ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[AD–FRL–6164–2]

RIN 2060–AG91, 2060–AF06, 2060–AG94, 2060–AF09, 2060–AE36

National Emission Standards for Hazardous Air Pollutants: Generic Maximum Achievable Control Technology

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule and notice of public hearing.

SUMMARY: This consolidated rulemaking proposal includes several related elements. Today's proposal would establish a ''Generic MACT Standards'' program to be utilized by the EPA in establishing National Emission Standards for Hazardous Air Pollutants (NESHAP) under section 112 of the Clean Air Act (Act) for certain small source categories consisting of five or fewer sources. As part of this generic MACT program, the EPA is proposing an alternative methodology under which the EPA will make its maximum available control technology (MACT) determination for appropriate small categories by referring to previous MACT standards that have been promulgated for similar sources in other categories. The basic purposes of the proposed generic MACT program are to use public and private sector resources efficiently, and to promote regulatory consistency and predictability in MACT standard development.

In this consolidated rulemaking package, the EPA is also proposing general control requirements for certain types of emission points for hazardous air pollutants (HAP), which will then be referenced, as appropriate, in the generic MACT requirements for individual source categories. These proposed general control requirements are set forth in new proposed subparts and would be applicable to storage vessels managing organic materials, process vents emitting organic vapors, leaks from equipment components. In addition, the EPA is proposing a separate subpart of requirements for closed vent systems, control devices, recovery devices and routing to fuel gas systems or a process.

Today's consolidated rulemaking package also includes specific proposed MACT standards that have been developed within the generic MACT framework for four specific source categories that are included on the EPA's list of categories for which NESHAP are required. These proposals include standards for acetal resins (AR) production, acrylic and modacrylic fiber (AMF) production, hydrogen fluoride (HF) production, and polycarbonate(s) (PC) production.

DATES: *Comments.* Comments must be received on or before January 12, 1999.

Public Hearing. A public hearing will be held, if requested, to provide interested persons an opportunity for oral presentation of data, views, or arguments concerning the proposed generic MACT standards. If any person specifically requests that a public hearing be held by November 4, 1998, a public hearing will be held on November 25, 1998 beginning at 10:00 a.m.

Request to Speak at a Hearing. Any request that a hearing be held concerning this proposed rule must be submitted orally or in writing no later than November 4, 1998, by contacting Ms. Dorothy Apple at (919) 541–4487, Policy Planning and Standards Group (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

ADDRESSES: *Comments.* Comments should be submitted (in duplicate, if possible) to: Air and Radiation Docket and Information Center (6102), (LE–131), Attention, Docket No. A–97–17, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460. All technical comments pertaining solely to individual source categories should be submitted to the dockets established for the individual source categories (see *Docket* for individual docket numbers). The EPA requests that a separate copy of comments also be sent to Mr. David W. Markwordt (see **FOR FURTHER INFORMATION CONTACT** for address).

Comments and data may be submitted by electronic mail (e-mail) to: a-and-r-docket@epa.gov. Electronic comments must be submitted as an ASCII file to avoid the use of special characters and encryption problems. Comments and data will also be accepted on Microsoft DOS formatted 3.5 inches high-density diskettes containing WordPerfect ® 5.1 or 6.1, or ASCII formatted files. All comments and data submitted in electronic form must note the docket number: A–97–17 for nonsource category-specific comments and data; and A–97–19 for AR production, A–97–18 for AMF production, A–96–54 for HF production, and A–97–16 for PC production source category-specific comments and data. No confidential business information (CBI) should be submitted by e-mail. Electronic comments on this proposed rule may be filed online at many Federal Depository Libraries.

Public Hearing. The public hearing, if required, will be held at the EPA's Office of Administration Auditorium, Research Triangle Park, North Carolina. Persons interested in attending the hearing should contact Ms. Dorothy Apple at (919) 541–4487, Policy Planning and Standards Group (MD–13), to verify that a hearing will be held.

Docket. A docket, No. A–97–17, containing information considered by the EPA in the development of the proposed standards for the generic MACT, is available for public inspection between 8:30 a.m. and 3:30 p.m., Monday through Friday (except for Federal holidays), at the following address: U.S. Environmental Protection Agency, Air and Radiation Docket and Information Center (MC–6102), 401 M Street SW., Washington DC 20460, telephone: (202) 260–7548. The EPA's Air Docket section is located at the above address in Room M–1500, Waterside Mall (ground floor). Dockets established for each of the source categories proposed to be assimilated under the generic MACT standards with this proposal include the following: (1) AR production (Docket No. A–97–19); AMF production (Docket No. A–97–18); HF production (Docket No. A–96–54); and PC production (Docket No. A–97–16). These dockets include source category-specific supporting information. The proposed standards, and supporting information are available for inspection and copying. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For information concerning the proposed standards, contact the following at the Emission Standards Division (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711:

Information type	Contact	Group	Phone/facsimile/ e-mail address
Nonsource category-specific.	David W. Markwordt	Policy, Planning and Standards Group.	(919) 541–0837/(919) 541–0942/ markwordt.david@epa.gov.

Information type	Contact	Group	Phone/facsimile/ e-mail address
AR Production	John M. Schaefer	Organic Chemicals Group	(919) 541–0296/(919) 541–3470/ schaefer.john@epa.gov.
AMF Production	Anthony P. Wayne	Policy, Planning and Standards Group.	(919) 541–5439/(919) 541–0942/ wayne.tony@epa.gov.
HF Production	Richard S. Colyer	Policy, Planning, and Standards Group.	(919) 541–5262/(919) 541–0942/ colyer.rick@epa.gov.
PC Production	Mark A. Morris	Organic Chemicals Group	(919) 541–5416/(919) 541–3470/ morris.mark@epa.gov.

SUPPLEMENTARY INFORMATION: This notice, the proposed regulatory text, and supporting documentation are available in Docket No. A–97–17 or by request from the EPA's Air and Radiation Docket and Information Center (see **ADDRESSES**). This notice and the proposed regulatory text are also available on the Technology Transfer Network (TTN) on the EPA's electronic bulletin boards. The TTN provides information and technology exchange in various areas of air emissions control. The service is free, except for the cost of a telephone call. Dial (919) 541–5742 for up to a 14,400 baud per second modem. For further information, contact the TTN HELP line at (919) 541–5384, from 1:00 p.m. to 5:00 p.m. Monday through Friday, or access the TTN web site at: http://www.epa.gov/ttn.

Regulated entities. Entities potentially regulated are those that produce AR, AMF, HF, and PC and are major sources of HAP as defined in section 112 of the Act. Regulated categories and entities include:

Category	Regulated entities[a]
Industry	Producers of homopolymers and/or copolymers of alternating oxymethylene units. Producers of either acrylic fiber or modacrylic fiber synthetics composed of acrylonitrile (AN) units. Producers of, and recoverers of HF by reacting calcium fluoride with sulfuric acid. For the purpose of implementing the rule, HF production is not a process that produces gaseous HF for direct reaction with hydrated aluminum to form aluminum fluoride (i.e., the HF is not recovered as an intermediate or final product prior to reacting with the hydrated aluminum). Producers of a special class polyester formed from any dihydroxy compound and any carbonate diester or by ester exchange.

[a] 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 the 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 § 63.1104(a)(1), (b)(1), (c)(1), and (d)(1) of the rule. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

The following outline is provided to aid in reading the preamble to the proposed generic MACT standards.

I. Background

A. Purpose of the Proposed Standards

The Act was developed, in part,

* * * to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and productive capacity of its population (the Act, section 101(b)(1)).

Sources that would be subject to the standards proposed for each of the source categories (i.e., AR production, AMF production, HF production, PC production) with today's notice are major sources of HAP emissions on the EPA's list of categories scheduled for regulation under section 112(c)(1) of the Act. Major sources of HAP emissions are those sources that have the potential to emit greater than 9.1 megagrams per year (Mg/yr) (10 tons per year (tpy)) of any one HAP or 22.7 Mg/yr (25 tpy) of any combination of HAP. The HAP that would be controlled with today's proposal are associated with a variety of adverse health effects. Adverse health effects associated with HAP include chronic health disorders (e.g., cancer, aplastic anemia, pulmonary (lung) structural changes), and acute health

disorders (e.g., dyspnea (difficulty in breathing), and neurotoxic effects.

The EPA chose to regulate the AR production, AMF production, HF production, and PC production source categories under one subpart to streamline the regulatory burden associated with the development of separate rulemaking packages. All of these source categories have 5 or fewer major sources that would be subject to the standards proposed with today's notice. This subpart will be referred to as the ''generic MACT standards'' subpart. The generic MACT standards subpart has been structured to allow source categories with similar emission points and MACT control requirements to be covered under one subpart.

B. Technical Basis for the Generic MACT Standards

Section 112 of the Act regulates stationary sources of HAP. Section 112(b) (as amended) of the Act lists 188 chemicals, compounds, or groups of chemicals as HAP. The EPA has been directed by section 112 to regulate the emission of HAP from stationary sources by establishing national emission standards.

Section 112(a)(1) of the Act defines a major source 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, considering controls, in the aggregate 10 tons per year (tpy) or more of any HAP or 25 tpy or more of any combination of HAP.

The statute requires the EPA to establish standards to reflect the maximum degree of reduction in HAP emissions through application of MACT for major sources on the EPA's list of categories scheduled for regulation under section 112(c)(1) of the Act. The EPA is required to establish standards that are no less stringent than the level of control defined under section 112(d)(3) of the Act (this minimal level of control is referred to as the ''MACT floor.''

For new sources, the maximum degree of reduction in emissions

> 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.

The EPA defines a similar source as a source that has comparable emissions, and a design and capacity structure, such that emissions from that source can be controlled using the same control technology as applied to the given source.

For existing sources in the same category or subcategory, standards may be less stringent than standards for new sources in the same category or subcategory but shall not be less stringent, and may be more stringent than

> the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emissions information) * * * in the category or subcategory for categories or subcategories with 30 or more sources, or * * * the average emission limitation achieved by the best performing 5 sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory for categories or subcategories with fewer than 30 sources.

The following approach was used to collect and evaluate information pertaining to the proposed MACT for the AR production, AMF production, HF production, and PC production source categories:

1. Established a stakeholder group consisting of representatives of the affected industries, State and local agencies, and other interested parties (e.g., environmental groups, EPA).

2. Assembled available information from previous studies within the Agency and from the affected industries on the source category.

3. Collected additional information (e.g., site visits, existing State regulations) on the source category, as necessary, for determining baseline HAP emissions and existing emissions control.

4. Determined the affected source, control applicability criteria, and MACT for the source category. The MACT for an individual source category was determined based on available information on existing emissions control that applies to (1) sources within the source category, and (2) similar sources for which standards have been promulgated outside the source category (where practical).

Section III of this notice presents the EPA's proposed rationale for and summary of the EPA's proposed approach for determining MACT for source categories with a limited population of sources. Discussion on the EPA's rationale for, and determination of, MACT under the generic MACT standards for the AR production, AMF production, HF production, and PC production source categories is presented in section VII of this notice.

C. Stakeholder and Public Participation

Representatives of the AR production, AMF production, HF production, and PC production industries; environmental groups; State and local agencies; and the EPA were consulted in the development of the proposed standards. Industry representatives were asked to assist in data gathering, arranging site visits, and technical review. Documentation for stakeholder and public participation for the AR production, AMF production, HF production and PC production standards is included in the docket for the proposed standards (Docket No. A–97–17). Source category-specific supporting information is maintained within dockets established for each of these source categories (see **ADDRESSES**). These dockets are cross referenced by the generic MACT standards docket.

Representatives from other EPA offices and programs were included in the regulatory development process. These representatives' responsibilities included the review of the proposed standards. Their involvement ensures that the impacts of the proposed standards to other EPA offices and programs are adequately considered during the development process.

Additionally, this notice solicits comment on the proposed standards and offers a chance for a public hearing on the proposal (see ADDRESSES section) in order to provide interested persons the opportunity for oral presentation of data, views, or arguments concerning the proposed standards and the generic MACT approach.

II. Source Category List

Acetal resins production, AMF production, HF production, and PC production are included in the EPA's list of categories of major sources of HAP emissions established under section 112(c)(1) of the Act. The initial list was published on July 16, 1992 (57 FR 31576). An update of the list was published on June 4, 1996 (61 FR 28202). Each of these source categories have 5 or fewer sources (i.e., plants) and are, with this proposal, the first source categories proposed to be regulated under the proposed generic MACT standards. The documentation supporting the initial listing of these source categories is entitled ''Documentation for Developing the Initial Source Category List,'' EPA–450/3–91–030, July 1992. A description of each of these source categories follows.

1. Acetal Resins Production Source Category

The AR production source category includes any facility which manufactures homo polymers and/or copolymers of alternating oxymethylene units. Acetal resins are also known as polyoxymethylenes, polyacetals, and aldehyde resins. They are generally produced by polymerizing

formaldehyde (HCHO) with the methylene functional group (CH2) and are characterized by repeating oxymethylene units (CH20) in the polymer backbone. There are currently 3 plants operating in the United States.

2. Acrylic and Modacrylic Fibers Production Source Category

The AMF production source category includes any facility engaged in the production of either of the following synthetic fibers composed of AN:

(1) Acrylic fiber in which the fiber-forming substance is any long-chain synthetic polymer composed of at least 85 percent by weight of AN units; or

(2) Modacrylic fiber in which the fiber-forming substance is any long-chain synthetic polymer composed of at least 35 percent but less than 85 percent by weight of AN units. There are currently 4 plants operating in the United States.

3. Hydrogen Fluoride Production Source Category

The HF production source category includes any facility engaged in the production and recovery of HF by reacting calcium fluoride with sulfuric acid. For the purpose of the proposed standards, HF production does not include any process that produces gaseous HF for direct reaction with hydrated aluminum to form aluminum fluoride. In these processes, HF is not recovered as an intermediate or final product prior to reacting with the hydrated aluminum. Facilities utilizing these processes will be regulated under a separate MACT standard.

There are currently 2 HF production plants operating in the United States, only one of which will be affected by this rule. A third HF plant has been indefinitely ''mothballed'' (shut down but not dismantled, with the possibility of resuming production in the future).

4. Polycarbonates Production Source Category

The PC production source category includes any facility engaged in the production of a special class of polyester formed from any dihydroxy compound and any carbonate diester or by ester exchange. Polycarbonates may be produced by solution or emulsion polymerization, although other methods may be used. A typical method for the manufacture of PC includes the reaction of bisphenol-A with phosgene in the presence of pyridine to form PC. Methylene chloride is used as a solvent in this polymerization reaction. There are currently 5 plants operating in the United States.

Additional source categories that are scheduled for regulation no later than November 15, 2000 that the EPA has identified as having 5 or fewer sources include the following:

1. Alumina processing
2. Ammonium sulfate production
3. Antimony oxides manufacturing
4. Asphalt/coal tar application—metal pipes
5. Carbonyl sulfide (COS) production via carbon disulfide
6. Carboxymethylcellulose production
7. Cellophane production
8. Cellulose ethers production
9. Chromium refractories production
10. Fume silica production
11. Methylcellulose production
12. Primary magnesium refining
13. Rayon production
14. Spandex production
15. Steel foundries
16. Uranium hexafluoride production

The EPA believes that there is a potential for many more of the source categories scheduled for regulation no later than November 15, 2000 to have a limited number (5 or fewer) of major sources because of the existence of synthetic minor and area HAP sources. Identification of such source categories would be made when the initial data collection and analysis is conducted for an individual source category during the ''presumptive MACT'' (discussed below) process and/or in the information gathering and analyses stage of MACT development. Source categories determined by the EPA to include a limited number (5 or fewer) major sources will be evaluated by the EPA according to the criteria described below, to determine whether or not each source category is considered to be an appropriate candidate for assimilation in generic MACT standards.

If a listed source category on the EPA's source category list for regulation is not promulgated by the scheduled date for a given source category, section 112(j)(2) requires major sources of HAP to apply for a permit (in States with approved permit programs) within 18 months and comply with emissions limitations equivalent to MACT. Section 112(g) requires compliance with MACT on a case-by-case basis for major new sources and source modifications when no national MACT standard has been set by the EPA. In such cases, State and local permitting authorities are required to make case-by-case MACT determinations. Presumptive MACT is an estimate made within a limited timeframe based on a review of available information of what the proposed MACT standard would be, and is intended to assist State and local permitting authorities in making a possible case-by-case MACT determination.

III. Basis for Generic MACT Approach

In order to fulfill the requirements of the Act, the EPA is required to develop standards that reflect the maximum degree of reduction in HAP emissions through the application of MACT for major sources. For new sources, the EPA is required to establish standards that are no less stringent than the emission control that is achieved in practice by the best controlled similar source (referred to as the ''MACT floor'' for new sources). For existing sources, the EPA is required to establish standards that are no less stringent than the average emission limitation achieved by the best performing 12 percent of the existing sources in a category or subcategory with 30 or more sources, or the average emission limitation achieved by the best performing 5 sources in a category or subcategory with fewer than 30 sources (referred to as the ''MACT floor'' for existing sources).

The statute is somewhat ambiguous with respect to the process for derivation of a MACT floor for existing sources in those instances where the source category in question has fewer than five major sources. In prior rulemakings, the EPA has derived a MACT floor for categories with fewer than five sources directly, by determining the average emission limitation achieved by all sources in the category. However, while this approach to determining compliance with the MACT floor is clearly permissible, the EPA believes that derivation of a MACT floor in this manner for small source categories will generally be superfluous and uninformative with respect to the ultimate determination of MACT itself. This is especially true in those instances where the sources to be controlled are essentially the same types of sources repeatedly evaluated by the EPA as part of the development of previous MACT standards. In order to conserve limited EPA resources, avoid duplication of effort, and encourage consistency in its regulatory determinations, the EPA is now proposing to establish an alternative generic process for determining MACT for certain small source categories. This process will focus primarily on extension of prior MACT determinations to additional categories and determine compliance with MACT floor requirements by logical inference rather than a separate quantitative analysis.

A. Background

Of 93 source categories on the EPA source category list for which standards have not yet been developed, 17 have been identified as having 5 or fewer major sources. The tight schedule for establishing MACT standards for 93 source categories no later than November 15, 2000 has required the EPA to assess and implement different approaches to streamline regulatory development efforts while continuing to meet the objectives of the Act. For example, 20 source categories have been combined for regulation under one rulemaking (i.e., the Miscellaneous Organic NESHAP), and source categories with similar emission points and characteristics have been assimilated with others (e.g., the dodecanedioic acid production source category has been assimilated under the Hazardous Organic NESHAP).

Under the statutory process, even after a MACT floor has been determined, the EPA must consider control options more stringent than the floor. When considering control requirements beyond the floor, the EPA evaluates the relative cost of achieving different levels of emissions reductions, non-air quality health and environmental impacts, and the energy requirements of the controls. The objective of this consideration is to achieve the maximum degree of emission reduction without imposing unreasonable economic or other impacts.

In deciding what level of emission control constitutes MACT for a particular source category, the EPA is not limited solely to evaluation of the sources in that category. Rather, the EPA will consider its prior experience in deriving MACT requirements for similar types of sources in other categories. The more limited the population of sources in a category, the less likely that such sources will be fully representative of the range of reasonably available emission control technologies and strategies. Furthermore, in a larger source category, the statutory MACT floor determination is based on a subset of the sources in the category which is deliberately skewed toward greater control. Thus, the smaller the source category, the lower the likelihood that a MACT floor determined within the category will be useful or informative with respect to the determination of MACT itself.

For example, averaging the HAP emission control level achieved by one well-controlled source (e.g., vented to a control device achieving a HAP emission reduction of 95 percent by weight) with two uncontrolled sources (i.e., HAP emission reduction efficiency of zero percent by weight) would result in an average HAP emission control reduction level of approximately 32 percent by weight. This calculated ''average'' HAP emission control level is clearly below the HAP emission control level already demonstrated by a source in the source category, and is clearly not indicative of MACT for the source type. Selection of the median facility of the three, which is uncontrolled, would also have little relevance to the determination of MACT itself. Even if the EPA were to declare that the MACT floor is no control, the EPA would then be required to undertake a separate MACT analysis based on the general practicality of the control achieved at the well-controlled source as well as similar sources outside of the category.

B. Rationale

From the above discussion, it is apparent that, as a practical matter, the statutory safeguard of the MACT floor becomes less and less relevant to MACT itself as the size of a source category declines. Given the large number of small source categories scheduled for standard development and the limited time remaining, the EPA would like to focus its resources on the most relevant issues. Therefore, the Agency has attempted to develop a policy for small source categories which identifies and recognizes those instances where a separate MACT floor analysis is unnecessary and compliance of the overall MACT standard with the MACT floor limitation may be reasonably inferred.

There are two basic scenarios where the EPA can reasonably infer as part of establishing MACT that MACT floor requirements have been satisfied. First, when the EPA intends to select a MACT standard that coincides with the level of control achieved by the best controlled source(s) in a category, it is self-evident that the MACT floor has been met, and it is clearly a waste of EPA resources to undertake a separate quantitative MACT floor analysis based, in part, on control levels at the less well controlled facilities. This common sense principle is equally applicable to both small and large source categories.

Second, in those instances where the EPA will base its MACT standard for a small category (five or fewer sources) on MACT standards previously established for a larger group of demonstrably similar sources in other categories, it is also reasonable to infer MACT floor compliance without the need for a detailed new analysis. In each of the prior standards, the EPA will have selected a MACT standard requiring control equal to or greater than the MACT floor, and each of those MACT floors will, in turn, have been derived from a subset of the category consisting of the best-controlled facilities. Unless there is something about the nature of the sources in the small category that undercuts the basic premise that it is similar to the larger group of previously regulated sources, it is extremely implausible that the average control achieved by the small group of sources would be better than the MACT standards previously derived from the larger universe of similar sources.

If the EPA adopts objective criteria for assessing the similarity of sources in a small category to the larger group of sources upon which its generic MACT standards are based, and conducts a separate MACT analysis rather than adopting a generic standard whenever sources in the small category in question are shown to have achieved greater control or to be otherwise dissimilar, the EPA believes that the adoption of generic MACT standards will generally comport with statutory requirement.

It is apparent that a process that applies generically derived MACT requirements to small groups of sources that are similar in character to the larger groups of sources from which the generic standards were derived will conserve resources and will foster regulatory predictability and consistency. For the reasons explained above, the EPA believes that MACT standards derived in this manner will also comply with any applicable MACT floor and otherwise meet statutory requirements. Although such a conclusion is logical, the EPA decided that it would be useful to test this conclusion by comparing the results likely under this alternative approach with actual standards promulgated in the past.

In order to do this, the EPA reviewed and evaluated MACT standards promulgated as of March of 1998 that regulated source categories or source subcategories with 5 or fewer major sources. The EPA's review and evaluation supports the EPA's position that the control level established using the proposed alternative MACT determination approach would parallel the control level that would be established under the conventional MACT determination approach (refer to Docket No. A–97–17, Item No. II–B–7).

Although the EPA believes it is sensible to address small source categories through application of generic standards derived from EPA experience in setting prior standards,

the EPA will not automatically utilize a generic standard approach for all small categories. If the EPA determines that the sources in a particular small source category are demonstrably different in a material way, a generic approach will not be utilized in that instance. Factors that could cause the EPA to determine that a source category is not an appropriate candidate for generic MACT include, but are not limited to, the following: sources in the small category are dissimilar from the types of sources addressed by generic standards, factors specific to the sources in question significantly reduce or increase the practicality of the specified generic emission controls, the sources present unusual hazards of the sort that may have affected development of existing control strategies, or the sources have already achieved emission limitations greater than anticipated generic standards.

The EPA will determine the appropriateness of assimilating a particular small source category into its generic standards on a case-by-case basis. Moreover, as will be apparent from the discussion below, the EPA intends to establish a process that will enable early identification of any factors that make a small category inappropriate for inclusion in generic MACT.

C. Description of Alternative Approach

Under the EPA's proposed alternative MACT determination approach for source categories with 5 or fewer major sources, MACT would be established based on (1) sources within the category, and (2) similar sources for which standards have been promulgated outside the source category. In developing a streamlined approach for establishing MACT when a source category has a limited population of major sources, the EPA acknowledged that the following legal and procedural issues needed to be addressed:

1. The approach needed to fulfill the Act's intent of establishing MACT.

2. The approach needed to allow the EPA to establish specific enforceable standards.

3. The approach needed to allow the EPA to develop appropriate monitoring, recordkeeping, and reporting requirements.

4. The approach needed to include procedural steps to ensure appropriate decision making, and input from stakeholders.

The EPA's proposed basic approach for determining MACT for source categories with a limited population of major sources involves the following:

1. Establishment of a stakeholder group that consists of representatives of the affected industries, State and local agencies, and other interested parties (e.g., environmental groups, the EPA Regional Offices).

2. Assembly of available information from previous studies within the Agency and from the affected industries on the source category.

3. Collection of additional information (e.g., site visits, existing State regulations) on the source category, as necessary, for determining baseline HAP emissions and existing emissions control.

4. Determination of the affected source, control applicability criteria, and MACT for an individual source category based on available information on existing emissions control that applies to (1) sources within the category, and (2) similar sources for which standards have been promulgated outside the source category (where practical and there is consensus among the stakeholders).

The EPA chose the presumptive MACT process as the starting point for the alternative MACT determination because sufficient information would be available in the process to do an initial screening of small major HAP source categories (sources with five or fewer major HAP sources) to determine the appropriateness of MACT based on the alternative MACT determination approach (e.g., identification of source category as a category with a limited number of major sources; identification of HAP emission points, characteristics, and waste streams). If the EPA decides that the alternative MACT determination approach is appropriate, it will be implemented for that source category and standards for that source category would be assimilated under the generic MACT standards subpart. If it is decided that it is not appropriate to determine MACT for the source category based on the EPA's alternative approach, the conventional MACT determination process will be utilized. Under the latter scenario, the source category-specific MACT standards may be assimilated under the generic MACT standards subpart or placed in a separate subpart.

Based on the EPA's establishment of previously-promulgated MACT standards, the determination of MACT generally consists of two basic components: an ''applicability'' criteria component and a ''control requirement'' component. The applicability component consists of identifying and determining the HAP emission points within the source category that can and have been controlled by emission control technologies. The control requirement component is identified and determined by the emission control technology (or emission reduction) that should be applied to a selected source to achieve the maximum degree of reduction in HAP emissions (taking into consideration the factors specified in the Act).

The approach used to determine the applicability component for existing and new source MACT is independent of the total number or sources in the source category. This component of MACT is determined based on the characteristics specific to an individual source category (e.g., the type and quantity of HAP, size of storage vessel). Therefore, under the EPA's proposed alternative MACT determination approach, the EPA would determine the applicability component of MACT on a source category-specific basis, which would parallel what has been implemented for previously-promulgated NESHAP. For example, a small fixed roof storage vessel containing a HAP with a low vapor pressure or at a low concentration may not be a significant source of HAP emissions warranting additional emissions control. In such cases, control requirement applicability would be established for the source category's storage vessels that would acknowledge low-emitting storage vessels by exempting them from additional control, monitoring, recordkeeping, and reporting requirements.

The proposed alternative approach would establish the control requirement component based on MACT determinations made by the EPA under previously-promulgated NESHAP for emission point types sharing similar pollutant stream characteristics (e.g., organic HAP emissions from storage vessels, process vents, wastewater treatment systems, bulk organic liquid transfer loading racks, fugitive emissions from pump and valve leaks).

Under the proposed approach, the EPA would consider the following factors when determining whether it is appropriate to adopt generic control or source reduction technologies demonstrated outside of an applicable source category: (1) The volume and concentration of emissions, (2) the type of emissions, (3) the similarity of emission points, (4) the cost and effectiveness of controls for one source category relative to the cost and effectiveness of controls for the other source category, (5) whether a source has unusual characteristics that might require more or less stringent controls, and (6) whether any of the sources have existing emission controls that are

dissimilar and more stringent than controls required for similar sources outside the source category. These factors would be considered on a source category-specific basis in order to ensure that sources are appropriately similar, and that emissions control technologies and reductions demonstrated outside of a source category are achievable for new and existing sources in an applicable source category. The proposed alternative MACT determination approach would enable the EPA to determine MACT considering MACT determinations made by the EPA under previously-promulgated NESHAP for similar HAP emission point and source types sharing similar pollutant stream characteristics.

To assist in the implementation of the EPA's proposed alternative MACT determination approach, the EPA identified control technologies used in previously-promulgated NESHAP that establish standards specific to a common group of sources or emission points types (see Docket No. A–97–17, Item No. II–B–8). The control requirements selected for an emission point, and control or recovery equipment type are referred to hereafter as ''common control requirements.''

For example, at least seven MACT standards have been promulgated by the EPA for individual source categories that establish specific air emission control requirements for vessels storing liquids and other materials containing organic HAP (40 CFR 63 subparts G, R, U, CC, DD, EE, and JJJ). The EPA believes that it is reasonable to group the HAP storage vessels represented by these MACT determinations under a single emission point type because, regardless of the type of production process or operation with which the storage vessels are associated, the storage vessels have similar emission mechanisms and control technologies.

Organic HAP emissions from fixed-roof storage vessels are generated by the same emission mechanisms (e.g., breathing losses resulting from diurnal changes in ambient temperature, displacement of head space vapors when filling the storage vessel). The quantity of emissions from a storage vessel is a function of the same characteristic properties (e.g., organic vapor pressure) of the material stored in other vessels containing organic HAP. Similarly, the same control technology options are applicable to reducing the air emissions from fixed-roof storage vessels (e.g., retrofitting internal floating roofs, or venting vapors to a control device). Thus, the EPA believes that it is reasonable to apply a common set of control requirements, defined by existing MACT standards, to storage vessels sharing similar characteristics, regardless of the individual source category in which a storage vessel may be designated as an affected source. Following this rationale, common control requirements can be selected for other types of HAP emission points that share similar HAP emission characteristics.

As with previously-promulgated NESHAP and this proposal, the rationale for each MACT determination made for a small category pursuant to the alternative methodology would be presented in the preamble at the time of proposal and opportunity for comment given. Additionally, the costs, economical, and other impacts would be assessed to ensure that unreasonable impacts do not result from the implementation of the proposed MACT. The EPA is soliciting comment on the proposed generic MACT program and approach with this proposal (see section XII.A of the preamble).

IV. Summary of Proposed Standards

The proposed standards for AR production, AMF production, HF production, and PC production include requirements that reflect existing emission point control requirements for similar sources, requirements that are source category-specific, and requirements that would apply to all source categories that are regulated under the generic MACT standards subpart (e.g., general recordkeeping, reporting, compliance, operation, and maintenance requirements). Section IV.A of this preamble presents the generic MACT standards subpart structure, and sections IV.B through IV.E present a summary of the proposed standards applicable for each of the source categories being assimilated under the generic MACT standards with this proposal.

The proposed standards apply to process units and emission points that are part of a plant site that is a major source as defined in section 112 of the Act. The applicability section of the regulation specifies what source categories are being assimilated under the generic MACT standards with this proposal and defines the emission points subject to the proposed standards.

A. Generic MACT Standards Structure

The following discussion presents a summary of the structure of the proposed generic MACT standards.

1. *Applicability.* The proposed generic MACT standards have been structured to allow source categories with similar emission points and MACT control requirements to be covered under one subpart. The applicability section specifies the source categories and affected source for each of the source categories subject to the generic MACT standards. This section also clarifies the applicability of certain emission point provisions for which both the generic MACT standards subpart and other existing Federal regulations might apply.

2. *Definitions.* The definitions section specifies definitions that apply across source categories.

3. *Compliance schedule.* The compliance schedule section provides compliance dates for new and existing sources.

4. *Source category-specific applicability, definitions, and standards.* The source category-specific applicability, definitions and standards section specifies the definitions, and standards that apply to an affected source based on applicability criteria, for each source category.

5. *Applicability determination procedures and methods.* The applicability determination procedures and methods section provides procedures for an owner or operator of an affected source to follow when determining control requirements under the standard applicability section of the rule. Standard applicability determination procedures (as applicable) are footnoted in the standard requirement applicability tables specified for each source category.

6. *Generic standards and procedures for approval for an alternative means of emissions limitation.* The remaining sections of the proposed rule contain provisions that would apply across source categories within the generic MACT subpart. These provisions include generic compliance, maintenance, monitoring, recordkeeping, and reporting requirements. An alternative means of emission limitation to the design, operational, work practice, or equipment standards specified for each source category within the generic MACT subpart may also be established as provided in § 63.1113 of 40 CFR Part 63, subpart YY (Generic MACT Standards).

B. Acetal Resins Production Standards

The AR production standard consists of standards that regulate HAP emissions from storage vessels storing process feed materials, process vents, process wastewater treatment systems, and equipment leaks from compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves,

connectors, and instrumentation systems. Requirements would be the same for both existing and new sources.

Storage vessels. Storage vessels with specified sizes that store materials with specified vapor pressures would be required to control HAP emissions by using an external floating roof equipped with specified primary and secondary seals; by using a fixed roof with an internal floating roof equipped with specified seals; or by covering and venting emissions through a closed vent system to one of the following:

1. A recovery device or an enclosed combustion device that achieves a HAP control efficiency ≥95 percent.

2. A flare.

Process vents from continuous unit operations (back end and front end process vents). Front end process vents would be required to control HAP or TOC emissions by venting emissions through a closed vent system to a flare, or venting emissions through a closed vent system to any combination of control devices that reduces emissions of HAP or TOC by 60 percent by weight or to a concentration of 20 parts per million by volume (ppmv), whichever is less stringent. Back end process vents with a total resource effectiveness index value (TRE) less than 1.0 would be required to control HAP or TOC emissions by venting emissions through a closed vent system to a flare, or venting emissions through a closed vent system to any combination of control devices that reduces emissions of HAP or TOC by 98 percent by weight or to a concentration of 20 parts per million by volume (ppmv), whichever is less stringent; or by achieving and maintaining a TRE index value greater than 1.0.

Wastewater treatment systems. Process wastewater treatment systems with wastewater streams with an average HAP concentration ≥10,000 parts per million by weight (ppmw) at any flow rate, or an average HAP concentration ≥1,000 ppmw and an annual average flowrate ≥10 liters per minute would be required to control HAP emissions by covering (e.g., with a floating roof cover, or a floating membrane cover), and venting emissions through a closed vent system to one of the recovery or control devices specified for control of emissions from storage vessels. For individual drain systems, an owner or operator also has the option of using hard-piping to control HAP emissions.

Equipment leaks. For equipment containing or contacting HAP in amounts ≥5 percent, HAP emissions would be required to be controlled through the implementation of a leak detection and repair (LDAR) program for affected equipment.

C. Acrylic and Modacrylic Fibers Production Standards

The AMF production standards consist of standards that regulate AN emissions from storage vessels storing process feed materials, process vents, fiber spinning lines, process wastewater treatment systems; and equipment leaks from compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, or instrumentation systems. Requirements for individual sources would be the same for both existing and new sources.

As an alternative to these individual source requirements, an owner or operator of an affected AMF production facility can comply with the rule by controlling facility-wide AN emissions (not including equipment leaks as identified above) to a level such that emissions do not exceed 0.5 kilograms of AN per megagram (Mg) of fiber produced (1.0 pound AN per ton of fiber produced) for existing sources, and 0.25 kilograms of AN per Mg of fiber produced (0.5 pounds AN per ton of fiber produced) for new sources.

Storage vessels. Storage vessel emissions storing process feed material would be required to control AN emissions by using an external floating roof equipped with specified primary and secondary seals; using a fixed roof with an internal floating roof equipped with specified seals; or by venting emissions through a closed vent system to one of the following:

1. A recovery device that achieves a HAP control efficiency ≥95 percent;

2. An enclosed combustion control device that achieves a HAP control efficiency ≥98 percent; or

3. A flare that meets the EPA design and operation specifications of 40 CFR 60.18.

Process vents from continuous unit operations. Process vents with vent streams with an average flow rate ≥ 0.005 cubic meters per minute and a AN concentration ≥50 ppmv would be required to control HAP emissions by venting vapors through a closed vent system to a recovery or control device that reduces emissions of HAP or TOC by 95 or 98 percent by weight or to a concentration of 20 ppmv, whichever is less stringent. If the controlled vent stream is halogenated, emissions are required to be vented to a halogen reduction device that reduces hydrogen halides and halogens by 99 percent by weight or to less than 0.45 kg/hr either prior to or after (other than by using a flare) reducing the HAP or TOC by 98 percent by weight.

Fiber spinning lines. Fiber spinning lines using spinning solution or spin dope with an AN concentration ≥100 parts per million (ppm) are required to reduce AN emissions by 85 percent by weight or more by enclosing the spinning and washing areas of the spinning line and venting to a control and/or recovery device.

Wastewater treatment systems. Process wastewater treatment systems with an annual average AN concentration ≥10,000 ppmw at any flow rate, or an annual average AN concentration ≥1,000 ppmw and an annual average flowrate ≥10 liters per minute would be required to control HAP emissions from those units managing wastewater by covering (e.g., with a floating roof cover, or a floating membrane cover), and venting through a closed vent system to one of the recovery or control devices specified for control of emissions from storage vessels. For individual drain systems, an owner or operator also has the option of using hard-piping to control HAP emissions.

Equipment leaks. For equipment containing or contacting AN in amounts ≥10 percent by weight, HAP emissions would be required to be controlled through the implementation of a LDAR program for affected equipment.

D. Hydrogen Fluoride Production Standards

The HF production standards consist of standards that regulate HAP emissions from storage vessels; process vents on HF recovery and refining vessels; bulk loading of HF liquid into tank trucks and railcars; kilns used to react calcium fluoride with sulfuric acid; and equipment leaks from compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, or instrumentation systems. Requirements would be the same for both existing and new sources.

Storage vessels and transfer racks. Storage vessels and transfer loading racks would be required to control HF emissions by venting to a recovery system or wet scrubber that achieves a 99 percent by weight removal efficiency.

Process vents from continuous unit operations. Process vents for HF recovery and refining would be required to control HF emissions by venting emissions to a wet scrubber that achieves a 99 percent by weight HF removal efficiency.

Kilns. Kilns used to react calcium fluoride with sulfuric acid would be required to capture HF emissions and vent emissions to a wet scrubber that achieves a 99 percent by weight HF removal efficiency during emergencies.

Equipment leaks. All equipment leaks would be controlled through a LDAR program.

E. Polycarbonates Production Standards

The PC production standards consist of standards that regulate HAP emissions from process vents from batch and continuous unit operations, storage vessels, process wastewater treatment systems, and equipment leaks from compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems that are not already subject to the hazardous organic NESHAP (HON). Different requirements and applicability criteria apply for existing and new sources.

Storage vessels. Storage vessels with specified sizes that store materials with specified vapor pressures would be required to control HAP emissions by using an external floating roof equipped with specified primary and secondary seals; by using a fixed roof with an internal floating roof equipped with specified seals; or by covering and venting emissions through a closed vent system to any of the following control devices:

1. A recovery device that achieves a HAP control efficiency ≥95 percent;
2. An enclosed combustion control device that achieves a HAP control efficiency ≥95 or 98 percent (depending on the vapor pressure of contained liquid and storage vessel size); or
3. A flare.

Some vessels must use a closed vent system and recovery or control device, based on vessel size dn the vapor pressure of the stored material.

Process vents from batch unit operations. Process vents from batch unit operations that emit 11,800 kilograms or more per year (kg/yr) of HAP, and that have a vent stream flow rate less than the cutoff flow rate, are required to control emissions from process vents by an aggregated 90 percent by weight or to a TOC concentration of 20 ppmv per batch cycle.

Wastewater treatment systems at existing sources. Process wastewater treatment systems with wastewater streams with an average HAP concentration ≥10,000 ppmw at any flow rate, or with an average annual HAP concentration ≥1,000 ppmw and an annual average flowrate ≥10 liters per minute would be required to control HAP emissions by covering (e.g., with a floating roof cover, or a floating membrane cover), and venting emissions through a closed vent system to one of the recovery or control devices specified for control of emissions from storage vessels. For individual drain systems, an owner or operator also has the option of using hard-piping to control HAP emissions.

Equipment leaks. For equipment containing or contacting HAP in amounts ≥5 percent, HAP emissions would be required to be controlled through the implementation of an LDAR program for affected equipment.

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

In the decision process for determining MACT for an individual source category, the EPA and stakeholder group members (as applicable) consider the cost of achieving MACT and associated emissions reductions, and any nonair quality health and environmental impacts and energy requirements.

Impacts are determined relative to the baseline that is set at the level of control in absence of the rule. Environmental impacts from the application of the control or recovery devices proposed for the subject source categories include the reduction of HAP and VOC emissions, increases in other air pollutants, and decreases or increases in water pollution and solid waste. Although the intent of the proposed standards is to reduce HAP emissions, the control of organic HAP emissions would also result in the control of non-HAP and HAP VOC for the AR production, AMF production, and PC production source categories. There is a potential for a slight increase in emissions of CO and NO_X resulting from the on-site combustion of fossil fuels as part of control device operations. Impacts for water pollution and solid waste, and increases in energy use from the use of control devices, would be negligible.

The EPA believes that there would be minimal, if any, adverse environmental or energy impacts associated with the proposed standards for the AR production, AMF production, HF production, or PC production source categories. This belief is supported by previous impacts analyses associated with the application of the control and recovery devices that would be required under the proposed standards, and by the fact that each of these source categories have only 5 or fewer major sources.

The cost and economic impacts of the proposed standards for the AR production, AMF production, HF production, and PC production source categories have been estimated by the EPA to be insignificant or minimal. The MACT cost and economic impacts supporting the EPA's conclusion for each of these source categories are presented in the economic analyses for each of these source categories. The economic analyses for each of these source categories can be obtained from the dockets established for these source categories (see **ADDRESSES**).

VI. Emission Point Common Control Requirements

The EPA promulgated standard requirements for selected emission points (i.e., containers, surface impoundments, oil-water separators and organic-water separators, tanks, individual drain systems) in individual subparts under the Off Site Waste and Recovery NESHAP. This was done for ease of reference, administrative convenience, and as a step towards assuring consistency in the technical requirements of the air emission control requirements applied to similar emission points under different regulations. These subparts do not specify emissions reduction performance requirements or applicability cutoffs. Emissions reduction performance requirements and applicability cutoffs would be specified in the subpart that references these subparts.

By establishing emission point and emissions control specific subparts, the generic MACT regulation (and other regulations) can reference a common set of design, operating, testing, inspection, monitoring, repair, recordkeeping, and reporting requirements for air emissions controls. This eliminates the potential for duplicative or conflicting technical requirements, and assures consistency of the air emission requirements applied to similar emission points. Creating emission point-specific subparts and a subpart for closed vent systems, control devices, and routing to a fuel gas system or process simplifies the amendment process and ensures that all regulations that cross reference the use of such subparts are amended in a consistent and timely manner. Additionally, a subset of these subparts can be cross referenced and exceptions can be made within the referencing subpart. Therefore, these subparts do not limit the flexibility to address source category-specific needs.

The EPA reviewed the MACT determinations used for each of the NESHAP subparts promulgated for individual source categories prior to October 1996 under 40 CFR part 63. The

majority of these NESHAP regulate source categories having pollutant streams containing gaseous organic HAP. To date, NESHAP for a few source categories have been promulgated to control emissions of specific metals listed as HAP or particulate matter containing HAP. Thus, the EPA decided to focus initially on the selection of control requirements for source types emitting gaseous organic HAP.

In a number of cases, standards have been established by the EPA under NESHAP for different source categories that regulate organic HAP emissions from the same emission point type, such as storage vessels storing volatile organic liquids, process vent gas streams, leaks from equipment components used in organic liquid service. Thus, MACT determinations that the EPA has made for these NESHAP rulemakings can be grouped together by HAP emission point types having similar pollutant stream characteristics.

The EPA has identified the following individual emission point types for which specific standards have been established under more than one NESHAP: storage vessels, process vents, bulk organic liquid transfer loading operations, equipment leaks, and containers. In addition, a number of the existing NESHAP address organic HAP emissions from individual drain systems, wastewater storage vessels, oil and water separators, and surface impoundments collectively under standards related to the collection and treatment of wastewater containing organics. Therefore, the EPA decided that it is appropriate to group these emission points together in a single emission point category called ''organic wastewater treatment facilities.''

Common control requirements selected by the EPA for specific organic HAP emission point types and individual subparts are presented in table 1. Note that clarifying additions or improvements to previously-promulgated standards were made when developing the common control requirements. For example, 40 CFR Part 63, Subpart WW (National Emission Standards for Storage Vessels—Control Level 2) includes options for controlling emissions for slotted guidepoles. A complete description of the information upon which these common control requirement selections are based is presented in a technical memorandum available in the docket for this rulemaking No. A–97–17, Item No. II–B–8).

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TABLE 1. HAZARDOUS AIR POLLUTANT STREAM COMMON CONTROL REQUIREMENTS CONTROL LEVELS

Emission Point	Hazardous Air Pollutant Stream Control Requirements		
Storage vessels (or tanks) managing organic materials	Control Level 1	Use fixed-roof tank	Subpart OO Subpart SS
	Control Level 2	Option 1: Use external floating roof equipped with specified primary and secondary seals, or Option 2: Use fixed roof with internal floating roof equipped with specified seals, or Option 3: Cover and vent through closed vent system to one of the following control devices: 1. Recovery control device that achieves a HAP control efficiency ≥ 95% 2. Enclosed combustion control device that achieves HAP control efficiency ≥ 98% 3. Flare meeting EPA specifications	
Process vents emitting organic vapors	Route process vent vapors through closed vent system to one of the following control devices: 1. Recovery control device that achieves a HAP control efficiency ≥ 95%; 2. Enclosed combustion control device that achieves a HAP control efficiency ≥ 98%, or 20 ppmv; or 3. Flare meeting EPA specifications.		Subpart SS
Bulk organic liquid transfer loading racks	Route displaced vapors from cargo tank through closed vent system to one of the following control devices: 1. Recovery control device that achieves a HAP control efficiency ≥ 95%; 2. Enclosed combustion control device that achieves a HAP control efficiency ≥ 98%, or 20 ppmv; 3. Flare meeting EPA specifications.		Subpart SS

Emission Point		Hazardous Air Pollutant Stream Control Requirements	
	Storage vessels (or tanks)	see MACT for "storage vessels" emission point bin	
Organic wastewater treatment facilities	Oil/water separators	Option 1: Use floating roof cover equipped with specified primary and secondary seals, or Option 2: Cover and vent through closed vent system to one of the following control devices: 1. Recovery control device that achieves a HAP control efficiency ≥ 95%; 2. Enclosed combustion control device that achieves HAP control efficiency ≥ 98%; or 3. Flare meeting EPA specifications.	Subpart VV Subpart SS
	Surface impoundments	Option 1: Use floating membrane cover, or Option 2: Cover and vent through closed vent system to one of the following control devices: 1. Recovery control device that achieves a HAP control efficiency ≥ 95%; 2. Enclosed combustion control device that achieves a HAP control efficiency ≥ 98%; or 3. Flare meeting EPA specifications.	Subpart QQ Subpart SS
	Individual drain system	Option 1: Install and operate covers, water seals and other required emission control equipment on drains, junction boxes, and sewer lines, or Option 2: Use hard-piping, or Option 3: Cover and vent through closed vent system to one of the following control devices: 1. Recovery control device that achieves HAP control efficiency ≥ 95%; 2. Enclosed combustion control device that achieves HAP control efficiency ≥ 98%; or 3. Flare meeting EPA specifications.	Subpart RR Subpart SS

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Emission Point		Hazardous Air Pollutant Stream Control Requirements	
Leaks from equipment [a] containing or contacting organic materials	Control Level 1	1. Implement leak detection and repair program for affected pumps, valves, and connectors. Monitoring all affected equipment at regular periodic interval. 2. Standards for compressors, open-ended lines, pressure relief devices, and sampling connections same as in 40 CFR 61 subpart V. 3. Alternative standards for batch processes and for equipment inside an enclosed building.	Subpart TT
	Control Level 2	1. Implement leak detection and repair program for affected pumps, valves, and connectors. Monitoring interval established by performance requirements for a maximum allowable percentage of leaking components. 2. Standards for compressors, open-ended lines, pressure relief devices, and sampling connections same as in 40 CFR 61 subpart V. 3. Alternative standards for batch processes and for equipment inside an enclosed building.	Subpart UU
Containers managing organic materials	Control Level 1	Use one of the following: 1. Container equipped with tight-fitting cover (i.e., no visible gaps, spaces, etc.); 2. Cover material in open container with vapor-suppression barrier; or 3. Container that meets U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation.	Subpart PP Subpart SS
	Control Level 2	1. Use one of the following: a. Container demonstrated to operate with no detectable emissions using Method 21; b. Container demonstrated to be leak-tight using Method 27; or c. Container that meets U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation. 2. Load material in container to minimize exposure of material to atmosphere.	
	Control Level 3	1. Directly vent container or place container in enclosure vented through closed vent system to one of the following control devices: a. Recovery control device that achieves a HAP control efficiency ≥ 95%; b. Enclosed combustion control device that achieves HAP control efficiency ≥ 98%; or c. Flare meeting EPA specifications.	

[a] Affected equipment is pumps, compressors, agitators pressure relief devices, sampling connections, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and instrumentation systems.

Today's document proposes additional standard requirement subparts for equipment leaks (40 CFR part 63, subparts TT and UU), storage vessels (40 CFR part 63, subpart WW), and closed vent systems, control devices, recovery devices and routing to a fuel gas system or process (40 CFR part 63, subpart SS). As with the common control requirement subparts previously promulgated together with the Off Site Waste NESHAP, these subparts provide technical requirements only and do not specify applicability cutoffs or emissions reduction performance requirements. The EPA is soliciting comment on the proposed emission point-specific subparts, and closed vent system, control devices, and routing to a fuel gas system or process subpart with this proposal (see section XII.B of the preamble).

VII. Selection of MACT for Proposed Standards

The MACT selection rationale for the AMF production, HF production, PC production, and AR production source categories is presented in the following sections. The control component of MACT for the AMF production source category affected source emission points was determined based on the generic MACT approach. The control component of MACT for the HF production source category affected source emission points was determined using the EPA's traditional MACT floor approach. The control component of MACT for the AR production source category affected source emission points was determined using the EPA's traditional MACT floor approach for front end process vents from continuous unit operations, and the generic MACT approach was used for determining MACT for back end process vents from continuous unit operations, wastewater facilities, and equipment leaks. The control component of MACT for the PC production source category affected source emission points was determined using the EPA's traditional MACT floor approach for storage vessels and process vents from continuous unit operations, and the generic MACT approach was used for determining MACT for process vents from batch unit operations, wastewater facilities, and equipment leaks.

A. MACT for Acrylic and Modacrylic Fiber Production

The AMF fibers production source category consists of facilities engaged in the production of synthetic fibers composed of AN. Acrylic fibers are defined as a manufactured fiber in which the fiber-forming substance is any long chain synthetic polymer composed of at least 85 percent by weight of AN units. Modacrylic fibers are composed of less than 85 percent but at least 35 percent by weight of AN units. Acrylic and modacrylic fibers are used to produce textile products and some types of carbon fibers.

Four companies operate AMF production facilities in the United States. These facilities are located in Alabama, Florida, and South Carolina. Two of the AMF production facilities are part of textile manufacturing plants. The manufacture of textile products using AMF has undergone considerable contraction in the past decade (i.e., plant closings). The other two facilities are integrated with carbon fiber manufacturing plants. Carbon fiber manufacturing is a relatively new industry, having only been developed during the past decade, and appears to be an expanding industry.

The principal HAP associated with the existing AMF plants is AN. Other HAP such as dimethylformamide, cyanide compounds, vinyl chloride, vinyl bromide, vinylidine chloride, or vinyl acetate may also be present in small quantities. These HAP are typically the comonomers used in the manufacture of acrylic polymer. Some of these pollutants are considered to be known or probable human carcinogens when inhaled, and can cause irreversible toxic effects following exposure. These effects include respiratory and skin irritation, various systemic effects including damage to the liver, blood, reproductive organs, and central nervous system, and in extreme cases, death.

Acute (short-term) exposure to AN can cause low-grade anemia with elevated white blood cell counts, bluish skin color, kidney irritation, and severe burns to the skin from dermal exposure. Chronic exposure to AN can result in headaches, fatigue, nausea, and muscle weakness. AN has also been classified as a probable human carcinogen.

Acute exposure to vinyl chloride through the air can result in affects to the central nervous system such as dizziness, headaches, and giddiness. Chronic exposure to vinyl chloride through inhalation and ingestion can cause ''vinyl chloride disease,'' which is characterized by liver damage, effects on the lungs, poor circulation in the fingers, changes in the bones at the end of the fingers, thickening of the skin, and changes in the blood. Vinyl chloride is classified as a human carcinogen.

Acute exposure to vinyl acetate by inhalation leads to irritation of the eyes and upper respiratory tract. Chronic exposure to vinyl acetate through inhalation may result in respiratory irritation, cough, and hoarseness. The EPA has classified vinyl acetate as a possible human carcinogen.

The production of AMF involves polymerization reaction processes (either solution or suspension polymerization), wet or dry solvent spinning, solvent recovery, and fiber processing (such as washing, stretching, crimping, drying). The sources of HAP emissions from these operations include: (1) Storage vessels used to store AN monomer and comonomers; (2) process vents on reactors, vessels, and storage vessels used for acrylic polymerization, monomer recovery, fiber spinning, and solvent recovery operations; (3) AMF spinning lines that are sources of process fugitive emissions from spinning or fiber processing operations; (4) wastewater treatment systems used to manage the wastewater containing AN generated by the AMF production process; and (5) leaks from equipment components used to handle AN monomer and comonomers.

The EPA chose to determine MACT for AMF production facilities based on the control of pollutant streams containing AN. This pollutant is the principal HAP associated with and emitted from AMF production facilities. Other organic HAP constituents, if present, would only be associated with those pollutant streams containing AN with the exception of raw material storage. The EPA expects that control of sources emitting AN will also achieve comparable levels of control for other organic HAP emitted from AMF production facilities.

1. *AN storage vessels.* The capacities of the storage vessels associated with AMF fibers production at textile plants typically are greater than 100,000 gallons for AN monomer and 20,000 gallons for comonomers. At carbon fiber plants, use of storage vessel sizes in the range of 25,000 gallons for AN storage is typical. All of these storage vessels are used strictly for monomer or comonomer feedstock storage with no mixing, blending, or heating of the material contained in the storage vessel. During summer months under typical AN storage conditions at the existing facilities, the maximum vapor pressure of AN can exceed 20 kPa.

The characteristics of storage vessels used in the AMF industry are not unique. The AN storage vessel capacities and vapor pressures are similar to storage vessel characteristics for which the EPA has already determined MACT to be the level of control that would be achieved by applying Control Level 2 storage vessel

common control requirements (described in section VI of this notice). Because of these similarities, the EPA concluded that the Control Level 2 storage vessel common control requirements are appropriate to use as MACT for AN storage vessels at AMF production facilities (see Docket No. A–97–17, Item No. II-B–8).

2. *AN process vents.* At AMF production plants there are a number of process vent streams containing AN. Within suspension polymerization and fiber production, there are two general process vent types: (1) vents associated with the monomer recovery system (i.e., the vacuum flash vent or the slurry stripper condenser vent), and (2) vents associated with polymer filtering, dewatering, and drying operations (i.e., the vacuum pump filter vents and the polymer dryer exhausts). Solvent recovery operations utilizing distillation operations have associated process vents, typically the condenser exhaust. Some polymerization reactors have vents which are potential organic HAP emission points.

The properties of the continuous process vent streams containing AN are similar to the process stream characteristics for which the EPA has already determined MACT to be the level of control that would be achieved by applying the process vent common control requirements described in section V.D of today's notice. Because of these similarities, the EPA concluded that the process vent common control requirements are appropriate to use as MACT for process vents on equipment used for acrylic polymerization, monomer recovery, fiber spinning, and solvent recovery operations at AMF production facilities. (see Docket No. A–97–17, Item No. II-B–8).

3. *AN fiber spinning lines.* During the spinning process, unreacted monomer and the organic solvent used to dissolve the polymer are volatilized into room air and vented to the atmosphere. Major process fugitive emission points include the filtering, spinning, washing, drying, and crimping steps.

The EPA considered several alternative control approaches as MACT for the fiber spinning lines. Emissions of AN from a fiber spinning line could be controlled by capture and subsequent routing to an incinerator. One option is to require an overall reduction of AN emissions without specifying an individual capture efficiency and/or control device performance level. A second option is to specify both capture efficiency and control device performance level. Both of these options require an enclosure over the spinning and washing areas of the spinning line and venting the enclosure to an appropriate control device. This is the technical basis for the acrylic and modacrylic fiber new source performance standards (NSPS) in 40 CFR 60, subpart HHH. However, while technically feasible, some owners and operators would prefer not to enclose their fiber spinning lines. Therefore, a third option is to use process modifications to reduce the amount of residual AN monomer available for volatilization during spinning operations. Considerable efforts have been made on the part of some plants to significantly reduce the amount of residual AN monomer in the fiber spinning solution. By reducing the AN content prior to spinning and fiber processing, this source reduction technique reduces the amount of AN that is ultimately volatilized into the room air and emitted to the atmosphere. The alternative to this is to not enclose the spinning lines and to vent the very low concentration AN exhaust air to a control device that is capable of adequately handling the high volume, low concentration gas stream.

The properties of the spinning line exhaust streams containing AN are similar to the process vent stream characteristics for which the EPA has already determined MACT to be the level of control that is achieved by applying the process vent common control requirements (described in section V.D of this notice). Because of these similarities, the EPA concluded that MACT for fiber spinning lines using a spinning solution or spin dope having a total organic HAP concentration equal to or greater than 100 ppmw is use of an enclosure around the spinning and washing areas of the spinning line and venting of the enclosure to an appropriate control device to achieve an overall AN emission reduction greater than or equal to 85 percent by weight (see Docket No. A–97–17, Item No. II–B–8). This value is based on the assumption that the enclosure achieves a minimum capture efficiency of 90 percent by weight and the captured vapor stream is routed to an organic recovery or destruction control device that achieves a total HAP reduction of 95 percent by weight or greater. The alternative means of emission limitation option allows owners or operators the flexibility to establish an alternative (e.g., a maximum limit on the AN content of the spinning monomer which would provide a comparable level of AN emission control) to enclosing their spinning lines and venting to a control device.

4. *AN wastewater facilities.* At the acrylic and modacrylic textile fiber plants, significant quantities of wastewater containing AN are generated (i.e., millions of gallons per day). Major points of wastewater generation are the polymer washing, filtering, and dewatering steps and the monomer recovery unit separation storage vessels. All of these emission sources are associated with the suspension polymerization process. Solution polymerization does not generate comparable quantities of wastewater because there are no slurry stripping and polymer washing steps. Potential emission points related to wastewater treatment, storage, and collection include the individual drain systems, open surface impoundments (equalization basin), bio-treatment units, and wastewater filter system.

The AN concentration, flow rates and other properties of the wastewater streams containing AN from acrylic or modacrylic fiber production processes are similar to the wastewater streams containing organic HAP in other source categories for which the EPA has already determined MACT to be the level of control that is achieved by applying the wastewater treatment facility common control requirements described in section VI of this preamble. Because of these similarities, the EPA concluded that the wastewater treatment facility common control requirements are appropriate to use as MACT for wastewater treatment systems used to manage the wastewater containing AN generated by the acrylic or modacrylic fiber production process (see Docket No. A–97–17, Item No. II–B–8).

5. *AN equipment leaks.* Fugitive AN emissions from equipment leaks (e.g., pump shafts and valve stems) also occur during production of AMF. The equipment components and the properties of the AN equipment leak emissions are similar to the equipment component characteristics in other source categories for which the EPA has already determined MACT to be the level of control that is achieved by applying the equipment leak common control requirements described in section V.D of this preamble. Because of these similarities, the EPA concluded that the equipment leak common control requirements under 40 CFR part 63, subparts TT or UU are appropriate to use as MACT for leaks from equipment components used to handle AN monomer and comonomers at AMF production facilities (see Docket No. A–97–17, Item No. II–B–8).

B. MACT for Hydrogen Fluoride Production

The HF production source category consists of facilities engaged in the production and recovery of HF by reacting calcium fluoride with sulfuric acid. Three companies own HF production facilities in the United States. These facilities are located in Kentucky, Louisiana, and Texas. Currently, two of the facilities are producing HF and the third facility (in Kentucky) is temporarily shutdown but may resume production in the future.

The only HAP emitted from the process is HF. Exposure to HF can cause injury through inhalation, direct contact, or ingestion. Acute exposure to HF will result in irritation, burns, ulcerous lesions, and localized destruction of the tissues (necrosis) of the eyes, skin, and mucous membranes.

The potential sources of HF emissions at these facilities are: 1) process vents on HF recovery and refining equipment, 2) storage vessels used to store HF, 3) bulk loading of tank trucks and tank rail cars, 4) leaks from HF handling equipment, and 5) reaction kiln seal leaks.

Owners and operators of HF production facilities have strong worker safety and economic incentives to prevent or control HF emissions from these sources. At all facilities, comprehensive worker safety programs are implemented to prevent any exposure of plant personnel to HF because even mild exposure to HF vapor can cause eye and respiratory system irritation. Furthermore, prevention of HF losses provides increased revenue from maximizing the recovery of a salable product and cost savings from minimizing the damage to process equipment due to HF corrosion. Consequently, all of the HF production facilities in the United States currently are well controlled for HF emissions, and MACT is inherently defined by these air emission control measures.

The MACT for this source category was selected for each type of emission point by identifying the best emission control currently used in the industry, obviating the need for any floor determination. In addition, the EPA knows of no other air emission control measures in the industry or alternative HF production processes that would result in lower HF emissions, and thus other alternatives were not considered.

1. *Hydrogen fluoride process vents.* At all three existing facilities, refrigerated condensers and caustic scrubbers are used to remove HF from the reaction kiln overhead gas stream as part of the crude HF recovery and refining operations. The HF gases exhausted from process vents on HF recovery and refining equipment are routed to wet scrubbers. Because HF is very water soluble, HF gases are effectively controlled by scrubbing. Each of the existing wet scrubbers achieves an HF emission reduction of at least 99 percent. Therefore, the EPA selected MACT for process vents to be the routing of the HF gases exhausted from process vents on HF recovery and refining equipment to a wet scrubber achieving a HF removal efficiency of 99 percent or more.

2. *Hydrogen fluoride storage vessels.* Storage vessels used to store HF are currently controlled for HF emissions at all three existing facilities. At two of these facilities, HF gases from the storage vessels are routed to either the same or identical wet scrubbers that are used to control the process vent emissions. At the third plant, the storage vessels are equipped with pressure relief devices vented to a wet scrubber that achieves an HF emission reduction of at least 80 percent. The EPA selected MACT for storage vessels to be venting of each storage vessel to a wet scrubber achieving a HF removal efficiency of 99 percent or more.

3. *Hydrogen fluoride product bulk transfer racks.* The HF is shipped from each facility either in bulk tank trucks or tank rail cars. At each facility HF emissions from transfer loading racks to rail cars and tank trucks are vented to either the wet scrubber used to control storage vessel emissions or to the wet scrubber used to control process vent emissions. At the completion of the loading process, the loading line is purged with nitrogen either back to the wet scrubber or into the loaded cargo storage vessel. Consequently, there are no fugitive HF emissions when the loading line is disconnected. The EPA selected MACT for HF product bulking transfer loading racks to be venting HF emissions during loading to a wet scrubber achieving a HF removal efficiency of 99 percent or more.

4. *Hydrogen fluoride equipment leaks.* Unlike leaks of organic vapors, even very small HF leaks from equipment are readily visible (a leak produces a visible white plume or corrosion at the leakage point). Furthermore, there are strong incentives to detect and repair leaks (to prevent the loss of valuable product, prevent corrosion, and avoid personnel exposure), the workers at each plant are attentive to preventing equipment leaks. Upon detection of a HF leak, the leak is repaired as soon as possible. Each plant has frequent visual inspection procedures in place. The EPA selected MACT to be implementation of a visual and olfactory LDAR program that entails inspection each working shift. If a leak is found, repair or component replacement must be initiated within 1 hour, and completed as soon as possible, but no later than within 15 days. Equipment containing or contacting any HF is affected.

5. *Kiln seals.* During normal operation, HF reaction kilns are maintained under negative pressure and there are no HF emissions through the kiln seals. The primary purpose of the seals is to prevent infiltration of air and water to the process. Any HF emissions from the kiln seals only occur during process upsets when back pressure builds. In the event of a back pressure excursion, the kiln seal emissions at two of the facilities are vented to an emergency wet scrubber system. In addition, standard operating practice at all of the facilities is to immediately shut down kiln operations when a back pressure excursion occurs. Based on the ability of other wet scrubbers in these facilities to achieve 99 percent reduction efficiency, the EPA has selected MACT to be venting kiln seal emissions to a wet scrubber that can achieve at least a 99 percent HF removal efficiency, and immediate shutdown of kiln operations during a back pressure event. It should be noted that neither facility has experienced a back pressure event since the emergency systems were installed because of improvements in operating procedures.

To provide flexibility to owners and operators, the EPA allows an owner or operator to request an alternative means of emission limitation (e.g., use of leakless seals, emergency vacuum boost system). The use of leakless seals or an emergency vacuum boost system could provide 100 percent control of kiln HF emissions, however, neither of these leak prevention technologies have been demonstrated in the industry.

C. MACT for Polycarbonates Production

The PC production source category consists of facilities engaged in the production of a special class of polyester formed from dihydroxy compound and carbonate diester or by ester interchange. Polycarbonates commonly are produced by solution or emulsion polymerization, although other methods may be used. All PC production in the United States is currently based on the polymerization reaction of bisphenols with phosgene in the presence of catalysts and other additives. Methylene chloride is used as the solvent in this polymerization process.

All phosgene used as a feedstock for PC production is produced onsite to reduce potential hazards associated with transporting and storing this material. The phosgene is fed directly from dedicated phosgene production equipment to PC polymerization process equipment. Consequently, phosgene production is integrated with PC production; the production of one cannot occur without the other process operating. Since dedicated phosgene production units are integral to the PC production process, the EPA considers such phosgene production units to be part of the PC production source category. Phosgene production units that are not dedicated to PC production are subject to 40 CFR part 63, subpart F, National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry.

Three companies operate five PC production plants in the United States. These facilities are located in Alabama, Massachusetts, Indiana, and Texas. Four of these facilities produce PC resin. The fifth plant produces a family of PC polysiloxane copolymers.

The principal HAP associated with PC production facilities are phosgene and methlylene chloride. Phosgene is a highly toxic material which can cause adverse health effects from both acute (short-term) and chronic (long-term) exposure. Acute exposure by inhalation of phosgene may result in pulmonary edema, pulmonary emphysema, and death. Other symptoms include choking, chest constriction, coughing, painful breathing, and bloody sputum. Acute phosgene poisoning may also adversely affect the brain, heart, and blood. Chronic exposure to phosgene through inhalation may cause emphysema and pulmonary fibrosis. Due to lack of animal and human data, the EPA has been unable to classify phosgene as a human carcinogen. Acute exposure to high levels of methylene chloride affects the central nervous system and can impair vision and hearing. These effects are reversible once exposure ceases. Chronic methylene chloride exposure adversely affects the central nervous system and causes headaches, dizziness, nausea, and memory loss. The EPA has classified methylene chloride as a probable human carcinogen. Other HAP may be present in catalysts, solvents, and polymer washing agents used for the process.

Polycarbonates are produced using continuous and batch processes. At the four plants producing PC resin, reactors operate either as a continuous process or by sequentially operating multiple batch reactors such that at least one reactor is always producing PC resin. At the plant producing PC polysiloxanes copolymers, reactors are operated on an intermittent batch basis.

To minimize the potential for an accidental release of phosgene to the atmosphere, the phosgene production process at existing facilities is well controlled. All phosgene production equipment is located inside enclosures which are maintained at a slightly negative pressure. Air vented from the enclosures is routed to a caustic scrubber to control and neutralize any phosgene which may have been released from equipment leaks inside an enclosure.

The sources of HAP emissions from PC production process are: (1) Storage vessels used to store methlylene chloride and other organic solvents; (2) process vents on polymerization, polymer solution purification, and solvent recovery equipment; and (3) wastewater treatment systems used to manage the wastewater containing HAP generated by the polycarbonate process; and (4) equipment leaks.

1. *Polycarbonate solvent storage vessels.* The storage vessels associated with PC production are primarily used for storage of methylene chloride and other solvents. Under typical storage conditions at the existing facilities, the vapor pressure of the solvents stored in the storage vessels range from approximately 2 kPa to more than 90 kPa.

The EPA had sufficient information to determine a MACT floor and evaluate the technological and economic feasibility of options more stringent than the floor when determining MACT (for both the applicability and control components) for solvent storage vessels at PC production facilities. Based on the EPA's analysis, it was determined that MACT for solvent storage vessels at PC production facilities reflected the level of control required under the HON.

2. *Polycarbonate process vents (from continuous and batch unit operations).* Polycarbonate production facilities reduce their emissions from continuous and batch process vents using both control and recovery device systems. The EPA determined that MACT was the MACT floor for continuous process vents at PC production facilities. The EPA established the proposed MACT for process vents based on the level of control present after recovery.

The EPA used data on HAP flow and air flow emission rates obtained during the development of the HON, and combustion total resource effectiveness (TRE) indices for PC streams. The HON total resource effectiveness TRE equation and coefficients were used to calculate TRE indices for use as applicability criteria. TRE indices are indicators of the cost-effectiveness of controlling a gas stream; the higher the index, the higher the cost of controlling the stream. The proposed MACT for continuous process vents would require that all existing vents with TRE indices less than or equal to 2.7 be controlled to 98 percent or greater. For new sources, the proposed MACT would require vents with TRE indices less than or equal to 9.6 be controlled to 98 percent or greater.

Insufficient data was available to do a MACT floor analysis for batch process vents. Therefore, for batch process vents, the EPA is proposing that if a batch process vent emits organic HAP emissions greater than 225 kg/yr, an owner or operator needs to apply MACT. The proposed MACT for batch process vents is to control HAP emissions from each batch process vent for the batch cycle by 90 weight percent using a control device. This proposal is consistent with what was promulgated for the polymer and resins I and IV NESHAP source categories. (Docket No. A–97–17), Item No. II–B–8). These standards have been challenged in litigation. In the event that the EPA makes or is directed to make any changes in these standards in connection with that litigation prior to promulgation of this standard, the EPA will evaluate the appropriateness of making conforming changes in the PC standard.

3. *Polycarbonate wastewater facilities.* Existing polycarbonate production facilities typically strip their wastewater streams and either recover or destroy the stripped organics. Potential emission points related to wastewater treatment, storage, and collection include the individual drain systems, open surface impoundments (equalization basin), bio-treatment units, and wastewater filter systems.

The HAP concentration, flow rates and other properties of the wastewater streams containing HAP from PC production processes are similar to the wastewater streams containing organic HAP in other source categories for which the EPA has already determined MACT to be the level of control that is achieved by applying the wastewater treatment facility common control requirements described in section VI of this preamble. Because of these similarities, the EPA concluded that the wastewater treatment facility common control requirements are appropriate to use as MACT for wastewater treatment systems used to manage the wastewater

containing HAP generated by the PC production process.

4. *Polycarbonates equipment leaks.* Fugitive HAP emissions from equipment leaks (e.g., pump shafts and valve stems) also occur during production of PC. The properties of these HAP equipment leak emissions are similar to the equipment component characteristics in other source categories for which the EPA has already determined MACT to be the level of control that is achieved by applying the equipment leak common control requirements described in section VI of this preamble. Because of these similarities, the EPA concluded that the equipment leak common control requirements under 40 CFR part 63, subparts TT or UU are appropriate to use as MACT for leaks from equipment components used to handle HAP at polycarbonate production facilities (see Docket No. A–97–17, Item No. II–B–8).

D. MACT for Acetal Resins Production.

The AR production source category consists of facilities engaged in the manufacture of homopolymers and/or copolymers of alternating oxymethylene units. Three companies operate three facilities in the United States that produce AR. These facilities are located in Texas, Alabama, and West Virginia. Two of the AR production facilities produce an acetal copolymer and one facility produces an acetal homopolymer. Acetal resins are produced in a continuous process.

Acetal copolymers are formed by the polymerization of trioxane, which is formed by the trimerization of formaldehyde, with a copolymer, which is typically a cyclic ether such as ethylene oxide. Acetal homopolymers are formed by reacting anhydrous formaldehyde to form a polymer. Trioxane is manufactured in a separate unit by the trimerization of formaldehyde. The trioxane is then stored in storage vessels until needed for the resins production process. All trioxane is produced on site at acetal resins plants. The production of trioxane is not being regulated by this action because it is covered under another rulemaking. Homopolymers use anhydrous formaldehyde which means a formaldehyde-water solution from which the water has been removed. For the homopolymers process, aqueous formaldehyde is stored in a feedstock storage vessel. The formaldehyde-water solution is then drawn into the process as needed. Prior to being sent to the reactor the water is removed in a separate process unit. Process vents from this process unit are referred to as front end process vents while all other acetal resin production process vents are referred to as back end process vents.

The principal HAP associated with the existing AR plants include formaldehyde and ethylene oxide. Both acute (short-term) and chronic (long-term) exposure of humans to formaldehyde irritates the eyes, nose, and throat and may cause coughing, chest pains, and bronchitis. The EPA has classified formaldehyde as a probable human carcinogen. Methanol also exhibits acute and chronic health effects. Acute effects include visual disturbances such as blurred or dimmed vision. Neurological damage, specifically motor dysfunction may also result. Chronic effects from inhalation or oral exposure may result in conjunctivitis, headache, giddiness, insomnia, gastric disturbances, and blindness. The EPA has not classified methanol with respect to carcinogenicity.

1. *Acetal resins storage vessels.* The storage vessels associated with AR production are primarily used for storage of solvents. Under typical storage conditions at the existing facilities, the vapor pressure of the reactants and solvents stored in the storage vessels range from approximately 8 kPa to more than 50 kPa.

The AR storage vessel capacities and HAP type (i.e., organic HAP) are similar to storage vessel characteristics for which the EPA has already determined MACT to be the level of control that would be achieved by applying the Control Level 2 storage vessel common control requirements under 40 CFR part 63, subpart WW. Because of these similarities, the EPA concluded that the Control Level 2 storage vessel common control requirements are appropriate to use as MACT for solvent storage vessels at AR production facilities. The vapor pressure applicability cutoffs were determined based on the average vapor pressure of solvents stored for existing controlled facilities. The cutoffs are much higher than for the Hazardous Organic NESHAP due to the lower volatility of chemicals being stored (see Docket No. A–97–17, Item No. II–B–8).

2. *Acetal resins process vents. Front end process vents.* The homopolymer process utilizes a unique step not found in the copolymer process. This step is the purification of formaldehyde for use as a feedstock. The copolymer process uses trioxane that is produced from formaldehyde in a separate unit. The tioxane process would not be regulated by this action. Because the purification step is unique to the copolymer process and results in different emission characteristics than the homopolymer processes, an emission plank for front end process vents was developed. Front end process vents are limited to those vents that (1) occur prior to the polymer reactor, and (2) are used to produce purified formaldehyde for the reaction process. Emissions data indicate that all front end process vents are controlled at 60 percent HAP reduction by weight. Therefore, the MACT floor for front end process vents is 60 percent reduction by weight in HAP. Since all process vents are controlled there is no applicability cutoff.

Back end process vents. Back end process vents can be defined as any process vent that is not a front end process vent. Back end process vent emissions occur from reactor units, mixing vessels, solvent recovery operations, and other operations. All three facilities surveyed by the EPA used scrubbers to recover methanol and formaldehyde from emission streams. The majority of the recovered monomer is recycled back to the process. One facility uses an incinerator that is 98 percent effective to control back end process vent streams after the streams have been sent through scrubbers being used as recovery devices. Insufficient information was available to do a rigorous analysis. Information was available to determine that all process vent emission streams are continuous and contain either methanol or formaldehyde. The vent streams in their composition are very similar to those streams regulated by the HON. Due to these similarities it was determined to use the HON total resource effectiveness equation indices for AR streams. The TRE for all process vents after recovery devices was set at 1.0 as it is in the HON. Therefore, all back end process vents with TRE index values greater than 1.0 will be required to control to 98 percent by weight or greater.

3. *Acetal resins wastewater.* Existing wastewater streams from AR resin plants contain formaldehyde and methanol. The flow rates and other properties of the wastewater streams containing HAP from existing AR production processes are similar to the wastewater streams containing organic HAP in other source categories for which the EPA has already determined MACT. Two facilities treat their wastewater by hardpiping the water to a biotreatment facility. The wastewater streams contain mostly methanol. In addition, the third facility's wastewater streams are not controlled and are composed predominately of formaldehyde. Formaldehyde is not required to be controlled in EPA wastewater provisions for similar

organic chemical processes. Because of these similarities, the EPA concluded that the wastewater treatment system facility common control requirements are appropriate to use as MACT for wastewater treatment systems used to manage the wastewater containing HAP generated by the AR production process (Docket No. A–97–17, Item No. II–B–8).

4. *Acetal resins equipment leaks.* Fugitive HAP emissions from equipment leaks also occur during the production of AR. The properties of these HAP equipment leak emissions are similar to the equipment component characteristics in other source categories for which the EPA has already determined MACT to be the level of control that is achieved by applying the equipment leak common control requirements described in section VI of this preamble. In fact, all of the existing AR production facilities already operate an LDAR program similar to those prescribed by the equipment leak common control requirements. Because of these similarities, the EPA is proposing that the equipment leak common control requirements under 40 CFR part 63, subparts TT or UU are appropriate to use as MACT for leaks from equipment components used to handle HAP at AR facilities (see Docket No. A–97–17, Item No. II–B–8).

VII. Selection of Format

Section 112(d) of the Act requires that emission standards for control of HAP be prescribed unless, in the judgement of the Administrator, it is not feasible to prescribe or enforce emission standards. Section 112(h) identifies two conditions under which it is not considered feasible to prescribe or enforce emission standards. These conditions include: (1) If the HAP cannot be emitted through a conveyance device, or (2) if the application of measurement methodology to a particular class of sources is not practicable due to technological or economic limitations. If emission standards are not feasible to prescribe or enforce, then the Administrator may instead promulgate equipment, work practice, design or operational standards, or a combination thereof.

Formats for emission standards include (1) percent reduction, (2) concentration limits, or (3) a mass emission limit. In some instances, adoption of an emission standard may be feasible for certain sources within a category or subcategory and not for other sources within the same category or subcategory. In such cases, the EPA may adopt both an emission standard and an alternative equipment, design, work practice, or operational standard, but only one type of standard will apply to a given source depending on the nature and configuration of that source. The proposed generic MACT standards for equipment leaks, process vents and transfer from continuous unit operations, and storage vessels, and transfer racks consist of a combination of (1) emission standards, and (2) equipment, design, work practice, and operational requirements consistent with requirements promulgated for similar emission points and emission characteristics (i.e., similar emission points and emission characteristics to that of the Hazardous Organic NESHAP (57 FR 62608, December 31, 1992), or Off-Site Waste NESHAP (59 FR 51913, October 13, 1994).

Selection of Format for Process Vents From Continuous Unit Operations

The format chosen for process vent streams is dependent on the control method chosen. For vent streams controlled by control devices other than flares, the format is a combination of a weight-percent reduction and an outlet concentration. A weight-percent reduction format is appropriate for streams with HAP concentrations above 1000 ppmv because such a format ensures that the stream will meet the weight-percent reduction. For process vents with concentrations below 1000 parts per million by volume, a 20 ppmv outlet concentration was selected because a weight-percent reduction may not be achievable (57 FR 62608, December 31, 1992).

The combustion of vent streams containing halogenated organic compounds can produce emissions of halogens and hydrogen halides, some of which are HAP's, such as hydrogen chloride, chlorine, and hydrogen fluoride. To reduce these emissions, the proposed standards required the use of a scrubber after the combustion device for halogenated process vent streams. The format of the standard for such scrubbers is a percent reduction or outlet concentration of those halogens and hydrogen halides that can be measured using the EPA Method 26 or 26A. A percent reduction format ensures that most streams will meet the MACT requirements. However, an alternative outlet concentration level is needed for low concentration streams where the specified percent reduction would result in outlet levels too low to measure.

For vent streams controlled by a flare, the proposal includes equipment and operating specifications because it is very difficult to measure the emissions from a flare to determine its efficiency.

Selection of Format for Storage Vessel Provisions

The storage vessel provisions require control by (1) tank improvements (internal or external roofs with proper seals and fittings) or (2) a closed vent system and control device depending on the type of storage vessel. The format for the storage vessel provisions is dependent on the type of storage vessel and control methodology selected. For storage vessels controlled with internal or external floating roofs, the format is a combination of design, equipment, work practice, and operational standards. This format is the only practicable control strategy compatible with these type of storage vessels. Other control strategies are available but require the conversion of the storage vessel to another type of vessel. The EPA chose not to propose an emission limit format for all types of storage vessels because that would require equipping non-fixed roof storage vessels with a capture system, which would be cost-prohibitive (57 FR 62608, December 31, 1992).

The design requirements for vessels controlled with vessel improvements are specified in subpart WW of this part. Additional operational and work practice requirements, which consist of inspection and repair requirements are also specified to ensure the continued integrity of the control equipment.

For vessels controlled by a closed vent system and control device, the EPA is proposing a design and equipment format. This format accounts for the wide variation in emissions and flow rates being vented from the vessel, and requires that the closed vent system and control device meet a specified weight-percent requirement. The closed vent system must be capable of collecting HAP vapors and gases discharged from the storage vessel. The control device must reduce the HAP emissions discharged into it at a specified efficiency for the source category and must be operated to achieve the specified level of emission reduction. Operational requirements, which consist of, among other things, inspection, repair, and work practice requirements, are necessary to ensure the proper operation and integrity of control equipment meeting a design and equipment standard.

Selection of Format for Wastewater Management Units Provisions

The provisions for controlling air emissions from wastewater streams are a combination of equipment, operational, work practice, and emission standards. It was determined

that a numerical standard would not be feasible because it would be difficult to capture and measure emissions from wastewater management units for the purpose of evaluating compliance (59 FR 51913, October 13, 1994).

Selection of Format for Equipment Leaks

The provisions of subparts TT and UU of this part for controlling emissions from equipment leaks are in the format of work practice and equipment specifications. It was determined that it is not feasible to prescribe or enforce emission standards because emissions cannot be emitted through a conveyance device and the application of a measurement methodology is not practicable due to technological or economic limitations (57 FR 62608, December 31, 1992).

VIII. Selection of Test Methods and Procedures

Test methods and procedures specified in the proposed standards would be used to demonstrate compliance. Procedures and methods included in the proposed standards are, where appropriate, based on procedures and methods previously developed by the EPA for use in implementing standards for sources similar to those being proposed for regulation today.

IX. Selection of Monitoring, Inspection, Recordkeeping and Reporting Requirements

Monitoring, inspection, recordkeeping, and reporting requirements specified in the proposed standards would be used to assure and document compliance with the proposed standards. Monitoring, inspection, recordkeeping and reporting requirements included in the proposed standards are, where appropriate, based on monitoring, inspection, recordkeeping and reporting requirements previously developed by the EPA for use in implementing standards for sources similar to those being proposed for regulation today.

Additionally, the generic MACT standards subpart cross-references §§ 63.1 through 63.5, and §§ 63.12 through 63.15 of the General Provisions for this part, and has pulled some of the regulatory text contained in §§ 63.6 through 63.11 into the rule. The General Provisions have been challenged in litigation. In the event that the EPA makes or is directed to make any changes in these standards in connection with that litigation prior to promulgation of the standard, the EPA will evaluate the appropriateness of making conforming changes in the Generic MACT Standards subpart. The EPA has also recently published a direct final notice to amend the General Provisions flare specifications by adding specifications for hydrogen-fueled flares (63 FR 24436). It is the EPA's intent to add these changes in specifications (once finalized) to the proposed flare specifications of 40 CFR part 63, subpart SS (Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process) at promulgation.

X. Relationship to other Standards and Programs Under the Act

A. Relationship to the Part 70 and Part 71 Permit Programs

Under title V of the Act, the EPA established a permitting program (part 70 and part 71 permitting program) that requires all owners and operators of HAP-emitting sources to obtain an operating permit (57 FR 32251, July 21, 1992). Sources subject (i.e., affected sources subject to the generic MACT standards) to the permitting program are required to submit complete permit applications within a year after a State program is approved by the EPA or, where a State program is not approved, within a year after a program is promulgated by the EPA. If the State where the facility is located does not have an approved permitting program, the owner or operator of a facility must submit the application to the EPA Regional Office in accordance with the requirements of the part 63 General Provisions (40 CFR 63 subpart A).

B. Overlapping Federal Regulations

The EPA recognizes that the potential exists for regulatory overlap between the proposed air emission standards and other standards developed under the Act. Therefore, the EPA has clarified the applicability of requirements under subpart YY as it relates to other NSPS and parts 61 and 63 NESHAP that apply to the same source in the applicability section of the rule.

XI. Solicitation of Comments

Comments are specifically requested on several aspects of the proposed standards. These topics are summarized below.

A. Proposed Generic MACT Approach

The EPA is proposing use of an alternative methodology for determining MACT and MACT floor compliance in appropriate instances where a source category has five or fewer sources and the sources in question are demonstrably similar to larger groups of sources regulated in prior MACT standards. Under this approach, individual source categories will be assimilated into a generic MACT structure and control requirements for the source category will be established by utilizing common control requirements established for particular types of emission points. EPA believes that this approach will conserve resources, encourage consistency and uniformity in standard setting, and assure conformity to applicable statutory requirements. (See section III. of this preamble for the basis for and summary of the EPA's proposed generic MACT approach). The EPA solicits comment on the feasibility and legality of the proposed generic MACT approach. EPA requests that, if any commenter asserts that this approach is unreasonable, the commenter provide specific examples where the proposed approach would yield an unacceptable outcome.

B. Emission Point General Control Requirement Subparts

The EPA promulgated air emission control requirements for selected emission points (i.e., containers, surface impoundments, oil-water separators and organic-water separators, tanks, individual drain systems) in individual subparts with the Off Site Waste and Recovery NESHAP.

Today's notice proposes additional air emission control requirement subparts for equipment leaks (40 CFR part 63, subparts TT and UU), storage vessels (40 CFR part 63, subpart WW), and closed vent systems and control and recovery devices (40 CFR part 63, subpart SS)(see section VI. Emission Point Common Control Requirements of today's notice for a description of, and rationale for, the proposed common control requirements). The EPA is soliciting comment on these emission point-specific subparts with this proposal. Specifically, the EPA soliciting comment on their content and application usefulness for source categories with similar emission points and emission characteristics.

XII. 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 AR production, AMF production, HF production, or PC production; the proposed alternative MACT determination approach for source categories with a limited population of major sources; or the reference control requirement subparts

(i.e., subparts SS, TT, UU, WW) for closed vent systems, control devices, recovery devices and routing to a fuel gas system or process, control levels 1 and 2 for equipment leaks, and storage vessels; should contact the EPA at the address given in the ADDRESSES section of this preamble. Oral presentations will be limited to 15 minutes each. If a hearing is held, interested persons may submit their statements in a written form, and the record will remain open for 30 days following the hearing for submission of rebuttal or supplementary information. 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–97–17.

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 file of basic underlying information utilized by the EPA, and all comments and other information submitted to the EPA, during the rulemaking process. The principal purposes of the docket are:

1. To allow interested parties to readily identify and locate basic underlying 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)).

The docket for today's proposed standards is A–97–17. Dockets established for each of the source categories with proposed standards with this proposal include the following: (1) AR production (Docket No. A–97–19); AMF production (Docket No. A–97–18); HF production (Docket No. A–97–x); and PC production (Docket No. A–97–16). The source category-specific dockets contain source category-specific supporting information and are cross referenced in the generic MACT standards docket (Docket No. A–97–17).

The docket contains copies of proposed regulatory text, and technical memoranda documenting the information considered by the EPA in the development of the proposed standards. The docket is available for public inspection at the EPA's Air and Radiation Docket and Information Center, the location of which is given in the **ADDRESSES** section of this notice.

C. Executive Order 12866

Under Executive Order (EO) 12866, [58 FR 51735 (October 4, 1993)] the EPA must submit significant regulatory actions to the Office of Management and Budget (OMB) for review. The EO defines ''significant regulatory action'' as one that OMB determines is likely to result in a rule that may:

(1) Have an annual effect of 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.

In this instance, the OMB has agreed that the EPA need not submit this proposal for review under EO 12286.

D. Enhancing the Intergovernmental Partnership Under Executive Order 12875

In compliance with EO 12875, the EPA has involved State governments in the development of this rule. Although this proposal does not impose requirements on State, local, or tribal governments, these entities will be required to implement the rule by incorporating the rule into permits and enforcing the rule upon delegation. They will collect permit fees that will be used to offset the resource burden of implementing the rule.

Representatives of State governments are members of the MACT partnerships that were consulted during the development of the proposed standards for the AR production, AMF production, HF production, and PC production source categories. Partnership groups were consulted throughout the development of the proposed standards. In addition, all State, local, and tribal governments and other representatives are encouraged to comment on the proposed standards during the public comment period, and the EPA intends to fully consider these comments in the development of the final standards.

E. Paperwork Reduction Act

The information collection requirements in these proposed rules have been submitted for approval to the OMB under the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* An information Collection Request (ICR) document has been prepared by the EPA (ICR No. 1871.01 and copies may be obtained from Sandy Farmer, OPPE Regulatory Information Division; U.S. Environmental Protection Agency (2137); 401 M Street, SW; Washington, DC 20460 or by calling (202) 260–2740.

Information is required to ensure compliance with the provisions of the proposed standards. If the relevant information were collected less frequently, the EPA would not be reasonably assured that a source is in compliance with the proposed standards. In addition, the EPA's authority to take administrative action would be reduced significantly.

The proposed standards would require owners or operators of affected sources to retain records for a period of 5 years. The 5 year retention period is consistent with the provisions of the General Provisions of 40 CFR Part 63, and with the 5 year record retention requirement in the operating permit program under title V of the Act.

All information submitted to the EPA for which a claim of confidentiality is made will be safeguarded according to the EPA policies set forth in title 40, chapter 1, part 2, subpart B, Confidentiality of Business Information. See 40 CFR 2; 41 FR 36902, September 1, 1976; amended by 43 FR 3999, September 8, 1978; 43 FR 42251, September 28, 1978; and 44 FR 17674, March 23, 1979. Even where the EPA has determined that data received in response to an ICR is eligible for confidential treatment under 40 CFR part 2, subpart B, the EPA may nonetheless disclose the information if it is relevant in any proceeding: under the statute (42 U.S.C. 7414 (C); 40 CFR 2.301 (g). This information collection complies with the Privacy Act of 1974 and Office of Management and Budget (OMB) Circular 108.

The estimated annual average hour and annual average cost burden per respondent for the proposed standards for the AR production, AMF production, HF production, and PC production source categories are presented in table 2.

TABLE 2.—Estimated Annual Average Hour and Cost Burden per Respondent [a]

Source category	Annual average hours	Annual average cost ($)
AR Production ...	1,300	55,500
AMF Production	1,900	83,200

TABLE 2.—Estimated Annual Average Hour and Cost Burden per Respondent [a]—Continued

Source category	Annual average hours	Annual average cost ($)
HF Production ...	310	13,200
PC Production ...	3,200	138,600
Total	6,710	290,500

[a] Burden hour and cost estimates are aggregated for the affected sources and averaged over the first 3 years of the rule.

The EPA projects that a maximum of 50 sources will be assimilated under the generic MACT standards. Assuming a future-looking burden scenario (i.e., the burden associated with the monitoring, recordkeeping, and reporting requirements for the PC production source category), the estimated annual average hour and annual average cost burden for the generic MACT standards inclusive of all source categories that could be assimilated in the future would be 32,300 and $1.4 million, respectively. Note that these burden estimates reflect a maximum future-looking burden scenario and would be spread over a minimum of 10 source categories with 5 or fewer facilities or respondents. The burden for a source category with 5 facilities or respondents would be an estimated 3,230 hours and $140 thousand per year. The burden per facility or respondent would be an estimated 646 hours and $28 thousand per year.

The future-looking burden estimates assume that reports are required on a semi-annual and annual basis (depending on the reports) and as required, as in the case of startup, shutdown, and malfunction reports. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the 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 the EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

Comments are requested on the EPA'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 ICRs to the Director, OPPE Regulatory Information Division; U.S. Environmental Protection Agency (2137); 401 M Street, 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(s) in any correspondence. Since OMB is required to make a decision concerning the ICR's between 30 and 60 days after October 14, 1998, a comment to OMB is best assured of having its full effect if OMB receives it by November 13, 1998. The final standards will respond to any OMB or public comments on the information collection requirements contained in this proposal.

F. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to conduct a regulatory flexibility analysis of any rule subject to notice and comment on 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 would not have a significant impact on a substantial number of small entities because it would only apply to source categories with 5 or fewer major sources. Therefore, the EPA certifies that today's action would not have a significant economic impact on a substantial number of small entities. Thus, the Agency did not prepare an initial regulatory flexibility analysis (IRFA).

Although the statute does not require the EPA to prepare an IRFA because the Administrator is certifying that the rule will not have a significant economic impact on a substantial number of small entities, the EPA did undertake a limited assessment of possible outcomes and the economic effect of these on small entities as part of the economic analysis conducted for each of the source categories for which standards are being proposed with today's notice. The economic analysis for each of the source categories for which standards are being proposed can be obtained from the source category-specific dockets established for each of the source categories (see *Docket* in **ADDRESSES** section for individual docket numbers).

G. Unfunded Mandates Reform Act

Section 202 of the Unfunded Mandates Reform Act of 1995 (UMRA), P.L. 104–4, requires that the EPA prepare a budgetary impact statement before promulgating a rule that includes a Federal mandate 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 1 year. Section 203 requires the EPA to establish a plan for obtaining input from and informing, educating, and advising any small governments that may be significantly or uniquely affected by the rule.

Because this proposed rule, if promulgated, does not include a Federal mandate and is estimated to result in expenditures less than $100 million in any one year by State, local, and tribal governments, the EPA has not prepared a budgetary impact statement or specifically addressed the selection of the least costly, most cost-effective, or least burdensome alternative. In addition, because small governments would not be significantly or uniquely affected by this rule, the EPA is not required to develop a plan with regard to small governments. Therefore, the requirements of the UMRA do not apply to this action.

H. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA) directs all Federal agencies to use voluntary consensus standards instead of government-unique standards in their regulatory activities unless it would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., material specifications, test methods, sampling and analytical procedures, business practices, etc.) that are developed or adopted by one or more voluntary consensus standards bodies. Examples of organizations generally regarded as voluntary consensus standards bodies include the American Society for Testing and Materials (ASTM), International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), American Petroleum Institute (API), National Fire Protection Association (NFPA) and Society of Automotive Engineers (SAE). The NTTAA requires

Federal agencies like the EPA to provide Congress, through OMB, explanations when an agency decides not to use available an applicable voluntary consensus standards.

This action does not involve the proposal of any new technical standards. It does, however, incorporate by reference existing technical standards, including government-unique technical standards. The technical standards proposed with this notice are standards that have been proposed and promulgated under other rulemakings for similar source control applicability and compliance determinations. The EPA solicits comment on the identification of potentially-applicable voluntary consensus standards that could be used in lieu of standard proposed under today's action. The EPA request that submitted comments include an explanation why such standards should be used in lieu of those proposed.

As part of a larger effort, the EPA is undertaking a project to cross-reference existing voluntary consensus standards on testing, sampling, and analysis, with current and future EPA test methods. When completed, this project will assist the EPA in identifying potentially-applicable voluntary consensus standards that can then be evaluated for equivalency and applicability in determining compliance with future regulations.

I. Protection of Children From Environmental Health Risks and Safety Under Executive Order 13045

The EO 13045 applies to any rule that (1) OMB determines is ''economically significant'' as defined under EO 12866, and (2) the EPA determines the environmental health or safety risk addressed by the rule has a disproportionate effect on children. If the regulatory action meets both criteria, the EPA must evaluate the environmental health or safety aspects of the planned rule on children; and explain why the planned rule is preferable to other potentially effective and reasonably feasible alternatives considered by the EPA.

The proposed rule is not subject to EO 13045, entitled Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885, April 23, 1997), because it does not involve decisions on environmental health risks or safety risks that may disproportionately affect children.

J. Executive Order 13084: Consultation and Coordination With Indian Tribal Governments

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments. If the mandate is unfunded, EPA must provide to the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected and other representatives of Indian tribal governments ''to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.'' Today's rule does not significantly or uniquely affect the communities of Indian tribal governments. Although this proposal does not impose requirements on tribal governments, these entities will be required to implement the rule by incorporating the rule into permits and enforcing the rule upon delegation. Accordingly, the requirements of section 3(c) of Executive Order 13084 do not apply to this rule.

XIII. Statutory Authority

The statutory authority for this proposal is provided by section 101, 112, 114, 116, and 302 of the Act, as amended; 42 U.S.C., 7401, 7412, 7414, 7416, and 7601.

List of Subjects in 40 CFR part 63

Environmental protection, Acetal resins production, Acrylic and modacrylic fiber production, Air emissions control, Equipment leaks, Hazardous air pollutants, Hydrogen fluoride production, Kilns, Fiber spinning lines, Polycarbonates production, Process vents, Storage vessels, Transfer racks, Wastewater treatment units.

Dated: September 15, 1998.

Carol M. Browner,

Administrator.

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

PART 63—[AMENDED]

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

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

2. Part 63 is amended by adding subpart SS to read as follows:

Subpart SS—National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process

Sec.

§ 63.980 Applicability.

(a) The provisions of this subpart include requirements for closed vent systems, control devices and routing of air emissions to a fuel gas system or process. These provisions apply when another subpart references the use of this subpart for such air emission control. These air emission standards are placed here for administrative convenience and only apply to those owners and operators of facilities subject to a referencing subpart. The provisions of 40 CFR part 63, subpart A (General Provisions) do not apply to this subpart except as specified in a referencing subpart.

§ 63.981 Definitions.

Alternative test method means any method of sampling and analyzing for an air pollutant that is not a reference test or equivalent method, and that has been demonstrated to the

Administrator's satisfaction, using Method 301 in appendix A of 40 CFR part 63, or previously approved by the Administrator prior to the promulgation date of standards for an affected source or affected facility under a referencing subpart, to produce results adequate for the Administrator's determination that it may be used in place of a test method specified in this subpart.

Automated monitoring and recording system means any means of measuring values of monitored parameters and creating a hard copy or computer record of the measured values that does not require manual reading of monitoring instruments and manual transcription of data values. Automated monitoring and recording systems include, but are not limited to, computerized systems and strip charts.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam and is not an incinerator or a process heater.

By compound means by individual stream components, not carbon equivalents.

Closed loop system means an enclosed system that returns process fluid to the process and is not vented to the atmosphere except through a closed vent system.

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. Closed vent system does not include the vapor collection system that is part of any tank truck or railcar.

Closed vent system shutdown means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a closed vent system or part of a closed vent system consistent with safety constraints and during which repairs can be effected. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a closed vent system shutdown. An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the closed vent system or part of the closed vent system of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled closed vent system shutdown, is not a closed vent system shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not closed vent system shutdowns.

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

Continuous parameter monitoring system (CPMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Continuous record means documentation, either in hard copy or computer readable form, of data values measured at least once every 15 minutes and recorded at the frequency specified in § 63.998(b).

Control device means any combustion device, recovery device, recapture device, or any combination of these devices used to comply with this subpart. Such equipment or devices include, but are not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters. For process vents from continuous unit operations, recapture devices and combustion devices are considered control devices but recovery devices are not considered control devices. For process vents from batch unit operations, recapture devices, recovery devices, and combustion devices are considered control devices except for primary condensers. Primary condensers on stream strippers or fuel gas systems are not considered control devices.

Control system means the combination of the closed vent system and the control devices used to collect and control vapors or gases from a regulated emission source.

Ductwork means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Flame zone means the portion of the combustion chamber in a boiler or process heater occupied by the flame envelope.

Flow indicator means a device which indicates whether gas flow is, or whether the valve position would allow gas flow to be, present in a line.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and flow and pressure control system that gathers gaseous streams generated by onsite operations, may blend them with other sources of gas, and transports the gaseous streams for use as fuel gas in combustion devices or in-process combustion equipment such as furnaces and gas turbines, either singly or in combination.

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

High-throughput transfer rack means those transfer racks that transfer a total of 11.8 million liters per year or greater of liquid containing regulated material.

Incinerator means an enclosed combustion device that is used for destroying organic compounds. Auxiliary fuel may be used to heat waste gas to combustion temperatures. Any energy recovery section present is not physically formed into one manufactured or assembled unit with the combustion section; rather, the energy recovery section is a separate section following the combustion section and the two are joined by ducts or connections carrying flue gas. The above energy recovery section limitation does not apply to an energy recovery section used solely to preheat the incoming vent stream or combustion air.

Low-throughput transfer rack means those transfer racks that transfer less than a total of 11.8 million liters per year of liquid containing regulated material.

Operating parameter value means a minimum or maximum value established for a control device parameter which, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with an applicable emission limit or operating limit.

Organic monitoring device means a unit of equipment used to indicate the concentration level of organic compounds based on a detection principle such as infra-red, photo ionization, or thermal conductivity.

Owner or operator means any person who owns, leases, operates, controls, or supervises a regulated source or a stationary source of which a regulated source is a part.

Performance level means the level at which the regulated material in the gases or vapors vented to a control or recovery device are removed, recovered, or destroyed. Examples of control device performance levels include: achieving a minimum organic reduction efficiency expressed as a percentage of regulated material removed or destroyed in the control device inlet stream on a weight-basis; achieving an organic concentration in the control device

exhaust stream that is less than a maximum allowable limit expressed in parts per million by volume on a dry basis corrected to 3 percent oxygen; or maintaining appropriate control device operating parameters indicative of the device performance at specified values.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission limit as specified in the performance test section of this subpart or in the referencing subpart.

Primary fuel means the fuel that provides the principal heat input to a device. To be considered primary, the fuel must be able to sustain operation without the addition of other fuels.

Process heater means an enclosed combustion device that transfers heat liberated by burning fuel directly to process streams or to heat transfer liquids other than water. A process heater may, as a secondary function, heat water in unfired heat recovery sections.

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. For purposes of the monitoring, recordkeeping and reporting requirements of this subpart, recapture devices are considered recovery devices.

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., 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.

Reference method means any method of sampling and analyzing for a regulated material as specified in an applicable subpart, the appendices to 40 CFR parts 60 or 63, or in appendix B of 40 CFR part 61.

Referencing subpart means the subpart which refers an owner or operator to this subpart.

Regulated material, for purposes of this part, refers to vapors from volatile organic liquids (VOL), volatile organic compounds (VOC), or hazardous air pollutants (HAP), or other chemicals or groups of chemicals that are regulated by a referencing subpart.

Regulated source for the purposes of this subpart, means the stationary source, the group of stationary sources, or the portion of a stationary source that is regulated by a relevant standard or other requirement established pursuant to a referencing subpart.

Routed to a process or route to a process means the gas streams are conveyed to any enclosed portion of a process unit where the emissions are recycled and/or consumed in the same manner as a material that fulfills the same function in the process; and/or transformed by chemical reaction into materials that are not regulated materials; and/or incorporated into a product; and/or recovered.

Run means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle as specified in this subpart. Unless otherwise specified, a run may be either intermittent or continuous within the limits of good engineering practice.

Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take non-routine grab samples is not considered a sampling connection system.

Secondary fuel means a fuel fired through a burner other than the primary fuel burner that provides supplementary heat in addition to the heat provided by the primary fuel.

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

Set pressure means the pressure at which a properly operating pressure relief device begins to open to relieve atypical process system operating pressure.

Specific gravity monitoring device means a unit of equipment used to monitor specific gravity and having a minimum accuracy of ± 0.02 specific gravity units.

Temperature monitoring device means a unit of equipment used to monitor temperature and having a minimum accuracy of ± percent of the temperature being monitored expressed in degrees Celsius or ±1.2 degrees Celsius (°C), whichever is greater.

§ 63.982 Requirements.

(a) *Storage vessel requirements.* An owner or operator of a storage vessel that is referred to this subpart for controlling regulated material emissions by venting emissions through a closed vent system to a flare, nonflare control device or routing to a fuel gas system or process shall comply with the applicable requirements of paragraphs (a)(1) through (a)(3) of this section.

(1) *Closed vent system and flare.* Owners or operators that control emissions through a closed vent system to a flare shall meet the requirements in § 63.983 for closed vent systems; § 63.987 for flares; and § 63.997(a),(b) and (c) for provisions regarding flare compliance determinations; and the monitoring, recordkeeping and reporting requirements referenced therein. No other provisions of this subpart apply to storage vessel emissions through a closed vent system to a flare.

(2) *Closed vent system and nonflare control device.* Owners or operators that control emissions through a closed vent system to a nonflare control device shall meet the requirements in § 63.983 for closed vent systems; and § 63.985 for nonflare control devices and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to storage vessel emissions vented through a closed vent system to a nonflare control device unless specifically required in the monitoring plan submitted under § 63.985(c).

(3) *Route to a fuel gas system or process.* Owners or operators that control emissions by routing storage vessel emissions to a fuel gas system or process shall meet the requirements in § 63.984 and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to storage vessel emissions being routed to a fuel gas system or a process.

(b) *Process vent requirements.* The owner or operator that is referred to this subpart for controlling regulated material emissions by venting emissions through a closed vent system to a flare, nonflare control device, or a final recovery device shall comply with the applicable requirements of paragraphs (b)(1) through (b)(3) of this section.

(1) *Closed vent system and flare.* Owners or operators that control emissions by venting emissions through a closed vent system to a flare shall meet the applicable requirements in § 63.983 for closed vent systems; § 63.987 for flares; and § 63.997(a), (b) and (c) for provisions regarding flare compliance determinations; and the monitoring, recordkeeping, and reporting requirements referenced

therein. No other provisions of this subpart apply to process vent emissions routed through a closed vent system to a flare.

(2) *Closed vent system and nonflare control device.* Owners or operators that control emissions by venting emissions through a closed vent system to a nonflare control device shall meet the applicable requirements in § 63.983 for closed vent systems; the requirements applicable to the control devices being used in §§ 63.988 through 63.992, or § 63.995; the applicable general monitoring requirements of § 63.996 and the applicable performance test requirements and procedures of § 63.997; and the monitoring, recordkeeping, and reporting requirements referenced therein. Owners or operators subject to halogen reduction device requirements under a referencing subpart must also comply with § 63.994 and the monitoring, recordkeeping and reporting requirements referenced therein. The requirements of §§ 63.984 through 63.986 do not apply to process vents.

(3) *Final recovery devices.* Owners or operators who use a final recovery device to control air emissions from process vents from continuous unit operations shall meet the requirements in § 63.993 and the monitoring, recordkeeping, and reporting requirements referenced therein that are applicable to the recovery device being used; and the applicable monitoring requirements in § 63.996 and the recordkeeping and reporting requirements referenced therein. No other provisions of this subpart apply to process vents.

(c) *Transfer rack requirements.* The owner or operator that is referred to this subpart for controlling regulated material emissions by venting emissions through a closed vent system to a flare, nonflare control device, or routing to a fuel gas system or process shall comply with the applicable requirements of paragraphs (c)(1) through (c)(4) of this section.

(1) *Closed vent system and flare.* Owners or operators who vent transfer rack emissions through a closed vent system to a flare shall meet the applicable requirements in § 63.983 for closed vent systems; § 63.987 for flares; and § 63.997(a), (b) and (c) for provisions regarding flare compliance determinations; and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to transfer rack emissions vented through a closed vent system to a flare.

(2) *Closed vent system and nonflare control device for low-throughput transfer racks.* An owner or operator of a low-throughput transfer rack, as defined in § 63.981, that vents emissions through a closed vent system to a nonflare control device shall meet the applicable requirements in § 63.983 for closed vent systems and § 63.985 for nonflare control devices and the monitoring, recordkeeping, and reporting requirements referenced therein. The requirements of §§ 63.984 through 63.986 do not apply to high throughput transfer rack emissions routed through a closed vent system to a nonflare control device. No other provisions of this subpart apply to low-throughput transfer rack emissions being routed through a closed vent system to a nonflare control device.

(3) *Closed vent system and nonflare control devices for high throughput transfer racks.* Owners or operators of high throughput transfer racks that vent emissions through a closed vent system to a nonflare control device shall meet the applicable requirements in § 63.983 for closed vent systems; the requirements applicable to the control device being used in §§ 63.988 through 63.992, or 63.995; the applicable general monitoring requirements of § 63.996; and the applicable performance test requirements and procedures of § 63.997; and the monitoring, recordkeeping, and reporting requirements referenced therein. Owners or operators subject to halogenated stream requirements under a referencing subpart must also comply with § 63.994 and the monitoring, recordkeeping, and reporting requirements referenced therein. The requirements of §§ 63.984 through 63.986 do not apply to high throughput transfer rack emissions routed through a closed vent system to a nonflare control device.

(4) *Route to a fuel gas system or process.* Owners or operators that control air emissions by routing transfer rack emissions to a fuel gas system or to a process shall meet the applicable requirements in § 63.984 and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to transfer rack emissions being routed to a fuel gas system or process.

(d) *Equipment leak requirements.* The owner or operator that is referred to this subpart for controlling regulated material emissions from equipment leaks by venting emissions through a closed vent system to a flare, nonflare control device, or routing to a fuel gas system or process shall comply with the applicable requirements of paragraphs (d)(1) through (d)(3) of this section.

(1) *Closed vent system and flare.* Owners or operators that vent equipment leak emissions through a closed vent system to a flare shall meet the requirements in § 63.983 for closed vent systems; § 63.987 for flares; and § 63.997(a), (b) and (c) for provisions regarding flare compliance determinations; and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to equipment leak emissions vented through a closed vent system to a flare.

(2) *Closed vent system and nonflare control device.* Owners or operators that vent equipment leak emissions through a closed vent system to a nonflare control device shall meet the requirements in § 63.983 for closed vent systems and § 63.986 for nonflare control devices used for equipment leak emissions and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to equipment leak emissions vented through a closed vent system to a nonflare control device.

(3) *Route to a fuel gas system or process.* Owners or operators that route equipment leak emissions to a fuel gas system or to a process shall meet the requirements in § 63.984 and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to equipment leak emissions being routed to a fuel gas system or process.

(e) *Combined emissions.* When emissions from different emission types (e.g., emissions from process vents, transfer racks, and/or storage vessels) are combined, an owner or operator shall comply with the requirements of either paragraph (e)(1) or (e)(2) of this section.

(1) Comply with the applicable requirements of this subpart for each kind of emissions in the stream (e.g., the requirements of § 63.982(b) for process vents, and the requirements of § 63.982(c) for transfer racks); or

(2) Comply with the first set of requirements identified in paragraphs (e)(2)(i) through (e)(2)(iii) of this section which applies to any individual emission stream that is included in the combined stream. Compliance with the first applicable set of requirements identified in paragraphs (e)(2)(i) through (e)(2)(iii) of this section constitutes compliance with all other emissions requirements for other emission streams.

(i) The requirements of § 63.982(b) for process vents, including applicable

monitoring, recordkeeping, and reporting;

(ii) The requirements of § 63.982(c) for high throughput transfer racks, including applicable monitoring, recordkeeping, and reporting;

(iii) The requirements of § 63.982(a) for control of emissions from storage vessels or low throughput transfer racks, including applicable monitoring, recordkeeping, and reporting.

§ 63.983 Closed vent systems.

(a) *Closed vent system equipment and operating requirements.* The provisions of this paragraph apply to closed vent systems collecting regulated material from a regulated source.

(1) *Collection of emissions.* Each closed vent system shall be designed and operated to collect the regulated material vapors from the emission point, and to route the collected vapors to a control device.

(2) *Period of operation.* Closed vent systems used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to, or collected by, them.

(3) *Bypass monitoring.* Except for equipment needed for safety purposes such as pressure relief devices, low leg drains, high point bleeds, analyzer vents, and open-ended valves or lines, the owner or operator shall comply with the provisions of either paragraphs (a)(3)(i) or (a)(3)(ii) of this section for each closed vent system that contains bypass lines that could divert a vent stream to the atmosphere.

(i) Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in § 63.998(d)(1)(ii)(B). The flow indicator shall be installed at the entrance to any bypass line.*ERR08*

(ii) Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line. Records shall be generated as specified in § 63.998(d)(1)(i)(B).

(4) *Loading arms at transfer racks.* Each closed vent system collecting regulated material from a transfer rack shall be designed and operated so that regulated material vapors collected at one loading arm will not pass through another loading arm in the rack to the atmosphere.

(5) The owner or operator of a transfer rack subject to the provisions of this subpart shall ensure that no pressure relief device in the transfer rack's closed vent system shall open to the atmosphere during loading. Pressure relief devices needed for safety purposes are not subject to this paragraph.

(b) *Closed vent system inspection requirements.* The provisions of this subpart apply to closed vent systems collecting regulated material from a regulated source. Inspection records shall be generated as specified in § 63.998(d)(1)(iii) and (d)(1)(iv).

(1) Except for closed vent systems operated and maintained under negative pressure, and any closed vent systems that are designated as unsafe or difficult to inspect as provided in paragraphs (b)(2) and (b)(3) of this section, each closed vent system shall be inspected as specified in paragraph (b)(1)(i) or (b)(1)(ii) of this section.

(i) If the closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (b)(1)(i)(A) and (b)(1)(i)(B) of this section.

(A) Conduct an initial inspection according to the procedures in paragraph (c) of this section; and

(B) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(ii) If the closed vent system is constructed of ductwork, the owner or operator shall conduct an initial and annual inspection according to the procedures in paragraph (c) of this section.

(2) Any parts of the closed vent system that are designated, as described in § 63.998(d)(1)(i), as unsafe to inspect are exempt from the inspection requirements of paragraph (b)(1) of this section if the conditions of paragraphs (b)(2)(i) and (b)(2)(ii) of this section are met.

(i) The owner or operator determines that the equipment is unsafe-to-inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (b)(1) of this section; and

(ii) The owner or operator has a written plan that requires inspection of the equipment as frequently as practical during safe-to-inspect times. Inspection is not required more than once annually.

(3) Any parts of the closed vent system that are designated, as described in § 63.998(d)(1)(i), as difficult-to-inspect are exempt from the inspection requirements of paragraph (b)(1) of this section if the provisions of paragraphs (b)(3)(i) and (b)(3)(ii) of this section apply.

(i) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters (7 feet) above a support surface; and

(ii) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(c) *Closed vent system inspection procedures.* The provisions of this paragraph apply to closed vent systems collecting regulated material from a regulated source.

(1) Each closed vent system subject to this paragraph shall be inspected according to the procedures specified in paragraphs (c)(1)(i) through (c)(1)(vii) of this section.

(i) Inspections shall be conducted in accordance with Method 21 of 40 CFR part 60, appendix A, except as specified in this section.

(ii) Except as provided in (c)(1)(iii) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the representative composition of the process fluid and not of each individual VOC in the stream. For process streams that contain nitrogen, air, or other inerts that are not organic HAP or VOC, the representative stream response factor shall be determined on an inert-free basis. The response factor may be determined at any concentration for which the monitoring for leaks will be conducted.

(iii) If no instrument is available at the plant site that will meet the performance criteria of Method 21 specified in paragraphs (c)(1)(ii) of this section, the instrument readings may be adjusted by multiplying by the representative response factor of the process fluid, calculated on an inert-free basis as described in paragraphs (c)(1)(ii) of this section.

(iv) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(v) Calibration gases shall be as specified in paragraphs (c)(1)(v)(A) through (c)(1)(v)(C) of this section.

(A) Zero air (less than 10 parts per million hydrocarbon in air); and

(B) Mixtures of methane in air at a concentration less than 10,000 parts per million. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (c)(1)(ii) of this section. In such cases, the calibration gas may be a

mixture of one or more of the compounds to be measured in air.

(C) If the detection instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,500 parts per million.

(vi) An owner or operator may elect to adjust or not adjust instrument readings for background. If an owner or operator elects not to adjust readings for background, all such instrument readings shall be compared directly to 500 parts per million to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall measure background concentration using the procedures in this section. The owner or operator shall subtract the background reading from the maximum concentration indicated by the instrument.

(vii) If the owner or operator elects to adjust for background, the arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared with 500 parts per million for determining whether there is a leak.

(2) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of 40 CFR part 60, appendix A.

(3) Except as provided in paragraph (c)(4) of this section, inspections shall be performed when the equipment is in regulated material service, or in use with any other detectable gas or vapor.

(4) Inspections of the closed vent system collecting regulated material from a transfer rack shall be performed only while a tank truck or railcar is being loaded or is otherwise pressurized to normal operating conditions with regulated material or any other detectable gas or vapor.

(d) *Closed vent system leak repair provisions.* The provisions of this paragraph apply to closed vent systems collecting regulated material from a regulated source.

(1) If there are visible, audible, or olfactory indications of leaks at the time of the annual visual inspections required by paragraph (b)(1)(i)(B) of this section, the owner or operator shall follow the procedure specified in either paragraph (d)(1)(i) or (d)(1)(ii) of this section.

(i) The owner or operator shall eliminate the leak.

(ii) The owner or operator shall monitor the equipment according to the procedures in paragraph (c) of this section.

(2) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practical, except as provided in paragraph (d)(3) of this section. Records shall be generated as specified in § 63.998(d)(1)(iii) when a leak is detected.

(i) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(ii) Except as provided in paragraph (d)(2) of this section, repairs shall be completed no later than 15 calendar days after the leak is detected or at the beginning of the next introduction of vapors to the system, whichever is later.

(3) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair within 15 days after a leak is detected is technically infeasible without a closed vent system shutdown, as defined in the referencing subpart, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed as soon as practical, but not later than the end of the next closed vent system shutdown.

§ 63.984 Fuel gas systems and processes to which storage vessel, transfer rack, or equipment leak regulated material emissions are routed.

(a) *Equipment and operating requirements for fuel gas systems and processes.* (1) Except as provided in the referencing subpart, the fuel gas system or process shall be operating at all times when regulated material emissions are routed to it.

(2) The owner or operator of a transfer rack subject to the provisions of this subpart shall ensure that no pressure relief device in the transfer rack's system returning vapors to a fuel gas system or process shall open to the atmosphere during loading. Pressure relief devices needed for safety purposes are not subject to this paragraph.

(3) The owner or operator of a transfer rack subject to the provisions of this subpart shall ensure that no pressure relief device in the transfer rack's system returning vapors to a fuel gas system or process shall open to the atmosphere during loading. Pressure relief devices needed for safety purposes are not subject to this paragraph.

(b) *Fuel gas system and process compliance determination.* (1) If emissions are routed to a fuel gas system, there is no requirement to conduct a performance test or design evaluation.

(2) If emissions are routed to a process, the regulated material in the emissions shall meet one or more of the conditions specified in paragraphs (b)(2)(i) through (b)(2)(iv) of this section. The owner or operator of storage vessels subject to this paragraph shall comply with the compliance demonstration requirements in paragraph (b)(3) of this section.

(i) Recycled and/or consumed in the same manner as a material that fulfills the same function in that process;

(ii) Transformed by chemical reaction into materials that are not regulated materials;

(iii) Incorporated into a product; and/or

(iv) Recovered.

(3) To demonstrate compliance with paragraph (b)(2) of this section for a storage vessel, the owner or operator shall prepare a design evaluation (or engineering assessment) that demonstrates the extent to which one or more of the conditions specified in paragraphs (b)(2)(i) through (b)(2)(iv) of this section are being met. The owner or operator shall submit the design evaluation as specified in § 63.999(b)(3)(iii).

(c) *Statement of connection.* For storage vessels and transfer racks, the owner or operator shall submit the reports specified in § 63.999(b)(1)(ii) and/or (b)(1)(iii), as appropriate.

§ 63.985 Nonflare control devices used to control emissions from storage vessels and low throughput transfer racks.

(a) *Nonflare control device equipment and operating requirements.* The owner or operator shall operate and maintain the nonflare control device so that the monitored parameters defined as required in paragraph (c) of this section remain within the ranges specified in the Initial Compliance Status Report whenever emissions of regulated material are routed to the control device except during periods of startup, shutdown, and malfunction.

(b) *Nonflare control device design evaluation or performance test requirements.* When using a control device other than a flare, the owner or operator shall comply with the requirements in paragraphs (b)(1)(i), (b)(1)(ii), or (b)(1)(iii) of this section, except as provided in paragraph (b)(2) of this section.

(1) Unless a design evaluation or performance test is required in the referencing subpart or was previously conducted and submitted for a storage vessel or low-throughput transfer rack, the owner or operator shall either

prepare and submit with the Initial Compliance Status Report, as specified in § 63.999(b)(5), a design evaluation that includes the information specified in paragraph (b)(1)(i) of this section, or the results of the performance test as described in paragraph (b)(1)(ii) or (b)(1)(iii) of this section.

(i) *Design evaluation.* The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency during the reasonably expected maximum storage vessel filling or transfer loading rate. This documentation is to include a description of the gas stream that enters the control device, including flow and regulated material content, and additionally for storage vessels, under varying liquid level conditions, and the information specified in paragraphs (b)(1)(i)(A) through (b)(1)(i)(E) of this section, as applicable. This documentation shall be submitted with the Initial Compliance Status Report as specified in § 63.999(b)(2).

(A) The efficiency determination is to 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 an emission reduction requirement specified in a referencing subpart for storage vessels and transfer racks, documentation that those conditions exist is sufficient to meet the requirements of paragraph (b)(1)(i) of this section.

(C) Except as provided in paragraph (b)(1)(i)(B) of this section, for enclosed combustion devices, the design evaluation shall include the estimated autoignition temperature of the stream being combusted, the flow rate of the stream, the combustion temperature, and the residence time at the combustion temperature.

(D) For carbon adsorbers, the design evaluation shall include the estimated affinity of the regulated material vapors for carbon, the amount of carbon in each bed, the number of beds, the humidity, the temperature, the flow rate of the inlet stream and, if applicable, 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 stream vapors, the type of condenser, and the design flow rate of the emission stream.

(ii) *Performance test.* A performance test is acceptable to demonstrate compliance with emission reduction requirements for storage vessels and transfer racks. The owner or operator is not required to prepare a design evaluation for the control device as described in paragraph (b)(1)(i) of this section if a performance test will be performed that meets the criteria specified in paragraphs (b)(1)(ii)(A) and (b)(1)(ii)(B) of this section.

(A) The performance test will demonstrate that the control device achieves greater than or equal to the required control device performance level specified in a referencing subpart for storage vessels and transfer racks; and

(B) The performance test meets the applicable performance test requirements and the results are submitted as part of the Initial Compliance Status Report as specified in § 63.999(b)(2).

(iii) If the control device used to comply with storage vessel or with low-throughput transfer rack control requirements is also used to comply with process vent or nonlow throughput transfer rack control requirements, a performance test required by §§ 63.988(b), 63.989(b), 63.990(b), 63.991(b), 63.992(b), or 63.995(b) is acceptable to demonstrate compliance with storage vessel and low throughput transfer rack control requirements. The owner or operator is not required to prepare a design evaluation for the control device as described in paragraph (b)(1)(i) of this section, if a performance test will be performed that meets the criteria specified in paragraphs (b)(1)(iii)(A) and (b)(1)(iii)(B) of this section.

(A) The performance test demonstrates that the control device achieves greater than or equal to the required efficiency specified in the referencing subpart for storage vessels or transfer racks; and

(B) The performance test is submitted as part of the Initial Compliance Status Report as specified in § 63.999(b)(2).

(2) A design evaluation or performance test is not required if the owner or operator uses a combustion device meeting the criteria in paragraph (b)(2)(i), (b)(2)(ii), (b)(2)(iii), or (b)(2)(iv) of this section.

(i) A boiler or process heater with a design heat input capacity of 44 megawatts (150 million British thermal units per hour) or greater.

(ii) A boiler or process heater burning hazardous waste for which the owner or operator meets the requirements specified in paragraph (b)(2)(ii)(A) or (b)(2)(ii)(B) of this section.

(A) The boiler or process heater 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) The boiler or process heater has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(iii) A hazardous waste incinerator for which the owner or operator meets the requirements specified in paragraph (b)(2)(iii)(A) or (b)(2)(iii)(B) of this section.

(A) The incinerator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O; or

(B) Has certified compliance with the interim status requirements of 40 CFR part 265, subpart O.

(iv) A boiler or process heater into which the vent stream is introduced with the primary fuel.

(c) *Nonflare control device monitoring requirements.* (1) The owner or operator shall submit with the Initial Compliance Status Report, a monitoring plan containing the information specified in § 63.999(b)(2) to identify the parameters that will be monitored to assure proper operation of the control device.

(2) The owner or operator shall monitor the parameters specified in the Initial Compliance Status Report, in the operating permit. Records shall be generated as specified in § 63.998(d)(2)(i).

§ 63.986 Nonflare control devices used for equipment leaks only.

(a) *Equipment and operating requirements.* (1) Owners or operators using a nonflare control device to meet the applicable requirements of a referencing subpart for equipment leaks shall meet the requirements of this section.

(2) Control devices used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(b) *Performance test requirements.* A performance test is not required for any control device used only to control emissions from equipment leaks.

(c) *Monitoring requirements.* Owners or operators of control devices that are used to comply only with the provisions of a referencing subpart for control of equipment leak emissions shall monitor these control devices to ensure that they are operated and maintained in conformance with their design. The owner or operator shall maintain the records as specified in § 63.998(d)(4).

§ 63.987 Flare requirements.

(a) *Flare equipment and operating requirements.* Flares subject to this subpart shall meet the performance

requirements of paragraphs (a)(1) through (a)(7) of this section.

(1) Flares shall be operated at all times when emissions are vented to them.

(2) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (b)(3)(i) of this section, except for periods not to exceed a total of 5 minutes during any two consecutive hours.

(3) Flares shall be operated with a flare flame or at least one pilot flame present at all times, as determined by the methods specified in paragraph (c) of this section.

(4) Flares shall be used only when the net heating value of the gas being combusted is 11.2 megajoules per standard cubic meter (300 British thermal units per standard cubic foot) or greater if the flare is steam-assisted or air-assisted; or when the net heating value of the gas being combusted is 7.45 megajoules per standard cubic meter (200 British thermal units per standard cubic foot) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (b)(3)(ii) of this section.

(5) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(6) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (b)(3)(iii) of this section, of less than 18.3 meters per second (60 feet per second), except as provided in paragraphs (a)(6)(i) and (a)(6)(ii) of this section, as applicable.

(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (b)(3)(iii) of this section, equal to or less than 122 meters per second (400 feet per second) if the net heating value of the gas being combusted is greater than 37.3 megajoules per standard cubic meter (1,000 British thermal units per standard cubic foot).

(ii) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (b)(3)(iii) of this section, of less than the velocity, V_{max}, and less than 122 meters per second (400 feet per second), where the maximum permitted velocity, V_{max}, is determined by the following equation.

$$\mathrm{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7 \quad \text{[Eq. 1]}$$

Where:

V_{max} = Maximum permitted velocity, meters per second

28.8 = Constant

31.7 = Constant

H_T = The net heating value as determined in paragraph (b)(3)(ii) of this section.

(7) Air-assisted flares shall be designed for and operated with an exit velocity as determined by the methods specified in paragraph (b)(3)(iii) of this section less than the velocity, V_{max}, where the maximum permitted velocity, V_{max}, is determined by the following equation.

$$V_{max} = 8.706 + 0.7084(H_T) \quad \text{[Eq. 2]}$$

Where:

V_{max} = Maximum permitted velocity, meters per second

8.706 = Constant

0.7084 = Constant

H_T = The net heating value as determined in paragraph (b)(3)(ii) of his section.

(b) *Flare compliance determination.*

(1) The owner or operator shall conduct an initial flare compliance determination of any flare used to comply with the provisions of this subpart. Flare compliance determination records shall be kept as specified in § 63.998(a)(1) and a flare compliance determination report shall be submitted as specified in § 63.999(a)(2). An owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet regulated material or total organic compound concentration when a flare is used.

(2) Unless already permitted by the applicable title V permit, if an owner or operator elects to use a flare to replace an existing control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 63.999(b)(7) before implementing the change. Upon implementing the change, a flare compliance determination shall be performed using the methods specified in paragraph (b)(3) of this section within 180 days. The compliance determination report shall be submitted to the Administrator within 60 days of completing the determination as provided in § 63.999(a)(2)(ii). If an owner or operator elects to use a flare to replace an existing final recovery device that is used on an applicable process vent, the owner or operator shall comply with the applicable provisions in referencing subpart.

(3) Flare compliance determinations shall meet the requirements specified in paragraphs (b)(3)(i) through (b)(3)(iv) of this section.

(i) Method 22 of appendix A of part 60 shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours, except for transfer racks as provided in (b)(3)(i)(A) or (b)(3)(i)(B) of this section.

(A) For transfer racks, if the loading cycle is less than 2 hours, then the observation period for that run shall be for the entire loading cycle.

(B) For transfer racks, if additional loading cycles are initiated within the 2-hour period, then visible emissions observations shall be conducted for the additional cycles.

(ii) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K_1 \sum_{j=1}^{n} D_j H_j \quad \text{[Eq. 3]}$$

Where:

H_T = Net heating value of the sample, megajoules per standard cubic meter; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 millimeters of mercury (30 inches of mercury), but the standard temperature for determining the volume corresponding to one mole is 20 °C;

$K_1 = 1.740 \times 10^{-7}$ (parts per million by volume) $-$ 1 (gram-mole per standard cubic meter) (megajoules per kilocalories), where the standard temperature for gram mole per standard cubic meter is 20 °C;

D_j = Concentration of sample component j, in parts per million by volume on a wet basis, as measured for organics by Method 18 of part 60, appendix A and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946–77; and

H_j = Net heat of combustion of sample component j, kilocalories per gram mole at 25 °C and 760 millimeters of mercury (30 inches of mercury). The heat of combustion of stream components may be determined using ASTM D2382–76 if published values are not available or cannot be calculated.

(iii) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Methods 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

(iv) Flare flame or pilot monitors, as applicable, shall be operated during any flare compliance determination.

(c) *Flare monitoring requirements.* Where a flare is used, the following monitoring equipment is required: a device (including but not limited to a thermocouple, ultra-violet beam sensor, or infrared sensor) capable of continuously detecting that at least one pilot flame or the flare flame is present. Flame monitoring and compliance records shall be kept as specified in § 63.998(a)(1).

§ 63.988 Incinerators.

(a) *Incinerator equipment and operating requirements.* (1) Owners or operators using incinerators to meet a weight-percent emission reduction or parts per million by volume outlet concentration requirement specified in a referencing subpart shall meet the requirements of this section.

(2) Incinerators used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(b) *Incinerator performance test requirements.* (1) Except as specified in § 63.997(b), and paragraph (b)(2) of this section, the owner or operator shall conduct an initial performance test of any incinerator used to comply with the provisions of a referencing subpart and this subpart according to the procedures in §§ 63.997(a) through (e). Performance test records shall be kept as specified in § 63.998(a)(2)(i) and (a)(2)(ii) and a performance test report shall be submitted as specified in § 63.999(a). As provided in § 63.985(b)(1), a performance test may be used as an alternative to the design evaluation for storage vessels and low throughput transfer rack controls. As provided in § 63.986(b), no performance test is required for equipment leaks.

(2) An owner or operator is not required to conduct a performance test for 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.

(3) Unless already permitted by the applicable title V permit, if an owner or operator elects to use an incinerator to replace an existing control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 63.999(b)(7) before implementing the change. Upon implementing the change, an incinerator performance test shall be performed, using the methods specified in § 63.997(a) through (e) within 180 days, if required by paragraph (b)(1) of this section. The performance test report shall be submitted to the Administrator within 60 days of completing the determination, as provided in § 63.999(a)(1)(ii).

(c) *Incinerator monitoring requirements.* (1) Where an incinerator is used, a temperature monitoring device capable of providing a continuous record that meets the provisions specified in paragraph (c)(1)(i) or (c)(1)(ii) of this section is required. Monitoring results shall be recorded as specified in § 63.998(b). General requirements for monitoring and continuous parameter monitoring systems are contained in the referencing subpart and § 63.996.

(i) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the fire box or in the ductwork immediately downstream of the fire box in a position before any substantial heat exchange occurs.

(ii) Where a catalytic incinerator is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

(2) The owner or operator shall establish a range for monitored parameters that indicate proper operation of the incinerator. In order to establish the range, the information required in § 63.999(b)(3) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications of § 63.997(b)(1) or upon existing ranges or limits established under a referencing subpart.

§ 63.989 Boilers and process heaters.

(a) *Boiler and process heater equipment and operating requirements.* (1) Owners or operators using boilers and process heaters to meet a weight-percent emission reduction or parts per million by volume outlet concentration requirement specified in a referencing subpart shall meet the requirements of this section.

(2) The vent stream shall be introduced into the flame zone of the boiler or process heater.

(3) Boilers and process heaters used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(b) *Boiler and process heater performance test requirements.* (1) Except as specified in § 63.997(b), and paragraph (b)(2) of this section, the owner or operator shall conduct an initial performance test of any boiler or process heater used to comply with the provisions of a referencing subpart and this subpart according to the procedures in § 63.997(a) through (e). Performance test records shall be kept as specified in § 63.998(a)(2)(i) and (a)(2)(ii) and a performance test report shall be submitted as specified in § 63.999(a). As provided in § 63.985(b)(1), a performance test may be used as an alternative to the design evaluation for storage vessels and low throughput transfer rack control requirements. As provided in § 63.986(b), no performance test is required to demonstrate compliance for equipment leaks.

(2) An owner or operator is not required to conduct a performance test when any of the control devices specified in paragraphs (b)(2)(i) through (b)(2)(iii) are used.

(i) A boiler or process heater with a design heat input capacity of 44 megawatts (150 million British thermal units per hour) or greater.

(ii) A boiler or process heater into which 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 meets the requirements

specified in paragraph (b)(2)(iii)(A) or (b)(2)(iii)(B) of this section.

(A) The boiler or process heater 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) The boiler or process heater has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(3) Unless already permitted by the applicable title V permit, if an owner or operator elects to use a boiler or process heater to replace an existing control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 63.999(b)(7) before implementing the change. Upon implementing the change, a boiler or process heater performance test shall be performed using the methods specified in § 63.997(a) through (e) within 180 days, if required by paragraph (b)(1) of this section. The performance test report shall be submitted to the Administrator within 60 days of completing the determination as provided in § 63.999(a)(2)(ii).

(c) *Boiler and process heater monitoring requirements.* (1) Where a boiler or process heater of less than 44 megawatts (150 million British thermal units per hour) design heat input capacity is used and the regulated vent stream is not introduced as or with the primary fuel, a temperature monitoring device in the fire box capable of providing a continuous record is required. Any boiler or process heater in which all vent streams are introduced with primary fuel or are used as the primary fuel is exempt from monitoring. Monitoring results shall be recorded as specified in § 63.998(b). General requirements for monitoring and continuous parameter monitoring systems are contained in the referencing subpart and § 63.996.

(2) Where monitoring is required, the owner or operator shall establish a range for monitored parameters that indicates proper operation of the boiler or process heater. In order to establish the range, the information required in § 63.999(b)(3) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications of § 63.997(b)(1) or upon existing ranges or limits established under a referencing subpart.

§ 63.990 Absorbers used as control devices.

(a) *Absorber equipment and operating requirements.* (1) Owners or operators using absorbers to meet a weight-percent or parts per million by volume outlet concentration requirement specified in a referencing subpart shall meet the requirements of this section.

(2) Absorbers used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(b) *Absorber performance test requirements.* (1) Except as specified in § 63.997(b), the owner or operator shall conduct an initial performance test of any absorber used as a recapture device to comply with the provisions of the referencing subpart and this subpart according to the procedures in § 63.997(a) through (e). Performance test records shall be kept as specified in § 63.998(a)(2)(i) and (a)(2)(ii) and a performance test report shall be submitted as specified in § 63.999(a). As provided in § 63.985(b)(1), a performance test may be used as an alternative to the design evaluation for storage vessels and low throughput transfer rack controls. As provided in § 63.986(b), no performance test is required to demonstrate compliance for equipment leaks.

(2) Unless already permitted by the applicable title V permit, if an owner or operator elects to use an absorber to replace an existing recovery or control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 63.999(b)(7) before implementing the change. Upon implementing the change, the provisions specified in paragraphs (b)(2)(i) or (b)(2)(ii) as applicable shall be followed.

(i) *Replace final recovery device.* If an owner or operator elects to replace the final recovery device on a process vent with an absorber used as a control device, the owner or operator shall comply with the applicable applicability determination provisions of a referencing subpart.

(ii) *Replace control device.* If an owner or operator elects to replace a control device on a process vent or a transfer rack with an absorber used as a control device, the owner or operator shall perform a performance test using the methods specified in § 63.997(a) through (e) within 180 days. The performance test report shall be submitted to the Administrator within 60 days of completing the test as provided in § 63.999(a)(2)(ii).

(c) *Absorber monitoring requirements.* (1) Where an absorber is used as a control device, either an organic monitoring device capable of providing a continuous record or a scrubbing liquid temperature monitoring device and a specific gravity monitoring device, each capable of providing a continuous record, shall be used. Monitoring results shall be recorded as specified in § 63.998(b). General requirements for monitoring and continuous parameter monitoring systems are contained in a referencing subpart and § 63.996.

(2) The owner or operator shall establish a range for monitored parameters that indicates proper operation of the absorber. In order to establish the range, the information required in § 63.999(b)(3) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications of § 63.997(b)(1) or upon existing ranges or limits established under a referencing subpart.

§ 63.991 Condensers used as control devices.

(a) *Condenser equipment and operating requirements.* (1) Owners or operators using condensers to meet a weight-percent emission reduction or parts per million by volume outlet concentration requirement specified in a referencing subpart shall meet the requirements of this section.

(2) Condensers used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(b) *Condenser performance test requirements.* (1) Except as specified in § 63.997(b), the owner or operator shall conduct an initial performance test of any condenser used as a recapture device to comply with the provisions of a referencing subpart and this subpart according to the procedures in § 63.997(a) through (e). Performance test records shall be kept as specified in § 63.998(a)(2)(i) and (a)(2)(ii) and a performance test report shall be submitted as specified in § 63.999(a). As provided in § 63.985(b)(1), a performance test may be used as an alternative to the design evaluation for storage vessels and low throughput transfer rack controls. As provided in § 63.986(b), no performance test is required to demonstrate compliance for equipment leaks.

(2) Unless already permitted by the applicable title V permit, if an owner or operator elects to use a condenser to replace an existing recovery or control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 63.999(b)(7) before implementing the change. Upon implementing the change, the provisions specified in paragraphs (b)(2)(i) or (b)(2)(ii) of this section, as applicable, shall be followed.

(i) *Replace final recovery device.* If an owner or operator elects to replace the final recovery device on a process vent with a condenser used as a control device, the owner or operator shall comply with the applicable applicability determination provisions of a referencing subpart.

(ii) *Replace control device.* If an owner or operator elects to replace a control device on a process vent or a transfer rack with a condenser used as a control device, the owner or operator shall perform a performance test using the methods specified in § 63.997(a) through (e) within 180 days. The performance test report shall be submitted to the Administrator within 60 days of completing the test as provided in § 63.999(a)(2)(ii).

(c) *Condenser monitoring requirements.* (1) Where a condenser is used as a control device, an organic monitoring device capable of providing a continuous record or a condenser exit (product side) temperature monitoring device capable of providing a continuous record shall be used. Monitoring results shall be recorded as specified in § 63.998(b). General requirements for monitoring and continuous parameter monitoring systems are contained in a referencing subpart and § 63.999(b)(iii).

(2) The owner or operator shall establish a range for monitored parameters that indicates proper operation of a condenser. In order to establish the range, the information required in § 63.999(b)(5) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications in § 63.997(b)(1) or upon existing ranges or limits established under a referencing subpart.

§ 63.992 Carbon adsorbers used as control devices.

(a) *Carbon adsorber equipment and operating requirements.* (1) Owners or operators using carbon adsorbers to meet a weight-percent emission reduction or parts per million by volume outlet concentration requirement specified in a referencing subpart shall meet the requirements of this section.

(2) Carbon adsorbers used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(b) *Carbon adsorber performance test requirements.* (1) Except as specified in § 63.997(b), the owner or operator shall conduct an initial performance test of any carbon absorber used as a control device to comply with the provisions of a referencing subpart and this subpart according to the procedures in § 63.997(a) through (e). Performance test records shall be kept as specified in § 63.998(a)(1) and (a)(2) and a performance test report shall be submitted as specified in § 63.999(a). As provided in § 63.985(b)(1), a performance test may be used as an alternative to the design evaluation for storage vessels and low-throughput transfer rack controls. As provided in § 63.986(b), no performance test is required to demonstrate compliance for equipment leaks.

(2) Unless already permitted by the applicable title V permit, if an owner or operator elects to use a carbon adsorber to replace an existing recovery or control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 63.999(b)(7) before implementing the change. Upon implementing the change, the provisions specified in paragraphs (b)(2)(i) or (b)(2)(ii), as applicable, shall be followed.

(i) *Replace final recovery device.* If an owner or operator elects to replace the final recovery device on a process vent with a carbon adsorber used as a control device, the owner or operator shall comply with the applicable applicability determination provisions of a referencing subpart.

(ii) *Replace control device.* If an owner or operator elects to replace a control device on a process vent or transfer rack with a carbon adsorber used as a recapture device, the owner or operator shall perform a performance test using the methods specified in § 63.997 (a) through (e) within 180 days. The performance test report shall be submitted to the Administrator within 60 days of completing the test as provided in § 63.999(a)(2)(ii).

(c) *Carbon adsorber monitoring requirements.* (1) Where a carbon adsorber is used as a control device, an organic monitoring device capable of providing a continuous record or an integrating regeneration stream flow monitoring device having an accuracy of ±10 percent or better, capable of recording the total regeneration stream mass or volumetric flow for each regeneration cycle; and a carbon bed temperature monitoring device, capable of recording the carbon bed temperature after each regeneration and within 15 minutes of completing any cooling cycle shall be used. Monitoring results shall be recorded as specified in § 63.998(b). General requirements for monitoring and continuous parameter monitoring systems are contained in a referencing subpart and § 63.996.

(2) The owner or operator shall establish a range for monitored parameters that indicates proper operation of the carbon adsorber. Where the regeneration stream flow and carbon-bed temperature are monitored, the range shall be in terms of the total regeneration stream flow per regeneration cycle and the temperature of the carbon bed determined within 15 minutes of the completion of the regeneration cooling cycle. In order to establish the range, the information required in § 63.999(b)(3) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications in § 63.997(b)(1) or upon existing ranges or limits established under a referencing subpart.

§ 63.993 Absorbers, condensers, carbon adsorbers and other recovery devices used as final recovery.

(a) *Final recovery device equipment and operating requirements.* (1) Owners or operators using a recovery device to meet the requirement to operate to maintain a TRE above a level specified in a referencing subpart shall meet the requirements of this section.

(2) Recovery devices used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(b) *Recovery device performance test requirements.* (1) There are no performance test requirements for recovery devices. TRE index value determination records shall be generated as specified in § 63.998(a)(3).

(2) *Replace a final recovery device or control device.* Unless already permitted by the applicable title V permit, if an owner or operator elects to use a recovery device to replace an existing final recovery or control device at a later

date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 63.999(d) before implementing the change. Upon implementing the change, the owner or operator shall comply with the applicable applicability determination provisions of a referencing subpart.

(c) *Recovery device monitoring requirements.* (1) Where an absorber is the final recovery device in the recovery system and the TRE index value is between the level specified in a referencing subpart and 4.0, either an organic monitoring device capable of providing a continuous record or a scrubbing liquid temperature monitoring device and a specific gravity monitoring device, each capable of providing a continuous record shall be used. General requirements for monitoring and continuous parameter monitoring systems are contained in § 63.996.

(2) Where a condenser is the final recovery device in the recovery system and the TRE index value is between the level specified in a referencing subpart and 4.0, an organic monitoring device capable of providing a continuous record or a condenser exit (product side) temperature monitoring device capable of providing a continuous record shall be used. General requirements for monitoring and continuous parameter monitoring systems are contained in a referencing subpart and § 63.996.

(3) Where a carbon adsorber is the final recovery device in the recovery system and the TRE index value is between the level specified in a referencing subpart and 4.0, an organic monitoring device capable of providing a continuous record or an integrating regeneration stream flow monitoring device having an accuracy of ±10 percent or better, capable of recording the total regeneration stream mass or volumetric flow for each regeneration cycle; and a carbon-bed temperature monitoring device, capable of recording the carbon-bed temperature after each regeneration and within 15 minutes of completing any cooling cycle shall be used. Monitoring results shall be recorded as specified in § 63.998(b). General requirements for monitoring and continuous parameter monitoring systems are contained in a referencing subpart and § 63.996.

(4) If an owner or operator uses a recovery device other than those listed in this subpart, the owner or operator shall submit a description of planned monitoring, reporting and recordkeeping procedures as required under § 63.998(c)(5). The Administrator will approve or deny the proposed monitoring, reporting and recordkeeping requirements as part of the review of the submission or permit application or by other appropriate means.

(5) The owner or operator shall establish a range for monitored parameters that indicates proper operation of the recovery device. In order to establish the range, the information required in § 63.999(b)(3) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications in § 63.997(b)(1) or upon existing ranges or limits established under a referencing subpart. Where the regeneration stream flow and carbon-bed temperature are monitored, the range shall be in terms of the total regeneration stream flow per regeneration cycle and the temperature of the carbon-bed determined within 15 minutes of the completion of the regeneration cooling cycle.

§ 63.994 Halogen scrubbers and other halogen reduction devices.

(a) *Halogen scrubber and other halogen reduction device equipment and operating requirements.* (1) An owner or operator of a halogen scrubber or other halogen reduction device subject to this subpart shall reduce the overall emissions of hydrogen halides and halogens by the control device performance level specified in a referencing subpart.

(2) Halogen scrubbers and other halogen reduction devices used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(b) *Halogen scrubber and other halogen reduction device performance test requirements.* (1) An owner or operator of a combustion device followed by a halogen scrubber or other halogen reduction device to control halogenated vent streams in accordance with a referencing subpart and this subpart shall conduct an initial performance test to determine compliance with the control efficiency or emission limits for hydrogen halides and halogens according to the procedures in § 63.997(a) through (e). Performance test records shall be kept as specified in § 63.998(a)(1) and (a)(2) and a performance test report shall be submitted as specified in § 63.999(a).

(2) An owner or operator of a halogen scrubber or other halogen reduction technique to reduce the vent stream halogen atom mass emission rate prior to a combustion device to comply with a performance level specified in a referencing subpart shall determine the halogen atom mass emission rate prior to the combustor according to the procedures specified in the referencing subpart. Records of the halogen concentration in the vent stream shall be generated as specified in § 63.998(a)(4).

(c) *Halogen scrubber and other halogen reduction device monitoring requirements.* (1) Where a halogen scrubber is used, the monitoring equipment specified in paragraphs (c)(1)(i) and (c)(1)(ii) of this section is required for the scrubber. Monitoring results shall be recorded as specified in § 63.998(b). General requirements for monitoring and continuous parameter monitoring systems are contained in a referencing subpart and § 63.996.

(i) A pH monitoring device capable of providing a continuous record shall be installed to monitor the pH of the scrubber effluent.

(ii) A flow meter capable of providing a continuous record shall be located at the scrubber influent for liquid flow. Gas stream flow shall be determined using one of the procedures specified in paragraphs (c)(1)(ii)(A) through (c)(1)(ii)(D) of this section.

(A) The owner or operator may determine gas stream flow using the design blower capacity, with appropriate adjustments for pressure drop.

(B) The owner or operator may measure the gas stream flow at the scrubber inlet.

(C) If the scrubber is subject to regulations in 40 CFR parts 264 through 266 that have required a determination of the liquid to gas (L/G) ratio prior to the applicable compliance date for the process unit of which it is part as specified in a referencing subpart, the owner or operator may determine gas stream flow by the method that had been utilized to comply with those regulations. A determination that was conducted prior to that compliance date may be utilized to comply with this subpart if it is still representative.

(D) The owner or operator may prepare and implement a gas stream flow determination plan that documents an appropriate method that will be used to determine the gas stream flow. The plan shall require determination of gas stream flow by a method that will at least provide a value for either a representative or the highest gas stream flow anticipated in the scrubber during representative operating conditions other than startups, shutdowns, or malfunctions. The plan shall include a

description of the methodology to be followed and an explanation of how the selected methodology will reliably determine the gas stream flow, and a description of the records that will be maintained to document the determination of gas stream flow. The owner or operator shall maintain the plan as specified in a referencing subpart.

(2) Where a halogen reduction device other than a scrubber is used, the procedures in § 63.998(c)(5) shall be followed to establish monitoring parameters.

(3) The owner or operator shall establish a range for monitored parameters that indicates proper operation of the scrubber or other halogen reduction device. In order to establish the range, the information required in § 63.999(b)(3) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications in § 63.997(b)(1) or upon existing ranges or limits established under a referencing subpart.

§ 63.995 Other control devices.

(a) *Other control device equipment and operating requirements.* (1) Owners or operators using another control device other than one listed in §§ 63.987 through 63.992 to meet a weight-percent emission reduction or parts per million by volume outlet concentration requirement specified in a referencing subpart shall meet the requirements of this section.

(2) Other control devices used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(b) *Other control device performance test requirements.* An owner or operator of a control device other than those specified in §§ 63.987 through 63.992, to comply with a performance level specified in a referencing subpart shall perform an initial performance test according to the procedures in § 63.997(a) through (e). Performance test records shall be kept as specified in § 63.998(a)(1) and (a)(2) and a performance test report shall be submitted as specified in § 63.999(a).

(c) *Other control device monitoring requirements.* (1) If an owner or operator uses a control device other than those listed in this subpart, the owner or operator shall submit a description of planned monitoring, recordkeeping and reporting procedures as required under § 63.998(c)(5). The Administrator will approve, deny, or modify based on the reasonableness of the proposed monitoring, reporting and recordkeeping requirements as part of the review of the submission or permit application or by other appropriate means.

(2) The owner or operator shall establish a range for monitored parameters that indicates proper operation of the control device. To establish the range, the information required in § 63.999(b)(3) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications in § 63.997(b)(1) or upon existing ranges or limits established under a referencing subpart.

§ 63.996 General monitoring requirements for control and recovery devices.

(a) *General monitoring requirement applicability.* (1) This section applies to the owner or operator of a regulated source required to monitor under this subpart.

(2) Flares subject to § 63.987(c) are not subject to the requirements of this section.

(3) Flow indicators are not subject to the requirements of this section.

(b) *Conduct of monitoring.* (1) Monitoring shall be conducted as set forth in this section and in the relevant sections of this subpart unless the provision in either paragraph (b)(1)(i) or (b)(1)(ii) of this section applies.

(i) The Administrator specifies or approves the use of minor changes in methodology for the specified monitoring requirements and procedures; or

(ii) The Administrator approves the use of alternatives to any monitoring requirements or procedures as provided in the referencing subpart.

(2) When one CPMS is used as a backup to another CPMS, the owner or operator shall report the results from the CPMS used to meet the monitoring requirements of this subpart. If both such CPMS's are used during a particular reporting period to meet the monitoring requirements of this part, then the owner or operator shall report the results from each CPMS for the relevant compliance period.

(c) *Operation and maintenance of continuous parameter monitoring systems.* (1) All monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturers specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(2) The owner or operator of a regulated source shall maintain and operate each CPMS as specified in this section, or in a relevant subpart, and in a manner consistent with good air pollution control practices.

(i) The owner or operator of a regulated source shall ensure the immediate repair or replacement of CPMS parts to correct ''routine'' or otherwise predictable CPMS malfunctions. The necessary parts for routine repairs of the affected equipment shall be readily available.

(ii) If under the referencing subpart, an owner or operator has developed a startup, shutdown, and malfunction plan, the plan is followed, and the CPMS is repaired immediately, this action shall be reported in the semiannual startup, shutdown, and malfunction report.

(iii) The Administrator's determination of whether acceptable operation and maintenance procedures are being used for the CPMS will be based on information that may include, but is not limited to, review of operation and maintenance procedures, operation and maintenance records, manufacturer's recommendations and specifications, and inspection of the CPMS.

(3) All CPMS's shall be installed and operational, and the data verified as specified in this subpart either prior to or in conjunction with conducting performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(4) All CPMS's shall be installed such that representative measurements of parameters from the regulated source are obtained.

(5) In accordance with the referencing subpart, except for system breakdowns, repairs, maintenance periods, instrument adjustments, or checks to maintain precision and accuracy, calibration checks, and zero and span adjustments, all continuous parameter monitoring systems shall be in continuous operation when emissions are being routed to the monitored device.

(d) An owner or operator may request approval to monitor control, recovery, halogen scrubber, or halogen reduction device operating parameters other than those specified in this subpart by following the procedures specified in a referencing subpart.

§ 63.997 Performance test and compliance determination requirements for control devices.

(a) *Performance tests and flare compliance determinations.* Where §§ 63.985 through 63.995 require or the owner or operator elects to conduct a performance test of a control device or a halogen reduction device, or a compliance determination for a flare, the requirements of paragraphs (b) through (d) of this section apply.

(b) *Prior test results and waivers.* Initial performance tests and initial flare compliance determinations are required only as specified in this subpart.

(1) Unless requested by the Administrator, an owner or operator is not required to conduct a performance test or flare compliance determination under this subpart if a prior performance test or compliance determination was conducted using the same methods specified in § 63.997(e) and either no process changes have been made since the test, or the owner or operator can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes.

(2) Individual performance tests and flare compliance determinations may be waived upon written application to the Administrator, per § 63.999(a)(1)(iii), if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, the source is being operated under an extension or waiver of compliance, or the owner or operator has requested an extension or waiver of compliance and the Administrator is still considering that request.

(3) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notification is given to the owner or operator of the source.

(c) *Performance tests and flare compliance determinations schedule.* (1) Unless a waiver of performance testing or flare compliance determination is obtained under this section or the conditions of a referencing subpart, the owner or operator shall perform such tests as specified in paragraphs (c)(1)(i) through (c)(1)(vii) of this section.

(i) Within 180 days after the effective date of a relevant standard for a new source that has an initial startup date before the effective date of that standard; or

(ii) Within 180 days after initial startup for a new source that has an initial startup date after the effective date of a relevant standard; or

(iii) Within 180 days after the compliance date specified in a referencing subpart for an existing source, or within 180 days after startup of an existing source if the source begins operation after the effective date of the relevant emission standard; or

(iv) Within 180 days after the compliance date for an existing source subject to an emission standard established pursuant to section 112(f) of the Act; or

(v) Within 180 days after the termination date of the source's extension of compliance or a waiver of compliance for an existing source that obtains an extension of compliance under 40 CFR 63.6(i) of subpart A, or waiver of compliance under 40 CFR 61.11, subpart A; or

(vi) Within 180 days after the compliance date for a new source, subject to an emission standard established pursuant to section 112(f) of the Act, for which construction or reconstruction is commenced after the proposal date of a relevant standard established pursuant to section 112(d) of the Act but before the proposal date of the relevant standard established pursuant to section 112(f); or

(vii) When a referencing subpart promulgated emission standard is more stringent than the standard that was proposed, the owner or operator of a new or reconstructed source subject to that standard for which construction or reconstruction is commenced between the proposal and promulgation dates of the standard shall comply with performance testing requirements within 180 days after the standard's effective date, or within 180 days after startup of the source, whichever is later. If a referencing subpart promulgated standard is more stringent than the proposed standard, the owner or operator may choose to demonstrate compliance with either the proposed or the promulgated standard. If the owner or operator chooses to comply with the proposed standard initially, the owner or operator shall conduct a second performance test within 3 years and 180 days after the effective date of the standard, or after startup of the source, whichever is later, to demonstrate compliance with a referencing subpart promulgated standard.

(2) The Administrator may require an owner or operator to conduct performance tests and compliance determinations at the regulated source at any time when the action is authorized by section 114 of the Act.

(d) *Performance testing facilities.* If required to do performance testing, the owner or operator of each new regulated source and, at the request of the Administrator, the owner or operator of each existing regulated source, shall provide performance testing facilities as specified in paragraphs (d)(1) through (d)(5) of this section.

(1) Sampling ports adequate for test methods applicable to such source. This includes, as applicable, the requirements specified in (d)(1)(i) and (d)(1)(ii) of this section.

(i) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and

(ii) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures;

(2) Safe sampling platform(s);

(3) Safe access to sampling platform(s);

(4) Utilities for sampling and testing equipment; and

(5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source.

(e) *Performance test procedures.* Where §§ 63.985 through 63.995 require or the owner or operator elects to conduct a performance test of a control device or a halogen reduction device, an owner or operator shall follow the requirements of paragraphs (e)(1)(i) through (e)(1)(v) of this section, as applicable.

(1) *General procedures.*—(i) *Continuous unit operations.* For continuous unit operations, performance tests shall be conducted at maximum representative operating conditions for the process, unless the Administrator specifies or approves alternate operating conditions. During the performance test, an owner or operator may operate the control or halogen reduction device at maximum or minimum representative operating conditions for monitored control or halogen reduction device parameters, whichever results in lower emission reduction. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(ii) *Batch unit operations.* For batch unit operations, performance tests shall, at a minimum, include testing for peak emission episode(s). The peak emission episode shall be characterized by the criteria presented in paragraph (e)(ii)(A), (e)(1)(ii)(B), or (e)(1)(i)(C) of this section. For the purposes of testing the combustion, recovery, or recovery device the peak emission episode may

be simulated based on the emission profile described in paragraph (e)(1)(i)(D). A simulated peak emission episode must have a representative composition, HAP load, and duration that would be predicted from the emission profile.

(A) The period of combined batch cycles in which a process vent gas will contain at least 50 percent of the total regulated material load (in lb) from the batch cycle or combined batch cycles (if more than one cycle is vented through the same process vent) over a time duration that is sufficient to include all batch cycles routed to the common process vent. An emission profile as described in paragraph (e)(1)(ii)(D) of this section shall be used to identify the peak emission episode.

(B) A 1-hour period of time in which a process vent from the batch cycle or combination of batch cycles (if more than one cycle is vented through the same process vent) will contain the highest regulated material mass loading rate, in lb/hr, experienced over a time duration that is sufficient to include all batch cycles routed to the common process vent. An emission profile, as described in paragraph (e)(1)(ii)(D) of this section, shall be used to identify the peak emission episode.

(C) If a condenser is used to control the process vent stream(s), the peak emission episode(s) shall represent a 1-hour period of time in which a process vent from the batch cycle or combination of batch cycles (if more than one cycle is vented through the same process vent) will require the maximum heat removal capacity, in Btu/hr, to cool the process vent stream to a temperature that, upon calculation of regulated material concentration, will yield the required removal efficiency for the entire cycle. The calculation of maximum heat load shall be based on the emission profile described in paragraph (e)(1)(ii)(D) of this section and a concentration profile that will allow calculation of sensible and latent heat loads.

(D) *Emission profile.* For process vents from batch unit operations, the owner or operator may choose to perform tests only during those periods of the peak emission episode(s) that the owner or operator selects to control as part of achieving the required emission reduction. The owner or operator must develop an emission profile for the process vent, based on either process knowledge or test data collected, to demonstrate that test periods are representative. The emission profile must profile the regulated organic regulated material loading rate (in lb/hr) versus time for all emission episodes contributing to the process 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 to develop an emission profile, provided the results are still representative of the current process vent stream conditions.

(iii) *Combination of both continuous and batch unit operations.* For a combination of both continuous and batch unit operations, performance tests shall be conducted both at maximum representative operating conditions for the process for continuous unit operations as specified in paragraph (e)(1)(i) of this section, and at peak emission episode(s) for batch unit operations as specified in paragraph (e)(1)(ii) of this section.

(iv) Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures set forth in this subpart, in each relevant standard, and, if required, in applicable appendices of 40 CFR parts 51, 60, 61, and 63 unless the Administrator specifies one of the provisions in paragraphs (e)(1)(iv)(A) through (e)(1)(iv)(E) of this section.

(A) Specifies or approves, in specific cases, the use of a test method with minor changes in methodology; or

(B) Approves the use of an alternative test method, the results of which the Administrator has determined to be adequate for indicating whether a specific regulated source is in compliance. The alternate method or data shall be validated using the applicable procedures of Method 301 of appendix A of 40 CFR part 63; or

(C) Approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors; or

(D) Waives the requirement for the performance test as specified in paragraph (b)(2) of this section because the owner or operator of a regulated source has demonstrated by other means to the Administrator's satisfaction that the regulated source is in compliance with the relevant standard; or

(E) Approves the use of an equivalent method.

(v) Except as provided in paragraphs (e)(1)(v)(A) through (e)(1)(v)(C) of this section, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for at least 1 hour and under the conditions specified in this section. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

(A) For control devices, used to control emissions from transfer racks except low throughput transfer racks, that are capable of continuous vapor processing but do not handle continuous emissions or multiple loading arms of a transfer rack that load simultaneously, each run shall represent at least one complete tank truck or tank car loading period, during which regulated materials are loaded, and samples shall be collected using integrated sampling or grab samples taken at least four times per hour at approximately equal intervals of time, such as 15-minute intervals.

(B) For intermittent vapor processing systems used for controlling transfer rack emissions except low throughput transfer racks that do not handle continuous emissions or multiple loading arms of a transfer rack that load simultaneously, each run shall represent at least one complete control device cycle, and samples shall be collected using integrated sampling or grab samples taken at least four times per hour at approximately equal intervals of time, such as 15-minute intervals.

(C) For batch unit operations, testing of peak emission episodes less than or equal to 1 hour, testing shall include three runs, each of a duration not less than the duration of the peak emission episode.

(*1*) For testing of batch emission episodes of greater than 1 hour, the emission rate from a single test run may be used to determine compliance.

(*2*) For testing of batch emission episodes of duration greater than 8 hours, the owner or operator shall perform at least 8 hours of testing. The test period must include the period of time in which the peak emission episode(s) is predicted by the emission profile.

(*3*) For process vents from batch unit operations, the owner or operator may choose to perform tests only during those periods of peak emission episode(s) that the owner or operator selects to control as part of achieving the required emission reduction. The owner or operator must develop an emission profile for the process vent,

based on either process knowledge or test data collected, to demonstrate that test periods are representative. The emission profile must profile regulated material loading rate (in lb/hr) versus time for all emission episodes contributing to the process 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 to develop an emissions profile, provided the results are still representative of the current process vent stream conditions.

(2) *Specific procedures.* Where §§ 63.985 through 63.995 require or the owner or operator elects to conduct a performance test of a control device, or a halogen reduction device, an owner or operator shall conduct that performance test using the procedures in paragraphs (e)(2)(i) through (e)(2)(iv) of this section, as applicable. The regulated material concentration and percent reduction may be measured as either total organic regulated material or as TOC minus methane and ethane according to the procedures specified.

(i) *Selection of sampling sites.* Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling sites.

(A) For determination of compliance with a percent reduction requirement of total organic regulated material or TOC, sampling sites shall be located as specified in paragraphs (e)(2)(i)(A)(*1*) and (e)(2)(i)(A)(*2*) of this section, and at the outlet of the control device.

(*1*) For process vents from continuous unit operations, the control device inlet sampling site shall be located after the final product recovery device.

(*2*) If a vent stream is introduced with the combustion air or as a secondary fuel into a boiler or process heater with a design capacity less than 44 megawatts, selection of the location of the inlet sampling sites shall ensure the measurement of total organic regulated material or TOC (minus methane and ethane) concentrations, as applicable, in all vent streams and primary and secondary fuels introduced into the boiler or process heater.

(*3*) For process vents from batch unit operations, the inlet sampling site shall be located at the exit from the batch unit operation before any recovery device.

(B) For determination of compliance with a parts per million by volume total regulated material or TOC limit in a referencing subpart, the sampling site shall be located at the outlet of the control device.

(ii) *Gas volumetric flow rate.* The gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate. For batch unit operations, gas stream volumetric flow rates shall be measured at 15-minute intervals, or at least once during the peak emission episode(s).

(iii) *Total organic regulated material or TOC concentration.* To determine compliance with a parts per million by volume total organic regulated material or TOC (minus methane and ethane) limit, the owner or operator shall use method 18 of 40 CFR part 60, appendix A, to measure either TOC minus methane and ethane or total organic regulated material, as applicable. Alternatively, any other method or data that have been validated according to the applicable procedures in Method 301 of appendix A of 40 CFR part 63, may be used. Method 25A of 40 CFR part 60, appendix A may be used for transfer racks as detailed in paragraph (e)(2)(iii)(D) of this section. The procedures specified in paragraphs (e)(2)(iii)(A) through (e)(2)(iii)(D) of this section shall be used to calculate parts per million by volume concentration, corrected to 3 percent oxygen.

(A) *Sampling time.—*(*1*) *Continuous unit operations and a combination of both continuous and batch unit operations.* For continuous unit operations and for a combination of both continuous and batch unit operations, the minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the run.

(*2*) *Batch unit operations.* For batch unit operations, the organic regulated material concentration shall be determined from samples collected in an integrated sample over the duration of the peak emission episode(s) characterized by the criteria presented in paragraph, or from grab samples collected simultaneously with flow rate measurements (at approximately equal intervals of about 15 minutes). If an integrated sample is collected for laboratory analysis, the sampling rate shall be adjusted proportionally to reflect variations in flow rate.

(B) *Concentration calculation.* The concentration of either TOC (minus methane or ethane) or total organic regulated material shall be calculated according to paragraph (e)(2)(iii)(B)(*1*) or (e)(2)(iii)(B)(*2*) of this section.

(*1*) The TOC concentration (C_{TOC}) is the sum of the concentrations of the individual components and shall be computed for each run using equation 4.

$$C_{TOC} = \sum_{i=1}^{x} \frac{\left(\sum_{j=1}^{n} C_{ji} \right)}{x} \qquad \text{[Eq. 4]}$$

Where:

C_{TOC}=Concentration of TOC (minus methane and ethane), dry basis, parts per million by volume.

x=Number of samples in the sample run.

n=Number of components in the sample.

C_{ji}=Concentration of sample components j of sample i, dry basis, parts per million by volume.

(*2*) The total organic regulated material (C_{REG}) shall be computed according to the equation in paragraph (e)(2)(iii)(B)(*1*) of this section except that only the regulated species shall be summed.

(C) *Concentration correction calculation.* The concentration of TOC or total organic regulated material, as applicable, shall be corrected to 3 percent oxygen if a combustion device is the control device.

(*1*) The emission rate correction factor (or excess air), integrated sampling and analysis procedures of Method 3B of 40 CFR part 60, appendix A, shall be used to determine the oxygen concentration. The sampling site shall be the same as that of the organic regulated material or organic compound samples, and the samples shall be taken during the same time that the organic regulated material or organic compound samples are taken.

(*2*) The concentration corrected to 3 percent oxygen (C_c) shall be computed using equation 5.

$$C_c = C_m \left(\frac{17.9}{20.9 - \%O2_d} \right) \qquad \text{[Eq. 5]}$$

where:

C_c=Concentration of TOC or organic regulated material corrected to 3 percent oxygen, dry basis, parts per million by volume.

C_m = Concentration of TOC (minus methane and ethane) or organic regulated material, dry basis, parts per million by volume.

$\%O2_d$ = Concentration of oxygen, dry basis, percentage by volume.

(D) Method 25A of 40 CFR part 60, appendix A may be used for the purpose of determining compliance with a parts per million by volume limit for transfer racks. If Method 25A of 40 CFR part 60, appendix A is used, the procedures specified in paragraphs (e)(2)(iii)(D)(*1*) through (e)(2)(iii)(D)(*4*) of this section

shall be used to calculate the concentration of organic compounds (C_{TOC}):

(*1*) The principal organic regulated material in the vent stream shall be used as the calibration gas.

(*2*) The span value for Method 25A of 40 CFR part 60, appendix A, shall be between 1.5 and 2.5 times the concentration being measured.

(*3*) Use of Method 25A of 40 CFR part 60, appendix A, is acceptable if the response from the high-level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed on the most sensitive scale.

(*4*) The concentration of TOC shall be corrected to 3 percent oxygen using the procedures and equation in paragraph (e)(2)(iii)(C) of this section.

(iv) To determine compliance with a percent reduction requirement, the owner or operator shall use Method 18 of 40 CFR part 60, appendix A; alternatively, any other method or data that have been validated according to the applicable procedures in Method 301 of appendix A of this part may be used. Method 25A or 25B of 40 CFR part 60, appendix A may be used for transfer racks as detailed in paragraph (e)(2)(iv)(E) of this section. Procedures specified in paragraphs (e)(2)(iv)(A) through (e)(2)(iv)(E) of this section shall be used to calculate percent reduction efficiency.

(A) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15-minute intervals during the run.

(B) The mass rate of either TOC (minus methane and ethane) or total organic regulated material (E_i, E_o) shall be computed as applicable.

(*1*) Equations 6 and 7 shall be used.

$$E_i = K_2\left(\sum_{j=1}^{n} C_{ij}M_{ij}\right)Q_i \qquad \text{[Eq. 6]}$$

$$E_o = K_2\left(\sum_{j=1}^{n} C_{oj}M_{oj}\right)Q_o \qquad \text{[Eq. 7]}$$

Where:

E_i, E_o = Emission rate of TOC (minus methane and ethane) (E_{TOC}) or emission rate of total organic regulated material (E_{RM}) in the sample at the inlet and outlet of the control device, respectively, dry basis, kilogram per hour.

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

n = Number of components in the sample.

C_{ij}, C_oj = Concentration on a dry basis of organic compound j in parts per million by volume of the gas stream at the inlet and outlet of the control device, respectively. If the TOC emission rate is being calculated, C_{ij} and C_o include all organic compounds measured minus methane and ethane; if the total organic regulated material emissions rate is being calculated, only organic regulated material are included.

M_{ij}, M_oj = Molecular weight of organic compound j, gram per gram-mole, of the gas stream at the inlet and outlet of the control device, respectively.

Q_i, Q_o = Process vent flow rate, dry standard cubic meter per minute, at a temperature of 20°C, at the inlet and outlet of the control device, respectively.

(*2*) Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by method 18 of 40 CFR part 60, appendix A, are summed using the equation in paragraph (e)(2)(iv)(B)(*1*) of this section.

(*3*) Where the mass rate of total organic regulated material is being calculated, only the species comprising the regulated material shall be summed using the equation in paragraph (e)(2)(iv)(B)(*1*) of this section.

(C) *Percent reduction in TOC or total organic regulated material—(1) Continuous unit operations and a combination of both continuous and batch unit operations.* For continuous unit operations and for a combination of both continuous and batch unit operations, the percent reduction in TOC (minus methane and ethane) or total organic regulated material shall be calculated using Equation 8.

$$R = \frac{E_i - E_o}{E_i}(100) \qquad \text{[Eq. 8]}$$

where:

R = Control efficiency of control device, percent.

E_i = Mass rate of TOC (minus methane and ethane) or total organic regulated material at the inlet to the control device as calculated under paragraph (e)(2)(iv)(B) of this section, kilograms TOC per hour or kilograms organic regulated material per hour.

E_o = Mass rate of TOC (minus methane and ethane) or total organic regulated material at the outlet of the control device, as calculated under paragraph (e)(2)(iv)(B) of this section, kilograms TOC per hour or kilograms total organic regulated material per hour.

(*2*) *Batch unit operations.* For process vents from batch unit operations, the owner shall determine the organic regulated material emission reduction for process vents from batch unit operations using Equation 9.

$$RED_{PPU} = \left(\frac{\sum_{i=1}^{n}(E_{unc,i})(R_i)}{\sum_{i=1}^{n}(E_{unc,i}) + \sum_{j=1}^{m}(E_{unc,i})}\right) * 100 \qquad \text{[Eq. 9]}$$

Where:

RED_{PPU} = Organic regulated material emission reduction for the group of process vents from batch unit operations in the process unit, percent

$E_{unc,i}$ = Uncontrolled organic regulated material emissions from process vent i that is controlled using a combustion, recovery, or recapture device, kilograms per batch cycle for process vents from batch unit operations.

n = Number of process vents from batch unit operations in the applicable production process unit and controlled using a combustion, recovery, or recapture device

R_i = Control efficiency of the combustion, recovery, or recapture device used to control organic regulated material emissions from vent i, determined in accordance with paragraph (e)(2)(iv)(C)(3) of this section.

$E_{unc,j}$ = Uncontrolled organic regulated material emissions from process vent j that is not controlled using a combustion, recovery, or recapture device, kilograms per batch cycle for process vents from batch unit operations, kilograms per hour for process vents from continuous unit operations.

m = Number of process vents in the applicable production process unit that are subject to the same requirements of a referencing subpart and that are not controlled using a combustion, recovery, or recapture device.

(*3*) *Batch unit operations—control efficiency.* The control efficiency, R_i, shall be assigned as specified below in (e)(2)(iv)(C)(*3*)(*i*) or (e)(2)(iv)(C)(*3*)(*ii*)of this section.

(*i*) If the process vent is controlled using a flare, or a combustion device as specified in this subpart and a

performance test has not been conducted, the control efficiency shall be assumed to be 98 percent.

(*ii*) If the process vent is controlled using a combustion, recovery, or recapture device for which a performance test has been conducted in accordance with the provisions of this section, the control efficiency shall be the efficiency determined by the performance test.

(D) If the vent stream entering a boiler or process heater with a design capacity less than 44 megawatts is introduced with the combustion air or as a secondary fuel, the weight-percent reduction of total organic regulated material or TOC (minus methane and ethane) across the device shall be determined by comparing the TOC (minus methane and ethane) or total organic regulated material in all combusted vent streams and primary and secondary fuels with the TOC (minus methane and ethane) or total organic regulated material exiting the combustion device, respectively.

(E) Method 25A of 40 CFR part 60, appendix A, may also be used for the purpose of determining compliance with the percent reduction requirement for transfer racks.

(*i*) If Method 25A of 40 CFR part 60, appendix A, is used to measure the concentration of organic compounds (C_{TOC}), the principal organic regulated material in the vent stream shall be used as the calibration gas.

(*ii*) An emission testing interval shall consist of each 15-minute period during the performance test. For each interval, a reading from each measurement shall be recorded.

(*iii*) The average organic compound concentration and the volume measurement shall correspond to the same emissions testing interval.

(*iv*) The mass at the inlet and outlet of the control device during each testing interval shall be calculated using equation 10.

$$M_j = FKV_sC_t \qquad \text{[Eq. 10]}$$

Where:

M_j = Mass of organic compounds emitted during testing interval j, kilograms.

$F = 10^{-6}$ = Conversion factor, (cubic meters regulated material per cubic meters air) * (parts per million by volume)$^{-1}$.

K = Density, kilograms per standard cubic meter organic regulated material; 659 kilograms per standard cubic meter organic regulated material.

(**NOTE:** The density term cancels out when the percent reduction is calculated. Therefore, the density used has no effect. The density of hexane is given so that it can be used to maintain the units of M_j.)

V_s = Volume of air-vapor mixture exhausted at standard conditions, 20 °C and 760 millimeters mercury, standard cubic meters.

C_t = Total concentration of organic compounds (as measured) at the exhaust vent, parts per million by volume, dry basis.

(*v*) The organic compound mass emission rates at the inlet and outlet of the control device shall be calculated as follows:

$$E_i = \frac{\sum_{j=1}^{n} M_{ij}}{T} \qquad \text{[Eq. 11]}$$

$$E_o = \frac{\sum_{j=1}^{n} M_{oj}}{T} \qquad \text{[Eq. 12]}$$

Where:

E_i, E_o = Mass flow rate of organic compounds at the inlet (i) and outlet (o) of the control device, kilograms per hour.

n = Number of testing intervals.

M_{ij}, M_oj = Mass of organic compounds at the inlet (i) or outlet (o) during testing interval j, kilograms.

T = Total time of all testing intervals, hours.

(3) An owner or operator using a halogen scrubber or other halogen reduction device to control process vent and transfer rack halogenated vent streams in compliance with a referencing subpart, who is required to conduct a performance test to determine compliance with a control efficiency or emission limit for hydrogen halides and halogens, shall follow the procedures specified in paragraphs (e)(3)(i) through (e)(3)(iv) of this section.

(i) For an owner or operator determining compliance with the percent reduction of total hydrogen halides and halogens, sampling sites shall be located at the inlet and outlet of the scrubber or other halogen reduction device used to reduce halogen emissions. For an owner or operator determining compliance with a kilogram per hour outlet emission limit for total hydrogen halides and halogens, the sampling site shall be located at the outlet of the scrubber or other halogen reduction device and prior to any releases to the atmosphere.

(ii) Except as provided in paragraph (e)(1)(ii) of this section, Method 26 or Method 26A of 40 CFR part 60, appendix A, shall be used to determine the concentration, in milligrams per dry standard cubic meter, of total hydrogen halides and halogens that may be present in the vent stream. The mass emissions of each hydrogen halide and halogen compound shall be calculated from the measured concentrations and the gas stream flow rate.

(iii) To determine compliance with the percent removal efficiency, the mass emissions for any hydrogen halides and halogens present at the inlet of the halogen reduction device shall be summed together. The mass emissions of the compounds present at the outlet of the scrubber or other halogen reduction device shall be summed together. Percent reduction shall be determined by comparison of the summed inlet and outlet measurements.

(iv) To demonstrate compliance with a kilogram per hour outlet emission limit, the test results must show that the mass emission rate of total hydrogen halides and halogens measured at the outlet of the scrubber or other halogen reduction device is below the kilogram per hour outlet emission limit specified in a referencing subpart.

§ 63.998 Recordkeeping requirements.

(a) *Compliance determination, monitoring, and compliance records*—(1) *Conditions of flare compliance determination, monitoring, and compliance records.* Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of flare compliance determinations performed pursuant to § 63.987(b).

(i) *Flare compliance determination records.* When using a flare to comply with this subpart, record the information specified in paragraphs (a)(1)(i)(A) through (a)(1)(i)(C) of this section for each flare compliance determination performed pursuant to § 63.987(b). As specified in § 63.999(a)(1)(i), the owner or operator shall include this information in the flare compliance determination report.

(A) Flare design (i.e., steam-assisted, air-assisted, or non-assisted);

(B) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the flare compliance determination; and

(C) All periods during the flare compliance determination when all pilot flames are absent or, if only the flare flame is monitored, all periods when the flare flame is absent.

(ii) *Monitoring records.* Each owner or operator shall keep up to date and readily accessible hourly records of

whether the monitor is continuously operating and whether the flare flame or at least one pilot flame is continuously present. For transfer racks, hourly records are required only while the transfer rack vent stream is being vented.

(iii) *Compliance records.* (A) Each owner or operator shall keep records of the times and duration of all periods during which the flare flame or all the pilot flames are absent. This record shall be submitted in the periodic reports as specified in § 63.999(b)(9).

(B) Each owner or operator shall keep records of the times and durations of all periods during which the monitor is not operating.

(2) *Performance test and TRE index value determination records for process vents and transfer racks except low throughput transfer racks*—(i) *Conditions of performance tests records.* Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests performed pursuant to §§ 63.988(b), 63.989(b), 63.990(b), 63.991(b), 63.992(b), 63.994(b), or 63.995(b).

(ii) *Nonflare combustion control device and halogen reduction device performance test records.* (A) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the data specified in (a)(2)(ii)(B)(*1*) through (a)(2)(ii)(B)(*3*) of this section, as applicable, measured during each performance test performed pursuant to §§ 63.988(b), 63.989(b), 63.990(b), 63.991(b), 63.992(b), 63.994(b), or 63.995(b), and also include that data in the Initial Compliance Status Report required under § 63.999(a)(1). The same data specified in this section shall be submitted in the reports of all subsequently required performance tests where either the emission control efficiency of a combustion device, or the outlet concentration of TOC or regulated material is determined.

(B) *Nonflare combustion device.* Where an owner or operator subject to the provisions of this paragraph seeks to demonstrate compliance with a percent reduction requirement or a parts per million by volume requirement using a nonflare combustion device the information specified in (a)(2)(ii)(B)(*1*) through (a)(2)(ii)(B)(*6*) of this section shall be recorded.

(*1*) For thermal incinerators, record the fire box temperature averaged over the full period of the performance test.

(*2*) For catalytic incinerators, record the upstream and downstream temperatures and the temperature difference across the catalyst bed averaged over the full period of the performance test.

(*3*) For a boiler or process heater with a design heat input capacity less than 44 megawatts and a vent stream that is not introduced with or as the primary fuel, record the fire box temperature averaged over the full period of the performance test.

(*4*) For an incinerator, record the percent reduction of organic regulated material, if applicable, or TOC achieved by the incinerator determined as specified in § 63.997 (e)(2)(i) and (e)(2)(ii), as applicable, or the concentration of organic regulated material (parts per million by volume, by compound) determined as specified in § 63.997 (e)(2)(iii)(B)(*1*) and (e)(2)(iii)(B)(*2*) at the outlet of the incinerator.

(*5*) For a boiler or process heater, record a description of the location at which the vent stream is introduced into the boiler or process heater.

(*6*) For a boiler or process heater with a design heat input capacity of less than 44 megawatts and where the process vent stream is introduced with combustion air or used as a secondary fuel and is not mixed with the primary fuel, record the percent reduction of organic regulated material or TOC, or the concentration of regulated material or TOC (parts per million by volume, by compound) determined as specified in § 63.997(e)(2) at the outlet of the combustion device.

(C) *Other nonflare control devices.* Where an owner or operator seeks to use an absorber, condenser, or carbon adsorber as a control device, the information specified in paragraphs (a)(2)(ii)(C)(*1*) through (a)(2)(ii)(C)(*5*) shall be recorded, as applicable.

(*1*) Where an absorber is used as the control device, the exit specific gravity and average exit temperature of the absorbing liquid averaged over the same time period as the performance test (both measured while the vent stream is normally routed and constituted); or

(*2*) Where a condenser is used as the control device, the average exit (product side) temperature averaged over the same time period as the performance test while the vent stream is routed and constituted normally; or

(*3*) Where a carbon adsorber is used as the control device, the total regeneration stream mass flow during each carbon-bed regeneration cycle during the period of the performance test, and temperature of the carbon-bed after each regeneration during the period of the performance test (and within 15 minutes of completion of any cooling cycle or cycles; or

(*4*) As an alternative to paragraph (a)(2)(ii)(B)(*1*), (a)(2)(ii)(B)(*2*), or (a)(2)(ii)(B)(*3*) of this section, the concentration level or reading indicated by an organics monitoring device at the outlet of the absorber, condenser, or carbon adsorber averaged over the same time period as the TRE determination while the vent stream is normally routed and constituted.

(*5*) For an absorber, condenser, or carbon adsorber used as a control device, the percent reduction of regulated material achieved by the control device or concentration of regulated material (parts per million by volume, by compound) at the outlet of the control device.

(D) *Halogen reduction devices.* When using a scrubber following a combustion device to control a halogenated vent stream, record the information specified in paragraphs (a)(2)(ii)(D)(*1*) through (a)(2)(ii)(D)(*3*) of this section.

(*1*) The percent reduction or scrubber outlet mass emission rate of total hydrogen halides and halogens as specified in § 63.997(e)(3).

(*2*) The pH of the scrubber effluent averaged over the time period of the performance test; and

(*3*) The scrubber liquid-to-gas ratio averaged over the time period of the performance test.

(3) *Recovery device monitoring records during TRE index value determination.* For process vents that require control of emissions under a referencing subpart shall maintain the continuous records specified in paragraph (a)(3)(i) through (a)(3)(v) of this section, as applicable.

(i) Where an absorber is the final recovery device in the recovery system, the exit specific gravity (or alternative parameter that is a measure of the degree of absorbing liquid saturation if approved by the Administrator) and average exit temperature of the absorbing liquid averaged over the same time period as the TRE index value determination (both measured while the vent stream is normally routed and constituted); or

(ii) Where a condenser is the final recovery device in the recovery system, the average exit (product side) temperature averaged over the same time period as the TRE index value determination while the vent stream is routed and constituted normally; or

(iii) Where a carbon adsorber is the final recovery device in the recovery system, the total regeneration stream mass flow during each carbon-bed regeneration cycle during the period of the TRE index value determination, and

temperature of the carbon-bed after each regeneration during the period of the TRE index value determination (and within 15 minutes of completion of any cooling cycle or cycles; or

(iv) As an alternative to paragraph (a)(3)(i), (a)(3)(ii), or (a)(3)(iii) of this section, the concentration level or reading indicated by an organics monitoring device at the outlet of the absorber, condenser, or carbon adsorber averaged over the same time period as the TRE index value determination while the vent stream is normally routed and constituted.

(v) All measurements and calculations performed to determine the TRE index value of the vent stream as specified in a referencing subpart.

(4) *Halogen concentration records.* Record the halogen concentration in the vent stream determined according to the procedures specified in a referencing subpart. Submit this record in the Initial Compliance Status Report, as specified in § 63.999(b)(8).

(b) *Continuous records and monitoring system data handling.*

(1) Where this subpart requires a continuous record, the owner or operator shall maintain the record specified in paragraphs (b)(1)(i) or (b)(1)(ii) of this section, as applicable:

(i) A record of values measured at least once every 15 minutes or each measured value for systems which measure more frequently than once every 15 minutes; or

(ii) A record of block average values for 15-minutes or shorter periods calculated from all measured data values during each period or at least one measured data value per minute if measured more frequently than once per minute.

(iii) The owner or operator may calculate and retain block hourly average values from each 15 minute block averages period or from at least one measured value per minute if measured more frequently than once per minute, and discard all but the most recent three valid hours of continuous (15-minute or shorter) records.

(iv) A record as required by an alternative approved under paragraph (c)(5) of this section.

(2) Monitoring data recorded during periods identified in paragraphs (b)(2)(i) through (b)(2)(iii) of this section, shall not be included in any average computed to determine compliance under this subpart.

(i) Monitoring system breakdowns, repairs, preventive maintenance, calibration checks, and zero (low-level) and high-level adjustments;

(ii) Periods of non-operation of the process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies; and

(iii) Startups, shutdowns, and malfunctions.

(3) Owners or operators shall also keep records as specified in paragraphs (b)(3)(i) and (b)(3)(ii) of this section, unless an alternative monitoring or recordkeeping system has been requested and approved under paragraph (c)(5) of this section.

(i) Except as specified in paragraph (b)(3)(ii) of this section, 3-hour average values of each continuously monitored parameter shall be calculated from data meeting the specifications of paragraph (b)(2) of this section for each 3-hour period of operation, and retained for 5 years.

(A) The 3-hour average shall be calculated as the average of all values for a monitored parameter recorded during 3-hours of operation. The average shall cover a 3-hour period if operation is continuous, or the period of operation per 3 hours if operation is not continuous (e.g., for transfer racks the average shall cover periods of loading). If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the 3-hour average instead of all measured values.

(B) The 3-hour periods of operation that are to be included in the 3-hour averages shall be defined in the operating permit or the Initial Compliance Status Report.

(ii) If all recorded values for a monitored parameter during a 3-hour period are within the range established in the Initial Compliance Status Report or in the operating permit, the owner or operator may record that all values were within the range and retain this record for 5 years rather than calculating and recording a 3-hour average for that 3-hour period.

(4) Unless determined otherwise according to paragraph (b)(5) of this section, the data collected pursuant to paragraphs (b)(1) through (b)(3) of this section shall be considered valid.

(5) For any parameter with respect to any item of equipment associated with a process vent or transfer rack (except low throughput transfer loading racks), the owner or operator may implement the recordkeeping requirements in paragraphs (b)(5)(i) or (b)(5)(ii) of this section as alternatives to the continuous parameter monitoring and recordkeeping provisions listed in paragraphs (b)(1) through (b)(3) of this section. The owner or operator shall retain each record required by paragraphs (b)(5)(i) or (b)(5)(ii) of this section as provided in a referencing subpart, except as provided otherwise in paragraphs (b)(5)(i) or (b)(5)(ii) of this section.

(i) The owner or operator may retain only the 3-hour average value, and is not required to retain more frequently monitored operating parameter values, for a monitored parameter with respect to an item of equipment, if the requirements of paragraphs (b)(5)(i)(A) through (b)(5)(i)(F) of this section are met. The owner or operator shall notify the Administrator in the Initial Compliance Status Report or, if the Initial Compliance Status Report has already been submitted in the Periodic Report immediately preceding implementation of the requirements of this paragraph.

(A) The monitoring system is capable of detecting unrealistic or impossible data during periods of operation other than startups, shutdowns or malfunctions (e.g., a temperature reading of −200 °C on a boiler), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in a 3-hour period constitute a single occurrence.

(B) The monitoring system generates a running average of the monitoring values, updated at least hourly throughout each 3-hour period, that have been obtained during that 3-hour period, and the capability to observe this average is readily available to the Administrator on-site during the 3-hour period. The owner or operator shall record the occurrence of any period meeting the criteria in paragraphs (b)(5)(i)(B)(*1*) through (b)(5)(i)(B)(*2*) of this section. All instances in a 3-hour period constitute a single occurrence.

(*1*) The running average is above the maximum or below the minimum established limits;

(*2*) The running average is based on at least three one-hour average values; and

(*3*) The running average reflects a period of operation other than a startup, shutdown, or malfunction.

(C) The monitoring system is capable of detecting unchanging data during periods of operation other than startups, shutdowns or malfunctions, except in circumstances where the presence of unchanging data is the expected operating condition based on past experience (e.g., pH in some scrubbers), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in a 3-hour period constitute a single occurrence.

(D) The monitoring system will alert the owner or operator by an alarm, if the running average parameter value calculated under paragraph (b)(5)(i)(B)

of this section reaches a set point that is appropriately related to the established limit for the parameter that is being monitored.

(E) The owner or operator shall verify the proper functioning of the monitoring system, including its ability to comply with the requirements of paragraph (b)(5)(i) of this section, at the times specified in paragraphs (b)(5)(i)(E)(*1*) through (b)(5)(i)(E)(*3*) of this section. The owner or operator shall document that the required verifications occurred.

(*1*) Upon initial installation.

(*2*) Annually after initial installation.

(*3*) After any change to the programming or equipment constituting the monitoring system, that might reasonably be expected to alter the monitoring system's ability to comply with the requirements of this section.

(F) The owner or operator shall retain the records identified in paragraphs (b)(5)(i)(F)(*1*) through (b)(5)(i)(F)(*3*) of this section.

(*1*) Identification of each parameter, for each item of equipment, for which the owner or operator has elected to comply with the requirements of paragraph (c)(5) of this section.

(*2*) A description of the applicable monitoring system(s), and of how compliance will be achieved with each requirement of paragraph (b)(5)(i)(A) through (b)(5)(i)(E) of this section. The description shall identify the location and format (e.g., on-line storage; log entries) for each required record. If the description changes, the owner or operator shall retain both the current and the most recent superseded description. The description, and the most recent superseded description, shall be retained as provided in the subpart that references this subpart, except as provided in paragraph (b)(5)(i)(F)(*1*) of this section.

(*3*) A description, and the date, of any change to the monitoring system that would reasonably be expected to affect its ability to comply with the requirements of paragraph (b)(5)(i) of this section.

(*4*) Owners and operators subject to paragraph (b)(5)(i)(F)(*2*) of this section shall retain the current description of the monitoring system as long as the description is current, but not less than 5 years from the date of its creation. The current description shall be retained on-site at all times or be accessible from a central location by computer or other means that provides access within 2 hours after a request. The owner or operator shall retain the most recent superseded description at least until 5 years from the date of its creation. The superseded description shall be retained on-site (or accessible from a central location by computer that provides access within 2 hours after a request) at least 6 months after being superseded. Thereafter, the superseded description may be stored off-site.

(ii) If an owner or operator has elected to implement the requirements of paragraph (b)(5)(i) of this section, and a period of 6 consecutive months has passed without an excursion as defined in paragraph (b)(5)(ii)(D) of this section, the owner or operator is no longer required to record the 3-hour average value for that parameter for that unit of equipment, for any 3-hour period when the 3-hour average value is less than the maximum, or greater than the minimum established limit. With approval by the Administrator, monitoring data generated prior to the compliance date of this subpart shall be credited toward the period of 6 consecutive months, if the parameter limit and the monitoring were required and/or approved by the Administrator.

(A) If the owner or operator elects not to retain the 3-hour average values, the owner or operator shall notify the Administrator in the next Periodic Report. The notification shall identify the parameter and unit of equipment.

(B) If there is an excursion as defined in paragraph (b)(5)(ii)(D) of this section in any 3-hour period after the owner or operator has ceased recording 3-hour averages as provided in paragraph (b)(5)(ii) of this section, the owner or operator shall immediately resume retaining the 3-hour average value for each 3-hour period, and shall notify the Administrator in the next Periodic Report. The owner or operator shall continue to retain each 3-hour average value until another period of 6 consecutive months has passed without an excursion as defined in paragraph (b)(5)(ii)(D) of this section.

(C) The owner or operator shall retain the records specified in paragraphs (b)(5)(i)(A) through (b)(5)(i)(F) of this section for the duration specified in a referencing subpart. For any calendar week, if compliance with paragraphs (b)(5)(i)(A) through (b)(5)(i)(D) of this section does not result in retention of a record of at least one occurrence or measured parameter value, the owner or operator shall record and retain at least one parameter value during a period of operation other than a startup, shutdown, or malfunction.

(D) For purposes of paragraph (b)(5)(ii) of this section, an excursion means that the 3-hour average value of monitoring data for a parameter is greater than the maximum, or less than the minimum established value, except as provided in paragraphs (b)(5)(ii)(D)(*1*) and (b)(5)(ii)(D)(*2*) of this section.

(*1*) The 3-hour average value during any startup, shutdown or malfunction shall not be considered an excursion for purposes of paragraph (b)(5)(ii), if the owner or operator follows the applicable provisions of the startup, shutdown, and malfunction plan required by a referencing subpart.

(*2*) An excused excursion, as described in paragraph (b)(5)(ii)(E), shall not be considered an excursion for purposes of this paragraph.

(E) One excused excursion for each control device or recovery device for each semiannual period is allowed. If a source has developed a startup, shutdown and malfunction plan, and a monitored parameter is outside its established range or monitoring data are not collected during periods of startup, shutdown, or malfunction (and the source is operated during such periods in accordance with the startup, shutdown, and malfunction plan) or during periods of nonoperation of the process unit or portion thereof (resulting in cessation of the emissions to which monitoring applies), then the excursion is not a violation and, in cases where continuous monitoring is required, the excursion does not count as the excused excursion for determining compliance.

(c) *Nonflare control and recovery device regulated source monitoring records*—(1) *Monitoring system records.* The owner or operator subject to this subpart shall keep the records specified in this paragraph, as well as records specified elsewhere in this part.

(i) For CPMS's used to comply with this part, a record of the procedure used for calibrating the CPMS.

(ii) For a CPMS used to comply with this subpart, records of the information specified in paragraphs (c)(1)(ii)(A) through (c)(1)(ii)(E) of this section, as indicated in a referencing subpart.

(A) The date and time of completion of calibration and preventive maintenance of the CPMS.

(B) The ''as found'' and ''as left'' CPMS readings, whenever an adjustment is made that affects the CPMS reading and a ''no adjustment'' statement otherwise.

(C) The start time and duration or start and stop times of any periods when the CPMS is inoperative.

(D) Records of the occurrence and duration of each startup, shutdown, and malfunction of CPMS used to comply with this subpart during which excess emissions (as defined in a referencing subpart).

(E) For each startup, shutdown, and malfunction during which excess emissions as defined in a referencing subpart occur, records that the procedures specified in the source's

startup, shutdown, and malfunction plan were followed, and documentation of actions taken that are not consistent with the plan. These records may take the form of a ''checklist,'' or other form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for the event.

(iii) *Batch unit operation compliance monitoring records.* If all recorded values for a monitored parameter during a 3-hour period are above the minimum or below the maximum level established in accordance with what is specified in the referencing subpart, the owner or operator may record that all values were above the minimum or below the maximum level established, rather than calculating and recording a 3-hour average or batch cycle 3-hour average for that 3-hour period. Monitoring data recorded during periods of non-operation of the process resulting in cessation of regulated material emissions shall not be included in computing the batch cycle 3-hour averages.

(2) *Combustion control and halogen reduction device monitoring records.*

(i) Each owner or operator using a combustion control or halogen reduction device to comply with this subpart shall keep the following records up-to-date and readily accessible, as applicable. Continuous records of the equipment operating parameters specified to be monitored under §§ 63.988(c) (incinerator monitoring), 63.989(c) (boiler and process heater monitoring), 63.994(c) (halogen reduction device monitoring), and 63.995(c) (other combustion systems used as a control device) or specified by the Administrator in accordance with paragraph (c)(5) of this section.

(ii) Each owner or operator shall keep records of the 3-hour average value of each continuously monitored parameter for each 3-hour period determined according to the procedures specified in paragraph (b)(3)(i) of this section. For catalytic incinerators, record the 3-hour average of the temperature upstream of the catalyst bed and the 3-hour average of the temperature differential across the bed. For halogen scrubbers record the pH and the liquid-to-gas ratio.

(iii) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible records of periods of operation during which the parameter boundaries are exceeded. The parameter boundaries are the 3-hour average values established pursuant to §§ 63.988(c)(2) (incinerator monitoring), 63.989(c)(2) (boiler and process heater monitoring), 63.994(c)(3) (halogen reduction device monitoring), or 63.995(c)(2) (other combustion systems used as control devices monitoring), as applicable.

(3) *Monitoring records for recovery device process vents, and for absorbers, condensers, carbon adsorbers or other noncombustion systems used as control devices.*

(i) Each owner or operator using a recovery device to achieve and maintain a TRE index value greater than the control applicability level specified in the referencing subpart but less than 4.0 or using an absorber, condenser, carbon adsorber or other non-combustion system as a control device shall keep readily accessible, continuous records of the equipment operating parameters specified to be monitored under §§ 63.990(c) (absorber monitoring), 63.991(c) (condenser monitoring), 63.992(c) (carbon adsorber monitoring), or 63.995(c) (other noncombustion systems used as a control device monitoring) or specified by the Administrator in accordance with paragraph (c)(5) of this section. For transfer racks, continuous records are required while the transfer vent stream is being vented.

(ii) Each owner or operator shall keep records of the 3-hour average value of each continuously monitored parameter for each 3-hour period determined according to the procedures specified in § 63.998(b)(1)(iii)(A). If carbon adsorber regeneration stream flow and carbon bed regeneration temperature are monitored, the records specified in paragraphs (c)(3)(ii)(A) and (c)(3)(ii)(B) of this section shall be kept instead of the 3-hour averages.

(A) Records of total regeneration stream mass or volumetric flow for each carbon-bed regeneration cycle.

(B) Records of the temperature of the carbon bed after each regeneration and within 15 minutes of completing any cooling cycle.

(iii) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible records of periods of operation during which the parameter boundaries are exceeded. The parameter boundaries are the 3-hour average values established pursuant to §§ 63.990(c)(2) (absorber monitoring), 63.991(c)(2) (condenser monitoring), 63.992(c)(2) (carbon adsorber monitoring), or 63.995(c)(2) (other noncombustion systems used as control devices monitoring), as applicable.

(4) *Alternatives to the continuous operating parameter monitoring and recordkeeping provisions.* An owner or operator may request approval to use alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in §§ 63.988(c), 63.989(c), 63.990(c), 63.991(c), 63.992(c), 63.993(c), 63.994(c), 63.998(a)(2) through (a)(4), and paragraphs (c)(2) and (c)(3) of this section.

(i) Requests shall be included in the operating permit application or as otherwise specified by the permitting authority, and shall contain the information specified in paragraphs (c)(4)(iii) of this section.

(ii) The provisions specified in a referencing subpart will govern the review and approval of requests.

(iii) An owner or operator may request approval to use other alternative monitoring and recordkeeping systems as specified in a referencing subpart. The application shall contain a description of the proposed alternative system. In addition, the application shall include information justifying the owner or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the regulated source using the required method.

(5) *Monitoring a different parameter than those listed.* The owner or operator who has been directed by any section of this subpart that expressly references this paragraph to set unique monitoring parameters or who requests, as allowed by § 63.996(d), approval to monitor a different parameter than those listed in §§ 63.988(c), 63.989(c), 63.990(c), 63.991(c), 63.992(c), 63.993(c), 63.994(c), 63.998(a)(2) through (a)(4), or paragraphs (c)(2) or (c)(3) of this section, or who has been directed by §§ 63.994(c)(2) or 63.995(c)(1) to set unique monitoring parameters shall submit the information specified in paragraphs (c)(5)(i) through (c)(5)(iii) of this section with the operating permit application or as otherwise specified by the permitting authority.

(i) A description of the parameter(s) to be monitored to ensure the control technology or pollution prevention measure is operated in conformance with its design and achieves the specified emission limit, percent reduction, or nominal efficiency, and an explanation of the criteria used to select the parameter(s).

(ii) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device, the schedule for this demonstration, and a statement that the owner or operator will establish a range for the monitored parameter as part of the Initial Compliance Status Report if required under a referencing subpart, unless this information has already been included in the operating permit application.

(iii) The frequency and content of monitoring, recording, and reporting if monitoring and recording is not continuous, or if reports of 3-hour average values when the monitored parameter value is outside the range established in the operating permit or Initial Compliance Status Report will not be included in Periodic Reports required under § 63.999(b)(6)(i). The rationale for the proposed monitoring, recording, and reporting system shall be included.

(d) *Other records.*—(1) *Closed vent system records.* For closed vent systems the owner or operator shall record the information specified in paragraphs (d)(1)(i) through (d)(1)(iv) of this section, as applicable.

(i) For closed vent systems collecting regulated material from a regulated source, the owner or operator shall record the identification of all parts of the closed vent system, that are designated as unsafe or difficult to inspect, an explanation of why the equipment is unsafe or difficult to inspect, and the plan for inspecting the equipment required by § 63.983(b)(2)(ii) or (b)(3)(ii).

(ii) For each closed vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either paragraph (d)(1)(ii)(A) or (d)(1)(ii)(B) of this section, as applicable.

(A) Hourly records of whether the flow indicator specified under § 63.983(a)(3)(i) was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.

(B) Where a seal mechanism is used to comply with § 63.983(a)(3)(ii), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanisms has been done, and shall record the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has been broken.

(iii) For a closed vent system collecting regulated material from a regulated source, when a leak is detected as specified in § 63.983(d)(1), the information specified in paragraphs (d)(1)(iii)(A) through (d)(1)(iii)(F) of this section shall be recorded and kept for 2 years.

(A) The instrument and the equipment identification number and the operator name, initials, or identification number.

(B) The date the leak was detected and the date of the first attempt to repair the leak.

(C) The date of successful repair of the leak.

(D) The maximum instrument reading measured by the procedures in § 63.983(c) after the leak is successfully repaired or determined to be nonrepairable.

(E) ''Repair delayed'' and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak. The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(F) Copies of the periodic reports as specified in § 63.999(b), if records are not maintained on a computerized database capable of generating summary reports from the records.

(iv) For each instrumental or visual inspection conducted in accordance with § 63.983(b)(1) for closed vent systems collecting regulated material from a regulated source during which no leaks are detected, the owner or operator shall record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(2) *Storage vessel records.* An owner or operator shall keep readily accessible records of the information specified in paragraphs (d)(2)(i) through (d)(2)(iii) of this section, as applicable.

(i) A record of the measured values of the parameters monitored in accordance with § 63.985(c) or § 63.987(c).

(ii) A record of the planned routine maintenance performed on the control system during which the control system does not meet the applicable specifications of §§ 63.983(a), 63.985(a), or 63.987(a), as applicable, due to the planned routine maintenance. Such a record shall include the information specified in paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(C) of this section. This information shall be submitted in the periodic reports as specified in § 63.999(b)(1)(i).

(A) The first time of day and date the requirements of §§ 63.983(a). § 63.985(a), or § 63.987(a), as applicable, were not met at the beginning of the planned routine maintenance, and

(B) The first time of day and date the requirements of §§ 63.983(a), 63.985(a), or 63.987(a), as applicable, were met at the conclusion of the planned routine maintenance.

(C) A description of the type of maintenance performed.

(iii) *Bypass records for storage vessel emissions routed to a process or fuel gas system.* An owner or operator who uses the bypass provisions of § 63.983(a)(3) shall keep in a readily accessible location the records specified in paragraphs (d)(2)(iii)(A) through (d)(2)(iii)(C) of this section.

(A) The reason it was necessary to bypass the process equipment or fuel gas system;

(B) The duration of the period when the process equipment or fuel gas system was bypassed;

(C) Documentation or certification of compliance with the applicable provisions of § 63.983(a)(3)(i) or (a)(3)(ii).

(3) *Regulated source and control equipment startup, shutdown and malfunction records.*

(i) Records of the occurrence and duration of each startup, shutdown, and malfunction of operation of process equipment or of air pollution control equipment used to comply with this part during which excess emissions (as defined in a referencing subpart) occur.

(ii) For each startup, shutdown, and malfunction during which excess emissions occur, records that the procedures specified in the source's startup, shutdown, and malfunction plan were followed, and documentation of actions taken that are not consistent with the plan. For example, if a startup, shutdown, and malfunction plan includes procedures for routing control device emissions to a backup control device (e.g., the incinerator for a halogenated stream could be routed to a flare during periods when the primary control device is out of service), records must be kept of whether the plan was followed. These records may take the form of a ''checklist,'' or other form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for the event.

(4) *Equipment leak records.* The owner or operator shall maintain records of the information specified in paragraphs (d)(4)(i) and (d)(4)(ii) of this section for closed vent systems and control devices if specified by the equipment leak provisions in a referencing subpart. The records specified in paragraph (d)(4)(i) of this section shall be retained for the life of the equipment. The records specified in paragraph (d)(4)(ii) of this section shall be retained for 2 years.

(i) The design specifications and performance demonstrations specified

in paragraphs (d)(4)(i)(A) through (d)(4)(i)(C) of this section.

(A) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams.

(B) The dates and descriptions of any changes in the design specifications.

(C) A description of the parameter or parameters monitored, as required in a referencing subpart, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(ii) Records of operation of closed vent systems and control devices, as specified in paragraphs (d)(4)(ii)(A) through (d)(4)(ii)(C) of this section.

(A) Dates and durations when the closed vent systems and control devices required are not operated as designed as indicated by the monitored parameters, including periods when a flare pilot light system does not have a flame.

(B) Dates and durations during which the monitoring system or monitoring device is inoperative.

(C) Dates and durations of startups and shutdowns of control devices required in this subpart.

§ 63.999 Notifications and other reports.

(a) *Performance test and flare compliance determination notifications and reports.*

(1) *General requirements.* General requirements for performance test and flare compliance determination notifications and reports are specified in paragraphs (a)(1)(i) through (a)(1)(iii) of this section.

(i) The owner or operator shall notify the Administrator of the intention to conduct a performance test at least 30 calendar days before the performance test is scheduled to allow the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the Administrator as soon as possible of any delay in the original test date. The owner or operator shall provide at least 7 days prior notice of the rescheduled date of the performance test, or arrange a rescheduled date with the Administrator by mutual agreement.

(ii) Unless specified differently in this subpart or a referencing subpart, performance test and flare compliance determination reports, not submitted as part of an Initial Compliance Status Report, shall be submitted to the Administrator within 60 days of completing the test or determination.

(iii) Any application for a waiver of an initial performance test or flare compliance determination, as allowed by § 63.997(b)(2), shall be submitted no later than 90 calendar days before the performance test or compliance determination is required. The application for a waiver shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the source performing the test.

(2) *Performance test and flare compliance determination report submittal and content requirements.* Performance test and flare compliance determination reports shall be submitted as specified in paragraphs (a)(2)(i) through (a)(2)(iii) of this section.

(i) For performance tests of flare compliance determinations, the Initial Compliance Status Report or performance test and flare compliance determination report shall include one complete test report as specified in paragraph (a)(2)(ii) of this section for each test method used for a particular kind of emission point and other applicable information specified in (a)(2)(iii) of this section. For additional tests performed for the same kind of emission point using the same method, the results and any other information required in applicable sections of this subpart shall be submitted, but a complete test report is not required.

(ii) A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(iii) The performance test or flare compliance determination report shall also include the information specified in (a)(2)(iii)(A) through (a)(2)(iii)(C), as applicable.

(A) For flare compliance determinations, the owner or operator shall submit the records specified in § 63.998(a)(1)(i).

(B) For nonflare combustion device and halogen reduction device performance tests as required under §§ 63.988(b), 63.989(b), 63.990(b), 63.991(b), 63.992(b), 63.994(b), or 63.995(b), also submit the records specified in § 63.998(a)(2)(ii), as applicable.

(C) For process vents also submit the records specified in § 63.998(a)(3), as applicable.

(b) *Control device monitoring reports.*

(1) *Control of emissions from storage vessels, periodic reports.* For storage vessels, the owner or operator shall include in each periodic report required the information specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section.

(i) For the 6-month period covered by the periodic report, the information recorded in § 63.998(d)(2)(ii)(A) through (d)(2)(iii)(C).

(ii) For the time period covered by the periodic report and the previous periodic report, the total number of hours that the control system did not meet the requirements of §§ 63.983(a), 63.985(a), or 63.987(a) due to planned routine maintenance.

(iii) A description of the planned routine maintenance during the next 6-month periodic reporting period that is anticipated to be performed for the control system when it is not expected to meet the required control efficiency. This description shall include the type of maintenance necessary, planned frequency of maintenance, and expected lengths of maintenance periods.

(2) *Control of emissions from storage vessels and transfer racks through routing to a fuel gas system or process, Initial Compliance Status Report.* An owner or operator who elects to comply with § 63.984 by routing emissions from a storage vessel or transfer rack to a process or to a fuel gas system shall submit as part of the Initial Compliance Status Report the information specified in paragraphs (b)(2)(i) and (b)(2)(ii), or (b)(2)(iii) of this section, as applicable.

(i) *Storage vessels.* If storage vessels emissions are routed to a process, the owner or operator shall submit the information specified in § 63.984(b)(2).

(ii) *Storage vessels.* If storage vessels emissions are routed to a fuel gas system, the owner or operator shall submit a statement that the emission stream is connected to the fuel gas system and whether the conveyance system is subject to the requirements of § 63.983.

(iii) *Transfer racks.* Report that the transfer operation emission stream is being routed to a fuel gas system or process, when complying with a referencing subpart.

(3) *Control of emissions from storage vessels and low throughput transfer racks through a nonflare control device, Initial Compliance Status Report.* An owner or operator who elects to comply with § 63.985 by routing emissions from

a storage vessel or low throughput transfer rack to a nonflare control device shall submit, with the Initial Compliance Status Report required by a referencing subpart, the information specified in paragraphs (b)(3)(i) and (b)(3)(ii) of this section, and in either paragraph (b)(3)(iii) or (b)(3)(iv) of this section; and paragraph (b)(3)(v), if applicable.

(i) A description of the parameter or parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the frequency with which monitoring will be performed (e.g., when the liquid level in the storage vessel is being raised). If continuous records are specified, whether the provisions of paragraphs (b)(6)(i) and (b)(6)(iii) of this section apply.

(ii) The information specified in paragraphs (b)(3)(ii)(A) and, if applicable, (b)(3)(ii)(B) of this section.

(A) The operating range for each monitoring parameter identified in the monitoring plan. The specified operating range shall represent the conditions for which the control device is being properly operated and maintained.

(B) Summary of the results of the performance test described in § 63.985(b)(1)(ii) or (b)(1)(iii), as applicable. If a performance test is conducted as provided in § 63.985(b)(1)(ii), submit the results of the performance test, including the information specified in § 63.999(a)(1)(i) and (a)(1)(ii).

(iii) The documentation specified in § 63.985(b)(1)(i), if the owner or operator elects to prepare a design evaluation; or

(iv) The information specified in paragraphs (b)(3)(iv)(A) and (b)(3)(iv)(B) of this section if the owner or operator elects to submit the results of a performance test as specified in § 63.985(b)(1)(ii) or (b)(1)(iii).

(A) Identification of the storage vessel or transfer rack and control device for which the performance test will be submitted, and

(B) Identification of the emission point(s), if any, that share the control device with the storage vessel or transfer rack and for which the performance test will be conducted.

(v) The provisions of paragraphs (b)(6)(i) and (b)(6)(ii) of this section do not apply to any low throughput transfer rack for which the owner or operator has elected to comply with § 63.985 or to any storage vessel for which the owner or operator is not required, by the applicable monitoring plan established under (b)(3)(i) and (b)(3)(ii) of this section to keep continuous records. If continuous records are required, the owner or operator shall specify in the monitoring plan whether the provisions of paragraphs (b)(6)(i) and (b)(6)(ii) of this section apply.

(4) *Control of emissions from storage vessels and low throughput transfer racks through a nonflare control device, periodic reports.* If a control device other than a flare is used to control emissions from storage vessels or low throughput transfer racks, the periodic report shall describe each occurrence when the monitored parameters were outside of the parameter ranges documented in the Initial Compliance Status Report in accordance with paragraph (b)(3) of this section. The description shall include the information specified in paragraphs (b)(4)(i) and (b)(4)(ii) of this section.

(i) Identification of the control device for which the measured parameters were outside of the established ranges, and

(ii) The cause for the measured parameters to be outside of the established ranges.

(5) *Control of emissions from process vents and transfer operations (except low throughput transfer racks), Initial Compliance Status Report.* The owner or operator shall submit as part of the Initial Compliance Status Report, the operating range for each monitoring parameter identified for each control, recovery, or halogen reduction device as determined in §§ 63.988(c)(2), 63.989(c)(2), 63.990(c)(2), 63.991(c)(2), 63.992(c)(2), 63.993(c)(5), 63.994(c)(3), and 63.995(c)(2). The specified operating range shall represent the conditions for which the control, recovery, or halogen reduction device is being properly operated and maintained. This report shall include the information in paragraphs (b)(5)(i) through (b)(5)(iii) of this section, as applicable, unless the range and the 3-hour periods have been established in the operating permit.

(i) The specific range of the monitored parameter(s) for each emission point;

(ii) The rationale for the specific range for each parameter for each emission point, including any data and calculations used to develop the range and a description of why the range indicates proper operation of the control, recovery, or halogen reduction device, as specified in paragraphs (b)(5)(ii)(A), (b)(5)(ii)(B), or (b)(5)(ii)(C) of this section, as applicable.

(A) If a performance test or TRE index value determination is required a referencing subpart for a control, recovery or halogen removal device, the range shall be based on the parameter values measured during the TRE index value determination or performance test and may be supplemented by engineering assessments and/or manufacturer's recommendations. TRE index value determinations and performance testing is not required to be conducted over the entire range of permitted parameter values.

(B) If a performance test or TRE index value determination is not required by a referencing subpart for a control, recovery, or halogen reduction device, the range may be based solely on engineering assessments and/or manufacturer's recommendations.

(C) The range may be based on ranges or limits previously established under a referencing subpart.

(iii) A definition of the source's 3-hour periods for purposes of determining 3-hour average values of monitored parameters. The definition shall specify the times at which a 3-hour period begins and ends.

(6) *Control of emissions from regulated sources, periodic reports.* (i) Periodic reports shall include the 3-hour average values of monitored parameters, calculated as specified in § 63.998(c)(1) for any days when the 3-hour average value is outside the bounds as defined in § 63.998(b)(2) or the data availability requirements defined in paragraphs (b)(6)(i)(A) through (b)(6)(i)(D) of this section are not met, whether these excursions are excused or unexcused excursions. For excursions caused by lack of monitoring data, the duration of periods when monitoring data were not collected shall be specified. An excursion means any of the three cases listed in paragraphs (b)(6)(i)(A) through (b)(6)(i)(C) of this section. For a control device where multiple parameters are monitored, if one or more of the parameters meets the excursion criteria in paragraphs (b)(6)(i)(A) through (b)(6)(i)(C) of this section, this is considered a single excursion for the control device.

(A) When the 3-hour average value of one or more monitored parameters is outside the permitted range.

(B) When the period of control or recovery device operation is 4 hours or greater in a 3-hour period and monitoring data are insufficient to constitute a valid hour of data for at least 75 percent of the operating hours.

(C) When the period of control or recovery device operation is less than 4 hours in a 3-hour period 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.

(D) Monitoring data are insufficient to constitute a valid hour of data as used in paragraphs (b)(6)(i)(B) and (b)(6)(i)(C) of this section, if measured values are unavailable for any of the 15-minute periods within the hour.

(ii) Report all carbon-bed regeneration cycles during which the parameters recorded under § 63.998(a)(2)(ii)(C) were outside the ranges established in the Initial Compliance Status Report or in the operating permit.

(7) *Replacing an existing control or recovery device.* As specified in §§ 63.987(b)(2), 63.988(b)(3), 63.989(b)(3), 63.990(b)(2), 63.991(b)(2), 63.992(b)(2), or 63.993(b)(2), if an owner or operator at a facility not required to obtain a title V permit elects at a later date to use a different control or recovery device, then the Administrator shall be notified by the owner or operator before implementing the change. This notification may be included in the facility's periodic reporting.

(8) *Halogen reduction device.* The owner or operator shall submit as part of the Initial Compliance Status Report the information recorded pursuant to § 63.998(a)(4).

(9) *Flare compliance monitoring results.* The owner or operator shall submit as part of the periodic reports the information recorded pursuant to § 63.998(a)(1)(iii).

3. Part 63 is amended by adding subpart TT to read as follows:

Subpart TT—National Emission Standards for Equipment Leaks—Control Level 1

Sec.

§ 63.1000 Applicability.

(a) The provisions of this subpart apply to the control of air emissions from equipment leaks for which another subpart references the use of this subpart for such air emission control. These air emission standards for equipment leaks are placed here for administrative convenience and only apply to those owners and operators of facilities subject to the referencing subpart. The provisions of 40 CFR part 63 subpart A (General Provisions) do not apply to this subpart except as noted in the referencing subpart.

(b) *Equipment subject to this subpart.* This subpart applies to pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors and any closed vent systems and control devices used to meet the requirements of this subpart that contacts or services regulated material as specified in the referencing subpart.

(c) *Exemptions.* Paragraphs (c)(1) and (c)(2) delineate equipment that is excluded from the requirements of this subpart.

(1) *Equipment in vacuum service.* Equipment that is in vacuum service is excluded from the requirements of this subpart.

(2) *Equipment in service less than 300 hours per calendar year.*

(i) Equipment that is in regulated material service less than 300 hours per calendar year is excluded from the requirements of §§ 63.1006 through 63.1015 of this subpart if it is identified as required in paragraph (c)(2)(ii) of this section.

(ii) The identity, either by list, location (area or group), or other method, of equipment in regulated-material service less than 300 hours per calendar year within a process unit and affected facility subject to the provisions of this subpart shall be recorded.

(iii) *Lines and equipment not containing process fluids.* Except as provided in a referencing subpart, lines and equipment not containing process fluids are not subject to the provisions of this subpart. Utilities, and other nonprocess lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not considered to be part of a process unit or affected facility.

§ 63.1001 Definitions.

All terms used in this part shall have the meaning given them in the Act and in this section.

Connector means flanged, screwed, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are not inaccessible, ceramic, or ceramic-lined (e.g., porcelain, glass, or glass-lined) as described in § 63.1008(d)(2) of this subpart.

Distance piece means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in regulated-material service; and any control devices or systems used to comply with this subpart.

First attempt at repair, for the purposes of this subpart, means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere, followed by monitoring as specified in § 63.1004(b) of this subpart, as appropriate, to verify whether the leak is repaired, unless the owner or operator determines by other means that the leak is not repaired.

In gas or vapor service means that a piece of equipment in regulated material service contains a gas or vapor at operating conditions.

In heavy liquid service means that a piece of equipment in regulated-material service is not in gas or vapor service or in light liquid service.

In light liquid service means that a piece of equipment in regulated-material service contains a liquid that meets the following conditions:

(1) The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20 °C,

(2) The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20 °C is equal to or greater than 20 percent by weight of the total process stream, and

(3) The fluid is a liquid at operating conditions.

(**NOTE:** Vapor pressures may be determined by standard reference texts or ASTM D–2879.)

In liquid service means that a piece of equipment in regulated-material service is not in gas or vapor service.

In regulated-material service means, for the purposes of this subpart, equipment which meets the definition of ''in VOC service'', ''in VHAP service'', ''in organic hazardous air pollutant service,'' or ''in'' other chemicals or groups of chemicals ''service'' as defined in the referencing subpart.

In-situ sampling systems means nonextractive samplers or in-line samplers.

In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals below ambient pressure.

Instrumentation system means a group of equipment components used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow, etc.). Valves and connectors are the predominant type of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 1.27 centimeters (0.5 inches) and smaller, and connectors nominally 1.91 centimeters (0.75 inches) and smaller in diameter are considered instrumentation systems for the purposes of this subpart. Valves greater than nominally 1.27 centimeters (0.5 inches) and connectors greater than nominally 1.91 centimeters (0.75 inches) associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.

Liquids dripping means any visible leakage from the seal including dripping, spraying, misting, clouding, and ice formation. Indications of liquids dripping include puddling or new stains that are indicative of an existing evaporated drip.

Nonrepairable means that it is technically infeasible to repair a piece of equipment from which a leak has been detected without a process unit or affected facility shutdown.

Open-ended valve or line means any valve, except relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.

Organic monitoring device means a unit of equipment used to indicate the concentration level of organic compounds based on a detection principle such as infra-red, photo ionization, or thermal conductivity.

Pressure relief device or valve means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 pounds per square inch gauge or by a vacuum are not pressure relief devices.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the relief device. This release can be one release or a series of releases over a short time period due to a malfunction in the process.

Referencing subpart means the subpart which refers an owner or operator to this subpart.

Regulated material, for purposes of this subpart, refers to gases from volatile organic liquids (VOL), volatile organic compounds (VOC), hazardous air pollutants (HAP), or other chemicals or groups of chemicals that are regulated by the referencing subpart.

Regulated source for the purposes of this subpart, means the stationary source, the group of stationary sources, or the portion of a stationary source that is regulated by a referencing subpart.

Relief device or valve means a valve used only to release an unplanned, nonroutine discharge. A relief valve discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause that requires immediate venting of gas from process equipment in order to avoid safety hazards or equipment damage.

Repaired, for the purposes of this subpart and subpart SS of this part, means the following:

(1) Equipment is adjusted, or otherwise altered, to eliminate a leak as defined in the applicable sections of this subpart, and

(2) Equipment, unless otherwise specified in applicable provisions of this subpart, is monitored as specified in § 63.1004(b) and subpart SS of this part, as appropriate, to verify that emissions from the equipment are below the applicable leak definition.

Sampling connection system means an assembly of equipment within a process unit or affected facility used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

Screwed (threaded) connector means a threaded pipe fitting where the threads are cut on the pipe wall and the fitting requires only two pieces to make the connection (i.e., the pipe and the fitting).

§ 63.1002 Compliance determination.

(a) *General procedures for compliance determination.* Compliance with this subpart will be determined by review of the records required by § 63.1017 and the reports required by § 63.1018, by review of performance test results, and by inspections.

(b) *Alternative means of emission limitation.* (1) An owner or operator may request a determination of alternative means of emission limitation to the requirements of §§ 63.1006 through 63.1015 as provided in paragraphs (b)(2) through (b)(6) of this section. If the Administrator makes a determination that an alternative means of emission limitation is a permissible alternative, the owner or operator shall comply with the alternative.

(2) Permission to use an alternative means of emission limitation shall be governed by the following procedures in paragraphs (b)(3) through (b)(6) of this section.

(3) Where the standard is an equipment, design, or operational requirement the criteria specified in paragraphs (b)(3)(i) and (b)(3)(ii) shall be met.

(i) Each owner or operator applying for permission to use an alternative means of emission limitation shall be responsible for collecting and verifying emission performance test data for an alternative means of emission limitation.

(ii) The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

(4) Where the standard is a work practice the criteria specified in paragraphs (b)(4)(i) through (b)(4)(vi) shall be met.

(i) Each owner or operator applying for permission shall be responsible for collecting and verifying test data for an alternative means of emission limitation.

(ii) For each kind of equipment for which permission is requested, the emission reduction achieved by the required work practices shall be demonstrated for a minimum period of 12 months.

(iii) For each kind of equipment for which permission is requested, the emission reduction achieved by the alternative means of emission limitation shall be demonstrated.

(iv) Each owner or operator applying for permission shall commit, in writing, for each kind of equipment to work practices that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practices.

(v) The Administrator will compare the demonstrated emission reduction for the alternative means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (b)(4)(iv) of this section.

(vi) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same or greater emission reduction as the required work practices of this subpart.

(5) An owner or operator may offer a unique approach to demonstrate the alternative means of emission limitation.

(6) If, in the judgement of the Administrator, an alternative means of emission limitation will be approved, the Administrator will publish a notice of the determination in the **Federal Register**.

(7)(i) Manufacturers of equipment used to control equipment leaks of a regulated material may apply to the Administrator for permission for an alternative means of emission limitation that achieves a reduction in emissions of the regulated material achieved by the equipment, design, and operational requirements of this subpart.

(ii) The Administrator will grant permission according to the provisions of paragraphs (b)(3), (b)(4), (b)(5) and (b)(6) of this section.

§ 63.1003 Equipment identification.

(a) *General equipment identification.* Equipment subject to this subpart shall be identified. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, by designation of process unit or affected facility boundaries by some form of weatherproof identification, or by other appropriate methods.

(b) *Additional equipment identification.* In addition to the general identification required by paragraph (a) of this section, equipment subject to any of the provisions in §§ 63.1006 to 63.1015 shall be specifically identified as required in paragraphs (b)(1) through (b)(6) of this section, as applicable.

(1) *Connectors.* Except for inaccessible, ceramic, or ceramic-lined connectors meeting the provisions of § 63.1108(e)(2) and instrumentation systems identified pursuant to paragraph (b)(4) of this section, identify the connectors subject to the requirements of this subpart. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of connectors subject is indicated. With respect to connectors, the identification shall be complete no later than the completion of the initial survey required by § 63.1008(a)(1)(i).

(2) *Routed to a process or fuel gas system or equipped with a closed vent system and control device.* Identify the equipment that the owner or operator elects to route to a process or fuel gas system or equip with a closed vent system and control device, under the provisions of § 63.1007(e)(3) (pumps in light liquid service), § 63.1009 (agitators in gas and vapor service and in light liquid service), § 63.1011(d) (pressure relief devices in gas and vapor service), § 63.1012(e) (compressors), or § 63.1016 (alternative means of emission limitation for enclosed vented process units) of this subpart.

(3) *Pressure relief devices.* Identify the pressure relief devices equipped with rupture disks, under the provisions of § 63.1011(e) of this subpart.

(4) *Instrumentation systems.* Identify instrumentation systems subject to the provisions of this subpart. Individual components in an instrumentation system need not be identified.

(5) *Equipment in service less than 300 hours per calendar year.* The identity, either by list, location (area or group), or other method, of equipment in regulated material service less than 300 hours per calendar year within a process unit or affected facilities subject to the provisions of this subpart shall be recorded.

(c) *Special equipment designations: Equipment that is unsafe or difficult-to-monitor.*

(1) *Designation and criteria for unsafe-to-monitor.* Valves meeting the provisions of § 63.1006(e)(1), pumps meeting the provisions of § 63.1007(e)(5), and connectors meeting the provisions of § 63.1008(d)(1) may be designated unsafe-to-monitor if the owner or operator determines that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements of this subpart. Examples of an unsafe-to-monitor equipment include, but is not limited to, equipment under extreme pressure or heat.

(2) *Designation and criteria for difficult-to-monitor.* Valves meeting the provisions of § 63.1006(e)(2) of this subpart may be designated difficult-to-monitor if the provisions of paragraph (c)(2)(i) of this section apply. Agitators meeting the provisions of § 63.1009(f)(5) may be designated difficult-to-monitor if the provisions of paragraph (c)(2)(ii) apply.

(i) *Valves.*

(A) The owner or operator of the valve determines that the equipment cannot be monitored without elevating the monitoring personnel more than 2 meters (7 feet) above a support surface or it is not accessible in a safe manner when it is in regulated material service.

(B) The process unit or affected facility within which the valve is located is an existing source, or a new source for which the owner or operator designates less than 3 percent of the total number of valves as difficult-to-monitor.

(ii) *Agitators.* The owner or operator determines that the agitator cannot be monitored without elevating the monitoring personnel more than 2 meters (7 feet) above a support surface or it is not accessible in a safe manner when it is in regulated material service.

(3) *Identification of equipment.* The information specified in paragraphs (c)(3)(i) and (c)(3)(ii) pertaining to equipment designated as unsafe-to-monitor or difficult-to-monitor according to the provisions of paragraph (c)(1) of this section shall be recorded.

(i) The identity of equipment designated as unsafe-to-monitor or difficult-to-monitor and the plan for monitoring this equipment.

(ii) The identity of the equipment designated as difficult-to-monitor, an explanation why the equipment is difficult-to-monitor, and the planned schedule for monitoring this equipment.

(4) *Identification of unsafe or difficult-to-monitor equipment.* The owner or operator shall record the identity of equipment designated as unsafe-to-monitor or difficult-to-monitor according to the provisions of paragraphs (c)(1) or (c)(2) of this section, the planned schedule for monitoring this equipment, and an explanation why the equipment is unsafe or difficult-to-monitor, if applicable. This record must be kept at the plant and be available for review by an inspector.

(5) *Written plan requirements.* (i) The owner or operator of equipment designated as unsafe-to-monitor according to the provisions of paragraph (c)(1)(i) of this section shall have a written plan that requires monitoring of the equipment as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment

according to the procedures in § 63.1005 if a leak is detected.

(ii) The owner or operator of equipment designated as difficult-to-monitor according to the provisions of paragraph (c)(2) of this section shall have a written plan that requires monitoring of the equipment at least once per calendar year.

(d) *Special equipment designations: Unsafe-to-repair.*—(1) *Designation and criteria.* Connectors subject to the provisions of § 63.1005(e) may be considered unsafe-to-repair if the owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with the repair requirements of this subpart, and if the connector will be repaired before the end of the next process unit or affected facility shutdown as specified in § 63.1005(e) of this subpart.

(2) *Identification of equipment.* The identity of connectors designated as unsafe-to-repair and an explanation why the connector is unsafe-to-repair shall be recorded.

(e) *Special equipment designations: Equipment operating with no detectable emissions.*—(1) *Designation and criteria.* Equipment may be designated as having no detectable emissions if it has no external actuating mechanism in contact with the process fluid, and is operated with emissions less than 500 parts per million above background as determined by the method specified in § 63.1004(c).

(2) *Identification of equipment.* The identity of equipment designated as no detectable emissions shall be recorded.

(3) *Identification of compressors operating under no detectable emissions.* Identify the compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of § 63.1012(f).

§ 63.1004 Instrument and sensory monitoring for leaks.

(a) *Monitoring for leaks.* The owner or operator of a regulated source subject to this subpart shall monitor all regulated equipment as specified in paragraph (a)(1) of this section for instrument monitoring and paragraph (a)(2) of this section for sensory monitoring.

(1) *Instrument monitoring for leaks.* (i) Valves in gas and vapor service and in light liquid service shall be monitored pursuant to § 63.1006(b).

(ii) Pumps in light liquid service shall be monitored pursuant to § 63.1007(b).

(iii) Connectors in gas and vapor service and in light liquid service shall be monitored pursuant to § 63.1008(b).

(iv) Agitators in gas and vapor service and in light liquid service shall be monitored pursuant to § 63.1009(b).

(v) Pressure relief devices in gas and vapor service shall be monitored pursuant to § 63.1011(b) and (c).

(vi) Compressors designated to operate with an instrument reading less than 500 parts per million as described in § 63.1003(e), shall be monitored pursuant to § 63.1012(f).

(2) *Sensory monitoring for leaks.* (i) Pumps in light liquid service shall be observed pursuant to § 63.1007(b)(4) and (e)(1).

(ii) Inaccessible, ceramic, or ceramic-lined connectors in gas and vapor service and in light liquid service shall be observed pursuant to § 63.1008(d)(2).

(iii) Agitators in gas and vapor service and in light liquid service shall be monitored pursuant to § 63.1009(b)(3) or (e)(1).

(iv) Pumps, valves, agitators, and connectors in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service shall be observed pursuant to § 63.1010(b)(1).

(b) *Instrument monitoring methods.* Instrument monitoring, as required under this subpart, shall comply with the requirements specified in paragraphs (b)(1) through (b)(6) of this section.

(1) *Monitoring method.* Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A.

(2) *Detection instrument performance criteria.*

(i) Except as provided for in paragraph (b)(2)(ii) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the representative composition of the process fluid, and not for each individual HAP, VOC or other regulated material individual chemical compound in the stream. For process streams that contain nitrogen, air, or other inerts that are not regulated-materials, the representative stream response factor shall be calculated on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted.

(ii) If there is no instrument commercially available that will meet the performance criteria specified in paragraph (b)(2)(i) of this section, the instrument readings may be adjusted by multiplying by the representative response factor of the process fluid, calculated on an inert-free basis as described in paragraph (b)(2)(i) of this section.

(3) *Detection instrument calibration procedure.* The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(4) *Detection instrument calibration gas.* Calibration gases shall be zero air (less than 10 parts per million of hydrocarbon in air); and a mixture of methane in air at a concentration of approximately, but less than, 10,000 parts per million; or a mixture of n-hexane in air at a concentration of approximately, but less than, 10,000 parts per million. A calibration gas other then methane in air or n-hexane in air may be used if the instrument does not respond to methane or n-hexane or if the instrument does not meet the performance criteria specified in paragraph (b)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more compounds to be measured in air.

(5) *Monitoring performance.* Monitoring shall be performed when the equipment is in regulated material service or is in use with any other detectable material.

(6) *Monitoring data.* Monitoring data obtained prior to the regulated source becoming subject to the referencing subpart that do not meet the criteria specified in paragraphs (b)(1) through (b)(5) of this section may still be used to initially qualify for less frequent monitoring under the provisions in § 63.1006(a)(2), (b)(3) or (b)(4) for valves or § 63.1008(b) for connectors provided the departures from the criteria specified or from the specified monitoring frequency of § 63.1006(b)(3) are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every six weeks instead of monthly or quarterly), following the performance criteria of section 3.1.2(a) of Method 21 of Appendix A of 40 CFR part 60 instead of paragraph (b)(2) of this section, or monitoring at a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in the referencing subpart. Failure to use a calibrated instrument is not considered a minor departure.

(c) *Instrument monitoring using background adjustments.* The owner or operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects not to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (b)(1) through (b)(4) of this

section. In such case, all instrument readings shall be compared directly to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with § 63.1011(b) (pressure relief devices in gas and vapor service) or § 63.1012(f) (compressors). If an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (c)(1) through (c)(4) of this section.

(1) The requirements of paragraphs (b)(1) through (b)(4) of this section shall apply.

(2) The background level shall be determined, using the procedures in Method 21 of 40 CFR part 60, appendix A.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible (as described in Method 21 of 40 CFR part 60, appendix A).

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared to the applicable leak definitions for the monitored equipment to determine whether there is a leak or to determine compliance with § 63.1011(b) (pressure relief devices in gas and vapor service) or § 63.1012(f) (compressors).

(d) *Sensory monitoring methods.* Sensory monitoring, as required under this subpart, shall consist of detection of a potential leak to the atmosphere by visual, audible, olfactory, or any other detection method.

(e) *Leaking equipment identification and records.*

(1) When each leak is detected pursuant to the monitoring specified in paragraph (a) of this section, a weatherproof and readily visible identification, marked with the equipment identification, shall be attached to the leaking equipment.

(2) When each leak is detected, the information specified in paragraphs (e)(2)(i) and (e)(2)(ii) shall be recorded and kept pursuant to the referencing subpart.

(i) The instrument and the equipment identification and the operator name, initials, or identification number if a leak is detected or confirmed by instrument monitoring.

(ii) The date the leak was detected.

§ 63.1005 Leak repair.

(a) *Leak repair schedule.* The owner or operator shall repair each leak detected as soon as practical, but not later than 15 calendar days after it is detected, except as provided in paragraph (d) of this section. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempt at repair for pumps includes, but is not limited to, tightening the packing gland nuts and/or ensuring that the seal flush is operating at design pressure and temperature. First attempt at repair for valves includes, but is not limited to, tightening the bonnet bolts, and/or replacing the bonnet bolts, and/or tightening the packing gland nuts, and/or injecting lubricant into the lubricated packing.

(b) *Leak identification removal*—(1) *Valves and connectors.* The leak identification on a valve may be removed after it has been monitored as specified in § 63.1006(b), and no leak has been detected during that monitoring. The leak identification on a connector may be removed after it has been monitored as specified in § 63.1008(b) and no leak has been detected during that monitoring.

(2) *Other equipment.* The identification that has been placed, pursuant to § 63.1004(e), on equipment determined to have a leak, except for a valve or for a connector that is subject to the provisions of § 63.1008(b), may be removed after it is repaired.

(c) *Delay of repair.* Delay of repair can be used as specified in any of paragraphs (c)(1) through (c)(5) of this section. The owner or operator shall maintain a record of the facts that explain any delay of repairs and, where appropriate, why the repair was technically infeasible without a process unit shutdown.

(1) Delay of repair of equipment for which leaks have been detected is allowed if the repair is technically infeasible without a process unit or affected facility shutdown within 15 days after a leak is detected. Repair of this equipment shall occur as soon as practical, but not later than by the end of the next process unit or affected facility shutdown, except as provided in paragraph (c)(5) of this section.

(2) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in regulated-material service.

(3) Delay of repair for valves, connectors, and agitators is also allowed if the criteria specified in paragraphs (c)(3)(i) and (c)(3)(ii) are met.

(i) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and

(ii) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control or recovery device complying with subpart SS of this part.

(4) Delay of repair for pumps is allowed if the criteria specified in paragraphs (c)(4)(i) and (c)(4)(ii) are met.

(i) Repair requires replacing the existing seal design with a new system that the owner or operator has determined will provide better performance or one of the specifications of paragraphs (c)(4)(i)(A) through (c)(4)(i)(C) of this section are met.

(A) A dual mechanical seal system that meets the requirements of § 63.1007(e)(1) will be installed,

(B) A pump that meets the requirements of § 63.1007(e) will be installed; or

(C) A system that routes emissions to a process or a fuel gas system or a closed vent system and control device that meets the requirements of § 63.1007(e)(3) will be installed.

(ii) Repair is to be completed as soon as practical, but not later than 6 months after the leak was detected.

(5) Delay of repair beyond a process unit or affected facility shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit or affected facility shutdown, and valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit or affected facility shutdown will not be allowed unless the third process unit or affected facility shutdown occurs sooner than 6 months after the first process unit or affected facility shutdown.

(d) *Unsafe-to-repair connectors.* Any connector that is designated, as described in § 63.1003(d), as an unsafe-to-repair connector is exempt from the requirements of § 63.1008(b), and paragraph (a) of this section.

(1) The owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The connector will be repaired before the end of the next scheduled process unit or affected facility shutdown.

(e) *Leak repair records.* For each leak detected, the information specified in paragraphs (e)(1) through (e)(5) of this section shall be recorded and maintained pursuant to the referencing subpart.

(1) The date of first attempt to repair the leak.

(2) The date of successful repair of the leak.

(3) Maximum instrument reading measured by Method 21 of 40 CFR part

60, appendix A at the time the leak is successfully repaired or determined to be nonrepairable.

(4) ''Repair delayed'' and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak as specified in paragraphs (e)(4)(i) and (e)(4)(ii) of this section.

(i) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup, shutdown, and malfunction plan, as required by the referencing subpart for the source, or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on site before depletion and the reason for depletion.

(5) Dates of process unit or affected facility shutdowns that occur while the equipment is unrepaired.

§ 63.1006 Valves in gas and vapor service and in light liquid service standards.

(a) *Compliance schedule.* (1) The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(2) The use of monitoring data generated before the regulated source became subject to the referencing subpart to initially qualify for less frequent monitoring is governed by the provisions of § 63.1004(b)(6).

(b) *Leak detection.* Unless otherwise specified in § 63.1002(b), or § 63.1005(c), or in paragraph (e) of this section, or the referencing subpart, the owner or operator shall monitor all valves at the intervals specified in paragraphs (b)(3) through (b)(6) of this section and shall comply with all other provisions of this section.

(1) *Monitoring method.* The valves shall be monitored to detect leaks by the method specified in § 63.1004(b) and (c).

(2) *Instrument reading that defines a leak.* The instrument reading that defines a leak is 10,000 parts per million or greater.

(3) *Monitoring period.* (i) Each valve shall be monitored monthly to detect leaks, except as provided in paragraphs (b)(3)(ii), (e)(1), (e)(2), and (e)(4) of this section. An owner or operator may otherwise elect to comply with one of the alternative standards in paragraphs (b)(5) or (b)(6) of this section as specified in paragraph (b)(4) of this section.

(ii)(A) Any valve for which a leak is not detected for 2 successive months may be monitored the same month (first, second, or third month) of every quarter, beginning with the next quarter, until a leak is detected. The first quarterly monitoring shall occur less than 3 months following the last monthly monitoring.

(B) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(C) For purposes of paragraph (b) of this section, quarter means a 3-month period with the first quarter concluding on the last day of the last full month during the 180 days following initial startup.

(4) *Allowance of alternative standards.* An owner or operator may elect to comply with one of the alternatives specified in either paragraph (b)(5) or (b)(6) of this section if the percentage of valves leaking is equal to or less than 2.0 percent as determined by the procedure in paragraph (c) of this section. An owner or operator must notify the Administrator before implementing one of the alternatives specified in either paragraph (b)(5) or (b)(6) of this section.

(5) *Allowable percentage alternative.* An owner or operator choosing to comply with the allowable percentage alternative shall have an allowable percentage of leakers no greater than 2.0 percent for each affected facility or process unit and shall comply with paragraphs (b)(5)(i) and (b)(5)(ii) of this section.

(i) A compliance demonstration for each affected facility or process unit or affected facility complying with this alternative shall be conducted initially upon designation, annually, and at other times requested by the Administrator. For each such demonstration, all valves in gas and vapor and light liquid service within the affected facility or process unit shall be monitored within 1 week by the methods specified in § 63.1004(b). If an instrument reading exceeds the equipment leak level specified in the referencing subpart, a leak is detected. The leak percentage shall be calculated as specified in paragraph (c) of this section.

(ii) If an owner or operator decides no longer to comply with this alternative, the owner or operator must notify the Administrator in writing that the work practice standard described in paragraph (b)(3) of this section will be followed.

(6) *Skip period alternatives.* An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs (b)(6)(i) or (b)(6)(ii) of this section. An owner or operator electing to use one of these skip period alternatives shall comply with paragraphs (b)(6)(iii) and (b)(6)(iv) of this section. Before using either skip period alternative, the owner or operator shall initially comply with the requirements of paragraph (b)(3) of this section. Monitoring data generated before the regulated source became subject to the referencing subpart that meets the criteria of either § 63.1004(b)(1) through (b)(5), or § 63.1004(b)(6), may be used to initially qualify for skip period alternatives.

(i) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0 as determined by the procedure in paragraph (c) of this section, an owner or operator may begin to monitor for leaks once every 6 months.

(ii) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0 as determined by the procedure in paragraph (c) of this section, an owner or operator may begin to monitor for leaks once every year.

(iii) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with paragraph (b)(3) of this section, but can elect to comply with paragraph (b)(6) of this section if future percent of valves leaking is again equal to or less than 2.0.

(iv) The owner or operator shall keep a record of the monitoring schedule and the percent of valves found leaking during each monitoring period.

(c) *Percent leaking valves calculation—calculation basis and procedures.* (1) The owner or operator shall decide no later than the compliance date of this subpart, or upon revision of an operating permit whether to calculate percent leaking valves on a process unit or group of process units basis. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis and this shall be the basis used for comparison with the subgrouping criteria specified in paragraph (b)(4)(i) of this section.

(2) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this section.

(d) *Leak repair.* (1) If a leak is determined pursuant to paragraph (b), (e)(1), or (e)(2) of this section, then the leak shall be repaired using the procedures in § 63.1005, as applicable.

(2) When a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair. The monitoring required by this paragraph is in addition to the monitoring required to satisfy the definition of repair.

(i) The monitoring shall be conducted as specified in § 63.1004(b) and (c), as appropriate, to determine whether the valve has resumed leaking.

(ii) Periodic monitoring required by paragraph (b) of this section may be used to satisfy the requirements of this paragraph, if the timing of the monitoring period coincides with the time specified in this paragraph. Alternatively, other monitoring may be performed to satisfy the requirements of this paragraph, regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in this paragraph.

(iii) If a leak is detected by monitoring that is conducted pursuant to this paragraph, the owner or operator shall follow the provisions of paragraphs (d)(2)(iii)(A) and (d)(2)(iii)(B) of this section, to determine whether that valve must be counted as a leaking valve for purposes of paragraph (c)(1)(ii) of this section.

(A) If the owner or operator elected to use periodic monitoring required by paragraph (b) of this section to satisfy the requirements of this paragraph, then the valve shall be counted as a leaking valve.

(B) If the owner or operator elected to use other monitoring, prior to the periodic monitoring required by paragraph (b) of this section, to satisfy the requirements of this paragraph, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

(e) *Special provisions for valves.*—(1) *Unsafe-to-monitor valves.* Any valve that is designated, as described in § 63.1003(c)(1), as an unsafe-to-monitor valve and the owner or operator monitors the valve according to the written plan specified in § 63.1003(c)(5), is exempt from the requirements of paragraph (b) of this section and the owner or operator shall monitor the valve according to the written plan specified in § 63.1003(c)(5).

(2) *Difficult-to-monitor.* Any valve that is designated, as described in § 63.1003(c)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (b) of this section and the owner or operator shall monitor the valve according to the written plan specified in § 63.1003(c)(5).

(3) *Less than 250 valves.* Any equipment located at a plant site with fewer than 250 valves in regulated material service is exempt from the monthly monitoring specified in paragraph (b)(3)(i) of this section. Instead, the owner or operator shall monitor each valve in regulated material service for leaks once each quarter, or comply with paragraphs (b)(3)(ii)(A), (b)(3)(ii)(B), or (b)(3)(ii)(C) of this section except as provided in paragraphs (e)(1) and (e)(2) of this section.

(4) *No detectable emissions.* (i) Any valve that is designated, as described in § 63.1003(e), as having no detectable emissions is exempt from the requirements of paragraphs (b) through (c) of this section if the owner or operator meets the criteria specified in paragraphs (e)(4)(i)(*1*) and (e)(4)(i)(*2*) of this section.

(*1*) Tests the valve for operation with emissions less than 500 parts per million above background as determined by the method specified in § 63.1004(c) initially upon designation, annually, and at other times requested by the Administrator, and

(*2*) Records the dates of each compliance demonstration, the background level measured during each compliance test, and the maximum instrument reading measured at the equipment during each compliance test.

(ii) A valve may not be designated or operated for no detectable emissions, as described in § 63.1003(e), if the valve has a maximum instrument reading minus background greater than 500 parts per million.

§ 63.1007 Pumps in light liquid service standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance date specified in the referencing subpart.

(b) *Leak detection.* Unless otherwise specified in § 63.1003(c) of this subpart or paragraphs (e)(1) through (e)(5) of this section, the owner or operator shall monitor each pump monthly to detect leaks and shall comply with all other provisions of this section.

(1) *Monitoring method.* The pumps shall be monitored to detect leaks by the method specified in § 63.1004(b) of this subpart.

(2) *Instrument reading that defines a leak.* The instrument reading that defines a leak is 10,000 parts per million.

(3) *Visual inspection.* Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. The owner or operator shall document that the inspection was conducted and the date of the inspection. If there are indications of liquids dripping from the pump seal, a leak is detected. Unless the owner or operator demonstrates (e.g., through instrument monitoring) that the indications of liquids dripping are due to a condition other than process fluid drips, the leak shall be repaired according to the procedures of paragraph (b)(4) of this section.

(4) *Visual inspection: Leak repair.* Where a leak is identified by visual indications of liquids dripping, repair shall mean that the visual indications of liquids dripping have been eliminated.

(c) *Percent leaking pumps calculation.*

(1) The owner or operator shall decide no later than the compliance date of this part or upon revision of an operating permit whether to calculate percent leaking pumps on a process unit basis or group of process units basis. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis.

(2) The number of pumps at a process unit shall be the sum of all the pumps in regulated material service, except that pumps found leaking in a continuous process unit or within 1 month after startup of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

(3) Percent leaking pumps shall be determined by the following equation:

$$\%P_L = \left((P_L - P_S)/(P_T - P_S)\right) \times 100 \quad \text{[Eq. 1]}$$

Where:

$\%P_L$ = Percent leaking pumps

P_L = Number of pumps found leaking as determined through monthly monitoring as required in paragraph (b) of this section.

P_T = Total pumps in regulated material service, including those meeting the criteria in paragraphs (e)(1) and (e)(2) of this section.

P_S = Number of pumps leaking within 1 month of start-up during the current monitoring period.

(d) *Leak repair.* If a leak is detected pursuant to paragraph (b) of this section, then the leak shall be repaired using the procedures in § 63.1005, as applicable, unless otherwise specified in paragraph (b)(4) of this section for leaks identified by visual indications of liquids dripping.

(e) *Special provisions for pumps.*—(1) *Dual mechanical seal pumps.* Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (b) of this section, provided the requirements specified in paragraphs (e)(1)(i) through (e)(1)(viii) of this section are met.

(i) The owner or operator determines, based on design considerations and

operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both. The owner or operator shall keep records at the plant of the design criteria and an explanation of the design criteria, and any changes to these criteria and the reasons for the changes. This record must be available for review by an inspector.

(ii) Each dual mechanical seal system shall meet the requirements specified in paragraphs (e)(1)(ii)(A) through (e)(1)(ii)(C) of this section.

(A) Each dual mechanical seal system is operated with the barrier fluid at a pressure that is at all times (except periods of startup, shutdown, or malfunction) greater than the pump stuffing box pressure; or

(B) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of subpart SS of this part; or

(C) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(iii) The barrier fluid is not in light liquid service.

(iv) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(v) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. The owner or operator shall document that the inspection was conducted and the date of the inspection. If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (e)(1)(v)(A) or (e)(1)(v)(B) of this section.

(A) The owner or operator shall monitor the pump as specified in § 63.1004(b) to determine if there is a leak of regulated material in the barrier fluid.

(B) If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected and shall be repaired using the procedures in § 63.1005; or

(C) The owner or operator shall eliminate the visual indications of liquids dripping.

(vi) If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (e)(1)(i) of this section, or if based on the criteria established in paragraph (e)(1)(i) of this section the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(vii) Each sensor as described in paragraph (e)(1)(iv) of this section is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.

(viii) When a leak is detected pursuant to paragraph (e)(1)(vi) of this section, it shall be repaired as specified in § 63.1005.

(2) *No external shaft.* Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the monitoring requirements of paragraph (b) of this section.

(3) *Routed to a process or fuel gas system or equipped with a closed vent system.* Any pump that is routed to a process or a fuel gas system or equipped with a closed vent system that captures and transports leakage from the pump to a control device meeting the requirements of § 63.1015 is exempt from monitoring requirements of paragraph (b) of this section.

(4) *Unmanned plant site.* Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(3), and (e)(1)(v) of this section, and the daily requirements of paragraph (e)(1)(vii) of this section, provided that each pump is visually inspected as often as practical and at least monthly.

(5) *Unsafe-to-monitor pumps.* Any pump that is designated, as described in § 63.1003(c)(1), as an unsafe-to-monitor pump is exempt from the monitoring requirements of paragraph (b) of this section and the repair requirements of § 63.1005 and the owner or operator shall monitor the pump according to the written plan specified in § 63.1003(c)(5).

§ 63.1008 Connectors in gas and vapor service and in light liquid service standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Leak detection.* Connectors shall be monitored within 5 days by the method specified in § 63.1004(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method. No monitoring is required if the evidence of a potential leak is eliminated within 5 days. If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected. If a leak is detected, it shall be identified and repaired pursuant to the provisions of § 63.1004(e) and § 63.1005, respectively.

(c) *Leak repair.* If a leak is detected pursuant to paragraph (b) of this section, then the leak shall be repaired using the procedures in § 63.1005, as applicable.

(d) *Special provisions for connectors.*—(1) *Unsafe-to-monitor connectors.* Any connector that is designated, as described in § 63.1003(c)(1), as an unsafe-to-monitor connector is exempt from the requirements of paragraph (b) of this section and the owner or operator shall monitor according to the written plan specified in § 63.1003(c)(5).

(2) *Inaccessible, ceramic, or ceramic-lined connectors.* (i) Any connector that is inaccessible or that is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraph (b) of this section and from the recordkeeping and reporting requirements of § 63.1017 and § 63.1018. An inaccessible connector is a connector that meets any of the provisions specified in paragraphs (d)(2)(i)(A) through (d)(2)(i)(F) of this section, as applicable.

(A) Buried;

(B) Insulated in a manner that prevents access to the connector by a monitor probe;

(C) Obstructed by equipment or piping that prevents access to the connector by a monitor probe; or

(D) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground.

(E) Inaccessible because it would require elevating the monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold;

(F) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(ii) If any inaccessible ceramic or ceramic-lined connector is noted to have a leak by visual, audible, olfactory, or other means, the leak to the atmosphere shall be eliminated as soon as practical.

§ 63.1009 Agitators in gas and vapor service and in light liquid service standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance

dates specified in the referencing subpart.

(b) *Leak detection.* (1) *Monitoring method.* Each agitator seal shall be monitored monthly to detect leaks by the methods specified in § 63.1004(b), except as provided in § 63.1002(b).

(2) *Instrument reading that defines a leak.* If an instrument reading equivalent of 10,000 parts per million or greater is measured, a leak is detected.

(3) *Visual inspection.* Each agitator seal shall be checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal. If there are indications of liquids dripping from the agitator seal, the owner or operator shall follow the procedures specified in paragraphs (b)(3)(i) and (b)(3)(ii) of this section.

(i) The owner or operator shall monitor the agitator seal as specified in § 63.1004(b) to determine if there is a leak of regulated material. If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected, and it shall be repaired using the procedures in § 63.1005;

(ii) The owner or operator shall eliminate the indications of liquids dripping from the pump seal.

(c) [Reserved]

(d) *Leak repair.* If a leak is detected, then the leak shall be repaired using the procedures in § 63.1005(a).

(e) *Special provisions for agitators.*—(1) *Dual mechanical seal.* Each agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (b) of this section, provided the requirements specified in paragraphs (e)(1)(i) through (e)(1)(vi) of this section are met.

(i) Each dual mechanical seal system shall meet the applicable requirement specified in paragraphs (e)(1)(i)(A), (e)(1)(i)(B), or (e)(1)(i)(C) of this section.

(A) Operated with the barrier fluid at a pressure that is at all times (except during periods of startup, shutdown, or malfunction) greater than the agitator stuffing box pressure; or

(B) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that meets the requirements of § 63.1015; or

(C) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(ii) The barrier fluid is not in light liquid service.

(iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(iv) Each agitator seal is checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal. If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (e)(1)(iv)(A) or (e)(1)(iv)(B) of this section.

(A) The owner or operator shall monitor the agitator seal shall as specified in § 63.1004(b) to determine the presence of regulated material in the barrier fluid. If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected and it shall be repaired using the procedures in § 63.1005; or

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(v) Each sensor as described in paragraph (e)(1)(iii) of this section is observed daily or is equipped with an alarm unless the agitator seal is located within the boundary of an unmanned plant site.

(vi) The owner or operator of each dual mechanical seal system shall meet the requirements specified in paragraphs (e)(1)(vi)(A) through (e)(1)(vi)(D).

(A) The owner or operator shall determine, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both.

(B) The owner or operator shall keep records of the design criteria and an explanation of the design criteria; and any changes to these criteria and the reasons for the changes.

(C) If indications of liquids dripping from the agitator seal exceed the criteria established in paragraph (e)(1)(vi)(A) and (e)(1)(vi)(B) of this section, or if, based on the criteria established in paragraph (e)(1)(vi)(A) and (e)(1)(vi)(B) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(D) When a leak is detected, it shall be repaired using the procedures in § 63.1005.

(2) *No external shaft.* Any agitator that is designed with no externally actuated shaft penetrating the agitator housing is exempt from the requirements of paragraphs (b) of this section.

(3) *Routed to a process or fuel gas system or equipped with a closed vent system.* Any agitator that is routed to a process or fuel gas system or equipped with a closed vent system that captures and transports leakage from the agitator to a control device meeting the requirements of § 63.1015 is exempt from the monitoring requirements of paragraphs (b) of this section.

(4) *Unmanned plant site.* Any agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(3) and (e)(1)(iv) of this section, and the daily requirements of paragraph (e)(1)(v) of this section, provided that each agitator is visually inspected as often as practical and at least monthly.

(5) *Difficult-to-monitor agitator seals.* Any agitator seal that is designated, as described in § 63.1003(c)(2), as a difficult-to-monitor agitator seal is exempt from the requirements of paragraph (b) of this section and the owner or operator shall monitor the agitator seal according to the written plan specified in § 63.1003(c)(5).

(6) *Equipment obstructions.* Any agitator seal that is obstructed by equipment or piping that prevents access to the agitator by a monitor probe is exempt from the monitoring requirements of paragraph (b) of this section.

(7) *Unsafe-to-monitor agitator seals.* Any agitator seal that is designated, as described in § 63.1003(c)(1), as an unsafe-to-monitor agitator seal is exempt from the requirements of paragraph (b) of this section and the owner or operator of the agitator seal monitors the agitator seal according to the written plan specified in § 63.1003(c)(5).

§ 63.1010 Pumps, valves, connectors, and agitators in heavy liquid service; pressure relief devices in liquid service; and instrumentation systems standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Leak detection*—(1) *Monitoring method.* Pumps, valves, connectors, and agitators in heavy liquid service; pressure relief devices in light liquid or heavy liquid service; and instrumentation systems shall be monitored within 5 calendar days by the method specified in § 63.1004(b) if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method. If such a potential leak is repaired as required in paragraph (c) of this section, it is not necessary to monitor the system for leaks by the method specified in § 63.1004(b).

(2) *Instrument reading that defines a leak.* For systems monitored by the

method specified in § 63.1004(b), if an instrument reading of 10,000 parts per million or greater is measured, a leak is detected. If a leak is detected, it shall be repaired pursuant to § 63.1005.

(c) *Leak repair.* For equipment identified in paragraph (b) of this section that is not monitored by the method specified in § 63.1004(b), repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no bubbles are observed at potential leak sites during a leak check using soap solution; or that the system will hold a test pressure.

§ 63.1011 Pressure relief devices in gas and vapor service standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Compliance standard.* Except during pressure releases as provided for in paragraph (c) of this section, each pressure relief device in gas or vapor service shall be operated with an instrument reading of less than 500 parts per million as measured by the method specified in § 63.1004(c).

(c) *Pressure relief requirements.* (1) After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million, as soon as practical, but no later than 5 calendar days after each pressure release, except as provided in paragraph (d) of this section.

(2) The pressure relief device shall be monitored no later than five calendar days after the pressure release and being returned to regulated material service to confirm the condition indicated by an instrument reading of less than 500 parts per million, as measured by the method specified in § 63.1004(c).

(3) The owner or operator shall record the dates and results of the monitoring required by paragraph (c)(2) of this section following a pressure release including maximum instrument reading measured during the monitoring and the background level measured if the instrument reading is adjusted for background.

(d) *Pressure relief devices routed to a process or fuel gas system or equipped with a closed vent system and control device.* Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system that captures and transports leakage from the pressure relief device to a control device meeting the requirements of either § 63.1015 or § 63.1002(b), is exempt from the requirements of paragraphs (b) and (c) of this section.

(e) *Rupture disk exemption.* Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (b) and (c) of this section provided the owner or operator installs a replacement rupture disk upstream of the pressure relief device as soon as practical after each pressure release, but no later than 5 calendar days after each pressure release, except as provided in § 63.1005(d).

§ 63.1012 Compressor standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Seal system standard.* Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere, except as provided in § 63.1002(b) and paragraphs (e) and (f) of this section. Each compressor seal system shall meet the requirements specified in paragraphs (b)(1), (b)(2), or (b)(3) of this section.

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure at all times (except during periods of startup, shutdown, or malfunction); or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that meets the requirements of § 63.1015; or

(3) Equipped with a closed-loop system that purges the barrier fluid directly into a process stream.

(c) *Barrier fluid system.* The barrier fluid shall not be in light liquid service. Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both. Each sensor shall be observed daily or shall be equipped with an alarm unless the compressor is located within the boundary of an unmanned plant site.

(d) *Failure criterion and leak detection.* (1) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion, a leak is detected and shall be repaired pursuant to § 63.1005, as applicable.

(2) The owner or operator shall keep records of the design criteria and an explanation of the design criteria; and any changes to these criteria and the reasons for the changes.

(e) *Routed to a process or fuel gas system or equipped with a closed vent system and control device.* A compressor is exempt from the requirements of paragraphs (b) through (d) of this section if it is equipped with a system to capture and transport leakage from the compressor drive shaft seal to a process or a fuel gas system or to a closed vent system that captures and transports leakage from the compressor to a control device meeting the requirements of § 63.1015.

(f) *Alternative compressor standard.* (1) Any compressor that is designated as described in § 63.1003(e) as operating with no detectable emissions shall operate at all times with an instrument reading of less than 500 parts per million. A compressor so designated is exempt from the requirements of paragraphs (b) through (d) of this section if the compressor is demonstrated initially upon designation, annually, and at other times requested by the Administrator to be operating with an instrument reading of less than 500 parts per million as measured by the method specified in § 63.1004(c). A compressor may not be designated or operated having an instrument reading of less than 500 parts per million as described in § 63.1003(e) if the compressor has a maximum instrument reading greater than 500 parts per million.

(2) The owner or operator shall record the dates and results of each compliance test including the background level measured and the maximum instrument reading measured during each compliance test.

(g) *Reciprocating compressor exemption.* Any existing reciprocating compressor in a process unit or affected facility that becomes an affected facility under provisions of 40 CFR 60.14 or 60.15 of subpart VV is exempt from paragraphs (b), (c), and (d) of this section provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of the above exempted paragraphs of this section.

§ 63.1013 Sampling connection systems standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Equipment requirement.* Each sampling connection system shall be equipped with a closed purge, closed loop, or closed vent system, except as provided in paragraph (d) of this section. Gases displaced during filling of the sample container are not required to be collected or captured.

(c) *Equipment design and operation.* Each closed-purge, closed-loop, or closed vent system except as provided in paragraph (d) of this section shall meet the applicable requirements specified in paragraphs (c)(1) through (c)(5) of this section.

(1) The system shall return the purged process fluid directly to a process line or fuel gas system; or

(2) Collect and recycle the purged process fluid to a process; or

(3) Be designed and operated to capture and transport all the purged process fluid to a control device that meets the requirements of § 63.1015; or

(4) Collect, store, and transport the purged process fluid to a system or facility identified in paragraph (c)(4)(i), (c)(4)(ii), or (c)(4)(iii) of this section.

(i) A waste management unit as defined in 40 CFR 63.111 or 40 CFR part 63, subpart G, if the waste management unit is complying with the provisions of 40 CFR part 63, subpart G, applicable to group 1 wastewater streams. If the purged process fluid does not contain any organic HAP listed in table 9 of 40 CFR part 63, subpart G, the waste management unit need not be subject to, and operated in compliance with the requirements of 40 CFR part 63, subpart G, applicable to subject wastewater steams provided the facility has an National Pollution Discharge Elimination System (NPDES) permit or sends the wastewater to an NPDES-permitted facility.

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR parts 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(5) Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.

(d) *In-situ sampling systems.* In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (b) and (c) of this section.

§ 63.1014 Open-ended valves or lines standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Equipment and operational requirements.* (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in § 63.1002(b) and paragraphs (c) and (d) of this section. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance. The operational provisions of paragraphs (b)(2) and (b)(3) of this section also apply.

(2) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (b)(1) of this section at all other times.

(c) *Emergency shutdown exemption.* Open-ended valves or lines in an emergency shutdown system that are designed to open automatically in the event of a process upset are exempt from the requirements of paragraph (b) of this section.

(d) *Polymerizing materials exemption.* Open-ended valves or lines containing materials that would autocatalytically polymerize or, would present an explosion, serious over pressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraph (b) of this section are exempt from the requirements of paragraph (b) of this section.

§ 63.1015 Closed vent systems and control devices; or emissions routed to a fuel gas system or process.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Compliance standard.* (1) Owners or operators of closed vent systems and nonflare control devices used to comply with provisions of this subpart shall design and operate the closed vent system and nonflare control devices to reduce emissions of regulated material with an efficiency of 95 percent or greater or to reduce emissions of regulated material to a concentration of 20 parts per million by volume or, for an enclosed combustion device, to provide a minimum of 760 °C (1400 °F). Owners and operators of closed vent systems and nonflare control devices used to comply with this subpart shall comply with the provisions of subpart SS of this part, except as provided in § 63.1002(b).

(2) Owners or operators of closed vent systems and flares used to comply with the provisions of this subpart shall design and operate the flare as specified in subpart SS of this part, except as provided in § 63.1002(b).

(3) Owners or operators routing emissions from equipment leaks to a fuel gas system or process shall comply with the provisions of subpart SS of this part, except as provided in § 63.1002(b).

§ 63.1016 Alternative means of emission limitation: Enclosed-vented process units.

(a) *Use of closed vent system and control device.* Process units or affected facilities enclosed in such a manner that all emissions from equipment leaks are vented through a closed vent system to a control device meeting the requirements of either subpart SS of this part or § 63.1002(b) are exempt from the requirements of §§ 63.1006 through 63.1015. The enclosure shall be maintained under a negative pressure at all times while the process unit or affected facility is in operation to ensure that all emissions are routed to a control device.

(b) *Recordkeeping.* Owners and operators choosing to comply with the requirements of this section shall maintain the records specified in paragraphs (b)(1) through (b)(3) of this section.

(1) Identification of the process unit(s) or affected facilities and the regulated-materials they handle.

(2) A schematic of the process unit or affected facility, enclosure, and closed vent system.

(3) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

§ 63.1017 Recordkeeping requirements.

(a) *Recordkeeping system.* An owner or operator of more than one regulated source subject to the provisions of this subpart may comply with the recordkeeping requirements for these regulated sources in one recordkeeping system. The recordkeeping system shall identify each record by regulated source and the type of program being implemented (e.g., quarterly monitoring) for each type of equipment. The records required by this subpart are summarized in paragraphs (b) and (c) of this section.

(b) *General equipment leak records.* (1) As specified in § 63.1003(a) through (c), the owner or operator shall keep

general and specific equipment identification if the equipment is not physically tagged and the owner or operator is electing to identify the equipment subject to this subpart through written documentation such as a log or other designation.

(2) The owner or operator shall keep a written plan as specified in § 63.1003(c)(5) for any equipment that is designated as unsafe or difficult-to-monitor.

(3) The owner or operator shall maintain the identity and an explanation as specified in § 63.1003(d)(1) for any equipment that is designated as unsafe-to-repair.

(4) As specified in § 63.1003(e), the owner or operator shall maintain the identity of compressors operating with an instrument reading of less than 500 parts per million.

(5) The owner or operator shall keep records for leaking equipment as specified in § 63.1004(e).

(6) The owner or operator shall keep records for leak repair as specified in § 63.1005(e) and records for delay of repair as specified in § 63.1005(c).

(c) *Specific equipment leak records.* (1) For valves, the owner or operator shall maintain the records specified in paragraphs (c)(1)(i) and (c)(1)(ii) of this section.

(i) The monitoring schedule for each process unit as specified in § 63.1006(b).

(ii) If net credits for removed valves are used, a record of valves added to or removed from the process unit as specified in § 63.1006(b)(6)(iv).

(2) For pumps, the owner or operator shall maintain the records specified in paragraphs (c)(2)(i) through (c)(2)(iii) of this section.

(i) Documentation of pump visual inspections as specified in § 63.1007(b)(4).

(ii) Documentation of dual mechanical seal pump visual inspections as specified in § 63.1007(e)(1)(v).

(iii) For the criteria as to the presence and frequency of drips for dual mechanical seal pumps, records of the design criteria and explanations and any changes and the reason for the changes, as specified in § 63.1007(e)(1)(i).

(3) For connectors, the owner or operator shall maintain monitoring schedule for each process unit as specified in § 63.1008(b).

(4) For the criteria as to the presence and frequency of drips for agitators, the owner or operator shall keep records of the design criteria and explanations and any changes and the reason for the changes, as specified in § 63.1009(e)(1)(vi)(A).

(5) For pressure relief devices in gas and vapor or light liquid service, the owner or operator shall keep records of the dates and results of monitoring following a pressure release, as specified in § 63.1011(c)(3).

(6) For compressors, the owner or operator shall maintain the records specified in paragraphs (c)(6)(i) and (c)(6)(ii) of this section.

(i) For criteria as to failure of the seal system and/or the barrier fluid system, record the design criteria and explanations and any changes and the reason for the changes, as specified in § 63.1012(d)(2).

(ii) For compressors operating under the alternative compressor standard, record the dates and results of each compliance test as specified in § 63.1012(f)(2).

(7) For process units complying with the enclosed-vented process unit alternative, the owner or operator shall maintain the records for enclosed-vented process units as specified in § 63.1016(b).

§ 63.1018 Reporting requirements.

(a) *Periodic reports.* The owner or operator shall report the information specified in paragraphs (b)(1) through (b)(9) of this section, as applicable, in the periodic report specified in the referencing subpart.

(1) The initial Periodic Report shall include the information specified in paragraphs (a)(1)(i) through (a)(1)(iv) of this section in addition to the information listed in paragraph (a)(2) of this section.

(i) Process unit or affected facility identification.

(ii) Number of valves subject to the requirements of § 63.1006, excluding those valves designated for no detectable emissions under the provisions of § 63.1006(e)(4).

(iii) Number of pumps subject to the requirements of § 63.1007, excluding those pumps designated for no detectable emissions (e.g., no external shaft) under the provisions of § 63.1007(e)(2) and those pumps complying with the closed vent system provisions of § 63.1007(e)(3).

(iv) Number of compressors subject to the requirements of § 63.1012, excluding those compressors designated for no detectable emissions under the provisions of § 63.1012(f) and those compressors complying with the closed vent system provisions of § 63.1012(e).

(2) Each periodic report shall contain the information listed in paragraphs (a)(2)(i) through (a)(2)(iv) of this section, as applicable.

(i) Process unit identification.

(ii) For each month during the semiannual reporting period,

(A) Number of valves for which leaks were detected as described in § 63.1006(b),

(B) Number of valves for which leaks were not repaired as required in § 63.1006(d),

(C) Number of pumps for which leaks were detected as described in § 63.1007(b) and § 63.1007(e)(1)(vi),

(D) Number of pumps for which leaks were not repaired as required in §§ 63.1007(d) and (e)(5),

(E) Number of compressors for which leaks were detected as described in § 63.1012(d)(1),

(F) Number of compressors for which leaks were not repaired as required in § 63.1012(d)(1), and

(G) The facts that explain each delay of repair and, where appropriate, why the repair was technically infeasible without a process unit or affected facility shutdown.

(iii) Dates of process unit or affected facility shutdowns which occurred within the periodic report reporting period.

(iv) Revisions to items reported according to paragraph (a)(1) of this section if changes have occurred since the initial report or subsequent revisions to the initial report.

(b) *Special notifications.* An owner or operator electing to comply with either of the alternatives in § 63.1006(b)(5) or (6) shall notify the Administrator of the alternative standard selected before implementing either of the provisions.

4. Part 63 is amended by adding subpart UU as follows:

Subpart UU—National Emission Standards for Equipment Leaks—Control Level 2 Standards

Sec.

§ 63.1019 Applicability.

(a) The provisions of this subpart apply to the control of air emissions from equipment leaks for which another subpart references the use of this subpart for such air emission control. These air emission standards for equipment leaks are placed here for administrative convenience and only apply to those owners and operators of facilities subject to a referencing subpart. The provisions of 40 CFR part 63, subpart A (General Provisions) do not apply to this subpart except as noted in the referencing subpart.

(b) *Equipment subject to this subpart.* The provisions of this subpart and the referencing subpart apply to equipment that contains or contacts regulated material. This subpart applies to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, instrumentation systems, and closed vent systems and control devices used to meet the requirements of this subpart.

(c) *Equipment in vacuum service.* Equipment in vacuum service is excluded from the requirements of this subpart.

(d) *Equipment in service less than 300 hours per calendar year.* Equipment intended to be in regulated material service less than 300 hours per calendar year is excluded from the requirements of §§ 63.1025 through 63.1034 and § 63.1036 if it is identified as required in § 63.1022(b)(5).

(e) *Lines and equipment not containing process fluids.* Lines and equipment not containing process fluids are not subject to the provisions of this subpart. Utilities, and other non-process lines, such as heating and cooling systems that do not combine their materials with those in the processes they serve, are not considered to be part of a process unit or affected facility.

§ 63.1020 Definitions.

All terms used in this part shall have the meaning given them in the Act and in this section.

Batch process means a process in which the equipment is fed intermittently or discontinuously. Processing then occurs in this equipment after which the equipment is generally emptied. Examples of industries that use batch processes include pharmaceutical production and pesticide production.

Batch product-process equipment train means the collection of equipment (e.g., connectors, reactors, valves, pumps, etc.) configured to produce a specific product or intermediate by a batch process.

Bottoms receiver means a tank that collects distillation bottoms before the stream is sent for storage or for further downstream processing.

Car-seal means a seal that is placed on a device that is used to change the position of a valve (e.g., from opened to closed) in such a way that the position of the valve cannot be changed without breaking the seal.

Connector means flanged, screwed, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are not inaccessible, ceramic, or ceramic-lined (e.g., porcelain, glass, or glass-lined) as described in § 63.1027(e)(2).

Continuous parameter monitoring system (CPMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Distance piece means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, surge control vessel, bottoms receiver, and instrumentation system in regulated material service; and any control devices or systems used to comply with this subpart.

First attempt at repair, for the purposes of this subpart, means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere, followed by monitoring as specified in § 63.1023(b) to verify whether the leak is repaired, unless the owner or operator determines by other means that the leak is not repaired.

In food and medical service means that a piece of equipment in regulated material service contacts a process stream used to manufacture a Food and Drug Administration regulated product where leakage of a barrier fluid into the process stream would cause any of the following:

(1) A dilution of product quality so that the product would not meet written specifications,

(2) An exothermic reaction which is a safety hazard,

(3) The intended reaction to be slowed down or stopped, or

(4) An undesired side reaction to occur.

In gas and vapor service means that a piece of equipment in regulated material service contains a gas or vapor at operating conditions.

In heavy liquid service means that a piece of equipment in regulated material service is not in gas and vapor service or in light liquid service.

In light liquid service means that a piece of equipment in regulated material service contains a liquid that meets the following conditions:

(1) The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20°C,

(2) The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20°C is equal to or greater than 20 percent by weight of the total process stream, and

(3) The fluid is a liquid at operating conditions.

(Note: Vapor pressures may be determined by standard reference texts or ASTM D–2879.)

In liquid service means that a piece of equipment in regulated material service is not in gas and vapor service.

In regulated material service means, for the purposes of this subpart, equipment which meets the definition of ''in VOC service,'' ''in VHAP service,'' ''in organic hazardous air pollutant service,'' or ''in'' other chemicals or groups of chemicals ''service'' as defined in the referencing subpart.

In-situ sampling systems means nonextractive samplers or in-line samplers.

In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals below ambient pressure.

Instrumentation system means a group of equipment components used to

condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow, etc.). Valves and connectors are the predominant type of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 1.27 centimeters (0.5 inches) and smaller, and connectors nominally 1.91 centimeters (0.75 inches) and smaller in diameter are considered instrumentation systems for the purposes of this subpart. Valves greater than nominally 1.27 centimeters (0.5 inches) and connectors greater than nominally 1.91 centimeters (0.75 inches) associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.

Liquids dripping means any visible leakage from the seal including dripping, spraying, misting, clouding, and ice formation. Indications of liquids dripping include puddling or new stains that are indicative of an existing evaporated drip.

Nonrepairable means that it is technically infeasible to repair a piece of equipment from which a leak has been detected without a process unit or affected facility shutdown.

Open-ended valve or line means any valve, except relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.

Organic monitoring device means a unit of equipment used to indicate the concentration level of organic compounds based on a detection principle such as infra-red, photoionization, or thermal conductivity.

Pressure relief device or valve means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 pounds per square inch gauge or by a vacuum are not pressure relief devices.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the relief device. This release can be one release or a series of releases over a short time period due to a malfunction in the process.

Referencing subpart means the subpart that refers an owner or operator to this subpart.

Regulated material, for purposes of this part, refers to gas from volatile organic liquids (VOL), volatile organic compounds (VOC), hazardous air pollutants (HAP), or other chemicals or groups of chemicals that are regulated by the referencing subpart.

Regulated source for the purposes of this part, means the stationary source, the group of stationary sources, or the portion of a stationary source that is regulated by a referencing subpart.

Relief device or valve means a valve used only to release an unplanned, nonroutine discharge. A relief valve discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause that requires immediate venting of gas from process equipment in order to avoid safety hazards or equipment damage.

Repaired, for the purposes of this subpart, means that equipment (1) is adjusted, or otherwise altered, to eliminate a leak as defined in the applicable sections of this subpart, and (2) unless otherwise specified in applicable provisions of this subpart, is monitored as specified in § 63.1023(b) to verify that emissions from the equipment are below the applicable leak definition.

Sampling connection system means an assembly of equipment within a process unit or affected facility used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

Screwed (threaded) connector means a threaded pipe fitting where the threads are cut on the pipe wall and the fitting requires only two pieces to make the connection (i.e., the pipe and the fitting).

Set pressure means for the purposes of subparts F and G of this part, the pressure at which a properly operating pressure relief device begins to open to relieve atypical process system operating pressure.

§ 63.1021 Alternative means of emission limitation.

(a) *Performance standard exemption.* The provisions of paragraph (b) of this section do not apply to the performance standards of § 63.1030(b) for pressure relief devices or § 63.1031(f) for compressors operating under the alternative compressor standard.

(b) *Requests by owners or operators.* An owner or operator may request a determination of alternative means of emission limitation to the requirements of §§ 63.1025 through 63.1034 as provided in paragraph (d) of this section. If the Administrator makes a determination that a means of emission limitation is a permissible alternative, the owner or operator shall either comply with the alternative or comply with the requirements of §§ 63.1025 through 63.1034.

(c) *Requests by manufacturers of equipment.* (1) Manufacturers of equipment used to control equipment leaks of the regulated material may apply to the Administrator for permission for an alternative means of emission limitation that achieves a reduction in emissions of the regulated material achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will grant permission according to the provisions of paragraphs (d) of this section.

(d) *Permission to use an alternative means of emission limitation.* Permission to use an alternative means of emission limitation shall be governed by the procedures in paragraphs (d)(1) through (d)(4) of this section.

(1) Where the standard is an equipment, design, or operational requirements, the requirements of paragraphs (d)(1)(i) through (d)(1)(iii) of this section apply.

(i) Each owner or operator applying for permission to use an alternative means of emission limitation shall be responsible for collecting and verifying emission performance test data for an alternative means of emission limitation.

(ii) The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

(iii) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve at least the same emission reduction as the equipment, design, and operational requirements of this subpart.

(2) Where the standard is a work practice, the requirements of paragraphs (d)(2)(i) through (d)(2)(vi) of this section apply.

(i) Each owner or operator applying for permission to use an alternative means of emission limitation shall be responsible for collecting and verifying test data for the alternative.

(ii) For each kind of equipment for which permission is requested, the emission reduction achieved by the required work practices shall be demonstrated for a minimum period of 12 months.

(iii) For each kind of equipment for which permission is requested, the emission reduction achieved by the

alternative means of emission limitation shall be demonstrated.

(iv) Each owner or operator applying for such permission shall commit, in writing, for each kind of equipment to work practices that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practices.

(v) The Administrator will compare the demonstrated emission reduction for the alternative means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (d)(2)(iv) of this section.

(vi) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same or greater emission reduction as the required work practices of this subpart.

(3) An owner or operator may offer a unique approach to demonstrate the alternative means of emission limitation.

(4) If, in the judgement of the Administrator, an alternative means of emission limitation will be approved, the Administrator will publish a notice of the determination in the **Federal Register** using the procedures specified in the referencing subpart.

§ 63.1022 Equipment identification.

(a) *General equipment identification.* Equipment subject to this subpart shall be identified. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, by designation of process unit or affected facility boundaries by some form of weatherproof identification, or by other appropriate methods.

(b) *Additional equipment identification.* In addition to the general identification required by paragraph (a) of this section, equipment subject to any of the provisions in §§ 63.1023 through 63.1034 shall be specifically identified as required in paragraphs (b)(1) through (b)(5) of this section, as applicable. This paragraph does not apply to an owner or operator of a batch product process who elects to pressure test the batch product process equipment train pursuant to § 63.1036.

(1) *Connectors.* Except for inaccessible, ceramic, or ceramic-lined connectors meeting the provision of § 63.1027(e)(2) and instrumentation systems identified pursuant to paragraph (b)(4) of this section, identify the connectors subject to the requirements of this subpart. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of connectors subject is indicated. With respect to connectors, the identification shall be complete no later than the completion of the initial survey required by § 63.1027(a)(1) or paragraph (a) of this section.

(2) *Routed to a process or fuel gas system or equipped with a closed vent system and control device.* Identify the equipment that the owner or operator elects to route to a process or fuel gas system or equip with a closed vent system and control device, under the provisions of § 63.1026(e)(3) (pumps in light liquid service), § 63.1028(f)(3) (agitators), § 63.1030(d) (pressure relief devices in gas and vapor service), § 63.1031(e) (compressors), or § 63.1037(a) (alternative means of emission limitation for enclosed-vented process units).

(3) *Pressure relief devices.* Identify the pressure relief devices equipped with rupture disks, under the provisions of § 63.1030(e).

(4) *Instrumentation systems.* Identify instrumentation systems subject to the provisions of this subpart. Individual components in an instrumentation system need not be identified.

(5) *Equipment in service less than 300 hours per calendar year.* The identity, either by list, location (area or group), or other method, of equipment in regulated material service less than 300 hours per calendar year within a process unit or affected facilities subject to the provisions of this subpart shall be recorded.

(c) *Special equipment designations: Equipment that is unsafe or difficult-to-monitor.*

(1) *Designation and criteria for unsafe-to-monitor.* Valves meeting the provisions of § 63.1025(e)(1), pumps meeting the provisions of § 63.1026(e)(6), connectors meeting the provisions of § 63.1027(e)(1), and agitators meeting the provisions of § 63.1028(f)(7) may be designated unsafe-to-monitor if the owner or operator determines that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements of this subpart. Examples of an unsafe-to-monitor equipment include, but is not limited to, equipment under extreme pressure or heat.

(2) *Designation and criteria for difficult-to-monitor.* Valves meeting the provisions of § 63.1025(e)(2) may be designated difficult-to-monitor if the provisions of paragraph (c)(2)(i) apply. Agitators meeting the provisions of § 63.1028(e)(5) may be designated difficult-to-monitor if the provisions of paragraph (c)(2)(ii) apply.

(i) *Valves.* (A) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (7 feet) above a support surface or it is not accessible in a safe manner when it is in regulated material service; and

(B) The process unit or affected facility within which the valve is located is an existing source, or a new source for which the owner or operator designates less than 3 percent of the total number of valves as difficult-to-monitor.

(ii) *Agitators.* The owner or operator determines that the agitator cannot be monitored without elevating the monitoring personnel more than 2 meters (7 feet) above a support surface or it is not accessible in a safe manner when it is in regulated material service.

(3) *Identification of unsafe or difficult-to-monitor equipment.* The owner or operator shall record the identity of equipment designated as unsafe-to-monitor or difficult-to-monitor according to the provisions of paragraphs (c)(1) or (c)(2) of this section, the planned schedule for monitoring this equipment; and an explanation why the equipment is unsafe or difficult-to-monitor, if applicable. This record must be kept at the plant and be available for review by an inspector.

(4) *Written plan requirements.* (i) The owner or operator of equipment designated as unsafe-to-monitor according to the provisions of paragraph (c)(1) of this section shall have a written plan that requires monitoring of the equipment as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in § 63.1024 if a leak is detected.

(ii) The owner or operator of equipment designated as difficult-to-monitor according to the provisions of paragraph (c)(2) of this section shall have a written plan that requires monitoring of the equipment at least once per calendar year.

(d) *Special equipment designations: Equipment that is unsafe-to-repair.*

(1) *Designation and criteria.* Connectors subject to the provisions of § 63.1024(e) may be designated unsafe-to-repair if the owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with the repair requirements of this subpart, and if the connector will be repaired before the end of the next process unit or

affected facility shutdown as specified in § 63.1024(e)(2).

(2) *Identification of equipment.* The identity of connectors designated as unsafe-to-repair and an explanation why the connector is unsafe-to-repair shall be recorded.

(e) *Special equipment designations: Compressors operating with an instrument reading of less than 500 parts per million above background.* Identify the compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of § 63.1031(f).

(f) *Special equipment designations: Equipment in heavy liquid service.* The owner or operator of equipment in heavy liquid service shall comply with the requirements of either paragraph (f)(1) or (f)(2) of this section, as provided in paragraph (f)(3) of this section.

(1) Retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service.

(2) When requested by the Administrator, demonstrate that the piece of equipment or process is in heavy liquid service.

(3) A determination or demonstration that a piece of equipment or process is in heavy liquid service shall include an analysis or demonstration that the process fluids do not meet the definition of ''in light liquid service.'' Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.

§ 63.1023 Instrument and sensory monitoring for leaks.

(a) *Monitoring for leaks.* The owner or operator of a regulated source subject to this subpart shall monitor regulated equipment as specified in paragraph (a)(1) of this section for instrument monitoring and paragraph (a)(2) of this section for sensory monitoring.

(1) *Instrument monitoring for leaks.* (i) Valves in gas and vapor service and in light liquid service shall be monitored pursuant to § 63.1025(b).

(ii) Pumps in light liquid service shall be monitored pursuant to § 63.1026(b).

(iii) Connectors in gas and vapor service and in light liquid service shall be monitored pursuant to § 63.1027(b).

(iv) Agitators in gas and vapor service and in light liquid service shall be monitored pursuant to § 63.1028(c).

(v) Pressure relief devices in gas and vapor service shall be monitored pursuant to § 63.1030(c).

(vi) Compressors designated to operate with an instrument reading less than 500 parts per million above background, as described in § 63.1022(e), shall be monitored pursuant to § 63.1031(f).

(2) *Sensory monitoring for leaks.* (i) Pumps in light liquid service shall be observed pursuant to §§ 63.1026(b)(4) and (e)(1).

(ii) Inaccessible, ceramic, or ceramic-lined connectors in gas and vapor service and in light liquid service shall be observed pursuant to § 63.1027(e)(2).

(iii) Agitators in gas and vapor service and in light liquid service shall be monitored pursuant to § 63.1028(b)(3) or (e)(1)(i).

(iv) Pumps, valves, agitators, and connectors in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service shall be observed pursuant to § 63.1029(b)(1).

(b) *Instrument monitoring methods.* Instrument monitoring, as required under this subpart, shall comply with the requirements specified in paragraphs (b)(1) through (b)(6) of this section.

(1) *Monitoring method.* Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A, except as otherwise provided in this section.

(2) *Detection instrument performance criteria.* (i) Except as provided for in paragraph (b)(2)(ii) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2, paragraph (a) of Method 21 shall be for the representative composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, air, or other inerts that are not HAP or VOC, the representative stream response factor shall be determined on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted.

(ii) If there is no instrument commercially available that will meet the performance criteria specified in paragraph (b)(2)(i) of this section, the instrument readings may be adjusted by multiplying by the representative response factor of the process fluid, calculated on an inert-free basis as described in paragraph (b)(2)(i) of this section.

(3) *Detection instrument calibration procedure.* The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(4) *Detection instrument calibration gas.* Calibration gases shall be zero air (less than 10 parts per million of hydrocarbon in air); and the gases specified in paragraph (b)(4)(i) of this section except as provided in paragraph (b)(4)(ii) of this section.

(i) Mixtures of methane in air at a concentration no more than 2,000 parts per million greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

(ii) A calibration gas or other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (b)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(5) *Monitoring performance.* Monitoring shall be performed when the equipment is in regulated material service or is in use with any other detectable material.

(6) *Monitoring data.* Monitoring data obtained prior to the regulated source becoming subject to the referencing subpart that do not meet the criteria specified in paragraphs (b)(1) through (b)(5) of this section may still be used to qualify initially for less frequent monitoring under the provisions in § 63.1025(a)(2), (b)(3) or (b)(4) for valves or § 63.1027(b)(3) for connectors provided the departures from the criteria or from the specified monitoring frequency of § 63.1025(b)(3) or (b)(4) are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every 6 weeks instead of monthly or quarterly), following the performance criteria of section 3.1.2, paragraph (a) of Method 21 of Appendix A of 40 CFR part 60 instead of paragraph (b)(2) of this section, or monitoring using a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in this subpart. Failure to use a calibrated instrument is not considered a minor departure.

(c) *Instrument monitoring using background adjustments.* The owner or operator may elect to adjust or not to adjust the instrument readings for

background. If an owner or operator elects not to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (b)(1) through (b)(5) of this section. In such cases, all instrument readings shall be compared directly to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with § 63.1030(b) (pressure relief devices) or § 63.1031(f) (alternative compressor standard). If an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (c)(1) through (c)(4) of this section.

(1) The requirements of paragraphs (b)(1) through (b)(5) of this section shall apply.

(2) The background level shall be determined, using the procedures in Method 21 of 40 CFR part 60, appendix A.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of 40 CFR part 60, appendix A.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with § 63.1030(b) (pressure relief devices) or § 63.1031(f) (alternative compressor standard).

(d) *Sensory monitoring methods.* Sensory monitoring consists of visual, audible, olfactory, or any other detection method used to determine a potential leak to the atmosphere.

(e) *Leaking equipment identification and records.* (1) When each leak is detected pursuant to the monitoring specified in paragraph (a) of this section, a weatherproof and readily visible identification, shall be attached to the leaking equipment.

(2) When each leak is detected, the information specified in paragraphs (e)(2)(i) and (e)(2)(ii) shall be recorded and kept pursuant to the referencing subpart, except for the information for connectors complying with the 8 year monitoring period allowed under § 63.1027(b)(3)(iii) shall be kept 5 years beyond the date of its last use.

(i) The instrument and the equipment identification and the instrument operator's name, initials, or identification number if a leak is detected or confirmed by instrument monitoring.

(ii) The date the leak was detected.

§ 63.1024 Leak repair.

(a) *Leak repair schedule.* The owner or operator shall repair each leak detected as soon as practical, but not later than 15 calendar days after it is detected, except as provided in paragraph (d) of this section. A first attempt at repair as defined in the referencing subpart shall be made no later than 5 calendar days after the leak is detected. First attempt at repair for pumps includes, but is not limited to, tightening the packing gland nuts and/or ensuring that the seal flush is operating at design pressure and temperature. First attempt at repair for valves includes, but is not limited to, tightening the bonnet bolts, and/or replacing the bonnet bolts, and/or tightening the packing gland nuts, and/or injecting lubricant into the lubricated packing.

(b) [Reserved]

(c) *Leak identification removal.*—(1) *Valves and connectors.* The leak identification on a valve may be removed after it has been monitored as specified in § 63.1025(d)(2), and no leak has been detected during that monitoring. The leak identification on a connector may be removed after it has been monitored as specified in § 63.1027(b)(3)(iv) and no leak has been detected during that monitoring.

(2) *Other equipment.* The identification that has been placed, pursuant to § 63.1023(e)(1), on equipment determined to have a leak, except for a valve or for a connector that is subject to the provisions of § 63.1027(b)(3), may be removed after it is repaired.

(d) *Delay of repair.* Delay of repair is allowed for any of the conditions specified in paragraphs (d)(1) through (d)(5) of this section. The owner or operator shall maintain a record of the facts that explain any delay of repairs and, where appropriate, why the repair was technically infeasible without a process unit shutdown.

(1) Delay of repair of equipment for which leaks have been detected is allowed if repair within 15 days after a leak is detected is technically infeasible without a process unit or affected facility shutdown. Repair of this equipment shall occur as soon as practical, but no later than the end of the next process unit or affected facility shutdown, except as provided in paragraph (d)(5) of this section.

(2) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in regulated material service.

(3) Delay of repair for valves, connectors, and agitators is also allowed if the provisions of paragraphs (d)(3)(i) and (d)(3)(ii) of this section are met.

(i) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and

(ii) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with subpart SS of this part.

(4) Delay of repair for pumps is also allowed if the provisions of paragraphs (d)(4)(i) and (d)(4)(ii) of this section are met.

(i) Repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of § 63.1035(d) will provide better performance or one of the specifications of paragraphs (d)(4)(i)(A) through (d)(4)(i)(C) of this section are met.

(A) A dual mechanical seal system that meets the requirements of § 63.1026(e)(1) will be installed;

(B) A pump that meets the requirements of § 63.1026(e)(1) will be installed; or

(C) A system that routes emissions to a process or a fuel gas system or a closed vent system and control device that meets the requirements of § 63.1026(e)(3) will be installed; and

(ii) Repair is completed as soon as practical, but not later than 6 months after the leak was detected.

(5) Delay of repair beyond a process unit or affected facility shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit or affected facility shutdown, and valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit or affected facility shutdown will not be allowed unless the third process unit or affected facility shutdown occurs sooner than 6 months after the first process unit or affected facility shutdown.

(e) *Unsafe-to-repair connectors.* Any connector that is designated, as described in § 63.1022(d), as an unsafe-to-repair connector is exempt from the requirements of § 63.1027(d), and paragraph (a) of this section if the provisions of (e)(1) and (e)(2) of this section are met.

(1) The owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The connector will be repaired before the end of the next scheduled process unit or affected facility shutdown.

(f) *Leak repair records.* For each leak detected, the information specified in paragraphs (f)(1) through (f)(5) of this section shall be recorded and maintained pursuant to the referencing subpart.

(1) The date of first attempt to repair the leak.

(2) The date of successful repair of the leak.

(3) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A at the time the leak is successfully repaired or determined to be nonrepairable.

(4) ''Repair delayed'' and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak as specified in paragraphs (f)(4)(i) and (f)(4)(ii) of this section.

(i) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup, shutdown, and malfunction plan, as required by the referencing subpart for the source, or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(5) Dates of process unit or affected facility shutdowns that occur while the equipment is unrepaired.

§ 63.1025 Valves in gas and vapor service and in light liquid service standards.

(a) *Compliance schedule.* (1) The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(2) The use of monitoring data generated before the regulated source became subject to the referencing subpart to qualify initially for less frequent monitoring is governed by the provisions of § 63.1023(b)(6).

(b) *Leak detection.* Unless otherwise specified in §§ 63.1021(b) 63.1036, 63.1037, or paragraph (e) of this section, or the referencing subpart, the owner or operator shall monitor all valves at the intervals specified in paragraphs (b)(3) and/or (b)(4) of this section and shall comply with all other provisions of this section.

(1) *Monitoring method.* The valves shall be monitored to detect leaks by the method specified in § 63.1023(b), (c), and (e).

(2) *Instrument reading that defines a leak.* The instrument reading that defines a leak is 500 parts per million or greater.

(3) *Monitoring frequency.* The owner or operator shall monitor valves for leaks at the intervals specified in paragraphs (b)(3)(i) through (b)(3)(v) of this section and shall keep the record specified in paragraph (b)(3)(vi) of this section.

(i) If at least the greater of 2 valves or 2 percent of the valves in a process unit leak, as calculated according to paragraph (c) of this section, the owner or operator shall monitor each valve once per month.

(ii) At process units with less than the greater of 2 leaking valves or 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (b)(3)(iii) through (b)(3)(v) of this section. Monitoring data generated before the regulated source became subject to the referencing subpart and meeting the criteria of either § 63.1023(b)(1) through (b)(5), or § 63.1023(b)(6), may be used to qualify initially for less frequent monitoring under paragraphs (b)(3)(iii) through (b)(3)(v) of this section.

(iii) At process units with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every two quarters

(iv) At process units with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every four quarters.

(v) At process units with less than 0.25 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 years.

(vi) The owner or operator shall keep a record of the monitoring schedule for each process unit.

(4) *Valve subgrouping.* For a process unit or a group of process units to which this subpart applies, an owner or operator may choose to subdivide the valves in the applicable process unit or group of process units and apply the provisions of paragraph (b)(3) of this section to each subgroup. If the owner or operator elects to subdivide the valves in the applicable process unit or group of process units, then the provisions of paragraphs (b)(4)(i) through (b)(4)(viii) of this section apply.

(i) The overall performance of total valves in the applicable process unit or group of process units to be subdivided shall be less than 2 percent leaking valves, as detected according to paragraphs (b)(1) and (b)(2) of this section and as calculated according to paragraphs (c)(1)(ii) and (c)(2) of this section.

(ii) The initial assignment or subsequent reassignment of valves to subgroups shall be governed by the provisions of paragraphs (b)(4)(ii)(A) through (b)(4)(ii)(C) of this section.

(A) The owner or operator shall determine which valves are assigned to each subgroup. Valves with less than one year of monitoring data or valves not monitored within the last twelve months must be placed initially into the most frequently monitored subgroup until at least one year of monitoring data have been obtained.

(B) Any valve or group of valves can be reassigned from a less frequently monitored subgroup to a more frequently monitored subgroup provided that the valves to be reassigned were monitored during the most recent monitoring period for the less frequently monitored subgroup. The monitoring results must be included with that less frequently monitored subgroup's associated percent leaking valves calculation for that monitoring event.

(C) Any valve or group of valves can be reassigned from a more frequently monitored subgroup to a less frequently monitored subgroup provided that the valves to be reassigned have not leaked for the period of the less frequently monitored subgroup (e.g., for the last 12 months, if the valve or group of valves is to be reassigned to a subgroup being monitored annually). Nonrepairable valves may not be reassigned to a less frequently monitored subgroup.

(iii) The owner or operator shall determine every 6 months if the overall performance of total valves in the applicable process unit or group of process units is less than 2 percent leaking valves and so indicate the performance in the next Periodic Report. If the overall performance of total valves in the applicable process unit or group of process units is 2 percent leaking valves or greater, the owner or operator shall no longer subgroup and shall revert to the program required in paragraphs (b)(1) through (b)(3) of this section for that applicable process unit or group of process units. An owner or operator can again elect to comply with the valve subgrouping procedures of paragraph (b)(4) of this section if future overall performance of total valves in the process unit or groups of process units is again less than 2 percent. The overall performance of total valves in the applicable process unit or group of process units shall be calculated as a weighted average of the percent leaking

valves of each subgroup according to Equation number 1:

$$\%V_{LO} = \frac{\sum_{i=1}^{n}(\%V_{Li} \times V_i)}{\sum_{i=1}^{n} V_i} \qquad [Eq. 1]$$

Where:

$\%V_{LO}$=Overall performance of total valves in the applicable process unit or group of process units

$\%V_{Li}$=Percent leaking valves in subgroup i, most recent value calculated according to the procedures in paragraphs (c)(1)(ii) and (c)(2) of this section.

V_i=Number of valves in subgroup i.

n=Number of subgroups.

(iv) The owner or operator shall maintain records specified in paragraphs (b)(4)(iv)(A) through (b)(4)(iv)(D) of this section.

(A) Which valves are assigned to each subgroup,

(B) Monitoring results and calculations made for each subgroup for each monitoring period,

(C) Which valves are reassigned, the last monitoring result prior to reassignment, and when they were reassigned, and

(D) The results of the semiannual overall performance calculation required in paragraph (b)(4)(iii) of this section.

(v) The owner or operator shall notify the Administrator no later than 30 days prior to the beginning of the next monitoring period of the decision to subgroup valves. The notification shall identify the participating process units and the number of valves assigned to each subgroup, if applicable, and may be included in the next Periodic Report.

(vi) The owner or operator shall submit in the periodic reports the information specified in paragraphs (b)(4)(vi)(A) and (b)(4)(vi)(B).

(A) Total number of valves in each subgroup, and

(B) Results of the semiannual overall performance calculation required by paragraph (b)(4)(iii) of this section.

(vii) To determine the monitoring frequency for each subgroup, the calculation procedures of paragraph (c)(2) of this section shall be used.

(viii) Except for the overall performance calculations required by paragraphs (b)(4)(i) and (iii) of this section, each subgroup shall be treated as if it were a process unit for the purposes of applying the provisions of this section.

(c) *Percent leaking valves calculation.*—(1) *Calculation basis and procedures.* (i) The owner or operator shall decide no later than the compliance date of this part or upon revision of an operating permit whether to calculate percent leaking valves on a process unit or group of process units basis. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis and this shall be the basis used for comparison with the subgrouping criteria specified in paragraph (b)(4)(i) of this section.

(ii) The percent leaking valves for each monitoring period for each process unit or valve subgroup, as provided in paragraph (b)(4) of this section, shall be calculated using the following equation:

$$\%V_L = (V_L/V_T) \times 100 \qquad [Eq. 2]$$

Where:

$\%V_L$=Percent leaking valves.

V_L=Number of valves found leaking, excluding nonrepairable valves, as provided in paragraph (c)(3) of this section.

V_T=The sum of the total number of valves monitored.

(2) *Calculation for monitoring frequency.* When determining monitoring frequency for each process unit or valve subgroup subject to monthly, quarterly, or semiannual monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last two monitoring periods. When determining monitoring frequency for each process unit or valve subgroup subject to annual or biennial (once every 2 years) monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last three monitoring periods.

(3) *Nonrepairable valves.* (i) Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable and as required to comply with paragraph (c)(3)(ii) of this section. Otherwise, a number of nonrepairable valves (identified and included in the percent leaking valves calculation in a previous period) up to a maximum of 1 percent of the total number of valves in regulated material service at a process unit or affected facility may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

(ii) If the number of nonrepairable valves exceeds 1 percent of the total number of valves in regulated material service at a process unit or affected facility, the number of nonrepairable valves exceeding 1 percent of the total number of valves in regulated material service shall be included in the calculation of percent leaking valves.

(d) *Leak repair.* (1) If a leak is determined pursuant to paragraph (b), (e)(1), or (e)(2) of this section, then the leak shall be repaired using the procedures in § 63.1024, as applicable.

(2) When a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair. The monitoring required by this paragraph is in addition to the monitoring required to satisfy the definition of repair.

(i) The monitoring shall be conducted as specified in § 63.1023(b) and (c) of this section, as appropriate, to determine whether the valve has resumed leaking.

(ii) Periodic monitoring required by paragraph (b) of this section may be used to satisfy the requirements of this paragraph, if the timing of the monitoring period coincides with the time specified in this paragraph. Alternatively, other monitoring may be performed to satisfy the requirements of this paragraph, regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in this paragraph.

(iii) If a leak is detected by monitoring that is conducted pursuant to this paragraph, the owner or operator shall follow the provisions of paragraphs (d)(2)(iii)(A) and (d)(2)(iii)(B) of this section, to determine whether that valve must be counted as a leaking valve for purposes of paragraph (c)(1)(ii) of this section.

(A) If the owner or operator elected to use periodic monitoring required by paragraph (b) of this section to satisfy the requirements of this paragraph, then the valve shall be counted as a leaking valve.

(B) If the owner or operator elected to use other monitoring, prior to the periodic monitoring required by paragraph (b) of this section, to satisfy the requirements of this paragraph, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

(e) *Special provisions for valves.* —(1) *Unsafe-to-monitor valves.* Any valve that is designated, as described in § 63.1022(c)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraphs (b) of this section and the owner or operator shall monitor the valve according to the written plan specified in § 63.1022(c)(4).

(2) *Difficult-to-monitor valves.* Any valve that is designated, as described in § 63.1022(c)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (b) of this section and the

owner or operator shall monitor the valve according to the written plan specified in § 63.1022(c)(4).

(3) *Less than 250 valves.* Any equipment located at a plant site with fewer than 250 valves in regulated material service is exempt from the requirements for monthly monitoring specified in paragraph (b)(3)(i) of this section. Instead, the owner or operator shall monitor each valve in regulated material service for leaks once each quarter, or comply with paragraphs (b)(4)(iii), (b)(4)(iv), or (b)(4)(v) of this section except as provided in paragraphs (e)(1) and (e)(2) of this section.

§ 63.1026 Pumps in light liquid service standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Leak detection.* Unless otherwise specified in § 63.1021(b) or paragraphs (e)(1) through (e)(5) of this section, the owner or operator shall monitor each pump to detect leaks and shall comply with all other provisions of this section.

(1) *Monitoring method.* The pumps shall be monitored monthly to detect leaks by the method specified in § 63.1023(b), (c), and (e).

(2) *Instrument reading that defines a leak.* The instrument reading that defines a leak is specified in paragraphs (b)(2)(1) through (b)(2)(iii) of this section.

(i) 5,000 parts per million or greater for pumps handling polymerizing monomers;

(ii) 2,000 parts per million or greater for pumps in food/medical service; and

(iii) 1,000 parts per million or greater for all other pumps.

(3) *Leak repair exception.* For pumps to which a 1,000 parts per million leak definition applies, repair is not required unless an instrument reading of 2,000 parts per million or greater is detected.

(4) *Visual inspection.* Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. The owner or operator shall document that the inspection was conducted and the date of the inspection. If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (b)(4)(i) or (b)(4)(ii) of this section.

(i) The owner or operator shall monitor the pump as specified in § 63.1023(b), (c), and (e). If the instrument reading indicates a leak as specified in paragraph (b)(2) of this section, a leak is detected and it shall be repaired using the procedures in § 63.1024, except as specified in paragraph (b)(3) of this section; or

(ii) The owner or operator shall eliminate the visual indications of liquids dripping.

(5) *Visual inspection: Leak repair.* Where a leak is identified by visual indications of liquids dripping, repair shall mean that the visual indications of liquids dripping have been eliminated.

(c) *Percent leaking pumps calculation.* (1) The owner or operator shall decide no later than the compliance date of this part or upon revision of an operating permit whether to calculate percent leaking pumps on a process unit basis or group of process units basis. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis.

(2) If, when calculated on a 6-month rolling average, at least the greater of either 10 percent of the pumps in a process unit or three pumps in a process unit leak, the owner or operator shall implement a quality improvement program for pumps that complies with the requirements of § 63.1035.

(3) The number of pumps at a process unit or affected facility shall be the sum of all the pumps in regulated material service, except that pumps found leaking in a continuous process unit or affected facility within 1 month after start-up of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

(4) Percent leaking pumps shall be determined by the following equation:

$$\%P_L = \left(\left(P_L - P_S\right)/\left(P_T - P_S\right)\right) \times 100 \text{ [Eq. 3]}$$

Where:

$\%P_L$=Percent leaking pumps

P_L=Number of pumps found leaking as determined through monthly monitoring as required in paragraph (b)(1) of this section.

P_S=Number of pumps leaking within 1 month of start-up during the current monitoring period.

P_T=Total pumps in regulated material service, including those meeting the criteria in paragraphs (e)(1) and (e)(2) of this section.

(d) *Leak repair.* If a leak is detected pursuant to paragraph (b) of this section, then the leak shall be repaired using the procedures in § 63.1024, as applicable, unless otherwise specified in paragraphs (b)(4) of this section for leaks identified by visual indications of liquids dripping.

(e) *Special provisions for pumps.*—(1) *Dual mechanical seal pumps.* Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (b) of this section, provided the requirements specified in paragraphs (e)(1)(i) through (e)(1)(viii) of this section are met.

(i) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both. The owner or operator shall keep records at the plant of the design criteria and an explanation of the design criteria; and any changes to these criteria and the reasons for the changes. This record must be available for review by an inspector.

(ii) Each dual mechanical seal system shall meet the requirements specified in paragraph (e)(1)(ii)(A), (e)(1)(ii)(B), or (e)(1)(ii)(C) of this section.

(A) Each dual mechanical seal system is operated with the barrier fluid at a pressure that is at all times (except periods of startup, shutdown, or malfunction) greater than the pump stuffing box pressure; or

(B) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of subpart SS of this part; or

(C) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(iii) The barrier fluid is not in light liquid service.

(iv) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(v) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. The owner or operator shall document that the inspection was conducted and the date of the inspection. If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in paragraphs (e)(1)(v)(A) or (e)(1)(v)(B) of this section.

(A) The owner or operator shall monitor the pump as specified in § 63.1023(b), (c), and (e) to determine if there is a leak of regulated material in the barrier fluid. If an instrument reading of 1,000 parts per million or greater is measured, a leak is detected and it shall be repaired using the procedures in § 63.1024; or

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(vi) If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (e)(1)(i) of this section, or if based on the criteria established in paragraph (e)(1)(i) of this section the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(vii) Each sensor as described in paragraph (e)(1)(iv) of this section is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.

(viii) When a leak is detected pursuant to paragraph (e)(1)(vi) of this section, it shall be repaired as specified in § 63.1024(a).

(2) *No external shaft.* Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the monitoring requirements of paragraph (b) of this section.

(3) *Routed to a process or fuel gas system or equipped with a closed vent system.* Any pump that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage from the pump to a control device meeting the requirements of subpart SS of this part or § 63.1021(b) is exempt from the monitoring requirements of paragraph (b) of this section.

(4) *Unmanned plant site.* Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(4) and (e)(1)(v) of this section, and the daily requirements of paragraph (e)(1)(vii) of this section, provided that each pump is visually inspected as often as practical and at least monthly.

(5) *90 percent exemption.* If more than 90 percent of the pumps at a process unit or affected facility meet the criteria in either paragraph (e)(1) or (e)(2) of this section, the process unit or affected facility is exempt from the requirements of paragraph (b) of this section.

(6) *Unsafe-to-monitor pumps.* Any pump that is designated, as described in § 63.1022(c)(1), as an unsafe-to-monitor pump is exempt from the monitoring requirements of paragraph (b) of this section and the repair requirements of § 63.1024 and the owner or operator shall monitor the pump according to the written plan specified in § 63.1022(c)(4).

§ 63.1027 Connectors in gas and vapor service and in light liquid service standards.

(a) *Compliance schedule.* The owner or operator shall monitor all connectors in each process unit initially for leaks by the later of either 12 months after the compliance date as specified in a referencing subpart or 12 months after initial startup. If all connectors in each process unit have been monitored for leaks prior to the compliance date specified in the referencing subpart, no initial monitoring is required provided either no process changes have been made since the monitoring or the owner or operator can determine that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, the owner or operator is required to monitor only those connectors involved in the process change.

(b) *Leak detection.* Except as allowed in § 63.1021(b)(1) or as specified in paragraph (e) of this section, the owner or operator shall monitor all connectors in gas and vapor and light liquid service as specified in paragraphs (a) and (b)(3) of this section.

(1) *Monitoring method.* The connectors shall be monitored to detect leaks by the method specified in § 63.1023(b).

(2) *Instrument reading that defines a leak.* If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected.

(3) *Monitoring periods.* The owner or operator shall perform monitoring, subsequent to the initial monitoring required in paragraph (a) of this section, as specified in paragraphs (b)(3)(i) through (b)(3)(iii) of this section, and shall comply with the requirements of paragraphs (b)(3)(iv) and (b)(3)(v) of this section. The required period in which monitoring must be conducted shall be determined from paragraphs (b)(3)(i) through (b)(3)(iii) of this section using the monitoring results from the preceding monitoring period. The percent leaking connectors shall be calculated as specified in paragraph (c) of this section.

(i) If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then monitor within 12 months (1 year).

(ii) If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent but less than 0.5 percent, then monitor within 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors within 2 years of the start of the monitoring period, provided all connectors have been monitored by the end of the 4 year monitoring period.

(iii) If the percent leaking connectors in the process unit was less than 0.25 percent, then monitor as provided in paragraph (b)(3)(iii)(A) of this section and either paragraph (b)(3)(iii)(B) or (b)(3)(iii)(C) of this section, as appropriate.

(A) An owner or operator shall monitor at least 50 percent of the connectors within 4 years of the start of the monitoring period.

(B) If the percent leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is greater than or equal to 0.35 percent of the monitored connectors, the owner or operator shall monitor as soon as practical, but within the next 6 months, all connectors that have not yet been monitored during the monitoring period. At the conclusion of monitoring, a new monitoring period shall be started pursuant to paragraph (b)(3) of this section, based on the percent leaking connectors of the total monitored connectors.

(C) If the percent leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is less than 0.35 percent of the monitored connectors, the owner or operator shall monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.

(iv) If, during the monitoring conducted pursuant to paragraph (b)(3)(i) through (b)(3)(iii) of this section, a connector is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.

(v) The owner or operator shall keep a record of the start date and end date of each monitoring period under this section for each process unit.

(c) *Percent leaking connectors calculation.* For use in determining the monitoring frequency, as specified in paragraphs (a), and (b)(3) of this section, the percent leaking connectors as used in paragraphs (a) and (b)(3) of this section shall be calculated by using equation number 4.

$$\%C_L = C_L/(C_t + C_C) \times 100 \qquad \text{[Eq. 4]}$$

Where:

$\%C_L$ = Percent leaking connectors as determined through monitoring required in paragraphs (a) and (b) of this section.

C_L = Number of connectors measured at 500 parts per million or greater, by the method specified in § 63.1023(b).

C_t = Total number of monitored connectors in the process unit or affected facility.

(d) *Leak repair.* If a leak is detected pursuant to paragraphs (a) and (b) of this section, then the leak shall be repaired using the procedures in § 63.1024, as applicable.

(e) *Special provisions for connectors.*—(1) *Unsafe-to-monitor connectors.* Any connector that is designated, as described in § 63.1022(c)(1), as an unsafe-to-monitor connector is exempt from the requirements of paragraphs (b)(1) through (b)(3) of this section and the owner or operator shall monitor according to the written plan specified in § 63.1022(c)(4).

(2) *Inaccessible, ceramic, or ceramic-lined connectors.* (i) Any connector that is inaccessible or that is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (b) of this section and from the recordkeeping and reporting requirements of §§ 63.1038 and 63.1039. An inaccessible connector is one that meets any of the provisions specified in paragraphs (e)(2)(i)(A) through (e)(2)(i)(F) of this section, as applicable.

(A) Buried;

(B) Insulated in a manner that prevents access to the connector by a monitor probe;

(C) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(D) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground.

(E) Inaccessible because it would require elevating the monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold;

(F) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(ii) If any inaccessible, ceramic or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the visual, audible, olfactory, or other indications of a leak to the atmosphere shall be eliminated as soon as practical.

§ 63.1028 Agitators in gas and vapor service and in light liquid service standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) [Reserved]

(c) *Leak detection.*—(1) *Monitoring method.* Each agitator seal shall be monitored monthly to detect leaks by the methods specified in § 63.1023(b), (c), and (e), except as provided in § 63.1021(b).

(2) *Instrument reading that defines a leak.* If an instrument reading equivalent of 10,000 parts per million or greater is measured, a leak is detected.

(3) *Visual inspection.* (i) Each agitator seal shall be checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal.

(ii) If there are indications of liquids dripping from the agitator seal, the owner or operator shall follow the procedures specified in paragraphs (b)(3)(ii)(A) and (b)(3)(ii)(B) of this section.

(A) The owner or operator shall either monitor the agitator seal as specified in § 63.1023(b), (c), and (e) to determine if there is a leak of regulated material. If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected, and it shall be repaired using the procedures in § 63.1024;

(B) The owner or operator shall eliminate the indications of liquids dripping from the pump seal.

(d) *Leak repair.* If a leak is detected, then the leak shall be repaired using the procedures in § 63.1024(a).

(e) *Special provisions for agitators.*—(1) *Dual mechanical seal.* Each agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (b) of this section, provided the requirements specified in paragraphs (e)(1)(i) through (e)(1)(vi) of this section are met.

(i) Each dual mechanical seal system shall meet the applicable requirements specified in paragraphs (e)(1)(i)(A), (e)(1)(i)(B), or (e)(1)(i)(C) of this section.

(A) Operated with the barrier fluid at a pressure that is at all times (except during periods of startup, shutdown, or malfunction) greater than the agitator stuffing box pressure; or

(B) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that meets the requirements of § 63.1034; or

(C) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(ii) The barrier fluid is not in light liquid service.

(iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(iv) Each agitator seal is checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal. If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in paragraphs (e)(1)(iv)(A) or (e)(1)(iv)(B) of this section.

(A) The owner or operator shall monitor the agitator seal as specified in § 63.1023(b), (c), and (e) to determine the presence of regulated material in the barrier fluid. If an instrument reading equivalent to or greater than the leak level specified for agitators in the referencing subpart is measured, a leak is detected and it shall be repaired using the procedures in § 63.1024, or

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(v) Each sensor as described in paragraph (e)(1)(iii) of this section is observed daily or is equipped with an alarm unless the agitator seal is located within the boundary of an unmanned plant site.

(vi) The owner or operator of each dual mechanical seal system shall meet the requirements specified in paragraphs (e)(1)(vi)(A) and (e)(1)(vi)(B).

(A) The owner or operator shall determine, based on design considerations and operating experience, criteria that indicates failure of the seal system, the barrier fluid system, or both and applicable to the presence and frequency of drips. If indications of liquids dripping from the agitator seal exceed the criteria, or if, based on the criteria the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected and shall be repaired pursuant to § 63.1024, as applicable.

(B) The owner or operator shall keep records of the design criteria and an explanation of the design criteria; and any changes to these criteria and the reasons for the changes.

(2) *No external shaft.* Any agitator that is designed with no externally actuated shaft penetrating the agitator housing is exempt from paragraph (b) of this section.

(3) *Routed to a process or fuel gas system or equipped with a closed vent system.* Any agitator that is routed to a process or fuel gas system that captures and transports leakage from the agitator to a control device meeting the requirements of § 63.1034 is exempt from the requirements of paragraph (b) of this section.

(4) *Unmanned plant site.* Any agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(3) and (e)(1)(iv) of this section, and the daily requirements of paragraph (e)(1)(v) of this section, provided that each agitator is visually inspected as often as practical and at least monthly.

(5) *Difficult-to-monitor agitator seals.* Any agitator seal that is designated, as described in § 63.1022(c)(2), as a difficult-to-monitor agitator seal is exempt from the requirements of paragraph (b) of this section and the owner or operator shall monitor the agitator seal according to the written plan specified in § 63.1022(c)(4).

(6) *Equipment obstructions.* Any agitator seal that is obstructed by equipment or piping that prevents access to the agitator by a monitor probe is exempt from the monitoring requirements of paragraph (b) of this section.

(7) *Unsafe-to-monitor agitator seals.* Any agitator seal that is designated, as described in § 63.1022(c)(1), as an unsafe-to-monitor agitator seal is exempt from the requirements of paragraph (b) of this section and the owner or operator of the agitator seal monitors the agitator seal according to the written plan specified in § 63.1022(c)(4).

§ 63.1029 Pumps, valves, connectors, and agitators in heavy liquid service; pressure relief devices in liquid service; and instrumentation systems standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Leak detection.*—(1) *Monitoring method.* Pumps, valves, connectors, and agitators in heavy liquid service; pressure relief devices in light liquid or heavy liquid service; and instrumentation systems shall be monitored within 5 calendar days by the method specified in § 63.1023(b), (c), and (e) if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method, unless the potential leak is repaired as required in paragraph (c) of this section.

(2) *Instrument reading that defines a leak.* If an instrument reading of 10,000 parts per million or greater for agitators, 5,000 parts per million or greater for pumps handling agitators, 5,000 parts per million or greater for pumps handling polymerizing monomers, 2,000 parts per million or greater for pumps in food and medical service, or 1,000 parts per million or greater for all other pumps, or 500 parts per million or greater for valves, connectors, instrumentation systems, and pressure relief devices is measured pursuant to paragraph (b)(1) of this section, a leak is detected and shall be repaired pursuant to § 63.1024, as applicable.

(c) *Leak repair.* For equipment identified in paragraph (b) of this section that is not monitored by the method specified in § 63.1023(b), repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no bubbles are observed at potential leak sites during a leak check using soap solution; or that the system will hold a test pressure.

§ 63.1030 Pressure relief devices in gas and vapor service standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Compliance standard.* Except during pressure releases as provided for in paragraph (c) of this section, each pressure relief device in gas and vapor service shall be operated with an instrument reading of less than 500 parts per million as measured by the method specified in § 63.1023(b), (c), and (e).

(c) *Pressure relief requirements.* (1) After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million, as soon as practical, but no later than 5 calendar days after each pressure release, except as provided in § 63.1024(d).

(2) The pressure relief device shall be monitored no later than five calendar days after the pressure to confirm the condition indicated by an instrument reading of less than 500 parts per million above background, as measured by the method specified in § 63.1023(b), (c), and (e).

(3) The owner or operator shall record the dates and results of the monitoring required by paragraph (c)(2) of this section following a pressure release including the background level measured and the maximum instrument reading measured during the monitoring.

(d) *Pressure relief devices routed to a process or fuel gas system or equipped with a closed vent system and control device.* Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage from the pressure relief device to a control device meeting the requirements of either § 63.1034 or § 63.1021(b) is exempt from the requirements of paragraphs (b) and (c) of this section.

(e) *Rupture disk exemption.* Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (b) and (c) of this section provided the owner or operator installs a replacement rupture disk upstream of the pressure relief device as soon as practical after each pressure release but no later than 5 calendar days after each pressure release, except as provided in § 63.1024(d).

§ 63.1031 Compressors standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Seal system standard.* Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere, except as provided in § 63.1021(b) and paragraphs (e) and (f) of this section. Each compressor seal system shall meet the applicable requirements specified in paragraph (b)(1), (b)(2), or (b)(3) of this section.

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure at all times (except during periods of startup, shutdown, or malfunction); or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that meets the requirements of § 63.1034; or

(3) Equipped with a closed-loop system that purges the barrier fluid directly into a process stream.

(c) *Barrier fluid system.* The barrier fluid shall not be in light liquid service. Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both. Each sensor shall be observed daily or shall be equipped with an alarm unless the compressor is

located within the boundary of an unmanned plant site.

(d) *Failure criterion and leak detection.*—(1) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion, a leak is detected and shall be repaired pursuant to § 63.1024, as applicable.

(2) The owner or operator shall keep records of the design criteria and an explanation of the design criteria; and any changes to these criteria and the reasons for the changes.

(e) *Routed to a process or fuel gas system or equipped with a closed vent system.* A compressor is exempt from the requirements of paragraphs (b) through (d) of this section if it is equipped with a system to capture and transport leakage from the compressor drive shaft seal to a process or a fuel gas system or to a closed vent system that captures and transports leakage from the compressor to a control device meeting the requirements of § 63.1034.

(f) *Alternative compressor standard.*—(1) Any compressor that is designated, as described in § 63.1022(e), as operating with an instrument reading of less than 500 parts per million above background shall operate at all times with an instrument reading of less than 500 parts per million. A compressor so designated is exempt from the requirements of paragraphs (b) through (d) of this section if the compressor is demonstrated, initially upon designation, annually, and at other times requested by the Administrator to be operating with an instrument reading of less than 500 parts per million above background, as measured by the method specified in § 63.1023(b), (c), and (e). A compressor may not be designated or operated as having an instrument reading of less than 500 parts per million as described in § 63.1022(e) if the compressor has a maximum instrument reading greater than 500 parts per million.

(2) The owner or operator shall record the dates and results of each compliance test including the background level measured and the maximum instrument reading measured during each compliance test.

§ 63.1032 Sampling connection systems standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) *Equipment requirement.* Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed vent system, except as provided in paragraph (d) of this section or § 63.1021(b). Gases displaced during filling of the sample container are not required to be collected or captured.

(c) *Equipment design and operation.* Each closed-purge, closed-loop, or closed vent system as required in paragraph (b) of this section shall meet the applicable requirements specified in paragraphs (c)(1) through (c)(5) of this section.

(1) The system shall return the purged process fluid directly to a process line or to a fuel gas system; or

(2) Collect and recycle the purged process fluid to a process; or

(3) Be designed and operated to capture and transport all the purged process fluid to a control device that meets the requirements of § 63.1034; or

(4) Collect, store, and transport the purged process fluid to a system or facility identified in paragraph (c)(4)(i), (c)(4)(ii), or (c)(4)(iii) of this section.

(i) A waste management unit as defined in 40 CFR 63.111 or subpart G, if the waste management unit complying with the provisions of 40 CFR part 63, subpart G, applicable to group 1 wastewater streams. If the purged process fluid does not contain any regulated material listed in Table 9 of 40 CFR part 63, subpart G, the waste management unit need not be subject to, and operated in compliance with the requirements of 40 CFR part 63, subpart G, applicable to group 1 wastewater steams provided the facility has an NPDES permit or sends the wastewater to a National Pollution Discharge Elimination System (NPDES) permit or sends the wastewater to an NPDES-permitted facility.

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR parts 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(5) Containers that are part of a closed purge system must be covered or closed when not being filled or emptied.

(d) *In-situ sampling systems.* In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (b) and (c) of this section.

§ 63.1033 Open-ended valves or lines standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance date specified in the referencing subpart.

(b) *Equipment and operational requirements.* (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in § 63.1021(b) and paragraphs (c) and (d) of this section. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance. The operational provisions of paragraphs (b)(2) and (b)(3) of this section also apply.

(2) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (b)(1) of this section at all other times.

(c) *Emergency shutdown exemption.* Open-ended valves or lines in an emergency shutdown system that are designed to open automatically in the event of a process upset are exempt from the requirements of paragraph (b) of this section.

(d) *Polymerizing materials exemption.* Open-ended valves or lines containing materials that would autocatalytically polymerize or, would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraph (b) of this section are exempt from the requirements of paragraph (b) of this section.

§ 63.1034 Closed vent systems and control devices; or emissions routed to a fuel gas system or process standards.

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the compliance date specified in the referencing subpart.

(b) *Compliance standard.* (1) Owners or operators of closed vent systems and control devices used to comply with the provisions of this subpart shall design and operate the closed vent systems and control devices with an efficiency specified in the referencing subpart or greater and shall comply with the provisions of subpart SS of this part, except as provided in § 63.1037.

(2) Owners or operators routing emissions from equipment leaks to a fuel gas system or process shall comply

with the provisions of subpart SS of this part, except as provided in § 63.1037.

§ 63.1035 Quality improvement program for pumps.

(a) *Criteria.* If, on a 6-month rolling average, at least the greater of either 10 percent of the pumps in a process unit or affected facility (or plant site) or three pumps in a process unit or affected facility (or plant site) leak, the owner or operator shall comply with the requirements specified in paragraphs (a)(1) and (a)(2) of this section.

(1) Pumps that are in food and medical service or in polymerizing monomer service shall comply with all requirements except for those specified in paragraph (d)(8) of this section.

(2) Pumps that are not in food and medical or polymerizing monomer service shall comply with all of the requirements of this section.

(b) *Exiting the QIP.* The owner or operator shall comply with the requirements of this section until the number of leaking pumps is less than the greater of either 10 percent of the pumps or three pumps, calculated as a 6-month rolling average, in the process unit or affected facility (or plant site). Once the performance level is achieved, the owner or operator shall comply with the requirements in § 63.1026.

(c) *Resumption of QIP.* If, in a subsequent monitoring period, the process unit or affected facility (or plant site) has greater than 10 percent of the pumps leaking or three pumps leaking (calculated as a 6-month rolling average), the owner or operator shall resume the quality improvement program starting at performance trials.

(d) *QIP requirements.* The quality improvement program shall meet the requirements specified in paragraphs (d)(1) through (d)(8) of this section.

(1) The owner or operator shall comply with the requirements in § 63.1026.

(2) *Data collection.* The owner or operator shall collect the data specified in paragraphs (d)(2)(i) through (d)(2)(v) of this section and maintain records for each pump in each process unit or affected facility (or plant site) subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit, affected facility, or plant site basis.

(i) Pump type (e.g., piston, horizontal or vertical centrifugal, gear, bellows); pump manufacturer; seal type and manufacturer; pump design (e.g., external shaft, flanged body); materials of construction; if applicable, barrier fluid or packing material; and year installed.

(ii) Service characteristics of the stream such as discharge pressure, temperature, flow rate, corrosivity, and annual operating hours.

(iii) The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if appropriate, instrument model number, and date of the observation.

(iv) If a leak is detected, the repair methods used and the instrument readings after repair.

(v) If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units or affected facilities, a description of any maintenance or quality assurance programs used in the process unit or affected facility that are intended to improve emission performance.

(3) The owner or operator shall continue to collect data on the pumps as long as the process unit or affected facility (or plant site) remains in the quality improvement program.

(4) *Pump or pump seal inspection.* The owner or operator shall inspect all pumps or pump seals that exhibited frequent seal failures and were removed from the process unit or affected facility due to leaks. The inspection shall determine the probable cause of the pump seal failure or of the pump leak and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.

(5)(i) *Data analysis.* The owner or operator shall analyze the data collected to comply with the requirements of paragraph (d)(2) of this section to determine the services, operating or maintenance practices, and pump or pump seal designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process-specific factors.

(ii) The analysis shall also be used to determine if there are superior performing pump or pump seal technologies that are applicable to the service(s), operating conditions, or pump or pump seal designs associated with poorer than average emission performance. A superior performing pump or pump seal technology is one with a leak frequency of less than 10 percent for specific applications in the process unit, affected facility, or plant site. A candidate superior performing pump or pump seal technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 10 percent leaking pumps in the process unit or affected facility (or plant site).

(iii) The analysis shall include consideration of the information specified in paragraphs (d)(5)(iii)(A) through (d)(5)(iii)(C) of this section.

(A) The data obtained from the inspections of pumps and pump seals removed from the process unit or affected facility due to leaks;

(B) Information from the available literature and from the experience of other plant sites that will identify pump designs or technologies and operating conditions associated with low emission performance for specific services; and

(C) Information on limitations on the service conditions for the pump seal technology operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

(iv) The data analysis may be conducted through an inter-or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a plant site, a company, or a group of process units.

(v) The first analysis of the data shall be completed no later than 18 months after the start of the quality improvement program. The first analysis shall be performed using data collected for a minimum of 6 months. An analysis of the data shall be done each year the process unit or affected facility is in the quality improvement program.

(6) *Trial evaluation program.* A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify use of superior performing pump seal technology or pumps that can be applied to the areas identified as having poorer than average performance, except as provided in paragraph (d)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of using in the process unit or affected facility (or plant site) the pump designs or seal technologies, and operating and maintenance practices that have been identified by others as having low emission performance.

(i) The trial evaluation program shall include on-line trials of pump seal technologies or pump designs and operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 10 percent in similar services, as having low

probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing pump seal technologies or pumps is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in paragraph (e)(1)(ii) of this section.

(ii) The number of pump seal technologies or pumps in the trial evaluation program shall be the lesser of 1 percent or two pumps for programs involving single process units or affected facilities and the lesser of 1 percent or five pumps for programs involving a plant site or groups of process units or affected facilities. The minimum number of pumps or pump seal technologies in a trial program shall be one.

(iii) The trial evaluation program shall specify and include documentation of the information specified in paragraphs (d)(6)(iii)(A) through (d)(6)(iii)(D) of this section.

(A) The candidate superior performing pump seal designs or technologies to be evaluated, the stages for evaluating the identified candidate pump designs or pump seal technologies, including the time period necessary to test the applicability;

(B) The frequency of monitoring or inspection of the equipment;

(C) The range of operating conditions over which the component will be evaluated; and (D) Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial pump seal technologies or pumps.

(iv) The performance trials shall initially be conducted, at least, for a 6-month period beginning not later than 18 months after the start of the quality improvement program. No later than 24 months after the start of the quality improvement program, the owner or operator shall have identified pump seal technologies or pump designs that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit or affected facility. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in paragraph (d)(6)(vi) of this section. The initial list of superior emission performance pump designs or pump seal technologies shall be amended in the future, as appropriate, as additional information and experience are obtained.

(v) Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 employees shall be exempt from trial evaluations of pump seals or pump designs. Plant sites exempt from the trial evaluations of pumps shall begin the pump seal or pump replacement program at the start of the fourth year of the quality improvement program.

(vi) An owner or operator who has conducted performance trials on all alternative superior emission performance technologies suitable for the required applications in the process unit or affected facility may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible alternative superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would not reduce emissions.

(7) *Quality assurance program.* Each owner or operator shall prepare and implement a pump quality assurance program that details purchasing specifications and maintenance procedures for all pumps and pump seals in the process unit or affected facility. The quality assurance program may establish any number of categories, or classes, of pumps as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under paragraph (d)(5) of this section, if applicable, the findings of the trial evaluation required in paragraph (d)(6) of this section, and the operating conditions in the process unit or affected facility. The quality assurance program shall be updated each year as long as the process unit or affected facility has the greater of either 10 percent or more leaking pumps or has three leaking pumps.

(i) The quality assurance program shall meet the requirements specified in paragraphs (d)(7)(i)(A) through (d)(7)(i)(D) of this section.

(A) Establish minimum design standards for each category of pumps or pump seal technology. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters;

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the pump or the pump seal;

(C) Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the plant site or process unit or affected facility, or by a designated representative; and

(D) Detail off-line pump maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished pumps and pump seals will meet the design specifications for the pump category and will operate so that emissions are minimized.

(ii) The quality assurance program shall be established no later than the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees; and no later than the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees.

(8) *Pump or pump seal replacement.* Three years after the start of the quality improvement program for plant sites with 400 or more valves or 100 or more employees and at the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees, the owner or operator shall replace, as described in paragraphs (d)(8)(i) and (d)(8)(ii) of this section, the pumps or pump seals that are not superior emission performance technology with pumps or pump seals that have been identified as superior emission performance technology and that comply with the quality assurance standards for the pump category. Superior emission performance technology is that category or design of pumps or pump seals with emission performance that when combined with appropriate process, operating, and maintenance practices, will result in less than 10 percent leaking pumps for specific applications in the process unit, affected facility, or plant site. Superior emission performance technology includes material or design changes to the existing pump, pump seal, seal support system, installation of multiple mechanical seals or equivalent, or pump replacement.

(i) Pumps or pump seals shall be replaced at the rate of 20 percent per year based on the total number of pumps in light liquid service. The

calculated value shall be rounded to the nearest nonzero integer value. The minimum number of pumps or pump seals shall be one. Pump replacement shall continue until all pumps subject to the requirements of § 63.1026 are pumps determined to be superior performance technology.

(ii) The owner or operator may delay replacement of pump seals or pumps with superior technology until the next planned process unit or affected facility shutdown, provided the number of pump seals and pumps replaced is equivalent to the 20 percent or greater annual replacement rate.

(iii) The pumps shall be maintained as specified in the quality assurance program.

(e) *QIP recordkeeping.* In addition to the records required by paragraph (d)(2) of this section, the owner or operator shall maintain records for the period of the quality improvement program for the process unit or affected facility as specified in paragraphs (e)(1) through (e)(6) of this section.

(1) When using a pump quality improvement program as specified in this section, record the information specified in paragraphs (e)(1)(i) through (e)(1)(iii) of this section.

(i) The rolling average percent leaking pumps.

(ii) Documentation of all inspections conducted under the requirements of paragraph (d)(4) of this section, and any recommendations for design or specification changes to reduce leak frequency.

(iii) The beginning and ending dates while meeting the requirements of paragraph (d) of this section.

(2) If a leak is not repaired within 15 calendar days after discovery of the leak, the reason for the delay and the expected date of successful repair.

(3) Records of all analyses required in paragraph (d) of this section. The records will include the information specified in paragraphs (e)(3)(i) through (e)(3)(iv) of this section.

(i) A list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions and maintenance practices.

(ii) The reasons for rejecting specific candidate superior emission performing pump technology from performance trials.

(iii) The list of candidate superior emission performing valve or pump technologies, and documentation of the performance trial program items required under paragraph (d)(6)(iii) of this section.

(iv) The beginning date and duration of performance trials of each candidate superior emission performing technology.

(4) All records documenting the quality assurance program for pumps as specified in paragraph (d)(7) of this section, including records indicating that all pumps replaced or modified during the period of the quality improvement program are in compliance with the quality assurance.

(5) Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in paragraph (d)(8) of this section.

(6) Information and data to show the corporation has fewer than 100 employees, including employees providing professional and technical contracted services.

§ 63.1036 Alternative means of emission limitation: Batch processes.

(a) *General requirement.* As an alternative to complying with the requirements of §§ 63.1025 through 63.1033 and § 63.1035, an owner or operator of a batch process that operates in regulated material service during the calendar year may comply with one of the standards specified in paragraphs (b) and (c) of this section, or the owner or operator may petition for approval of an alternative standard under the provisions of § 63.1021(b). The alternative standards of this section provide the options of pressure testing or monitoring the equipment for leaks. The owner or operator may switch among the alternatives provided the change is documented as specified in paragraph (b)(7) of this section.

(b) *Pressure testing of the batch equipment.* The following requirements shall be met if an owner or operator elects to use pressure testing of batch product-process equipment to demonstrate compliance with this subpart.

(1) *Reconfiguration.* Each time equipment is reconfigured for production of a different product or intermediate, the batch product-process equipment train shall be pressure-tested for leaks before regulated material is first fed to the equipment and the equipment is placed in regulated material service.

(i) When the batch product-process equipment train is reconfigured to produce a different product, pressure testing is required only for the new or disturbed equipment.

(ii) Each batch product process that operates in regulated material service during a calendar year shall be pressure-tested at least once during that calendar year.

(iii) Pressure testing is not required for routine seal breaks, such as changing hoses or filters, that are not part of the reconfiguration to produce a different product or intermediate.

(2) *Testing procedures.* The batch product process equipment shall be tested either using the procedures specified in paragraph (b)(5) of this section for pressure vacuum loss or with a liquid using the procedures specified in paragraph (b)(6) of this section.

(3) *Leak detection.* (i) For pressure or vacuum tests using a gas, a leak is detected if the rate of change in pressure is greater than 6.9 kilopascals (1 pound per square inch gauge) in 1 hour or if there is visible, audible, or olfactory evidence of fluid loss.

(ii) For pressure tests using a liquid, a leak is detected if there are indications of liquids dripping or if there is other evidence of fluid loss.

(4) *Leak repair.* (i) If a leak is detected, it shall be repaired and the batch product-process equipment shall be retested before start-up of the process.

(ii) If a batch product-process fails the retest or the second of two consecutive pressure tests, it shall be repaired as soon as practical, but not later than 30 calendar days after the second pressure test except as specified in paragraph (e) of this section.

(5) *Gas pressure test procedure for pressure or vacuum loss.* The procedures specified in paragraphs (b)(5)(i) through (b)(5)(v) of this section shall be used to pressure test batch product-process equipment for pressure or vacuum loss to demonstrate compliance with the requirements of paragraph (b)(3)(i) of this section.

(i) The batch product-process equipment train shall be pressurized with a gas to a pressure less than the set pressure of any safety relief devices or valves or to a pressure slightly above the operating pressure of the equipment, or alternatively the equipment shall be placed under a vacuum.

(ii) Once the test pressure is obtained, the gas source or vacuum source shall be shut off.

(iii) The test shall continue for not less than 15 minutes unless it can be determined in a shorter period of time that the allowable rate of pressure drop or of pressure rise was exceeded. The pressure in the batch product-process equipment shall be measured after the gas or vacuum source is shut off and at the end of the test period. The rate of change in pressure in the batch product-process equipment shall be calculated using the following equation:

$$\Delta(P/t) = \left(\left|P_f - P_i\right|\right) / \left(t_f - t_i\right) \qquad \text{[Eq. 5]}$$

Where:

Δ (P/t) = Change in pressure, pounds per square inch gauge per hour.

P_f = Final pressure, pounds per square inch gauge.

P_i = Initial pressure, pounds per square inch gauge.

$t_f - t_i$ = Elapsed time, hours.

(iv) The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) that has a precision of ±2.5 millimeter mercury (0.10 inch of mercury) in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device. If such a pressure measurement device is not reasonably available, the owner or operator shall use a pressure measurement device with a precision of at least ± 10 percent of the test pressure of the equipment and shall extend the duration of the test for the time necessary to detect a pressure loss or rise that equals a rate of 1 pound per square inch gauge per hour (7 kilopascals per hour).

(v) An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting a pressure loss or rise.

(6) *Pressure test procedure using test liquid.* The procedures specified in paragraphs (b)(6)(i) through (b)(g)(iv) of this section shall be used to pressure-test batch product-process equipment using a liquid to demonstrate compliance with the requirements of paragraph (b)(3)(ii) of this section.

(i) The batch product-process equipment train, or section of the equipment train, shall be filled with the test liquid (e.g., water, alcohol) until normal operating pressure is obtained. Once the equipment is filled, the liquid source shall be shut off.

(ii) The test shall be conducted for a period of at least 60 minutes, unless it can be determined in a shorter period of time that the test is a failure.

(iii) Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected.

(iv) An alternative procedure may be used for leak testing the equipment, if the owner or operator demonstrates the alternative procedure is capable of detecting losses of fluid.

(7) *Pressure testing recordkeeping.* The owner or operator of a batch product process who elects to pressure test the batch product process equipment train to demonstrate compliance with this subpart shall maintain records of the information specified in paragraphs (b)(7)(i) through (b)(7)(v) of this section.

(i) The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in a batch product process equipment train.

(ii) Physical tagging of the equipment to identify that it is in regulated material service and subject to the provisions of this subpart is not required. Equipment in a batch product process subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

(iii) The dates of each pressure test required in paragraph (b) of this section, the test pressure, and the pressure drop observed during the test.

(iv) Records of any visible, audible, or olfactory evidence of fluid loss.

(v) When a batch product process equipment train does not pass two consecutive pressure tests, the information specified in paragraphs (b)(7)(v)(A) through (b)(7)(v)(E) of this section shall be recorded in a log and kept for 2 years:

(A) The date of each pressure test and the date of each leak repair attempt.

(B) Repair methods applied in each attempt to repair the leak.

(C) The reason for the delay of repair.

(D) The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment; and

(E) The date of successful repair.

(c) *Equipment monitoring.* The following requirements shall be met if an owner or operator elects to monitor the equipment in a batch process to detect leaks by the method specified in § 63.1023(b) to demonstrate compliance with this subpart.

(1) The owner or operator shall comply with the requirements of §§ 63.1025 through 63.1035 as modified by paragraphs (c)(2) through (c)(4) of this section.

(2) The equipment shall be monitored for leaks by the method specified in § 63.1023(b) when the equipment is in regulated material service or is in use with any other detectable material.

(3) The equipment shall be monitored for leaks as specified in paragraphs (c)(3)(i) through (c)(3)(iv) of this section.

(i) Each time the equipment is reconfigured for the production of a new product, the reconfigured equipment shall be monitored for leaks within 30 days of start-up of the process. This initial monitoring of reconfigured equipment shall not be included in determining percent leaking equipment in the process unit or affected facility.

(ii) Connectors shall be monitored in accordance with the requirements in § 63.1027.

(iii) Equipment other than connectors shall be monitored at the frequencies specified in table 1. The operating time shall be determined as the proportion of the year the batch product-process that is subject to the provisions of this subpart is operating.

(iv) The monitoring frequencies specified in paragraph (c)(3)(iii) of this section are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor anytime during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. For example, if the equipment is not operating during the scheduled monitoring period, the monitoring can be done during the next period when the process is operating.

(4) If a leak is detected, it shall be repaired as soon as practical but not later than 15 calendar days after it is detected, except as provided in paragraph (e) of this section.

(d) *Added equipment recordkeeping.* (1) For batch product-process units or affected facilities that the owner or operator elects to monitor as provided under paragraph (c) of this section, the owner or operator shall prepare a list of equipment added to batch product process units or affected facilities since the last monitoring period required in paragraphs (c)(3)(ii) and (3)(iii) of this section.

(2) Maintain records demonstrating the proportion of the time during the calendar year the equipment is in use in a batch process that is subject to the provisions of this subpart. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit or affected facility. These records are not required if the owner or operator does not adjust monitoring frequency by the time in use, as provided in paragraph (c)(3)(iii) of this section.

(3) Record and keep pursuant to the referencing subpart and this subpart, the date and results of the monitoring required in paragraph (c)(3)(i) of this section for equipment added to a batch product-process unit or affected facility since the last monitoring period required in paragraphs (c)(3)(ii) and (c)(3)(iii) of this section. If no leaking equipment is found during this monitoring, the owner or operator shall

record that the inspection was performed. Records of the actual monitoring results are not required.

(e) *Delay of repair.* Delay of repair of equipment for which leaks have been detected is allowed if the replacement equipment is not available providing the conditions specified in paragraphs (e)(1) and (e)(2) of this section are met.

(1) Equipment supplies have been depleted and supplies had been sufficiently stocked before the supplies were depleted.

(2) The repair is made no later than 10 calendar days after delivery of the replacement equipment.

(f) *Periodic report contents.* For owners or operators electing to meet the requirements of paragraph (b) of this section, the Periodic Report to be filed pursuant to § 63.1039(b) shall include the information listed in paragraphs (f)(1) through (f)(4) of this section for each process unit.

(1) Batch product process equipment train identification;

(2) The number of pressure tests conducted;

(3) The number of pressure tests where the equipment train failed the pressure test; and

(4) The facts that explain any delay of repairs.

§ 63.1037 Alternative means of emission limitation: Enclosed-vented process units or affected facilities.

(a) *Use of closed vent system and control device.* Process units or affected facilities enclosed in such a manner that all emissions from equipment leaks are vented through a closed vent system to a control device meeting the requirements of either § 63.1034 or § 63.1021(b) are exempt from the requirements of §§ 63.1025 through 63.1035. The enclosure shall be maintained under a negative pressure at all times while the process unit or affected facility is in operation to ensure that all emissions are routed to a control device.

(b) *Recordkeeping.* Owners and operators choosing to comply with the requirements of this section shall maintain the records specified in paragraphs (b)(1) through (b)(3) of this section.

(1) Identification of the process unit(s) or affected facilities and the regulated materials they handle.

(2) A schematic of the process unit or affected facility, enclosure, and closed vent system.

(3) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

§ 63.1038 Recordkeeping requirements.

(a) *Recordkeeping system.* An owner or operator of more than one regulated source subject to the provisions of this subpart may comply with the recordkeeping requirements for these regulated sources in one recordkeeping system. The recordkeeping system shall identify each record by regulated source and the type of program being implemented (e.g., quarterly monitoring, quality improvement) for each type of equipment. The records required by this subpart are summarized in paragraphs (b) and (c) of this section.

(b) *General equipment leak records.* (1) As specified in § 63.1022(a) through (c), the owner or operator shall keep general and specific equipment identification if the equipment is not physically tagged and the owner or operator is electing to identify the equipment subject to this subpart through written documentation such as a log or other designation.

(2) The owner or operator shall keep a written plan as specified in § 63.1022(c)(4) for any equipment that is designated as unsafe- or difficult-to-monitor.

(3) The owner or operator shall maintain a record of the identity and an explanation as specified in § 63.1022(d)(2) for any equipment that is designated as unsafe-to-repair.

(4) As specified in § 63.1022(e), the owner or operator shall maintain the identity of compressors operating with an instrument reading of less than 500 parts per million.

(5) The owner or operator shall keep records associated with the determination that equipment is in heavy liquid service as specified in § 63.1022(f).

(6) The owner or operator shall keep records for leaking equipment as specified in § 63.1023(e)(2).

(7) The owner or operator shall keep records for leak repair as specified in § 63.1024(f) and records for delay of repair as specified in § 63.1024(d).

(c) *Specific equipment leak records.* (1) For valves, the owner or operator shall maintain the records specified in paragraphs (c)(1)(i) and (c)(1)(ii) of this section.

(i) The monitoring schedule for each process unit as specified in § 63.1025(b)(3)(i).

(ii) The valve subgrouping records specified in § 63.1025(b)(4)(iv), if applicable.

(2) For pumps, the owner or operator shall maintain the records specified in paragraphs (c)(2)(i) through (c)(2)(iii) of this section.

(i) Documentation of pump visual inspections as specified in § 63.1026(b)(4).

(ii) Documentation of dual mechanical seal pump visual inspections as specified in § 63.1026(e)(1)(v).

(iii) For the criteria as to the presence and frequency of drips for dual mechanical seal pumps, records of the design criteria and explanations and any changes and the reason for the changes, as specified in § 63.1026(e)(1)(i).

(3) For connectors, the owner or operator shall maintain the monitoring schedule for each process unit as specified in § 63.1027(b)(3).

(4) For the criteria as to the presence and frequency of drips for agitators, the owner or operator shall keep records of the design criteria and explanations and any changes and the reason for the changes, as specified in § 63.1028(e)(1)(vi).

(5) For pressure relief devices in gas and vapor or light liquid service, the owner or operator shall keep records of the dates and results of monitoring following a pressure release, as specified in § 63.1030(c)(3).

(6) For compressors, the owner or operator shall maintain the records specified in paragraphs (c)(6)(i) and (c)(6)(ii) of this section.

(i) For criteria as to failure of the seal system and/or the barrier fluid system, record the design criteria and explanations and any changes and the reason for the changes, as specified in § 63.1031(d)(2).

(ii) For compressors operating under the alternative compressor standard, record the dates and results of each compliance test as specified in § 63.1031(f)(2).

(7) For a pump QIP program, the owner or operator shall maintain the records specified in paragraphs (c)(7)(i) through (c)(7)(v) of this section.

(i) Individual pump records as specified in § 63.1035(d)(2).

(ii) Trial evaluation program documentation as specified in § 63.1035(d)(6)(iii).

(iii) Engineering evaluation documenting the basis for judgment that superior emission performance technology is not applicable as specified in § 63.1035(d)(6)(vi).

(iv) Quality assurance program documentation as specified in § 63.1035(d)(7).

(v) QIP records as specified in § 63.1035(e).

(8) For process units complying with the batch process unit alternative, the owner or operator shall maintain the records specified in paragraphs (c)(8)(i) and (c)(8)(ii) of this section.

(i) Pressure test records as specified in § 63.1036(b)(7).

(ii) Records for equipment added to the process unit as specified in § 63.1036(d).

(9) For process units complying with the enclosed-vented process unit alternative, the owner or operator shall maintain the records for enclosed-vented process units as specified in § 63.1037(b).

§ 63.1039 Reporting requirements.

(a) *Initial compliance status report.* Each owner or operator shall submit an initial compliance status report according to the procedures in the referencing subpart. The notification shall include the information listed in paragraphs (a)(1) through (a)(3) of this section, as applicable.

(1) The notification shall provide the information listed in paragraphs (a)(1)(i) through (a)(1)(iv) of this section for each process unit or affected facility subject to the requirements of this subpart.

(i) Process unit or affected facility identification.

(ii) Number of each equipment type (e.g., valves, pumps) excluding equipment in vacuum service.

(iii) Method of compliance with the standard (e.g., ''monthly leak detection and repair'' or ''equipped with dual mechanical seals'').

(iv) Planned schedule for requirements in §§ 63.1025 and 63.1026.

(2) The notification shall provide the information listed in paragraphs (a)(2)(i) and (a)(2)(ii) of this section for each process unit or affected facility subject to the requirements of § 63.1036(b).

(i) Batch products or product codes subject to the provisions of this subpart, and

(ii) Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this subpart.

(3) The notification shall provide the information listed in paragraphs (a)(3)(i) and (a)(3)(ii) of this section for each process unit or affected facility subject to the requirements in § 63.1037.

(i) Process unit or affected facility identification.

(ii) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of subpart SS of this part.

(b) *Periodic reports.* The owner or operator shall report the information specified in paragraphs (b)(1) through (b)(6) of this section, as applicable, in the Periodic Report specified in the referencing subpart.

(1) For the equipment specified in paragraphs (b)(1)(i) through (b)(1)(v) of this section, report in a summary format by equipment type, the number of components for which leaks were detected and for valves, pumps and connectors show the percent leakers, and the total number of components monitored. Also include the number of leaking components that were not repaired as required by § 63.1024, and for valves and connectors, identify the number of components that are determined by § 63.1025(c)(3) to be nonrepairable.

(i) Valves in gas and vapor service and in light liquid service pursuant to § 63.1025 (b) and (c).

(ii) Pumps in light liquid service pursuant to § 63.1026 (b) and (c).

(iii) Connectors in gas and vapor service and in light liquid service pursuant to § 63.1027 (b) and (c).

(iv) Agitators in gas and vapor service and in light liquid service pursuant to § 63.1028(b).

(v) Compressors pursuant to § 63.1031.

(2) Where any delay of repair is utilized pursuant to § 63.1024(d), report that delay of repair has occurred and report the number of instances of delay of repair.

(3) If applicable, report the valve subgrouping information specified in § 63.1025(b)(4)(iv).

(4) For pressure relief devices in gas and vapor service pursuant to § 63.1030(b) and for compressors pursuant to § 63.1031(f) that are to be operated at a leak detection instrument reading of less than 500 parts per million, report the results of all monitoring to show compliance conducted within the semiannual reporting period.

(5) Report, if applicable, the initiation of a monthly monitoring program for valves pursuant to § 63.1025(b)(3)(i).

(6) Report, if applicable, the initiation of a quality improvement program for pumps pursuant to § 63.1035.

(7) Where the alternative means of emissions limitation for batch processes is utilized, report the information listed in § 63.1036(f).

(8) Report the information listed in paragraph (a) of this section for the Initial Compliance Status Report for process units or affected facilities with later compliance dates. Report any revisions to items reported in an earlier Initial Compliance Status Report if the method of compliance has changed since the last report.

TABLE 1.—BATCH PROCESSES MONITORING FREQUENCY FOR EQUIPMENT OTHER THAN CONNECTORS

Operating time (% of year)	Equivalent continuous process monitoring frequency time in use		
	Monthly	Quarterly	Semiannually
0 to <25%	Quarterly	Annually	Annually.
25 to <50%	Quarterly	Semiannually	Annually.
50 to <75%	Bimonthly	Three times	Semiannually.
75 to 100%	Monthly	Quarterly	Semiannually.

5. Part 63 is amended by adding subpart WW as follows:

Subpart WW—National Emission Standards for Storage Vessels (Tanks)—Control Level 2

Sec.

§ 63.1060 Applicability.

(a) The provisions of this subpart apply to the control of air emissions from storage vessels for which another subpart references the use of this subpart for such air emission control. These air emission standards for storage vessels are placed here for administrative convenience and only apply to those owners and operators of facilities subject to a referencing subpart. The provisions of 40 CFR part 63, subpart A (General Provisions) do not apply to this subpart except as noted in the referencing subpart.

(b) If a physical process change is made that causes a storage vessel to fall outside the criteria in the referencing subpart that required the storage vessel to control emissions of regulated material, the owner or operator may elect to comply with the provisions for the storage vessels not subject to control contained in the referencing subpart instead of the provisions of this subpart.

§ 63.1061 Definitions.

All terms used in this subpart shall have the meaning given them in the Act and in this section.

Capacity means the volume of liquid that is capable of being stored in a vessel, based on the vessel's diameter and external shell height.

Deck cover means a device which covers an opening in a floating roof deck. There is a gasket between the cover and the deck. Some deck covers move horizontally with respect to the deck (i.e., a sliding cover).

Empty or emptying means the removal of some or all of the stored liquid from a storage vessel. Storage vessels where stored liquid is left on the walls, as bottom clingage, or in pools due to bottom irregularities are considered empty. Lowering of the stored liquid level, such that the floating roof is resting on its legs, as necessitated by normal vessel operation (for example, to minimize contamination when changing stored material or when transferring material out of the vessel for shipment) is not considered emptying.

External floating roof or *EFR* means a floating roof located in a storage vessel without a fixed roof.

Fill or *filling* means the introduction of regulated material into a storage vessel, but not necessarily to complete capacity.

Fixed roof means a roof that is mounted (i.e., permanently affixed) on a storage vessel that does not move with fluctuations in stored liquid level.

Flexible fabric sleeve seal means a seal made of an elastomeric fabric (or other material) which covers an opening in a floating roof deck, and which allows the penetration of a pole, such as a fixed roof support column or a guidepole. The seal is attached to the rim of the deck opening and extends to the outer surface of the pole. The seal is draped (but does not contact the stored liquid) to allow the horizontal movement of the deck relative to the pole.

Floating roof means a roof that floats on the surface of the liquid in a storage vessel. A floating roof substantially covers the stored liquid surface (but is not necessarily in contact with the entire surface), and is comprised of a deck, a rim seal, and miscellaneous deck fittings.

Initial fill or initial filling means the first introduction of regulated material into a storage vessel, or the introduction of regulated material into a storage vessel that has been out of (regulated-material) service for a year or longer.

Internal floating roof or *IFR* means a floating roof located in a storage vessel with a fixed roof. For the purposes of this subpart, an external floating roof located in a storage vessel to which a fixed roof has been added is considered to be an internal floating roof.

Liquid-mounted seal means a resilient or liquid-filled rim seal designed to contact the stored liquid.

Mechanical shoe seal or *metallic shoe seal* means a rim seal consisting of a band of metal (or other suitable material) as the sliding contact with the wall of the storage vessel, and a fabric seal to close the annular space between the band and the rim of the floating roof deck. The band is typically formed as a series of sheets (shoes) that are overlapped or joined together to form a ring. The lower end of the band extends into the stored liquid.

Pole float means a float located inside a guidepole that floats on the surface of the stored liquid. The rim of the float has a wiper or seal that extends to the inner surface of the pole, and that is at or above the height of the deck cover.

Pole sleeve means a device which extends from the opening in a floating roof deck or deck cover to the outer surface of a pole. The sleeve extends into the stored liquid.

Pole wiper means a seal that extends from the rim of the opening in a floating roof deck cover to the outer surface of a pole.

Referencing subpart means the subpart that refers an owner or operator to this subpart.

Regulated material means liquids that are regulated by a referencing subpart.

Rim seal means a device attached to the rim of a floating roof deck that spans the annular space between the deck and the wall of the storage vessel. When a floating roof has only one such device, it is a primary seal; when there are two seals (one mounted above the other), the lower seal is the primary seal and the upper seal is the secondary seal.

Slotted guidepole means a guidepole or gaugepole that has slots or holes through the wall of the pole. The slots or holes allow the stored liquid to flow into the pole at all floating roof heights.

Storage vessel or *Tank* means a stationary unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, fiberglass, or plastic) which provide structural support and is designed to hold an accumulation of liquids or other materials.

Vapor-mounted seal means a rim seal designed not to be in contact with the stored liquid. Vapor-mounted seals may include, but are not limited to, resilient seals and flexible wiper seals.

§ 63.1062 Storage vessel control requirements.

(a) For each storage vessel to which this subpart applies, the owner or operator shall comply with one of the requirements listed in paragraphs (a)(1) through (a)(8) of this section.

(1) Operate and maintain an IFR.

(2) Operate and maintain an EFR.

(3) *Closed vent system and flare.* Operate and maintain a closed vent system and flare as specified in subpart SS of this part. Periods of planned routine maintenance of the flare during which the flare does not meet the specifications of subpart SS of this part shall not exceed 72 hours per year.

(4) *Closed vent system and control device.* Operate and maintain a closed vent system and control device as specified in paragraphs (a)(4)(i) and (a)(4)(ii) of this section and subpart SS of this part.

(i) The control device shall be designed and operated to reduce inlet emissions of regulated material.

(ii) Periods of planned routine maintenance of the control device shall not exceed 72 hours per year. The owner or operator shall report periods of planned routine maintenance as specified in subpart SS of this part.

(5) *Route to a process or fuel gas system.* Route the emissions to a process or fuel gas system as provided in subpart SS of this part.

(6) *Equivalent requirements.* Comply with an equivalent to the requirements in paragraph (a)(1) or (a)(2) of this section, as provided in § 63.1066.

(7) *Pressurized storage vessel.* Operate a pressurized storage vessel in accordance with the requirements specified in § 63.1064; or

(8) *Enclosure.* Operate and maintain the storage vessel inside an enclosure that is vented through a closed vent system to an enclosed combustion control device in accordance with the requirements specified in § 63.1065.

§ 63.1063 Floating roof requirements.

The owner or operator who elects to use a floating roof to comply with the requirements of § 63.1062 shall comply with the requirements in paragraphs (a) through (e) of this section.

(a) *Design requirements.*—(1) *Rim seals.*—

(i) *Internal floating roof.* An IFR shall be equipped with one of the devices

listed in paragraphs (a)(1)(i)(A) through (a)(1)(i)(C) of this section.

(A) A liquid-mounted seal.

(B) A mechanical shoe seal.

(C) Two seals mounted one above the other. The lower seal may be vapor-mounted.

(D) If the IFR is equipped with a vapor-mounted seal as of the proposal date for a referencing subpart, paragraphs (a)(1)(i)(A) through (a)(1)(i)(C) of this section do not apply until the next time the storage vessel is emptied and degassed, or 10 years after promulgation of the referencing subpart, whichever occurs first.

(ii) *External floating roof.* An EFR shall be quipped with one of the devices listed in paragraphs (a)(1)(ii)(A) and (a)(1)(ii)(B) of this section.

(A) A liquid-mounted seal and a secondary seal.

(B) A mechanical shoe seal and a secondary seal. The upper end of the shoe(s) shall extend a minimum of 61 centimeters (24 inches) above the stored liquid surface.

(C) If the EFR is equipped with a liquid-mounted seal or mechanical shoe seal, or a vapor-mounted seal and secondary seal, as of the proposal date for a referencing subpart, the seal options specified in paragraphs (a)(1)(ii)(A) and (a)(1)(ii)(B) of this section do not apply until the next time the storage vessel is emptied and degassed, or 10 years after the promulgation date of the referencing subpart, whichever occur first.

(2) *Deck Fittings.* Openings through the deck of the floating roof shall be equipped as described in paragraphs (a)(2)(i) through (a)(2)(viii) of this section.

(i) Each opening except those for automatic bleeder vents (vacuum breaker vents) and rim space vents shall have its lower edge below the surface of the stored liquid.

(ii) Each opening except those for automatic bleeder vents (vacuum breaker vents), rim space vents, leg sleeves, fixed roof support columns, sample wells, guidepoles, and deck drains shall be equipped with a deck cover.

(iii) Each automatic bleeder vent (vacuum breaker vent) and rim space vent shall be equipped with a gasket.

(iv) Each opening for a fixed roof support column shall be equipped with a flexible fabric sleeve seal or a deck cover.

(v) Each opening for a sample well or deck drain (that empties into the stored liquid) shall be equipped with a slit fabric seal or similar device that covers at least 90 percent of the opening.

(vi) Each cover on access hatches and gauge float wells shall be designed to be bolted or fastened when closed.

(vii) Each opening for an unslotted guidepole shall be equipped with the devices specified in paragraphs (a)(2)(vii)(A) and (a)(2)(vii)(B) of this section.

(A) A gasketed cap on the top of the guidepole which is closed at all times except when gauging the liquid level or taking liquid samples.

(B) The well shall be quipped with one of the devices specified in paragraphs (a)(2)(vii)(B)(*1*) and (a)(2)(vii)(B)(*2*) of this section.

(*1*) A flexible fabric sleeve seal.

(*2*) A deck cover with a pole wiper.

(viii) Each opening for a slotted guidepole shall be equipped wtih one of the devices specified in paragraphs (a)(2)(viii)(A) through (a)(2)(viii)(C) of this section.

(A) A flexible fabric sleeve seal and a pole float.

(B) A deck cover with a pole wiper, and a pole float.

(C) A deck cover with a pole wiper, and a pole sleeve.

(ix) If the floating roof does not meet the requirements listed in paragraphs (a)(2)(i) through (a)(2)(vii) of this section as of the proposal date of the referencing subpart, these requirements do not apply until the next time the vessel is emptied and degassed, or 10 years after the promulgation date of the referencing subpart, whichever occurs first.

(b) *Operating requirements.* (1) The floating roof shall float on the stored liquid surface at all times, except when the floating roof is supported by its leg supports.

(2) When the floating roof is supported by its leg supports, the process of filling or emptying the vessel shall be continuous and shall be accomplished as soon as practical, and the owner or operator shall maintain the record specified in § 63.1068(c).

(3) Each cover over an opening in the floating roof, except for automatic bleeder vents (vacuum breaker vents) and rim space vents, shall be closed at all times, except when the cover must be open for access.

(4) Each automatic bleeder vent (vacuum breaker vent) and rim space vent shall be closed at all times, except when required to be open to relieve excess pressure or vacuum, in accordance with the manufacturers design.

(c) *Inspection frequency requirements*—(1) *Internal floating roofs.* Internal floating roofs shall be inspected as specified in paragraph (d)(1) of this section before the initial filling of the storage vessel. Subsequent inspections shall be performed as specified in paragraph (c)(1)(i) or (c)(1)(ii) of this section.

(i) Internal floating roofs shall be inspected as specified in paragraphs (c)(1)(i)(A) and (c)(1)(i)(B) of this section.

(A) At least once per year the IFR shall be inspected as specified in paragraph (d)(2) of this section.

(B) Each time the storage vessel is emptied and degassed, or every 10 years, whichever occurs first, the IFR shall be inspected as specified in paragraph (d)(1) of this section.

(ii) Internal floating roofs with two rim seals shall be inspected as specified in paragraph (c)(1)(ii)(A) or (c)(1)(ii)(E) of this section.

(A) The internal floating roof shall be inspected as specified in paragraph (c)(1)(i) of this section.

(B) The internal floating roof shall be inspected as specified in paragraph (d)(1) of this section each time the storage vessel is emptied or degassed, or every 5 years, whichever occurs first.

(2) *External floating roofs.* External floating roofs shall be inspected as specified in paragraphs (c)(2)(i) through (c)(2)(iv) of this section.

(i) Within 90 days after the initial filling of the storage vessel, and at least every 5 years thereafter, the primary rim seal shall be inspected as specified in paragraph (d)(3) of this section.

(ii) Within 90 days after the initial filling of the storage vessel, and at least once per year thereafter, the secondary seal shall be inspected as specified in paragraph (d)(3) of this section.

(iii) Each time the storage vessel is emptied and degassed, or every 10 years, whichever occurs first, the EFR shall be inspected as specified in paragraph (d)(1) of this section.

(iv) If the owner or operator determines that it is unsafe to perform the floating roof inspections specified in paragraphs (c)(2)(i) and (c)(2)(ii) of this section, the owner or operator shall comply with the requirements of paragraph (c)(2)(iv)(A) or (c)(2)(iv)(B) of this section.

(A) The inspections shall be performed no later than 30 days after the determination that the floating roof is unsafe.

(B) The storage vessel shall be removed from regulated material service no later than 75 days after the determination that the floating roof is unsafe.

(d) *Inspection procedure requirements.* Floating roof inspections shall be conducted as specified in paragraphs (d)(1) through (d)(3) of this section, as applicable. If a floating roof fails an inspection, the owner or

operator shall comply with the repair requirements of paragraph (e) of this section.

(1) Floating roof (IFR and EFR) inspections shall be conducted by visually inspecting the floating roof deck, deck fittings, and rim seals from within the storage vessel. The inspection may be performed entirely from the top side of the floating roof, as long as there is visual access to all deck components specified in paragraph (a) of this section. Any of the conditions described in paragraphs (d)(1)(i) through (d)(1)(v) of this section constitutes inspection failure.

(i) Regulated material on the floating roof.

(ii) Holes or tears in the primary or secondary seal (if one is present).

(iii) Floating roof deck, deck fittings, or rim seals that are not functioning as designed (as specified in paragraph (a) of this section).

(iv) Failure to comply with the operational requirements of paragraph (b) of this section.

(v) Gaps of more than 0.32 centimeters (⅛ inch) between any deck fitting gasket (required by paragraph (a) of this section) and any surface that it is intended to seal.

(2) Tank-top inspections of IFR's shall be conducted by visually inspecting the floating roof deck, deck fittings, and rim seal through openings in the fixed roof. Any of the conditions described in paragraphs (d)(1)(i) through (d)(1)(iv) of this section constitutes inspection failure. Identification of holes or tears in the rim seal is required only for the seal that is visible from the top of the storage vessel.

(3) Seal gap inspections for EFR's shall determine the presence and size of gaps between the rim seals and the wall of the storage vessel by the procedures specified in paragraph (d)(3)(i) of this section. Any exceedance of the gap requirements specified in paragraphs (d)(3)(ii) and (d)(3)(iii) of this section constitutes inspection failure.

(i) Rim seals shall be measured for gaps at one or more levels while the EFR is floating, as specified in paragraphs (d)(3)(i)(A) through (d)(3)(i)(F) of this section.

(A) the inspector shall hold a 0.32 centimeter (⅛ inch) diameter probe vertically against the inside of the storage vessel wall, just above the rim seal, and attempt to slide the probe down between the seal and the vessel wall. Each location where the probe passes freely (without forcing or binding against the seal) between the seal and the vessel wall constitutes a gap.

(B) The length of each gap shall be determined by inserting the probe into the gap (vertically) and sliding the probe along the vessel wall in each direction as far as it will travel freely without binding between the seal and the vessel wall. The circumferential length along which the probe can move freely is the gap length.

(C) The maximum width of each gap shall be determined by inserting probes of various diameters between the seal and the vessel wall. The smallest probe diameter should be 0.32 centimeter, and larger probes should have diameters in increments of 0.32 centimeter. The diameter of the largest probe that can be inserted freely anywhere along the length of the gap is the maximum gap width.

(D) The average width of each gap shall be determined by averaging the minimum gap width (0.32 centimeter) and the maximum gap width.

(E) The area of a gap is the product of the gap length and average gap width.

(F) The ratio of accumulated area of rim seal gaps to storage vessel diameter shall be determined by adding the area of each gap, and dividing the sum by the nominal diameter of the storage vessel. This ratio shall be determined separately for primary and secondary rim seals.

(ii) The ratio of seal gap area to vessel diameter for the primary seal shall not exceed 212 square centimeters per meter of vessel diameter (10 square inches per foot of vessel diameter), and the maximum gap width shall not exceed 3.81 centimeters (1.5 inches).

(iii) The ratio of seal gap area to vessel diameter for the secondary seal shall not exceed 21.2 square centimeters per meter (1 square inch per foot), and the maximum gap width shall not exceed 1.27 centimeters (0.5 inches).

(e) *Repair requirements.* Conditions causing inspection failures under paragraph (d) of this section shall be repaired as specified in paragraph (e)(1) or (e)(2) of this section.

(1) If the inspection is performed while the storage vessel is not storing regulated material, or is out of service and degassed, repairs shall be completed before the refilling of the storage vessel with regulated material.

(2) If the inspection is performed while the storage vessel is storing regulated material, repairs shall be completed or the vessel removed from regulated material service within 75 days.

§ 63.1064 Pressurized storage vessel requirements.

(a) The owner or operator who elects to control storage vessel air emissions by using a pressurized storage vessel shall meet the following requirements.

(1) The storage vessel shall be designed not to vent to the atmosphere as a result of compression of the vapor headspace in the storage vessel during filling of the storage vessel to its design capacity.

(2) All storage vessel openings shall be equipped with closure devices designed to operate with no detectable organic emissions as determined using the procedure specified in § 63.1067.

(3) Whenever a regulated material is in the storage vessel, the storage vessel shall be operated as a closed system that does not vent to the atmosphere except in the event that opening of a safety device, a defined in § 63.681, is required to avoid an unsafe condition.

(b) [Reserved]

§ 63.1065 Enclosure requirements.

(a) The owner or operator who elects to control air emissions by using an enclosure vented through a closed vent system to an enclosed combustion control device shall meet the requirements specified in paragraphs (a)(1) and (a)(2) of this section.

(1) The storage vessel shall be located inside an enclosure. The enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into our out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or to direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' initially when the enclosure is first installed and, thereafter, annually.

(2) The enclosure shall be vented through a closed vent system to an enclosed combustion control device that is designed and operated in accordance with the standards for either a vapor incinerator, boiler, or process heater specified in subpart SS of this part.

(b) [Reserved]

§ 63.1066 Alternative means of emission limitation.

(a) An alternate control device may be substituted for a control device specified in § 63.1063 if the alternate device has an emission factor less than or equal to the emission factor for the device specified in § 63.1063. Requests for the use of alternate devices shall be

made as specified in § 63.1069(b)(3). Emission factors for the devices specified in § 63.1063 are published in EPA Report No. AP–42, Complication of Air Pollutant Emission Factors.

(b) Tests to determine emission factors for an alternate device shall accurately simulate conditions under which the device will operate, such as wind, temperature, and barometric pressure. Test methods that can be used to perform the testing required in this paragraph include, but are not limited to, the methods listed in paragraphs (b)(1) through (b)(iii) of this section.

(i) American Petroleum Institute (API) Manual of Petroleum Measurement Standards, Chapter 19, Section 3, Part A, Wind Tunnel Test Method for the Measurement of Deck-Fitting Loss Factors for External Floating-Roof Tanks.

(ii) API Manual of Petroleum Measurement Standards, Chapter 19, Section 3, part B, Air Concentration Test Method for the Measurement of Rim Seal Loss Factors for Floating-Roof Tanks.

(iii) API Manual of Petroleum Measurement Standards, Chapter 19, Section 3, Part E, Weight Loss Test Method for the Measurement of Deck-Fitting Loss Factors for Internal Floating-Roof Tanks.

(c) An alternate combination of control devices may be substituted for any combination of rim seal and deck fitting control devices specified in § 63.1063 if the alternate combination emits no more than the combination specified in § 63.1063. The emissions from an alternate combination of control devices shall be determined using AP–42 or as specified in paragraph (b) of this section. The emissions from a combination of control devices specified in § 63.1063 shall be determined using AP–42. Requests for the use of alternate devices shall be made as specified in § 63.1069(b)(3).

§ 63.1067 Procedure for determining no detectable emissions.

(a) Procedure for determining no detectable organic emissions for the purpose of complying with this subpart.

(1) The test shall be conducted in accordance with the procedures specified in Method 21 of 40 CFR part 60, appendix A. Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to: the interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure-relief valve.

(2) The test shall be performed when the unit contains a material having an organic HAP concentration representative of the range of concentrations for the regulated materials expected to be managed in the unit. During the test, the cover and closure devices shall be secured in the closed position.

(3) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the regulated material placed in the unit, not for each individual organic constituent.

(4) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(5) Calibration gases shall be as follows:

(i) Zero air (less than 10 parts per million by volume hydrocarbon in air); and

(ii) A mixture of methane in air at a concentration of approximately, but less than 10,000 parts per million by volume.

(6) The background level shall be determined according to the procedures in Method 21 of 40 CFR part 60 appendix A.

(7) Each potential leak interface shall be checked by traversing the instrument probe around the potential leak interface as close to the interface as possible, as described in Method 21. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. In the case when the configuration of the closure devise presents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), the instrument probe inlet shall be placed at approximately the center of the exhaust area to the atmosphere.

(8) The arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 500 parts per million by volumes. If the difference is less than 500 parts per million by volume, then the potential leak interface is determined to operate with no detectable organic emissions.

(b) [Reserved]

§ 63.1068 Recordkeeping requirements.

The owner or operator shall keep records as specified in paragraphs (a) through (c) of this section for as long as regulated material is stored. Records required in paragraph (b) of this section shall be kept for at least 5 years. Records shall be readily accessible.

(a) *Vessel dimensions and capacity.* A record shall be kept of the dimensions of the storage vessel, an analysis of the capacity of the storage vessel, and an identification of the regulated material stored.

(b) *Inspection results.* Records of floating roof inspection results shall be kept as specified in paragraphs (b)(1) and (b)(2) of this section.

(1) If the floating roof passes inspection, a record shall be kept that includes the information specified in paragraphs (b)(1)(i) and (b)(1)(ii) of this section. If the floating roof fails inspection, a record shall be kept that includes the information specified in paragraphs (b)(1)(i) through (b)(1)(v) of this section.

(i) Identification of the storage vessel that was inspected.

(ii) The date of the inspection.

(iii) A description of all inspection failures.

(iv) A description of all repairs and the dates they were made.

(v) The date the storage vessel was removed from regulated material service, if applicable.

(2) A record shall be kept of EFR seal gap measurements, including the raw data obtained and any calculations performed.

(c) *Floating roof set on its legs.* The owner or operator shall maintain a record identifying the date when the floating roof was set on its legs and the date when the roof was refloated. The record shall also indicate whether this was a continuous operation.

§ 63.1069 Reporting requirements.

(a) *Notification of initial startup.* If the referencing subpart requires that a notification of initial startup be filed, then the content of the notification of initial startup shall include (at a minimum) the information specified in the referencing subpart and the information specified in paragraphs (a)(1) and (a)(2) of this section.

(1) The identification of each storage vessel, its capacity and the regulated material stored in the storage vessel.

(2) A statement of whether the owner or operator of the source can achieve compliance by the compliance date specified in referencing subpart.

(b) *Periodic reports.* Report the information specified in paragraphs (b)(1) through (b)(3) of this section, as

applicable, in the periodic report specified in the referencing subpart.

(1) *Notification of inspection.* To provide the Administrator the opportunity to have an observer present, the owner or operator shall notify the Administrator at least 15 days before an inspection. If a delegated State or local agency is notified, the owner or operator is not required to notify the Administrator. A delegated State or local agency may waive the requirement for notification of inspections.

(2) *Inspection results.* Within 30 days of a failed inspection, the owner or operator shall submit a copy of the inspection record (required in § 63.1068).

(3) *Requests for alternate devices.* The owner or operator requesting the use of an alternate control device shall submit a written application including emissions test results and analysis demonstrating that the alternate device has an emission factor that is less than or equal to the device specified in § 63.1063.

6. Part 63 is amended by adding subpart YY to read as follows:

Subpart YY—National Emission Standards for Hazardous Air Pollutants for Source Categories: Generic Maximum Achievable Control Technology Standards

Sec.

§ 63.1100 Applicability

(a) This subpart applies to source categories and affected sources specified in § 63.1103(a) through (d) of this subpart. The affected emission points, by source category, are summarized in table 1. This table also delineates the section and paragraph of the rule that directs an owner or operator of an affected source to source category-specific control, monitoring, recordkeeping, and reporting requirements.

TABLE 1 TO § 63.1100.—SOURCE CATEGORY MACT [a] APPLICABILITY

Source category	Storage vessels	Process vents	Transfer racks	Equipment leaks	Wastewater treatment system units	Other	Source category MACT requirements
1. Acetal Resins Production	Yes	Yes	No	Yes	Yes	No	§ 63.1103(a)
2. Acrylic and Modacrylic Fibers Production	Yes	Yes	No	Yes	Yes	Yes [b]	§ 63.1103(b)
3. Hydrogen Fluoride Production	Yes	Yes	Yes	Yes	No	Yes [c]	§ 63.1103(c)
4. Polycarbonates Production	Yes	Yes	No	Yes	Yes	No	§ 63.1103(d)

[a] Maximum achievable control technology.
[b] Fiber spinning lines using spinning solution or suspension containing acrylonitrile.
[c] Kilns used to react calcium fluoride with sulfuric acid.

(b) The provisions of subpart A of this part (General Provisions), §§ 63.1 through 63.5, and §§ 63.12 through 63.15 apply to owners or operators of affected sources subject to this subpart.

(c) The provisions of this subpart do not apply to research and development facilities, consistent with section 112(b)(7) of the Act.

(d) *Primary product determination and applicability.* The primary product of a process unit shall be determined according to the procedures specified in paragraphs (d)(1) and (d)(2). Paragraphs (d)(3) and (d)(4) of this section discuss compliance for those process units operated as flexible operation units, as specified in paragraph (d)(2) of this section.

(1) If a process unit only manufactures one product, then that product shall represent the primary product of the process unit.

(2) If a process unit is designed and operated as a flexible operation unit, the primary product shall be determined as specified in paragraphs (d)(2)(i) or (d)(2)(ii) of this section based on the anticipated operations for the 5 years following the promulgation date for existing affected sources and for the first 5 years after initial startup for new affected sources.

(i) If the flexible operation unit will manufacture one product for the greatest operating time over the five year period, then that product shall represent the primary product of the flexible operation unit.

(ii) If the flexible operation unit will manufacture multiple products equally based on operating time, then the product with the greatest production on a mass basis over the five year period shall represent the primary product of the flexible operation unit.

(3) Once the primary product of a process unit has been determined to be a product produced by a source category subject to this subpart, the owner or operator of the affected source shall comply with the standards for the primary product production process unit.

(4) The determination of the primary product for a process unit, to include the determination of applicability of this subpart to process units that are designed and operated as flexible operation units, shall be reported in the Notification of Compliance Status Report required by § 63.1110 when the primary product is determined to be a product produced by a source category subject to requirements under this subpart. The Notification of Compliance Status shall include the information specified in either paragraph (d)(4)(i) or (d)(4)(ii) of this section. If the primary product is determined to be something other than a product produced by a source category subject to requirements under this subpart, the owner or operator shall retain information, data, and analyses used to document the basis for the determination that the primary product is not produced by a source category subject to requirements under this subpart.

(i) If the process unit manufactures only one product subject to requirements under this subpart, identification of that product.

(ii) If the process unit is designed and operated as a flexible operation unit, the information specified in paragraphs (d)(4)(ii)(A) and (d)(4)(ii)(B) of this section, as appropriate.

(A) Identification of the primary product.

(B) Information concerning operating time and/or production mass for each product that was used to make the determination of the primary product under paragraph (d)(2)(i) or (d)(2)(ii) of this section.

(iii) Demonstrate that the parameter monitoring levels established for the primary product are also appropriate for those periods when products other than the primary product are being produced. Material demonstrating this finding shall be submitted in the Notification of Compliance Status Report required by § 63.1110.

(e) *Storage vessel ownership determination.* The owner or operator shall follow the procedures specified in paragraphs (e)(1) through (e)(8) of this section to determine to which process unit a storage vessel shall belong.

(1) If a storage vessel is already subject to another subpart of 40 CFR part 63 on the date of promulgation for an affected source, that storage vessel shall belong to the process unit subject to the other subpart.

(2) If a storage vessel is dedicated to a single process unit, the storage vessel shall belong to that process unit.

(3) If a storage vessel is shared among process units, then the storage vessel shall belong to that process unit located on the same plant site as the storage vessel that has the greatest input into or output from the storage vessel (i.e., the process unit has the predominant use of the storage vessel).

(4) If predominant use cannot be determined for a storage vessel that is shared among process units and if only one of those process units is subject to this subpart, the storage vessel shall belong to that process unit.

(5) If predominant use cannot be determined for a storage vessel that is shared among process units and if more than one of the process units are subject to standards under this subpart that have different primary products, then the owner or operator shall assign the storage vessel to any one of the process units sharing the storage vessel.

(6) If the predominant use of a storage vessel varies from year to year, then predominant use shall be determined based on the utilization that occurred during the year preceding the date of promulgation of standards for an affected source under this subpart or based on the expected utilization for the 5 years following promulgation date of standards for an affected source under this subpart for existing affected sources, whichever is more representative of the expected operations for that storage vessel, and based on the expected utilization for the 5 years after initial startup for new affected sources. The determination of predominant use shall be reported in the Notification of Compliance Status Report required by § 63.1110. If the predominant use changes, the redetermination of predominant use shall be reported in the next Periodic Report.

(7) If the storage vessel begins receiving material from (or sending material to) another process unit; ceases to receive material from (or send material to) a process unit; or if the applicability of this subpart to a storage vessel has been determined according to the provisions of paragraphs (e)(1) through (e)(6) of this section and there is a significant change in the use of the storage vessel that could reasonably change the predominant use, the owner or operator shall reevaluate the applicability of this subpart to the storage vessel.

(8) Where a storage vessel is located at a major source that includes one or more process units that place material into, or receive materials from the storage vessel, but the storage vessel is located in a tank farm, the applicability of this subpart shall be determined according to the provisions in paragraphs (e)(8)(i) through (e)(8)(iii) of this section.

(i) The storage vessel may only be assigned to a process unit that utilizes the storage vessel and does not have an intervening storage vessel for that product (or raw materials, as appropriate). With respect to any process unit, an intervening storage vessel means a storage vessel connected by hard-piping to the process unit and to the storage vessel in the tank farm so that product or raw material entering or leaving the process unit flows into (or from) the intervening storage vessel and does not flow directly into (or from) the storage vessel in the tank farm.

(ii) If there is only one process unit at a major source subject to the requirements of this subpart with respect to a storage vessel, the storage vessel shall be assigned to that process unit.

(iii) If there are two or more process units at the major source that meet the criteria of paragraph (e)(8)(i) of this section with respect to a storage vessel, the storage vessel shall be assigned to one of those process units according to the provisions of paragraph (e)(6) of this section. The predominant use shall be determined among only those process units that meet the criteria of paragraph (e)(8)(i) of this section.

(f) *Recovery operation equipment ownership determination.* The owner or operator shall follow the procedures specified in paragraphs (f)(1) through (f)(7) of this section to determine to which process unit recovery operation equipment shall belong.

(1) If recovery operation equipment is already subject to another subpart of 40 CFR part 63 on the date standards are promulgated for an affected source, that recovery operation equipment shall belong to the process unit subject to the other subpart.

(2) If recovery operation equipment is used exclusively by a single process unit, the recovery operation shall belong to that process unit.

(3) If recovery operation equipment is shared among process units, then the recovery operation equipment shall belong to that process unit located on the same plant site as the recovery operation equipment that has the greatest input into or output from the recovery operation equipment (i.e., that process unit has the predominant use of the recovery operation equipment).

(4) If predominant use cannot be determined for recovery operation equipment that is shared among process units and if one of those process units is a process unit subject to this subpart, the recovery operation equipment shall belong to the process unit subject to this subpart.

(5) If predominant use cannot be determined for recovery operation equipment that is shared among process units and if more than one of the process units are process units that have different primary products and that are subject to this subpart, then the owner or operator shall assign the recovery operation equipment to any one of those process units.

(6) If the predominant use of recovery operation equipment varies from year to year, then the predominant use shall be determined based on the utilization that occurred during the year preceding the promulgation date of standards for an affected source under this subpart or based on the expected utilization for the 5 years following the promulgation date for standards for an affected source under this subpart for existing affected sources, whichever is the more representative of the expected operations for the recovery operations equipment, and based on the expected utilization for the first 5 years after

initial startup for new affected sources. This determination shall be reported in the Notification of Compliance Status Report required by § 63.1110. If the predominant use changes, the redetermination of predominant use shall be reported in the next Periodic Report.

(7) If there is an unexpected change in the utilization of recovery operation equipment that could reasonably change the predominant use, the owner or operator shall redetermine to which process unit the recovery operation belongs by reperforming the procedures specified in paragraphs (f)(2) through (f)(6) of this section.

(g) *Overlap with other regulations.* (1) *Overlap of subpart YY with other regulations for storage vessels.* (i) After the compliance dates specified in § 63.1102 for an affected source subject to this subpart, a storage vessel that is part of an existing source that is subject to the provisions of 40 CFR part 63, subpart WW (National Emission Standards for Storage Vessels—Control Level 2) (if referenced under this subpart) under this subpart and the storage vessel provisions of 40 CFR part 63, subpart G (the hazardous organic national emission standards for hazardous air pollutants (the HON)) is in compliance with the storage vessel requirements of subpart WW of this part if it complies with the requirements of subpart WW or the storage vessel requirements of subpart G of this part.

(ii) After the compliance dates specified in § 63.1102 for an affected source subject to this subpart, a storage vessel that is part of an existing source that is subject to the provisions of 40 CFR part 63, subpart WW (National Emission Standards for Storage Vessels—Control Level 2) (if referenced under this subpart) under this subpart and the storage vessel provisions of 40 CFR part 60, subpart Ka or Kb is required only to comply with the storage vessel control requirements of subpart WW of this part.

(2) *Overlap of subpart YY with other regulations for process vents.* After the compliance dates specified in § 63.1102 for an affected source subject to this subpart, a process vent that is part of an existing source that is subject to the requirements of 40 CFR part 63, subpart SS (National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or Process) under this subpart and the process vent requirements of 40 CFR part 63, subpart G (the HON) is in compliance with subpart SS if it complies with the provisions of subpart SS of this subpart or the process vent closed-vent system, control device, recovery, and routing to a fuel gas system or process requirements of subpart G of this part.

(3) *Overlap of subpart YY with other regulations for transfer racks.* After the compliance dates specified in § 63.1102 for an affected source subject to this subpart, a transfer rack that is part of an existing source that is subject to the provisions of 40 CFR part 63, subpart SS (National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or Process) under this subpart and the transfer rack requirements of 40 CFR part 63, subpart G (the HON) is in compliance with subpart SS of this part if it complies with the provisions of subpart SS of this part or the transfer rack closed-vent system, control device, recovery, and routing to a fuel gas system or process requirements of subpart G of this part.

(4) *Overlap of subpart YY with other regulations for equipment leaks.* (i) After the compliance dates specified in § 63.1102 for an affected source subject to this subpart, equipment that is part of an existing source that is subject to the equipment leak control requirements of 40 CFR part 63, subpart TT (National Emission Standards for Equipment Leaks—Control Level 1) under this subpart and 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V is required only to comply with subpart TT of this part.

(ii) After the compliance dates specified in § 63.1102 for an affected source subject to this subpart, equipment that is part of an existing source that is subject to the equipment leak control requirements of 40 CFR part 63, subpart UU (National Emission Standards for Equipment Leaks—Control Level 2) under this subpart and 40 CFR part 63, subpart H (the HON) is in compliance with the equipment leak requirements of this subpart if it complies with the equipment leak provisions of subpart UU or subpart H of this part.

(5) *Overlap of subpart YY with other regulations for wastewater treatment system units.* (i) After the compliance dates specified in § 63.1102 for an affected source subject to this subpart, wastewater streams that are subject to control requirements in the Hazardous Organic NESHAP (40 CFR part 63, subpart G) and this subpart is required to comply with both rules.

(ii) After the compliance dates specified in § 63.1102 for an affected source subject to this subpart, wastewater streams that are subject to control requirements in the Benzene Waste NESHAP (40 CFR part 61, subpart FF) and this subpart is required to comply with both rules.

§ 63.1101 Definitions.

All terms used in this subpart shall have the meaning given them in the Act and in this section.

Annual average concentration, as used in the wastewater provisions, means the flow-weighted annual average concentration, as determined according to the procedures specified in § 63.1106.

Annual average flow rate, as used in the wastewater provisions, means the annual average flow rate, as determined according to the procedures specified in § 63.1106.

Batch cycle refers to manufacturing a product 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 per batch cycle. For example, a displacement of vapor resulting from the charging of a vessel with HAP will result in a discrete emission episode. If the vessel is then heated, there may also be another discrete emission episode resulting from the expulsion of expanded vapor. Both emission episodes may occur during the same batch cycle 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 unit operation means a unit operation involving intermittent or discontinuous feed into equipment, and, in general, involves the emptying of equipment after the batch cycle ceases and prior to beginning a new batch cycle. Mass, temperature, concentration and other properties of the process may vary with time. Addition of raw material and withdrawal of product do not simultaneously occur in a batch unit operation.

Bottoms receiver means a tank that collects distillation bottoms before the stream is sent for storage or for further downstream processing.

By compound means by individual stream components, not carbon equivalents.

Capacity means the volume of liquid that is capable of being stored in a storage vessel, based on the vessel's diameter and internal shell height.

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. Closed vent system does

not include the vapor collection system that is part of any tank truck or railcar.

Continuous parameter monitoring system or *CPMS* means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Continuous unit operation means a unit operation where the inputs and outputs flow continuously. Continuous unit operations typically approach steady-state conditions. Continuous unit operations typically involve the simultaneous addition of raw material and withdrawal of the product.

Control device means any combustion device, recovery device, recapture device, or any combination of these devices used to comply with this subpart. Such equipment or devices include, but are not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters. For process vents from continuous unit operations, recapture devices and combustion devices are considered control devices but recovery devices are not considered control devices. For process vents from batch unit operations, recapture devices, recovery devices, and combustion devices are considered control devices except for process condensers. Primary condensers on stream strippers or fuel gas systems are not considered control devices.

Day means a calendar day.

Emission point means an individual process vent, storage vessel, transfer rack, wastewater stream, kiln, fiber spinning line, equipment leak, or other point where a gaseous stream is released.

Equipment, means each of the following that is subject to control under this subpart: pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system; and any control device or system used to comply with this subpart.

Equivalent method means any method of sampling and analyzing for an air pollutant that has been demonstrated to the Administrator's satisfaction to have a consistent and quantitatively known relationship to the reference method, under specified conditions.

Flexible operation unit means a process unit that manufactures different chemical products periodically by alternating raw materials or operating conditions.

Halogens and hydrogen halides means hydrogen chloride (HCl), chlorine (Cl_2), hydrogen bromide (HBr), bromine (Br_2), and hydrogen fluoride (HF).

Initial start-up means, for new sources, the first time the source begins production. For additions or changes not defined as a new source by this subpart, initial startup means the first time additional or changed equipment is put into operation. Initial startup does not include operation solely for testing equipment. Initial startup does not include subsequent startup (as defined in this section) of process units following malfunctions or process unit shutdowns. Except for equipment leaks, initial startup also does not include subsequent startups (as defined in this section) of process units following changes in product for flexible operation units or following recharging of equipment in batch unit operations.

Low throughput transfer rack means those transfer racks that transfer less than a total of 11.8 million liters per year of liquid containing regulated HAP.

Maximum true vapor pressure means the equilibrium partial pressure exerted by the total organic HAP's in the stored or transferred liquid at the temperature equal to the highest calendar-month average of the liquid storage or transfer temperature for liquids stored or transferred above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for liquids stored or transferred at the ambient temperature, as determined:

(1) In accordance with methods described in American Petroleum Institute Publication 2517, Evaporation Loss From External Floating-Roof Tanks (incorporated by reference as specified in § 63.14 of subpart A of this part); or

(2) As obtained from standard reference texts; or

(3) As determined by the American Society for Testing and Materials Method D2879–83 (incorporated by reference as specified in § 63.14 of subpart A of this part); or

(4) Any other method approved by the Administrator.

On-site means, with respect to records required to be maintained by this subpart, a location within a plant site that encompasses the affected source. On-site includes, but is not limited to, the affected source to which the records pertain, or central files elsewhere at the plant site.

Organic hazardous air pollutant or *organic HAP* means any organic chemicals that are also HAP.

Permitting authority means one of the following:

(1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661) and part 71 of this chapter.

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Process condenser means a condenser whose primary purpose is to recover material as an integral part of a process. 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 unit means the equipment assembled and connected by pipes or ducts to process raw and/or intermediate materials and to manufacture an intended product. A process unit includes more than one unit operation. A process unit includes, but is not limited to, process vents, storage vessels, and the equipment (i.e., pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, surge control vessels, bottoms receivers, and control devices or systems.

Process unit shutdown means a work practice or operational procedure that stops production from a process unit, or part of a process unit during which it is technically feasible to clear process material from a process unit, or part of a process unit, consistent with safety constraints and during which repairs can be effected. The following are not considered process unit shutdowns:

(1) An unscheduled work practice or operational procedure that stops production from a process unit, or part of a process unit, for less than 24 hours.

(2) An unscheduled work practice or operational procedure that would stop production from a process unit, or part of a process unit, for a shorter period of time than would be required to clear the process unit, or part of the process unit, of materials and start up the unit, and

would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown.

(3) The use of spare equipment and technically feasible bypassing of equipment without stopping production.

Process vent means a gas stream that is continuously discharged during operation of the unit within a manufacturing process unit that meets the applicability criteria of this subpart. Process vents include gas streams that are either discharged directly to the atmosphere or are discharged to the atmosphere after diversion through a product recovery device. Process vents exclude relief valve discharges and leaks from equipment regulated under this subpart.

Process wastewater means wastewater which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product, or waste product. Examples are product tank drawdown or feed tank drawdown; water formed during a chemical reaction or used as a reactant; water used to wash impurities from organic products or reactants; water used to cool or quench organic vapor streams through direct contact; and condensed steam from jet ejector systems pulling vacuum on vessels containing organics.

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. For purposes of the monitoring, recordkeeping, and reporting requirements of this subpart, recapture devices are considered recovery devices.

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, 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.

Storage vessel or *Tank*, for the purposes of this subpart, means a stationary unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, fiberglass, or plastic) that provide structural support and is designed to hold an accumulation of liquids or other materials. Storage vessel does not include:

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

(2) Bottoms receiver tanks;

(3) Surge control vessels; or

(4) Wastewater storage tanks.

Surge control vessel means a feed drum, recycle drum, or intermediate vessel. Surge control vessels are used within a process unit (as defined in this subpart) when in-process storage, mixing, or management of flow rates or volumes is needed to assist in production of a product.

Total organic compounds or *TOC* means those compounds, excluding methane and ethane, measured according to the procedures of Method 18 or Method 25A, 40 CFR part 60, appendix A.

Total resource effectiveness index value or *TRE index value* means a measure of the supplemental total resource requirement per unit reduction of organic HAP associated with a process vent stream, based on vent stream flow rate, emission rate of organic HAP, net heating value, and corrosion properties (whether or not the vent stream contains halogenated compounds), as quantified by the equations given under § 63.1104(e).

Transfer rack means a single system used to fill bulk cargo tanks mounted on or in a truck, railcar, or marine vessel. A transfer rack includes all loading arms, pumps, meters, shutoff valves, relief valves, and other piping and equipment necessary for the transfer operation. Transfer equipment and operations that are physically separate (i.e., do not share common piping, valves, and other equipment) are considered to be separate transfer racks.

Unit operation means distinct equipment used in processing, 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 balancing system means a piping system that is designed to collect organic HAP vapors displaced from tank trucks or railcars during loading; and to route the collected organic HAP vapors to the storage vessel from which the liquid being loaded originated, or to compress collected organic HAP vapors and commingle with the raw feed of a production process unit.

Wastewater treatment system unit means an individual storage vessel, surface impoundment, container, oil-water or organic-water separator, or transfer system used at a plant site to manage process wastewater associated with a source category subject to this subpart.

§ 63.1102 Compliance schedule.

(a) Affected sources, as defined in § 63.1103(a)(1)(i) for acetyl resins production; § 63.1103(b)(1)(i) for acrylic and modacrylic fiber production; § 63.1103(c)(1)(i) for hydrogen fluoride production; or § 63.1103(d)(1)(i) for polycarbonate production, shall comply with the appropriate provisions of this subpart and the subparts referenced by this subpart according to the schedule described in paragraph (a)(1) or (a)(2) of this section, as appropriate.

(1) *Compliance dates for new and reconstructed sources.*

(i) The owner or operator of a new or reconstructed affected source for which construction or reconstruction commences after October 14, 1998 that has an initial startup before the effective date of standards for an acetal resins, acrylic and modacrylic fiber, hydrogen fluoride, and polycarbonate production affected source under this subpart shall comply with this subpart no later than the effective date of standards for the affected source.

(ii) The owner or operator of a new or reconstructed acetal resins, acrylic and modacrylic fiber, hydrogen fluoride, and polycarbonate production affected source that has an initial startup after the effective date of standards for the affected source shall comply with this subpart upon startup of the source.

(iii) The owner or operator of an acetal resins, acrylic and modacrylic fiber, hydrogen fluoride, and polycarbonate production affected source for which construction or reconstruction is commenced after October 14, 1998 but before the effective date of standards for the affected source under this subpart shall comply with this subpart no later than the date 3 years after the effective date if:

(A) The promulgated standard is more stringent than the proposed standard;

(B) The owner or operator complies with this subpart as proposed during the 3-year period immediately after the effective date of standards for an acetal resins, acrylic and modacrylic fiber, hydrogen fluoride, and polycarbonate production affected source.

(iv) The owner or operator of an acetal resins, acrylic and modacrylic fiber, hydrogen fluoride, and polycarbonate

production affected source for which construction or reconstruction commenced after October 14, 1998 but before the proposal date of a relevant standard established pursuant to section 112(f) shall comply with the emission standard under section 112(f) not later than the date 10 years after the date construction or reconstruction is commenced, except that, if the section 112(f) standard is promulgated more than 10 years after construction or reconstruction is commenced, the owner or operator shall comply with this subpart as provided in paragraphs (a)(2)(i) and (a)(2)(ii) of this section.

(2) *Compliance dates for existing sources.*

(i) The owner or operator of an existing acetal resins, acrylic and modacrylic fiber, hydrogen fluoride, and polycarbonate production affected source shall comply with the requirements of this subpart within 3 years after the effective date of standards for the affected source.

(ii) The owner or operator of an acetal resins, acrylic and modacrylic fiber, hydrogen fluoride, and polycarbonate production area source that increases its emissions of (or its potential to emit) hazardous air pollutants such that the source becomes a major source shall be subject to the relevant standards for new sources under this subpart. Such sources shall comply with the relevant standard upon startup.

(b) [Reserved]

§ 63.1103 Source category-specific applicability, definitions, and requirements.

(a) *Acetal resins production applicability, definitions, and requirements.*—(1) *Applicability.*—(i) *Affected source.* For the acetal resins production source category (as defined in paragraph (a)(2) of this section), the affected source shall comprise all emission points, in combination, listed in paragraphs (a)(1)(i)(A) through (a)(1)(i)(D) of this section, that are associated with an acetal resins production process unit located at a major source, as defined in section 112(a) of the Clean Air Act (Act).

(A) All storage vessels that store liquids containing HAP.

(B) All process vents from continuous unit operations (front end process vents and back end process vents).

(C) All wastewater treatment system units.

(D) Equipment (as defined in § 63.1101 of this subpart) that contains or contacts HAP.

(ii) The compliance schedule for affected sources as defined in paragraph (a)(1)(i) of this section is specified in § 63.1102(a).

(2) *Definitions.*

Acetal resins production means the production of homopolymers and/or copolymers of alternating oxymethylene units. Acetal resins are also known as polyoxymethylenes, polyacetals, and aldehyde resins. Acetal resins are generally produced by polymerizing formaldehyde (HCHO) with the methylene functional group (CH2) and are characterized by repeating oxymethylene units (CH2O) in the polymer backbone.

Back end process vent means any process vent from a continuous unit operation that is not a front end process vent up to the final separation of raw materials and by-products from the stabilized polymer.

Front end process vent means any process vent from a continuous unit operation involved in the purification of formaldehyde feedstock for use in the acetal homopolymer process. All front end process vents are restricted to those vents that occur prior to the polymer reactor.

(3) *Requirements.* Table 1 specifies the acetal resins production standards applicability for existing and new sources. Applicability determination procedures and methods are specified in §§ 63.1104 through 63.1107. General compliance, recordkeeping, and reporting requirements are specified in §§ 63.1108 through 63.1112. Procedures for approval of alternative means of emission limitations are specified in § 63.1113.

TABLE 1 TO § 63.1103.—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE AN ACETAL RESINS PRODUCTION EXISTING OR NEW AFFECTED SOURCE?

If you own or operate . . .	And if . . .	Then you must . . .
1. a storage vessel with: a size capacity > 34 cubic meters	the maximum true vapor pressure of organic HAP > 17.1 kilopascals (for existing sources) or > 11.7 kilopascals (for new sources)	reduce emissions of organic HAP by 95 weight-percent, or reduce TOC to a concentration of 20 parts per million by volume, whichever is less stringent, by venting emissions through a closed vent system to a control device meeting the requirements specified in 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(a) of this part; or route emissions to a fuel gas system meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(a) of this part or comply with the requirements of 40 CFR subpart WW (national emission standards for storage vessels (control level 2)) of this part.
2. a front end process vent from continuous unit operations		reduce emissions of organic HAP by using a flare or reduce emission of organic HAP by 60 weight-percent, or reduce TOC to a concentration of 20 parts per million by volume, whichever is less stringent, by venting emissions through a closed vent system to any combination of control devices meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part.

TABLE 1 TO § 63.1103.—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE AN ACETAL RESINS PRODUCTION EXISTING OR NEW AFFECTED SOURCE?—Continued

If you own or operate . . .	And if . . .	Then you must . . .
3. a back end process vent from continuous unit operations	the vent stream has a a TRE[a] ≤ 1.0	reduce emissions of organic HAP by using a flare or reduce emissions of organic HAP by 98 weight-percent, or reduce TOC to a concentration of 20 parts per million by volume, whichever is less stringent, by venting emissions through a closed vent system to any combination of control devices meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part, or achieve and maintain a TRE greater than 1.0.
4. a back end process vent from continuous unit operations	1.0 ≤ TRE[a] ≤ 4.0	monitor and keep records of equipment operating parameters specified to be monitored under 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), §§ 63.990(c)(absorber monitoring), 63.991(c) (condenser monitoring), 63.992(c) (carbon adsorber monitoring), or 63.995(c) (other noncombustion systems used as a control device monitoring) of this part.
5. equipment as defined under § 63.1101	the equipment contains or contacts ≥ 10 weight-percent HAP,[b] and operates ≥ 300 hours per year	comply with the requirements of 40 CFR subpart TT (national emission standards for equipment leaks (control level 1)) or UU (national emission standards for equipment leaks (control level 2)) of this part.
6. a wastewater treatment unit	the wastewater stream has an annual average HAP concentration ≥ 10,000 parts per million[c] by weight at any flow rate, or the wastewater stream has an annual average HAP concentration ≥ 1,000 parts per million by weight,[c] and an annual average flowrate ≥ 10 liters per minute[d]	comply with the requirements of 40 CFR subparts OO, VV, QQ, and RR (national emission standards for organic wastewater treatment facilities) of this part.

[a] The TRE is determined according to the procedures specified in § 63.1104(j).
[b] The weight-percent HAP is determined for equipment according to procedures specified in § 63.1107.
[c] The annual average wastewater organic HAP concentration is determined according to the procedures specified in § 63.1106(a) through (c).
[d] The annual wastewater average flowrate is determined according to procedures specified in § 63.1106(d).

(b) *Acrylic and modacrylic fiber production applicability, definitions, and requirements.*—(1) *Applicability.*—(i) *Affected source.* For the acrylic fibers and modacrylic fibers production (as defined in paragraph (b)(2) of this section) source category, the affected source shall comprise all emission points, in combination, listed in paragraphs (b)(1)(i)(A) through (b)(1)(i)(E) of this section, that are associated with a suspension or solution polymerization process unit that produces acrylic and modacrylic fiber located at a major source as defined in section 112(a) of the Act.

(A) All storage vessels that store liquid containing acrylonitrile or HAP.

(B) All process vents from continuous unit operations.

(C) All wastewater treatment system units.

(D) Equipment (as defined in § 63.1101 of this subpart) that contains or contacts acrylonitrile or HAP.

(E) All acrylic and modacrylic fiber spinning lines using a spinning solution or suspension having organic acrylonitrile or HAP.

For the purpose of implementing this paragraph, a spinning line includes the spinning solution filters, spin bath, and the equipment used downstream of the spin bath to wash, dry, or draw the spun fiber.

(ii) The compliance schedule, for affected sources as defined in paragraph (b)(1)(i) of this section, is specified in § 63.1102(a).

(2) *Definitions.*

Acrylic fiber means a manufactured synthetic fiber in which the fiber-forming substance is any long-chain synthetic fiber in which the fiber-forming substance is any long-chain synthetic polymer composed of at least 85 percent by weight of acrylonitrile units.

Acrylic and modacrylic fibers production means the production of either of the following synthetic fibers composed of acrylonitrile units:

1. Acrylic fiber.
2. Modacrylic fiber.

Fiber spinning line means the group of equipment and process vents associated with acrylic or modacrylic fiber spinning operations. The fiber spinning line includes (as applicable to the type of spinning process used) the blending and dissolving tanks, spinning solution filters, wet spinning units, spin bath tanks, and the equipment used downstream of the spin bath to wash, dry, or draw the spun fiber.

Modacrylic fiber means a manufactured synthetic fiber in which the fiber-forming substance is any long-

chain synthetic polymer composed of at least 35 percent by weight of acrylonitrile units but less than 85 percent by weight of acrylonitrile units.

Solution polymerization means a polymerization process where polymer formed in the reactor is soluble in the spinning solvent present in the reactor.

Suspension polymerization means a polymerization process where insoluble beads of polymer are formed in a suspension reactor.

(3) *Requirements.* An owner or operator of an affected source must comply with the requirements of paragraph (b)(3)(i) or (b)(3)(ii) of this section.

(i) Table 3a specifies the acrylic and modacrylic fiber production source category control requirement applicability for both existing and new sources. Applicability determination procedures and methods are specified in §§ 63.1104 through 63.1107. General compliance, recordkeeping, and reporting requirements are specified in §§ 63.1108 through 63.1112. Procedures for approval of alternative means of emission limitations are specified in § 63.1113. The owner or operator must control HAP emissions from the each affected source emission point by meeting the applicable requirements specified in table 3a of this section.

TABLE 2 TO § 63.1103.—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE AN ACRYLIC AND MODACRYLIC FIBER PRODUCTION EXISTING OR NEW AFFECTED SOURCE AND AM COMPLYING WITH PARAGRAPH (B)(3)(I) OF THIS SECTION?

If you own or operate. . .	And if. . .	Then you must. . .
1. a storage vessel	the stored material is acrylonitrile	reduce emissions of acrylonitrile by 98 weight-percent, or reduce TOC to a concentration of 20 parts per million by volume, whichever is less stringent, by venting emissions through a closed vent system to a control device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(a) of this part, or 95 weight-percent or greater by venting through a closed vent system to a recovery device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(a) of this part; or comply with the requirements of 40 CFR part 63 subpart WW (national emission standards for storage vessels (control level 2)) of this part.
2. a process vent from continuous unit operations (halogenated)	the vent steam has a mass emission rate of halogen atoms contained in organic compounds ≥ 0.45 kilograms per hour [a] and an acrylonitrile concentration ≥ 50 parts per million by volume [b] and an average flow rate ≥ 0.005 cubic meters per minute	reduce emissions of acrylonitrile or TOC as specified for nonhalogenated process vents from continuous unit operations (other than by using a flare) and by venting emissions through a closed vent system to a halogen reduction device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part that reduces hydrogen halides and halogens by 99 weight-percent or to less than 0.45 kilograms per year, whichever is less stringent; or reduce the process vent halogen atom mass emission rate to less than 0.45 kilograms per hour by venting emissions through a closed vent system to a halogen reduction device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part and then complying with the requirements specified for process vents from continuous unit operations (nonhalogenated).
3. a process vent from continuous unit operations (nonhalogenated)	the vent steam has a mass emission rate of halogen atoms contained in organic compounds < 0.45 kilograms per hour [a], and an acrylonitrile concentration ≥ 50 parts per million by volume [b] and an average flow rate ≥ 0.005 cubic meters per minute	reduce emissions of acrylonitrile by using a flare or reduce emissions of acrylonitrile by 98 weight-percent, or reduce TOC to a concentration of 20 parts per million by volume, whichever is less stringent, by venting emissions through a closed vent system to any combination of control devices meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part.

TABLE 2 TO § 63.1103.—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE AN ACRYLIC AND MODACRYLIC FIBER PRODUCTION EXISTING OR NEW AFFECTED SOURCE AND AM COMPLYING WITH PARAGRAPH (B)(3)(I) OF THIS SECTION?—Continued

If you own or operate. . .	And if. . .	Then you must. . .
4. a wastewater treatment unit	the wastewater stream has an annual average acrylonitrile concentration ≥ 10,000 parts per million by weight [c] or the wastewater stream has an annual average HAP concentration ≥ 1,000 parts per million by weight [c], and an annual average flowrate ≥ 10 liters per minute [d]	comply with the requirements of 40 CFR subparts OO, VV, QQ, and RR (national emission standards for organic wastewater treatment facilities) of this part.
5. a fiber spinning line	the lines use a spinning solution or spin dope with an acrylonitrile concentration > 100 parts per million [c] by weight	reduce acrylonitrile emissions to greater than or equal to 85 weight-percent by enclosing the spinning and washing areas of the spinning line (as specified in paragraph (b)(4) of this section) by using a flare meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part; or by venting emissions through a closed vent system and using any combination of control devices meeting the requirements of 40 CFR subpart SS of this part.
6. equipment as defined under § 63.1101	it contains or contacts ≥ 10 weight-percent acrylonitrile [e], and operates ≥ 300 hours per year	comply with the requirements of 40 CFR subpart TT (national emission standards for equipment leaks (control level 1)) or UU (national emission standards for equipment leaks (control level 2)) of this part.

[a] The mass emission rate of halogen atoms contained in organic compounds is determined according to the procedures specified in § 63.1104(i).
[b] The percent by weight organic HAP is determined according to the procedures specified in § 63.1107.
[c] The annual average wastewater organic HAP concentration is determined according to the procedures specified in § 63.1106(a) through (c).
[d] The annual wastewater average flowrate is determined according to procedures specified in § 63.1106(d).
[e] The weight-percent HAP is determined for equipment according to procedures specified in § 63.1107.

(ii) The owner or operator must control HAP emissions from the acrylic and modacrylic fibers production facility by meeting the applicable requirements specified in table 3b of this subpart. The owner or operator must determine the facility acrylonitrile emission rate using the procedures specified in paragraph (b)(5) of this section.

TABLE 3b TO § 63.1103.—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE AN ACRYLIC AND MODACRYLIC FIBER PRODUCTION EXISTING OR NEW AFFECTED SOURCE AND AM COMPLYING WITH PARAGRAPH (b)(3)(ii) OF THIS SECTION?

If you own or operate. . .	Then you must control HAP emissions from the affected source by. . .
1. an acrylic and modacrylic fibers production affected source and your facility is an *existing* source	Meeting all of following requirements: a. 1. Reduce total acrylonitrile emissions from all affected storage vessels, process vents, wastewater treatment units, and fiber spinning lines operated in your acrylic and modacrylic fibers production facility to less than or equal to 1.0 kilograms (kg) of acrylonitrile per megagram (Mg) of fiber produced. b. 2. Determine the facility acrylonitrile emission rate in accordance with the requirements specified in § 63.1103(b)(5) of this section.
2. an acrylic and modacrylic fibers production affected source and your facility is a *new* source	Meeting all of following requirements: a. 1. Reduce total acrylonitrile emissions from all affected storage vessels, process vents, wastewater treatment units, and fiber spinning lines operated in the acrylic and modacrylic fibers production facility to less than or equal to 0.5 kilograms (kg) of acrylonitrile per megagram (Mg) of fiber produced. b. 2. Determine the facility acrylonitrile emission rate in accordance with the requirements specified in § 63.1103(b)(5) of this section.
3. equipment as defined under § 63.1101 and it contains or contacts ≥ 10 weight-percent acrylonitrile,[a] and operates ≥ 300 hours per year	Meeting either of the following standards for equipment leaks: a. 1. Comply with 40 CFR 63 subpart TT of this part; or b. 2. Comply with 40 CFR 63 subpart UU of this part.

[a] The weight-percent HAP is determined for equipment according to procedures specified in § 63.1107.

(4) *Fiber spinning line enclosure requirements.* For an owner or operator electing to comply with paragraph (b)(3)(i) of this section, the fiber spinning line enclosure must be designed and operated to meet the requirements specified in paragraphs (b)(4)(i) through (b)(4)(iv) of this section.

(i) The enclosure must cover the spinning and washing areas of the spinning line.

(ii) The enclosure must be designed and operated in accordance with the criteria for a permanent total enclosure as specified in ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' in 40 CFR 52.741, Appendix B.

(iii) The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or to direct airflow into the enclosure.

(iv) The owner or operator must perform the verification procedure for the enclosure as specified in section 5.0 to ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' initially when the enclosure is first installed and, thereafter, annually.

(5) *Facility acrylonitrile emission rate determination.* For an owner or operator electing to comply with paragraph (b)(3)(ii) of this section, the facility acrylonitrile emission rate must be determined using the requirements specified in paragraphs (b)(5)(i) through (b)(5)(iii) of this section.

(i) The owner or operator must prepare an initial determination of the facility acrylonitrile emission rate.

(ii) Whenever changes to the acrylic or modacrylic fiber production operations at the facility could potentially cause the facility acrylonitrile emission rate to exceed the applicable limit of kg of acrylonitrile per Mg of fiber produced, the owner or operator must prepare a new determination of the facility acrylonitrile emission rate.

(iii) For each determination, the owner or operator must prepare and maintain at the facility site sufficient process data, emissions data, and any other documentation necessary to support the facility acrylonitrile emission rate calculation.

(c) *Hydrogen fluoride production applicability, definitions, and requirements.*—(1) *Applicability.*—(i) *Affected source.* For the hydrogen fluoride production (as defined in paragraph (c)(2) of this section) source category, the affected source shall comprise all emission points, in combination, listed in paragraphs (c)(1)(i)(A) through (c)(1)(i)(E) of this section, that are associated with a hydrogen fluoride production process unit located at a major source as defined in section 112(a) of the Act.

(A) All storage vessels used to accumulate or store hydrogen fluoride.

(B) All process vents from continuous unit operations associated with hydrogen fluoride recovery and refining operations. These process vents include vents on condensers, distillation units, and water scrubbers.

(C) All transfer racks used to load hydrogen fluoride into tank trucks or railcars.

(D) Equipment (as defined in § 63.1101 of this subpart) that contains or contacts hydrogen fluoride.

(E) Seals on kilns used to react calcium fluoride with sulfuric acid.

(ii) The compliance schedule, for affected sources as defined in paragraph (c)(1)(i) of this section, is specified in § 63.1102(a).

(2) *Definitions.*

Hydrogen fluoride production means a process engaged in the production and recovery of hydrogen fluoride by reacting calcium fluoride with sulfuric acid. For the purpose of implementing this subpart, hydrogen fluoride production is not a process that produces gaseous hydrogen fluoride for direct reaction with hydrated aluminum to form aluminum fluoride (i.e., the hydrogen fluoride is not recovered as an intermediate or final product prior to reacting with the hydrated aluminum).

Kiln seal means the mechanical or hydraulic seals at both ends of the kiln, designed to prevent the infiltration of moisture and air through the interface of the rotating kiln and stationary pipes and equipment attached to the kiln during normal vacuum operation of the kiln (operation at an internal pressure of at least 0.25 kilopascal [one inch of water] below ambient pressure).

Leakless pump means a pump whose seals are submerged in liquid, a pump equipped with a dual mechanical seal system that includes a barrier fluid system, or a pump potential leak interface hydrogen fluoride concentration measurement of less than 500 parts per million by volume.

(3) *Requirements.* Table 4 specifies the hydrogen fluoride production source category control requirement applicability for both existing and new sources. The owner or operator must control hydrogen fluoride emission from each affected source emission point as specified in table 4. Applicability determination procedures and methods are specified in §§ 63.1104 through 63.1107. General compliance, recordkeeping, and reporting requirements are specified in §§ 63.1108 through 63.1112. Procedures for approval of alternative means of emission limitations are specified in § 63.1113.

TABLE 4. TO § 63.1103—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE A HYDROGEN FLUORIDE PRODUCTION EXISTING OR NEW AFFECTED SOURCE?

If you own or operate...	And if...	Then you must...
1. a storage vessel	the stored material is hydrogen fluoride	reduce emissions of hydrogen fluoride by venting emissions through a closed vent system to a recovery system or wet scrubber that achieves a 99 weight-percent removal efficiency according to the requirements of 40 CFR subpart SS of this part.
2. a process vent from continuous unit operations	the vent steam is from hydrogen fluoride recovery and refining vessels	reduce emissions of hydrogen fluoride from the process vent by venting emissions through a closed vent system to a wet scrubber that achieves a 99 weight-percent removal efficiency according to the requirements of 40 CFR subpart SS of this part.
3. kiln seals	the kilns are used to react calcium fluoride with sulfuric acid	capture and vent hydrogen fluoride emissions during emergencies through a closed vent system to a wet scrubber that achieves a 99 weight-percent hydrogen fluoride removal efficiency meeting the requirements of 40 CFR subpart SS of this part. An alternative means of emission limitation including leakless seals may also be established as provided in § 63.1112 .

TABLE 4. TO § 63.1103—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE A HYDROGEN FLUORIDE PRODUCTION EXISTING OR NEW AFFECTED SOURCE?—Continued

If you own or operate...	And if...	Then you must...
4. a transfer rack	the transfer rack is associated with bulk hydrogen fluoride liquid loading into tank trucks and rail cars	reduce emissions of hydrogen fluoride emissions by venting emissions through a closed vent system to a recovery system or wet scrubber that achieves a 99 weight-percent according to the requirements of 40 CFR subpart SS of this part, and must load hydrogen fluoride into only tank trucks and railcars that have a current certification in accordance with the U.S. DOT pressure test requirements of 49 CFR part 180 for tank trucks and 49 CFR 173.31 for railcars; or have been demonstrated to be vapor-tight (i.e. will sustain a pressure change of not more than 750 Pascals within 5 minutes after it is pressurized to a minimum or 4,500 Pascals) within the preceding 12 months.
5. equipment as defined under § 63.1101	it contains or contacts hydrogen fluoride	control hydrogen fluoride emissions by using leakless pumps and by implementing a visual and olfactory leak detection and repair program as specified in § 63.1004(d) of subpart TT of this part for visual and olfactory leak detection and § 63.1005 of subpart TT of this part for repair. An owner or operator is required to perform visual and olfactory leak detection inspections once every 8 hours.

(d) *Polycarbonate production applicability, definitions, and requirements.*—(1) *Applicability.*—(i) *Affected source.* For the polycarbonates production (as defined in paragraph (d)(2) of this section) source category, the affected source shall comprise all emission points, in combination, listed in paragraphs (d)(1)(i)(A) through (d)(1)(i)(D) of this section, that are associated with a polycarbonate production process unit located at a major source as defined in section 112(a) of the Act. A polycarbonate production process unit, for the purposes of this rulemaking, is a unit that produces polycarbonates by interfacial polymerization from bisphenols and phosgene. Phosgene production units that are associated with polycarbonate production process units are considered to be part of the polycarbonate production process. Therefore, for the purposes of this proposed rulemaking, such phosgene production units are considered to be polycarbonate production process units.

(A) All storage vessels that store liquids containing HAP.

(B) All process vents from continuous and batch unit operations.

(C) All wastewater treatment system units.

(D) Equipment (as defined in § 63.1101 of this subpart) that contains or contacts HAP.

(ii) The compliance schedule, for affected sources as defined in paragraph (d)(1)(i) of this section, is specified in § 63.1102(a).

(2) *Definitions.*

Polycarbonates production means a process engaged in the production of a special class polyester formed from any dihydroxy compound and any carbonate diester or by ester exchange. Polycarbonates may be produced by solution or emulsion polymerization, although other methods may be used. A typical method for the manufacture of polycarbonates includes the reaction of bisphenol-A with phosgene in the presence of pyridine to form polycarbonate. Methylene chloride is used as a solvent in this polymerization reaction.

(3) *Requirements.* Tables 5 and 6 specify the applicability criteria and standards for existing and new sources within the polycarbonates production source category. Applicability determination procedures and methods are specified in §§ 63.1104 through 63.1107. General compliance, recordkeeping, and reporting requirements are specified in §§ 63.1108 through 63.1112. Procedures for approval of alternative means of emission limitations are specified in § 63.1113.

TABLE 5 TO § 63.1103—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE A POLYCARBONATES PRODUCTION EXISTING AFFECTED SOURCE?

If you own or operate . . .	And if . . .	Then you must . . .
1. a storage vessel with: 8 cubic meters	the maximum true vapor pressure of organic HAP is > 41.3 kilopascals	reduce emissions of organic HAP by 95 weight-percent, or reduce TOC to a concentration of 20 parts per million by volume, whichever is less stringent, by venting emissions through a closed vent system to a control device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(a) of this part
		or
a storage vessel with: 75 cubic meters ≤ capacity < 151 cubic meters	the maximum true vapor pressure of organic HAP ≥ 27.6 kilopascals	route emissions to a fuel gas system or process meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(a) of this part
		or
		comply with the requirements of 40 CFR subpart WW (national emission standards for storage vessels (control level 2)) of this part.

TABLE 5 TO § 63.1103—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE A POLYCARBONATES PRODUCTION EXISTING AFFECTED SOURCE?—Continued

If you own or operate . . .	And if . . .	Then you must . . .
2. a storage vessel with: 151 cubic meters ≤ capacity	the maximum true vapor pressure of organic HAP ≥ 5.2 kilopascals	reduce emissions of organic HAP by 98 weight-percent, or reduce TOC to a concentration of 20 parts per million by volume, whichever is less stringent, by venting emissions through a closed vent system to a control device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(a) of this part
		or
a storage vessel with: 8 cubic meters ≤ capacity	the maximum true vapor pressure of organic HAP ≥ 76.6 kilopascals	route emissions to a fuel gas system or process meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(a) of this part.
3. a process vent from continuous unit operations (nonhalogenated)	the vent stream has a mass emission rate of halogen atoms contained in organic compounds < 0.45 kilograms per hour [a], and a TRE [b] ≤ 2.7	reduce emissions of organic HAP by using a flare, or reduce emissions of organic HAP by 98 weight-percent, or reduce TOC to a concentration of 20 parts per million by volume, whichever is less stringent, by venting emissions through a closed vent system to any combination of control devices meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part; or achieve and maintain a TRE index value greater than 2.7.
a process vent from continuous unit operations (halogenated)	the vent stream has a mass emission rate of halogen atoms contained in organic compounds ≥ 0.45 kilograms per hour [a], and a TRE [b] 2.7	reduce emissions of organic HAP as specified for nonhalogenated process vents from continuous unit operations (other than by using a flare) and by venting emissions through a closed vent system to a halogen reduction device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part that reduces hydrogen halides and halogens by 99 weight-percent or to less than 0.45 kilograms per hour, whichever is less stringent; or reduce the process vent halogen atom mass emission rate to less than 0.45 kilograms per hour by venting emissions through a closed vent system to a halogen reduction device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part and then complying with the requirements specified for process vents from continuous unit operations (nonhalogenated).
4. a process vent from continuous unit operations	2.7 ≤ TRE [b] ≤ 4.0	monitor and keep records of equipment operating parameters specified to be monitored under 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), §§ 63.990(c)(absorber monitoring), 63.991(c) (condenser monitoring), 63.992(c) (carbon adsorber monitoring), or 63.995(c) (other noncombustion systems used as a control device monitoring) of this part.
5. a process vent from batch unit operations (nonhalogenated) [c]	annual emissions of organic HAP ≥ 11,800 kilogram HAP per year [d], and the calculated cutoff flow rate ≥ the annual average flow rate of the streams [e], and aggregated mass emission rate of halogen atoms contained in organic compounds < 3,750 kilograms per year [e]	reduce emissions of organic HAP from the process vent from batch unit operations by using a flare meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part, or reduce emissions of organic HAP by an aggregated 90 weight-percent or to a TOC concentration of 20 parts per million by volume per batch cycle, whichever is less stringent, by venting emissions through a closed vent system to any combination of control devices meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part.

TABLE 5 TO § 63.1103—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE A POLYCARBONATES PRODUCTION EXISTING AFFECTED SOURCE?—Continued

If you own or operate . . .	And if . . .	Then you must . . .
6. a process vent from batch unit operations (halogenated) [c]	annual emissions of organic HAP ≥ 11,800 kilogram HAP per year [d] and the calculated cutoff flow rate ≥ the annual average flow rate of the streams [e] and aggregated mass emissions rate of halogen atoms contained in organic compounds of ≥ 3,750 kilograms per year [f]	reduce emissions of HAP as specified for nonhalogenated process vent from batch unit operations (other than by using a flare) and by venting emissions through a closed vent system to a halogen reduction device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part that reduces hydrogen halides and halogens by 99 weight percent, or reduce the process vent halogen atom mass emission rate to less than 3,750 kilograms per year, whichever is less stringent, by venting emissions through a closed vent system to a halogen reduction device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part and then complying with the requirements for process vents from batch unit operations (nonhalogenated).
7. a wastewater treatment system unit	the wastewater stream has an annual average HAP concentration ≥ 10,000 part per million by weight [g] or the wastewater stream has an annual average HAP concentration ≥ 1,000 parts per million by weight [g], and an annual average flowrate ≥ 10 liters per minute [h]	comply with the requirements of 40 CFR subparts OO, VV, QQ, and RR (national emission standards for organic wastewater treatment facilities) of this part.
8. equipment as defined under § 63.1101	the equipment contains or contacts ≥ 5 weight-percent HAP [i], and operates ≥ 300 hours per year	comply with the requirements of 40 CFR subpart TT (national emission standards for equipment leaks (control level 1)) or UU (national emission standards for equipment leaks (control level 2)) of this part.

[a] The mass emission rate of halogen atoms contained in organic compounds is determined according to the procedures specified in § 63.1104(i).

[b] The TRE is determined according to the procedures specified in § 63.1104(j). If a dryer is manifolded with such vents, and the vent is routed to a recovery, recapture, or combustion device, then the TRE index value for the vent must be calculated based on the properties of the vent stream (including the contributions of the dryer). If a dryer is manifolded with other vents and not routed to a recovery, recapture, or combustion device, then the TRE index value must be calculated excluding the contributions of the dryer. The TRE index value for the dryer must be done separately in this case.

[c] Process vents from batch unit operations that are manifolded with process vents from continuous unit operations are to be treated as a process vent from a continuous unit operation for purposes of applicability and control.

[d] The annual organic HAP emissions from process vents from batch unit operation is determined according to the procedures specified in § 63.1105(b).

[e] The determination of average flow rate and annual average flow rate is determined according to the procedures specified in § 63.1105(d).

[f] The determination of halogenated emissions from batch unit operations is determined according to the procedures specified in § 63.1105(c).

[g] The annual average wastewater organic HAP concentration is determined according to the procedures specified in § 63.1106(a) through (c).

[h] The annual wastewater average flowrate is determined according to procedures specified in § 63.1106(d).

[i] The weight-percent HAP is determined for equipment according to procedures specified in § 63.1107.

TABLE 6 TO § 63.1103.—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE A POLYCARBONATES PRODUCTION NEW AFFECTED SOURCE?

If you own or operate . . .	And if . . .	Then you must . . .
1. a storage vessel with: 8 cubic meters ≤ capacity < 151 cubic meters	the maximum true vapor pressure of organic HAP ≥ 2.1 kilopascals	reduce emissions of organic HAP by 95 weight-percent, or reduce TOC to a concentration of 20 parts per million by volume, whichever is less stringent, by venting emissions through a closed vent system to a control device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(a) of this part or route emissions to a fuel gas system meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(a) of this part or comply with the requirements of 40 CFR part 63 subpart WW (national emission standards for storage vessels (control level 2)) of this part.

TABLE 6 TO § 63.1103.—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE A POLYCARBONATES PRODUCTION NEW AFFECTED SOURCE?—Continued

If you own or operate . . .	And if . . .	Then you must . . .
2. a storage vessel with: 151 cubic meters < capacity	the vapor pressure of stored material is ≥ 5.2 kilopascals	reduce emissions of organic HAP by 98 weight-percent, or reduce TOC to a concentration of 20 parts per million by volume, whichever is less stringent, by venting emissions through a closed vent system to a control device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part or route emissions to a fuel gas system or process meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part.
a storage vessel with: 38 cubic meters ≤ capacity	the vapor pressure of stored material is ≥ 76.6 kilopascals	
3. a process vent from continuous unit operations (nonhalogenated)	the vent stream has a mass emission rate of halogen atoms contained in organic compounds < 0.45 kilograms per hour [a] and a TRE [b] ≤ 9.6	reduce emissions of organic HAP by using a flare, or reduce emissions of organic HAP by 98 weight-percent, or reduce TOC to a concentration of 20 parts per million by volume, whichever is less stringent, by venting emissions through a closed vent system to any combination of control devices meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part; or achieve and maintain a TRE index value greater than 9.6.
a process vent from continuous unit operations (halogenated)	the vent stream has a mass emission rate of halogen atoms contained in organic compounds ≥ 0.45 kilograms per hour [a] and a TRE [b] ≤ 9.6	reduce emissions of organic HAP as specified for nonhalogenated process vents from continuous unit operations (other than by using a flare) and by venting emissions through a closed vent system to a halogen reduction device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part that reduces hydrogen halides and halogens by 99 weight-percent or to less than 0.45 kilograms per hour, whichever is less stringent; or reduce the process vent halogen atom mass emission rate to less than 0.45 kilograms per hour by venting emissions through a closed vent system to a halogen reduction device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part and then complying with the requirements specified for process vents from continuous unit operations (nonhalogenated).
4. a process vent from batch unit operations (nonhalogenated) [c]	annual emissions of organic HAP ≥ 11,800 kilogram per year [d] and the calculated cutoff flow rate ≥ the annual average flow rate [e] of the streams, and aggregated mass emission rate of halogen atoms contained in organic compounds < 3,750 kilograms per year [f]	reduce emissions of organic HAP from the process vent from batch unit operations by using a flare meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part, or reduce emissions of organic HAP by an aggregated 90 weight-percent or to a TOC concentration of 20 parts per million by volume per batch cycle, whichever is less stringent, by venting emissions through a closed vent system to any combination of control devices meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part.

TABLE 6 TO § 63.1103.—WHAT ARE MY REQUIREMENTS IF I OWN OR OPERATE A POLYCARBONATES PRODUCTION NEW AFFECTED SOURCE?—Continued

If you own or operate . . .	And if . . .	Then you must . . .
5. process vent from batch unit operations (halogenated) [c]	annual emissions of organic HAP ≥ 11,800 kilogram HAP per year,[d] and the calculated cutoff flow rate ≥ the annual average flow rate of the streams,[e] and aggregated mass emissions of halogen atoms contained in organic compounds ≥ 3,750 kilograms per year [f]	reduce emissions of organic HAP as specified for nonhalogenated process vents from batch unit operations (other than by using a flare) and by venting emissions through a closed vent system to a halogen reduction device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part that reduces hydrogen halides and halogens by 99 weight percent, or reduce the process vent halogen atom mass emission rate to less than 3,750 kilograms per year, by venting emissions through a closed vent system to a halogen reduction device meeting the requirements of 40 CFR subpart SS (national emission standards for closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process), § 63.982(b) of this part and then complying with the requirements for process vents from batch unit operations (nonhalogenated).
7. a wastewater treatment unit	the wastewater stream has an annual average HAP concentration ≥ 10,000 parts per million by weight [g] at any flow rate or the wastewater stream has an annual average HAP concentration ≥ 1,000 parts per million by weight[g], and an annual average flowrate ≥ 10 liters per minute [h]	comply with the requirements of 40 CFR subparts OO, VV, QQ, and RR (national emission standards for organic wastewater treatment facilities) of this part.
8. equipment as defined under § 63.1101	the equipment contains or contacts ≥ 5 weight-percent HAP_i, and operates ≥ 300 hours per year	comply with the requirements of 40 CFR subpart TT (national emission standards for equipment leaks (control level 1)) or UU (national emission standards for equipment leaks (control level 2)) of this part.

[a] The mass emission rate of halogen atoms contained in organic compounds is determined according to the procedures specified in § 63.1104(i).

[b] The TRE is determined according to the procedures specified in § 63.1104(j). If a dryer is manifolded with such vents, and the vent is routed to a recovery, recapture, or combustion device, then the TRE index value for the vent must be calculated based on the properties of the vent stream (including the contributions of the dryer). If a dryer is manifolded with other vents and not routed to a recovery, recapture, or combustion device, then the TRE index value must be calculated excluding the contributions of the dryer. The TRE index value for the dryer must be done separately in this case.

[c] Process vents from batch unit operations that are manifolded with process vents from continuous unit operations are to be treated as a process vent from a continuous unit operation for purposes of applicability and control.

[d] The annual organic HAP emissions from process vents from batch unit operation is determined according to the procedures specified in § 63.1105(b).

[e] The determination of average flow rate and annual average flow rate is determined according to the procedures specified in § 63.1105(d).

[f] The determination of halogenated emissions from batch unit operations is determined according to the procedures specified in § 63.1105(c).

[g] The annual average wastewater organic HAP concentration is determined according to the procedures specified in § 63.1106(a) through (c).

[h] The annual wastewater average flowrate is determined according to procedures specified in § 63.1106(d).

§ 63.1104 Process vents from continuous unit operations: applicability determination procedures and methods.

(a) *General.* The provisions of this section provide calculation and measurement methods for parameters that are used to determine applicability of the requirements for process vents from continuous unit operations. The owner or operator of a process vent controlling emissions by venting emissions to a flare or by reducing emissions of organic HAP by a specified weight-percent or to a TOC concentration is not required to determine the TRE index value for the process vent. Section 63.1103 of this subpart directs the owner or operator to the emission point control and associated monitoring, recordkeeping and reporting requirements that apply.

(b) *Sampling sites.* For purposes of determining process vent volumetric flow rate, regulated organic HAP concentration, total organic HAP or TOC concentration, heating value, or TRE index value, the sampling site shall be located after the last recovery device (if any recovery devices are present) but prior to the inlet of any control device that is present, and prior to release to the atmosphere.

(1) *Sampling site selection method.* Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling site. No traverse site selection method is needed for process vents smaller than 0.10 meter (0.33 foot) in nominal inside diameter.

(2) *Sampling site when a halogen reduction device is used prior to a combustion device.* An owner or operator using a scrubber to reduce the process vent halogen atom mass emission rate to less than 0.45 kilograms per hour (0.99 pound per hour) prior to a combustion control device in compliance with § 63.1103 (as appropriate) shall determine the halogen atom mass emission rate prior to the combustor according to the procedures in paragraph (i) of this section.

(c) *Requirement applicability determination.* The TOC or HAP concentrations, process vent volumetric

flow rates, process vent heating values, process vent TOC or HAP emission rates, halogenated process vent determinations, process vent TRE index values, and engineering assessment process vent control applicability determination requirements are to be determined during maximum representative operating conditions for the process, except as provided in paragraph (d) of this section, or unless the Administrator specifies or approves alternate operating conditions. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of an applicability test.

(d) *Exceptions.* (1) The owner or operator shall determine process vent requirement applicability based on periods of peak emission episode(s) for the combined stream.

(2) The owner or operator must develop an emission profile for an applicable process vent, based on either process knowledge or test data collected, to demonstrate that control requirement applicability determination periods are representative of peak emission episodes for batch unit operations and maximum representative operating conditions for continuous unit operations. The emission profile must profile HAP loading rate versus time for all emission episodes contributing to the process vent stack for a period of time that is sufficient to include all continuous unit operations and batch cycles form batch unit operations 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 to develop an emission profile, provided the results are still representative of the current process vent stream conditions.

(e) *TOC or HAP concentration.* The TOC or HAP concentrations, used for TRE index value calculations in paragraph (j) of this section, shall be determined based on paragraph (e)(1), (e)(2) or (k) of this section, or any other method or data that have been validated according to the protocol in method 301 of appendix A of part 63. For concentrations needed for comparison with the appropriate control applicability concentrations specified in § 63.1103, TOC or HAP concentration shall be determined based on paragraph (e)(1), (e)(2), or (k) of this section or any other method or data that has been validated according to the protocol in method 301 of appendix A of part 63. The owner or operator shall record the TOC or HAP concentration as specified in paragraph.

(1) *Method 18.* The procedures specified in paragraph (e)(1)(i) and (e)(1)(ii) of this section shall be used to calculate parts per million by volume concentration using method 18 of 40 CFR part 60, appendix A:

(i) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the run.

(ii) The concentration of either TOC (minus methane and ethane) or regulated organic HAP emissions shall be calculated according to paragraph (e)(1)(ii)(A) or (e)(1)(ii)(B) of this section (as applicable).

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

$$C_{TOC} = \frac{\sum_{i=1}^{x}\left(\sum_{j=1}^{n} C_{ji}\right)}{x} \qquad \text{[Eq. 1]}$$

Where:

C_{TOC} = Concentration of TOC (minus methane and ethane), dry basis, parts per million by volume.

C_{ji} = Concentration of sample component j of the sample i, dry basis, parts per million by volume.

n = Number of components in the sample.

x = Number of samples in the sample run.

(B) The regulated organic HAP or total organic HAP concentration (C_{HAP}) shall be computed according to the equation in paragraph (e)(1)(ii)(A) of this section except that only the regulated or total organic HAP species shall be summed, as appropriate.

(2) *Method 25A.* The procedures specified in paragraphs (e)(2)(i) through (e)(2)(vi) of this section shall be used to calculate parts per million by volume concentration using Method 25A of 40 CFR part 60, appendix A:

(i) Method 25A of 40 CFR part 60, appendix A shall be used only if a single organic HAP compound greater than 50 percent of total organic HAP or TOC, by volume, in the process vent.

(ii) The process vent composition may be determined by either process knowledge, test data collected using an appropriate Environmental Protection Agency method or a method or data validated according to the protocol in method 301 of appendix A of part 63. Examples of information that could constitute process knowledge include calculations based on material balances, process stoichiometry, or previous test results provided the results are still relevant to the current process vent conditions.

(iii) The organic compound used as the calibration gas for Method 25A of 40 CFR part 60, appendix A shall be the single organic HAP compound present at greater than 50 percent of the total organic HAP or TOC by volume.

(iv) The span value for Method 25A of 40 CFR part 60, appendix A shall be equal to the appropriate control applicability concentration value specified in the applicable table(s) presented in § 63.1103 of this subpart.

(v) Use of Method 25A of 40 CFR part 60, appendix A is acceptable if the response from the high-level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed on the most sensitive scale.

(vi) The owner or operator shall demonstrate that the concentration of TOC including methane and ethane measured by Method 25A of 40 CFR part 60, appendix A is below one-half the appropriate control applicability concentration specified in the applicable table for a subject source category in § 63.1103 in order to qualify for a low HAP concentration exclusion.

(f) *Volumetric flow rate.* The process vent volumetric flow rate (Q_S), in standard cubic meters per minute at 20 °C, shall be determined as specified in paragraphs (f)(1) or (f)(2) of this section shall be recorded as specified in § 63.1109.

(1) Use Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate. If the process vent tested passes through a final steam jet ejector and is not condensed, the stream volumetric flow shall be corrected to 2.3 percent moisture; or

(2) The engineering assessment procedures in paragraph (k) of this section can be used for determining volumetric flow rates.

(g) *Heating value.* The net heating value shall be determined as specified in paragraphs (g)(1) and (g)(2) of this section, or by using the engineering assessment procedures in paragraph (k) of this section.

(1) The net heating value of the process vent shall be calculated using the following equation:

$$H_T = K_1\left(\sum_{j=1}^{n} D_j H_j\right) \qquad \text{[Eq. 2]}$$

Where:

H_T = Net heating value of the sample, megaJoule per standard cubic

meter, where the net enthalpy per mole of process vent is based on combustion at 25 °C and 760 millimeters of mercury, but the standard temperature for determining the volume corresponding to 1 mole is 20 °C, as in the definition of Q_s (process vent volumetric flow rate).

K_1 = Constant, 1.740 x 10^{-7} (parts per million)$^{-1}$(gram-mole per standard cubic meter) (megaJoule per kilocalorie), where standard temperature for (gram-mole per standard cubic meter) is 20 °C.

D_j = Concentration on a wet basis of compound j in parts per million, as measured by procedures indicated in paragraph (e)(2) of this section. For process vents that pass through a final stream jet and are not condensed, the moisture is assumed to be 2.3 percent by volume.

H_j = Net heat of combustion of compound j, kilocalorie per gram-mole, based on combustion at 25 °C and 760 millimeters mercury. The heats of combustion of process vent components shall be determined using American Society for Testing and Materials D2382–76 if published values are not available or cannot be calculated.

(2) The molar composition of the process vent (D_j) shall be determined using the methods specified in paragraphs (g)(2)(i) through (g)(2)(iii) of this section:

(i) Method 18 of 40 CFR part 60, appendix A to measure the concentration of each organic compound.

(ii) American Society for Testing and Materials D1946–77 to measure the concentration of carbon monoxide and hydrogen.

(iii) Method 4 of 40 CFR part 60, appendix A to measure the moisture content of the stack gas.

(h) *TOC or HAP emission rate.* The emission rate of TOC (minus methane and ethane) (E_{TOC}) and the emission rate of the regulated organic HAP or total organic HAP (E_{HAP}) in the process vent, as required by the TRE index value equation specified in paragraph (j) of this section, shall be calculated using the following equation:

$$E = K_2\left(\sum_{j=1}^{n} C_j M_j\right) Q_S \qquad \text{[Eq. 3]}$$

Where:

E=Emission rate of TOC (minus methane and ethane) (E_{TOC}) or emission rate of the regulated organic HAP or total organic HAP (E_{HAP}) in the sample, kilograms per hour.

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

n=Number of components in the sample.

C_j=Concentration on a dry basis of organic compound j in parts per million as measured by method 18 of 40 CFR part 60, appendix A as indicated in paragraph (e) of this section. If the TOC emission rate is being calculated, C_j includes all organic compounds measured minus methane and ethane; if the total organic HAP emission rate is being calculated, only organic HAP compounds are included; if the regulated organic HAP emission rate is being calculated, only regulated organic HAP compounds are included.

M_j=Molecular weight of organic compound j, gram/gram-mole.

Q_s=Process vent flow rate, dry standard cubic meter per minute, at a temperature of 20 °C.

(i) *Halogenated process vent determination.* In order to determine whether a process vent is halogenated, the mass emission rate of halogen atoms contained in organic compounds shall be calculated according to the procedures specified in paragraphs (i)(1) and (i)(2) of this section. A process vent is considered halogenated if the mass emission rate of halogen atoms contained in the organic compounds is equal to or greater than 0.45 kilograms per hour.

(1) The process vent concentration of each organic compound containing halogen atoms (parts per million by volume, by compound) shall be determined based on one of the procedures specified in paragraphs (i)(1)(i) through (i)(1)(iv) of this section:

(i) Process knowledge that no halogen or hydrogen halides are present in the process vent, or

(ii) Applicable engineering assessment as discussed in paragraph (k) of this section, or

(iii) Concentration of organic compounds containing halogens measured by method 18 of 40 CFR part 60, appendix A, or

(iv) Any other method or data that have been validated according to the applicable procedures in method 301 of appendix A of this part.

(2) The following equation shall be used to calculate the mass emission rate of halogen atoms:

$$E = K_2 Q\left(\sum_{j=1}^{n}\sum_{i=1}^{m} C_j * L_{j,i} * M_{j,i}\right) \qquad \text{[Eq. 4]}$$

Where:

E=mass of halogen atoms, dry basis, kilogram per hour,

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

Q=Flow rate of gas stream, dry standard cubic meters per minute, determined according to paragraph (f)(1) or (f)(2) of this section.

n=Number of halogenated compounds j in the gas stream.

j=Halogenated compound j in the gas stream.

m=Number of different halogens i in each compound j of the gas stream.

i=Halogen atom i in compound j of the gas stream.

C_j=Concentration of halogenated compound j in the gas stream, dry basis, parts per million by volume.

L_{ji}=Number of atoms of halogen i in compound j of the gas stream.

M_{ji}=Molecular weight of halogen atom i in compound j of the gas stream, kilogram per kilogram-mole.

(j) *TRE index value.* The owner or operator shall calculate the TRE index value of the process vent using the equations and procedures in this paragraph, as applicable, and shall maintain records specified in paragraph or, as applicable.

(1) *TRE index value equation.* The equation for calculating the TRE index value is as follows:

$$TRE = 1/E_{HAP} * \left[A + B(Q_s) + C(H_T) + D(E_{TO}C)\right] \qquad \text{[Eq. 5]}$$

Where:

TRE = TRE index value.

A, B, C, D=Parameters presented in table 8 of this subpart. The parameters in the table include the following variables:

E_{HAP}=Emission rate of total organic HAP, kilograms per hour, as calculated according to paragraph (h) or (k) of this section.

Q_s=process vent flow rate, standard cubic meters per minute, at a standard temperature of 20 °C, as calculated according to paragraph (f) or (k) of this section.

H_T=process vent net heating value, megaJoules per standard cubic meter, as calculated according to paragraph (g) or (k) of this section.

E_{TOC}=Emission rate of TOC (minus methane and ethane), kilograms per hour, as calculated according to paragraph (h) or (k) of this section.

TABLE 8.—TRE INDEX VALUE PARAMETERS [a]

Existing or new?	Halogenated vent stream?	A	B	C	D
Existing	Yes	3.995	0.05200	−0.001769	0.0009700
	No	1.935	0.3660	−0.007687	−0.000733
		1.492	0.06267	0.03177	−0.001159
		2.519	0.01183	0.01300	0.04790
New	Yes	1.0895	0.01417	−0.000482	0.0002645
	No	0.5276	0.0998	−0.002096	−0.0002000
		0.4068	0.0171	0.008664	−0.000316
		0.6868	0.00321	0.003546	0.01306

[a] Use according to procedures outlined in this section.
AAAAMJ/scm=Mega Joules per standard cubic meter
AAAAscm/min = Standard cubic meters per minute

(2) *Nonhalogenated process vents.* The owner or operator of a nonhalogenated process vent shall calculate the TRE index value by using the equation and appropriate nonhalogenated process vent parameters in table 8 of this section for process vents at existing and new sources. The lowest TRE index value is to be selected.

(3) *Halogenated process vents.* The owner or operator of a halogenated process vent stream, as determined according to procedures specified in paragraph (i) or (k) of this section, shall calculate the TRE index value using the appropriate halogenated process vent parameters in table 8 of this section for existing and new sources.

(k) *Engineering assessment.* For purposes of TRE index value determination, engineering assessment may be used to determine process vent flow rate, net heating value, TOC emission rate, and total organic HAP emission rate for the representative operating condition expected to yield the lowest TRE index value. Engineering assessments shall meet the requirements of paragraphs (k)(1) through (k)(4) of this section. If process vent flow rate or process vent organic HAP or TOC concentration is being determined for comparison with the 0.011 scmm flow rate or the applicable concentration value presented in the tables in § 63.1103, engineering assessment may be used to determine the flow rate or concentration for the representative operating condition expected to yield the highest flow rate or concentration.

(1) If the TRE index value calculated using such engineering assessment and the TRE index value equation in paragraph (j) of this section is greater than 4.0, then the owner or operator is not required to perform the measurements specified in paragraphs (e) through (i) of this section.

(2) If the TRE index value calculated using such engineering assessment and the TRE index value equation in paragraph (j) of this section is less than or equal to 4.0, then the owner or operator is required either to perform the measurements specified in paragraphs (e) through (i) of this section for control applicability determination or comply with the requirements (or standards) specified in the tables presented in § 63.1103 (as applicable).

(3) Engineering assessment includes, but is not limited to, the examples specified in paragraphs (k)(3)(i) through (k)(3)(iv):

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

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

(iii) Maximum flow rate, TOC emission rate, organic HAP emission rate, organic HAP or TOC concentration, or net heating value limit specified or implied within a permit limit applicable to the process vent.

(iv) 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 those specified in paragraphs (k)(3)(iv)(A) through (k)(3)(iv)(D) of this section:

(A) Use of material balances based on process stoichiometry to estimate maximum TOC or organic HAP concentrations,

(B) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities,

(C) Estimation of TOC or organic HAP concentrations based on saturation conditions, and

(D) Estimation of maximum expected net heating value based on the stream concentration of each organic compound or, alternatively, as if all TOC in the stream were the compound with the highest heating value.

(4) All data, assumptions, and procedures used in the engineering assessment shall be documented. The owner or operator shall maintain the records specified in paragraphs (l)(1) through (l)(4) of this section, as applicable.

(l) *Applicability determination recordkeeping requirements.*—(1) TRE index value records. The owner or operator shall maintain records of measurements, engineering assessments, and calculations performed to determine the TRE index value of the process vent according to the procedures of paragraph (j) of this section, including those records associated with halogen vent stream determination. Documentation of engineering assessments shall include all data, assumptions, and procedures used for the engineering assessments, as specified in paragraph (k) of this section. As specified in paragraph (m) of this section, the owner or operator shall include this information in the Initial Compliance Status Report.

(2) *Flow rate records.* The owner or operator shall record the flow rate as measured using the sampling site and flow rate determination procedures (if applicable) specified in paragraphs (b) and (f) of this section or determined through engineering assessment as specified in paragraph (k) of this section. As specified in paragraph (m) of this section, the owner or operator shall

include this information in the Initial Compliance Status Report.

(3) *Concentration records.* The owner or operator shall record the regulated organic HAP or TOC concentration (if applicable) as measured using the sampling site and regulated organic HAP or TOC concentration determination procedures specified in paragraphs (e)(1) and (e)(2) of this section, or determined through engineering assessment as specified in paragraph (k) of this section. As specified in paragraph (m) of this section, the owner or operator shall include this information in the Initial Compliance Status Report.

(4) *Process change records.* The owner or operator shall keep up-to-date, readily accessible records of any process changes that change the control applicability for a process vent. Records are to include any recalculation or measurement of the flow rate, regulated organic HAP or TOC concentration, and TRE index value.

(m) *Applicability determination reporting requirements.*—(1) Initial compliance status report. The owner or operator shall submit, as part of the Initial Compliance Status Report specified in § 63.1110, the information recorded in paragraph (m)(2) or (m)(3) of this section.

(2) *Process change.* (i) Whenever a process vent becomes subject to control requirements under subpart SS of this part as a result of a process change, the owner or operator shall submit a report within 60 days after the performance test or applicability determination, whichever is sooner. The report may be submitted as part of the next Periodic Report. The report shall include the information specified in paragraphs (m)(2)(i)(A) through (m)(2)(i)(C) of this section.

(A) A description of the process change;

(B) The results of the recalculation of the flow rate, organic HAP or TOC concentration, and/or TRE index value required under paragraphs (e), (f), and (j), and recorded under paragraph (l); and

(C) A statement that the owner or operator will comply with the requirements specified in § 63.1103 by the schedules specified in that section for the affected source.

(ii) If a performance test is required as a result of a process change, the owner or operator shall specify that the performance test has become necessary due to a process change. This specification shall be made in the notification to the Administrator of the intent to conduct a performance test.

(iii) If a process change does not result in the need for additional requirements then the owner or operator shall include a statement documenting this in the next Periodic Report (as provided for in § 63.1110 of this subpart) after the process change was made.

(iv) *Parameter monitoring.* An owner or operator that maintains a TRE index value (if applicable) greater than the value specified in an applicable table presented in § 63.1103 of this subpart without using a recovery device shall report a description of the parameter(s) to be monitored to ensure pollution prevention measure is operated in conformance with its design or process and achieves and maintains the TRE index value above the specified level, and an explanation of the criteria used to select parameter(s). An owner or operator that maintains a TRE index value (if applicable) greater than the value specified in an applicable table presented in § 63.1104 of this subpart by using a recovery device shall comply with the requirements of § 63.993(c) of subpart SS. A pollution prevention measure is any practice that meets the criteria of paragraphs (m)(2)(iv)(A) and (m)(2)(iv)(B) of this section.

(A) A pollution prevention measure is any practice that results in a lesser quantity of regulated HAP emissions per unit of product released to the atmosphere prior to out-of-process recycling, treatment, or control of emissions, while the same product is produced.

(B) Pollution prevention measures may include: substitution of feedstocks that reduce regulated HAP emissions; alterations to the production process to reduce the volume of materials released to the environment; equipment modifications; housekeeping measures; and in-process recycling that returns waste materials directly to production as raw materials. Production cutbacks do not qualify as pollution prevention.

§ 63.1105 Process vents from batch unit operations: applicability determination procedures and methods.

(a) *General.* The provisions of this section provide calculation and measurement methods for parameters that are used to determine applicability of the requirements for process vents for batch unit operations. Section 63.1103 directs the owner or operator to the specific control requirements and associated monitoring, recordkeeping and reporting requirements that apply.

(b) *Annual organic HAP emissions from process vents from batch unit operations.* An owner or operator shall calculate the annual regulated HAP emissions from all process vents from batch unit operations for a process unit by following the procedures specified in paragraphs (b)(1) and (b)(2) of this section.

(1) *Batch cycle emissions.* The uncontrolled regulated organic HAP emissions from an individual batch cycle for each process vent from a batch unit operation shall be determined using the procedures in § 63.488 (b)(1) through (b)(7) of subpart U.

(2) *Determination of annual emissions.* The annual regulated organic HAP emissions from each process vent from a batch unit operation shall be determined using the procedures in § 63.448(b)(8) of subpart U. The owner or operator shall determine, for each applicable production process unit, the sum of annual regulated HAP emissions from all process vents from batch unit by summing the annual regulated organic HAP emissions from all individual process vents from batch unit operations in an applicable production process unit to obtain the total annual regulated organic HAP emissions from the process vents from batch unit operations.

(c) *Halogenated emissions from batch unit operations.* In order to determine whether a batch process vent or an aggregate batch vent stream is halogenated, the annual mass emission rate of halogen atoms contained in organic compounds shall be calculated using the procedures specified in paragraphs (c)(1) through (c)(3) of this section.

(1) The concentration of each organic compound containing halogen atoms (parts per million by volume, by compound) for each batch emission episode shall be determined based on one of the procedures specified in paragraphs (c)(1)(i) through (c)(1)(iv) of this section:

(i) Process knowledge that no halogens or hydrogen halides are present in the process may be used to demonstrate that a batch emission episode is nonhalogenated. Halogens or hydrogen halides that are unintentionally introduced into the process shall not be considered in making a finding that a batch emission episode is nonhalogenated.

(ii) Engineering assessment as discussed in § 63.1104(k).

(iii) Concentration of organic compounds containing halogens and hydrogen halides as measured by Method 26 or 26A of 40 CFR part 60, appendix A.

(iv) Any other method or data that has been validated according to the applicable procedures in Method 301, 40 CFR part 63, appendix A.

(2) The mass of halogen atoms for a batch process vent shall be calculated using Equation 6.

$$E_{halogen} = K\left[\sum_{j=1}^{n}\sum_{i=1}^{m}\left(C_{avgj}\right)\left(L_{j,i}\right)\left(M_{j,i}\right)\right]AFR \qquad [Eq. 6]$$

Where:

$E_{halogen}$ = Mass of halogen atoms, dry basis, kilograms per year.

K = Constant, 0.022 (parts per million by volume)$^{-1}$ (kilogram-mole per scm) (minutes per year), where standard temperature is 20°C.

AFR = Annual average batch vent flow rate of the batch process vent, determined according to paragraph (d) of this section, scmm.

$M_{j,i}$ = Molecular weight of halogen atom i in compound j, kilogram per kilogram-mole.

$L_{j,i}$ = Number of atoms of halogen i in compound j.

n = Number of halogenated compounds j in the batch process vent.

m = Number of different halogens i in each compound j of the batch process vent.

C_{avgj} = Annual average batch vent concentration of halogenated compound j in the batch process vent, as determined by using Equation 7, dry basis, parts per million by volume.

$$C_{avgj} = \frac{\sum_{i=1}^{n}\left(DUR_i\right)\left(C_i\right)}{\sum_{i=1}^{n}\left(DUR_i\right)} \qquad [Eq. 7]$$

Where:

DUR_i = Duration of type i batch emission episodes annually, hours per year.

C_i = Average batch vent concentration of halogenated compound j in type i batch emission episode, parts per million by volume.

n = Number of types of batch emission episodes venting from the batch process vent.

(3) The annual mass emissions of halogen atoms for an aggregate batch vent stream shall be the sum of the annual mass emissions of halogen atoms for all batch process vents included in the aggregate batch vent stream.

(d) *Determination of average flow rate and annual average flow rate.* The owner or operator shall determine, for each applicable production process unit, the total annual average flow rate for all process vents from batch unit operations in accordance with (d)(1) and (d)(2) of this section.

(1) The annual average flow rate for each process vent from a batch unit operation shall be determined using the procedures in § 63.488(e) of subpart U.

(2) The owner or operator shall sum the annual average flow rates from the individual process vents from batch unit operations in an applicable production process unit, determined in accordance with paragraph (d)(1) of this section, to obtain the total annual average flow rate for all process vents from batch unit operations for the applicable production process unit.

(e) *Determination of cutoff flow rate.* For each applicable production process unit at an affected source, the owner or operator shall calculate the cutoff flow rate using Equation 8.

$$CFR = (0.00437)(AE) - 51.6 \qquad [Eq. 8]$$

Where:

CFR = Cutoff flow rate, standard cubic meters per minute.

AE = Annual TOC or regulated organic HAP emissions from all process vents from batch unit operations in an applicable process unit, as determined in paragraph (b)(2) of this section, kilograms per year.

§ 63.1106 Wastewater treatment system units: applicability determination procedures and methods.

(a) *Knowledge of the wastewater.* The owner or operator shall provide sufficient information to document the total organic HAP average concentration for regulated organic HAP. Examples of information that could constitute knowledge include material balances, records of chemical purchases, process stoichiometry, or previous test results provided the results are still representative of current operating practices at the process unit(s). If test data are used, then the owner or operator shall provide documentation describing the testing protocol and the means by which sampling variability and analytical variability were accounted for in the determination of the total organic HAP average concentration of HAP. The owner or operator shall document how process knowledge is used to determine the total organic HAP average concentration of regulated organic HAP if it is determined that the wastewater stream is not subject to emission control requirements under this subpart due to regulated organic HAP concentration.

(b) *Bench-scale or pilot-scale test data.* The owner or operator shall provide sufficient information to demonstrate that the bench-scale or pilot-scale test concentration data are representative of the actual total organic HAP average concentration of regulated organic HAP. The owner or operator shall also provide documentation describing the testing protocol, and the means by which sampling variability and analytical variability were accounted for in the determination of total organic HAP average concentration or average organic HAP concentration of each individually speciated regulated organic HAP for the wastewater stream.

(c) *Total organic HAP average concentration or average organic HAP concentration.* Each wastewater stream shall be analyzed using one of the following test methods for determining the total organic HAP average concentration or average organic HAP concentration of each regulated organic HAP.

(1) Use procedures specified in Method 305 of 40 CFR part 63, appendix A.

(i) Equation 9 shall be used to calculate the organic HAP concentration of a regulated organic HAP under this subpart:

$$C_i = \left(C_C * \frac{MW}{24.055} * \frac{P_i}{760} * \frac{293}{T_i} * t * L * 10^3\right) / M_S \qquad [Eq. 9]$$

Where:

C_i = organic HAP concentration of the regulated organic HAP in the wastewater, parts per million by weight.

C_C = Concentration of the regulated organic HAP (i) in the gas stream, as measured by Method 305 of appendix A of this part, parts per million by volume on a dry basis.

M_S = Mass of sample, from Method 305 of appendix A of this part, milligrams.

MW = Molecular weight of the organic HAP (i), grams per gram-mole.

24.055 = Ideal gas molar volume at 293 °Kelvin and 760 millimeters of mercury, liters per gram-mole.

Pi = Barometric pressure at the time of sample analysis, millimeters mercury absolute.

760 = Reference or standard pressure, millimeters mercury absolute.

293 = Reference or standard temperature, °Kelvin.

T_i = Sample gas temperature at the time of sample analysis, °Kelvin.

t = Actual purge time, from Method 305 of appendix A of this part, minutes.

L = Actual purge rate, from Method 305 of appendix A of this part, liters per minute.

10^3 = Conversion factor, milligrams per gram.

(ii) Total organic HAP concentration (stream) can be determined by summing the organic HAP concentrations of all regulated organic HAP's in the wastewater as illustrated by Equation 10.

$$C_{stream} = \sum_{i=1}^{n} C_i \qquad \text{[Eq. 10]}$$

Where:

C_{stream} = Total organic HAP concentration of wastewater stream.

i = Number of organic HAP's in the wastewater stream.

C_i = organic HAP concentration of individual organic HAP (i) calculated according to the procedures in paragraph (c)(1)(i) of this section.

(iii) The calculations in paragraph (c)(1)(i), and where applicable, (c)(1)(ii) of this section shall be performed for a minimum of three samples from each wastewater stream which are representative of normal flow and concentration conditions. Wastewater samples shall be collected using the sampling procedures specified in Method 25D of 40 CFR part 60, appendix A. Where feasible, samples shall be taken from an enclosed pipe prior to the wastewater being exposed to the atmosphere. When sampling from an enclosed pipe is not feasible, a minimum of three representative samples shall be collected in a manner to minimize exposure of the sample to the atmosphere and loss of organic HAP prior to sampling.

(iv) If the wastewater stream has a steady flow rate throughout the year, the total organic HAP average concentration for regulated organic HAP under this subpart of the wastewater stream shall be calculated by averaging the values calculated in paragraph (c)(1)(ii) for the individual samples as illustrated by Equation 11.

$$C_{stream,avg} = \frac{\sum_{j=1}^{m} C_{stream,j}}{j} \qquad \text{[Eq. 11]}$$

Where:

$C_{stream,\ avg}$ = total organic HAP average concentration for regulated organic HAP.

$C_{stream,\ j}$=total organic HAP concentration of wastewater stream as measured in sample (j), calculated according to the procedures in paragraph (c)(1)(ii) of this section.

(v) The average organic HAP concentration for each regulated organic HAP shall be calculated by averaging the values calculated in paragraph (c)(1)(i) of this section for the individual samples as illustrated by Equation 12.

$$C_{i,avg} = \frac{\sum_{j=1}^{m} C_{i,j}}{j} \qquad \text{[Eq. 12]}$$

Where:

$C_{i,\ avg}$=average organic HAP concentration for each regulated organic HAP under this subpart

j=number of samples

$C_{i,\ j}$=organic HAP concentration of an individual organic HAP (i) as measured in sample (j).

(d) *Annual average wastewater flow rate.* An owner or operator shall determine the annual average wastewater flow rate either at the point of generation for each wastewater stream, as specified in paragraph (d)(1) of this section, or downstream of the point(s) of generation for a single wastewater stream or a mixture of wastewater streams as specified in paragraph (d)(2) of this section.

(1) An owner or operator who elects to determine the annual average wastewater flow rate at the point of generation shall comply with paragraph (d)(3), (d)(4), or (d)(5) of this section.

(2) An owner or operator who elects to determine the annual average wastewater flow rate downstream of the point of generation shall comply with paragraph (d)(3), (d)(4), or (d)(5) of this section and with paragraph (d)(6) of this section.

(3) Use the maximum annual average production capacity of the process unit, knowledge of the process, and mass balance information to either: estimate directly the annual average wastewater flow rate; or estimate the total annual wastewater volume and then divide total volume by 525,600 minutes in a year. If knowledge of the process is used to determine the annual average flow rate for a wastewater stream and it is determined that the wastewater stream is not subject to control requirements, the owner or operator shall document how process knowledge is used to determine annual average flow rate.

(4) Select the highest annual average flow rate of wastewater from historical records representing the most recent 5 years of operation or, if the process unit has been in service for less than 5 years but at least 1 year, from historical records representing the total operating life of the process unit.

(5) Measure the flow rate of the wastewater for the point of generation during conditions that are

representative of average wastewater generation rates.

(6) When the average wastewater flow rate is determined downstream of the point of generation at a location where two or more wastewater streams have been mixed, or one or more wastewater streams have been treated or organic HAP losses to the atmosphere have occurred, the owner or operator shall make corrections for such changes in average wastewater flow rate when calculating to represent the average wastewater flow rate at the point of generation.

§ 63.1107 Equipment leaks: applicability determination procedures and methods.

(a) Each piece of equipment within a process unit that can reasonably be expected to contain equipment in organic HAP service is presumed to be in organic HAP service unless an owner or operator demonstrates that the piece of equipment is not in organic HAP service. For a piece of equipment to be considered not in organic HAP service, it must be determined that the percent organic HAP content can be reasonably expected not to exceed the percent by weight control applicability criteria specified in § 63.1103 for an affected source on an annual average basis. For purposes of determining the percent organic HAP content of the process fluid that is contained in or contacts equipment, Method 18 of 40 CFR part 60, appendix A shall be used.

(b) An owner or operator may use good engineering judgment rather than the procedures in paragraph (a) of this section to determine that the percent organic HAP content does not exceed the percent by weight control applicability criteria specified in § 63.1103 for an affected source. When an owner or operator and the Administrator do not agree on whether a piece of equipment is not in organic HAP service, however, the procedures in paragraph (a) of this section shall be used to resolve the disagreement.

(c) If an owner or operator determines that a piece of equipment is in organic HAP service, the determination can be revised after following the procedures in paragraph (a) of this section, or by documenting that a change in the process or raw materials no longer causes the equipment to be in organic HAP service.

(d) Samples used in determining the percent organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment.

§ 63.1108 Compliance with standards and operation and maintenance requirements.

(a) *Requirements.* (1) Except as provided in paragraph (a)(2) of this section, the standards and established parameter ranges of this part shall apply at all times except during periods of startup, shutdown, malfunction, or non-operation of the affected source (or specific portion thereof) resulting in cessation of the emissions to which this subpart applies. However, if a start-up, shutdown, malfunction or period of non-operation of one portion of an affected source does not affect the ability of a particular emission point to comply with the specific provisions to which it is subject, then that emission point shall still be required to comply with the applicable provisions of this subpart and any of the subparts that are referenced by this subpart during startup, shutdown, malfunction, or period of non-operation.

(2) If equipment leak requirements are referenced by this subpart for a subject source category, such requirements shall apply at all times except during periods of startup, shutdown, or malfunction, process unit shutdown (as defined in § 63.1101), or nonoperation of the affected source (or specific portion thereof) in which the lines are drained and depressurized resulting in cessation of the emissions to which the equipment leak requirements apply.

(3) For batch unit operations, shutdown does not include the normal periods between batch cycles; and start-up does not include the recharging of batch unit operations, or the transitional conditions due to changes in product.

(4) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with requirements of this subpart and any of the subparts that are referenced by this subpart during periods of startup, shutdown, or malfunction when emissions are being routed to such items of equipment if the shutdown would contravene requirements of this subpart to such items of equipment. The owner or operator shall not shut down CPMS during times when emissions are being routed to the equipment that they are monitoring. This paragraph does not apply if the item of equipment is malfunctioning. This paragraph does not apply if the owner or operator shuts down the compliance equipment (other than monitoring systems) to avoid damage due to contemporaneous startup, shutdown, or malfunction of the affected source or portion thereof. If the owner or operator has reason to believe that monitoring equipment would be damaged due to a contemporaneous start-up, shutdown, or malfunction of the affected source or portion thereof, the owner or operator shall provide documentation supporting such a claim. Once approved by the Administrator, the provision for ceasing to collect, during a startup, shutdown, or malfunction, monitoring data that would otherwise be required by the provisions of this subpart must be incorporated into the start-up, shutdown, malfunction plan for that affected source.

(5) During startups, shutdowns, and malfunctions when the standards of this subpart and the subparts referenced by this subpart do not apply pursuant to paragraphs (a)(1) through (a)(4) of this section, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions. For purposes of this paragraph, the term ''excess emissions'' means emissions in excess of those that would have occurred if there were no start-up, shutdown, or malfunction and the owner or operator complied with the relevant provisions of this subpart and the subparts referenced by this subpart. The measures to be taken shall be identified in the start-up, shut down, and malfunction plan (if applicable), and may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the affected source. Back-up control devices are not required, but may be used if available.

(6) Malfunctions shall be corrected as soon as practical after their occurrence and/or in accordance with the source's startup, shutdown, and malfunction plan developed as specified under § 63.1111.

(7) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable, independent of emissions limitations or other requirements in relevant standards.

(b) *Compliance determination procedures.*—(1) *Parameter monitoring: compliance with operating conditions.* Compliance with the required operating conditions for the monitored control devices or recovery devices may be determined by, but is not limited to, the parameter monitoring data for emission points that are required to perform continuous monitoring. For each excursion except for excused excursions, and as provided for in paragraph (b)(4) of this section the owner or operator shall be deemed to have failed to have applied the control in a manner that achieves the required operating conditions.

(2) *Parameter monitoring: excursions.* An excursion is not a violation and in cases where continuous monitoring is required the excursion does not count toward the number of excused excursions, if the conditions of paragraphs (b)(2)(i) or (b)(2)(ii) of this section are met. Nothing in this paragraph shall be construed to allow or excuse a monitoring parameter excursion caused by any activity that violates other applicable provisions of this subpart or a subpart referenced by this subpart.

(i) During periods of startup, shutdown, or malfunction [and the source is operated during such periods in accordance with the source's startup, shutdown, and malfunction plan as required by § 63.1111], a monitored parameter is outside its established range or monitoring data cannot be collected, or

(ii) During periods of nonoperation of the affected source or portion thereof (resulting in cessation of the emissions to which the monitoring applies.

(3) *Operation and maintenance procedures.* Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Administrator. This information may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan under § 63.1111), review of operation and maintenance records, and inspection of the affected source and alternatives approved as specified in § 63.1113.

(4) *Applicability and compliance determination.* Applicability and compliance with standards shall be governed, in part, but not limited to, the use of data, tests, and requirements according to paragraphs (b)(4)(i) through (b)(4)(iii). Compliance with design, equipment, work practice, and operating standards, including those for equipment leaks, shall be determined according to paragraph (a)(3) of this section.

(i) *Applicability determinations.* Unless otherwise specified in a relevant test method required to determine control applicability, each test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in this subpart. The arithmetic mean of the results of the three runs shall apply when determining applicability. Upon receiving approval from the Administrator, results of a test run may be replaced with results of an additional test run if it meets the criteria specified in paragraphs (a)(4)(i)(A) through (a)(4)(i)(D).

(A) A sample is accidentally lost after the testing team leaves the site; or

(B) Conditions occur in which one of the three runs must be discontinued because of forced shutdown; or

(C) Extreme meteorological conditions occur;

(D) Other circumstances occur that are beyond the owner or operator's control.

(ii) *Performance test.* The Administrator may determine compliance with emission limitations of this subpart based on, but is not limited to, the results of performance tests conducted according to the procedures specified in subpart SS of this part, unless otherwise specified in this subpart or a subpart referenced by this subpart.

(iii) *Operation and maintenance requirements.* The Administrator may determine compliance with the operation and maintenance standards of this subpart by, but is not limited to, evaluation of an owner or operator's conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in this subpart or a subpart referenced by this subpart.

(5) *Design, equipment, work practice, or operational standards.* The Administrator may determine compliance with design, equipment, work practice, or operational requirements by, but is not limited to, review of records, inspection of the affected source, and by evaluation of an owner or operator's conformance with operation and maintenance requirements as specified in this subpart, and in the subparts referenced by this subpart.

(c) *Finding of compliance.* The Administrator may make a finding concerning an affected source's compliance with an emission standard or operating and maintenance requirement as specified in, but not limited to, paragraphs (a) and (b) of this section, upon obtaining all of the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable) and any information available to the Administrator to determine whether proper operation and maintenance practices are being used. Standards in this subpart and methods of determining compliance are in metric units followed by the equivalents in English units. The Administrator will make findings of compliance with the numerical standards of this subpart using metric units.

(d) *Compliance time.* All terms that define a period of time for completion of required tasks (e.g., weekly, monthly, quarterly, annually), unless specified otherwise in the section or subsection that imposes the requirement, refer to the standard calendar periods.

(1) Notwithstanding time periods specified for completion of required tasks, time periods may be changed by mutual agreement between the owner or operator and the Administrator, as specified in § 63.1110(h). For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period.

(2) When the period specified for compliance is a standard calendar period, if the initial compliance date occurs after the beginning of the period, compliance shall be required according to the schedule specified in paragraph (d)(2)(i) or (d)(2)(ii) of this section, as appropriate.

(i) Compliance shall be required before the end of the standard calendar period within which the compliance deadline occurs, if there remain at least 3 days for tasks that must be performed weekly, at least 2 weeks for tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or

(ii) In all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance deadline occurs.

(3) In all instances where a provision requires completion of a task during each of multiple successive periods, an owner or operator may perform the required task at any time during the specified period, provided the task is conducted at a reasonable interval after completion of the task during the previous period.

§ 63.1109 Recordkeeping requirements.

(a) *Maintaining notifications, records, and reports.* Except as provided in paragraph (b) of this section, the owner or operator of each affected source subject to this subpart shall keep copies of notifications, reports and records required by this subpart and subparts referenced by this subpart for at least 5 years, unless otherwise specified under this subpart.

(b) *Copies of reports.* If the Administrator has waived the requirement for submittal of copies of reports, the owner or operator is not required to maintain copies of the waived reports. This paragraph applies only to reports and not the underlying

records that must be maintained as specified throughout this subpart and the subparts referenced by this subpart.

(c) *Availability of records.* All records required to be maintained by this subpart or a subpart referenced by this subpart shall be maintained in such a manner that they can be readily accessed and are suitable for inspection. The most recent 2 years of records shall be retained onsite or shall be accessible to an inspector while onsite. The records of the remaining 3 years, where required, may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, computer disk, magnetic tape, or microfiche.

(d) *Control applicability records.* Owners or operators shall maintain information developed and used to determine control applicability under § 63.1103 (e.g., combined total annual emissions of regulated organic HAP).

§ 63.1110 Reporting requirements.

(a) *Required reports.* Each owner or operator of an affected source subject to this subpart shall submit the reports listed in paragraphs (a)(1) through (a)(6) of this section, as applicable.

(1) A *Notification of initial startup* described in paragraph (b) of this section, as applicable.

(2) An *Initial notification* described in paragraph (c) of this section.

(3) An *Initial compliance status report* described in paragraph (d) of this section.

(4) *Periodic reports* described in paragraph (e) of this section.

(5) *Application for approval of construction or reconstruction* described in § 63.5(d) of subpart A of this part.

(6) *Startup, shutdown, and malfunction reports* described in § 63.1111 of this subpart.

(7) *Other reports.* Other reports shall be submitted as specified elsewhere in this subpart and subparts referenced by this subpart.

(b) *Notification of initial startup.*—(1) *Contents.* An owner or operator of an affected source for which a notice of initial startup has not been submitted under 40 CFR part 63, subpart A, § 63.5, shall send the Administrator written notification of the actual date of initial startup of an affected source.

(2) *Due date.* The notification of the actual date of initial startup shall be postmarked within 15 days after such date.

(c) *Initial notification.* Owners or operators of affected sources that are subject to this subpart shall notify the Administrator of the applicability of this subpart. The notice shall include the information specified in paragraphs (c)(1) through (c)(6) of this section, as applicable. An application for approval of construction or reconstruction required under § 63.5(d) of subpart A of this part may be used to fulfill the initial notification requirements.

(1) Identification of the storage vessels subject to this subpart.

(2) Identification of the process vents subject to this subpart.

(3) Identification of the transfer racks subject to this subpart.

(4) For equipment leaks, identification of the process units of affected facilities subject to this subpart.

(5) Identification of other equipment or emission points subject to this subpart.

(6) The proposed implementation schedule for affected sources identified in paragraphs (c)(1) through (c)(5) of this section, with the implementation schedule extending no longer than 3 years.

(7) *Process unit identification.* As an alternative to the requirements specified in paragraphs (c)(1) through (c)(5) of this section, process units can be identified instead of individual pieces of equipment. For this alternative, the kind of emission point in the process unit that will comply must also be identified.

(8) *Due date.* The initial notification shall be postmarked within 120 calendar days after the source becomes subject to this subpart.

(d) *Initial compliance status report.*—(1) *Contents.* The owner or operator shall submit an Initial Compliance Status Report for each affected source subject to this subpart containing the information specified in this subpart and the subparts referenced by this subpart. Alternatively, this information can be submitted as part of a title V permit application or amendment.

(2) *Due date.* The owner or operator shall submit the Initial Compliance Status Report for each affected source 240 days after the compliance date specified for the affected source under this subpart, or 60 days after the completion of the initial performance test or initial compliance determination, whichever is earlier. Initial Compliance Status Reports may be combined for multiple affected sources as long as the due date requirements for all sources covered in the combined report are met.

(e) *Periodic reports.* The owner or operator of a source subject to monitoring requirements of this subpart, or to other requirements of this subpart or subparts referenced by this subpart, where periodic reporting is specified, shall submit a Periodic Report.

(1) *Contents.* Periodic Reports shall include all information specified in this subpart and subparts referenced by this subpart.

(2) *Due date.* The Periodic Report shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The first report shall be submitted no later than the last day of the month that includes the date 8 months (6 months and 60 days) after the date the source became subject to this subpart.

(3) *Overlap with title V reports.* Information required by this subpart, which is submitted with a title V periodic report, need not also be included in a subsequent Periodic Report required by this subpart or subpart referenced by this subpart. The title V report shall be referenced in the Periodic Report required by this subpart.

(f) *General report content.* All reports and notifications submitted pursuant to this subpart, including reports that combine information required under this subpart and a subpart referenced by this subpart, shall include the information specified in paragraphs (f)(1) through (f)(4) of this section.

(1) The name, address and telephone number (fax number may also be provided) of the owner or operator.

(2) The name, address and telephone number of the person to whom inquiries should be addressed, if different than the owner or operator.

(3) The address (physical location) of the reporting facility.

(4) Identification of each affected source covered in the submission and identification of the subparts (this subpart and the subparts referenced in this subpart) that are applicable to that affected source. Summaries and groupings of this information are permitted.

(g) *Report and notification submission.*—(1) *Submission to the Environmental Protection Agency.* All reports and notifications required under this subpart shall be sent to the appropriate EPA Regional Office and to the delegated State authority. The EPA Regional Office may waive the requirement to submit a copy of any reports or notifications at its discretion.

(2) *Submission of copies.* If any State requires a notice that contains all the information required in a report or notification listed in this subpart, an owner or operator may send the appropriate EPA Regional Office a copy of the report or notification sent to the State to satisfy the requirements of this subpart for that report or notification.

(3) *Method of submission.* Wherever this subpart specifies ''postmark'' dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or

courier). Submittals shall be sent on or before the specified date.

(4) *Submission by electronic media.* If acceptable to both the Administrator and the owner or operator of an affected source, reports may be submitted on electronic media.

(h) *Adjustment to timing of submittals and review of required communications.*—(1) *Alignment with title V submission.* An owner or operator may submit Periodic Reports required by this subpart on the same schedule as the title V periodic report for the facility. The owner or operator using this option need not obtain prior approval, but must ensure that no reporting gaps occur. The owner or operator shall clearly identify the change in reporting schedule in the first report filed under this paragraph. The requirements of paragraph (e) of this section are not waived when implementing this change.

(2) *Establishment of a common schedule.* An owner or operator may arrange by mutual agreement (which may be a standing agreement) with the Administrator a common schedule on which periodic reports required by this subpart shall be submitted throughout the year as long as the reporting period is not extended. Procedures governing the implementation of this provision are specified in paragraphs (h)(3) through (h)(7) of this section.

(3) *Submission requirements.* Except as allowed by paragraph (h)(1) of this section, until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (h)(5) and (h)(6) of this section, the owner or operator of an affected source remains strictly subject to the required submittal deadlines specified in this subpart and subparts referenced by this subpart.

(4) *Request for adjustment of reporting schedule.* Except as allowed by paragraph (h)(1) of this section, an owner or operator shall request the adjustment provided for in paragraphs (h)(5) and (h)(6) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this subpart or subparts referenced by this subpart. A request for a change to the periodic reporting schedule need only be made once for every schedule change and not once for every semiannual report submitted.

(5) *Alteration of time periods or deadlines.* Notwithstanding time periods or postmark deadlines specified in this subpart for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practical before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(6) *Approval of request for adjustment.* If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(7) *Notification of delay.* If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

§ 63.1111 Startup, Shutdown, and Malfunction.

(a) *Startup, shutdown, and malfunction plan.*—(1) *Description and purpose of plan.* The owner or operator of an affected source shall develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the affected source during periods of startup, shutdown, and malfunction. This plan shall include a program of corrective action for malfunctioning process and air pollution control equipment used to comply with relevant standards under this subpart and subparts referenced by this subpart. The plan shall also address routine or otherwise predictable CPMS malfunctions. This plan shall be developed by the owner or operator by the affected source's compliance date under this subpart. The requirement to develop and implement this plan shall be incorporated into the source's title V permit. This requirement is optional for equipment that must comply with subparts TT or UU of this part. It is not optional for equipment equipped with a closed vent system and control device subject to subpart SS of this part. The purpose of the startup, shutdown, and malfunction plan is described in paragraphs (a)(1)(i) and (a)(1)(ii) of this section.

(i) To ensure that owners or operators are prepared to correct malfunctions as soon as practical after their occurrence, in order to minimize excess emissions of regulated HAP; and

(ii) To reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(2) *Operation of source.* During periods of startup, shutdown, and malfunction, the owner or operator of an affected source subject to this subpart shall operate and maintain such affected source (including associated air pollution control equipment and CPMS) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under paragraph (a)(1) of this section.

(3) *Use of additional procedures.* To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator of an affected source may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection when requested by the Administrator.

(4) *Revisions to the plan.* The Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator may require reasonable revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan is inadequate as specified in paragraphs (a)(4)(i) through (a)(4)(iv):

(i) Does not address a startup, shutdown, and malfunction event of the CPMS, the air pollution control equipment, or the affected source that has occurred; or

(ii) Fails to provide for the operation of the affected source (including associated air pollution control equipment and CPMS) during a startup, shutdown, and malfunction event in a manner consistent with good air pollution control practices for minimizing emissions to the extent practical; or

(iii) Does not provide adequate procedures for correcting malfunctioning process and air pollution control equipment as quickly as practicable; or

(iv) Does not provide adequate measures to prevent or minimize excess emissions to the extent practical.

(5) *Additional malfunction plan requirements.* If a startup, shutdown, and malfunction plan developed under paragraph (a)(1) of this section fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the owner or operator shall revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the affected source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control equipment or CPMS.

(b) *Startup, shutdown, and malfunction reporting requirements.*—(1) *Periodic startup, shutdown, and malfunction reporting requirements.* If actions taken by an owner or operator during a startup, shutdown, and malfunction of an affected source, or of a control device or monitoring system required for compliance (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's plan, then the owner or operator shall state such information in a startup, shutdown, and malfunction report. Reports shall only be required for a startup, shutdown, and malfunction during which excess emissions occur during the reporting period. A startup, shutdown, and malfunction report can be submitted as part of a Periodic Report required under § 63.1110, or on a more frequent basis if specified otherwise under this subpart or a subpart referenced by this subpart or as established otherwise by the permitting authority in the source's title V permit. The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate), unless the information is submitted with the Periodic Report. The report shall include the information specified in paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(i) The name, title, and signature of the owner or operator or other responsible official certifying its accuracy.

(ii) The number of startup, shutdown, and malfunction events and the total duration of all periods of startup, shutdown, and malfunction for the reporting period if the total duration amounts to either of the durations in paragraphs (b)(1)(ii)(A) or (b)(1)(ii)(B).

(A) Total duration of periods of nonoperation or malfunctioning of a CPMS equal to or greater than 5 percent of that CPMS operating time for the reporting period; or

(B) Total duration of periods of startup, shutdown, and malfunction for an affected source during which excess emissions occur equal to or greater than 1 percent of that affected source's operating time for the reporting period.

(2) *Immediate startup, shutdown, and malfunction reports.*

(i) Notwithstanding the allowance to reduce the frequency of reporting for startup, shutdown, and malfunction reports under paragraph (b)(1) of this section, any time an action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) during which excess emissions occur is not consistent with the procedures specified in the affected source's plan, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan, followed by a letter delivered or postmarked within 7 working days after the end of the event. The immediate report required under this paragraph shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan (if applicable), and whether any excess emissions or parameter monitoring exceedances are believed to have occurred. Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which an affected source is located, the owner or operator may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements under this paragraph are specified in § 63.1110(h).

§ 63.1112 Extension of compliance, and performance test, monitoring, recordkeeping and reporting waivers and alternatives.

(a) *Extension of compliance.*—(1) *Extension of compliance with emission standards.*

Until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph, the owner or operator of an affected source subject to the requirements of this section shall comply with all applicable requirements of this subpart.

(2) *Extension of compliance for early reductions and other reductions.*—(i) *Early reductions.* Pursuant to section 112(i)(5) of the Act, if the owner or operator of an existing source demonstrates that the source has achieved a reduction in emissions of hazardous air pollutants in accordance with the provisions of subpart D of this part, the Administrator (or the State with an approved permit program) will grant the owner or operator an extension of compliance with specific requirements of this part, as specified in subpart D of this part.

(ii) *Other reductions.* Pursuant to section 112(i)(6) of the Act, if the owner or operator of an existing source has installed best available control technology (BACT) (as defined in section 169(3) of the Act) or technology required to meet a lowest achievable emission rate (LAER) (as defined in section 171 of the Act) prior to the promulgation of an emission standard in this part applicable to such source and the same pollutant (or stream of pollutants) controlled pursuant to the BACT or LAER installation, the Administrator will grant the owner or operator an extension of compliance with such emission standard that will apply until the date 5 years after the date on which such installation was achieved, as determined by the Administrator.

(3) *Request for extension of compliance.* Paragraphs (a)(4) through (a)(7) of this section concern requests for an extension of compliance with a relevant standard under this part [except requests for an extension of compliance under paragraph (a)(2)(i) of this section will be handled through procedures specified in subpart D of this part].

(4)(i)(A) The owner or operator of an existing source who is unable to comply with a relevant standard established under this part pursuant to section 112(d) of the Act may request that the Administrator (or a State, when the State has an approved title V permit program and the source is required to obtain a title V permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) grant an extension allowing the source up to 1 additional year to comply with the standard, if such additional period is necessary for the installation of controls. An additional extension of up to 3 years may be added for mining waste operations, if the 1-year extension of compliance is insufficient to dry and cover mining waste in order to reduce emissions of any hazardous air pollutant. The owner or operator of an affected source who has requested an

extension of compliance under this paragraph and who is otherwise required to obtain a title V permit shall apply for such permit or apply to have the source's title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph will be incorporated into the affected source's title V permit according to the provisions of part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever are applicable.

(B) Any request under this paragraph for an extension of compliance with a relevant standard shall be submitted in writing to the appropriate authority not later than 12 months before the affected source's compliance date (as specified in § 63.1102) for sources that are not including emission points in an emissions average, or not later than 18 months before the affected source's compliance date [as specified in § 63.1102] for sources that are including emission points in an emissions average. Emission standards established under this part may specify alternative dates for the submittal of requests for an extension of compliance if alternatives are appropriate for the source categories affected by those standards, e.g., a compliance date specified by the standard is less than 12 (or 18) months after the standard's effective date.

(ii) The owner or operator of an existing source unable to comply with a relevant standard established under this part pursuant to section 112(f) of the Act may request that the Administrator grant an extension allowing the source up to 2 years after the standard's effective date to comply with the standard. The Administrator may grant such an extension if he/she finds that such additional period is necessary for the installation of controls and that steps will be taken during the period of the extension to assure that the health of persons will be protected from imminent endangerment. Any request for an extension of compliance with a relevant standard under this paragraph shall be submitted in writing to the Administrator not later than 15 calendar days after the effective date of the relevant standard.

(5) The owner or operator of an existing source that has installed BACT or technology required to meet LAER [as specified in paragraph (a)(2)(ii) of this section] prior to the promulgation of a relevant emission standard in this part may request that the Administrator grant an extension allowing the source 5 years from the date on which such installation was achieved, as determined by the Administrator, to comply with the standard. Any request for an extension of compliance with a relevant standard under this paragraph shall be submitted in writing to the Administrator not later than 120 days after the promulgation date of the standard. The Administrator may grant such an extension if he or she finds that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(6)(i) The request for a compliance extension under paragraph (a)(4) of this section shall include the following information:

(A) A description of the controls to be installed to comply with the standard;

(B) A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

(*1*) The date by which contracts for emission control systems or process changes for emission control will be awarded, or the date by which orders will be issued for the purchase of component parts to accomplish emission control or process changes;

(*2*) The date by which on-site construction, installation of emission control equipment, or a process change is to be initiated;

(*3*) The date by which on-site construction, installation of emission control equipment, or a process change is to be completed; and

(*4*) The date by which final compliance is to be achieved.

(C) A description of interim emission control steps, that will be taken during the extension period, including milestones to assure proper operation and maintenance of emission control and process equipment; and

(D) Whether the owner or operator is also requesting an extension of other applicable requirements (e.g., performance testing requirements).

(ii) The request for a compliance extension under paragraph (4)(i) of this section shall include all information needed to demonstrate to the Administrator's satisfaction that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(7) Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(8) *Approval of request for extension of compliance.* Paragraphs (a)(9) through (a)(14) of this section concern approval of an extension of compliance requested under paragraphs (a)(4) through (a)(6) of this section.

(9) Based on the information provided in any request made under paragraphs (a)(4) through (a)(6) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with an emission standard, as specified in paragraphs (a)(4) and (a)(5) of this section.

(10) The extension will be in writing and will—

(i) Identify each affected source covered by the extension;

(ii) Specify the termination date of the extension;

(iii) Specify the dates by which steps toward compliance are to be taken, if appropriate;

(iv) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests); and

(v)(A) Under paragraph (a)(4), specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period; or

(B) Under paragraph (a)(5), specify any additional conditions that the Administrator deems necessary to assure the proper operation and maintenance of the installed controls during the extension period.

(11) The owner or operator of an existing source that has been granted an extension of compliance under paragraph (a)(10) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached. The contents of the progress reports and the dates by which they shall be submitted will be specified in the written extension of compliance granted under paragraph (a)(9) of this section.

(12)(i) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (a)(4)(i) or (a)(5) of this section. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains

sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with—

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

(iv) The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(13)(i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (a)(4)(ii) of this section. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 15 calendar days after receipt of the original application and within 15 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 15 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator will notify the owner or operator in writing of the Administrator's intention to issue the denial, together with—

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator before further action on the request.

(iv) A final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(14) The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under paragraphs (a)(10)(iii) or (a)(10)(iv) of this section is not met.

(15) [Reserved]

(16) The granting of an extension under this section shall not abrogate the Administrator's authority under section 114 of the Act.

(b) *Waiver of performance tests.*

(1) Until a waiver of a performance testing requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) *Request to waive a performance test.*

(i) If a request is made for an extension of compliance under paragraph (a) of this section, the application for a waiver of an initial performance test shall accompany the information required for the request for an extension of compliance. If no extension of compliance is requested or if the owner or operator has requested an extension of compliance and the Administrator is still considering that request, the application for a waiver of an initial performance test shall be submitted at least 60 days before the performance test if a site-specific test plan is not submitted.

(ii) If an application for a waiver of a subsequent performance test is made, the application may accompany any required compliance progress report, compliance status report, or excess emissions and continuous monitoring system performance report, but it shall be submitted at least 60 days before the performance test if a site-specific test plan is not submitted.

(iii) Any application for a waiver of a performance test shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the affected source performing the required test.

(4) *Approval of request to waive performance test.* The Administrator will approve or deny a request for a waiver of a performance test made under paragraph (b)(3) of this section when he/she—

(i) Approves or denies an extension of compliance under paragraph (a) of this section; or

(ii) Approves or disapproves a site-specific test plan; or

(iii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iv) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

(c) *Use of an alternative monitoring method.*

(1) *General.* Until permission to use an alternative monitoring method has been granted by the Administrator

under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring methods or procedures of this part including, but not limited to, the following:

(i) Alternative monitoring requirements when installation of a CMS specified by a relevant standard would not provide accurate measurements due to liquid water or other interferences caused by substances within the effluent gases;

(ii) Alternative monitoring requirements when the affected source is infrequently operated;

(iii) Alternative monitoring requirements to accommodate CEMS that require additional measurements to correct for stack moisture conditions;

(iv) Alternative locations for installing CMS when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements;

(v) Alternate methods for converting pollutant concentration measurements to units of the relevant standard;

(vi) Alternate procedures for performing daily checks of zero (low-level) and high-level drift that do not involve use of high-level gases or test cells;

(vii) Alternatives to the American Society for Testing and Materials (ASTM) test methods or sampling procedures specified by any relevant standard;

(viii) Alternative CMS that do not meet the design or performance requirements in this part, but adequately demonstrate a definite and consistent relationship between their measurements and the measurements of opacity by a system complying with the requirements as specified in the relevant standard. The Administrator may require that such demonstration be performed for each affected source; or

(ix) Alternative monitoring requirements when the effluent from a single affected source or the combined effluent from two or more affected sources is released to the atmosphere through more than one point.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, requirement, or procedure, the Administrator may require the use of a method, requirement, or procedure specified in this section or in the relevant standard. If the results of the specified and alternative method, requirement, or procedure do not agree, the results obtained by the specified method, requirement, or procedure shall prevail.

(4)(i) *Request to use alternative monitoring method.* An owner or operator who wishes to use an alternative monitoring method shall submit an application to the Administrator as described in paragraph (c)(4)(ii) of this section, below. The application may be submitted at any time provided that the monitoring method is not used to demonstrate compliance with a relevant standard or other requirement. If the alternative monitoring method is to be used to demonstrate compliance with a relevant standard, the application shall be submitted not later than with the site-specific test plan required or with the site-specific performance evaluation plan (if requested) or at least 60 days before the performance evaluation is scheduled to begin.

(ii) The application shall contain a description of the proposed alternative monitoring system and a performance evaluation test plan, if required. In addition, the application shall include information justifying the owner or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the affected source using the required method.

(iii) The owner or operator may submit the information required in this paragraph well in advance of the submittal dates specified in paragraph (c)(4)(i) above to ensure a timely review by the Administrator in order to meet the compliance demonstration date specified in this section or the relevant standard.

(5) *Approval of request to use alternative monitoring method.*

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the request to use an alternative monitoring method within 30 calendar days after receipt of the original request and within 30 calendar days after receipt of any supplementary information that is submitted. Before disapproving any request to use an alternative monitoring method, the Administrator will notify the applicant of the Administrator's intention to disapprove the request together with—

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present additional information to the Administrator before final action on the request. At the time the Administrator notifies the applicant of his or her intention to disapprove the request, the Administrator will specify how much time the owner or operator will have after being notified of the intended disapproval to submit the additional information.

(ii) The Administrator may establish general procedures and criteria in a relevant standard to accomplish the requirements of paragraph (c)(5)(i) of this section.

(iii) If the Administrator approves the use of an alternative monitoring method for an affected source under paragraph (c)(5)(i) of this section, the owner or operator of such source shall continue to use the alternative monitoring method until he or she receives approval from the Administrator to use another monitoring method as allowed by this subpart or a subpart referenced by this subpart.

(6) *Alternative to the relative accuracy test.* An alternative to the relative accuracy test for CEMS specified in a relevant standard may be requested as follows:

(i) *Criteria for approval of alternative procedures.* An alternative to the test method for determining relative accuracy is available for affected sources with emission rates demonstrated to be less than 50 percent of the relevant standard. The owner or operator of an affected source may petition the Administrator under paragraph (c)(6)(ii) of this section to substitute the relative accuracy test in section 7 of Performance Specification 2 with the procedures in section 10 if the results of a performance test conducted according to the requirements specified in this subpart or subpart referenced by this subpart demonstrate that the emission rate of the pollutant of interest in the units of the relevant standard is less than 50 percent of the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the owner or operator may petition the Administrator to substitute the relative accuracy test with the procedures in section 10 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the CEMS is used continuously to determine compliance with the relevant standard.

(ii) *Petition to use alternative to relative accuracy test.* The petition to use an alternative to the relative accuracy test shall include a detailed description of the procedures to be applied, the location and the procedure for conducting the alternative, the concentration or response levels of the alternative relative accuracy materials,

and the other equipment checks included in the alternative procedure(s). The Administrator will review the petition for completeness and applicability. The Administrator's determination to approve an alternative will depend on the intended use of the CEMS data and may require specifications more stringent than in Performance Specification 2.

(iii) *Rescission of approval to use alternative to relative accuracy test.* The Administrator will review the permission to use an alternative to the CEMS relative accuracy test and may rescind such permission if the CEMS data from a successful completion of the alternative relative accuracy procedure indicate that the affected source's emissions are approaching the level of the relevant standard. The criterion for reviewing the permission is that the collection of CEMS data shows that emissions have exceeded 70 percent of the relevant standard for any averaging period, as specified in the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the criterion for reviewing the permission is that the collection of CEMS data shows that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for any averaging period, as specified in the relevant standard. The owner or operator of the affected source shall maintain records and determine the level of emissions relative to the criterion for permission to use an alternative for relative accuracy testing. If this criterion is exceeded, the owner or operator shall notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increased emissions. The Administrator will review the notification and may rescind permission to use an alternative and require the owner or operator to conduct a relative accuracy test of the CEMS as specified in section 7 of Performance Specification 2.

(d) *Waiver of recordkeeping or reporting requirements.*

(1) Until a waiver of a recordkeeping or reporting requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the recordkeeping and reporting requirements of this subpart and any subparts referenced by this subpart.

(2) Recordkeeping or reporting requirements may be waived upon written application to the Administrator if, in the Administrator's judgment, the affected source is achieving the relevant standard(s), or the source is operating under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) If an application for a waiver of recordkeeping or reporting is made, the application shall accompany the request for an extension of compliance under paragraph (a), any required compliance progress report or compliance status report required under this part or in the source's title V permit, or an excess emissions and continuous monitoring system performance report required under subpart SS or another subpart referenced by this subpart, whichever is applicable. The application shall include whatever information the owner or operator considers useful to convince the Administrator that a waiver of recordkeeping or reporting is warranted.

(4) The Administrator will approve or deny a request for a waiver of recordkeeping or reporting requirements under this paragraph when he/she—

(i) Approves or denies an extension of compliance under paragraph (a); or

(ii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iii) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) A waiver of any recordkeeping or reporting requirement granted under this paragraph may be conditioned on other recordkeeping or reporting requirements deemed necessary by the Administrator.

(6) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

§ 63.1113 Procedures for approval of alternative means of emission limitation.

(a) *Alternative means of emission limitation.* An owner or operator of an affected source may request a determination of alternative means of emission limitation to the requirements of design, equipment, work practice, or operational standards of this subpart or of a subpart referenced by this subpart. If, in the judgment of the Administrator, an alternative means of emission limitation will achieve a reduction in HAP emissions at least equivalent to the reduction in emissions from that source achieved under any design, equipment, work practice, or operational standards (but not performance standards) in this subpart, the Administrator will publish in the **Federal Register** a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(1) The notice may condition the permission on requirements related to the operation and maintenance of the alternative means.

(2) Any such notice shall be published only after public notice and an opportunity for a hearing.

(b) *Content of submittal.*—(1) In order to obtain approval, any person seeking permission to use an alternative means of compliance under this section shall collect, verify, and submit to the Administrator information showing that the alternative means achieves equivalent emission reductions. An owner or operator of an affected source seeking permission to use an alternative means of compliance who has not previously performed testing shall also submit a proposed test plan. If the owner or operator seeks permission to use an alternative means of compliance based on previously performed testing, they shall submit the results of testing, a description of the procedures followed in testing or monitoring, and a description of pertinent conditions during testing or monitoring.

(2) The owner or operator who requests an alternative means of emissions limitation shall submit a description of the proposed testing, monitoring, recordkeeping, and reporting that will be used and the proposed basis for demonstrating compliance.

(3) For storage vessels, the owner or operator shall include the results of actual emissions tests using full-size or scale-model storage vessels that accurately collect and measure all regulated HAP emissions using a given control technique, and that accurately simulate wind and account for other emission variables such as temperature and barometric pressure, or an engineering analysis that the Administrator determines to be an accurate method of determining equivalence.

(4) For proposed alternatives to equipment leak requirements referenced by this subpart, the owner or operator shall also submit the information specified in and meet the requirements for alternate means of emission limitation specified in the referenced subparts.

[FR Doc. 98–25454 Filed 10–13–98; 8:45 am]
BILLING CODE 6560–50–P