included in the Precompliance report.
§ 63.8(f)(5)	Yes.	
§ 63.8(f)(6)	No	Subpart MMM does not require CEM's.
§ 63.8(g)	No	§ 63.1365 specifies data reduction procedures.
§ 63.9(a)–(d)	Yes.	
§ 63.9(e)	No.	
§ 63.9(f)	No	Subpart MMM does not contain opacity and visible emission standards.
§ 63.9(g)	No.	
§ 63.9(h)(1)	Yes.	
§ 63.9(h)(2)(i)	Yes	Except § 63.1367(a)(1) specifies additional information to include in the Notification of Compliance Status report.
§ 63.9(h)(2)(ii)	No	§ 63.1367 specifies the Notification of Compliance Status report is to be submitted within 150 days after the compliance date.
§ 63.9(h)(3)	Yes.	
§ 63.9(h)(4)	N/A	Reserved.
§ 63.9(h)(5)–(6)	Yes.	
§ 63.9(i)–(j)	Yes.	
§ 63.10(a)–(b)(1)	Yes.	
§ 63.10(b)(2)	No	§ 63.1366 specifies recordkeeping requirements.
§ 63.10(b)(3)	Yes.	
§ 63.10(c)	Yes.	
§ 63.10(d)(1)	Yes.	
§ 63.10(d)(2)	Yes	Except § 63.1367(a) specifies that the results of the performance test be submitted with the Notification of Compliance Status report.
§ 63.10(d)(3)	No	Subpart MMM does not include opacity and visible emission standards.
§ 63.10(d)(4)	Yes.	

TABLE 1 TO SUBPART MMM.—GENERAL PROVISIONS APPLICABILITY TO SUBPART MMM—Continued

Reference to subpart A	Applies to subpart MMM	Comment
§ 63.10(d)(5)	Yes	Except that actions and reporting for batch processes do not apply during startup and shutdown.
§ 63.10(e)(1)–(2)(i)	Yes.	
§ 63.10(e)(2)(ii)	No	Subpart MMM does not include opacity monitoring requirements.
§ 63.10(e)(3)	Yes.	
§ 63.10(e)(4)	No	Subpart MMM does not include opacity monitoring requirements.
§ 63.10(f)	Yes.	
§ 63.11–§ 63.15	Yes.	

TABLE 2 TO SUBPART MMM.—PROPOSED STANDARDS FOR PAI PRODUCTION

Emission source	Applicability	Requirement
Process vents	Existing: Processes having uncontrolled organic HAP emissions ≥ 0.15 Mg/yr. Processes having uncontrolled HCl emissions ≥ 6.8 Mg/yr. Individual process vents meeting TRE criteria that have gaseous organic HAP emissions controlled to less than 90% as of proposal date. New: Processes having uncontrolled organic HAP emissions ≥ 0.15 Mg/yr. Processes having uncontrolled HCl emissions ≥ 6.8 Mg/yr and < 191 Mg/yr. Processes having uncontrolled HCl emissions ≥ 191 Mg/yr.	90% for organic HAP per process or ≤ 20 ppmv TOC. 94% for HCl per process. 98% gaseous organic HAP control per vent or ≤ 20 ppmv TOC. 98% for gaseous organic HAP per process or ≤ 20 ppmv TOC at control device outlet. 94% for HCl per process. 99.9% for HCl per process.
Storage tanks	Existing: ≥ 0.113 Mg/yr uncontrolled HAP emissions: • < 76 m ³ capacity	41% control per tank. 95% control per tank.
	• ≥ 76 m ³ capacity	98% control per tank or ≤ 20 ppmv TOC at control device outlet.
	New: ≥ 0.45 kg/yr uncontrolled HAP emissions	98% control per tank or ≤ 20 ppmv TOC at control device outlet.
Wastewater ^a	Existing: $\geq 10,000$ ppmw Table 9 compounds at any flowrate or $\geq 1,000$ ppmw Table 9 compounds at ≥ 10 L/min. New: Same criteria for existing sources	Reduce concentration of total Table 9 compounds to < 50 ppmw (or other options). Reduce concentration of total Table 9 compounds to < 50 ppmw (or other options). 99% reduction of Table 9 compounds from all streams.
Equipment leaks	Subpart H	Subpart H with minor changes.
Bag dumps and product dryers.	All	Particulate HAP concentration not to exceed 0.01 gr/dscf.
Heat exchange systems	Each heat exchange system used to cool process equipment in PAI manufacturing operations.	Monitoring and leak repair program as in HON.

^a Table 9 is listed in the appendix to subpart G of 40 CFR part 63.