ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[AD–FRL–5543–1]

RIN 2060–AE37

National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action promulgates national emission standards for hazardous air pollutants (NESHAP) from existing and new plant sites that emit organic hazardous air pollutants (HAP) identified on the EPA's list of 189 HAP. The organic HAP are emitted during the manufacture of one or more elastomers.

In the production of elastomers, a variety of organic HAP are used as monomers or process solvents. Available emissions data gathered in conjunction with the development of the elastomer standards show that the following organic HAP are those which have the potential for reduction by implementation of the standard: Styrene, n-hexane, 1,3-butadiene, acrylonitrile, methyl chloride, hydrogen chloride, carbon tetrachloride, chloroprene, and toluene. Some of these pollutants are considered to be mutagens and carcinogens, and all can cause reversible or irreversible toxic effects following exposure. The potential toxic effects include eye, nose, throat, and skin irritation; liver and kidney toxicity, and neurotoxicity. These effects can range from mild to severe. The rule is estimated to reduce organic HAP emissions from existing affected sources by over 6,300 megagrams per year (Mg/yr). The majority of the organic HAP regulated by these standards are also volatile organic compounds (VOC). In reducing emissions of organic HAP, VOC are also reduced.

The rule implements section 112(d) of the Act, which requires the Administrator to regulate emissions of HAP listed in section 112(b) of the Act. The intended effect of this rule is to protect the public by requiring the maximum degree of reduction in emissions of organic HAP from new and existing major sources that the Administrator determines is achievable, taking into consideration the cost of achieving such emission reduction, and any nonair quality, health and environmental impacts, and energy requirements.

EFFECTIVE DATE: September 5, 1996. See the Supplementary Information section concerning judicial review.

ADDRESSES: *Docket.* Docket No. A–92–44, containing information considered by the EPA in development of the promulgated standards, is available for public inspection and copying between 8 a.m. and 4 p.m., Monday through Friday, at the following address in room M–1500, Waterside Mall (ground floor): 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. A reasonable fee may be charged for copying docket materials.

FOR FURTHER INFORMATION CONTACT: For questions concerning applicability and other rule determinations, inquiries should be directed to the appropriate regional office contact listed below:

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Colleen W. McKaughan, Air Compliance Branch Chief, U.S. EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105, (415) 744–1198.

Christopher Hall, Air Toxics Program Manager, U.S. EPA Region X, 1200 Sixth Avenue, OAQ–107, Seattle, WA 98101–9797, (206) 553–1949.

For information concerning the technical analysis for this rule, contact Mr. Robert Rosensteel at (919) 541–5608, Organic Chemicals Group, Emission Standards Division (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

SUPPLEMENTARY INFORMATION: *Regulated entities.* Entities potentially regulated by this action are elastomer product process units (EPPUs) manufacturing the same primary product and located at a plant site that is a major source of HAP. Regulated categories and entities include:

Category	Examples of regulated entities
Industry	Producers of butyl rubber, halobutyl rubber, epichlorohydrin elastomers, ethylene propylene rubber, Hypalon™, neoprene, nitrile butadiene rubber, nitrile butadiene latex, polysulfide rubber, polybutadiene rubber/styrene butadiene rubber by solution, styrene butadiene latex, and styrene butadiene rubber by emulsion.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that EPA is now aware could potentially be regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether your facility is regulated by this action, you should carefully examine the applicability criteria in § 63.480 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.

Response to Comment Document. The response to comment document for the promulgated standards contains: (1) A summary of the public comments made on the proposed standards and the Administrator's response to the comments; and (2) A summary of the changes made to the standards since proposal. The document may be obtained from the U.S. EPA Library (MD–35), Research Triangle Park, North Carolina 27711, telephone (919) 541–2777; or from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia 22151, telephone (703) 487–4650. Please refer to ''Hazardous Air Pollutant Emissions from Process Units in the Elastomers Manufacturing Industry—Basis and Purpose Document for Final Standards, Summary of Public Comments and

Responses'' (EPA–453/R–96–006b; May 1996). This document is also located in the docket (Docket Item No. V–C–1) and is available for downloading from the Technology Transfer Network. The Technology Transfer Network is one of the EPA's electronic bulletin boards. The Technology Transfer Network provides information and technology exchange in various areas of air pollution control. The service is free except for the cost of a phone call. Dial (919) 541–5742 for up to a 14,400 bps modem. If more information on the Technology Transfer Network is needed, call the HELP line at (919) 541–5384.

Previous Background Documents. The following is a listing of background documents pertaining to this rulemaking. The complete title, EPA publication number, publication date, and docket number are included. Where appropriate, the abbreviated descriptive title is used to refer to the document throughout this notice.

(1) Hazardous Air Pollutant Emissions from Process Units in the Elastomer Manufacturing Industry—Supplementary Information Document for Proposed Standards. EPA–453/R–95–005a, May 1995; Docket number A–92–44, item number III–B–2.

(2) Hazardous Air Pollutant Emissions from Process Units in the Elastomer Manufacturing Industry—Basis and Purpose Document for Proposed Standards. EPA–453/R–95–006a, May 1995; Docket number A–92–44, item number III–B–1.

Judicial Review. Under section 307(b)(1) of the Act, judicial review of the final rule is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of today's publication of this final rule. Under section 307(b)(2) of the Act, the requirements that are the subject of today's notice may not be challenged later in civil or criminal proceedings brought by the EPA to enforce these requirements.

The information presented in this preamble is organized as follows:

I. Summary of Considerations Made in Developing This Standard

A. Background and Purpose of Regulation

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

On July 16, 1992 (57 FR 31576), the EPA published a list of categories of sources slated for regulation. This list included all nine of the source categories regulated by the standards being promulgated today. The statute requires emissions standards for the listed source categories to be promulgated between November 1992 and November 2000. On December 3, 1993, the EPA published a schedule for promulgating these standards (58 FR 83841). Standards for the nine source categories covered by today's rule were proposed on June 12, 1995 (60 FR 30801).

For the purpose of this rule, the EPA has separated the 9 Group 1 polymers into 12 elastomer products (i.e., subcategories). These products are butyl rubber (BR), halobutyl rubber (HBR), epichlorohydrin elastomers (EPI), ethylene propylene rubber (EPR), Hypalon™ (HYP), neoprene (NEO), nitrile butadiene rubber (NBR), nitrile butadiene latex (NBL), polysulfide rubber (PSR), polybutadiene rubber/styrene butadiene rubber by solution (PBR/SBRS), styrene butadiene latex (SBL), and styrene butadiene rubber by emulsion (SBRE).

In the 1990 Amendments to the Clean Air Act, Congress specified that each standard for major sources must require the maximum reduction in emissions of HAP that the EPA determines is achievable, considering cost, non-air quality health and environmental impacts, and energy requirements. In essence, these Maximum Achievable Control Technology (MACT) standards would ensure that all major sources of air toxics achieve the level of control already being achieved by the better controlled and lower emitting sources in each category. This approach provides assurance to citizens that each major source of toxic air pollution will be required to employ good control measures to limit its emissions.

Available emission data, collected during the development of this rule, shows that pollutants that are listed in section 112(b)(1) and are emitted by Group I Polymer and Resins sources include n-hexane, styrene, 1,3-butadiene, acrylonitrile, methyl chloride, carbon tetrachloride, chloroprene, and toluene. Some of these pollutants are considered to be probable human carcinogens when inhaled, and all can cause reversible and irreversible toxic effects following exposure. These effects include respiratory and skin irritation, effects upon the eye, various systemic effects including effects upon the liver, kidney, heart and circulatory systems, neurotoxic effects, and in extreme cases, death.

The EPA does recognize that the degree of adverse effects to health can range from mild to severe. The extent and degree to which the health effects may be experienced is dependent upon (1) the ambient concentrations observed in the area (e.g., as influenced by emission rates, meteorological conditions, and terrain), (2) the frequency of and duration of exposures, (3) characteristics of the exposed individuals (e.g., genetics, age, pre-existing health conditions, and lifestyle) which vary significantly with the

population, and (4) pollutant specific characteristics (e.g., toxicity, half-life in the environment, bioaccumulation, and persistence).

Due to the volatility and relatively low potential for bioaccumulation of these pollutants, air emissions are not expected to deposit on land or water and cause subsequent adverse health or ecosystem effects.

The alternatives considered in the development of this regulation, including those alternatives selected as standards for new and existing elastomer sources, are based on process and emissions data received from every existing elastomer facility known to be in operation at the time of the initial data collection. During the development of today's rule, the EPA met with industry several times to discuss this data. In addition, facilities and State regulatory authorities had the opportunity to comment on draft versions of the proposed regulation and to provide additional information. The EPA published the proposed rule for comment on June 12, 1995 (60 FR 30801). The public comments that were received on the proposed rule are summarized in the Basis and Purpose Document for Final Standards, Summary of Public Comments and Responses (Docket Item No. V–C–1). These comments were considered, and in some cases, today's standards reflect these comments. Of major concern to commenters were the reporting and recordkeeping burden and the requirements for back-end process operations and wastewater control.

The final standards give existing sources 3 years from the date of promulgation to comply. Subject to certain limited exceptions, this is the maximum amount of time allowed under the Clean Air Act. New sources are required to comply with the standard upon startup. The EPA believes these standards to be achievable for affected sources within the timeframes provided. The number of existing sources affected by this rule is less than 50; therefore, the EPA does not believe that required retrofits or other actions cannot be achieved in the time frame allotted.

Included in the final rule are methods for determining initial compliance as well as monitoring, recordkeeping, and reporting requirements. All of these components are necessary to ensure that sources will comply with the standards both initially and over time. However, the EPA has made every effort to simplify the requirements in the rule. The Agency has also attempted to maintain consistency with existing regulations by either incorporating text from existing regulations or referencing the applicable sections, depending on which method would be least confusing for a given situation.

As described in the ''Basis and Purpose Document for Proposed Standards'' (EPA–453/R–95–006a), regulatory alternatives were considered that included a combination of requirements equal to, and above, the MACT floor. Cost-effectiveness was a factor considered in evaluating options above the floor; in cases where options more stringent than the floor were selected, they were judged to have a reasonable cost effectiveness. For epichlorohydrin rubber (EPR), polybutadiene rubber (PBR)/styrene butadiene rubber (SBR) (by solution), and SBR (by emulsion) the estimated cost effectiveness was found to be relatively high at the MACT floor level due to the requirements for process back-end operations. However, the back-end provisions of the regulation contain several options for compliance that will allow facilities to select the most cost-effective option based on facility-specific considerations.

Representatives from other interested EPA offices and programs are included in the regulatory development process as members of the Work Group. The Work Group is involved in the regulatory development process, and must review and concur with the regulation before proposal and promulgation. Therefore, the EPA believes that the implications to other EPA offices and programs have been adequately considered during the development of these standards.

B. Source of Authority

National emission standards for new and existing sources of HAP established under section 112(d) reflect MACT or

> * * * the maximum degree of reduction in emissions of the HAP * * * that the Administrator, taking into consideration the cost of achieving such emission reduction, and any nonair quality health and environmental impacts and energy requirements, determines is achievable for new or existing sources in the category or subcategory to which such emission standard applies * * * (42 U.S.C. 7412(d)(2)).

For new sources, section 112(d)(3) provides that the standards for a source category or subcategory ''shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator.'' Section 112(d)(3) provides further that for existing sources the standards shall be no less stringent than the average emission limitation achieved by the best performing 12 percent of the existing sources for source categories and subcategories with 30 or more sources or the average emission limitation achieved by the best performing 5 sources for source categories or subcategories with fewer than 30 sources. These two minimum levels of control define the MACT floor for new and existing sources.

The regulatory alternatives considered in the development of this regulation, including those regulatory alternatives selected as standards for new and existing affected sources, are based on process and emissions data received from the existing plant sites known by the EPA to be in operation.

As stated above, the MACT floor represents the least stringent standard permitted by law for new and existing sources. The EPA may establish standards more stringent than the MACT floor when it determines that such standards are achievable, ''taking into consideration the cost of achieving such emission reduction, and any nonair quality health and environmental impacts, and energy requirements'' (42 U.S.C. 7412(d)(2)). In a few instances, the standards in today's rule are more stringent than the MACT floor. In each case, the EPA determined, based on available data, that such standards were achievable within the meaning of section 112(d). Table 1 shows the subcategory-specific instances where an option was selected that was more stringent than the MACT floor, along with the corresponding incremental cost-effectiveness from the MACT floor.

TABLE 1.—INCREMENTAL COST EFFECTIVENESS VALUES OF REGULATORY OPTIONS MORE STRINGENT THAN THE MACT FLOOR [a]

Subcategory	Incremental cost effectiveness [b] ($/Mg)				
	Storage	Front-end process vents	Back-end process	Wastewater	Equipment leaks
Butyl	floor	$3,100	floor	$1,600	$1,700

TABLE 1.—INCREMENTAL COST EFFECTIVENESS VALUES OF REGULATORY OPTIONS MORE STRINGENT THAN THE MACT FLOOR [a]—Continued

Subcategory	Incremental cost effectiveness [b] ($/Mg)				
	Storage	Front-end process vents	Back-end process	Wastewater	Equipment leaks
Epichlorohydrin	floor	floor	floor	floor	$2,000
Ethylene propylene	floor	floor	floor	floor	$2,000
Halobutyl	$300	$1,400	floor	floor	$1,100
Hypalon®	floor	floor	floor	floor	floor
Neoprene	floor	$2,900	floor	floor	[c] $1,600
Nitrile butadiene latex	floor	floor	floor	floor	[c] $2,600
Nitrile butadiene rubber	floor	floor	floor	floor	[c] $1,200
Polybutadiene/styrene butadiene rubber by solution.	floor	floor	floor	floor	[c] $2,600
Polysulfide	floor	floor	floor	floor	floor
Styrene butadiene latex	floor	floor	floor	floor	floor
Styrene butadiene rubber by emulsion	floor	floor	floor	floor	floor

[a] In the table, ''floor'' indicates that the level of the promulgated standard is equivalent to the MACT floor.
[b] The incremental cost effectiveness reflects the cost and emission reduction from the MACT floor to the level of the promulgated standard.
[c] Equipment leak control programs at elastomer production facilities consisted of a complex combination of controls for the numerous components that can leak and cause HAP emissions. This complexity made it impractical to define a MACT floor ''program'' for which impacts could be assessed for multiple-plant subcategories. Therefore, the cost effectiveness values shown in the table represent the incremental cost effectiveness values from baseline.

C. Technical Basis of Regulation

Potential regulatory alternatives were developed based on the Hazardous Organic NESHAP (HON) (subparts F, G, and H of 40 CFR part 63), and the Batch Processes Alternative Control Techniques (ACT) document (EPA 453/R–93–017; November 1993). The HON was selected as a basis for regulatory alternatives because: (1) The characteristics of the emissions from storage vessels, continuous front-end process vents, equipment leaks, and wastewater at Group I elastomer facilities are similar or identical to those addressed by the HON; and (2) the levels of control required under the HON were already determined through extensive analyses to be reasonable from a cost and impact perspective.

Finally, the Batch Processes ACT was selected to identify regulatory alternatives for batch process vents, which are not addressed by the HON. The Batch Processes ACT addresses the control of VOC emissions, and all of the organic HAP identified for the Group I elastomers facilities are also VOC. Unlike the HON, the Batch Processes ACT is not a regulation and, therefore, does not specify a level of control that must be met. Instead, the Batch Processes ACT provides information on potential levels of control, their costs, etc. Based on the review of the Batch Processes ACT, the EPA selected a level of control equivalent to 90 percent reduction for batch front-end process vents. This level of control was selected for regulatory analysis purposes because it represents a reasonable level of control considering costs and other impacts.

D. Stakeholder and Public Participation

In the development of this standard, numerous representatives of the elastomers industry were consulted. Industry representatives have included trade associations and elastomer producers responding to section 114 questionnaires and information collection requests (ICR's). The EPA also received input from representatives from State and Regional environmental agencies. Representatives from other interested EPA offices and programs participated in the regulatory development process as members of the Work Group. The Work Group is involved in the regulatory development process, and is given opportunities to review and comment on the standards before proposal and promulgation. Therefore, the EPA believes that the impact on other EPA offices and programs has been adequately considered during the development of these standards. In addition, the EPA has met with members of industry concerning these standards. Finally, industry representatives, regulatory authorities, and environmental groups had the opportunity to comment on the proposed standards and to provide additional information during the public comment period that followed proposal.

The standards were proposed in the Federal Register on June 12, 1995 (60 FR 30801). The preamble to the proposed standards described the rationale for the proposed standards. Public comments were solicited at the time of proposal. To provide interested persons the opportunity for oral presentation of data, views, or arguments concerning the proposed standards, a public hearing was offered at proposal. However, the public did not request a hearing and, therefore, one was not held. The public comment period was from June 12, 1995 to August 11, 1995. A total of twenty-nine comment letters were received. Commenters included industry representatives and State agencies. The comments were carefully considered, and changes were made in the proposed standards when determined by the EPA to be appropriate. A detailed discussion of these comments and responses can be found in the Basis and Purpose Document for Final Standards, which is referenced in the **ADDRESSES** section of this preamble. The summary of comments and responses in the Basis and Purpose Document for the Final Standards serves as the basis for the revisions that have been made to the standards between proposal and promulgation. Section IV of this preamble discusses some of the major changes made to the standards.

II. Summary of Promulgated Standards

Emissions of specific organic HAP from the following types of emission points (i.e., emission source types) are being covered by the final standard: Storage vessels, continuous front-end process vents, batch front-end process vents, back-end processes operations, equipment leaks, and wastewater operations. The organic HAP emitted and required to be controlled by these standards vary by subcategory. Each of the twelve elastomer products constitutes a separate subcategory, each of which belongs to one of the nine

source categories regulated by these standards.

The existing affected source is defined as each group of one or more EPPUs that manufacture the same elastomer product as their primary product, and (1) are located at a major source plant site, (2) are not exempt, and (3) are not part of a new affected source. This means that each plant site will have only one existing affected source in any given subcategory.

If a plant site with an existing affected source producing elastomer A as its primary product constructs a new EPPU also producing elastomer A as its primary product, the new EPPU is a new affected source if the new EPPU has the potential to emit more than 10 tons per year of a single HAP, or 25 tons per year of all HAP. In this situation, the plant site would have an existing affected source producing elastomer A, and a new affected source producing elastomer A. Each subsequent new EPPU with potential HAP emissions above the levels cited above would be a separate new affected source.

New affected sources are also created when an EPPU is constructed at a major source plant site where the elastomer product was not previously produced, with no regard to the potential HAP emissions from the EPPU. Another instance where a new affected source is created is if a new EPPU is constructed at a new plant site (i.e., green field site) that will be a major source. The final manner in which a new affected source is created is when an existing affected source undergoes reconstruction, thus making the previously existing source subject to new source standards.

With relatively few exceptions, the final standards for storage vessels, continuous front-end process vents, equipment leaks, and wastewater streams are the same as those promulgated for the corresponding types of emission points at facilities subject to the HON. As shown in Tables 2 and 3, some subcategories have requirements that differ from the HON; these cases are designated by ''MACT Floor.'' These different requirements are specified in the final standards.

As in the HON, if an emission point within an affected source meets the applicability criteria and is required to be controlled under the standard, it is referred to as a Group 1 emission point. If an emission point within the affected source is not required to apply controls, it is referred to as a Group 2 emission point.

A. Storage Vessel Provisions

For all subcategories, the storage vessel requirements are identical to the HON storage vessel requirements in subpart G. A storage vessel means a tank or other vessel that is associated with an elastomer product process unit and that stores a liquid containing one or more organic HAP. The rule specifies assignment procedures for determining whether a storage vessel is associated with an elastomer product process unit. The storage vessel provisions do not apply to the following: (1) Vessels permanently attached to motor vehicles, (2) pressure vessels designed to operate in excess of 204.9 kpa (29.7 psia) and without emissions to the atmosphere, (3) vessels with capacities smaller than 38 m^3 (10,000 gal), (4) vessels and equipment storing and/or handling material that contains no detectable organic HAP, and/or organic HAP as impurities only, (5) surge control vessels and bottoms receiver tanks, and (6) wastewater storage tanks. An impurity is produced coincidentally with another chemical substance and is processed, used, or distributed with it.

In addition to those vessels that do not meet the definition of storage vessels, the standards exempt certain storage vessels containing latex. Specifically, storage vessels containing a latex, located downstream of the stripping operations, all storage vessels containing styrene butadiene latex, and storage vessels containing styrene, acrylamide, and epichlorohydrin, are exempt from the storage vessel requirements of the final rule.

The owner or operator must determine whether a storage vessel is Group 1 or Group 2; Group 1 storage vessels require control. The criteria for determining whether a storage vessel is Group 1 or Group 2 are the same as the HON criteria.

TABLE 2.—SUMMARY OF FINAL STANDARDS FOR EXISTING AFFECTED SOURCES

Subcategory	Level of final standard [a]				
	Storage	Front-end process vents	Back-end process emissions	Wastewater	Equipment leaks
BR, HBR	HON	HON/ACT, exempting halogenated vent streams controlled by flare or boiler before June 12, 1995.	no control	HON	HON.
EPI, HYP, NEO, NBL, NBR, PSR, SBL.	HON	HON/ACT	no control	HON	HON.
EPR	HON	HON/ACT, exempting halogenated vent streams controlled by flare or boiler before June 12, 1995.	MACT floor residual HAP limit.	HON	HON.
PBR/SBRS, SBRE	HON	HON/ACT	MACT floor residual HAP limit.	HON	HON.

[a] HON=the level of the standard is equivalent to existing source provisions of subpart G of 40 CFR 63 for storage and wastewater, and subpart H of 40 CFR 63 for equipment leaks.

HON/ACT=the level of the standard for continuous front-end process vents is equal to the existing source process vent provisions in subpart G of 40 CFR 63, and the level of the standard for batch front-end process vents is equal to the 90 percent control level from the Batch Processes ACT.

TABLE 3.—SUMMARY OF FINAL STANDARDS FOR NEW AFFECTED SOURCES

Subcategory	Level of standard [a]				
	Storage	Front-end process vents	Back-end process emissions	Wastewater	Equipment leaks
BR, EPI, HBR, HYP, NEO, NBL, NBR, SBL.	New source HON ...	New source HON/ ACT.	No control	Existing source HON.	New source HON
EPR, PBR/SBRS, SBRE	New source HON ...	New source HON/ ACT.	New source floor residual HAP limit.	Existing source HON.	New source HON

[a] HON=the level of the standard is equivalent to the provisions of subpart G of 40 CFR 63 for storage and wastewater, and subpart H of 40 CFR 63 for equipment leaks.
HON/ACT=the level of the standard for continuous front-end process vents is equal to the new source process vent provisions in subpart G of 40 CFR 63, and the level of the standard for batch front-end process vents is equal to the 90 percent control level from the Batch Processes ACT.

The storage provisions require that one of the following control systems be applied to Group 1 storage vessels: (1) An internal floating roof with proper seals and fittings; (2) an external floating roof with proper seals and fittings; (3) an external floating roof converted to an internal floating roof with proper seals and fittings; or (4) a closed vent system with a 95-percent efficient control device. The storage provisions give details on the types of seals and fittings required. Monitoring and compliance provisions include periodic visual inspections of vessels, roof seals, and fittings, as well as internal inspections. If a closed vent system and control device is used, the owner or operator must establish appropriate monitoring procedures. Reports and records of inspections, repairs, and other information necessary to determine compliance are also required by the storage provisions. No controls are required for Group 2 storage vessels.

B. Front-End Process Vent Provisions

There are separate provisions in the rule for front-end process vents that originate from unit operations operated in a continuous mode, and those from unit operations operated in a batch mode. An affected source could be subject to both the continuous and batch front-end process vent provisions if front-end operations at an elastomer production process unit consist of a combination of continuous and batch unit operations. The continuous provisions would be applied to those vents from continuous unit operations, and the batch provisions to vents from batch unit operations.

1. Continuous Front-End Process Vent Provisions

The provisions in the final rule for continuous front-end process vents are the same as the HON process vent provisions in subpart G. Continuous front-end process vents are gas streams that originate from continuously operated units in the front-end of an elastomer process, and include gas streams discharged directly to the atmosphere and gas streams discharged to the atmosphere after diversion through a product recovery device. The continuous front-end process vent provisions apply only to vents that emit gas streams containing more than 0.005 weight-percent HAP.

A Group 1 continuous front-end process vent is defined as a continuous front-end process vent with a flow rate greater than or equal to 0.005 scmm, an organic HAP concentration greater than or equal to 50 ppmv, and a total resource effectiveness (TRE) index value less than or equal to 1.0. The continuous front-end process vent provisions require the owner or operator of a Group 1 continuous front-end process vent stream to: (1) Reduce the emissions of organic HAP using a flare; (2) reduce emissions of organic HAP by 98 weight-percent or to a concentration of 20 ppmv or less; or (3) achieve and maintain a TRE index above 1. Performance test provisions are included for Group 1 continuous front-end process vents to verify that the control device achieves the required performance.

The organic HAP reduction is based on the level of control achieved by the reference control technology. Group 2 continuous front-end process vent streams with TRE index values between 1.0 and 4.0 are required to monitor those process vent streams to ensure those streams do not become Group 1, which require control.

The owner or operator can calculate a TRE index value to determine whether each process vent is a Group 1 or Group 2 continuous front-end process vent, or the owner or operator can elect to comply directly with the control requirements without calculating the TRE index. The TRE index value is determined after the final recovery device in the process or prior to venting to the atmosphere. The TRE calculation involves an emissions test or engineering assessment and use of the TRE equations in § 63.115 of subpart G.

The rule encourages pollution prevention through product recovery because an owner or operator of a Group 1 continuous front-end process vent may add recovery devices or otherwise reduce emissions to the extent that the TRE becomes greater than 1.0 and the Group 1 continuous front-end process vent becomes a Group 2 continuous front-end process vent.

Group 1 halogenated streams controlled using a combustion device must vent the emissions from the combustor to an acid gas scrubber or other device to limit emissions of halogens prior to venting to the atmosphere. The control device must reduce the overall emissions of hydrogen halides and halogens by 99 percent or reduce the outlet mass emission rate of total hydrogen halides and halogens to less than 0.45 kg/hr.

The rule exempts certain halogenated process vent streams from the requirement to control the halogens at the exit from a combustion device. Specifically, halogenated continuous front-end process vents at existing affected sources producing butyl rubber, halobutyl rubber, or ethylene-propylene rubber are exempt from the requirements to control hydrogen halides and halogens from the outlet of combustion devices. However, the rule requires that these vent streams be controlled in accordance with the other Group 1 requirements for continuous front-end process vents.

Monitoring, reporting, and recordkeeping provisions necessary to demonstrate compliance are also included in the continuous front-end process vent provisions. Compliance with the monitoring provisions is based on a comparison of daily average monitored values to enforceable parameter ''levels'' established by the owner or operator.

2. Batch Front—End Process Vent Provisions

Process vents that include gas streams originating from batch unit operations in the front-end of an elastomer product process unit are subject to the batch front-end process vent provisions of the rule. Consistent with provisions in the rule for other emission source types, batch front-end process vents are classified as Group 1 or Group 2, with control being required for Group 1 batch front-end process vents.

An important aspect of the batch front-end process vent provisions is that applicability is on an individual vent basis. All batch emission episodes that are emitted to the atmosphere through the vent are to be considered in the group determination. The rule does not require that emissions from similar batch unit operations emitted from different vents be combined for applicability determinations. In other words, if a process included four batch reactors, and each reactor had a dedicated vent to the atmosphere, applicability would be determined for each reactor.

The applicability criteria of the batch front-end process vent provisions are from the Batch Processes ACT, and are based on annual emissions of the HAP emitted from the vent, and the average flow rate of the vent stream. The vent stream characteristics are determined at the exit from the batch unit operation before any emission control or recovery device. The rule specifies that reflux condensers, condensers recovering monomer or solvent from a batch stripping operation, and condensers recovering monomer or solvent from a batch distillation operation are considered part of the unit operation. Therefore, the batch front-end process vent applicability criteria would be applied after these condensers.

The first step in the applicability determination is to calculate the annual HAP emissions. Annual HAP emissions may be calculated using equations contained in the regulation (which are from the Batch Processes ACT). Testing or engineering assessment may also be used if the equations are not appropriate. Batch front-end process vents with annual HAP emissions less than 225 kilograms per year are exempt from all batch front-end process vent requirements, other than the requirement to estimate annual HAP emissions.

There are two tiers of Group 2 batch front-end process vents. First, if the annual HAP emissions of a vent are below specified cutoff levels, the batch front-end process vent is classified as a Group 2 vent, and a batch cycle limitation must be established (discussed below). The cutoff emission level is 11,800 kilograms HAP per year.

If annual HAP emissions are greater than the cutoff emission level specified above, the owner must determine the annual average flow rate of the batch front-end process vent, and the ''cutoff flow rate'' using the equation in § 63.488(f). The Group 1/Group 2 classification is then based on a comparison between the actual annual average flow rate, and the cutoff flow rate. If the actual flow rate is less than the calculated cutoff flow rate, then the batch process vent is a Group 1 vent, and control is required. If the actual flow rate is greater than the calculated cutoff flow rate, then the batch process vent is a Group 2 batch front-end process vent, and the owner or operator must establish a batch cycle limitation.

Owners and operators of Group 2 batch front-end process vents must establish a batch cycle limitation that ensures that HAP emissions from the vent do not increase to a level that would make the batch front-end process vent Group 1. The batch cycle limitation is an enforceable restriction on the number of batch cycles that can be performed in a year. An owner or operator has two choices regarding the level of the batch cycle limitation. The limitation may be set to maintain emissions below the annual emission cutoff level listed above, or the limitation may be set to ensure that annual emissions do not increase to a level that makes the calculated cutoff flow rate increase beyond the actual annual average flow rate. The advantage to the first option is that the owner or operator would not be required to determine the annual average flow rate of the vent. A batch cycle limitation does not limit production to any previous production level, but is based on the number of cycles necessary to exceed one of the two batch front-end process vent applicability criteria discussed above.

The batch front-end process vent provisions require the owner or operator of a Group 1 batch front-end process vent stream to: (1) Reduce the emissions of organic HAP using a flare or (2) reduce emissions of organic HAP by 90 weight-percent over each batch cycle using a control or recovery device. If a halogenated batch vent stream (defined as a vent that has a mass emission rate of halogen atoms in organic compounds of 3,750 kilograms per year or greater) is sent to a combustion device, the outlet stream must be controlled to reduce emissions of hydrogen halides and halogens by 99 percent. Control could be achieved at varying levels for different emission episodes as long as the required level of control for the batch cycle was achieved. The owner or operator could even elect to control some emission episodes and by-pass control for others. Performance test provisions are included for Group 1 batch front-end process vents to verify that the control device achieves the required performance.

Monitoring, reporting, and recordkeeping provisions necessary to demonstrate compliance are also included in the batch front-end process vent provisions. These provisions are modeled after the analogous continuous process vent provisions in the HON. Compliance with the monitoring provisions is based on a comparison of batch cycle daily average monitored values to enforceable parameter monitoring levels established by the owner or operator.

The provisions for batch front-end process vents contain three conditions that can greatly simplify compliance. First, an owner or operator can control a batch front-end process vent in accordance with the Group 1 batch front-end process vent requirements and bypass the applicability determination. Second, if a batch front-end process vent is combined with a continuous vent stream before a recovery or control device, the owner or operator is exempt from all batch front-end process vent requirements. However, applicability determinations and performance tests for the continuous vent must be conducted at conditions when the addition of the batch vent streams makes the HAP concentration in the combined stream greatest. Finally, if batch front-end process vents combine to create a ''continuous'' flow to a control or recovery device, the less complicated continuous process vent monitoring requirements are used.

C. Back-End Process Provisions

Back-end process operations include all operations at an EPPU that occur after the stripping operations. These operations include, but are not limited to, filtering, drying, separating, and other finishing operations, as well as product storage.

The back-end process provisions contain residual HAP limitations for three subcategories: EPR, PBR/SBRS, and SBRE. The limitations for EPR and PBR/SBRS are in units of kilograms HAP per megagram of crumb rubber dry weight (crumb rubber dry weight means the weight of the polymer, minus the weight of water and residual organics), and the limitation for SBRE is in units of kilogram HAP per megagram latex.

The limitation is a monthly average weighted based on the weight of rubber or latex processed in the stripper. Two methods of compliance are available: (1) Stripping the polymer to remove the residual HAP to the levels in the standards, on a monthly weighted average basis, or (2) reducing emissions using add-on control to a level equivalent to the level that would be achieved if stripping was used.

1. Compliance Using Stripping Technology

If stripping is the method of compliance selected, the rule allows two options for demonstrating compliance: by sampling and by monitoring stripper operating parameters. If compliance is demonstrated by sampling, samples of the stripped wet crumb or stripped latex must be taken as soon as safe and feasible after the stripping operation, but no later than the entry point for the first unit operation following the stripper (e.g., the watering screen), and analyzed to determine the residual HAP content. For styrene-butadiene rubber produced by the emulsion process, the sample of latex shall be taken just prior to entering the coagulation operations.

A sample must be taken once per day for continuous processes, or once per batch for batch processes. The sample must be analyzed to determine the residual HAP content, and the corresponding weight of rubber or latex processed in the stripper must be recorded. This information is then used to calculate a monthly weighted average. A monthly weighted average that is above the limitation is a violation of the standard, as is a failure to sample and analyze at least 75 percent of the samples required during the month. The EPA is in the process of approving test methods that will be used to determine compliance with the standard. These methods are being promulgated separately by the EPA. Records of each test result would be required, along with the corresponding weight of the polymer processed in the stripper. Records of the monthly weighted averages must also be maintained.

An owner or operator complying using stripping can also demonstrate compliance by continuously monitoring stripper operating parameters. If using this approach, the owner or operator must establish stripper operating parameters for each grade of polymer processed in the stripper, along with the corresponding residual HAP content of that grade. The parameters that must be monitored include, at a minimum, temperature, pressure, steaming rates (for steam strippers), and some parameter that is indicative of residence time. The HAP content of the grade must be determined initially using the residual HAP test methods discussed above. The owner or operator can elect to establish a single set of stripper operating parameters for multiple grades.

The EPA believes that computer predictive modeling may be an attractive alternative to the periodic sampling and stripper parametric monitoring options in the rule, but did not specifically include provisions for these options, because the use of computer predictive modeling is so site-specific that it was not possible to include general requirements for its use in subpart U. However, the rule does allow the opportunity for site-specific approval of the use of computer predictive modeling, stack test monitoring, or other alternative means of compliance through the submittal of an alternative compliance plan.

The difference in the demonstration of compliance by sampling, and the demonstration of compliance by monitoring stripping parameters, is that the monitoring option is entirely based on a grade or batch. To further explain, if a particular grade of polymer is processed in the stripper continuously for 32 hours, a sample of that grade is required to be taken each operating day, if the sampling compliance demonstration option is selected. However, if the stripping parameter monitoring option is selected, the entire length of time the grade is being processed in the stripper is treated as a single unit.

During the operation of the stripper, the parameters must be continuously monitored, with a reading of each parameter taken at least once every 15 minutes. If, during the processing of a grade, all hourly average parameter values are in accordance with the established levels, the owner or operator can use the HAP content determined initially in the calculation of the monthly weighted average, and sampling is not required. However, if one hourly average value for any parameter is not in accordance with the established operating parameter, a sample must be taken and the HAP content determined using specified test methods.

Records of the initial residual HAP content results, along with the corresponding stripper parameter monitoring results for the sample, must be maintained. The hourly average monitoring results are required to be maintained, along with the results of any HAP content tests conducted due to exceedance of the established parameter monitoring levels. Records must also be kept of the weight of polymer processed in each grade, and the monthly weighted average values.

If complying with the residual HAP limitations using stripping technology, and demonstrating compliance by monitoring stripper parameters, there are three ways a facility can be in violation of the standard. First, a monthly weighted average that is above the limitation is a violation of the standard, as is a failure to sample and analyze a sample for a grade with an hourly average parameter value not in accordance with the established monitoring parameter levels. The third way for a facility to be out of compliance is if the stripper monitoring data are not sufficient for at least 75 percent of the grades produced during the month. Stripper data are considered insufficient if monitoring parameters are obtained for less than 75 percent of the 15-minute periods during the processing of a grade.

2. Compliance Using Add-On Control

If add-on control is the method of compliance selected, there are two levels of compliance. Initial compliance is based on a source test, and continuous compliance is based on the daily average of parameter monitoring results for the control or recovery device.

The initial performance test must consist of three 1-hour runs or three complete batch cycles, if the duration of the batch cycle is less than 1 hour. The test runs must be conducted during processing of ''worst-case'' grade, which means the grade with the highest residual HAP content leaving the stripper. The ''uncontrolled'' residual HAP content in the latex or wet crumb rubber must be determined, using the test methods, after the stripper. Then, when the crumb for which the uncontrolled residual HAP was determined is being processed in the back-end unit operation being controlled, the inlet and outlet emissions for the control or recovery device must be determined using Method 18 or Method 25A. The uncontrolled HAP content is then adjusted to account for the reduction in emissions by the control or recovery device, and compared to the levels in the standard. For initial compliance, the adjusted residual HAP content level for each test run must be less than the level in today's standards.

During the initial test, the appropriate parameter must be monitored, and an enforceable ''level'' established as a maximum or minimum operating parameter based on this monitoring. As

with continuous front-end process vents, the level is established as the average of the maximum (or minimum) point values for the three test runs.

Continuous monitoring must be conducted on the control or recovery device, and compliance is based on the daily average of the monitoring results. The monitoring, recordkeeping, and reporting provisions are the same as the process vent provisions in the HON, which are required for continuous front-end process vents in today's final standard.

3. Carbon Disulfide Limitations For Styrene Butadiene Rubber By Emulsion Producers

Today's regulation would reduce carbon disulfide (CS_2) emissions from styrene butadiene rubber producers using an emulsion process by limiting the concentration of CS_2 in the dryer vent stacks to 45 ppmv. Sulfur-containing shortstopping agents used to produce certain grades of rubber have been determined to be the source of CS_2 in the dryer stacks. Owners or operators would be required to develop standard operating procedures for each grade that uses a sulfur-containing shortstopping agent. These standard operating procedures would specify the type and amount of agent added, and the point in the process where the agent is added. One standard operating procedure can be used for more than one grade if possible.

The owner or operator is required to validate each standard operating procedure through either a performance test or a demonstration using engineering assessment. The facility would be in compliance with this the regulation if the appropriate standard operating procedure is followed whenever a sulfur-containing shortstopping agent is used. Facilities that route dryer vents to a combustion device would be exempt from § 63.500 of the regulation.

D. Wastewater Provisions

Except for back-end wastewater streams originating from equipment that only produces latex products and back-end wastewater streams at affected sources that are subject to the residual organic HAP limitation, the standards require owners and operators to comply with the wastewater provisions in the HON. Owners and operators of new and existing sources are required to make a group determination for each wastewater stream based on the existing source applicability criteria in the HON: Flow rate and organic HAP concentration. The level of control required for Group 1 wastewater streams is dependent upon the organic HAP constituents in the wastewater stream.

The standards also require owners and operators to comply with the maintenance wastewater requirements in § 63.105 of subpart F. These provisions require owners and operators to include a description of procedures for managing wastewaters generated during maintenance in their startup, shutdown, and malfunction plan.

E. Equipment Leak Provisions

For all subcategories, both existing and new affected sources are required to comply with the equipment leak standards specified in subpart H of 40 CFR part 63. In general, subpart H requires owners and operators to implement a leak detection and repair (LDAR) program, including various work practice and equipment standards. The subpart H standards are applicable to equipment in volatile HAP service for 300 or more hours per year (hr/yr). The standards define ''in volatile organic HAP service'' as being in contact with or containing process fluid that contains a total of 5 percent or more total HAP. Equipment subject to the standards are: Valves, pumps, compressors, connectors, pressure relief devices, open-ended valves or lines, sampling connection systems, instrumentation systems, agitators, surge control vessels, bottoms receivers, and closed-vent systems and control devices.

A few differences to the subpart H standards are contained in this final rule. These differences include not requiring the submittal of an Initial Notification or Implementation Plan and allowing 150 days (rather than 90 days) to submit the Notification of Compliance Status. In addition, the exemptions discussed earlier for storage vessels are also applicable for surge control vessels and bottoms receivers.

Affected sources subject to today's final rule and currently complying with the NESHAP for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks (40 CFR part 63, subpart I) are required to continue to comply with subpart I until the compliance date of this final rule, at which point in time they must comply with today's rule and are no longer subject to subpart I. Further, affected sources complying with subpart I through a quality improvement program are allowed to continue these programs without interruption as part of complying with today's rule. In other words, becoming subject to today's standards does not restart or reset the ''compliance clock'' as it relates to reduced burden earned through a quality improvement program.

F. Emissions Averaging Provisions

The EPA is allowing emissions averaging among continuous front-end process vents, batch front-end process vents, aggregate batch vents, back-end process operations, storage vessels, and wastewater streams within an existing affected source. New affected sources are not allowed to use emissions averaging. Emissions averaging is not allowed between subcategories; it is only allowed between emission points within the same affected source. Under emissions averaging, a system of ''credits'' and ''debits'' is used to determine whether an affected source is achieving the required emission reductions. Twenty emission points per plant site are allowed in the set of emissions averaging plans submitted for the plant site, with an additional 5 emission points allowed if pollution prevention measures are used.

G. Compliance and Performance Test Provisions and Monitoring Requirements

Compliance and performance test provisions and monitoring requirements contained in the final standards are very similar to those found in the HON. Each type of emission point included in the standards is discussed briefly in the following paragraphs. Also, significant differences from the parameter monitoring requirements found in the HON are discussed.

1. Storage Vessels

Monitoring and compliance provisions for storage vessel improvements include periodic visual inspections of vessels, roof seals, and fittings, as well as internal inspections. If a control device is used, the owner or operator must identify the appropriate monitoring procedures to be followed in order to demonstrate compliance. Monitoring parameters and procedures for many of the control devices likely to be used are identified in the final standards. Reports and records of inspections, repairs, and other information necessary to determine compliance are also required by the final standards.

2. Continuous Front-end Process Vents

The final standards for continuous front-end process vents require the owner or operator to either calculate a TRE index value to determine the group status of each continuous front-end process vent or to comply with the control requirements. The TRE index value is determined after the last recovery device in the process or prior to venting to the atmosphere. The TRE calculation involves an emissions test or

engineering assessment and use of the TRE equations specified in the final standards.

Performance test provisions are included for Group 1 continuous front-end process vents to verify that control devices or recovery achieve the required performance. Monitoring provisions necessary to demonstrate compliance are also included in the standards.

3. Batch Front-End Process Vents

Similar to the provisions for continuous front-end process vents, there is a procedure for determining the group status of batch front-end process vents. This procedure is based on annual emissions and annual average flow rate of the batch front-end process vent. Equations for estimating and procedures for measuring annual emissions and annual average flow rates are provided in the final standards. The use of engineering assessment for the group determination is also allowed.

Performance test provisions are included for Group 1 batch front-end process vents to verify that control devices achieve the required performance. Monitoring provisions necessary to demonstrate compliance are also included in the final standard.

For Group 2 batch front-end process vents, the standard requires owners and operators to establish a batch cycle limitation. The batch cycle limitation restricts the number of batch cycles that can be accomplished per year. This enforceable limitation ensures that a Group 2 batch front-end process vent does not become a Group 1 batch front-end process vent as a result of running more batch cycles than anticipated when the group determination was made. The determination of the batch cycle limitation is not tied to any previous production amounts. An affected source may set the batch cycle limitation at any level it desires as long as the batch front-end process vent remains a Group 2 batch front-end process vent. Alternatively the standards would allow owners or operators to declare any Group 2 batch front-end process vent to be a Group 1 batch front-end process vent. In such cases, control of the batch process front-end vent is required.

4. Back-End Process Vents

The final rule specifies the performance tests, test methods (with the exception of residual HAP reference test methods), and monitoring requirements necessary to determine that the allowed back-end emission limitations are achieved. The following paragraphs discuss each of these.

Performance tests and test methods for residual HAP limitations. Initial performance tests, in the traditional sense, are required for facilities complying with the back-end operations provisions using add-on control. Testing is required for all control and recovery devices, other than flares and certain boilers and process heaters. The back-end process provisions require the use of approved test methods.

Initial tests are required for facilities complying by using stripper parameter monitoring. The purpose of this initial testing is to establish correlations between residual HAP contents and stripper operating parameters. Within a few months of the promulgation of this regulation, the EPA will promulgate test methods for determining the residual HAP content in crumb and latex.

If an owner or operator complies with the back-end standards by sampling, periodic sampling and testing is required. The residual HAP test methods would also be used for these analyses.

Performance tests and test methods for carbon disulfide emission limitations for SBRE facilities. Initial performance tests are one option for ''verifying'' each standard operating procedure as an acceptable procedure that results in carbon disulfide concentrations of 45 ppmv or less in the dryer stacks at SBRE facilities. Standard operating procedures may also be verified through engineering assessments. If the performance testing option is selected, one performance test is required for each standard operating procedure. Method 18 or 25A is specified to measure the carbon disulfide concentration. Additional verifications are not required unless a new standard operating procedure is added, or an existing standard operating procedure is revised.

Monitoring requirements. Control and recovery devices and strippers used to comply with the final rule need to be maintained and operated properly if the required level of control is to be achieved on a continuing basis. Monitoring of control and recovery device and stripper parameters can be used to ensure that such proper operation and maintenance are occurring.

For control and recovery devices, the back-end process operation standard uses the same list of parameters discussed above for continuous front-end process vents. For strippers, the regulation requires the monitoring of temperature, pressure, steaming rates, and a parameter indicative of residence time.

5. Wastewater

For demonstrating compliance with the various requirements, the final standard allows the owners or operators to either conduct performance tests or to document compliance using engineering calculations. Appropriate compliance and monitoring provisions are included in the final standard.

6. Equipment Leaks

The final standard retains the use of Method 21 to detect leaks. Method 21 requires a portable organic vapor analyzer to monitor for leaks from equipment in use. A ''leak'' is a concentration specified in the regulation for the type of equipment being monitored and is based on the instrument response to methane (the calibration gas) in the air. The observed screening value may require adjustment for the response factor relative to methane if the weighted response factor of the stream exceeds a specified multiplier. The final rule requires the use of Method 18 or Method 25A to determine the organic content of a process stream. To test for leaks in a batch system, test procedures using either a gas or a liquid for pressure testing the batch system are specified to test for leaks.

7. Continuous Parameter Monitoring

The final standards require owners or operators to establish parameter monitoring levels. The standards provide the owner or operator the flexibility to establish the levels based on site-specific information. Site-specific levels can best accommodate variation in emission point characteristics and control device designs. Three procedures for establishing these levels are provided in the final standards. They are based on performance tests; engineering assessments, performance tests, and/or manufacturer's recommendations; and engineering assessments and/or manufacturer's recommendations. While the establishment of a level based solely on performance tests is preapproved by the Administrator, values determined using the last two procedures, which may or may not use the results of performance tests, must be approved by the Administrator for each individual case.

The final standards require the availability of at least 75 percent of monitoring data to constitute a valid day's worth of data for continuous and batch front-end process vents. Failure to have a valid day's worth of monitoring data is considered an excursion. The criteria for determining a valid day's or

hour's worth of data are provided in the final standards. A certain number of excused excursions have been allowed for in the final standards; these provisions are the same as the provisions in the HON. The standards allow a maximum of 6 excused excursions for the first semiannual reporting period, decreasing by 1 excursion each semiannual reporting period. Starting with the sixth semiannual reporting period (i.e., the end of the third year of compliance) and thereafter, affected sources are allowed one excused excursion per semiannual reporting period. As is always the case, a State has the discretion to impose more stringent requirements than the requirements of NESHAP and other federal requirements and could choose not to allow the excused excursion provisions contained in these final standards.

H. Recordkeeping and Reporting Provisions

The final standards require owners or operators of affected sources to maintain required records for a period of at least 5 years. The final standards require that the following reports be submitted, as applicable: (1) Precompliance Report, (2) Emissions Averaging Plan, (3) Notification of Compliance Status report, (4) Periodic Reports, and (5) other reports (e.g., notifications of storage vessel internal inspections).

Specific recordkeeping and reporting requirements are specified in each section that addresses an individual emission point (e.g., § 63.486 for batch front-end process vents). The recordkeeping and reporting provisions related to the affected source as a whole (e.g., types of reports, such as the Notification of Compliance Status) are found in § 63.506. For example, § 63.491 requires an owner or operator to record the batch cycle limitation for each Group 2 batch front-end process vent. Section 63.492 goes on to require the owner or operator to submit this information in the Notification of Compliance Status as specified in § 63.506. Finally, § 63.506 requires submittal of the information specified in § 63.492.

III. Summary of Impacts

This section presents a summary of the air, non-air environmental (waste and solid waste), energy, cost, and economic impacts resulting from the control of HAP emissions under this final rule.

A. Facilities Affected by These NESHAP

The promulgated rule would affect BR, EPI, EPR, HYP, NEO, NBR, PBR, PSR, and SBR facilities that are major sources in themselves, or that are located at a major source. Based on available information, all of the facilities at which these elastomers are produced were judged to be major sources for the purpose of developing these standards. (Final determination of major source status occurs as part of the compliance determination process undertaken by each individual source.)

Impacts are presented relative to a baseline reflecting the level of control in the absence of the rule. The current level of control was well understood, because emissions and control data were collected on each facility included in the analysis. The impacts for existing sources were estimated by bringing each facility's control level up to today's standards.

Impacts are not assessed for new sources because it was projected that no new sources are expected to begin operation through 1999. For more information on this projection, see the New Source Memo in the SID.

B. Primary Air Impacts

Today's standards are estimated to reduce HAP emissions from all existing sources of listed elastomers by 6,400 Mg/yr. This represents a 48 percent reduction from baseline. Table 4 summarizes the HAP emission reductions for each individual subcategory.

C. Other Environmental Impacts

The total criteria air pollutant emissions resulting from process vent and wastewater control of today's standards are estimated to be around 178 Mg/yr, with NO_X emissions from incinerators and boilers accounting for around 155 Mg/yr. Minimal wastewater or solid and hazardous waste impacts are projected.

D. Energy Impacts

The total nationwide energy demands that would result from implementing the process vent and wastewater controls are around 1.10×10^{12} Btu annually.

TABLE 4. HAP EMISSION REDUCTION BY SUBCATEGORY

Subcategory	HAP emission reduction (Mg/yr)						Percentage reduction from baseline
	Storage	Front-end process vents	Back-end process operations	Wastewater operations	Equipment leaks	Total	
Butyl rubber	0	211	0	102	293	606	64
Epichlorohydrin elastomer	4	0	0	0	120	124	77
Ethylene propylene rubber	2	85	979	0	1,020	2,012	62
Halobutyl rubber	62	38	0	0	233	335	26
Hypalon™	0	0	0	0	0	0	0
Neoprene	0	258	0	0	96	354	48
Nitrile butadiene latex	0	0	0	94	41	135	85
Nitrile butadiene rubber	1	0	0	0	364	365	62
Polybutadiene rubber/styrene butadiene rubber by solution	0	0	882	0	637	1,519	44
Polysulfide rubber	0	0	0	0	0	0	0
Styrene butadiene latex	0	22	0	272	332	627	44
Styrene butadiene rubber by emulsion	0	0	195	48	0	243	23
Total—(percent of total reduction)	69, (1)	615, (10)	2,056, (32)	516, (8)	3,136, (49)	6,392	48

E. Cost Impacts

Cost impacts include the capital costs of new control equipment, the cost of energy (supplemental fuel, steam, and electricity) required to operate control equipment, operation and maintenance costs, and the cost savings generated by reducing the loss of valuable product in the form of emissions. Also, cost impacts include the costs of monitoring, recordkeeping, and reporting associated with today's standards. Average cost

effectiveness ($/Mg of pollutant removed) is also presented as part of cost impacts and is determined by dividing the annual cost by the annual emission reduction. Table 5 summarizes the estimated capital and annual costs and average cost effectiveness by subcategory.

Under the promulgated rule, it is estimated that total capital costs for existing sources would be $26 million (1989 dollars), and total annual costs would by $18.4 million (1989 dollars) per year. It is expected that the actual compliance cost impacts of the rule would be less than presented because of the potential to use common control devices, upgrade existing control devices, use other less expensive control technologies, implement pollution prevention technologies, or use emissions averaging. Because the effect of such practices is highly site-specific and data were unavailable to estimate how often the lower cost compliance practices could be utilized, it is not possible to quantify the amount by which actual compliance costs would be reduced.

TABLE 5. SUMMARY OF REGULATORY COSTS

	TCI [a]— (1000$)	TAC [b]— (1000$/yr)	AER [c]— (Mg/yr)	CE [d]— ($/Mg)
Butyl	691	1,316	606	2,200
Epichlorohydrin	491	241	124	1,900
Ethylene Propylene	5,854	3,506	2,012	1,700
Halobutyl	328	322	335	1,000
Hypalon®	0	0	0	N/A
Neoprene	560	897	354	2,500
Nitrile butadiene latex	465	243	135	1,800
Nitrile butadiene rubber	397	444	365	1,200
Polybutadine/styrene butadiene rubber by solution	11,780	8,335	1,519	[e]5,500
Polysulfide	0	0	0	N/A
Styrene butadiene latex	1,480	1,028	627	1,600
Styrene butadiene rubber by emulsion	3,942	2,112	243	[e]8,700

[a] "TCI" represents Total Capital Investment.
[b] "TAC" represents Total Annualized Cost, including the monitoring, recordkeeping, and reporting cost.
[c] "AER" represents the Annual Emission Reduction.
[d] "CE" represents Cost-Effectiveness.
[e] This cost-effectiveness is primarily due to the high costs estimated to control back-end process emissions to the MACT floor level. The costs developed are costs for incineration devices to sufficient back-end vents so that emissions will be reduced to a level equivalent to the level achieved by meeting the residual HAP limit by stripping. Extrapolation of industry estimates of the cost of enhanced stripping place the cost of enhanced stripping as low as 10 percent of the cost of incineration.

F. Economic Impacts

Economic impacts for the regulatory alternatives analyzed at proposal show that the estimated price increases for the affected chemicals range from 0.2 percent for nitrile butadiene latex (NBL) to 2.5 percent for BR. Estimated decreases in production range from 0.7 percent for NBL to 5.0 percent for BR. With the reduced estimate in costs from proposal, the economic impacts of the final rule should be lower than those estimated at proposal. No closures of facilities are expected as a result of the standard.

Three aspects of the analysis are likely to lead to an overestimate of the impacts. First, the economic analysis model assumes that all affected firms compete in a national market, though in reality some firms may be protected from competitors by regional or local trade barriers. Second, facilities with the highest control cost per unit of production are assumed to also have the highest baseline production costs per unit. This assumption may not always be true, because the baseline production costs per unit are not known, and thus, the estimated impacts, particularly for the smaller firms, may be too high. Finally, economic impacts may be overstated, because the alternative for halobutyl rubber and butyl rubber that was used in this analysis is more stringent and more costly than the selected regulatory alternative.

For more information regarding the impacts of the final standards, consult the Basis and Purpose Document (see the **SUPPLEMENTARY INFORMATION** section near the beginning of the preamble).

IV. Significant Comments and Changes to the Proposed Standards

In response to comments received on the proposed standards, changes have been made to the final standards. While several of these changes are clarifications designed to make the EPA's intent clearer, a number of them are significant changes to the requirements of the proposed standards. A summary of the substantive comments and/or changes made since the proposal are described in the following sections. The rationale for these changes and detailed responses to public comments are included in the Basis and Purpose Document for the final standards. Additional information is contained in the docket for these final standards (see **ADDRESSES** section of this preamble).

National Emission Standards for Hazardous Air Pollutant Emissions from the Production of Acrylonitrile Butadiene Styrene (ABS) Resin, Styrene Acrylonitrile (SAN) Resin, Methyl Methacrylate Acrylonitrile Butadiene Styrene (MABS) Resin, Methyl Methacrylate Butadiene Styrene (MBS) Resin, Polystyrene Resin, Poly(ethylene terephthalate) (PET) Resin, and Nitrile Resin (Group IV Polymers and Resins) (40 CFR part 63, subpart JJJ), were developed concurrently with subpart U. Many of the basic requirements of the two rules are alike, and in some cases they are identical. Subpart V was proposed on March 29, 1995, and comments from the public were received. In many instances, similar comments were received on analogous sections of subparts U and V. In these instances, the responses to comments and appropriate rule changes were coordinated. However, in some instances, comments were received on subpart V, and not on subpart U, that were applicable to provisions of subpart U. A summary of these comments can be found in the ''Hazardous Air Pollutant Emissions from Process Units in the Thermoplastics Manufacturing Industry—Basis and Purpose Document for Final Standards, Summary of Public Comments and Responses'' (EPA–453/R–96–001b, May 1996; Docket Number

A–92–45, Item Number V–C–1). In a few cases, the EPA decided that a change to subpart U based on these comments was appropriate. These changes did not result in a change in the stringency of the subpart U provisions, but were typically changes to improve the clarity of the rule. The one area where a subpart V comment resulted in a tangible change to subpart U was in the batch vent applicability determination; that is, an affected source is allowed to determine the group status of a batch front-end process vent based on its primary product.

A. Applicability Provisions and Definitions

1. Designation of Affected Source and the Definition of EPPU

Commenters expressed confusion about the definitions of affected source and EPPU in the proposed rule. The EPA reviewed both definitions and agreed the definitions needed clarification. Therefore, the EPA has revised the language describing affected source and EPPU in the final rule. The definition of affected source has been clarified, as discussed in section II and paragraph A.3 of this section.

The definition of EPPU was revised and now includes a list of the equipment that comprises an EPPU. Because wastewater operations are ancillary equipment and are often used by more than one EPPU and may be used by more than one affected source, they are not included as part of the EPPU.

2. Definition of Organic HAP

Numerous commenters recommended that the EPA restrict the list of organic HAP in the final rule to those that are used or are present in significant quantities at EPPUs or those that are listed in the HON, subpart F, table 2. The EPA agreed with the commenters that a table providing a listing of the specific organic HAP expected to be regulated for each subcategory covered by the rule should be included in the final rule. Therefore, the definition of organic HAP was revised to specify those organic HAP known to be used or present in significant quantities for each subcategory. This list is provided in table 7 of the final rule.

This revised definition of organic HAP was developed using available process description information received from industry and gathered from available literature. Because there may be additional organic HAP present at an affected source, the final rule requires owners or operators to notify the EPA of the presence of any additional organic HAP based on the following criteria: (1) Organic HAP is knowingly introduced into the manufacturing process, or has been or will be reported under any Federal or State program, such as TRIS or Title V; and (2) Organic HAP is presented in Table 2 of subpart F.

3. Determining New Source Status

The EPA received comments regarding the process for determining if new or existing source requirements would apply to a particular EPPU. In response to those comments, the EPA has revised the provisions in the final standards. Under the final standards, new affected sources are created under each of the following four situations: (1) If a plant site with an existing affected source producing an elastomer product as its primary product constructs a new EPPU also producing the same elastomer product as it primary product, the new EPPU is a new affected source if the new EPPU has the potential to emit more than 10 tons per year of a single HAP, or 25 tons per year of all HAP; (2) when an EPPU is constructed at a major source plant site where the elastomer product was not previously produced; (3) if a new EPPU is constructed at a new plant site (i.e., green field site) that will be a major source; and (4) when an existing affected source undergoes reconstruction, thus making the previously existing source subject to new source standards.

This approach to defining a new affected source was selected in order to make subpart U more consistent with the HON. This standard differs from the HON, however, in that it applies to multiple source categories. Thus, unlike the HON, a newly added EPPU at a facility is covered by this rule even if that EPPU is in a different source category from the existing EPPUs at the facility. It is the EPA's position that the addition of a process unit in a different source category is a new source and must meet the requirements for new sources even though the EPPU may have the potential to emit less than 10 tons per year of a single HAP or 25 tons per year of all HAP. Indeed, if a source covered by another MACT standard (i.e., a different source category) were built at a HON facility, that source would be subject to the new source requirements under that MACT standard.

4. Flexible Operation Units

The final rule has retained the HON concept of flexible operation units, but the language in the final rule has been significantly modified to more adequately address polymer production facilities. The final provisions require flexible operation units with an elastomer as the primary product to commit to complying with the elastomers rule at all times, regardless of what product they are producing at any particular time. The primary product for a flexible operation unit is determined based on projected production for the next 5 years.

B. Storage Vessel Provisions

In comments received on the storage tank provisions, the EPA noted a common misinterpretation of the proposed regulation related to the distinction between a ''storage vessel'' and a ''surge control vessel''. The EPA determined that many of the comments received on ''storage vessels'' were in fact referring to vessels that fall under the definition of surge control vessel. The EPA suggests that owners and operators of facilities subject to subpart U pay careful attention to these definitions.

1. Applicability Requirements

Several comments were received requesting that the EPA consider the exemption of vessels storing specific HAP or products. In fact, one commenter indicated that the EPA should conduct a full floor analysis for new and existing storage vessels, considering each chemical separately and the various sizes of tanks for each subcategory. Other commenters supported the exemption of stripped latex storage tanks from control requirements, but also declared that high conversion SBR or polybutadiene latex storage tanks should also be exempt. Another commenter stated that tanks downstream of EPR stripping operations should be exempt from storage vessel requirements, just as those containing latex downstream of stripping operations are exempt.

The EPA does not believe that the floor analyses for each HAP stored at elastomer production facilities are required to be conducted under the Act, nor should they be conducted. The Act requires the EPA to set emission standards for HAP on a source category (or subcategory) basis; it does not compel the EPA to establish separate control measures for each HAP emitted by a source in the category. As suggested by the commenter, this approach could result in an incomplete standard, since it would not include a standard for a listed HAP that may be used in the future by elastomer facilities. Further, consideration of individual HAP storage vessel controls would not be representative of facility-wide storage vessel control levels.

However, the EPA believes that it is reasonable to exempt a storage vessel from the final regulation when it is clear that the vessel would never be a Group 1 storage vessel. The EPA determined that the following HAP used in the elastomer industry have low enough vapor pressures that vessels storing these HAP would never be Group 1: acrylamide, epichlorohydrin, and styrene. Therefore, the final rule exempts storage vessels containing these HAP at existing sources. This exemption is also extended to surge control vessels and bottoms receivers at existing sources.

In addition, the EPA is convinced that an SBL storage vessel (high conversion or otherwise) would never contain sufficient HAP to exceed the vapor pressure cutoff for Group 1 storage vessels. This is primarily due to the low vapor pressure of styrene. Therefore, the final rule exempts all SBL storage vessels, surge control vessels, and bottoms receivers from the requirements of §§ 63.484 and 63.502.

Finally, the EPA agrees that storage vessels, surge control vessels, and bottoms receivers downstream of stripping operations at ethylene-propylene rubber facilities that are in compliance with the provisions of § 63.494 through the use of stripping technology should be exempt from the storage vessel, surge control vessel, and bottoms receiver requirements. Further, the EPA believes that these exemptions should also extend to the other subcategories required to comply with the residual organic HAP limitations in § 63.494(a)(1)–(3). However, since the residual organic HAP content of rubber leaving the stripping operations at ethylene propylene rubber and polybutadiene/ styrene-butadiene rubber by solution facilities complying with these provisions through the use of add-on control is not restricted, these exemptions are not available to these facilities.

2. Emission Limits

Commenters requested that the regulation allow the use of alternative storage vessel/surge control vessel control techniques. Two commenters described specific control systems present at their facilities, and asked that the EPA include allowances for these systems in the rule. They stressed that such allowances should consider the overall effectiveness of the control system, and not just the efficiency of the control or recovery device.

The EPA agrees that it is reasonable to consider the overall effectiveness of a control ''system'' in determining compliance with the rule, and that such systems that have been demonstrated to be equivalent to the reference control technology should be allowed. While the EPA believes the system described by the commenter could be demonstrated to be equivalent to the reference control technology for surge control vessels, the commenter did not provide sufficient documentation to allow a complete evaluation of equivalence.

However, the EPA maintains that subpart U, as proposed, already provides the opportunity for the commenter, as well as other elastomer production facilities, to demonstrate equivalency of alternative control techniques. For storage vessels, § 63.121 of subpart G addresses the procedures to obtain approval of alternative means of emission limitations. For surge control vessels and bottoms receivers, these procedures are contained in § 63.177 of subpart H. In summary, these sections specify that the owner or operator must submit documentation of the equivalency determination to the Administrator.

C. Continuous Front-end Process Vent Provisions

1. Applicability Requirements

Several commenters stated that the exemption from halide controls for butyl/halobutyl production should be extended to all rubber manufacturers, since halogen-containing compounds or by-products have historically been routed to flares. Another commenter agreed with the exemptions for butyl and halobutyl production facilities, but pointed out that this exemption should only be applicable to existing sources.

Only one existing facility was identified in each the halobutyl and the butyl rubber subcategories. At both of these facilities, halogenated vent streams were vented to a flare and/or boiler. Since both of these subcategories were single-facility subcategories, the MACT floor was determined to be the existing level of control. The EPA examined the impacts of requiring halogenated vent streams at the halobutyl and butyl rubber facilities to comply with the proposed requirements for all other elastomer subcategories (i.e, the HON-level of control). The EPA concluded that the costs associated with this level of control were not reasonable, given the associated emission reduction. Therefore, the proposed regulation allowed halogenated streams at halobutyl and butyl rubber facilities that were routed to a flare or boiler prior to proposal to continue to be controlled with these combustion devices, without additional control for the resulting halides.

Prior to proposal, the EPA was aware of one EPR facility that also routed a halogenated vent stream to a boiler. However, since only one of five EPR facilities reported this situation, the EPA concluded that this level of control was not the MACT floor for EPR. Other EPR producers claimed that they also had halogenated streams at their facilities, but none offered any information to quantify the amount of halogens in the stream to determine if the streams could be classified as halogenated.

After proposal, the EPA learned that chlorinated organic compounds are present in streams at all of the EPR facilities. These compounds are a by-product of the polymerization reaction, resulting from a chlorinated catalyst. At all four of the facilities contacted, the streams containing the chlorinated compounds are routed to either a flare or boiler. Due to the widely varying concentration in the stream, all facilities indicated that it was difficult, if not impossible, to accurately determine the halogen atom concentration in the vent stream. However, all expressed confidence that at times, the halide threshold in the incoming stream was exceeded.

Therefore, the EPA concluded that four of the five EPR facilities have halogenated streams that are routed to either a boiler or flare. For this reason, the EPA has determined that the floor for EPR is the existing level of control for these halogenated vent streams. In addition, as with halobutyl and butyl rubber, the EPA does not believe that it would be cost-effective to require new incinerators and scrubbers to be installed at these facilities, when the only net emission reduction would be the reduction of the hydrochloric acid, since the reduction of the halogenated organic compound in the incinerator would be the same as was already being achieved in the boiler or flare. However, as noted above, sufficient stream-specific information was not available to conduct this analysis. Therefore, the final rule has been changed to extend the exemption for existing halogenated streams routed to a boiler or flare to EPR producers. Further, the final rule specifies that this exemption does not apply to new sources.

2. Emission Limits

Based on a commenter's request, the final rule exempts a vent stream routed to an internal combustion engine as primary fuel from source testing requirements. The final rule also requires that the on/off status of internal

combustion be monitored as a means of demonstrating compliance with these control requirements.

D. Batch Front-End Process Vent Provisions

Commenters believed that batch front-end process vent provisions were inappropriate and unnecessarily burdensome. Several commenters disagreed with the EPA's reliance on the Batch Processes ACT document in the development of the batch vent provisions, claiming that it was not appropriate to the elastomer manufacturing industry.

The EPA believes that the potential for HAP emissions from batch operations at elastomer production facilities warrant control. While the EPA disagrees with the statement that the provisions are inappropriate, the EPA agrees with comments regarding the complexity of the proposed batch vent provisions. Therefore, in the final rule these provisions were simplified. Many of these changes are discussed below.

In response to comments on the batch front-end process vent applicability provisions, the volatility class concept has been eliminated. The Batch Processes ACT developed an annual threshold emission level for each of three volatility classes. The EPA initially judged that selection of a single annual threshold emission level would not be appropriate and included all three levels in the proposed standards. However, upon further review, the EPA found no adverse impact would result from the use of a single annual threshold emission level and, indeed, the final standards have been significantly simplified. Besides removing the requirement to determine the volatility class, the final standards contain only one equation for determining the cutoff flow rate (§ 63.488(f)) which is the last step in the group determination process.

A commenter on the proposed Polymers and Resins IV (40 CFR part 63, subpart V) regulation suggested changing the batch vent group determination provisions to only utilize emissions data from an EPPU's primary product. The EPA agreed that to base the group determination on a single product could, if appropriately applied, provide acceptable results from an environmental perspective, while simplifying the compliance requirements for and improving the enforceability of the batch front-end process vent standards. Therefore, the final standards contain provisions allowing the owner or operator of an affected source to perform the group determination for batch front-end process vents based on annualized production of a single batch product. However, the EPA does not consider it to be appropriate from an environmental perspective to allow anything other than the worst-case HAP emitting batch product to be considered when basing applicability on a single product. Therefore, the final standards specify that the worst-case HAP emitting batch product be used when an owner or operator chooses to annualize a single product for purposes of determining applicability. The final standards define the worst-case HAP emitting product and describe how emissions are to be annualized to represent full-time production, where full-time production does not necessarily mean operating at maximum production rate. Since the proposed batch vent provisions were similar between subparts U and V, the EPA decided that this change was also appropriate for subpart U.

Several commenters stated that the proposed provisions for the methods allowed for the calculation of batch front-end process vent emissions were overly restrictive. The proposed rule required that emissions be calculated using either the emission estimation equations or source testing. If the owner or operator could demonstrate that both the equations and source testing were inappropriate, then they were allowed to use engineering assessment to calculate HAP emissions. The commenters believed that an affected source should be allowed to use engineering assessments without having to demonstrate that source testing was inappropriate.

The EPA maintains that it is imperative that a consistent technique for the estimation of batch front-end process vent emissions be used, which is provided through the emission estimation equations. The EPA believes the data required to use the batch front-end process vent emissions estimation equations should be obtainable with reasonable effort. The final standards continue to require use of the emissions estimation equations, unless the owner or operator can demonstrate that these equations are inappropriate.

However, the EPA has concluded that direct measurement of emissions through testing may prove to be difficult and may or may not provide an increased assurance of accuracy over the use of engineering assessment. Therefore, if an owner or operator can demonstrate that the emissions estimation equations are not appropriate, the final standards allow the selection of either direct measurement or engineering assessment. Further, criteria for demonstrating that the emissions estimation equations are not appropriate to a specific batch emissions episode have been added to the final standards. These criteria require either: (1) The availability of test data that demonstrate a greater than 20 percent discrepancy between the test value and the estimated value, or (2) that the owner or operator demonstrate to the Administrator that the emissions estimation equations are not appropriate for a given batch emissions episode.

E. Back-End Process Operation Provisions

The back-end process operation provisions received the majority of the comments on the proposed rule. Significant comments were received on practically every aspect of these provisions. Following is a summary of the comments that resulted in notable changes to the back-end process operation requirements.

1. Averaging Period

Several commenters declared that compliance based on a weekly average HAP limitation was unreasonable, and that compliance should be demonstrated on the basis of a monthly (or 30-day) rolling average instead. These commenters claimed that requiring compliance based on a weekly average fails to provide adequate operational flexibility for manufacturers to produce different grades of polymers in accordance with customer demands.

Upon investigation of this issue, the EPA concluded that a monthly averaging period for the residual HAP limitations was more appropriate. Changing to a monthly averaging period would provide more operational flexibility to elastomer producers, while maintaining the same annual emission reduction.

2. Residual Organic HAP Limitations

Commenters objected to numerous aspects of the residual organic HAP limitations. Most of these comments were directed towards the methods used to determine the back-end MACT floors. Discussed below are comments on definitions, test methods, and other areas that affect the determination of the residual organic HAP limitations. The EPA addressed these comments and re-assessed the MACT floors.

Definition of crumb rubber dry weight. Comments stated that, for solution processes, the definition of ''crumb rubber dry weight'' should not exclude extender oils and carbon black for compliance purposes, because these are an integral part of the polymer. The EPA agrees with these comments, and has

revised the definition of crumb rubber dry weight to reflect this decision.

Residual organic HAP test methods. Concurrent with the proposal of subpart U, the EPA proposed three residual HAP test methods—one each for SBRE, PBR/SBRS, and EPR. Several commenters stated that no single analytical method would produce consistent results for all polymers, and consequently, each company should be allowed to demonstrate compliance using a company-specific method that is comparable to the EPA test method.

After careful review and consideration of this issue, the EPA agreed with the commenters and has undergone an extensive effort to rectify this situation. The EPA concluded that it was appropriate to allow every interested company to validate their own test method using a modified version of 40 CFR part 63, appendix A, Method 301.

A total of nine test methods were submitted (three for EPR, three for SBRE, and three for PBR/SBRS). The modified Method 301 analysis performed allows each company to validate their own test method, and seven of the ten affected companies have done so. Therefore, each source has a compliance method available for determining residual HAP. The EPA believes that it would be helpful if the industry had access to all validated test methods, and is in the process of reviewing the methods and validation data that were submitted, and has preliminarily indicated that approval of all nine methods is anticipated. The EPA intends to promulgate these methods as appendix A Methods 310 a, b, and c for EPR, Methods 312 a, b, and c for SBRE, and Methods 313 a, b, and c for PBR/SBRS. However, since the approval and subsequent promulgation of the methods has not yet occurred, this final rule does not stipulate the methods to be used to determine residual organic HAP. Upon promulgation of these methods, the Agency will propose modifications to subpart U to specify that these methods be used to determine residual organic HAP.

Furthermore, the affected industry has been intimately involved with all activity associated with the EPA's promulgation of the residual organic HAP test methods. The EPA held meetings with industry representatives to discuss their comments on the proposed methods, and to discuss procedures for validating company test methods. Every company that was expected to be subject to the back-end residual organic HAP limitations was invited to these meetings. As noted above, a total of nine test methods were submitted. These methods were from seven companies, leaving only three affected companies that decided not to submit methods. Representatives of each of those three companies which did not submit test methods were in attendance at one or more of the meetings and are therefore knowledgeable about the test methods. Since industry's submittal of the test methods, the EPA has worked closely with industry representatives to finalize the methods. Therefore, the EPA contends that all affected companies should be well aware of the methods that will be promulgated.

As noted earlier, the final approval of these test methods is upcoming. It is anticipated that these methods will be promulgated in the autumn of 1996. The EPA does not believe that the interval between the promulgation of subpart U and the promulgation of these residual organic HAP test methods impairs the ability of any source to comply with the requirements by the specified compliance date. This is the case because affected sources are not required to be in compliance until three years after promulgation of the rule.

MACT floor determination. Commenters indicated that the selection of a MACT floor ''somewhere between the mean, median, and mode'' did not represent central tendency. They maintained that a mean is the correct approach for establishing the MACT floor. The EPA agreed that one measure of central tendency should be used to establish the average and decided that the mean was the most appropriate measure for the residual organic HAP limitations floor determinations. In some situations, the use of the mean can result in a floor level of control that is not represented by any available control technology. However, this did not apply to this situation, where the emissions used to determine the floor were a result of process-specific stripping techniques, and not specific add-on control technologies.

For EPR and PBR/SBRS, commenters stated that combining data received from different companies using different sampling and analytical methods, without establishing whether the methods achieve comparable results, was not an appropriate way to establish residual HAP limits. The commenters stated that if production figures and dryer stack testing results were used to establish these limits, these results cannot be equated to those from crumb sampling at the EPA's designated sampling point, because there are numerous potential emission sources between the proposed sampling point and the stack testing locations. In addition, commenters indicated that the proposed limitation did not recognize the fact that residual HAP may remain in the polymer after finishing. Finally, the commenters also stated that using annual emissions and limited weekly data to establish weekly limits is inherently uncertain, and may have resulted in an inappropriate standard.

In the original MACT floor analyses, the EPA presumed that the back-end emission factor calculated from the reported emissions and production was equivalent to the residual HAP levels in the crumb leaving the stripping operations. Inherent in this analysis was the assumption that the companies reported total HAP emissions from all back-end emission sources, rather than only a portion of these sources.

Upon receipt of these comments, the EPA again contacted each EPR and PBR/SBRS production facility to (1) verify the emissions numbers used to determine the back-end emission factor, (2) discuss the correlation of the methods used to estimate the original emission estimates and the residual organic HAP test methods undergoing validation, (3) determine the appropriate production, including oil extender weight, to use in determining the emission factor, (4) obtain information related to residual HAP remaining in the product after finishing, and (5) obtain short-term residual HAP information to be used in the adjustment of annual emissions to monthly.

After obtaining this information, the EPA recalculated the MACT floors for each subcategory. It should be noted that only one facility indicated that the original emission estimates were calculated in a manner that was inconsistent with the residual organic HAP test methods. Two PBR/SBRS companies and one EPR company provided detailed short-term residual HAP data to allow the conversion of the annual data to a monthly limit. The resulting monthly limits were 8 kg/Mg for EPR and 10 kg/Mg for PBR/SBRS.

While no comments were received criticizing the MACT floor analysis for SBRE, the change to a monthly average limit resulted in a change in the SBRE limit. In the determination of the original SBRE back-end MACT floor, residual HAP data were used from three of the four facilities. The fourth facility provided residual HAP data, but it was in a monthly average format and could not be used in the determination of a weekly limit. However, the change to a monthly limit meant that the data from this facility could also be used, resulting in a monthly limit of 0.4 kg styrene per

Mg latex leaving the stripping operation for existing SBRE sources.

3. Monitoring Requirements

Several comments were received regarding the proposed crumb and latex sampling requirements. In both instances, the EPA decided that the changes suggested by the commenters were technically appropriate, and they did not result in any detrimental environmental impact.

Specifically, commenters found the requirement to sample ''before any opportunity for emissions to the atmosphere'' to be either infeasible or unsafe for PBR/SBRS and EPR and suggested modifications to the proposed sampling provisions. In response to these comments, the final rule states that PBR/SBRS or EPR crumb samples must be taken ''as soon as safe and feasible after the stripping operation, but no later than the entry point for the first unit operation following the stripper (e.g., the dewatering screen).''

For SBRE, commenters pointed out that a more logical sampling location for determining the initial HAP concentration in the SBL is the mixed latex in the storage tank feeding the coagulator (rather than directly after the stripper). The EPA agreed with these comments, and the final rule has revised the SBL sampling location to be ''prior to any coagulation operations.''

Comments were also received opposing the proposed crumb or latex sampling frequency provisions. Commenters believed that it is impractical to take a rubber sample each operating day for every grade of elastomer produced, because of the time required to reach representative operating conditions and to run an accurate analytical test. Suggested alternatives included one test per day, one test per ''campaign,'' daily sampling that is reduced to weekly sampling upon demonstration of daily compliance, and daily sampling with the exception of grades produced for less than 4 hours in a day. Since the variability of the residual HAP contents between elastomer grades is relatively small, and since production schedules typically produce very similar grades of polymer for extended periods of time, the EPA concluded that reducing the sampling frequency to once per day for continuous processes would greatly simplify the rule, while still ensuring that practically all grades of elastomer are represented by such sampling. This change is reflected in the final rule.

Some commenters were concerned that compliance would be based on one sample per day, and requested that an owner or operator be allowed to sample crumb or latex more frequently, and include the residual organic HAP results of these samples in the average. While the EPA believes that the proposed rule did not preclude a company from using more than one sample per day in determining the (weekly) average, the EPA has revised the language in the final rule to make this opportunity clearer.

Several commenters stated that the rule should provide an allowance for missed or invalid crumb or latex samples. The proposed rule designated the failure to collect any single sample as an excursion. These commenters suggested that the EPA should require 75 percent of samples to be collected.

The EPA recognizes that a number of circumstances could occur that cause a sample not to be analyzed in accordance with the rule. These may be in the form of sampling system malfunctions, mis-analysis, or other problems. The EPA realizes that there are unique challenges associated with the sampling of solid polymer, and agrees that problems could occur that would cause a sample to be missed. The EPA also recognizes that some of the test methods being validated to analyze the residual organic HAP in the crumb take long periods of time to perform, meaning that the opportunity to obtain a second sample may not be available if a mis-analysis in the laboratory occurs. While the EPA expects that sound company procedures could eliminate most of these and other problems, the EPA agrees that it is unreasonable to expect that no problems would ever occur that result in a missed sample. Therefore, an excursion for back-end process operations is defined in the final rule as when either (1) the monthly weighted average is above the applicable limit, or (2) when less than 75 percent of the required samples are taken, analyzed, and included in the monthly average.

At proposal, the EPA specifically requested comments on the feasibility of the use of computer predictive modeling as an alternative to the daily crumb or latex sampling, or the stripper parametric monitoring compliance alternatives. Numerous commenters supported the allowance of such systems, while other expressed reservations. While the EPA believes that computer predictive modeling may be an attractive alternative to the periodic sampling and stripper parametric monitoring compliance options, the EPA is convinced that the use of computer predictive modeling is so site-specific that it is not possible to include general requirements for the use of such a system in subpart U. Nevertheless, the EPA believes that facilities should have the opportunity to utilize techniques that are equivalent to the two options of compliance provided in the proposed rule for facilities using stripping technology. Therefore, the EPA has included a third option that provides the opportunity for the site-specific approval of alternative means of compliance through the submittal of an alternative compliance plan.

F. Wastewater Operations Provisions

Several commenters pointed out that the wastewater provisions of subpart G that are referenced in § 63.501 of subpart U are the subject of litigation brought by the Chemical Manufacturers' Association against the EPA. Consequently, sources subject to these provisions cannot know what the final wastewater provisions, proposed to be incorporated into subpart U, will be. These commenters believed that the EPA should ''reserve'' the provisions of § 63.501 pending the outcome of the litigation.

As part of the HON litigation proposal, the EPA will request comments specific to the elastomers rule. If comments specific to the elastomers rule are received they will be addressed as part of the HON rulemaking actions or in actions specific to the elastomers rule, depending on the comments. Therefore, the comment period for this rule will not be reopened.

The EPA believes that the wastewater provisions and the other HON provisions should be referenced in the elastomers rule so that final resolutions of the HON litigation will be automatically included in the elastomers rule. However, changes made to the HON will be evaluated by the EPA for applicability to this rule. The ''automatic'' part refers to the fact that text changes will not need to be made to this rule once the EPA, following notice and an opportunity for comment, finds the HON changes to be applicable. If the EPA determines that any changes to the HON are not applicable to this rule, the elastomers rule will be revised accordingly.

Comments were received that the VOHAP threshold for regulation of new source wastewater streams (10 ppmw) was too restrictive, and that the EPA has not provided an economic justification regarding the achievability of the limit. Another comment was received stating that many elastomer product process wastewater streams will have VOHAP concentrations less than 50 ppmw, and monitoring and recordkeeping requirements are not needed for these streams. This comment recommended that the EPA exempt from regulation

''any process stream at an affected source with an average flow rate of less than 0.02 liters per minute or an average VOHAP concentration of less than 50 ppmw.''

The EPA evaluated the new source MACT floor determinations for wastewater, and determined that no facility in any subcategory reported wastewater controls equivalent to the new source levels. In fact, no facility-wide wastewater controls greater than the existing source HON limitations were reported. Therefore, the EPA believes that this comment is valid, and has changed the final rule so that the new sources are subject to the same wastewater requirements as existing sources.

In the proposed rule, the definition of ''wastewater'' stated that a stream must contain at least 5 ppmw of VOHAP and have a flow rate of 0.02 liter per minute. Given the change in the definition of a Group 1 wastewater stream for new sources, the EPA believes that it is reasonable to revise the definition of wastewater in accordance with the commenter's suggestion and therefore the wastewater definition has been revised in the final rule.

G. Equipment Leak Provisions

One commenter requested that the proposed rule include an exclusion for reciprocating pumps that must leak small quantities of product to lubricate and cool the shaft and seal areas. The EPA agrees that an exemption for the situation described by the commenter is reasonable. The EPA reached a similar conclusion in the proposed Polymers and Resins IV regulation (subpart V). Therefore, § 63.502(d) has been added to the final rule that exempts these reciprocating pump systems.

Several commenters stated that 3 years should be allowed for compliance with equipment leak provisions for compressors (instead of 6 months) under certain circumstances. The EPA agrees with the commenters, and has amended the compliance schedule for compressors in the following situations: (1) Existing reciprocating compressors which would require design modifications to connect to a closed-vent or recovery system; and (2) systems where existing compressors would be replaced.

H. Emissions Averaging Provisions

Several commenters requested that batch front-end process vents be eligible to average emissions. The EPA had not allowed emissions averaging of batch front-end process vents at proposal because the EPA considered the accuracy and consistency needed for emissions averaging to be greater than that needed for applicability determinations. However, upon reconsideration, the EPA determined that the accuracy and consistency needs of emissions averaging could be met by applying a ''discount'' factor (10 percent) to calculated emissions or by requiring direct measurement of emissions. Therefore, the final rule allows emissions averaging of existing batch front-end process vents.

I. Monitoring

Many commenters requested that the proposed rule allow excused excursions in the same way that the HON rule allows excused excursions. In the final rule, the EPA decided to excuse a certain number of excursions for each reporting period. This decision was based on data and information presented during public comment on the HON and reiterated in public comments received on this rule, and during industry meetings held subsequent to proposal that indicated that a certain number of excursions could be expected even with properly operated pollution control devices. The EPA also concluded that not allowing excused excursions would impose significant additional capital and operating costs on the affected source for only negligible corresponding reductions in air emissions. As is always the case, a State has the discretion to impose more stringent requirements than the requirements of NESHAP and other Federal requirements and could choose not to allow the excused excursion provisions of this rule.

The EPA considered the number of excused excursions that would be most appropriate for this standard and determined that the number of excursions allowed in the HON would be reasonable. Therefore, the final provisions allow a maximum of 6 excused excursions for the first semiannual reporting period, decreasing by 1 excursion each semiannual reporting period. Starting with the sixth semiannual reporting period (i.e., the end of the third year of compliance) and thereafter, affected sources are allowed one excused excursion per semiannual reporting period.

J. Recordkeeping and Reporting

Several commenters stated that the recordkeeping and reporting requirements of the proposed rule were extremely burdensome and requested that the EPA reduce the burden. The EPA reexamined the recordkeeping and reporting requirements of the rule after proposal and determined that burden reductions were warranted. The EPA considers the recordkeeping and reporting requirements of the final rule the minimum necessary to ensure compliance with the final standards. The following changes were made to reduce the recordkeeping and reporting burden:

(1) The requirement to submit an Initial Notification has been eliminated;

(2) The requirement to submit an Implementation Plan has been eliminated;

(3) The requirement to record monitored parameters every 15 minutes has been removed. The final rule requires hourly recording of monitored parameters in place of the 15 minute records required in the proposed rule.

Although the above changes will reduce the burden on industry, the level of this reduction was not quantified.

V. Administrative Requirements

A. Docket

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

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

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

B. Executive Order 12866

Under Executive Order 12866 (58 FR 5173 (October 4, 1993)), the EPA must determine whether the regulatory action is ''significant'' and therefore subject to Office of Management and Budget (OMB) review and the requirements of the Executive Order. The Executive Order defines ''significant regulatory action'' as one that is likely to result in standards that may:

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

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

(3) Materially alter the budgetary impact of entitlement, 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 the Executive Order.

Pursuant to the terms of the Executive Order, the OMB has notified the EPA that it considers this a ''significant regulatory action'' within the meaning of the Executive Order. The EPA submitted this action to the OMB for review. Changes made in response to suggestions or recommendations from the OMB were documented and included in the public record.

C. Paperwork Reduction Act

The information collection requirements for this NESHAP have been submitted for approval to the Office of Management and Budget (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. 1746.01), and a copy may be obtained from Sandy Farmer, OPPE Regulatory Information Division (2137), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460, or by calling (202) 260–2740.

The public recordkeeping and reporting burden for this collection of information is estimated to average approximately 587 hours per respondent for each of the first 3 years following promulgation of the rule. These estimates include time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Send comments regarding the recordkeeping and reporting burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch (2137), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, marked ''Attention: Desk Officer for EPA.''

D. Regulatory Flexibility Act

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with this final rule. The EPA has also determined that this rule will not have a significant adverse economic impact on a substantial number of small businesses. Consistent with Small Business Administration (SBA) size standards, an elastomer producing firm is classified as a small entity if it has less than 750 employees and is unaffiliated with a larger domestic entity. Based upon this standard, three of the eighteen elastomer producing firms are classified as small entities (i.e., having fewer than 750 employees). The EPA determined that annual compliance costs as a percentage of sales are less than one percent for all of the small entities affected by this regulation. This does not qualify as a significant economic impact on a substantial number of small businesses.

E. Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA)

Pursuant to Subtitle E of SBREFA, this rule, which is nonmajor, was submitted to Congress before publication in the Federal Register.

F. Unfunded Mandates

Under section 202 of the Unfunded Mandates Reform Act of 1995 (''Unfunded Mandates Act''), signed into law on March 22, 1995, the EPA must prepare a budgetary impact statement to accompany any proposed or final standards that include a Federal mandate that may result in estimated costs to State, local, or tribal governments, or to the private sector, of, in the aggregate, $100 million or more. Under section 205, the EPA must select the most cost effective and least burdensome alternative that achieves the objectives of the standard and is consistent with statutory requirements. Section 203 requires the EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted by the standards.

The EPA has determined that the final standards do not include a Federal mandate that may result in estimated costs of, in the aggregate, $100 million or more to either State, local, or tribal governments, or to the private sector, nor do the standards significantly or uniquely impact small governments, because they contain no requirements that apply to such governments or impose obligations upon them. Therefore, the requirements of the Unfunded Mandates Act do not apply to this final rule.

List of Subjects in 40 CFR Part 63

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

Dated: July 15, 1996.

Fred Hansen,

Acting Administrator.

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

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

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 U to read as follows:

Subpart U—National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins

Sec.

Subpart U—National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins

§ 63.480 Applicability and designation of affected sources.

(a) *Definition of affected source.* The provisions of this subpart apply to each affected source. An affected source is either an existing affected source or a new affected source. Existing affected source is defined in paragraph (a)(1) of this section, and new affected source is defined in paragraph (a)(2) of this section. The affected source also includes all wastewater streams and wastewater operations associated with the elastomer product process unit(s) (EPPUs) included in the affected source.

(1) Except as specified in paragraphs (b) through (d) of this section, an existing affected source is defined as each group of one or more EPPUs that is not part of a new affected source, as defined in paragraph (a)(2) of this section, and that is manufacturing the same primary product and located at a plant site that is a major source.

(2) Except as specified in paragraphs (b) through (d) of this section, a new affected source is defined as a source meeting the criteria of paragraph (a)(2)(i), (a)(2)(ii), or (a)(2)(iii) of this section.

(i) At a plant site previously without HAP emission points, each group of one or more EPPUs manufacturing the same primary product that is part of a major source on which construction commenced after June 12, 1995,

(ii) An EPPU meeting the criteria in paragraph (i)(1)(i) of this section, or

(iii) A reconstructed affected source meeting the criteria in paragraph (i)(2)(i) of this section.

(b) *EPPUs exempted from the affected source.* EPPUs that do not use any organic HAP may be excluded from the affected source, provided that the owner or operator complies with the requirements of paragraphs (b)(1) and (b)(2) of this section, if requested to do so by the Administrator.

(1) Retain information, data, and analyses used to document the basis for the determination that the EPPU does not use any organic HAP. Types of information that could document this determination include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, or engineering calculations.

(2) When requested by the Administrator, demonstrate that the EPPU does not use any organic HAP.

(c) *Emission points exempted from the affected source.* The affected source does not include the emission points listed in paragraphs (c)(1) through (c)(6) of this section:

(1) Stormwater from segregated sewers;

(2) Water from fire-fighting and deluge systems in segregated sewers;

(3) Spills;

(4) Water from safety showers;

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

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

(d) *Processes exempted from the affected source.* The processes specified in paragraphs (d)(1) through (d)(3) of this section are not part of the affected source.

(1) Research and development facilities;

(2) Equipment that is located within an EPPU that is subject to this subpart but does not contain organic HAP; and

(3) Solvent reclamation, recovery, or recycling operations at hazardous waste treatment, storage, and disposal facilities (TSDF) requiring a permit under 40 CFR part 270 that are separate entities and not part of an EPPU to which this subpart applies.

(e) *Applicability determination of elastomer equipment included in a process unit producing a non-elastomer product.* If an elastomer product that is subject to this subpart is produced within a process unit that is subject to subpart V of this part, and at least 50 percent of the elastomer is used in the production of the product manufactured by the subpart V process unit, the unit operations involved in the production of the elastomer are considered part of the process unit that is subject to subpart V, and not this subpart.

(f) *Primary product determination and applicability.* The primary product of a process unit shall be determined according to the procedures specified in paragraphs (f)(1) and (f)(2) of this section. Paragraphs (f)(3) through (f)(4) of this section describe whether or not a process unit is subject to this subpart. Paragraphs (f)(5) through (f)(7) of this section discuss compliance for those EPPUs operated as flexible operation units, as specified in paragraph (f)(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 (f)(2)(i) or (f)(2)(ii) of this section based on the anticipated operations for the 5 years following September 5, 1996 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) If the primary product of a process unit is an elastomer product, then that process unit is considered an EPPU. If that EPPU meets all the criteria of paragraph (a) of this section, it is either an affected source or is part of an affected source comprised of other EPPU subject to this rule at the same plant site with the same primary product. The status of a process unit as an EPPU, and as an affected source or part of an affected source shall not change regardless of what products are produced in the future by the EPPU, with the exception noted in paragraph (f)(3)(i) of this section.

(i) If a process unit terminates the production of all elastomer products and does not anticipate the production of any elastomer product in the future, the process unit is no longer an EPPU and is not subject to the provisions of this subpart after notification is made as specified in paragraph (f)(3)(ii) of this section.

(ii) The owner or operator of a process unit that wishes to remove the EPPU designation from the process unit, as specified in paragraph (f)(3)(i) of this section, shall notify the Administrator. This notification shall be accompanied by rationale for why it is anticipated that no elastomer products will be produced in the process unit in the future.

(iii) If a process unit meeting the criteria of paragraph (f)(3)(i) of this section begins the production of an elastomer product in the future, the owner or operator shall use the procedures in paragraph (f)(4)(i) of this section to determine if the process unit is re-designated as an EPPU.

(4) If the primary product of a process unit is not an elastomer product, then that process unit is not an affected source, nor is it part of any affected source subject to this rule. The process unit is not subject to this rule at any time, regardless of what product is being produced. The status of the process unit

as not being an EPPU, and therefore not being an affected source or part of an affected source subject to this subpart, shall not change regardless of what products are produced in the future by the EPPU, with the exception noted in paragraph (f)(4)(i) of this section.

(i) If, at any time beginning September 5, 2001, the owner or operator determines that an elastomer product is the primary product for the process unit based on actual production data for any preceding consecutive five-year period, then the process unit shall be classified as an EPPU. If an EPPU meets all the criteria in paragraph (a) of this section, it is either an affected source or part of an affected source and shall be subject to this rule.

(ii) If a process unit meets the criteria of paragraph (f)(4)(i) of this section, the owner or operator shall notify the Administrator within 6 months of making this determination. The EPPU, as the entire affected source or part of an affected source, shall be in compliance with the provisions of this rule within 3 years from the date of such notification.

(iii) If a process unit is re-designated as an EPPU but does not meet all the criteria of paragraph (a) of this section, the owner or operator shall notify the Administrator within 6 months of making this determination. This notification shall include documentation justifying the EPPU's status as not being an affected source or not being part of an affected source.

(5) Once the primary product of a process unit has been determined to be an elastomer product and it has been determined that all the criteria of paragraph (a) of this section are met for the EPPU, the owner or operator of the affected source shall comply with the standards for the primary product. Owners or operators of flexible operation units shall comply with the standards for the primary product as specified in either paragraph (f)(5)(i) or (f)(5)(ii) of this section, except as specified in paragraph (f)(5)(iii) of this section.

(i) Each owner or operator shall determine the group status of each emission point that is part of that flexible operation unit based on emission point characteristics when the primary product is being manufactured. Based on this finding, the owner or operator shall comply with the applicable standards for the primary product for each emission point, as appropriate, at all times, regardless of what product is being produced.

(ii) Alternatively, each owner or operator shall determine the group status of each emission point that is part of the flexible operation unit based on the emission point characteristics when each product produced by the flexible operation unit is manufactured, regardless of whether the product is an elastomer product or not. Based on these findings, the owner or operator shall comply with the applicable standards, as appropriate, regardless of what product is being produced.

Note: Under this scenario, it is possible that the group status, and therefore the requirement to achieve emission reductions, for an emission point may change depending on the product being manufactured.]

(iii) Whenever a flexible operation unit manufactures a product that meets the criteria of paragraph (b) of this section (i.e., does not use or produce any organic HAP), all activities associated with the manufacture of the product, including the operation and monitoring of control or recovery devices, shall be exempt from the requirements of this rule.

(6) 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 required by § 63.506(e)(5) when the primary product is determined to be an elastomer product. The Notification of Compliance Status shall include the information specified in either paragraph (e)(6)(i) or (e)(6)(ii) of this section. If the primary product is determined to be something other than an elastomer product, the owner or operator shall retain information, data, and analysis used to document the basis for the determination that the primary product is not an elastomer product.

(i) If the EPPU manufactures only one elastomer product, identification of that elastomer product.

(ii) If the EPPU is designed and operated as a flexible operation unit, the information specified in paragraphs (f)(6)(ii)(A) through (f)(6)(ii)(C) 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 (f)(2)(i) or (f)(2)(ii) of this section.

(C) Identification of which compliance option, either paragraph (f)(5)(i) or (f)(5)(ii) of this section, has been selected by the owner or operator.

(7) To demonstrate compliance with the rule during those periods when a flexible operation unit that is subject to this subpart is producing a product other than an elastomer product or is producing an elastomer product that is not the primary product, the owner or operator shall comply with either paragraphs (f)(7)(i) and (f)(7)(ii) or paragraph (f)(7)(iii) of this section.

(i) Establish parameter monitoring levels as specified in § 63.505, for those emission points designated as Group 1, as appropriate.

(ii) Submit the parameter monitoring levels developed under paragraph (f)(7)(i) of this section and the basis for them in the Notification of Compliance Status report, as specified in § 63.506(e)(5).

(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 as specified in § 63.506(e)(5).

(g) *Storage vessel ownership determination.* The owner or operator shall follow the procedures specified in paragraphs (g)(1) through (g)(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 September 5, 1996, 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 an EPPU subject to this subpart, the storage vessel shall belong to that EPPU.

(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 EPPUs that have different primary products and that are subject to this subpart, then the owner or operator shall assign the storage vessel to any one of the EPPUs 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 September 5, 1996 or based on the expected

utilization for the 5 years following September 5, 1996 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 required by § 63.506(e)(5)(vii). 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 (g)(1) through (g)(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 which 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 (g)(8)(i) through (g)(8)(iv) 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 no process unit at the major source that meets the criteria of paragraph (g)(8)(i) of this section with respect to a storage vessel, this subpart does not apply to the storage vessel.

(iii) If there is only one process unit at the major source that meets the criteria of paragraph (g)(8)(i) of this section with respect to a storage vessel, the storage vessel shall be assigned to that process unit. Applicability of this subpart to the storage vessel shall then be determined according to the provisions of paragraph (a) of this section.

(iv) If there are two or more process units at the major source that meet the criteria of paragraph (g)(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 (g)(6) of this section. The predominant use shall be determined among only those process units that meet the criteria of paragraph (g)(8)(i) of this section.

(h) *Recovery operation equipment ownership determination.* The owner or operator shall follow the procedures specified in paragraphs (h)(1) through (h)(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 September 5, 1996, 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 an EPPU subject to this subpart, the recovery operation equipment shall belong to the EPPU 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 EPPUs 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 EPPUs.

(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 September 5, 1996 or based on the expected utilization for the 5 years following September 5, 1996 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 required by § 63.506(e)(5)(viii). 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 (h)(2) through (h)(6) of this section.

(i) *Changes or additions to plant sites.* The provisions of paragraphs (i)(1) through (i)(4) of this section apply to owners or operators that change or add to their plant site or affected source. Paragraph (i)(5) provides examples of what are and are not considered process changes for purposes of paragraph (i) of this section.

(1) *Adding an EPPU to a plant site.* The provisions of paragraphs (i)(1)(i) through (i)(1)(ii) of this section apply to owners or operators that add EPPUs to a plant site.

(i) If an EPPU is added to a plant site, the addition shall be a new affected source and shall be subject to the requirements for a new affected source in this subpart upon initial startup or by September 5, 1996, whichever is later, if the addition meets the criteria specified in paragraphs (i)(1)(i)(A) through (i)(1)(i)(B) and either (i)(1)(i)(C) or (i)(1)(i)(D) of this section:

(A) It is an addition that meets the definition of construction in § 63.2 of subpart A;

(B) Such construction commenced after June 12, 1995; and

(C) The addition has the potential to emit 10 tons per year or more of any HAP or 25 tons per year or more of any combination of HAP, and the primary product of the addition is currently produced at the plant site as the primary product of an affected source; or

(D) The primary product of the addition is not currently produced at the plant site as the primary product of an affected source, and the plant site meets, or after the addition is constructed will meet, the definition of a major source in § 63.2 of subpart A.

(ii) If an EPPU is added to a plant site, the addition shall be subject to the requirements for an existing affected source in this subpart upon initial startup or by 3 years after September 5, 1996, whichever is later, if the addition does not meet the criteria specified in

paragraph (i)(1)(i) of this section and the plant site meets, or after the addition is completed will meet, the definition of major source.

(2) *Adding emission points or making process changes to existing affected sources.* The provisions of paragraphs (i)(2)(i) through (i)(2)(ii) of this section apply to owners or operators that add emission points or make process changes to an existing affected source.

(i) If any process change is made or emission point is added to an existing affected source, or if a process change creating one or more additional Group 1 emission point(s) is made to an existing affected source, the entire affected source shall be a new affected source and shall be subject to the requirements for a new affected source in this subpart upon initial startup or by September 5, 1996, whichever is later, if the process change or addition meets the criteria specified in paragraphs (i)(2)(i)(A) through (i)(2)(i)(B) of this section:

(A) It is a process change or addition that meets the definition of reconstruction in § 63.2 of subpart A; and

(B) Such reconstruction commenced after June 12, 1995.

(ii) If any process change is made or emission point is added to an existing affected source, or if a process change creating one or more additional Group 1 emission point(s) is made to an existing affected source and the process change or addition does not meet the criteria specified in paragraphs (i)(2)(i)(A) and (i)(2)(i)(B) of this section, the resulting emission point(s) shall be subject to the requirements for an existing affected source in this subpart. The resulting emission point(s) shall be in compliance upon initial startup or by 3 years after September 5, 1996, whichever is later, unless the owner or operator demonstrates to the Administrator that achieving compliance will take longer than making the process change or addition. If this demonstration is made to the Administrator's satisfaction, the owner or operator shall follow the procedures in paragraphs (i)(2)(iii)(A) through (i)(2)(iii)(C) of this section to establish a compliance date.

(iii) To establish a compliance date for an emission point or points specified in paragraph (i)(2)(ii) of this section, the procedures specified in paragraphs (i)(2)(iii)(A) through (i)(2)(iii)(C) of this section shall be followed.

(A) The owner or operator shall submit to the Administrator for approval a compliance schedule, along with a justification for the schedule.

(B) The compliance schedule shall be submitted within 180 days after the process change or addition is made or the information regarding the change or addition is known to the owner or operator, unless the compliance schedule has been previously submitted to the permitting authority. The compliance schedule may be submitted in the next Periodic Report if the process change or addition is made after the date the Notification of Compliance Status report is due.

(C) The Administrator shall approve the compliance schedule or request changes within 120 calendar days of receipt of the compliance schedule and justification.

(3) *Existing source requirements for Group 2 emission points that become Group 1 emission points.* If a process change or addition that does not meet the criteria in paragraph (i)(1) or (i)(2) of this section is made to an existing plant site or existing affected source, and the change causes a Group 2 emission point to become a Group 1 emission point, for that emission point the owner or operator shall comply with the requirements of this subpart for existing Group 1 emission points. Compliance shall be achieved as expeditiously as practicable, but in no event later than 3 years after the emission point becomes a Group 1 emission point.

(4) *Existing source requirements for some emission points that become subject to subpart H requirements.* If a surge control vessel or bottoms receiver becomes subject to § 63.170 of subpart H, or if a compressor becomes subject to § 63.164 of subpart H, the owner or operator shall be in compliance upon initial startup or by 3 years after September 5, 1996, whichever is later, unless the owner or operator demonstrates to the Administrator that achieving compliance will take longer than making the change. If this demonstration is made to the Administrator's satisfaction, the owner or operator shall follow the procedures in paragraphs (i)(2)(iii)(A) through (i)(2)(iii)(C) of this section to establish a compliance date.

(5) *Determining what are and are not process changes.* For purposes of paragraph (i) of this section, examples of process changes include, but are not limited to, changes in production capacity, feedstock type, or catalyst type, or whenever there is a replacement, removal, or addition of recovery equipment. For purposes of paragraph (i) of this section, process changes do not include: Process upsets, unintentional temporary process changes, and changes that are within the equipment configuration and operating conditions documented in the Notification of Compliance Status report required by § 63.506(e)(5).

(j) *Applicability of this subpart except during periods of startup, shutdown, and malfunction.* Each provision set forth in this subpart or referred to in this subpart shall apply at all times except during periods of startup, shutdown, and malfunction if the startup, shutdown, or malfunction precludes the ability of a particular emission point at an affected source to comply with one or more specific provisions to which it is subject.

§ 63.481 Compliance schedule and relationship to existing applicable rules.

(a) Affected sources are required to achieve compliance on or before the dates specified in paragraphs (b) through (d) of this section. Paragraph (e) of this section provides information on requesting compliance extensions. Paragraphs (f) through (i) of this section discuss the relationship of this subpart to subpart A and to other applicable rules. Where an override of another authority of the Act is indicated in this subpart, only compliance with the provisions of this subpart is required. Paragraph (j) of this section specifies the meaning of time periods.

(b) New affected sources that commence construction or reconstruction after June 12, 1995 shall be in compliance with this subpart upon initial startup or September 5, 1996, whichever is later, as provided in § 63.6(b) of subpart A.

(c) Existing affected sources shall be in compliance with this subpart (except for § 63.502 for which compliance is covered by paragraph (d) of this section) no later than 3 years after September 5, 1996, as provided in § 63.6(c) of subpart A, unless an extension has been granted as specified in paragraph (e) of this section.

(d) Except as provided for in paragraphs (d)(1) through (d)(4) of this section, existing affected sources shall be in compliance with § 63.502 no later than March 5, 1997 unless a request for a compliance extension is granted pursuant to section 112(i)(3)(B) of the Act, as discussed in § 63.182(a)(6) of subpart H.

(1) Compliance with the compressor provisions of § 63.164 of subpart H shall occur no later than September 5, 1997 for any compressor meeting one or more of the criteria in paragraphs (d)(1)(i) through (d)(1)(iii) of this section, if the work can be accomplished without a process unit shutdown, as defined in § 63.161 of subpart H.

(i) The seal system will be replaced;

(ii) A barrier fluid system will be installed; or

(iii) A new barrier fluid will be utilized which requires changes to the existing barrier fluid system.

(2) Compliance with the compressor provisions of § 63.164 of subpart H shall occur no later than March 5, 1998, for any compressor meeting all the criteria in paragraphs (d)(2)(i) through (d)(2)(iv) of this section.

(i) The compressor meets one or more of the criteria specified in paragraphs (d)(1)(i) through (d)(1)(iii) of this section;

(ii) The work can be accomplished without a process unit shutdown as defined in § 63.161 of subpart H;

(iii) The additional time is actually necessary, due to the unavailability of parts beyond the control of the owner or operator; and

(iv) The owner or operator submits the request for a compliance extension to the U.S. Environmental Protection Agency (EPA) Regional Office at the addresses listed in § 63.13 of subpart A no later than 45 days before March 5, 1997. The request for a compliance extension shall contain the information specified in § 63.6(i)(6)(i)(A), (B), and (D) of subpart A. Unless the EPA Regional Office objects to the request for a compliance extension within 30 calendar days after receipt of the request, the request shall be deemed approved.

(3) If compliance with the compressor provisions of § 63.164 of subpart H cannot reasonably be achieved without a process unit shutdown, as defined in § 63.161 of subpart H, the owner or operator shall achieve compliance no later than September 8, 1998. The owner or operator who elects to use this provision shall submit a request for an extension of compliance in accordance with the requirements of paragraph (d)(2)(iv) of this section.

(4) Compliance with the compressor provisions of § 63.164 of subpart H shall occur not later than September 6, 1999 for any compressor meeting one or more of the criteria in paragraphs (d)(4)(i) through (d)(4)(iii) of this section. The owner or operator who elects to use these provisions shall submit a request for an extension of compliance in accordance with the requirements of paragraph (d)(2)(iv) of this section.

(i) Compliance cannot be achieved without replacing the compressor;

(ii) Compliance cannot be achieved without recasting the distance piece; or

(iii) Design modifications are required to connect to a closed-vent or recovery system.

(5) Compliance with the surge control vessel and bottoms receiver provisions of § 63.170 of subpart H shall occur no later than September 6, 1999.

(e) Pursuant to section 112(i)(3)(B) of the Act, an owner or operator may request an extension allowing the existing source up to 1 additional year to comply with section 112(d) standards. For purposes of this subpart, a request for an extension shall be submitted to the operating permit authority as part of the operating permit application or to the Administrator as a separate submittal or as part of the Precompliance Report. Requests for extensions shall be submitted no later than the date on which the Precompliance Report is required to be submitted in § 63.506(e)(3)(i). The dates specified in § 63.6(i) of subpart A for submittal of requests for extensions shall not apply to this subpart.

(1) A request for an extension of compliance shall include the data described in § 63.6(i)(6)(i) (A), (B), and (D) of subpart A.

(2) The requirements in § 63.6(i)(8) through § 63.6(i)(14) of subpart A shall govern the review and approval of requests for extensions of compliance with this subpart.

(f) Table 1 of this subpart specifies the provisions of subpart A that apply and those that do not apply to owners and operators of affected sources subject to this subpart. For the purposes of this subpart, Table 3 of subpart F is not applicable.

(g) Table 2 of this subpart summarizes the provisions of subparts F, G, and H that apply and those that do not apply to owners and operators of affected sources subject to this subpart.

(h)(1) After the compliance dates specified in this section, an affected source subject to this subpart that is also subject to the provisions of 40 CFR part 63, subpart I, is required to comply only with the provisions of this subpart.

(2) Sources subject to 40 CFR part 63, subpart I that have elected to comply through a quality improvement program, as specified in § 63.175 or § 63.176 or both of subpart H, may elect to continue these programs without interruption as a means of complying with this subpart. In other words, becoming subject to this subpart does not restart or reset the ''compliance clock'' as it relates to reduced burden earned through a quality improvement program.

(i) After the compliance dates specified in this section, a storage vessel that belongs to an affected source subject to this subpart that is also subject to the provisions of 40 CFR part 60, subpart Kb is required to comply only with the provisions of this subpart. After the compliance dates specified in paragraph (d) of this section, that storage vessel shall no longer be subject to 40 CFR part 60, subpart Kb.

(j) All terms in this subpart that define a period of time for completion of required tasks (e.g., monthly, quarterly, annual), unless specified otherwise in the section or subsection that imposes the requirement, refer to the standard calendar periods.

(1) Notwithstanding time periods specified in this subpart for completion of required tasks, such time periods may be changed by mutual agreement between the owner or operator and the Administrator, as specified in subpart A of this part (e.g., a period could begin on the compliance date or another date, rather than on the first day of the standard calendar period). 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) Where 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 paragraphs (j)(2)(i) or (j)(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 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 of this subpart requires completion of a task during each multiple successive period, an owner or operator may perform the required task at any time during the specified period, provided that the task is conducted at a reasonable interval after completion of the task during the previous period.

§ 63.482 Definitions.

(a) The following terms used in this subpart shall have the meaning given them in subparts A (§ 63.2), F (§ 63.101), G (§ 63.111), and H (§ 63.161) as specified after each term:

Act (subpart A)
Administrator (subpart A)
Automated monitoring and recording system (subpart G)
Average concentration (subpart G)
Boiler (subpart G)
Bottoms receiver (subpart H)

By compound (subpart G)
By-product (subpart F)
Car-seal (subpart G)
Chemical manufacturing process unit (subpart F)
Closed-vent system (subpart G)
Co-product (subpart F)
Combustion device (subpart G)
Commenced (subpart A)
Compliance date (subpart A)
Compliance schedule (subpart A)
Connector (subpart H)
Construction (subpart A)
Continuous monitoring system (subpart A)
Continuous record (subpart G)
Continuous recorder (subpart G)
Cover (subpart G)
Distillation unit (subpart G)
Emission standard (subpart A)
Emissions averaging (subpart A)
EPA (subpart A)
Equipment (subpart H)
Equipment leak (subpart F)
Existing source (subpart A)
External floating roof (subpart G)
Fill (subpart G)
Fixed roof (subpart G)
Flame zone (subpart G)
Flexible operation unit (subpart F)
Floating roof (subpart G)
Flow indicator (subpart G)
Halogens and hydrogen halides (subpart G)
Hazardous air pollutant (subpart A)
Heat exchange system (subpart F)
Impurity (subpart F)
Incinerator (subpart G)
In organic hazardous air pollutant service (subpart H)
Instrumentation system (subpart H)
Internal floating roof (subpart G)
Lesser quantity (subpart A)
Maintenance wastewater (subpart F)
Major source (subpart A)
Malfunction (subpart A)
Mass flow rate (subpart G)
Maximum true vapor pressure (subpart G)
New source (subpart A)
Open-ended valve or line (subpart H)
Operating permit (subpart F)
Organic HAP service (subpart H)
Organic monitoring device (subpart G)
Owner or operator (subpart A)
Performance evaluation (subpart A)
Performance test (subpart A)
Permitting authority (subpart A)
Plant site (subpart F)
Point of generation (subpart G)
Potential to emit (subpart A)
Primary fuel (subpart G)
Process heater (subpart G)
Process unit shutdown (subpart H)
Process wastewater (subpart F)
Process wastewater stream (subpart G)
Product separator (subpart F)
Reactor (subpart G)
Reconstruction (subpart A)
Recovery device (subpart G)
Reference control technology for process vents (subpart G)
Reference control technology for storage vessels (subpart G)
Reference control technology for wastewater (subpart G)
Relief valve (subpart G)
Research and development facility (subpart F)
Residual (subpart G)
Run (subpart A)
Secondary fuel (subpart G)
Sensor (subpart H)
Shutdown (subpart A)
Specific gravity monitoring device (subpart G)
Startup (subpart A)
Startup, shutdown, and malfunction plan (subpart F)
State (subpart A)
Surge control vessel (subpart H)
Temperature monitoring device (subpart G)
Test method (subpart A)
Total resource effectiveness index value (subpart G)
Treatment process (subpart G)
Unit operation (subpart F)
Vent stream (subpart G)
Visible emission (subpart A)
Waste management unit (subpart G)
Wastewater (subpart F)
Wastewater stream (subpart G)

(b) All other terms used in this subpart shall have the meaning given them in this section. If a term is defined in a subpart referenced above and in this section, it shall have the meaning given in this section for purposes of this subpart.

Affected source is defined in § 63.480(a).

Aggregate batch vent stream means a gaseous emission stream containing only the exhausts from two or more batch front-end process vents that are ducted together before being routed to a control device that is in continuous operation.

Average flow rate, as used in conjunction with wastewater provisions, is defined in and determined by the specifications in § 63.144(c) of subpart G; or, as used in conjunction with the batch front-end process vent provisions, is defined in and determined by the specifications in § 63.488(e).

Back-end refers to the unit operations in an EPPU following the stripping operations. Back-end process operations include, but are not limited to, filtering, coagulation, blending, concentration, drying, separating, and other finishing operations, as well as latex and crumb storage.

Batch cycle means the operational step or steps, from start to finish, that occur as part of a batch unit operation.

Batch cycle limitation means an enforceable restriction on the number of batch cycles that can be performed in a year for an individual batch front-end process vent.

Batch emission episode means a discrete emission venting episode associated with a single batch unit operation. Multiple batch emission episodes may occur from a single batch unit operation.

Batch front-end process vent means a point of emission from a batch unit operation having a gaseous emission stream with annual organic HAP emissions greater than 225 kilograms per year and located in the front-end of a process unit. Batch front-end process vents exclude relief valve discharges and leaks from equipment regulated under § 63.502.

Batch process means a discontinuous process involving the bulk movement of material through sequential manufacturing steps. Mass, temperature, concentration, and other properties of the process vary with time. Addition of raw material and withdrawal of product do not typically occur simultaneously in a batch process. For the purposes of this subpart, a process producing polymers is characterized as continuous or batch based on the operation of the polymerization reactors.

Batch unit operation means a unit operation operated in a batch process mode.

Butyl rubber means a copolymer of isobutylene and other monomers. Typical other monomers include isoprene and methylstyrenes. A typical composition of butyl rubber is approximately 85 to 99 percent isobutylene and one to fifteen percent other monomers. Most butyl rubber is produced by precipitation polymerization, although other methods may be used.

Compounding unit means a unit of operation which blends, melts, and resolidifies solid polymers for the purpose of incorporating additives, colorants, or stabilizers into the final elastomer product. A unit operation whose primary purpose is to remove residual monomers from polymers is not a compounding unit.

Continuous front-end process vent means a point of emission from a continuous process unit operation within an affected source having a gaseous emission stream with a flow rate greater than or equal to 0.005 standard cubic meter per minute and with a total organic HAP concentration greater than or equal to 50 parts per million by volume. Continuous front-end process vents exclude relief valve

discharges and leaks from equipment regulated under § 63.502.

Continuous process means a process where the inputs and outputs flow continuously through sequential manufacturing steps throughout the duration of the process. Continuous processes typically approach steady-state conditions. Continuous processes typically involve the simultaneous addition of raw material and withdrawal of product. For the purposes of this subpart, a process producing polymers is characterized as continuous or batch based on the operation of the polymerization reactors.

Continuous unit operation means a unit operation operated in a continuous process mode.

Control device is defined in § 63.111 of subpart G, except that the term ''process vent'' shall be replaced with the term ''continuous front-end process vent'' for the purpose of this subpart.

Crumb rubber dry weight means the weight of the polymer, minus the weight of water and residual organics.

Drawing unit means a unit operation which converts polymer into a different shape by melting or mixing the polymer and then pulling it through an orifice to create a continuously extruded product.

Elastomer means any polymer having a glass transition temperature lower than −10°C, or a glass transition temperature between −10°C and 25°C that is capable of undergoing deformation (stretching) of several hundred percent and recovering essentially when the stress is removed. For the purposes of this subpart, resins are not considered to be elastomers.

Elastomer product means one of the following 12 types of products, as they are defined in this section:

(1) Butyl Rubber,
(2) Halobutyl Rubber,
(3) Epichlorohydrin Elastomers,
(4) Ethylene Propylene Rubber,
(5) Hypalon™,
(6) Neoprene,
(7) Nitrile Butadiene Rubber,
(8) Nitrile Butadiene Latex,
(9) Polybutadiene Rubber/Styrene Butadiene Rubber by Solution,
(10) Polysulfide Rubber,
(11) Styrene Butadiene Rubber by Emulsion, and
(12) Styrene Butadiene Latex.

Elastomer product process unit (EPPU) means a collection of equipment assembled and connected by pipes or ducts used to process raw materials and to manufacture an elastomer product as its primary product. This collection of equipment includes process vents; storage vessels, as determined in § 63.480(g); 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, and bottoms receivers that are associated with the elastomer product process unit) that are subject to the equipment leak provisions as specified in § 63.502. Compounding units, spinning units, drawing units, extruding units, and other finishing steps are not part of an EPPU. In addition, a solid state polymerization unit is not part of an EPPU.

Elastomer type means one of the elastomers defined under ''elastomer product'' in this section. Each elastomer identified in that definition represents a different elastomer type.

Emission point means an individual continuous front-end process vent, batch front-end process vent, back-end process vent, storage vessel, wastewater stream, or equipment leak.

Emulsion process means a process carried out with the reactants in an emulsified form (e.g., polymerization reaction).

Epichlorohydrin elastomer means an elastomer formed from the polymerization or copolymerization of epichlorohydrin (EPI). The main epichlorohydrin elastomers are polyepichlorohydrin, epi-ethylene oxide (EO) copolymer, epi-allyl glycidyl ether (AGE) copolymer, and epi-EO-AGE terpolymer. Epoxy resins produced by the copolymerization of EPI and bisphenol A are not epichlorohydrin elastomers.

Ethylene-propylene rubber means an ethylene-propylene copolymer or an ethylene-propylene terpolymer. Ethylene-propylene copolymers (EPM) result from the polymerization of ethylene and propylene and contain a saturated chain of the polymethylene type. Ethylene-propylene terpolymers (EPDM) are produced in a similar manner as EPM, except that a moderate amount of the third monomer is added to the reaction sequence. Typical third monomers include ethylidene norbornene, 1,4-hexadiene, or dicyclopentadiene. Ethylidene norbornene is the most commonly used. The production process includes, but is not limited to, polymerization, recycle, recovery, and packaging operations. The polymerization reaction may occur in either a solution process or a suspension process.

Extruding unit means a unit operation which converts polymer into a different shape by melting or mixing the polymer and then forcing it through an orifice to create a continuously extruded product.

Front-end refers to the unit operations in an EPPU prior to, and including, the stripping operations. The process front-end includes all activity from raw material storage through the stripping operation, including pre-polymerization blending, reactions, etc. For all gas-phased reaction processes, all unit operations are considered to be front-end.

Gas-phased reaction process means an elastomer production process where the reaction occurs in a gas phase, fluidized bed.

Grade means the subdivision of an elastomer product type by different characteristics such as molecular weight, monomer composition, significant mooney values, and the presence or absence of extender oil and/or carbon black.

Group 1 batch front-end process vent means a batch front-end process vent releasing annual organic HAP emissions greater than or equal to 11,800 kg/yr and with a cutoff flow rate, calculated in accordance with § 63.488(f), greater than or equal to the annual average flow rate.

Group 2 batch front-end process vent means a batch front-end process vent that does not fall within the definition of a Group 1 batch front-end process vent.

Group 1 continuous front-end process vent means a continuous front-end process vent releasing a gaseous emission stream that has a total resource effectiveness index value, calculated according to § 63.115 of subpart G, less than or equal to 1.0.

Group 2 continuous front-end process vent means a continuous front-end process vent that does not fall within the definition of a Group 1 continuous front-end process vent.

Group 1 storage vessel means a storage vessel at an existing affected source that meets the applicability criteria specified in Table 3 of this subpart, or a storage vessel at a new affected source that meets the applicability criteria specified in Table 4 of this subpart.

Group 2 storage vessel means a storage vessel that does not fall within the definition of a Group 1 storage vessel.

Group 1 wastewater stream means a process wastewater stream from an elastomer product process unit at an existing or new source with a total volatile organic hazardous air pollutant average concentration greater than or equal to 10,000 parts per million by weight of compounds listed in table 9 of subpart G at any flowrate; or a process wastewater stream from a process unit at an existing or new source that has an average flow rate greater than or equal to 10 liters per minute and a total volatile organic hazardous air pollutant

concentration greater than 1,000 parts per million by weight of compounds listed in table 9 of subpart G.

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

Halobutyl rubber means a butyl rubber elastomer produced using halogenated copolymers.

Halogenated aggregate batch vent stream means an aggregate batch vent stream determined to have a total mass emission rate of halogen atoms contained in organic compounds of 3,750 kg/yr or greater determined by the Procedures presented in § 63.488(h).

Halogenated batch front-end process vent means a batch front-end process vent determined to have a mass emission rate of halogen atoms contained in organic compounds of 3,750 kg/yr or greater determined by the procedures presented in § 63.488(h).

Halogenated continuous front-end process vent means a continuous front-end process vent determined to have a mass emission rate of halogen atoms contained in organic compounds of 0.45 kg/hr or greater determined by the procedures presented in § 63.115(d)(2)(v) of subpart G.

High conversion latex means a latex where all monomers are reacted to at least 95 percent conversion.

Hypalon ™ means a chlorosulfonated polyethylene that is a synthetic rubber produced for uses such as wire and cable insulation, shoe soles and heels, automotive components, and building products.

Latex means a colloidal aqueous emulsion of elastomer. A latex may be further processed into finished products by direct use as a coating or as a foam, or it may be precipitated to separate the rubber particles, which are then used in dry state to prepare finished products.

Latex weight includes the weight of the polymer and the weight of the water solution.

Mass process means a process carried out through the use of thermal energy (e.g., polymerization reaction). Mass processes do not utilize emulsifying or suspending agents, but can utilize catalysts or other additives.

Material recovery section means the equipment that recovers unreacted or by-product materials from any process section for return to the EPPU, off-site purification or treatment, or sale. Equipment designed to separate unreacted or by-product material from the polymer product is to be included in this process section, provided that at the time of initial compliance some of the material is recovered for reuse in the process, off-site purification or treatment, or sale. Otherwise, such equipment is to be assigned to one of the other process sections, as appropriate. If equipment is used to recover unreacted or by-product material and return it directly to the same piece of process equipment from which it was emitted, then the recovery equipment is considered to be part of the process section that contains the process equipment. On the other hand, if equipment is used to recover unreacted or by-product material and return it to a different piece of process equipment in the same process section, the recovery equipment is considered to be part of a material recovery section. Equipment that treats recovered materials is to be included in this process section, but equipment that also treats raw materials is not to be included in this process section. The latter equipment is to be included in the raw materials preparation section.

Month means either a calendar month or a repeating 30-day period. For the purposes of compliance with the back-end limitations in § 63.506, a month can begin on any day of the month (i.e., starting on the 15th and ending on the 14th of the following month), as long as the month never contains more than 31 calendar days.

Neoprene means a polymer of chloroprene (2-chloro-1,3-butadiene). The free radical emulsion process is generally used to produce neoprene, although other methods may be used.

Nitrile butadiene latex means a polymer consisting primarily of unsaturated nitriles and dienes, usually acrylonitrile and 1,3-butadiene, that is sold as a latex.

Nitrile butadiene rubber means a polymer consisting primarily of unsaturated nitriles and dienes, usually acrylonitrile and 1,3-butadiene, not including those facilities that produce nitrile butadiene latex.

Organic hazardous air pollutant(s) (organic HAP) means one or more of the chemicals listed in Table 5 of this subpart or any other chemical which:

(1) Is knowingly introduced into the manufacturing process other than as an impurity, or has been or will be reported under any Federal or State program, such as EPCRA section 311, 312, or 313 or Title V; and

(2) Is listed in Table 2 of subpart F of this part.

Polybutadiene rubber/styrene butadiene rubber by solution means a polymer of 1,3-butadiene produced using a solution process, and/or a polymer that consists primarily of styrene and butadiene monomer units and is produced using a solution process.

Polymerization reaction section means the equipment designed to cause monomer(s) to react to form polymers, including equipment designed primarily to cause the formation of short polymer chains (e.g., oligomers or low polymers), but not including equipment designed to prepare raw materials for polymerization (e.g., esterification vessels). For the purposes of this subpart, the polymerization reaction section begins with the equipment used to transfer the materials from the raw materials preparation section and ends with the last vessel in which polymerization occurs.

Polysulfide rubber means a polymer produced by reacting sodium polysulfide and chloroethyl formal. Polysulfide rubber may be produced as latexes or solid product.

Primary product is defined in and determined by the procedures specified in § 63.480(f).

Process section means the equipment designed to accomplish a general but well-defined task in polymers production. Process sections include raw materials preparation, polymerization reaction, and material recovery. A process section may be dedicated to a single EPPU or may be common to more than one EPPU.

Process unit means a collection of equipment assembled and connected by pipes or ducts to process raw materials and to manufacture a product.

Process vent means a point of emission from a unit operation having a gaseous emission stream. Typical process vents include condenser vents, dryer vents, vacuum pumps, steam ejectors, and atmospheric vents from reactors and other process vessels, but do not include pressure relief valves.

Product means a compound or material which is manufactured by a process unit. By-products, isolated intermediates, impurities, wastes, and trace contaminants are not considered products.

Raw materials preparation section means the equipment at a polymer manufacturing plant designed to prepare raw materials, such as monomers and solvents, for polymerization. For the purposes of this standard, this process section begins with the equipment used to transfer raw materials from storage and/or the equipment used to transfer recovered material from the material recovery process sections, and ends with the last piece of equipment that prepares the material for polymerization. The raw materials preparation section may include equipment that is used to purify, dry, or otherwise treat raw materials or raw and recovered

materials together; to activate catalysts; and to promote esterification including the formation of some short polymer chains (oligomers). The raw materials preparation section does not include equipment that is designed primarily to accomplish the formation of oligomers, the treatment of recovered materials alone, or the storage of raw materials.

Recovery operations equipment means the equipment used to separate the components of process streams. Recovery operations equipment includes distillation units, condensers, etc. Equipment used for wastewater treatment shall not be considered recovery operations equipment.

Resin means a polymer that is not an elastomer. The following are characteristics of resins and the production of resins:

(1) The polymer is a block polymer;

(2) The manufactured polymer does not require vulcanization to make useful products;

(3) The polymer production process is operated to achieve at least 99 percent monomer conversion; and

(4) The polymer process unit does not recycle unreacted monomer back to the process.

Solid state polymerization unit means a unit operation which, through the application of heat, furthers the polymerization (i.e., increases the intrinsic viscosity) of polymer chips.

Solution process means a process where both the monomers and the resulting polymers are dissolved in an organic solvent.

Steady-state conditions means that all variables (temperatures, pressures, volumes, flow rates, etc.) in a process do not vary significantly with time; minor fluctuations about constant mean values can occur.

Storage vessel means a tank or other vessel that is used to store liquids that contain one or more organic HAP and that has been assigned, according to the procedures in § 63.480(g), to an EPPU that is subject to this subpart. Storage vessels do not include:

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

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

(3) Vessels with capacities smaller than 38 cubic meters;

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

(5) Surge control vessels and bottoms receiver tanks; and

(6) Wastewater storage tanks.

Stripping technology means the removal of organic compounds from a raw elastomer product by the use of heat and/or vacuum. Stripping technology includes steam stripping, direct volatilization, chemical stripping, and other methods of devolatilization.

Styrene butadiene latex means a polymer consisting primarily of styrene and butadiene monomer units produced using an emulsion process and sold as a latex.

Styrene butadiene rubber by emulsion means a polymer consisting primarily of styrene and butadiene monomer units produced using an emulsion process. Styrene butadiene rubber by emulsion does not include styrene butadiene latex.

Suspension process means a process carried out with the reactants in a state of suspension, typically achieved through the use of water and/or suspending agents (e.g., polymerization reaction).

Total organic compounds (TOC) means those compounds, excluding methane and ethane, measured according to the procedures of Method 18 or Method 25A of 40 CFR part 60, appendix A.

Year means any consecutive 12-month period or 365 rolling days. For the purposes of emissions averaging, the term year applies to any 12-month period selected by the facility and defined in its Emissions Averaging Plan. For the purposes of batch cycle limitations, the term year applies to the 12-month period defined by the facility in its Notification of Compliance Status.

§ 63.483 Emission standards.

(a) Except as allowed under paragraphs (b) and (c) of this section, the owner or operator of an existing or new affected source shall comply with the provisions in:

(1) Section 63.484 for storage vessels;

(2) Section 63.485 for continuous front-end process vents;

(3) Sections 63.486 through 63.492 for batch front-end process vents;

(4) Sections 63.493 through 63.500 for back-end process operations;

(5) Section 63.501 for wastewater;

(6) Section 63.502 for equipment leaks;

(7) Section 63.504 for additional test methods and procedures;

(8) Section 63.505 for monitoring levels and excursions; and

(9) Section 63.506 for general reporting and recordkeeping requirements.

(b) Instead of complying with §§ 63.484, 63.485, 63.493, and 63.501, the owner or operator of an existing affected source may elect to control any or all of the storage vessels, continuous front-end process vents, batch front-end process vents, aggregate batch vent streams, and back-end process emissions within the affected source, plus any or all process wastewater streams associated with the affected source, to different levels using an emissions averaging compliance approach that uses the procedures specified in § 63.503. An owner or operator electing to use emissions averaging must still comply with the provisions of §§ 63.484, 63.485, 63.486, 63.493, and 63.501 for affected source emission points not included in the emissions average.

(c) A State may decide not to allow the use of the emissions averaging compliance approach specified in paragraph (b) of this section as a compliance option for an existing affected source.

§ 63.484 Storage vessel provisions.

(a) For each storage vessel located at an affected source, except for those storage vessels exempted by paragraph (b) of this section, the owner or operator shall comply with the requirements of §§ 63.119 through 63.123 and § 63.148 of subpart G, with the differences noted in paragraphs (c) through (q) of this section.

(b) Storage vessels described in paragraphs (b)(1) through (b)(7) of this section are exempt from the storage vessel requirements of this section.

(1) Storage vessels containing styrene-butadiene latex;

(2) Storage vessels containing other latex products and located downstream of the stripping operations;

(3) Storage vessels containing high conversion latex products;

(4) Storage vessels located downstream of the stripping operations at affected sources subject to the back-end residual organic HAP limitation located in § 63.494, that are complying through the use of stripping technology, as specified in § 63.495;

(5) Storage vessels containing styrene;

(6) Storage vessels containing acrylamide; and

(7) Storage vessels containing epichlorohydrin.

(c) When the term ''storage vessel'' is used in §§ 63.119 through 63.123 and 63.148 of subpart G, the definition of this term in § 63.482 shall apply for the purposes of this subpart.

(d) When the term ''Group 1 storage vessel'' is used in §§ 63.119 through 63.123 and § 63.148 of subpart G, the definition of this term in § 63.482 shall apply for the purposes of this subpart.

(e) When the term ''Group 2 storage vessel'' is used in §§ 63.119 through

63.123 and § 63.148 of subpart G, the definition of this term in § 63.482 shall apply for the purposes of this subpart.

(f) When the emissions averaging provisions of § 63.150 of subpart G are referred to in § 63.119 and § 63.123 of subpart G, the emissions averaging provisions contained in § 63.503 shall apply for the purposes of this subpart.

(g) When December 31, 1992 is referred to in § 63.119 of subpart G, it shall be replaced with June 12, 1995 for the purposes of this subpart.

(h) When April 22, 1994 is referred to in § 63.119 of subpart G, it shall be replaced with September 5, 1996 for the purposes of this subpart.

(i) Each owner or operator shall comply with this paragraph instead of § 63.120(d)(1)(ii) of subpart G for the purposes of this subpart. If the control device used to comply with this section is also used to comply with §§ 63.485 through § 63.501, the performance test required for these sections is acceptable for demonstrating compliance with § 63.119(e) of subpart G for the purposes of this subpart. The owner or operator will not be required to prepare a design evaluation for the control device as described in § 63.120(d)(1)(i) of subpart G, if the performance test meets the criteria specified in paragraphs (i)(1) and (i)(2) of this section.

(1) The performance test demonstrates that the control device achieves greater than or equal to the required control efficiency specified in § 63.119(e)(1) or § 63.119(e)(2) of subpart G, as applicable; and

(2) The performance test is submitted as part of the Notification of Compliance Status required by § 63.506(e)(5).

(j) When the term ''operating range'' is used in § 63.120(d)(3)(i) of subpart G, it shall be replaced with the term ''level,'' for the purposes of this subpart. This level shall be established using the procedures specified in § 63.505.

(k) When the Notification of Compliance Status requirements contained in § 63.152(b) of subpart G are referred to in §§ 63.120, 63.122, and 63.123 of subpart G, the Notification of Compliance Status requirements contained in § 63.506(e)(5) shall apply for the purposes of this subpart.

(l) When the Periodic Report requirements contained in § 63.152(c) of subpart G are referred to in §§ 63.120, 63.122, and 63.123 of subpart G, the Periodic Report requirements contained in § 63.506(e)(6) shall apply for the purposes of this subpart.

(m) When other reports as required in § 63.152(d) of subpart G are referred to in § 63.122 of subpart G, the reporting requirements contained in § 63.506(e)(7) shall apply for the purposes of this subpart.

(n) When the Implementation Plan requirements contained in § 63.151(c) of subpart G are referred to in § 63.119 through § 63.123 of subpart G, for the purposes of this subpart the owner or operator of an affected source need not comply.

(o) When the Initial Notification Plan requirements contained in § 63.151(b) of subpart G are referred to in § 63.119 through § 63.123 of subpart G, for the purposes of this subpart the owner or operator of an affected source need not comply.

(p) When the determination of equivalence criteria in § 63.102(b) of subpart F are referred to in § 63.121(a) of subpart G, the provisions in § 63.6(g) of subpart A shall apply for the purposes of this subpart.

(q) The compliance date for storage vessels at affected sources subject to the provisions of this section is specified in § 63.481.

§ 63.485 Continuous front-end process vent provisions.

(a) For each continuous front-end process vent located at an affected source, the owner or operator shall comply with the requirements of §§ 63.113 through 63.118 of subpart G, except as provided for in paragraphs (b) through (s) of this section. Continuous front-end process vents that are combined with one or more batch front-end process vents shall comply with paragraph (m) or (n) of this section.

(b) When the term ''process vent'' is used in §§ 63.113 through 63.118 of subpart G, it shall be replaced with the term ''continuous front-end process vent,'' and the definition of this term in § 63.482 shall apply for the purposes of this subpart.

(c) When the term ''halogenated process vent'' is used in §§ 63.113 through 63.118 of subpart G, it shall be replaced with the term ''halogenated continuous front-end process vent,'' and the definition of this term in § 63.482 shall apply for the purposes of this subpart.

(d) When the term ''Group 1 process vent'' is used in §§ 63.113 through 63.118 of subpart G, it shall be replaced with the term ''Group 1 continuous front-end process vent,'' and the definition of this term in § 63.482 shall apply for the purposes of this subpart.

(e) When the term ''Group 2 process vent'' is used in §§ 63.113 through 63.118 of subpart G, it shall be replaced with the term ''Group 2 continuous front-end process vent,'' and the definition of this term in § 63.482 shall apply for the purposes of this subpart.

(f) When December 31, 1992 is referred to in § 63.113 of subpart G, it shall be replaced with June 12, 1995 for the purposes of this subpart.

(g) When §§ 63.151(f), alternative monitoring parameters, and 63.152(e), submission of an operating permit, of subpart G are referred to in §§ 63.114(c) and 63.117(e) of subpart G, § 63.506(f), alternative monitoring parameters, and § 63.506(e)(8), submission of an operating permit, respectively, shall apply for the purposes of this subpart.

(h) When the Notification of Compliance Status requirements contained in § 63.152(b) of subpart G are referred to in §§ 63.114, 63.117, and 63.118 of subpart G, the Notification of Compliance Status requirements contained in § 63.506(e)(5) shall apply for the purposes of this subpart.

(i) When the Periodic Report requirements contained in § 63.152(c) of subpart G are referred to in §§ 63.117 and 63.118 of subpart G, the Periodic Report requirements contained in § 63.506(e)(6) shall apply for the purposes of this subpart.

(j) When the definition of excursion in § 63.152(c)(2)(ii)(A) of subpart G is referred to in § 63.118(f)(2) of subpart G, the definition of excursion in § 63.505(g) and (h) shall apply for the purposes of this subpart.

(k) For the purposes of this subpart, owners and operators shall comply with § 63.505, parameter monitoring levels and excursions, instead of § 63.114(e) of subpart G. When the term ''range'' is used in § 63.117(f), § 63.118(a)(2)(iv), (b)(2)(iv), (f)(1), and (f)(6) of subpart G, it shall be replaced with the term ''level.'' This level is determined in accordance with § 63.505.

(l) When reports of process changes are required under § 63.118 (g), (h), (i), and (j) of subpart G, paragraphs (l)(1) through (l)(4) of this section shall apply for the purposes of this subpart.

(1) Whenever a process change, as defined in § 63.115(e) of subpart G, is made that causes a Group 2 continuous front-end process vent to become a Group 1 continuous front-end process vent, the owner or operator shall submit the following information in the first periodic report following the process change, as specified in § 63.506(e)(6)(iii)(D)(*2*):

(i) A description of the process change; and

(ii) A schedule for compliance with § 63.113(a) of subpart G, as required under § 63.506(e)(6)(iii)(D)(*2*).

(2) Whenever a process change, as defined in § 63.115(e) of subpart G, is made that causes a Group 2 continuous front-end process vent with a TRE greater than 4.0 to become a Group 2

continuous front-end process vent with a TRE less than 4.0, the owner or operator shall submit the following information in the first periodic report following the process change, as specified in § 63.506(e)(6)(iii)(D)(*2*):

(i) A description of the process change; and

(ii) A schedule for compliance with the provisions of § 63.113(d) of subpart G, as required under § 63.506(e)(6)(iii)(D)(*2*).

(3) Whenever a process change, as defined in § 63.115(e) of subpart G, is made that causes a Group 2 continuous front-end process vent with a flow rate less than 0.005 standard cubic meter per minute (scmm) to become a Group 2 continuous front-end process vent with a flow rate of 0.005 scmm or greater and a TRE index value less than or equal to 4.0, the owner or operator shall submit the following information in the first periodic report following the process change, as specified in § 63.506(e)(6)(iii)(D)(*2*):

(i) A description of the process change; and

(ii) A schedule for compliance with two provisions of § 63.113(d) of subpart G, as required under § 63.506(e)(6)(iii)(D)(*2*).

(4) Whenever a process change, as defined in § 63.115(e) of subpart G, is made that causes a Group 2 continuous front-end process vent with an organic HAP concentration less than 50 parts per million by volume (ppmv) to become a Group 2 continuous front-end process vent with an organic HAP concentration of 50 ppmv or greater and a TRE index value less than or equal to 4.0, the owner or operator shall submit the following information in the first periodic report following the process change, as specified in § 63.506(e)(6)(iii)(D)(*2*):

(i) A description of the process change; and

(ii) A schedule for compliance with the provisions of § 63.113(d) of subpart G, as required under § 63.506(e)(6)(iii)(D)(*2*).

(m) If a batch front-end process vent is combined with a continuous front-end process vent prior to being routed to a control device, the combined vent stream shall comply with either paragraph (m)(1) or (m)(2) of this section, as appropriate.

(1) If the continuous front-end process vent is a Group 1 continuous front-end process vent, the combined vent stream shall comply with all requirements for a Group 1 continuous process vent stream in §§ 63.113 through 63.118 of subpart G, with the differences noted in paragraphs (b) through (l) of this section.

(2) If the continuous front-end process vent is a Group 2 continuous front-end process vent, the TRE index value shall be calculated during maximum representative operating conditions. For combined streams containing continuous front-end and batch front-end process vents, the maximum representative operating conditions shall be during periods when batch emission episodes are venting to the control device resulting in the highest concentration of organic HAP in the combined vent stream.

(n) If a batch front-end process vent is combined with a continuous front-end process vent prior to being routed to a recovery device, the TRE index value shall be calculated at the exit of the recovery device at maximum representative operating conditions. For combined vent streams containing continuous front-end and batch front-end process vents, the maximum representative operating conditions shall be during periods when batch emission episodes are venting to the recovery device resulting in the highest concentration of organic HAP in the combined vent stream.

(o) Group 1 halogenated continuous front-end process vents at affected existing sources producing butyl rubber, halobutyl rubber, or ethylene propylene rubber are exempt from the requirements to control hydrogen halides and halogens from the outlet of combustion devices contained in § 63.113(c) of subpart G, if the conditions in paragraphs (o)(1) and (o)(2) of this section are met. Affected new sources are not exempt from these provisions.

(1)(i) For affected sources producing butyl rubber, halobutyl rubber, or ethylene propylene rubber using a solution process, if the halogenated continuous front-end process vent stream was controlled by a combustion device prior to June 12, 1995, or

(ii) For affected sources producing ethylene propylene rubber using a gas-phased reaction process, if the halogenated continuous front-end process vent stream was controlled by a combustion device since startup.

(2) The combustion device meets the requirements of § 63.113(a)(1)(i), § 63.113(a)(2), § 63.113(a)(3), or § 63.113(b) of subpart G.

(p) The compliance date for continuous front-end process vents subject to the provisions of this section is specified in § 63.481. This replaces the reference to § 63.100 of subpart F in § 63.115(e)(2) of subpart G.

(q) *Internal combustion engines.* In addition to the three options for the control of a Group 1 continuous front-end process vent listed in § 63.113(a)(1)–(3) of subpart G, an owner or operator can route emissions of organic HAP to an internal combustion engine, provided the conditions listed in paragraphs (q)(1) through (q)(3) of this section are met.

(1) The vent stream routed to the internal combustion engine shall not be a halogenated continuous front-end process vent stream.

(2) The organic HAP is introduced with the primary fuel.

(3) The owner or operator continuously monitors the on/off status of the internal combustion engine.

(4) If an internal combustion engine meeting the requirements of paragraphs (q) (1) through (3) of this section is used to comply with the provisions of § 63.113(a) of subpart G, the internal combustion engine is exempt from the source testing requirements of § 63.116 of subpart G.

(r) When the provisions of § 63.116 (c)(3) and (c)(4) of subpart G specify that Method 18 shall be used, Method 18 or Method 25A may be used for the purposes of this subpart. The use of Method 25A shall comply with paragraphs (r)(1) and (r)(2) of this section.

(1) The organic HAP used as the calibration gas for Method 25A shall be the single organic HAP representing the largest percent by volume of the emissions.

(2) The use of Method 25A 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.

(s) When the provisions of § 63.116(b) identify conditions under which a performance test is not required, for purposes of this subpart, the exemption in paragraph (s)(1) of this section shall also apply. Further, if a performance test meeting the conditions specified in paragraph (s)(2) of this section has been conducted by the owner or operator, the results of that performance test shall suffice, for the purposes of this section.

(1) An incinerator burning hazardous waste for which the owner or operator complies with the requirements of 40 CFR part 264, subpart O.

(2) Performance tests done for other subparts in part 60 or part 63 where total organic HAP or TOC was measured, provided that the owner or operator can demonstrate that operating conditions for the process and control or recovery device during the performance test are representative of current operating conditions.

§ 63.486 Batch front-end process vent provisions.

(a) *Batch front-end process vents.* Except as specified in paragraph (b) of this section, owners and operators of new and existing affected sources with batch front-end process vents shall comply with the requirements in §§ 63.487 through 63.492. The batch front-end process vent group status shall be determined in accordance with § 63.488. Batch front-end process vents classified as Group 1 shall comply with the reference control technology requirements for Group 1 batch front-end process vents in § 63.487, the monitoring requirements in § 63.489, the performance test methods and procedures to determine compliance requirements in § 63.490, the recordkeeping requirements in § 63.491, and the reporting requirements in § 63.492. All Group 2 batch front-end process vents shall comply with the applicable reference control technology requirements in § 63.487, the recordkeeping requirements in § 63.491, and the reporting requirements in § 63.492.

(b) *Aggregate batch vent streams.* Aggregate batch vent streams, as defined in § 63.482, are subject to the control requirements for individual batch front-end process vents, as specified in § 63.487(b), as well as the monitoring, testing, recordkeeping, and reporting requirements specified in § 63.489 through § 63.492.

§ 63.487 Batch front-end process vents—reference control technology.

(a) *Batch front-end process vents.* The owner or operator of a Group 1 batch front-end process vent, as determined using the procedures in § 63.488, shall comply with the requirements of either paragraph (a)(1) or (a)(2) of this section. Compliance can be based on either organic HAP or TOC.

(1) For each batch front-end process vent, reduce organic HAP emissions using a flare.

(i) The flare shall comply with the requirements of § 63.11(b) of subpart A.

(ii) Halogenated batch front-end process vents, as defined in § 63.482, shall not be vented to a flare.

(2) For each batch front-end process vent, reduce organic HAP emissions for the batch cycle by 90 weight percent using a control device. Owners or operators may achieve compliance with this paragraph through the control of selected batch emission episodes or the control of portions of selected batch emission episodes. Documentation demonstrating how the 90 weight percent emission reduction is achieved is required by § 63.490(c)(2).

(b) *Aggregate batch vent streams.* The owner or operator of an aggregate batch vent stream that contains one or more Group 1 batch front-end process vents shall comply with the requirements of either paragraph (b)(1) or (b)(2) of this section. Compliance can be based on either organic HAP or TOC.

(1) For each aggregate batch vent stream, reduce organic HAP emissions using a flare.

(i) The flare shall comply with the requirements of § 63.11(b) of subpart A.

(ii) Halogenated aggregate batch vent streams, as defined in § 63.482, shall not be vented to a flare.

(2) For each aggregate batch vent stream, reduce organic HAP emissions by 90 weight percent on a continuous basis using a control device.

(c) *Halogenated emissions.* Halogenated Group 1 batch front-end process vents, halogenated aggregate batch vent streams, and halogenated continuous front-end process vents that are combusted as part of complying with paragraph (a)(2) or (b)(2) of this section, shall be controlled according to either paragraph (c)(1) or (c)(2) of this section.

(1) If a combustion device is used to comply with paragraph (a)(2) or (b)(2) of this section for a halogenated batch front-end process vent or halogenated aggregate batch vent stream, the emissions shall be ducted from the combustion device to an additional control device that reduces overall emissions of hydrogen halides and halogens by 99 percent before those emissions are discharged to the atmosphere.

(2) A control device may be used to reduce the halogen atom mass emission rate to less than 3,750 kg/yr for batch front-end process vents or aggregate batch vent streams and thus make the batch front-end process vent or aggregate batch vent stream nonhalogenated. The nonhalogenated batch front-end process vent or aggregate batch vent stream must then comply with the requirements of either paragraph (a) or (b) of this section, as appropriate.

(d) If a boiler or process heater is used to comply with the percent reduction requirement specified in paragraph (a)(2) or (b)(2) of this section, the batch front-end process vent or aggregate batch vent stream shall be introduced into the flame zone of such a device.

(e) *Combination of batch front-end process vents or aggregate batch vent streams with continuous front-end process vents.* A batch front-end process vent or aggregate batch vent stream combined with a continuous front-end process vent stream is not subject to the provisions of §§ 63.488 through 63.492, providing the requirements of paragraphs (e)(1), (e)(2), and either (e)(3) or (e)(4) of this section are met.

(1) The batch front-end process vent is combined with a continuous front-end process vent prior to routing the continuous front-end process vent to a control or recovery device. In this paragraph, the definitions of control device and recovery device as they relate to continuous front-end process vents shall be used.

(2) The only emissions to the atmosphere from the batch front-end process vent or aggregate batch vent stream prior to being combined with the continuous front-end process vent are from equipment subject to and in compliance with § 63.502.

(3) If the batch front-end vent stream or aggregate batch vent stream is combined with a continuous front-end process vent stream prior to being routed to a control device, the combined vent stream shall comply with the requirements in § 63.485(m). In this paragraph, the definition of control device as it relates to continuous front-end process vents shall be used.

(4) If the batch front-end process vent or aggregate batch vent stream is combined with a continuous front-end process vent stream prior to being routed to a recovery device, the combined vent stream shall comply with the requirements in § 63.485(n). In this paragraph, the definition of recovery device as it relates to continuous front-end process vents shall be used.

(f) *Group 2 batch front-end process vents with annual emissions greater than or equal to the level specified in § 63.488(d).* The owner or operator of a Group 2 batch front-end process vent with annual emissions greater than or equal to the level specified in § 63.488(d) shall comply with the provisions of paragraphs (f)(1) and (f)(2) of this section.

(1) Establish a batch cycle limitation that ensures that the Group 2 batch front-end process vent does not become a Group 1 batch front-end process vent, and

(2) Comply with the recordkeeping requirements in § 63.491(d)(2), and the reporting requirements in § 63.492(a)(3) and (b).

(g) *Group 2 batch front-end process vents with annual emissions less than the level specified in § 63.488(d).* The owner or operator of a Group 2 batch front-end process vent with annual organic HAP emissions less than the level specified in § 63.488(d), shall comply with either paragraphs (g)(1) and (g)(2) of this section or with

paragraphs (f)(1) and (f)(2) of this section.

(1) Establish a batch cycle limitation that ensures emissions do not exceed the appropriate level specified in § 63.488(d), and

(2) Comply with the recordkeeping requirements in § 63.491(d)(1), and the reporting requirements in § 63.492(a)(2), (b), and (c).

§ 63.488 Methods and procedures for batch front-end process vent group determination.

(a) *General requirements.* Except as provided in paragraph (a)(3) of this section, the owner or operator of batch front-end process vents at affected sources shall determine the group status of each batch front-end process vent in accordance with the provisions of this section. This determination may be based on either organic HAP or TOC emissions.

(1) The procedures specified in paragraphs (b) through (i) shall be followed for the expected mix of products for a given batch front-end process vent, as specified in paragraph (a)(1)(i) of this section, or for the worst-case HAP emitting batch unit operation, as specified in paragraphs (a)(1)(ii) through (a)(1)(iv) of this section. ''Worst-case HAP emitting product'' is defined in paragraph (a)(1)(iii) of this section.

(i) If an owner or operator chooses to follow the procedures specified in paragraphs (b) through (i) of this section for the expected mix of products, an identification of the different products and the number of batch cycles accomplished for each is required as part of the group determination documentation.

(ii) If an owner or operator chooses to follow the procedures specified in paragraphs (b) through (i) of this section for the worst-case HAP emitting product, documentation identifying the worst-case HAP emitting product is required as part of the group determination documentation.

(iii) Except as specified in paragraph (a)(1)(iii)(B) of this section, the worst-case HAP emitting product is as defined in paragraph (a)(1)(iii)(A) of this section.

(A) The worst-case HAP emitting product is the one with the highest mass emission rate (kg organic HAP per hour) averaged over the entire time period of the batch cycle.

(B) Alternatively, when one product is produced more than 75 percent of the time, accounts for more than 75 percent of the annual mass of product, and the owner or operator can show that the mass emission rate (kg organic HAP per hour) averaged over the entire time period of the batch cycle can reasonably be expected to be similar to the mass emission rate for other products having emissions from the same batch front-end process vent, that product may be considered the worst-case HAP emitting product.

(C) An owner or operator shall determine the worst-case HAP emitting product for a batch front-end process vent as specified in paragraphs (a)(1)(iii)(C)(*1*) through (a)(1)(iii)(C)(*3*) of this section.

(*1*) The emissions per batch emission episode shall be determined using any of the procedures specified in paragraph (b) of this section. The mass emission rate (kg organic HAP per hour) averaged over the entire time period of the batch cycle shall be determined by summing the emissions for each batch emission episode making up a complete batch cycle and dividing by the total duration in hours of the batch cycle.

(*2*) To determine the worst-case HAP emitting product as specified under paragraph (a)(1)(iii)(A) of this section, the mass emission rate for each product shall be determined and compared.

(*3*) To determine the worst-case HAP emitting product as specified under paragraph (a)(1)(iii)(B) of this section, the mass emission rate for the product meeting the time and mass criteria of paragraph (a)(1)(iii)(B) of this section shall be determined, and the owner or operator shall provide adequate information to demonstrate that the mass emission rate for said product is similar to the mass emission rates for the other products having emissions from the same batch process vent. In addition, the owner or operator shall provide information demonstrating that the selected product meets the time and mass criteria of paragraph (a)(1)(iii)(B) of this section.

(iv) The annual production of the worst-case HAP emitting product shall be determined by ratioing the production time of the worst-case product up to a 12 month period of actual production. It is not necessary to ratio up to a maximum production rate (i.e., 8,760 hours per year at maximum design production).

(2) The annual uncontrolled organic HAP or TOC emissions and average flow rate shall be determined at the exit from the batch unit operation. For the purposes of these determinations, the primary condenser operating as a reflux condenser on a distillation column, the primary condenser recovering monomer or solvent from a batch stripping operation, and the primary condenser recovering monomer or solvent from a batch distillation operation shall be considered part of the batch unit operation. All other devices that recover or oxidize organic HAP or TOC vapors shall be considered control devices as defined in § 63.482.

(3) The owner or operator of a batch front-end process vent complying with the flare provisions in § 63.487(a)(1) or § 63.487(b)(1) or routing the batch front-end process vent to a control device to comply with the requirements in § 63.487(a)(2) or § 63.487(b)(2) is not required to perform the batch front-end process vent group determination described in this section, but shall comply with all requirements applicable to Group 1 batch front-end process vents.

(b) *Determination of annual emissions.* The owner or operator shall calculate annual uncontrolled TOC or organic HAP emissions for each batch front-end process vent using the methods described in paragraphs (b)(1) through (b)(8) of this section. Paragraphs (b)(1) through (b)(4) of this section present procedures that can be used to calculate the emissions from individual batch emission episodes. Emissions from batch front-end processes involving multicomponent systems are to be calculated using the procedures in paragraphs (b)(1) through (b)(4) of this section. Individual HAP partial pressures in multicomponent systems shall be determined by the following methods: If the components are miscible in one another, use Raoult's law to calculate the partial pressures; if the solution is a dilute aqueous mixture, use Henry's law constants to calculate partial pressures; if Raoult's law or Henry's law are not appropriate or available, use experimentally obtained activity coefficients, Henry's law constants, or solubility data; if Raoult's law or Henry's law are not appropriate, use models, such as the group-contribution models, to predict activity coefficients; and if Raoult's law or Henry's law are not appropriate, assume the components of the system behave independently and use the summation of all vapor pressures from the HAP's as the total HAP partial pressure. Chemical property data can be obtained from standard reference texts. Paragraph (b)(5) of this section describes how direct measurement can be used to estimate emissions. If the owner or operator can demonstrate that the procedures in paragraphs (b)(1) through (b)(4) of this section are not appropriate to estimate emissions from a batch front-end process emission episode, emissions may be estimated using engineering assessment, as described in paragraph (b)(6) of this section. Owners or operators are not required to demonstrate that direct measurement is

not appropriate before utilizing engineering assessment. Paragraph (b)(6)(ii) of this section describes how an owner or operator shall demonstrate that the procedures in paragraphs (b)(1) through (b)(4) of this section are not appropriate. Emissions from a batch cycle shall be calculated in accordance with paragraph (b)(7) of this section, and annual emissions from the batch front-end process vent shall be calculated in accordance with paragraph (b)(8) of this section.

(1) TOC or organic HAP emissions from the purging of an empty vessel shall be calculated using Equation 1. This equation does not take into account evaporation of any residual liquid in the vessel.

$$E_{episode} = \frac{(V_{ves})(P)(MW_{WAVG})}{RT}\left(1 - 0.37^{m}\right) \qquad [Eq.\ 1]$$

where:

$E_{episode}$=Emissions, kg/episode.
V_{ves}=Volume of vessel, m^3.
P=TOC or total organic HAP partial pressure, kPa.
MW_{WAVG}=Weighted average molecular weight of TOC or organic HAP in vapor, determined in accordance with paragraph (b)(4)(iii) of this section, kg/kmol.
R=Ideal gas constant, 8.314 $m^3 \bullet kPa/kmol \bullet °K$.
T=Temperature of vessel vapor space, °K.
m=Number of volumes of purge gas used.

(2) TOC or organic HAP emissions from the purging of a filled vessel shall be calculated using Equation 2.

$$E_{episode} = \frac{(y)(V_{dr})(P)^2(MW_{WAVG})}{RT\left(P - \sum_{i=1}^{n} P_i x_i\right)}(T_m) \qquad [Eq.\ 2]$$

where:

$E_{episode}$=Emissions, kg/episode.
y=Saturated mole fraction of all TOC or organic HAP in vapor phase.
V_{dr}=Volumetric gas displacement rate, m^3/min.
P=Pressure in vessel vapor space, kPa.
MW_{WAVG}=Weighted average molecular weight of TOC or organic HAP in vapor, determined in accordance with paragraph (b)(4)(iii) of this section, kg/kmol.
R=Ideal gas constant, 8.314 $m^3 \bullet kPa/kmol \bullet °K$.
T=Temperature of vessel vapor space, °K.
P_i=Vapor pressure of TOC or individual organic HAP i, kPa.
x_i=Mole fraction of TOC or organic HAP i in the liquid.
n=Number of organic HAP in stream.

Note: Summation not required if TOC emissions are being estimated.

T_m=Minutes/episode.

(3) Emissions from vapor displacement due to transfer of material into or out of a vessel shall be calculated using Equation 3.

$$E_{episode} = \frac{(y)(V)(P)(MW_{WAVG})}{RT} \qquad [Eq.\ 3]$$

where:

$E_{episode}$=Emissions, kg/episode.
y=Saturated mole fraction of all TOC or organic HAP in vapor phase.
V=Volume of gas displaced from the vessel, m^3.
P=Pressure of vessel vapor space, kPa.
MW_{WAVG}=Weighted average molecular weight of TOC or organic HAP in vapor, determined in accordance with paragraph (b)(4)(iii) of this section, kg/kmol.
R=Ideal gas constant, 8.314 $m^3 \bullet kPa/kmol \bullet °K$.
T=Temperature of vessel vapor space, °K.

(4) Emissions caused by the heating of a vessel shall be calculated using the procedures in either paragraph (b)(4)(i), (b)(4)(ii), or (b)(4)(iii) of this section, as appropriate.

(i) If the final temperature to which the vessel contents is heated is lower than 50 K below the boiling point of the HAP in the vessel, then emissions shall be calculated using the equations in paragraphs (b)(4)(i)(A) through (b)(4)(i)(D) of this section.

(A) Emissions caused by heating of a vessel shall be calculated using Equation 4. The assumptions made for this calculation are atmospheric pressure of 760 mm Hg and the displaced gas is always saturated with VOC vapor in equilibrium with the liquid mixture.

$$E_{episode} = \left[\frac{\sum_{i=1}^{n}(P_i)T1}{101.325 - \sum_{i=1}^{n}(P_i)T1} + \frac{\sum_{i=1}^{n}(P_i)T2}{101.325 - \sum_{i=1}^{n}(P_i)T2} \right] \Big/ 2 \quad \text{[Eq. 4]}$$

$$* (\Delta\eta)\left[\frac{(MW_{WAVG,T1}) + (MW_{WAVG,T2})}{2} \right]$$

where:

$E_{episode}$=Emissions, kg/episode.

$(P_i)T1$, $(P_i)T2$=Partial pressure (kPa) TOC or each organic HAP in the vessel headspace at initial (T1) and final (T2) temperature.

n=Number of organic HAP in stream. Note: Summation not required if TOC emissions are being estimated.

$\Delta\eta$=Number of kilogram-moles (kg-moles) of gas displaced, determined in accordance with paragraph (b)(4)(i)(B) of this section.

101.325=Constant, kPa.

$(MW_{WAVG,T1})$, $(MW_{WAVG,T2})$=Weighted average molecular weight of TOC or organic HAP in vapor, determined in accordance with paragraph (b)(4)(iii) of this section.

(B) The moles of gas displaced, $\Delta\eta$, is calculated using equation 5.

$$\Delta\eta = \frac{V_{fs}}{R}\left[\left(\frac{Pa_1}{T_1} \right) - \left(\frac{Pa_2}{T_2} \right) \right] \quad \text{[Eq. 5]}$$

where:

$\Delta\eta$=Number of kg-moles of gas displaced.

V_{fs}=Volume of free space in the vessel, m^3.

R=Ideal gas constant, 8.314 m^3•kPa/kmol•K.

Pa_1=Initial noncondensible gas pressure in the vessel, kPa.

Pa_2=Final noncondensible gas pressure, kPa.

T_1=Initial temperature of vessel, K.

T_2=Final temperature of vessel, K.

(C) The initial and final pressure of the noncondensible gas in the vessel shall be calculated using equation 6.

$$Pa = 101.325 - \sum_{i=1}^{n}(P_i)T \quad \text{[Eq. 6]}$$

where:

Pa=Initial or final partial pressure of noncondensible gas in the vessel headspace, kPa.

101.325=Constant, kPa.

$(P_i)T$=Partial pressure of TOC or each organic HAP i in the vessel headspace, kPa, at the initial or final temperature (T_1 or T_2).

n=Number of organic HAP in stream. Note: Summation not required if TOC emissions are being estimated.

(D) The weighted average molecular weight of organic HAP in the displaced gas, MW_{HAP}, shall be calculated using equation 7:

$$MW_{WAVG} = \frac{\sum_{i=1}^{n}(\text{mass of C})_i(\text{molecular weight of C})_i}{\sum_{i=1}^{n}(\text{mass of C})_i} \quad \text{[Eq. 7]}$$

where:

c=TOC or organic HAP component

n=Number of TOC or organic HAP components in stream.

(ii) If the vessel contents are heated to a temperature greater than 50 K below the boiling point, then emissions from the heating of a vessel shall be calculated as the sum of the emissions calculated in accordance with paragraphs (b)(4)(ii)(A) and (b)(4)(ii)(B) of this section.

(A) For the interval from the initial temperature to the temperature 50 K below the boiling point, emissions shall be calculated using Equation 4, where T_2 is the temperature 50 K below the boiling point.

(B) For the interval from the temperature 50 K below the boiling point to the final temperature, emissions shall be calculated as the summation of emissions for each 5 K increment, where the emissions for each increment shall be calculated using Equation 4.

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

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

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

(iii) If the vessel is operating with a condenser, and the vessel contents are heated to the boiling point, the primary condenser is considered part of the process, as described in § 63.488(a)(2). Emissions shall be calculated as the sum of Equation 4, which calculates emissions due to heating the vessel contents to the temperature of the gas

exiting the condenser, and Equation 3, which calculates emissions due to the displacement of the remaining saturated noncondensible gas in the vessel. The final temperature in Equation 4 shall be set equal to the exit gas temperature of the condenser. Equation 3 shall be used as written below in Equation 3a, using free space volume, and T_2 is set equal to the condenser exit gas temperature.

$$E_{episode} = \frac{(y_i)(V_{fs})(P_T)(MW_{HAP})}{(R)(T)} \quad \text{[Eq. 3a]}$$

where:

$E_{episode}$=Organic HAP emissions, kg/episode.
y_i=Saturated mole fraction of organic HAP in the vapor phase.
V_{fs}=Volume of the free space in the vessel, m^3.
P_T=Pressure of the vessel vapor space, kPa.
MW_{HAP}=Weighted average molecular weight of organic HAP in vapor, determined in accordance with paragraph (b)(4)(iii) of this section.
R=Ideal gas constant, 8.314 $m^3 \bullet kPa/kmol \bullet K$.
T=Temperature of condenser exit stream K.
n=Number of organic HAP in stream.

(5) The owner or operator may estimate annual emissions for a batch emission episode by direct measurement. If direct measurement is used, the owner or operator shall either perform a test for the duration of a representative batch emission episode or perform a test during only those periods of the batch emission episode for which the emission rate for the entire episode can be determined or for which the emissions are greater than the average emission rate of the batch emission episode. The owner or operator choosing either of these options must develop an emission profile for the entire batch emission episode, based on either process knowledge or test data collected, to demonstrate that test periods are representative. Examples of information that could constitute process knowledge include calculations based on material balances and process stoichiometry. Previous test results may be used provided the results are still relevant to the current batch process vent conditions. Performance tests shall follow the procedures specified in paragraphs (b)(5)(i) through (b)(5)(iii) of this section. The procedures in either paragraph (b)(5)(iv) or (b)(5)(v) of this section shall be used to calculate the emissions per batch emission episode.

(i) Method 1 or 1A, as appropriate, shall be used for selection of the sampling sites if the flow measuring device is a pitot tube. No traverse is necessary when Method 2A or 2D is used to determine gas stream volumetric flow rate.

(ii) Gas stream volumetric flow rate and/or average flow rate shall be determined as specified in paragraph (e) of this section.

(iii) Method 18 or Method 25A, of 40 CFR part 60, appendix A, shall be used to determine the concentration of TOC or organic HAP, as appropriate. The use of Method 25A shall comply with paragraphs (b)(5)(iii)(A) and (b)(5)(iii)(B) of this section.

(A) The organic HAP used as the calibration gas for Method 25A shall be the single organic HAP representing the largest percent by volume of the emissions.

(B) The use of Method 25A 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.

(iv) If an integrated sample is taken over the entire batch emission episode to determine TOC or average total organic HAP concentration, emissions shall be calculated using Equation 8.

$$E_{episode} = K\left[\sum_{j=1}^{n}(C_j)(M_j)\right]AFR(T_h) \quad \text{[Eq. 8]}$$

where:

$E_{episode}$=Emissions, kg/episode
K=Constant, 2.494×10^{-6} $(ppmv)^{-1}$ (gm-mole/scm) (kg/gm) (min/hr), where standard temperature is 20°C.
C_j=Average concentration of TOC or sample organic HAP component j of the gas stream for the batch emission episode, dry basis, ppmv.
M_j=Molecular weight of TOC or sample component j of the gas stream, dry basis, gm/gm-mole.
AFR=Average flow rate of gas stream, dry basis, scmm.
T_h=Hours/episode
n=Number of organic HAP in stream. Note: Summation not required if TOC emissions are being estimated using a TOC concentration measured using Method 25A.

(v) If grab samples are taken to determine TOC or average total organic HAP concentration, emissions shall be calculated according to paragraphs (b)(5)(v)(A) and (b)(5)(v)(B) of this section.

(A) For each measurement point, the emission rate shall be calculated using Equation 9.

$$E_{point} = K\left[\sum_{j=1}^{n} C_j M_j\right]FR \quad \text{[Eq. 9]}$$

where:

E_{point}=Emission rate for individual measurement point, kg/hr.
K=Constant, $2.494 \times 10_{-6}$ $(ppmv)_{-1}$ (gm-mole/scm) (kg/gm) (min/hr), where standard temperature is 20°C.
C_j=Concentration of TOC or sample component j of the gas stream, dry basis, ppmv.
M_j=Molecular weight of TOC or sample component j of the gas stream, gm/gm-mole.
FR=Flow rate of gas stream for the measurement point, dry basis, scmm.
n=Number of organic HAP in stream. Note: Summation not required if TOC emissions are being estimated using a TOC concentration measured using Method 25A.

(B) The emissions per batch emission episode shall be calculated using Equation 10.

$$E_{episode} = (DUR)\left[\sum_{i=1}^{n}\frac{E_i}{n}\right] \quad \text{[Eq. 10]}$$

where:

$E_{episode}$=Emissions, kg/episode.
DUR=Duration of the batch emission episode, hr/episode.
E_i=Emissions for measurement point i, kg/hr.
n=Number of measurements.

(6) If the owner or operator can demonstrate that the methods in paragraphs (b)(1) through (b)(4) of this section are not appropriate to estimate emissions for a batch emissions episode, the owner or operator may use engineering assessment to estimate emissions as specified in paragraphs (b)(6)(i) and (b)(6)(ii) of this section. All data, assumptions, and procedures used in an engineering assessment shall be documented.

(i) Engineering assessment includes, but is not limited to, the following:

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

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

(C) Flow rate, TOC emission rate, or organic HAP emission rate specified or implied within a permit limit applicable to the batch front-end process vent.

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

(*1*) Use of material balances,

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

(*3*) Estimation of TOC or organic HAP concentrations based on saturation conditions.

(ii) The emissions estimation equations in paragraphs (b)(1) through (b)(4) of this section shall be considered inappropriate for estimating emissions for a given batch emissions episode if one or more of the criteria in paragraphs (b)(6)(ii)(A) through (b)(6)(ii)(B) of this section are met.

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

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

(C) Data or other information supporting a finding that the emissions estimation equations are inappropriate as specified under paragraph (b)(6)(ii)(A) of this section shall be reported in the Notification of Compliance Status, as required in § 63.506(e)(5).

(D) Data or other information supporting a finding that the emissions estimation equations are inappropriate as specified under paragraph (b)(6)(ii)(B) of this section shall be reported in the Precompliance Report, as required in § 63.506(e)(3).

(7) For each batch front-end process vent, the TOC or organic HAP emissions associated with a single batch cycle shall be calculated using Equation 11.

$$E_{cycle} = \sum_{i=1}^{n} E_{episode_i} \qquad \text{[Eq. 11]}$$

where:

E_{cycle}=Emissions for an individual batch cycle, kg/batch cycle.

$E_{episodei}$=Emissions from a batch emission episode i, kg/episode.

n=Number of batch emission episodes for the batch cycle.

(8) Annual TOC or organic HAP emissions from a batch front-end process vent shall be calculated using Equation 12.

$$AE = \sum_{i=1}^{n} \left(N_i\right)\left(E_{cycle_i}\right) \qquad \text{[Eq. 12]}$$

where:

AE=Annual emissions from a batch front-end process vent, kg/yr.

N_i=Number of type i batch cycles performed annually, cycles/year.

E_{cyclei}=Emissions from the batch front-end process vent associated with single type i batch cycle, as determined in paragraph (b)(7) of this section, kg/batch cycle.

n=Number of different types of batch cycles that cause the emission of TOC or organic HAP from the batch front-end process vent.

(c) [Reserved]

(d) *Minimum emission level exemption.* A batch front-end process vent with annual emissions less than 11,800 kg/yr is considered a Group 2 batch front-end process vent and the owner or operator of that batch front-end process vent shall comply with the requirements in § 63.487 (f) or (g). The owner or operator of that batch front-end process vent is not required to comply with the provisions in paragraphs (e) through (g) of this section.

(e) *Determination of average flow rate.* The owner or operator shall determine the average flow rate for each batch emission episode in accordance with one of the procedures provided in paragraphs (e)(1) through (e)(2) of this section. The annual average flow rate for a batch front-end process vent shall be calculated as specified in paragraph (e)(3) of this section.

(1) Determination of the average flow rate for a batch emission episode by direct measurement shall be made using the procedures specified in paragraphs (e)(1)(i) through (e)(1)(iii) of this section.

(i) The vent stream volumetric flow rate (Q_s) for a batch emission episode, in scmm at 20 °C, shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

(ii) The volumetric flow rate of a representative batch emission episode shall be measured every 15 minutes.

(iii) The average flow rate for a batch emission episode shall be calculated using Equation 13.

$$AFR_{episode} = \frac{\sum_{i=1}^{n} FR_i}{n} \qquad \text{[Eq. 13]}$$

where:

$AFR_{episode}$=Average flow rate for the batch emission episode, scmm.

FR_i=Flow rate for individual measurement i, scmm.

n=Number of flow rate measurements taken during the batch emission episode.

(2) The average flow rate for a batch emission episode may be determined by engineering assessment, as defined in paragraph (b)(6)(i) of this section. All data, assumptions, and procedures used shall be documented.

(3) The annual average flow rate for a batch front-end process vent shall be calculated using Equation 14.

$$AFR = \frac{\sum_{i=1}^{n} \left(DUR_i\right)\left(AFR_{episode,i}\right)}{\sum_{i=1}^{n} \left(DUR_i\right)} \qquad \text{[Eq. 14]}$$

where:

AFR=Annual average flow rate for the batch front-end process vent, scmm.

DUR_i=Duration of type i batch emission episodes annually, hr/yr.

$AFR_{episode,i}$=Average flow rate for type i batch emission episode, scmm.

n=Number of types of batch emission episodes venting from the batch front-end process vent.

(f) *Determination of cutoff flow rate.* For each batch front-end process vent, the owner or operator shall calculate the cutoff flow rate using Equation 15.

$$CFR = (0.00437)(AE) - 51.6 \qquad \text{[Eq. 15]}$$

where:

CFR=Cutoff flow rate, scmm.

AE=Annual TOC or organic HAP emissions, as determined in paragraph (b)(8) of this section, kg/yr.

(g) *Group 1/Group 2 status determination.* The owner or operator shall compare the cutoff flow rate, calculated in accordance with paragraph (f) of this section, with the annual average flow rate, determined in accordance with paragraph (e)(3) of this section. The group determination status for each batch front-end process vent shall be made using the criteria specified in paragraphs (g)(1) and (g)(2) of this section.

(1) If the cutoff flow rate is greater than or equal to the annual average flow rate of the stream, the batch front-end process vent is classified as a Group 1 batch front-end process vent.

(2) If the cutoff flow rate is less than the annual average flow rate of the stream, the batch front-end process vent is classified as a Group 2 batch front-end process vent.

(h) *Determination of halogenation status.* To determine whether a batch front-end 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 (h)(1) through (h)(3) of this section.

(1) The concentration of each organic compound containing halogen atoms (ppmv, by compound) for each batch emission episode shall be determined based on the following procedures:

(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 paragraph (b)(6)(i) of this section.

(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 of appendix A of this part.

(2) The annual mass emissions of halogen atoms for a batch front-end process vent shall be calculated using Equation 16.

$$E_{halogen} = K\left[\sum_{j=1}^{n}\sum_{i=1}^{m}\left(C_{avg_j}\right)\left(L_{j,i}\right)\left(M_{j,i}\right)\right]AFR \qquad \text{[Eq. 16]}$$

where:

$E_{halogen}$=Mass of halogen atoms, dry basis, kg/yr.

K=Constant, 0.022 $(ppmv)^{-1}$ (kg-mole per scm) (min/yr), where standard temperature is 20°C.

AFR=Annual average flow rate of the batch front-end process vent, determined according to paragraph (e) of this section, scmm.

$M_{j,i}$=Molecular weight of halogen atom i in compound j, kg/kg-mole.

$L_{j,i}$=Number of atoms of halogen i in compound j.

n=Number of halogenated compounds j in the batch front-end process vent.

m=Number of different halogens i in each compound j of the batch front-end process vent.

C_{avgj}=Average annual concentration of halogenated compound j in the batch front-end process vent, as determined by using Equation 17, dry basis, ppmv.

$$C_{avg_j} = \frac{\sum_{i=1}^{n}\left(DUR_i\right)\left(C_i\right)}{\sum_{i=1}^{n}\left(DUR_i\right)} \qquad \text{[Eq. 17]}$$

where:

DUR_i=Duration of type i batch emission episodes annually, hr/yr.

C_i=Average concentration of halogenated compound j in type i batch emission episode, ppmv.

n=Number of types of batch emission episodes venting from the batch front-end 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 front-end process vents included in the aggregate batch vent stream.

(i) *Process changes affecting Group 2 batch front-end process vents.* Whenever process changes, as described in paragraph (i)(1) of this section, are made that affect one or more Group 2 batch front-end process vents, the owner or operator shall comply with paragraphs (i)(2) and (i)(3) of this section.

(1) Examples of process changes include, but are not limited to, changes in production capacity, production rate, feedstock type, or catalyst type; or whenever there is replacement, removal, or modification of recovery equipment considered part of the batch unit operation as specified in paragraph (a)(2) of this section. An increase in the annual number of batch cycles beyond the batch cycle limitation constitutes a process change. For purposes of this paragraph, process changes do not include: Process upsets; unintentional, temporary process changes; and changes that are within the margin of variation on which the original group determination was based.

(2) For each batch front-end process vent affected by a process change, the owner or operator shall redetermine the group status by repeating the procedures specified in paragraphs (b) through (g) of this section, as applicable. Alternatively, engineering assessment, as described in paragraph (b)(6)(i) of this section, can be used to determine the effects of the process change.

(3) Based on the results of paragraph (i)(2) of this section, owners or operators shall comply with either paragraph (i)(3)(i), (ii), or (iii) of this section.

(i) If the redetermination described in paragraph (i)(2) of this section indicates that a Group 2 batch front-end process vent has become a Group 1 batch front-end process vent as a result of the process change, the owner or operator shall submit a report as specified in § 63.492(b) and shall comply with the Group 1 provisions in § 63.487 through § 63.492 in accordance with the compliance schedule described in § 63.506(e)(6)(iii)(D)(*2*).

(ii) If the redetermination described in paragraph (i)(2) of this section indicates that a Group 2 batch front-end process vent with annual emissions less than the applicable level specified in paragraph (d) of this section, and that is in compliance with § 63.487(g), now has annual emissions greater than or equal to the applicable level specified by paragraph (d) of this section but remains a Group 2 batch front-end process vent, the owner or operator shall submit a report as specified in § 63.492(c) and shall comply with § 63.487(f) in accordance with the compliance schedule required by § 63.506(e)(6)(iii)(D)(*2*).

(iii) If the redetermination described in paragraph (i)(2) of this section indicates no change in group status or no change in the relation of annual emissions to the levels specified in paragraph (d) of this section, the owner or operator is not required to submit a report, as described in § 63.492(d).

§ 63.489 Batch front-end process vents—monitoring requirements.

(a) *General requirements.* Each owner or operator of a batch front-end process vent or aggregate batch vent stream that uses a control device to comply with the

requirements in § 63.487(a)(2) or § 63.487(b)(2) shall install the monitoring equipment specified in paragraph (b) of this section.

(1) This monitoring equipment shall be in operation at all times when batch emission episodes, or portions thereof, that the owner or operator has selected to control are vented to the control device, or at all times when an aggregate batch vent stream is vented to the control device.

(2) The owner or operator shall operate control devices such that monitored parameters remain above the minimum level or below the maximum level, as appropriate, established as specified in paragraph (e) of this section.

(b) *Batch front-end process vent and aggregate batch vent stream monitoring parameters.* The monitoring equipment specified in paragraphs (b)(1) through (b)(8) of this section shall be installed as specified in paragraph (a) of this section. The parameters to be monitored are specified in Table 6 of this subpart.

(1) Where an incinerator is used, a temperature monitoring device equipped with a continuous recorder is required.

(i) Where an incinerator other than a catalytic incinerator is used, the temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream of the firebox 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) Where a flare is used, a device (including, but not limited to, a thermocouple, ultra-violet beam sensor, or infrared sensor) capable of continuously detecting the presence of a pilot flame is required.

(3) Where a boiler or process heater of less than 44 megawatts design heat input capacity is used, a temperature monitoring device in the firebox equipped with a continuous recorder is required. Any boiler or process heater in which all batch front-end process vents or aggregate batch vent streams are introduced with the primary fuel or are used as the primary fuel is exempt from this requirement.

(4) Where a scrubber is used with an incinerator, boiler, or process heater in concert with the combustion of halogenated batch front-end process vents, the following monitoring equipment is required for the scrubber:

(i) A pH monitoring device equipped with a continuous recorder to monitor the pH of the scrubber effluent; and

(ii) A flow meter equipped with a continuous recorder shall be located at the scrubber influent to monitor the scrubber liquid flow rate.

(5) Where an absorber is used, a scrubbing liquid temperature monitoring device and a specific gravity monitoring device are required, each equipped with a continuous recorder.

(6) Where a condenser is used, a condenser exit temperature (product side) monitoring device equipped with a continuous recorder is required.

(7) Where a carbon adsorber is used, an integrating regeneration stream flow monitoring device having an accuracy of ±10 percent, capable of recording the total regeneration stream mass 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 are required.

(8) As an alternate to paragraphs (b)(5) through (b)(7) of this section, the owner or operator may install an organic monitoring device equipped with a continuous recorder.

(c) *Alternative monitoring parameters.* An owner or operator of a batch front-end process vent or aggregate batch vent stream may request approval to monitor parameters other than those required by paragraph (b) of this section. The request shall be submitted according to the procedures specified in § 63.506(f). Approval shall be requested if the owner or operator:

(1) Uses a control device other than those included in paragraph (b) of this section; or

(2) Uses one of the control devices included in paragraph (b) of this section, but seeks to monitor a parameter other than those specified in Table 6 of this subpart and paragraph (b) of this section.

(d) *Monitoring of bypass lines.* The owner or operator of a batch front-end process vent or aggregate batch vent stream using a vent system that contains bypass lines that could divert emissions away from a control device used to comply with § 63.487(a) or § 63.487(b) shall comply with either paragraph (d)(1), (d)(2), or (d)(3) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.

(1) 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 § 63.491(e)(3). The flow indicator shall be installed at the entrance to any bypass line that could divert emissions away from the control device and to the atmosphere; or

(2) 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 that the valve is maintained in the non-diverting position and emissions are not diverted through the bypass line. Records shall be generated as specified in § 63.491(e)(4).

(3) Continuously monitor the bypass line damper or valve position using computer monitoring and record any periods when the position of the bypass line damper or valve has changed as specified in § 63.491(e)(4).

(e) *Establishment of parameter monitoring levels.* Parameter monitoring levels for batch front-end process vents and aggregate batch vent streams shall be established as specified in paragraphs (e)(1) through (e)(3) of this section.

(1) For each parameter monitored under paragraph (b) of this section, the owner or operator shall establish a level, defined as either a maximum or minimum operating parameter as denoted in Table 7 of this subpart, that indicates proper operation of the control device. The level shall be established in accordance with the procedures specified in § 63.505.

(i) For batch front-end process vents using a control device to comply with § 63.487(a)(2), the established level shall reflect the control efficiency established as part of the initial compliance demonstration specified in § 63.490(c)(2).

(ii) For aggregate batch vent streams using a control device to comply with § 63.487(b)(2), the established level shall reflect the control efficiency requirement specified in § 63.487(b)(2).

(2) The established level, along with supporting documentation, shall be submitted in the Notification of Compliance Status or the operating permit application as required in § 63.506(e)(5) or § 63.506(e)(8), respectively.

(3) The operating day shall be defined as part of establishing the parameter monitoring level and shall be submitted with the information in paragraph (e)(2) of this section. The definition of operating day shall specify the times at which an operating day begins and ends. The operating day shall not exceed 24 hours.

§ 63.490 Batch front-end process vents—performance test methods and procedures to determine compliance.

(a) *Use of a flare.* When a flare is used to comply with § 63.487(a)(1) or § 63.487(b)(1), the owner or operator shall comply with the flare provisions in § 63.11(b) of subpart A.

(b) *Exceptions to performance tests.* An owner or operator is not required to conduct a performance test when a control device specified in paragraphs (b)(1) through (b)(4) of this section is used to comply with § 63.487(a)(2).

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

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

(3) A control device for which a performance test was conducted for determining compliance with a new source performance standard (NSPS) and the test was conducted using the same procedures specified in this section and no process changes have been made since the test.

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

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

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

(5) An incinerator burning hazardous waste for which the owner or operator complies with the requirements of 40 CFR part 264, subpart O.

(6) Performance tests done for other subparts in part 60 or part 63 where total organic HAP or TOC was measured, provided that the owner or operator can demonstrate that operating conditions for the process and control device during the performance test are representative of current operating conditions.

(c) *Batch front-end process vent testing and procedures for compliance with § 63.487(a)(2).* Except as provided in paragraph (b) of this section, an owner or operator using a control device to comply with § 63.487(a)(2) shall conduct a performance test using the procedures specified in paragraph (c)(1) of this section in order to determine the control efficiency of the control device. An owner or operator shall determine the percent reduction for the batch cycle using the control efficiency of the control device as specified in paragraphs (c)(2)(i) through (c)(2)(iii) of this section and the procedures specified in paragraph (c)(2) of this section. Compliance may be based on either total organic HAP or TOC. For purposes of this paragraph and all paragraphs that are part of paragraph (c) of this section, the term ''batch emission episode'' shall have the meaning ''period of the batch emission episode selected for control,'' which may be the entire batch emission episode or may only be a portion of the batch emission episode.

(1) Performance tests shall be conducted as specified in paragraphs (c)(1)(i) through (c)(1)(v) of this section.

(i) Except as specified in paragraph (c)(1)(i)(A) of this section, a test shall be performed for the entire period of each batch emission episode in the batch cycle that the owner or operator selects to control as part of achieving the required 90 percent emission reduction for the batch cycle specified in § 63.487(a)(2). Only one test is required for each batch emission episode selected by the owner or operator for control. The owner or operator shall follow the procedures listed in paragraphs (c)(1)(i)(B) through (c)(1)(i)(D) of this section.

(A) Alternatively, an owner or operator may choose to test only those periods of the batch emission episode during which the emission rate for the entire episode can be determined or during which the emissions are greater than the average emission rate of the batch emission episode. The owner or operator choosing either of these options must develop an emission profile for the entire batch emission episode, based on either process knowledge or test data collected, to demonstrate that test periods are representative. Examples of information that could constitute process knowledge include calculations based on material balances and process stoichiometry. Previous test results may be used, provided the results are still relevant to the current batch front-end process vent conditions.

(B) Method 1 or 1A, as appropriate, shall be used for selection of the sampling sites if the flow measuring device is a pitot tube. No traverse is necessary when Method 2A or 2D is used to determine gas stream volumetric flow rate. Inlet sampling sites shall be located as specified in paragraphs (c)(1)(i)(B)(*1*) and (c)(1)(i)(B)(*2*) of this section. Outlet sampling sites shall be located at the outlet of the final control device prior to release to the atmosphere.

(*1*) The control device inlet sampling site shall be located at the exit from the batch unit operation before any control device. Section 63.488(a)(2) describes those recovery devices considered part of the unit operation. Inlet sampling sites would be after these specified recovery devices.

(*2*) If a batch process vent 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 HAP or TOC (minus methane and ethane) concentrations in all batch front-end process vents and primary and secondary fuels introduced into the boiler or process heater.

(C) Gas stream volumetric flow rate and/or average flow rate shall be determined as specified in § 63.488(e).

(D) Method 18 or Method 25A of 40 CFR part 60, Appendix A, shall be used to determine the concentration of organic HAP or TOC, as appropriate. The use of Method 25A shall comply with paragraphs (c)(1)(i)(D)(*1*) and (c)(1)(i)(D)(*2*) of this section.

(*1*) The organic HAP used as the calibration gas for Method 25A shall be the single organic HAP representing the largest percent by volume of the emissions.

(*2*) The use of Method 25A 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.

(ii) If an integrated sample is taken over the entire batch emission episode to determine TOC or average total organic HAP concentration, emissions per batch emission episode shall be calculated using Equations 18 and 19.

$$E_{episode,inlet} = K\left[\sum_{j=1}^{n}\left(C_{j,inlet}\right)\left(M_j\right)\right]\left(AFR_{inlet}\right)\left(T_h\right) \qquad \text{[Eq. 18]}$$

$$E_{episode,outlet} = K\left[\sum_{j=1}^{n}\left(C_{j,outlet}\right)\left(M_j\right)\right]\left(AFR_{outlet}\right)\left(T_h\right) \quad [Eq.\ 19]$$

where:

$E_{episode}$=Inlet or outlet emissions, kg/episode.

K=Constant, 2.494×10^{-6} $(ppmv)^{-1}$ (gm-mole/scm) (kg/gm) (min/hr), where standard temperature is 20°C.

C_j=Average inlet or outlet concentration of TOC or sample component j of the gas stream for the batch emission episode, dry basis, ppmv.

M_j=Molecular weight of TOC or sample component j of the gas stream, gm/gm-mole.

AFR=Average inlet or outlet flow rate of gas stream for the batch emission episode, dry basis, scmm.

T_h=Hours/episode.

n=Number of organic HAP in stream. Note: Summation not required if TOC emissions are being estimated using a TOC concentration measured using Method 25A.

(iii) If grab samples are taken to determine TOC or total organic HAP concentration, emissions shall be calculated according to paragraphs (c)(1)(iii)(A) and (c)(1)(iii)(B) of this section.

(A) For each measurement point, the emission rates shall be calculated using Equations 20 and 21.

$$E_{point,inlet} = K\left[\sum_{j=1}^{n} C_j M_j\right] FR_{inlet} \quad [Eq.\ 20]$$

$$E_{point,outlet} = K\left[\sum_{j=1}^{n} C_j M_j\right] FR_{outlet} \quad [Eq.\ 21]$$

where:

E_{point}=Inlet or outlet emission rate for the measurement point, kg/hr.

K=Constant, 2.494×10^{-6} $(ppmv)^{-1}$ (gm-mole/scm) (kg/gm) (min/hr), where standard temperature is 20°C.

C_j=Inlet or outlet concentration of TOC or sample organic HAP component j of the gas stream, dry basis, ppmv.

M_j=Molecular weight of TOC or sample organic HAP component j of the gas stream, gm/gm-mole.

FR=Inlet or outlet flow rate of gas stream for the measurement point, dry basis, scmm.

n=Number of organic HAP in stream.

Note: Summation not required if TOC emissions are being estimated using a TOC concentration measured using Method 25A.

(B) The emissions per batch emission episode shall be calculated using Equations 22 and 23.

$$E_{episode,inlet} = (DUR)\left[\sum_{i=1}^{n}\frac{E_{point,inlet,i}}{n}\right] \quad [Eq.\ 22]$$

$$E_{episode,outlet} = (DUR)\left[\sum_{i=1}^{n}\frac{E_{point,outlet,i}}{n}\right] \quad [Eq.\ 23]$$

where:

$E_{episode}$=Inlet or outlet emissions, kg/episode.

DUR=Duration of the batch emission episode, hr/episode.

$E_{point,i}$=Inlet or outlet emissions for measurement point i, kg/hr.

n=Number of measurements.

(iv) The control efficiency for the control device shall be calculated using Equation 24.

$$R = \frac{\sum_{i=1}^{n} E_{inlet,i} - \sum_{i=1}^{n} E_{outlet,i}}{\sum_{i=1}^{n} E_{inlet,i}}(100) \quad [Eq.\ 24]$$

Where:

R=Control efficiency of control device, percent.

E_{inlet_i}=Mass rate of TOC or total organic HAP for batch emission episode i at the inlet to the control device as calculated under paragraph (c)(1)(ii) or (c)(1)(iii) of this section, kg/hr.

E_{outlet_i}=Mass rate of TOC or total organic HAP for batch emission episode i at the outlet of the control device, as calculated under paragraph (c)(1)(ii) or (c)(1)(iii) of this section, kg/hr.

n=Number of batch emission episodes in the batch cycle selected to be controlled.

(v) If the batch front-end process vent 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 HAP or TOC across the device shall be determined by comparing the TOC or total organic HAP in all combusted batch front-end process vents and primary and secondary fuels with the TOC or total organic HAP exiting the combustion device, respectively.

(2) The percent reduction for the batch cycle shall be determined using Equation 25 and the control device efficiencies specified in paragraphs (c)(2)(i) through (c)(2)(iii) of this section. All information used to calculate the batch cycle percent reduction, including a definition of the batch cycle identifying all batch emission episodes, must be recorded as specified in § 63.491(b)(2). This information shall include identification of those batch emission episodes, or portions thereof, selected for control.

$$\text{Percent Reduction} = \frac{\sum_{i=1}^{n} E_{unc} + \sum_{i=1}^{n} E_{inlet,con} - \sum_{i=1}^{n} (1-R)(E_{inlet,con})}{\sum_{i=1}^{n} E_{unc} + \sum_{i=1}^{n} E_{inlet,con}} 100 \qquad \text{[Eq. 25]}$$

where:

E_{unc}=Mass rate of TOC or total organic HAP for uncontrolled batch emission episode i, kg/hr.

$E_{inle_{tcon}}$=Mass rate of TOC or total organic HAP for controlled batch emission episode i at the inlet to the control device, kg/hr.

R=Control efficiency of control device as specified in paragraphs (c)(2)(i) through (c)(2)(iii) of this section.

n=Number of uncontrolled batch emission episodes, controlled batch emission episodes, and control devices. The value of n is not necessarily the same for these three items.

(i) If a performance test is required by paragraph (c) of this section, the control efficiency of the control device shall be as determined in paragraph (c)(1)(iv) of this section.

(ii) If a performance test is not required by paragraph (c) of this section for a combustion control device, as specified in paragraph (b) of this section, the control efficiency of the control device shall be 98 percent. The control efficiency for a flare shall be 98 percent.

(iii) If a performance test is not required by paragraph (c) of this section for a noncombustion control device, the control efficiency shall be determined by the owner or operator based on engineering assessment.

(d) *Batch process vent and aggregate batch vent stream testing for compliance with § 63.487(c) [halogenated emission streams].* An owner or operator controlling halogenated emissions in compliance with § 63.487(c) shall conduct a performance test to determine compliance with the control efficiency specified in § 63.487(c)(1) or the emission limit specified in § 63.487(c)(2) for hydrogen halides and halogens.

(1) Sampling sites shall be located at the inlet and outlet of the scrubber or other control device used to reduce halogen emissions in complying with § 63.487(c)(1) or at the outlet of the control device used to reduce halogen emissions in complying with § 63.487(c)(2).

(2) The mass emissions of each hydrogen halide and halogen compound for the batch cycle or aggregate batch vent stream shall be calculated from the measured concentrations and the gas stream flow rate(s) determined by the procedures specified in paragraphs (d)(2)(i) and (d)(2)(ii) of this section, except as specified in paragraph (d)(5) of this section.

(i) Method 26 or Method 26A of 40 CFR part 60, appendix A, shall be used to determine the concentration, in Mg per dry scm, of total hydrogen halides and halogens present in the emissions stream.

(ii) Gas stream volumetric flow rate and/or average flow rate shall be determined as specified in § 63.488(e).

(3) To determine compliance with the percent reduction specified in § 63.487(c)(1), the mass emissions for any hydrogen halides and halogens present at the inlet of the scrubber or other control device shall be summed together. The mass emissions of any hydrogen halides or halogens present at the outlet of the scrubber or other control device shall be summed together. Percent reduction shall be determined by subtracting the outlet mass emissions from the inlet mass emissions and then dividing the result by the inlet mass emissions.

(4) To determine compliance with the emission limit specified in § 63.487(c)(2), the annual mass emissions for any hydrogen halides and halogens present at the outlet of the control device and prior to any combustion device shall be summed together and compared to the emission limit specified in § 63.487(c)(2).

(5) The owner or operator may use any other method to demonstrate compliance if the method or data has been validated according to the applicable procedures of Method 301 of appendix A.

(e) *Aggregate batch vent stream testing for compliance with § 63.487(b)(2).* Owners or operators of aggregate batch vent streams complying with § 63.487(b)(2) shall conduct a performance test using the performance testing procedures for continuous front-end process vents in § 63.116(c) of subpart G. For the purposes of this subpart, when the provisions of § 63.116(c) specify that Method 18 shall be used, Method 18 or Method 25A may be used. The use of Method 25A shall comply with paragraphs (e)(1) and (e)(2) of this section.

(1) The organic HAP used as the calibration gas for Method 25A shall be the single organic HAP representing the largest percent by volume of the emissions.

(2) The use of Method 25A 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.

(f) *Batch cycle limitation.* The batch cycle limitation required by § 63.487(f)(1) and § 63.487(g)(1) shall be established as specified in paragraph (f)(1) of this section and shall include the elements specified in paragraph (f)(2) of this section.

(1) The batch cycle limitation shall be determined by the owner or operator such that annual emissions for the batch front-end process vent remain less than the level specified in § 63.488(d) when complying with § 63.487(g). Alternatively, when complying with § 63.487(f), the batch cycle limitation shall ensure that annual emissions remain at a level such that the batch front-end process vent remains a Group 2 batch front-end process vent, given the actual annual flow rate for that batch front-end process vent determined according to § 63.488(e)(3). The batch cycle limitation shall be determined using the same basis, as described in § 63.488(a)(1), used to make the group determination (i.e., expected mix of products or worst-case HAP emitting product). The establishment of the batch cycle limitation is not dependent upon any past production or activity level.

(i) If the expected mix of products serves as the basis for the batch cycle limitation, the batch cycle limitation shall be determined such that any foreseeable combination of products which the owner or operator desires the flexibility to manufacture shall be allowed. Combinations of products not accounted for in the documentation required by paragraph (f)(2)(iv) of this section shall not be allowed within the restrictions of the batch cycle limitation.

(ii) If, for a batch front-end process vent with more than one product, a single worst-case HAP emitting product serves as the basis for the batch cycle limitation, the batch cycle limitation shall be determined such that the maximum number of batch cycles the owner or operator desires the flexibility to accomplish, using the worst-case

HAP emitting product and ensuring that the batch front-end process vent remains a Group 2 batch front-end process vent or that emissions remain less than the level specified in § 63.488(d), shall be allowed. This value shall be the total number of batch cycles allowed within the restrictions of the batch cycle limitation regardless of which products are manufactured.

(2) Documentation supporting the establishment of the batch cycle limitation shall include the information specified in paragraphs (f)(2)(i) through (f)(2)(v) of this section, as appropriate.

(i) Identification that the purpose of the batch cycle limitation is to comply with § 63.487(f)(1) or (g)(1).

(ii) Identification that the batch cycle limitation is based on a single worst-case HAP emitting product or on the expected mix of products for the batch front-end process vent as allowed under § 63.488(a)(1).

(iii) Definition of the operating year, for the purposes of determining compliance with the batch cycle limitation.

(iv) If the batch cycle limitation is based on a single worst-case HAP emitting product, documentation specified in § 63.488(a)(1)(ii) describing how the single product meets the requirements for worst-case HAP emitting product, as specified in § 63.488(a)(1) and the number of batch cycles allowed under the batch cycle limitation for each product associated with the batch front-end process vent are required.

(v) If the batch cycle limitation is based on the expected mix of products, the owner or operator shall provide documentation that describes as many scenarios for differing mixes of products (i.e., how many of each type of product) that the owner or operator desires the flexibility to accomplish. Alternatively, the owner or operator shall provide a description of the relationship among the mix of products that will allow a determination of compliance with the batch cycle limitation under an infinite number of scenarios. For example, if a batch process vent has two products, each product has the same flow rate and emits for the same amount of time, and product No. 1 has twice the emissions as product No. 2, the relationship describing an infinite number of scenarios would be that the owner or operator can accomplish two batch cycles of product No. 2 for each batch cycle of product No. 1 within the restriction of the batch cycle limitation.

§ 63.491 Batch front-end process vents—recordkeeping requirements.

(a) *Group determination records for batch front-end process vents.* Except as provided in paragraphs (a)(7) through (a)(9) of this section, each owner or operator of an affected source shall maintain the records specified in paragraphs (a)(1) through (a)(6) of this section for each batch front-end process vent subject to the group determination procedures of § 63.488. Except for paragraph (a)(1) of this section, the records required to be maintained by this paragraph are limited to the information developed and used to make the group determination under § 63.488(b) through § 63.488(g), as appropriate. The information required by paragraph (a)(1) of this section is required for all batch front-end process vents subject to the group determination procedures of § 63.488. If an owner or operator did not need to develop certain information (e.g., annual average flow rate) to determine the group status, this paragraph does not require that additional information be developed.

(1) An identification of each unique product that has emissions from one or more batch emission episodes venting from the batch front-end process vent.

(2) A description of, and an emission estimate for, each batch emission episode, and the total emissions associated with one batch cycle for each unique product identified in paragraph (a)(1) of this section that was considered in making the group determination under § 63.488.

(3) Total annual uncontrolled TOC or organic HAP emissions, determined at the exit from the batch unit operation before any emission control, as determined in accordance with § 63.488(b).

(i) For Group 2 batch front-end process vents, emissions shall be determined at the batch cycle limitation.

(ii) For Group 1 batch front-end process vents, emissions shall be those used to determine the group status of the batch front-end process vent.

(4) The annual average flow rate for the batch front-end process vent as determined in accordance with § 63.488(e).

(5) The cutoff flow rate, determined in accordance with § 63.488(f).

(6) The results of the batch front-end process vent group determination, conducted in accordance with § 63.488(g).

(7) If a batch front-end process vent is in compliance with § 63.487(a) or § 63.487(b), and the control device is operating at all times when batch emission episodes are venting from the batch front-end process vent, none of the records in paragraphs (a)(1) through (a)(6) of this section are required.

(8) If a batch front-end process vent is in compliance with § 63.487(a) or § 63.487(b), but the control device is operated only during selected batch emission episodes, only the records in paragraphs (a)(1) through (a)(3) of this section are required.

(9) If the total annual emissions from the batch front-end process vent are less than the appropriate level specified in § 63.488(d), only the records in paragraphs (a)(1) through (a)(3) of this section are required.

(b) *Compliance demonstration records.* Each owner or operator of a batch front-end process vent or aggregate batch vent stream complying with § 63.487(a) or (b), shall keep the following records, as applicable, up-to-date and readily accessible:

(1) The annual mass emissions of halogen atoms in the batch front-end process vent or aggregate batch vent stream determined according to the procedures specified in § 63.488(h)(2).

(2) If a batch front-end process vent is in compliance with § 63.487(a)(2), records documenting the batch cycle percent reduction as specified in § 62.486–4(c)(2).

(3) When using a flare to comply with § 63.487(a)(1):

(i) The flare design (i.e., steam-assisted, air-assisted, or non-assisted);

(ii) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by § 63.11(b) of subpart A; and

(iii) All periods during the compliance determination required by § 63.11(b) of subpart A when the pilot flame is absent.

(4) The following information when using a control device to achieve compliance with § 63.487(a)(2) or (b)(2):

(i) For an incinerator or non-combustion control device, the percent reduction of organic HAP or TOC achieved, as determined using the procedures specified in § 63.490(c) for batch front-end process vents and § 63.490(e) for aggregate batch vent streams;

(ii) For a boiler or process heater, a description of the location at which the vent stream is introduced into the boiler or process heater;

(iii) 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 is used as a secondary fuel and is not mixed with the primary fuel, the percent reduction of organic HAP or TOC achieved, as determined

using the procedures specified in § 63.490(c) for batch front-end process vents and § 63.490(e) for aggregate batch vent streams; and

(iv) For a scrubber or other control device following a combustion device to control a halogenated batch front-end process vent or halogenated aggregate batch vent stream, the percent reduction of total hydrogen halides and halogens, as determined under § 63.490(d)(3) or the emission limit determined under § 63.490(d)(4).

(c) *Establishment of parameter monitoring level records.* For each parameter monitored according to § 63.489(b) and Table 6 of this subpart, or for alternate parameters and/or parameters for alternate control devices monitored according to § 63.492(e) as allowed under § 63.489(c), maintain documentation showing the establishment of the level that indicates proper operation of the control device as required by § 63.489(e) for parameters specified in § 63.489(b) and as required by § 63.506(f) for alternate parameters. This documentation shall include the parameter monitoring data used to establish the level.

(d) *Group 2 batch front-end process vent continuous compliance records.* The owner or operator of a Group 2 batch front-end process vent shall comply with either paragraph (d)(1) or (d)(2) of this section, as appropriate.

(1) The owner or operator of a Group 2 batch front-end process vent complying with § 63.487(g) shall keep the following records up-to-date and readily accessible:

(i) Records designating the established batch cycle limitation required by § 63.487(g)(1) and specified in § 63.490(f).

(ii) Records specifying the number and type of batch cycles accomplished.

(2) The owner or operator of a Group 2 batch front-end process vent complying with § 63.487(f) shall keep the following records up-to-date and readily accessible:

(i) Records designating the established batch cycle limitation required by § 63.487(f)(1) and specified in § 63.490(f).

(ii) Records specifying the number and type of batch cycles accomplished for each three month period.

(e) *Controlled batch front-end process vent continuous compliance records.* Each owner or operator of a batch front-end process vent that uses a control device to comply with § 63.487(a) shall keep the following records up-to-date and readily accessible:

(1) Continuous records of the equipment operating parameters specified to be monitored under § 63.489(b) as applicable, and listed in Table 6 of this subpart, or specified by the Administrator in accordance with § 63.492(e) as allowed under § 63.489(c). These records shall be kept as specified under § 63.506(d), except as specified in paragraphs (e)(1)(i) and (e)(1)(ii) of this section.

(i) For flares, the records specified in Table 6 of this subpart shall be kept rather than averages.

(ii) For carbon adsorbers, the records specified in Table 6 of this subpart shall be kept rather than averages.

(2) Records of the batch cycle daily average value of each continuously monitored parameter, except as provided in paragraphs (e)(2)(iii) of this section, as calculated using the procedures specified in paragraphs (e)(2)(i) through (e)(2)(ii) of this section.

(i) The batch cycle daily average shall be calculated as the average of all parameter values measured during those batch emission episodes, or portions thereof, in the batch cycle that the owner or operator has selected to control.

(ii) Monitoring data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments shall not be included in computing the batch cycle daily averages.

(iii) If all recorded values for a monitored parameter during an operating day are above the minimum or below the maximum level established in accordance with § 63.489(e), 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 batch cycle daily average for that operating day.

(3) Hourly records of whether the flow indicator for bypass lines specified under § 63.489(d)(1) was operating and whether flow was detected at any time during the hour. Also, records of the times and durations of all periods when the vent is diverted from the control device, or the flow indicator specified in § 63.489(d)(1) is not operating.

(4) Where a seal or closure mechanism is used to comply with § 63.489(d)(2) or where computer monitoring of the position of the bypass damper or valve is used to comply with § 63.489(d)(3), hourly records of flow are not required.

(i) For compliance with § 63.489(d)(2), the owner or operator shall record whether the monthly visual inspection of the seals or closure mechanism 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 configuration has been checked out, and records of any car-seal that has been broken.

(ii) For compliance with § 63.489(d)(3), the owner or operator shall record the times of all periods when the bypass line valve position has changed.

(5) Records specifying the times and duration of periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high level adjustments. In addition, records specifying any other periods of process or control device operation when monitors are not operating.

(f) *Aggregate batch vent stream continuous compliance records.* In addition to the records specified in paragraphs (b) and (c) of this section, each owner or operator of an aggregate batch vent stream using a control device to comply with § 63.487(b) shall keep records in accordance with the requirements for continuous process vents in § 63.118(a) and § 63.118(b) of subpart G, as applicable and appropriate, except that when complying with § 63.118(b), owners or operators shall disregard statements concerning TRE index values for the purposes of this subpart.

§ 63.492 Batch front-end process vents—reporting requirements.

(a) The owner or operator of a batch front-end process vent at an affected source shall submit the information specified in paragraphs (a)(1) through (a)(4) of this section, as appropriate, as part of the Notification of Compliance Status specified in § 63.506(e)(5).

(1) For each batch front-end process vent complying with § 63.487(a) and each aggregate batch vent stream complying with § 63.487(b), the information specified in § 63.491(b) and § 63.491(c), as applicable.

(2) For each Group 2 batch front-end process vent with annual emissions less than the level specified in § 63.488(d), the information specified in § 63.491(d)(1)(i).

(3) For each Group 2 batch front-end process vent with annual emissions greater than or equal to the level specified in § 63.488(d), the information specified in § 63.491(d)(2)(i).

(4) For each batch process vent subject to the group determination procedures, the information specified in § 63.491(a), as appropriate.

(b) Whenever a process change, as defined in § 63.488(i)(1), is made that causes a Group 2 batch front-end process vent to become a Group 1 batch front-end process vent, the owner or operator shall submit a report within 180 operating days after the process

change is made or the information regarding the process change is known to the owner or operator. This report may be included in the next Periodic Report, as specified in § 63.506(e)(6)(iii)(D)(*2*). The following information shall be submitted:

(1) A description of the process change; and

(2) A schedule for compliance with the provisions of § 63.487(a) or § 63.487(b), as appropriate, as required under § 63.506(e)(6)(iii)(D)(*2*).

(c) Whenever a process change, as defined in § 63.488(i)(1), is made that causes a Group 2 batch front-end process vent with annual emissions less than the level specified in § 63.488(d) that is in compliance with § 63.487(g) to have annual emissions greater than or equal to the levels specified in § 63.488(d) but remains a Group 2 batch front-end process vent, the owner or operator shall submit a report within 180 operating days after the process change is made or the information regarding the process change is known to the owner or operator. This report may be included in the next Periodic Report, as specified in § 63.506(e)(6)(iii)(D)(*2*). The following information shall be submitted:

(1) A description of the process change;

(2) The results of the redetermination of the annual emissions, average flow rate, and cutoff flow rate required under § 63.488(f) and recorded under § 63.491 (a)(3) through (a)(5); and

(3) The batch cycle limitation determined in accordance with § 63.487(f)(1).

(d) The owner or operator is not required to submit a report of a process change if one of the conditions specified in paragraphs (d)(1) and (d)(2) of this section is met.

(1) The process change does not meet the description of a process change in § 63.488(i).

(2) The redetermined group status remains Group 2 for an individual batch front-end process vent with annual emissions greater than or equal to the level specified in § 63.488(d), or a Group 2 batch front-end process vent with annual emissions less than the level specified in § 63.488(d) complying with § 63.487(g) continues to have emissions less than the level specified in § 63.488(d).

(e) If an owner or operator uses a control device other than those specified in § 63.489(b) and listed in Table 6 of this subpart or requests approval to monitor a parameter other than those specified in § 63.489(c) and listed in Table 6 of this subpart, the owner or operator shall submit a description of planned reporting and recordkeeping procedures, as specified in § 63.506(f), as part of the Precompliance Report as required under § 63.506(e)(3). The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the Precompliance Report.

(f) Owners or operators complying with § 63.489(d), shall comply with paragraph (f)(1) or (f)(2) of this section, as appropriate.

(1) Reports of the times of all periods recorded under § 63.491(e)(3) when the batch front-end process vent is diverted away from the control device through a bypass line.

(2) Reports of all occurrences recorded under § 63.491(e)(4) in which the seal mechanism is broken, the bypass line valve position has changed, or the key to unlock the bypass line valve was checked out.

§ 63.493 Back-end process provisions.

Owners and operators of new and existing affected sources shall comply with the requirements in § 63.494 through § 63.500. Owners and operators of affected sources that produce only latex products, liquid rubber products, or products in a gas-phased polymerization reaction are not subject to the provisions of these sections. Section 63.494 contains residual organic HAP limitations. Compliance with these residual organic HAP limitations may be achieved by using either stripping technology, or by using control or recovery devices. If compliance with these limitations is achieved using stripping technology, the procedures to determine compliance are specified in § 63.495. If compliance with these limitations is achieved using control or recovery devices, the procedures to determine compliance are specified in § 63.496, and associated monitoring requirements are specified in § 63.497. Recordkeeping requirements are contained in § 63.498, and reporting requirements in § 63.499. Section 63.500 contains a limitation on carbon disulfide emissions from affected sources that produce styrene butadiene rubber using an emulsion process. Table 8 contains a summary of compliance alternative requirements for these sections.

§ 63.494 Back-end process provisions—residual organic HAP limitations.

(a) The monthly weighted average residual organic HAP content of all grades of elastomer processed, measured immediately after the stripping operation [or the reactor(s) if the plant has no stripper(s)] is completed, shall not exceed the limits provided in paragraphs (a)(1) through (a)(4) of this section, as applicable. Owners or operators shall comply with the requirements of this paragraph using either stripping technology or control/recovery devices.

(1) For styrene butadiene rubber produced by the emulsion process:

(i) A monthly weighted average of 0.40 kg styrene per megagram (Mg) latex for existing sources; and

(ii) A monthly weighted average of 0.23 kg styrene per Mg latex for new sources;

(2) For polybutadiene rubber and styrene butadiene rubber produced by the solution process:

(i) A monthly weighted average of 10 kg total organic HAP per Mg crumb rubber (dry weight) for existing sources; and

(ii) A monthly weighted average of 6 kg total organic HAP per Mg crumb rubber (dry weight) for new sources.

(3) For ethylene-propylene rubber produced by the solution process:

(i) A monthly weighted average of 8 kg total organic HAP per Mg crumb rubber (dry weight) for existing sources; and

(ii) A monthly weighted average of 5 kg total organic HAP per Mg crumb rubber (dry weight) for new sources.

(4) There are no back-end process operation residual organic HAP limitations for neoprene, Hypalon ™, nitrile butadiene rubber, butyl rubber, halobutyl rubber, epichlorohydrin elastomer, and polysulfide rubber.

(5) For EPPU that produce both an elastomer product with a residual organic HAP limitation listed in this section, and a product listed in paragraphs (a)(5) (i) through (iv) of this section, only the residual HAP content of the elastomer product with a residual organic HAP limitation shall be used in determining the monthly average residual organic HAP content.

(i) Resins;

(ii) Liquid rubber products;

(iii) Latexes from which crumb rubber is not coagulated; or

(iii) Elastomer products listed in paragraph (a)(4) of this section.

(b) If an owner or operator complies with the residual organic HAP limitations in paragraph (a) of this section using stripping technology, compliance shall be demonstrated in accordance with § 63.495. The owner or operator shall also comply with the recordkeeping provisions in § 63.498, and the reporting provisions in § 63.499.

(c) If an owner or operator complies with the residual organic HAP limitations in paragraph (a) of this section using control or recovery devices, compliance shall be

demonstrated using the procedures in § 63.496. The owner or operator shall also comply with the monitoring provisions in § 63.497, the recordkeeping provisions in § 63.498, and the reporting provisions in § 63.499.

§ 63.495 Back-end process provisions—procedures to determine compliance using stripping technology.

(a) If an owner or operator complies with the residual organic HAP limitations in § 63.494(a) using stripping technology, compliance shall be demonstrated using the periodic sampling procedures in paragraph (b) of this section, or using the stripper parameter monitoring procedures in paragraph (c) of this section. The owner or operator shall determine the monthly weighted average residual organic HAP content for each month in which any portion of the back-end of an elastomer production process is in operation. A single monthly weighted average shall be determined for all back-end process operations at the affected source.

(b) If the owner or operator is demonstrating compliance using periodic sampling, this demonstration shall be in accordance with paragraphs (b)(1) through (b)(5) of this section,

(1) The location of the sampling shall be in accordance with paragraph (d) of this section.

(2) The frequency of the sampling shall be in accordance with paragraphs (b)(2)(i) or (b)(2)(ii) of this section.

(i) If batch stripping is used, at least one representative sample is to be taken from every batch of elastomer produced, at the location specified in paragraph (d) of this section, and identified by elastomer type and by the date and time the batch is completed.

(ii) If continuous stripping is used, at least one representative sample is to be taken each operating day. The sample is to be taken at the location specified in paragraph (d) of this section, and identified by elastomer type and by the date and time the sample was taken.

(3) The residual organic HAP content in each sample is to be determined using specified methods.

(4) The quantity of material (weight of latex or dry crumb rubber) represented by each sample shall be recorded. Acceptable methods of determining this quantity are production records, measurement of stream characteristics, and engineering calculations.

(5) The monthly weighted average shall be determined using the equation in paragraph (f) of this section. All samples taken and analyzed during the month shall be used in the determination of the monthly weighted average.

(c) If the owner or operator is demonstrating compliance using stripper parameter monitoring, this demonstration shall be in accordance with paragraphs (c)(1) through (c)(4) of this section.

(1) The owner or operator shall establish stripper operating parameter levels for each grade in accordance with § 63.505(e).

(2) The owner or operator shall monitor the stripper operating parameters at all times the stripper is in operation. Readings of each parameter shall be made at intervals no greater than 15 minutes.

(3) The residual organic HAP content for each grade shall be determined in accordance with either paragraph (c)(3)(i) or (c)(3)(ii) of this section.

(i) If during the processing of a grade in the stripper, all hourly average parameter values are in accordance with operating parameter levels established in paragraph (c)(1) of this section, the owner or operator shall use the residual organic HAP content determined in accordance with § 63.505(e)(1).

(ii) If during the processing of a grade in the stripper, the hourly average of any stripper monitoring parameter is not in accordance with an established operating parameter level, the residual organic HAP content shall be determined using the procedures in paragraphs (b)(1) and (b)(3) of this section.

(4) The monthly weighted average shall be determined using the equation in paragraph (f) of this section.

(d) The location of the sampling shall be in accordance with paragraph (d)(1) or (d)(2) of this section.

(1) For styrene butadiene rubber produced by the emulsion process, the sample shall be a sample of the latex taken at the location specified in either paragraph (d)(1)(i), (d)(1)(ii), or (d)(1)(iii) of this section.

(i) When the latex is not blended with other materials or latexes, the sample shall be taken at a location meeting all of the following criteria:

(A) After the stripping operation,

(B) Prior to entering the coagulation operations, and

(C) Before the addition of carbon black or oil extenders.

(ii) When two or more latexes subject to this subpart are blended, samples may be taken in accordance with either paragraph (d)(1)(ii) (A) or (B) of this section, at a location meeting the requirements of paragraphs (d)(1)(i) (A) through (C) of this section.

(A) Individual samples may be taken of each latex prior to blending, or

(B) A sample of the blended latex may be taken.

(iii) When a latex subject to this subpart is blended with a latex or material not subject to this subpart, a sample shall be taken of the latex prior to blending at a location meeting the requirements of paragraphs (d)(1)(i) (A) through (C) of this section.

(2) For styrene butadiene rubber produced by the solution process, polybutadiene rubber produced by the solution process, and ethylene-propylene rubber produced by the solution process, the sample shall be a sample of crumb rubber taken as soon as safe and feasible after the stripping operation, but no later than the entry point for the first unit operation following the stripper (e.g., the dewatering screen).

(e) Reserved.

(f) The monthly weighted average residual organic HAP content shall be calculated using Equation 26.

$$HAPCONT_{avg,wk} = \frac{\sum_{i=1}^{n} (C_i)(P_i)}{P_{wk}} \quad \text{[Eq. 26]}$$

where:

$HAPCONT_{avg,wk}$ = Monthly weighted average organic HAP content for all rubber processed at the affected source, kg organic HAP per Mg latex or dry crumb rubber.

n = Number of samples in the month.

C_i = Residual organic HAP content of sample i, determined in accordance with (b)(3) or (c)(3) of this section, kg organic HAP per Mg latex or dry crumb rubber.

P_i = Weight of latex or dry crumb rubber represented by sample i.

P_{wk} = Weight of latex or dry crumb rubber (Mg) processed in the month.

§ 63.496 Back-end process provisions—procedures to determine compliance using control or recovery devices.

(a) If an owner or operator complies with the residual organic HAP limitations in § 63.494(a) using control or recovery devices, compliance shall be demonstrated using the procedures in paragraphs (b) and (c) of this section. Previous test results conducted in accordance with paragraphs (b)(1) through (b)(6) of this section may be used to determine compliance in accordance with paragraph (c) of this section.

(b) Compliance shall be demonstrated using the provisions in paragraphs (b)(1) through (b)(10) of this section, as applicable.

(1) A test shall be conducted, the duration of which shall be in accordance with either paragraph

(b)(1)(i) or (b)(1)(ii) of this section, as appropriate.

(i) If the back-end process operations are continuous, the test shall consist of three separate one hour runs.

(ii) If the back-end process operations are batch, the test shall consist of three separate one-hour runs, unless the duration of the batch cycle is less than one-hour, in which case the run length shall equal the complete duration of the back-end process batch cycle.

(2) The test shall be conducted when the grade of elastomer product with the highest residual organic HAP content leaving the stripper is processed in the back-end operations.

(3) The uncontrolled residual organic HAP content in the latex or dry crumb rubber shall be determined in accordance with § 63.495(b)(1) and (b)(3). A separate sample shall be taken and analyzed for each test run. The sample shall be representative of the material being processed in the back-end operation during the test, and does not need to be taken during the test.

(4) The quantity of material (weight of latex or dry crumb rubber) processed during the test run shall be recorded. Acceptable methods of determining this quantity are production records, measurement of stream characteristics, and engineering calculations.

(5) The inlet and outlet emissions from the control or recovery device shall be determined using the procedures in paragraphs (b)(5)(i) through (b)(5)(v) of this section, with the exceptions noted in paragraphs (b)(6) and (b)(7) of this section. The inlet and outlet emissions shall be determined when the material for which the uncontrolled residual organic HAP content is determined in accordance with paragraph (b)(3) of this section, is being processed in the equipment controlled by the control or recovery device.

(i) Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling sites. Sampling sites shall be located at the inlet of the control or recovery device as specified in paragraphs (b)(5)(i)(A) or (b)(5)(i)(B) of this section, and at the outlet of the control or recovery device.

(A) The inlet sampling site shall be located at the exit of the back-end process unit operation before any opportunity for emission to the atmosphere, and before any control or recovery device.

(B) If back-end process vent streams are combined prior to being routed to control or recovery devices, the inlet sampling site may be for the combined stream, as long as there is no opportunity for emission to the atmosphere from any of the streams prior to being combined.

(ii) The gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

(iii) To determine the inlet and outlet total organic HAP concentrations, the owner or operator shall use Method 18 or Method 25A of 40 CFR part 60, appendix A. Alternatively, any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A may be used. The minimum sampling time for each run shall be in accordance with paragraph (b)(1) of this section, during which either an integrated sample or grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals during the run, with the time between samples no greater than 15 minutes.

(iv) The mass rate of total organic HAP shall be computed using Equations 27 and 28.

$$E_i = K_2\left(\sum_{j=1}^{n} C_{ij}M_{ij}\right)Q_i \qquad \text{[Eq. 27]}$$

$$E_o = K_2\left(\sum_{j=1}^{n} C_{oj}M_{oj}\right)Q_o \qquad \text{[Eq. 28]}$$

where:

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

E_i, E_o=Mass rate of total organic HAP at the inlet and outlet of the control or recovery device, respectively, dry basis, kg per hour (kg/hr).

M_{ij}, M_{oj}=Molecular weight of sample component j of the gas stream at the inlet and outlet of the control or recovery device, respectively, gm/gm-mole.

Q_i, Q_o=Flow rate of gas stream at the inlet and outlet of the control or recovery device, respectively, dry standard m^3/min.

K_2=Constant, 2.494×10^{-6} $(ppmv)^{-1}$ (gm-mole/scm) (kg/gm) (min/hr), where standard temperature is 20°C.

(v) Inlet and outlet organic HAP emissions for the run shall be calculated by multiplying the mass rate total inlet and outlet emissions determined in accordance with paragraph (b)(5)(iv) of this section by the duration of the run (in hours).

(6) If a back-end process 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, the inlet and outlet emissions shall be determined in accordance with paragraphs (b)(6)(i) through (b)(6)(iv) of this section.

(i) The inlet organic HAP emissions for the back-end process unit operation shall be determined in accordance with paragraph (b)(5) of this section.

(ii) The owner or operator shall also measure total organic HAP (or TOC, minus methane and ethane) emissions in all process vent streams and primary and secondary fuels introduced into the boiler or process heater, using the procedures in paragraph (b)(5) of this section, with the exceptions noted in paragraphs (b)(6)(ii)(A) through (b)(6)(ii)(C) of this section.

(A) Selection of the location of the inlet sampling sites shall ensure the measurement of total organic HAP concentrations in all process vent streams and primary and secondary fuels introduced into the boiler or process heater.

(B) Paragraph (b)(5)(iii) of this section is applicable, except that TOC (minus methane and ethane) may be measured instead of total organic HAP.

(C) The mass rates shall be calculated in accordance with paragraph (b)(5)(iv) of this section, except that C_j at the inlet and outlet of the control device shall be the sum of all total organic HAP (or TOC, minus methane and ethane) concentrations for all process vent streams and primary and secondary fuels introduced into the boiler or process heater.

(iii) The control efficiency of the boiler or process heater shall be calculated using Equation 29.

$$R = \frac{\sum_{i=1}^{n} E_{inlet_i} - \sum_{i=1}^{n} E_{outlet_i}}{\sum_{i=1}^{n} E_{inlet_i}}(100) \qquad \text{(Eq. 29)}$$

where:

R=Control efficiency of boiler or process heater, percent.

E_{inlet}=Mass rate of total organic HAP or TOC (minus methane and ethane) for all process vent streams and primary and secondary fuels at the inlet to the boiler or process heater, kg organic HAP/hr or kg TOC/hr.

E_{outlet}=Mass rate of total organic HAP or TOC (minus methane and ethane) for all process vent streams and primary and secondary fuels at the outlet to the boiler or process heater, kg organic HAP/hr or kg TOC/hr.

(iv) The outlet total organic HAP emissions associated with the back-end process unit operation shall be calculated using the equation in paragraph (b)(8) of this section.

(7) An owner or operator is not required to conduct a source test to determine the outlet organic HAP emissions if any control device specified in paragraphs (b)(7)(i) through (b)(7)(v) of this section is used. For these devices, the inlet emissions associated with the back-end process unit operation shall be determined in accordance with paragraph (b)(5) of this section, and the outlet emissions shall be calculated using the equation in paragraph (b)(8) of this section.

(i) A flare, provided the owner or operator complies with the flare provisions in § 63.11(b) of subpart A. The compliance determination required by § 63.6(h) of subpart A shall be conducted using Method 22 of 40 CFR part 60, appendix A, to determine visible emissions. Compliance determinations are not necessary for flares already deemed to be in compliance with the flare provisions in § 63.11(b) of subpart A.

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

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

(iv) A control device for which a performance test was conducted for determining compliance with an NSPS and the test was conducted using the same procedures specified in this section and no process changes have been made since the test.

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

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

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

(8) If one of the control devices listed in paragraph (b)(6) or (b)(7) of this section is used, the outlet emissions shall be calculated using Equation 30.

$$E_o = E_i(1-R) \qquad [\text{Eq. } 30]$$

where:

E_o=Mass rate of total organic HAP at the outlet of the control or recovery device, respectively, dry basis, kg/hr.

E_i=Mass rate of total organic HAP at the inlet of the control or recovery device, respectively, dry basis, kg/hr, determined using the procedures in paragraph (b)(5)(iv) of this section.

R=Control efficiency of control device, as specified in paragraph (b)(8) (i), (ii), or (iii) of this section.

(i) If a back-end process 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, the control efficiency of the boiler or process heater shall be determined using the procedures in paragraph (b)(6)(iii) of this section.

(ii) If a back-end process vent is controlled using a control device specified in paragraph (b)(7) (i), (ii), (iii), or (v) of this section, the control device efficiency shall be assumed to be 98 percent.

(iii) If a back-end process vent is controlled using a control device specified in paragraph (b)(7)(iv) of this section, the control device efficiency shall be the efficiency determined in the previous performance test.

(c) Compliance shall be determined using the procedures in this paragraph.

(1) For each test run, the residual organic HAP content, adjusted for the control or recovery device emission reduction, shall be calculated using Equation 31.

Where:

$$HAPCONT_{run} = \frac{(C)(P) - \left(E_{i,run}\right) + \left(E_{o,run}\right)}{(P)} \qquad [\text{Eq. } 31]$$

$HAPCONT_{run}$=Factor, kg organic HAP per kg elastomer (latex or dry crumb rubber).

C=Total uncontrolled organic HAP content, determined in accordance with paragraph (b)(3) of this section, kg organic HAP per kg latex or dry crumb rubber.

P=Weight of latex or dry crumb rubber processed during test run.

$E_{i,run}$=Mass rate of total organic HAP at the inlet of the control or recovery device, respectively, dry basis, kg per test run.

$E_{o,run}$=Mass rate of total organic HAP at the outlet of the control or recovery device, respectively, dry basis, kg per test run.

(2) A facility is in compliance if the average of the organic HAP contents calculated for all three test runs is below the residual organic HAP limitations in § 63.494(a).

(d) An owner or operator complying with the residual organic HAP limitations in § 63.494(a) using a control or recovery device, shall redetermine the compliance status through the requirements described in paragraph (b) of this section whenever process changes are made. The owner or operator shall report the results of the redetermination in accordance with § 63.499(d). For the purposes of this section, a process change is any action that would reasonably be expected to impair the performance of the control or recovery device. For the purposes of this section, the production of an elastomer with a residual organic HAP content greater than the residual organic HAP content of the elastomer used in the compliance demonstration constitutes a process change, unless the overall effect of the change is to reduce organic HAP emissions from the source as a whole. Other examples of process changes may include changes in production capacity or production rate, or removal or addition of equipment. For the purposes of this paragraph, process changes do not include: Process upsets; unintentional, temporary process changes; or changes that reduce the residual organic HAP content of the elastomer.

§ 63.497 Back-end process provisions—monitoring provisions for control and recovery devices.

(a) An owner or operator complying with the residual organic HAP limitations in § 63.494(a) using control

or recovery devices, or a combination of stripper technology and control or recovery devices, shall install the monitoring equipment specified in paragraphs (a)(1) through (a)(6) of this section, as appropriate.

(1) Where an incinerator is used, a temperature monitoring device equipped with a continuous recorder is required.

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

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

(2) Where a flare is used, a device (including, but not limited to, a thermocouple, ultra-violet beam sensor, or infrared sensor) capable of continuously detecting the presence of a pilot flame is required.

(3) Where a boiler or process heater of less than 44 megawatts design heat input capacity is used, a temperature monitoring device in the firebox equipped with a continuous recorder 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 this requirement.

(4) For an absorber, a scrubbing liquid temperature monitoring device and a specific gravity monitoring device are required, each equipped with a continuous recorder.

(5) For a condenser, a condenser exit (product side) temperature monitoring device equipped with a continuous recorder is required.

(6) For a carbon adsorber, an integrating regeneration stream flow monitoring device having an accuracy of at least ±10 percent, capable of recording the total regeneration stream 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 are required.

(b) An owner or operator may request approval to monitor parameters other than those required by paragraph (a) of this section. The request shall be submitted according to the procedures specified in § 63.506(f) or (g). Approval shall be requested if the owner or operator:

(1) Uses a control or recovery device other than those listed in paragraph (a) of this section; or

(2) Uses one of the control or recovery devices listed in paragraph (a) of this section, but seeks to monitor a parameter other than those specified in paragraph (a) of this section.

(c) The owner or operator shall establish a level, defined as either a maximum or minimum operating parameter, that indicates proper operation of the control or recovery device for each parameter monitored under paragraphs (a)(1) through (a)(6) of this section. This level is determined in accordance with § 63.505. The established level, along with supporting documentation, shall be submitted in the Notification of Compliance Status or the operating permit application, as required in § 63.506 (e)(5) or (e)(8), respectively. The owner or operator shall operate control and recovery devices above or below the established level, as required, to ensure continued compliance with the standard.

(d) The owner or operator of a controlled back-end process vent using a vent system that contains bypass lines that could divert a vent stream away from the control or recovery device used to comply with § 63.494(a) shall comply with paragraph (d)(1), (d)(2), or (d)(3) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.

(1) 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 § 63.498(d)(5)(iii). The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

(2) 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 that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.

(3) Continuously monitor the bypass line damper or valve position using computer monitoring and record any periods when the position of the bypass line valve has changes as specified in § 63.498(d)(5)(iv).

§ 63.498 Back-end process provisions—recordkeeping.

(a) Each owner or operator shall maintain the records specified in paragraphs (a)(1) through (a)(3) of this section for each back-end process operation at an affected source.

(1) The type of elastomer product processed in the back-end operation.

(2) The type of process (solution process, emulsion process, etc.)

(3) If the back-end process operation is subject to an emission limitation in § 63.494(a), whether compliance will be achieved by stripping technology, or by control or recovery devices.

(b) Each owner or operator of a back-end process operation using stripping technology to comply with an emission limitation in § 63.494(a), and demonstrating compliance using the periodic sampling procedures in § 63.495(b), shall maintain the records specified in paragraph (b)(1), and in paragraph (b)(2) or (b)(3) of this section, as appropriate.

(1) Records associated with each sample taken in accordance with § 63.495(b). These records shall include the following for each sample:

(i) Elastomer type,

(ii) The date and time the sample was collected,

(iii) The corresponding quantity of elastomer processed over the time period represented by the sample. Acceptable methods of determining this quantity are production records, measurement of stream characteristics, and engineering calculations.

(A) For emulsion processes, this quantity shall be the weight of the latex leaving the stripper.

(B) For solution processes, this quantity shall be the crumb rubber dry weight of the rubber leaving the stripper.

(iv) The organic HAP content of each sample.

(2) The monthly weighted average organic HAP content, calculated in accordance with § 63.495(f).

(3) If the organic HAP contents for all samples analyzed during a month are below the appropriate level in § 63.494(a), the owner or operator may record that all samples were in accordance with the residual organic HAP limitations in § 63.494(a), rather than calculating and recording a monthly weighted average.

(c) Each owner or operator of a back-end process operation using stripping technology to comply with an emission limitation in § 63.494(a), and demonstrating compliance using the stripper parameter monitoring procedures in § 63.495(c), shall maintain the records specified in paragraphs (c)(1) through (c)(3) of this section.

(1) Records associated with the initial, and subsequent, determinations of the organic HAP content of each grade of elastomer produced. These records shall include the following:

(i) An identification of the elastomer type and grade;

(ii) The results of the residual organic HAP analyses, conducted in accordance with § 63.505(e)(1);

(iii) The stripper monitoring parameters required to be established in § 63.495(c)(1).

(iv) If re-determinations are made of the organic HAP content, and re-establishment of the stripper monitoring parameters, records of the initial determination are no longer required to be maintained.

(2) Records associated with each grade or batch. These records shall include the following for each grade or batch:

(i) Elastomer type and grade;

(ii) The quantity of elastomer processed;

(A) For emulsion processes, this quantity shall be the weight of the latex leaving the stripper.

(B) For solution processes, this quantity shall be the crumb rubber dry weight of the crumb rubber leaving the stripper.

(iii) The hourly average of all stripper parameter results;

(iv) If one or more hourly average stripper monitoring parameters is not in accordance with the established levels, the results of the residual organic HAP analysis.

(3) The monthly weighted average organic HAP content, calculated in accordance with § 63.495(f).

(d) Each owner or operator of a back-end process operation using control or recovery devices to comply with an organic HAP emission limitation in § 63.494(a) shall maintain the records specified in paragraphs (d)(1) through (d)(5) of this section.

(1) Results of the testing required by § 63.496(b). These results shall include the following, for each of the three required test runs:

(i) The uncontrolled residual organic HAP content in the latex or dry crumb rubber, as required to be determined by § 63.496(b)(3), including the test results of the analysis;

(ii) The total quantity of material (weight of latex or dry crumb rubber) processed during the test run, recorded in accordance with § 63.496(b)(4),

(iii) The organic HAP emissions at the inlet and outlet of the control or recovery device, determined in accordance with § 63.496 (b)(5) through (b)(8), including all test results and calculations,

(iv) The residual organic HAP content, adjusted for the control or recovery device emission reduction, determined in accordance with § 63.496(c)(1).

(2) The operating parameter level established in accordance with § 63.497(c), along with supporting documentation.

(3) The following information when using a flare:

(i) The flare design (i.e., steam-assisted, air-assisted, or non-assisted);

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

(iii) All periods during the compliance determination when the pilot flame is absent.

(4) When using a boiler or process heater, a description of the location at which the vent stream is introduced into the boiler or process heater.

(5) Each owner or operator using a control or recovery device shall keep the following records up-to-date and readily accessible:

(i) Continuous records of the equipment operating parameters specified to be monitored under § 63.497(a) or specified by the Administrator in accordance with § 63.497(b). For flares, the hourly records and records of pilot flame outages shall be maintained in place of continuous records.

(ii) Records of the daily average value of each continuously monitored parameter for each operating day, except as provided in paragraphs (d)(5)(ii)(D) and (d)(5)(ii)(E) of this section.

(A) The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day, except as provided in paragraph (d)(5)(ii)(B) of this section. The average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per operating day if operation is not continuous.

(B) Monitoring data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments shall not be included in computing the hourly or daily averages. Records shall be kept of the times and durations of all such periods and any other periods of process or control device operation when monitors are not operating.

(C) The operating day shall be the period defined in the operating permit or the Notification of Compliance Status in § 63.506(e)(8) or (e)(5). It may be from midnight to midnight or another 24-hour period.

(D) If all recorded values for a monitored parameter during an operating day are below the maximum, or above the minimum, level established in the Notification of Compliance Status in § 63.506(e)(5) or in the operating permit, the owner or operator may record that all values were below the maximum or above the minimum level, rather than calculating and recording a daily average for that operating day.

(E) For flares, records of the times and duration of all periods during which the pilot flame is absent shall be kept rather than daily averages. The records specified in this paragraph are not required during periods when emissions are not routed to the flare, or during startups, shutdowns, or malfunctions when the owner or operator complies with the applicable requirements of subpart A of this part, as directed by § 63.506(b)(1).

(iii) Hourly records of whether the flow indicator specified under § 63.497(d)(1) 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.

(iv) Where a seal mechanism is used to comply with § 63.497(d)(2), or where computer monitoring of the position of the bypass damper or valve is used to comply with § 63.497(d)(3), hourly records of flow are not required.

(A) For compliance with § 63.497(d)(2), the owner or operator shall record whether the monthly visual inspection of the seals or closure mechanisms has been done, and shall record instances when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type configuration has been checked out, and records of any car-seal that has broken.

(B) For compliance with § 63.497(d)(3), the owner or operator shall record the times of all periods when the bypass line damper or valve position has changed.

§ 63.499 Back-end process provisions—reporting.

(a) The owner or operator of an affected source with back-end process operations shall submit the information required in § 63.498(a) as part of the Notification of Compliance Status specified in § 63.506(e)(5).

(b) Each owner or operator of a back-end process operation using stripping to comply with an emission limitation in § 63.494(a), and demonstrating compliance by stripper parameter monitoring, shall submit reports as specified in paragraphs (b)(1) and (b)(2) of this section.

(1) As part of the Notification of Compliance Status specified in

§ 63.506(e)(5), the owner or operator shall submit the information specified in § 63.498(c)(1).

(2) For organic HAP content/stripping monitoring parameter re-determinations, and the addition of new grades, the information specified in § 63.498(c)(1) shall be submitted in the next periodic report specified in § 63.506(e)(6).

(c) Each owner or operator of a back-end process operation control or recovery devices that must comply with an emission limitation in § 63.494(a) shall submit the information specified in paragraphs (c)(1) through (c)(3) of this section as part of the Notification of Compliance Status specified in § 63.506(e)(5).

(1) The residual organic HAP content, adjusted for the control or recovery device emission reduction, determined in accordance with § 63.496(c)(1), for each test run in the compliance determination.

(2) The operating parameter level established in accordance with § 63.497(c), along with supporting documentation.

(3) The information specified in § 63.498(d)(3) regarding flares and § 63.498(d)(4) regarding boilers and process heaters, if applicable.

(d) Whenever a process change, as defined in § 63.496(d), is made that causes the redetermination of the compliance status for the back-end process operations, the owner or operator shall submit a report within 180 calendar days after the process change as specified in § 63.506(e)(7)(iii). The report shall include:

(1) A description of the process change;

(2) The results of the redetermination of the compliance status, determined in accordance with § 63.496(b), and recorded in accordance with § 63.498(d)(1), and

(3) Documentation of the re-establishment of a parameter level for the control or recovery device, defined as either a maximum or minimum operating parameter, that indicates proper operation of the control or recovery device, in accordance with § 63.497(c) and recorded in accordance with § 63.498(d)(2).

(e) If an owner or operator uses a control or recovery device other than those listed in § 63.497(a) or requests approval to monitor a parameter other than those specified in § 63.497(a), the owner or operator shall submit a description of planned reporting and recordkeeping procedures as required under § 63.506(e)(3) or (e)(8). The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the Precompliance Report or Operating Permit application.

§ 63.500 Back-end process provisions—carbon disulfide limitations for styrene butadiene rubber by emulsion processes.

(a) Owners or operators of sources subject to this subpart producing styrene butadiene rubber using an emulsion process shall operate the process such that the carbon disulfide concentration in each crumb dryer exhausts shall not exceed 45 ppmv.

(1) The owner or operator shall develop standard operating procedures for the addition of sulfur containing shortstop agents to ensure that the limitation in paragraph (a) of this section is maintained. There shall be a standard operating procedure representing the production of every grade of styrene butadiene rubber produced at the affected source using a sulfur containing shortstop agent.

(2) A validation of each standard operating procedure shall be conducted in accordance with paragraph (c) of this section, except as provided in paragraph (b) of this section, to demonstrate compliance with the limitation in paragraph (a) of this section.

(3) The owner or operator shall operate the process in accordance with a validated standard operating procedure at all times when styrene butadiene rubber is being produced using a sulfur containing shortstop agent. If a standard operating procedure is changed, it must be re-validated.

(4) Records specified in paragraph (d) of this section shall be maintained.

(5) Reports shall be submitted in accordance with paragraph (e) of this section.

(b) Crumb dryers that are vented to a combustion device are not subject to the provisions in this section.

(c) The owner or operator shall validate each standard operating procedure to determine compliance with the limitation in paragraph (a) of this section using the testing procedures in paragraph (c)(1) of this section or engineering assessment, as described in paragraph (c)(2) of this section.

(1) The owner or operator shall conduct a performance test using the procedures in paragraphs (c)(1)(i) through (c)(1)(iii) of this section to demonstrate compliance with the carbon disulfide concentration limitation in paragraph (a) of this section. One test shall be conducted for each standard operating procedure.

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

(ii) The gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as required.

(iii) To determine compliance with the carbon disulfide concentration limit in paragraph (a) of this section, the owner or operator shall use Method 18 or Method 25A of 40 CFR part 60, appendix A, to measure carbon disulfide. Alternatively, any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of this part may be used. The following procedures shall be used to calculate carbon disulfide concentration:

(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 concentration of carbon disulfide shall be calculated using Equation 32.

$$C_{CS2} = \frac{\sum_{i=1}^{n}\left(C_{CS2i}\right)}{n} \qquad [\text{Eq. 32}]$$

where:

C_{CS2}=Concentration of carbon disulfide, dry basis, ppmv.

C_{CS2i}=Concentration of carbon disulfide of sample i, dry basis, ppmv.

n=Number of samples in the sample run.

(2) The owner or operator shall use engineering assessment to demonstrate compliance with the carbon disulfide concentration limitation in paragraph (a) of this section. Engineering assessment includes, but is not limited to, the following:

(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) Flow rate and/or carbon disulfide emission rate specified or implied within an applicable permit limit.

(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:

(A) Use of material balances,

(B) Estimation of flow rate based on physical equipment design such as pump or blower capacities, and

(C) Estimation of carbon disulfide concentrations based on saturation conditions.

(v) All data, assumptions, and procedures used in the engineering assessment shall be documented.

(d) Owners and operators of sources subject to this section shall maintain the records specified in paragraphs (d)(1) and (d)(2) of this section.

(1) Documentation of the results of the testing required by paragraph (c) of this section.

(2) A description of the standard operating procedure used during the testing. This description shall include, at a minimum, an identification of the sulfur containing shortstop added to the styrene butadiene rubber prior to the dryers, an identification of the point and time in the process where the sulfur containing shortstop is added, and an identification of the amount of sulfur containing shortstop added per unit of latex.

(e) Owners and operators shall submit the reports as specified in paragraphs (e)(1) and (e)(2) of this section.

(1) As part of the Notification of Compliance Status specified in § 63.506(e)(5), documentation of the results of the testing required by paragraph (c) of this section.

(2) If changes are made in the standard operating procedure used during the compliance test and recorded in accordance with paragraph (d)(2) of this section, and if those changes have the potential for increasing the concentration of carbon disulfide in the crumb dryer exhaust to above the 45 ppmv limit, the owner or operator shall:

(i) Redetermine compliance using the test procedures in paragraph (c) of this section, and

(ii) Submit documentation of the testing results in the next periodic report required by § 63.506(e)(6).

§ 63.501 Wastewater provisions.

(a) For each process wastewater stream originating at an affected source, except those wastewater streams exempted by paragraph (c) of this section, the owner or operator shall comply with the requirements of §§ 63.131 through 63.148 of subpart G, with the differences noted in paragraphs (a)(1) through (a)(11) of this section, for the purposes of this subpart.

(1) When the determination of equivalence criteria in § 63.102(b) of subpart F is referred to in §§ 63.132, 63.133, and 63.137 of subpart G, the provisions in § 63.6(g) of subpart A shall apply for the purposes of this subpart.

(2) When the storage tank requirements contained in §§ 63.119 through 63.123 of subpart G are referred to in §§ 63.132 through 63.148 of subpart G, §§ 63.119 through 63.123 of subpart G are applicable, with the exception of the differences referred to in § 63.484, for the purposes of this subpart.

(3) When the Implementation Plan requirements contained in § 63.151 in subpart G are referred to in § 63.146 of subpart G, the owner or operator of an affected source subject to this subpart need not comply.

(4) When the Initial Notification Plan requirements in § 63.151(b) of subpart G are referred to in § 63.146 of subpart G, the owner or operator of an affected source subject to this subpart need not comply.

(5) When the owner or operator requests to use alternatives to the continuous operating parameter monitoring and recordkeeping provisions referred to in § 63.151(g) of subpart G, or the owner or operator submits an operating permit application instead of an Implementation Plan as specified in § 63.152(e) of subpart G, as referred to in § 63.146(a)(3) of subpart G, § 63.506(f) and § 63.506(e)(8), respectively, shall apply for the purposes of this subpart.

(6) When the Notification of Compliance Status requirements contained in § 63.152(b) of subpart G are referred to in §§ 63.146 and 63.147 of subpart G, the Notification of Compliance Status requirements contained in § 63.506(e)(5) shall apply for the purposes of this subpart.

(7) When the Periodic Report requirements contained in § 63.152(c) of subpart G are referred to in §§ 63.146 and 63.147 of subpart G, the Periodic Report requirements contained in § 63.506(e)(6) shall apply for the purposes of this subpart.

(8) When the term ''range'' is used in § 63.143(f) of subpart G, the term ''level'' shall be used instead, for the purposes of this subpart. This level shall be determined using the procedures specified in § 63.505.

(9) For the purposes of this subpart, owners or operators are not required to comply with the provisions of § 63.138(e)(2) of subpart G which specify that owners or operators shall demonstrate that 95 percent of the mass of HAP, as listed in Table 9 of subpart G, is removed from the wastewater stream or combination of wastewater streams by the procedure specified in § 63.145(i) of subpart G for a biological treatment unit.

(10) For the purposes of this subpart, owners or operators are not required to comply with the provisions of § 63.138(j)(3) of subpart G which specify that owners or operators shall use the procedures specified in Appendix C of subpart G to demonstrate compliance when using a biological treatment unit.

(11) When the provisions of § 63.139(c)(1)(ii) of subpart G or the provisions of § 63.145(e)(2)(ii)(B) specify that Method 18 shall be used, Method 18 or Method 25A may be used for the purposes of this subpart. The use of Method 25A shall comply with paragraphs (a)(11)(i) and (a)(11)(ii) of this section.

(i) The organic HAP used as the calibration gas for Method 25A shall be the single organic HAP representing the largest percent by volume of the emissions.

(ii) The use of Method 25A 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.

(b) Except for those streams exempted by paragraph (c) of this section, the owner or operator of each affected source shall comply with the requirements for maintenance wastewater in § 63.105 of subpart F, except that when § 63.105(a) refers to ''organic HAPs,'' the definition of organic HAP in § 63.482 shall apply for the purposes of this subpart.

(c) The following wastewater streams are exempt from the requirements of paragraphs (a) and (b) of this section:

(1) Back-end wastewater streams originating from equipment that only produces latex products.

(2) Back-end wastewater streams at affected sources that are subject to a residual organic HAP limitation in § 63.494(a), and that are complying with these limitations through the use of stripping technology.

(d) The compliance date for the affected source subject to the provisions of this section is specified in § 63.481.

§ 63.502 Equipment leak provisions.

(a) The owner or operator of each affected source, shall comply with the requirements of subpart H of this part for all equipment in organic HAP service, with the exception noted in paragraphs (b) through (h) of this section.

(b) Surge control vessels and bottoms receivers described in paragraphs (b)(1) through (b)(6) of this section are exempt from the requirements contained in § 63.170 of subpart H.

(1) Surge control vessels and bottoms receivers containing styrene-butadiene latex;

(2) Surge control vessels and bottoms receivers containing other latex products and located downstream of the stripping operations;

(3) Surge control vessels and bottoms receivers containing high conversion latex products;

(4) Surge control vessels and bottoms receivers located downstream of the stripping operations at affected sources subject to the back-end residual organic HAP limitation located in § 63.494, that are complying through the use of stripping technology, as specified in § 63.495;

(5) Surge control vessels and bottoms receivers containing styrene;

(6) Surge control vessels and bottoms receivers containing acrylamide; and

(7) Surge control vessels and bottoms receivers containing epichlorohydrin.

(c) The compliance date for the equipment leak provisions in this section is provided in § 63.481.

(d) For an affected source producing polybutadiene rubber and styrene butadiene rubber by solution, the indications of liquids dripping, as defined in subpart H of this part, from bleed ports in pumps and agitator seals in light liquid service, shall not be considered a leak. For the purposes of this subpart, a ''bleed port'' is a technologically-required feature of the pump or seal whereby polymer fluid used to provide lubrication and/or cooling of the pump or agitator shaft exits the pump, thereby resulting in a visible dripping of fluid.

(e) Affected sources subject to subpart I of this part shall continue to comply with subpart I until the compliance date specified in § 63.481. After the compliance date for this section, the source shall be subject to subpart H of this part and shall no longer be subject to subpart I.

(f) The owner or operator of each affected source shall comply with the requirements of § 63.104 of subpart F for heat exchange systems.

(g) Owners and operators of an affected source subject to this subpart are not required to submit the Initial Notification required by § 63.182(a)(1) and § 63.182(b) of subpart H.

(h) The Notification of Compliance Status required by § 63.182(a)(2) and § 63.182(c) of subpart H shall be submitted within 150 days (rather than 90 days) of the applicable compliance date specified in § 63.481 for the equipment leak provisions. The notification can be submitted as part of the Notification of Compliance Status required by § 63.506(e)(5).

(i) The Periodic Reports required by § 63.182(a)(3) and § 63.182(d) of subpart H shall be submitted as part of the Periodic Reports required by § 63.506(e)(6).

§ 63.503 Emissions averaging provisions.

(a) This section applies to owners or operators of existing affected sources who seek to comply with § 63.483(b) by using emissions averaging rather than following the provisions of §§ 63.484, 63.485, 63.486, 63.494, and 64.488.

(1) The following emission point limitations apply to the use of these provisions:

(i) All emission points included in an emissions average shall be from the same affected source. There may be an emissions average for each individual affected source located at a plant site.

(ii)(A) If a plant site has only one affected source for which emissions averaging is being used to demonstrate compliance, the number of emission points allowed to be included in the emission average is limited to twenty. This number may be increased by up to five additional points if pollution prevention measures are used to control five or more of the emission points included in the emissions average.

(B) If a plant site has two or more affected sources for which emissions averaging is being used to demonstrate compliance, the number of emission points allowed in the emissions average for those affected sources is limited to twenty. This number may be increased by up to five additional emission points if pollution prevention measures are used to control five or more of the emission points included in the emissions averages.

(2) Compliance with the provisions of this section can be based on either organic HAP or TOC.

(3) For the purposes of these provisions, whenever Method 18 is specified within the paragraphs of this section or is specified by reference through provisions outside this section, Method 18 or Method 25A may be used. The use of Method 25A shall comply with paragraphs (a)(3)(i) and (a)(3)(ii) of this section.

(i) The organic HAP used as the calibration gas for Method 25A shall be the single organic HAP representing the largest percent by volume of the emissions.

(ii) The use of Method 25A 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.

(b) Unless an operating permit application has been submitted, the owner or operator shall develop and submit for approval an Emissions Averaging Plan containing all of the information required in § 63.506(e)(4) for all emission points to be included in an emissions average.

(c) Paragraphs (c)(1) through (c)(4) of this section describe the emission points that can be used to generate emissions averaging credits if control was applied after November 15, 1990 and if sufficient information is available to determine the appropriate value of credits for the emission point. Paragraph (c)(5) of this section discusses the use of pollution prevention in generating emissions averaging credits.

(1) Storage vessels, batch front-end process vents, aggregate batch vent streams, continuous front-end process vents, and process wastewater streams that are determined to be Group 2 emission points.

(2) Storage vessels, continuous front-end process vents, and process wastewater steams that are determined to be Group 1 emission points and that are controlled by a technology that the Administrator or permitting authority agrees has a higher nominal efficiency than the reference control technology. Information on the nominal efficiencies for such technologies must be submitted and approved as provided in paragraph (i) of this section.

(3) Batch front-end process vents and aggregate batch vent streams that are determined to be Group 1 emission points and that are controlled to a level more stringent than the applicable standard.

(4) Back-end process operations that are controlled such that organic HAP emissions from the back-end process operation are less than would be achieved by meeting the residual organic HAP limits in § 63.494. For the purposes of the emission averaging provisions in this section, all back-end process operations at an affected facility shall be considered a single emission point.

(5) The percent reduction for any storage vessel, batch front-end process vent, aggregate batch vent stream, continuous front-end process vent, and process wastewater stream shall be determined using the procedures specified in paragraph (j) of this section.

(i) For a Group 1 storage vessel, batch front-end process vent, aggregate batch vent stream, continuous front-end process vent, or process wastewater stream, the pollution prevention measure must reduce emissions more than if the reference control technology or standard had been applied to the emission point instead of the pollution prevention measure, except as provided in paragraph (c)(5)(ii) of this section.

(ii) If a pollution prevention measure is used in conjunction with other controls for a Group 1 storage vessel,

batch front-end process vent, aggregate batch vent stream, continuous front-end process vent, or process wastewater stream, the pollution prevention measure alone does not have to reduce emissions more than the reference control technology or standard, but the combination of the pollution prevention measure and other controls must reduce emissions more than if the applicable reference control technology or standard had been applied instead of the pollution prevention measure.

(d) The following emission points cannot be used to generate emissions averaging credits:

(1) Emission points already controlled on or before November 15, 1990 cannot be used to generate credits unless the level of control was increased after November 15, 1990. In this case, credit will be allowed only for the increase in control after November 15, 1990.

(2) Group 1 emission points, identified in paragraph (c)(2) of this section, that are controlled by a reference control technology cannot be used to generate credits unless the reference control technology has been approved for use in a different manner and a higher nominal efficiency has been assigned according to the procedures in paragraph (i) of this section.

(3) Emission points on nonoperating EPPU cannot be used to generate credits. EPPU that are shutdown cannot be used to generate credits or debits.

(4) Maintenance wastewater cannot be used to generate credits. Wastewater streams treated in biological treatment units cannot be used to generate credits. These two types of wastewater cannot be used to generate credits or debits. For the purposes of this section, the terms wastewater and wastewater stream are used to mean process wastewater.

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

(e) For all emission points included in an emissions average, the owner or operator shall perform the following tasks:

(1) Calculate and record monthly debits for all Group 1 emission points that are controlled to a level less stringent than the reference control technology or standard for those emission points. The Group 1 emission points are identified in paragraphs (c)(2) through (c)(4) of this section. Equations in paragraph (g) of this section shall be used to calculate debits.

(2) Calculate and record monthly credits for all Group 1 and Group 2 emission points that are overcontrolled to compensate for the debits. Equations in paragraph (h) of this section shall be used to calculate credits. Emission points and controls that meet the criteria of paragraph (c) of this section may be included in the credit calculation, whereas those described in paragraph (d) of this section shall not be included.

(3) Demonstrate that annual credits calculated according to paragraph (h) of this section are greater than or equal to debits calculated for the same annual compliance period according to paragraph (g) of this section.

(i) The owner or operator may choose to include more than the required number of credit-generating emission points in an emissions average in order to increase the likelihood of being in compliance.

(ii) The initial demonstration in the Emissions Averaging Plan or operating permit application that credit-generating emission points will be capable of generating sufficient credits to offset the debits from the debit-generating emission points must be made under representative operating conditions. After the compliance date, actual operating data will be used for all debit and credit calculations.

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

(5) Record and report quarterly and annual credits and debits in the Periodic Reports as specified in § 63.506(e)(6). Every fourth Periodic Report shall include a certification of compliance with the emissions averaging provisions as required by § 63.506(e)(6)(vi)(D)(*2*).

(f) Debits and credits shall be calculated in accordance with the methods and procedures specified in paragraphs (g) and (h) of this section, respectively, and shall not include emissions during the following periods:

(1) Emissions during periods of startup, shutdown, and malfunction as described in the Startup, Shutdown, and Malfunction Plan.

(2) Emissions during periods of monitoring excursions, as defined in § 63.505 (g) or (h). For these periods, the calculation of monthly credits and debits shall be adjusted as specified in paragraphs (f)(2)(i) through (f)(2)(iii) of this section.

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

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

(iii) The owner or operator may demonstrate to the Administrator that full or partial credits or debits should be assigned using the procedures in paragraph (l) of this section.

(g) Debits are generated by the difference between the actual emissions from a Group 1 emission point that is uncontrolled or is controlled to a level less stringent than the applicable reference control technology or standard and the emissions allowed for the Group 1 emission point. Debits shall be calculated as follows:

(1) Source-wide debits shall be calculated using Equation 33. Debits and all terms of the equation are in units of megagrams per month (Mg/month).

$$\text{Debits} = \sum_{i=1}^{n}\left(\text{ECFEPV}_{i\text{ACTUAL}} - (0.02)\text{ECFEPV}_{iu}\right) + \sum_{i=1}^{n}\left(\text{ES}_{i\text{ACTUAL}} - (0.05)\text{ES}_{iu}\right) + \left(\text{EBEP}_{\text{ACTUAL}} - \text{EBEP}_{c}\right) + \sum_{i=1}^{n}\left(\text{EWW}_{i\text{ACTUAL}} - \text{EWW}_{ic}\right) + \sum_{i=1}^{n}\left(\text{EBFEPV}_{i\text{ACTUAL}} - (0.1)\text{EBFEPV}_{iu}\right) + \sum_{i=1}^{n}\left(\text{EABV}_{i\text{ACTUAL}} - (0.1)\text{EABV}_{iu}\right) \quad [\text{Eq. 33}]$$

where:

$ECFEPV_{iACTUAL}$=Emissions from each Group 1 continuous front-end process vent i that is uncontrolled or is controlled to a level less stringent than the applicable reference control technology. $ECFEPV_{iACTUAL}$ is calculated according to paragraph (g)(2)(iii) of this section.

$(0.02)ECFEPV_{iu}$=Emissions from each Group 1 continuous front-end process vent i if the applicable reference control technology had been applied to the uncontrolled emissions. $ECFEPV_{iu}$ is calculated according to paragraph (g)(2)(ii) of this section.

$ES_{iACTUAL}$=Emissions from each Group 1 storage vessel i that is uncontrolled or is controlled to a level less stringent than the applicable reference control technology or standard. $ES_{iACTUAL}$ is calculated according to paragraph (g)(3) of this section.

$(0.05)ES_{iu}$=Emissions from each Group 1 storage vessel i if the applicable reference control technology or standard had been applied to the uncontrolled emissions. ES_{iu} is calculated according to paragraph (g)(3) of this section.

$EBEP_{ACTUAL}$=Emissions from back-end process operations that do not meet the residual organic HAP limits in § 63.494. $EBEP_{ACTUAL}$ is calculated according to paragraph (g)(4)(i) of this section.

$EBEP_c$=Emissions from back-end process operations if the residual organic HAP limits in § 63.494(a) were met. $EBEP_c$ is calculated according to paragraph (g)(4)(ii) of this section.

$EWW_{iACTUAL}$=Emissions from each Group 1 wastewater stream i that is uncontrolled or is controlled to a level less stringent than the applicable reference control technology. $EWW_{2iACTUAL}$ is calculated according to paragraph (g)(5) of this section.

EWW_{ic}=Emissions from each Group 1 wastewater stream i if the reference control technology had been applied to the uncontrolled emissions. EWW_{ic} is calculated according to paragraph (g)(5) of this section.

$EBFEPV_{iACTUAL}$=Emissions from each Group 1 batch front-end process vent stream i that is uncontrolled or is controlled to a level less stringent than the reference control technology. $EBFEPV_{iACTUAL}$ is calculated according to paragraph (g)(6)(ii) of this section.

$(0.1)EBFEPV_{iu}$=Emissions from each Group 1 batch front-end process vent i if the applicable reference control technology or standard had been applied to the uncontrolled emissions. $EBFEPV_{iu}$ is calculated according to paragraph (g)(6)(i) of this section.

$EABV_{iACTUAL}$=Emissions from each Group 1 aggregate batch vent stream i that is uncontrolled or is controlled to a level less stringent than the applicable reference control technology. $EABV_{iACTUAL}$ is calculated according to paragraph (g)(7)(iii) of this section.

$(0.1)EABV_{iu}$=Emissions from each Group 1 aggregate batch vent stream i if the applicable reference control technology had been applied to the uncontrolled emissions. $EABV_{iu}$ is calculated according to paragraph (g)(7)(ii) of this section.

n=The number of emission points being included in the emissions average.

(2) Emissions from continuous front-end process vents shall be calculated as follows:

(i) For purposes of determining continuous front-end process vent stream flow rate, organic HAP concentrations, and temperature, the sampling site shall be after the final product recovery device, if any recovery devices are present; before any control device (for continuous front-end process vents, recovery devices shall not be considered control devices); and before discharge to the atmosphere. Method 1 or 1A of 40 CFR part 60, appendix A, shall be used for selection of the sampling site.

(ii) $ECFEPV_{iu}$ for each continuous front-end process vent i shall be calculated using Equation 34.

$$\text{ECFEPV}_{iu} = \left(2.494 \times 10^{-9}\right) Qh \left(\sum_{j=1}^{n} C_j M_j\right) \quad [\text{Eq. 34}]$$

where:

$ECFEPV_{iu}$=Uncontrolled continuous front-end process vent emission rate from continuous front-end process vent i, Mg/month.

Q=Vent stream flow rate, dry standard m^3/min, measured using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

h=Monthly hours of operation during which positive flow is present in the continuous front-end process vent, hr/month.

C_j=Concentration, ppmv, dry basis, of organic HAP j as measured by Method 18 or Method 25A of 40 CFR part 60, appendix A.

M_j=Molecular weight of organic HAP j, gram per gram-mole.
n=Number of organic HAP in stream.

(A) The values of Q and C_j shall be determined during a performance test conducted under representative operating conditions. The values of Q and C_j shall be established in the Notification of Compliance Status and must be updated as provided in paragraph (g)(2)(ii)(B) of this section.

(B) If there is a change in capacity utilization other than a change in monthly operating hours, or if any other change is made to the process or product recovery equipment or operation such that the previously measured values of Q and C_j are no longer representative, a new performance test shall be conducted to determine new representative values of Q and C_j. These new values shall be used to calculate debits and credits from the time of the change forward, and the new values shall be reported in the next Periodic Report.

(iii) The following procedures and equations shall be used to calculate $ECFEPV_{iACTUAL}$:

(A) If the continuous front-end process vent is not controlled by a control device or pollution prevention measure, $ECFEPV_{iACTUAL} = ECFEPV_{iu}$, where $ECFEPV_{iu}$ is calculated according to the procedures contained in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(B) If the continuous front-end process vent is controlled using a control device or a pollution prevention measure achieving less than 98-percent reduction, $ECFEPV_{iACTUAL}$ is calculated using Equation 35.

$$ECFEPV_{iACTUAL} = ECFEPV_{iu} \times \left(1 - \frac{\text{Percent reduction}}{100\%}\right) \qquad [\text{Eq. } 35]$$

Where:

$ECFEPV_{iACTUAL}$ = Emissions from each Group 1 continuous front-end process vent i that is uncontrolled or is controlled to a level less stringent than the reference control technology.

$ECFEPV_{iu}$ = Uncontrolled continuous front-end process vent emission rate from continuous front-end process vent i, Mg/month.

(*1*) The percent reduction shall be measured according to the procedures in § 63.116 of subpart G if a combustion control device is used. For a flare meeting the criteria in § 63.116(a) of subpart G, or a boiler or process heater meeting the criteria in § 63.116(b) of subpart G, the percent reduction shall be 98 percent. If a noncombustion control device is used, percent reduction shall be demonstrated by a performance test at the inlet and outlet of the device, or, if testing is not feasible, by a control design evaluation and documented engineering calculations.

(*2*) For determining debits from Group 1 continuous front-end process vents, product recovery devices shall not be considered control devices and cannot be assigned a percent reduction in calculating $ECFEPV_{iACTUAL}$. The sampling site for measurement of uncontrolled emissions is after the final product recovery device. However, as provided in § 63.113(a)(3) of subpart G, a Group 1 continuous front-end process vent may add sufficient product recovery to raise the TRE index value above 1.0, thereby becoming a Group 2 continuous front-end process vent. Such a continuous front-end process vent would not be a Group 1 continuous front-end process vent and would, therefore, not be included in determining debits under this paragraph.

(*3*) Procedures for calculating the percent reduction of pollution prevention measures are specified in paragraph (j) of this section.

(3) Emissions from storage vessels shall be calculated using the procedures specified in § 63.150(g)(3) of subpart G.

(4) Emissions from back-end process operations shall be calculated as follows:

(i) Equation 36 shall be used to calculate $EBEP_{ACTUAL}$:

$$EBEP_{ACTUAL} = (1{,}000)\sum_{i=1}^{n}(C_i)(P_i) \qquad [\text{Eq. } 36]$$

where:

$EBEP_{ACTUAL}$ = Actual emissions from back-end process operations, Mg/month.

C_i = Residual organic HAP content of sample i, kg organic HAP per Mg latex or dry crumb rubber.

P_i = Weight of latex or dry crumb rubber leaving the stripper represented by sample i, Mg.

(ii) Equation 37 shall be used to calculate $EBEP_c$:

$$EBEP_C = (1{,}000)(HAP_{limit})(P_{month}) \qquad [\text{Eq. } 37]$$

where:

$EBEP_c$ = Emissions from back-end process operations if the residual organic HAP limits in § 63.494(a) were met, Mg/month.

HAP_{limit} = Residual organic HAP limits in § 63.494 of this subpart, kg organic HAP per Mg latex or dry crumb rubber.

P_{month}=Weight of latex or dry crumb rubber leaving the stripper in the month, Mg.

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

(6) Emissions from batch front-end process vents shall be calculated as follows:

(i) $EBFEPV_{iu}$ for each batch front-end process vent i shall be calculated using the procedures specified in § 63.488(b).

(ii) The following procedures and equations shall be used to determine $EBFEPV_{iACTUAL}$:

(A) If the batch front-end process vent is not controlled by a control device or pollution prevention measure,

$EBFEPV_{iACTUAL}=EBFEPV_{iu}$, where $EBFEPV_{iu}$ is calculated according to the procedures in § 63.488(b).

(B) If the batch front-end process vent is controlled using a control device or a pollution prevention measure achieving less than 90 percent reduction for the batch cycle, calculate $EBFEPV_{iACTUAL}$ using Equation 38, where percent reduction is for the batch cycle.

$$EBFEPV_{iACTUAL} = EBFEPV_{iu} \times \left(1 - \frac{\text{Percent reduction}}{100\%}\right) \quad \text{[Eq. 38]}$$

(*1*) The percent reduction for the batch cycle shall be measured according to the procedures in § 63.490(c)(2).

(*2*) The percent reduction for control devices shall be calculated according to the procedures in § 63.490 (c)(2)(i) through (c)(2)(iii).

(*3*) The percent reduction of pollution prevention measures shall be calculated using the procedures specified in paragraph (j) of this section.

(7) Emissions from aggregate batch vents shall be calculated as follows:

(i) For purposes of determining aggregate batch vent stream flow rate, organic HAP concentrations, and temperature, the sampling site shall be before any control device and before discharge to the atmosphere. Method 1 or 1A of 40 CFR part 60, appendix A, shall be used for selection of the sampling site.

(ii) $EABV_{iu}$ for each aggregate batch vent i shall be calculated using Equation 39.

$$EABV_{iu} = \left(2.494 \times 10^{-9}\right) Qh \left(\sum_{j=1}^{n} C_j M_j\right) \quad \text{[Eq. 39]}$$

where:

$EABV_{iu}$=Uncontrolled aggregate batch vent emission rate from aggregate batch vent i, Mg/month.

Q=Vent stream flow rate, dry standard cubic meters per minute, measured using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

h=Monthly hours of operation during which positive flow is present from the aggregate batch vent stream, hr/month.

C_j=Concentration, ppmv, dry basis, of organic HAP j as measured by Method 18 of 40 CFR part 60, appendix A.

M_j=Molecular weight of organic HAP j, gram per gram-mole.

n=Number of organic HAP in the stream.

(A) The values of Q and C_j shall be determined during a performance test conducted under representative operating conditions. The values of Q and C_j shall be established in the Notification of Compliance Status and must be updated as provided in paragraph (g)(7)(ii)(B) of this section.

(B) If there is a change in capacity utilization other than a change in monthly operating hours, or if any other change is made to the process or product recovery equipment or operation such that the previously measured values of Q and C_j are no longer representative, a new performance test shall be conducted to determine new representative values of Q and C_j. These new values shall be used to calculate debits and credits from the time of the change forward, and the new values shall be reported in the next Periodic Report.

(iii) The following procedures and equations shall be used to calculate $EABV_{iACTUAL}$:

(A) If the aggregate batch vent is not controlled by a control device or pollution prevention measure, $EABV_{iACTUAL} = EABV_{iu}$, where $EABV_{iu}$ is calculated according to the procedures in paragraphs (g)(7)(i) and (g)(7)(ii) of this section.

(B) If the aggregate batch vent stream is controlled using a control device or a pollution prevention measure achieving less than 90 percent reduction, calculate $EABV_{iACTUAL}$ using Equation 40.

$$EABV_{iACTUAL} = EABV_{iu} \times \left(1 - \frac{\text{Percent reduction}}{100\%}\right) \quad \text{[Eq. 40]}$$

(*1*) The percent reduction for control devices shall be determined according to the procedures in § 63.490(e).

(*2*) The percent reduction of pollution prevention measures shall be calculated according to the procedures specified in paragraph (j) of this section.

(h) Credits are generated by the difference between emissions that are allowed for each Group 1 and Group 2 emission point and the actual emissions from that Group 1 or Group 2 emission point that has been controlled after November 15, 1990 to a level more stringent than what is required by this subpart or any other State or Federal rule or statute. Credits shall be calculated as follows:

(1) Source-wide credits shall be calculated using Equation 41. Credits and all terms of the equation are in units of Mg/month, and the baseline date is November 15, 1990.

$$\text{Credits} = D\sum_{i=1}^{n}\left((0.02)\,ECFEPV1_{iu} - ECFEPV1_{iACTUAL}\right) + D\sum_{i=1}^{m}\left(ECFEPV2_{iBASE} - ECFEPV2_{iACTUAL}\right)$$

$$+D\sum_{i=1}^{n}\left((0.05)ES1_{iu} - ES1_{iACTUAL}\right) + D\sum_{i=1}^{m}\left(ES2_{iBASE} - ES2_{iACTUAL}\right) + D\left(EBEP_{c} - EBEP_{ACTUAL}\right)$$

$$+D\sum_{i=1}^{n}\left(EWW1_{ic} - EWW1_{iACTUAL}\right) + D\sum_{i=1}^{m}\left(EWW2_{iBASE} - EWW2_{iACTUAL}\right) \qquad \text{[Eq. 41]}$$

$$+D\sum_{i=1}^{n}\left((0.1)EBFEPV1_{iu} - EBFEPV1_{iACTUAL}\right) + D\sum_{i=1}^{n}\left((0.1)EABV1_{iu} - EABV1_{iACTUAL}\right)$$

$$+D\sum_{i=1}^{m}\left(EBFEPV2_{iBASE} - EBFEPV2_{iACTUAL}\right) + D\sum_{i=1}^{m}\left(EABV2_{iBASE} - EABV2_{iACTUAL}\right)$$

where:

D = Discount factor = 0.9 for all credit generating emission points, except those controlled by a pollution prevention measure; discount factor = 1.0 for each credit generating emission point controlled by a pollution prevention measure (i.e., no discount provided).

$ECFEPV1_{iACTUAL}$ = Emissions for each Group 1 continuous front-end process vent i that is controlled to a level more stringent than the reference control technology. $ECFEPV1_{iACTUAL}$ is calculated according to paragraph (h)(2)(ii) of this section.

$(0.02)ECFEPV1_{iu}$ = Emissions from each Group 1 continuous front-end process vent i if the reference control technology had been applied to the uncontrolled emissions. $ECFEPV1_{iu}$ is calculated according to paragraph (h)(2)(i) of this section.

$ECFEPV2_{iACTUAL}$ = Emissions from each Group 2 continuous front-end process vent i that is controlled. $ECFEPV2_{iACTUAL}$ is calculated according to paragraph (h)(2)(iii) of this section.

$ECFEPV2_{iBASE}$ = Emissions from each Group 2 continuous front-end process vent i at the baseline date. $ECFEPV1_{iBASE}$ is calculated in paragraph (h)(2)(iv) of this section.

$ES1_{iACTUAL}$ = Emissions from each Group 1 storage vessel i that is controlled to a level more stringent than the reference control technology or standard. $ES1_{iACTUAL}$ is calculated according to paragraph (h)(3) of this section.

$(0.05)\ ES1_{iu}$ = Emissions from each Group 1 storage vessel i if the reference control technology had been applied to the uncontrolled emissions. $ES1_{iu}$ is calculated according to paragraph (h)(3) of this section.

$ES2_{iACTUAL}$ = Emissions from each Group 2 storage vessel i that is controlled. $ES2_{iACTUAL}$ is calculated according to paragraph (h)(3) of this section.

$ES2_{iBASE}$ = Emissions from each Group 2 storage vessel i at the baseline date. $ES2_{iBASE}$ is calculated in paragraph (h)(3) of this section.

$EBEP_{ACTUAL}$ = Actual emissions from back-end process operations, Mg/month. $EBEP_{ACTUAL}$ is calculated in paragraph (h)(4)(i) of this section.

$EBEP_{c}$ = Emissions from back-end process operations if the residual organic HAP limits in § 63.494(a) were met, Mg/month. $EBEP_{c}$ is calculated in paragraph (h)(4)(ii) of this section.

$EWW1_{iACTUAL}$ = Emissions from each Group 1 wastewater stream i that is controlled to a level more stringent than the reference control technology. $EWW1_{iACTUAL}$ is calculated according to paragraph (h)(5) of this section.

$EWW1_{ic}$ = Emissions from each Group 1 wastewater stream i if the reference control technology had been applied to the uncontrolled emissions. $EWW1_{ic}$ is calculated according to paragraph (h)(5) of this section.

$EWW2_{iACTUAL}$ = Emissions from each Group 2 wastewater stream i that is controlled. $EWW2_{iACTUAL}$ is calculated according to paragraph (h)(5) of this section.

$EWW2_{iBASE}$ = Emissions from each Group 2 wastewater stream i at the baseline date. $EWW2_{iBASE}$ is calculated according to paragraph (h)(5) of this section.

$(0.1)\ EBFEPV1_{iu}$ = Emissions from each Group 1 batch front-end process vent i if the applicable reference control technology had been applied to the uncontrolled emissions. $EBFEPV_{iu}$ is calculated according to paragraph (h)(6)(i) of this section.

$EBFEPV1_{iACTUAL}$ = Emissions from each Group 1 batch front-end process vent i that is controlled to a level more stringent than the reference control technology. $EBFEPV1_{iACTUAL}$ is calculated according to paragraph (h)(6)(ii) of this section.

$(0.1)EABV1_{iu}$ = Emissions from each Group 1 aggregate batch vent stream i if the applicable reference control technology had been applied to the uncontrolled emissions. $EABV1_{iu}$ is calculated according to paragraph (h)(7)(i) of this section.

$EABV1_{iACTUAL}$ = Emissions from each Group 1 aggregate batch vent stream i that is controlled to a level more stringent than the reference control technology or standard. $EABV1_{iACTUAL}$ is calculated according to paragraph (h)(7)(ii) of this section.

$EBFEPV2_{iBASE}$ = Emissions from each Group 2 batch front-end process vent i at the baseline date. $EBFEPV2_{iBASE}$ is calculated according to paragraph (h)(6)(iv) of this section.

$EBFEPV2_{iACTUAL}$ = Emissions from each Group 2 batch front-end process vent i that is controlled. $EBFEPV2_{iACTUAL}$ is calculated according to paragraph (h)(6)(iii) of this section.

$EABV2_{iBASE}$ = Emissions from each Group 2 aggregate batch vent stream i at the baseline date. $EABV2_{iBASE}$ is calculated according to paragraph (g)(7)(iv) of this section.

$EABV2_{iACTUAL}$ = Emissions from each Group 2 aggregate batch vent stream i that is controlled. $EABV2_{iACTUAL}$ is calculated according to paragraph (g)(7)(iii) of this section.

n = Number of Group 1 emission points included in the emissions average. The value of n is not necessarily the same for continuous front-end process vents, batch front-end process vents, aggregate batch vent streams, storage vessels, wastewater streams, or the collection of process sections within the affected source.

m = Number of Group 2 emission points included in the emissions average. The value of m is not necessarily the same for continuous front-end process vents, batch front-end process vents, aggregate batch vent streams, storage vessels, wastewater streams, or the collection of process sections within the affected source.

(i) Except as specified in paragraph (h)(1)(iv) of this section, for an emission point controlled using a reference control technology, the percent reduction for calculating credits shall be no greater than the nominal efficiency associated with the reference control technology, unless a higher nominal efficiency is assigned as specified in paragraph (h)(1)(ii) of this section.

(ii) For an emission point controlled to a level more stringent than the reference control technology, the nominal efficiency for calculating credits shall be assigned as described in paragraph (i) of this section. A reference control technology may be approved for use in a different manner and assigned a higher nominal efficiency according to the procedures in paragraph (i) of this section. A reference control technology may be approved for use in a different manner and assigned a higher nominal efficiency according to the procedure in paragraph (i) of this section.

(iii) For an emission point controlled using a pollution prevention measure, except for back-end process operation emissions, the nominal efficiency for calculating credits shall be as determined as described in paragraph (j) of this section. Emissions for back-end process operations shall be determined as described in paragraph (h)(4) of this section.

(iv) For Group 1 and Group 2 batch front-end process vents and Group 1 and Group 2 aggregate batch vent streams, the percent reduction for calculating credits shall be the percent reduction determined according to the procedures in paragraphs (h)(6)(ii) and (h)(6)(iii) of this section for batch front-end process vents and paragraphs (h)(7)(ii) and (h)(7)(iii) of this section for aggregate batch vent streams.

(2) Emissions from continuous front-end process vents shall be determined as follows:

(i) Uncontrolled emissions from Group 1 continuous front-end process vents, $ECFEPV1_{iu}$, shall be calculated according to the procedures and equation for $ECFEPV_{iu}$ in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(ii) Actual emissions from Group 1 continuous front-end process vents controlled using a technology with an approved nominal efficiency greater than 98 percent or a pollution prevention measure achieving greater than 98 percent emission reduction, $ECFEPV1_{iACTUAL}$, shall be calculated using Equation 42.

$$ECFEPV1_{iACTUAL} = ECFEPV1_{iu}\left(1-\frac{\text{Nominal efficiency \%}}{100\%}\right) \quad [\text{Eq. 42}]$$

Where:

$ECFEPV1_{iACTUAL}$ = Emissions for each Group 1 continuous front-end process vent i that is controlled to a level more stringent than the reference control technology.

$ECFEPV1_{iu}$ = Emissions from each Group 1 continuous front-end process vent i if the reference control technology had been applied to the uncontrolled emissions.

(iii) The following procedures shall be used to calculate actual emissions from Group 2 continuous front-end process vents, $ECFEPV2_{iACTUAL}$:

(A) For a Group 2 continuous front-end process vent controlled by a control device, a recovery device applied as a pollution prevention project, or a pollution prevention measure, where the control achieves a percent reduction less than or equal to 98 percent reduction, Equation 43 shall be used.

$$ECFEPV2_{iACTUAL} = ECFEPV2_{iu}\left(1-\frac{\text{Percent reduction}}{100\%}\right) \quad [\text{Eq. 43}]$$

Where:

$ECFEPV2_{iACTUAL}$=Emissions from each Group 2 continuous front-end process vent i that is controlled.

$ECFEPV2_{iu}$=Emissions from each Group 2 continuous front-end process vent i if the reference control technology had been applied to the uncontrolled emissions.

(*1*) $ECFEPV2_{iu}$ shall be calculated according to the equations and procedures for $ECFEPV_{iu}$ in paragraphs (g)(2)(i) and (g)(2)(ii) of this section, except as provided in paragraph (h)(2)(iii)(A)(*3*) of this section.

(*2*) The percent reduction shall be calculated according to the procedures in paragraphs (g)(2)(iii)(B)(*1*) through (g)(2)(iii)(B)(*3*) of this section, except as provided in paragraph (h)(2)(iii)(A)(*4*) of this section.

(*3*) If a recovery device was added as part of a pollution prevention project, $ECFEPV2_{iu}$ shall be calculated prior to that recovery device. The equation for $ECFEPV_{iu}$ in paragraph (g)(2)(ii) of this section shall be used to calculate $ECFEPV2_{iu}$; however, the sampling site for measurement of vent stream flow rate and organic HAP concentration shall be at the inlet of the recovery device.

(*4*) If a recovery device was added as part of a pollution prevention project, the percent reduction shall be demonstrated by conducting a performance test at the inlet and outlet of that recovery device.

(B) For a Group 2 continuous front-end process vent controlled using a technology with an approved nominal efficiency greater than 98 percent or a pollution prevention measure achieving greater than 98 percent reduction, Equation 44 shall be used.

$$ECFEPV2_{iACTUAL} = ECFEPV2_{iu}\left(1 - \frac{\text{Nominal efficiency \%}}{100\%}\right) \quad [\text{Eq. 44}]$$

Where:

$ECFEPV2_{iACTUAL}$=Emissions from each Group 2 continuous front-end process vent i that is controlled.

$ECFEPV2_{iu}$=Emissions from each Group 2 continuous front-end process vent i if the reference control technology had been applied to the uncontrolled emissions.

(iv) Emissions from Group 2 continuous front-end process vents at baseline, $ECFEPV2_{iBASE}$, shall be calculated as follows:

(A) If the continuous front-end process vent was uncontrolled on November 15, 1990, $ECFEPV2_{iBASE}$=$ECFEPV2_{iu}$ and shall be calculated according to the procedures and equation for $ECFEPV_{iu}$ in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(B) If the continuous front-end process vent was controlled on November 15, 1990, Equation 45 shall be used.

$$ECFEPV2_{iBASE} = ECFEPV2_{iu}\left(1 - \frac{\text{Percent reduction}}{100\%}\right) \quad [\text{Eq. 45}]$$

(*1*) $ECFEPV2_{iu}$ is calculated according to the procedures and equation for $ECFEPV_{iu}$ in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(*2*) The percent reduction shall be calculated according to the procedures specified in paragraphs (g)(2)(iii)(B)(*1*) through (g)(2)(iii)(B)(*3*) of this section.

(C) If a recovery device was added as part of a pollution prevention project initiated after November 15, 1990, $ECFEPV2_{iBASE}$=$ECFEPV2_{iu}$, where $ECFEPV2_{iu}$ is calculated according to paragraph (h)(2)(iii)(A)(*3*) of this section.

(3) Emissions from storage vessels shall be calculated using the procedures specified in § 63.150(h)(3) of subpart G.

(4) Emissions from back-end process operations shall be calculated as follows:

(i) $EBEP_{ACTUAL}$ shall be calculated according to the equation for $EBEP_{ACTUAL}$ contained in paragraph (g)(4)(i) of this section.

(ii) $EBEP_c$ shall be calculated according to the equation for $EBEP_c$ contained in paragraph (g)(4)(ii) of this section.

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

(6) Emissions from batch front-end process vents shall be determined as follows:

(i) Uncontrolled emissions from Group 1 batch front-end process vents ($EBFEPV1_{iu}$) shall be calculated according using the procedures specified in § 63.488(b).

(ii) Actual emissions from Group 1 batch front-end process vents controlled to a level more stringent than the reference control technology ($EBFEPV1_{iACTUAL}$) shall be calculated using Equation 46, where percent reduction is for the batch cycle.

$$EBFEPV1_{iACTUAL} = EBFEPV1_{iu}\left(1 - \frac{\text{Percent reduction}}{100\%}\right) \quad [\text{Eq. 46}]$$

(A) The percent reduction for the batch cycle shall be calculated according to the procedures in § 63.490(c)(2).

(B) The percent reduction for control devices shall be determined according to the procedures in § 63.490(c)(2)(i) through (c)(2)(iii).

(C) The percent reduction of pollution prevention measures shall be calculated using the procedures specified in paragraph (j) of this section.

(iii) Actual emissions from Group 2 batch front-end process vents ($EBFEPV2_{iACTUAL}$) shall be calculated using Equation 47 and the procedures in paragraphs (h)(6)(ii)(A) through (h)(6)(ii)(C) of this section. $EBFEPV2_{iu}$ shall be calculated using the procedures specified in § 63.488(b).

$$EBFEPV2_{iACTUAL} = EBFEPV2_{iu} \times \left(1 - \frac{\text{Percent reduction}}{100\%}\right) \quad [\text{Eq. 47}]$$

(iv) Emissions from Group 2 batch front-end process vents at baseline shall be calculated as follows:

(A) If the batch front-end process vent was uncontrolled on November 15, 1990, $EBFEPV2_{iBASE}$=$EBFEPV2_{iu}$ and shall be calculated according to the procedures using the procedures specified in § 63.488(b).

(B) If the batch front-end process vent was controlled on November 15, 1990, use Equation 48 and the procedures in paragraphs (h)(6)(ii)(A) through (h)(6)(ii)(C) of this section. $EBFEPV2_{iu}$ shall be calculated using the procedures specified in § 63.488(b).

$$EBFEPV2_{iBASE} = EBFEPV2_{iu}\left(1 - \frac{\text{Percent reduction}}{100\%}\right) \quad [\text{Eq. 48}]$$

(7) Emissions from aggregate batch vent streams shall be determined as follows:

(i) Uncontrolled emissions from Group 1 aggregate batch vent streams ($EABV1_{iu}$) shall be calculated according to the procedures and equation for $EABV_{iu}$ in paragraphs (g)(7)(i) and (g)(7)(ii) of this section.

(ii) Actual emissions from Group 1 aggregate batch vent streams controlled to a level more stringent than the reference control technology ($EABV1_{iACTUAL}$) shall be calculated using Equation 49.

$$EABV1_{iACTUAL} = EABV1_{iu}\left(1 - \frac{\text{Percent reduction}}{100\%}\right) \quad [\text{Eq. 49}]$$

(A) The percent reduction for control devices shall be determined according to the procedures in § 63.490(e).

(B) The percent reduction of pollution prevention measures shall be calculated using the procedures specified in paragraph (j) of this section.

(iii) Actual emissions from Group 2 aggregate batch vents streams ($EABV2_{iACTUAL}$) shall be calculated using Equation 50 and the procedures in paragraphs (h)(7)(ii)(A) through (h)(7)(ii)(B) of this section. $EABV2_{iu}$ shall be calculated according to the equations and procedures for $EABV_{iu}$ in paragraphs (g)(7)(i) and (g)(7)(ii) of this section.

$$EABV2_{iACTUAL} = EABV2_{iu}\left(1 - \frac{\text{Percent reduction}}{100\%}\right) \quad [\text{Eq. 50}]$$

(iv) Emissions from Group 2 aggregate batch vent streams at baseline shall be calculated as follows:

(A) If the aggregate batch vent stream was uncontrolled on November 15, 1990, $EABV2_{iBASE}=EABV2_{iu}$ and shall be calculated according to the procedures and equation for $EABV_{iu}$ in paragraph (g)(7)(i) and (g)(7)(ii) of this section.

(B) If the aggregate batch vent stream was controlled on November 15, 1990, use Equation 51 and the procedures in paragraphs (h)(7)(ii)(A) through (h)(7)(ii)(B) of this section. $EABV2_{iu}$ shall be calculated according to the equations and procedures for $EABV_{iu}$ in paragraphs (g)(7)(i) and (g)(7)(ii) of this section.

$$EABV2_{iBASE} = EABV2_{iu}\left(1 - \frac{\text{Percent reduction}}{100\%}\right) \quad [\text{Eq. 51}]$$

(i) The following procedures shall be followed to establish nominal efficiencies for emission controls for storage vessels, continuous front-end process vents, and process wastewater streams. The procedures in paragraphs (i)(1) through (i)(6) of this section shall be followed for control technologies that are different in use or design from the reference control technologies and achieve greater percent reductions than the percent efficiencies assigned to the reference control technologies in § 63.111 of subpart G.

(1) In those cases where the owner or operator is seeking permission to take credit for use of a control technology that is different in use or design from the reference control technology, and the different control technology will be used in more than three applications at a single plant-site, the owner or operator shall submit the information specified in paragraphs (i)(1)(i) through (i)(1)(iv) of this section to the Director of the EPA Office of Air Quality Planning and Standards, in writing.

(i) Emission stream characteristics of each emission point to which the control technology is or will be applied, including the kind of emission point, flow, organic HAP concentration, and all other stream characteristics necessary to design the control technology or determine its performance.

(ii) Description of the control technology, including design specifications.

(iii) Documentation demonstrating to the Administrator's satisfaction the control efficiency of the control technology. This may include performance test data collected using an appropriate EPA Method or any other method validated according to Method 301 of appendix A. If it is infeasible to obtain test data, documentation may include a design evaluation and calculations. The engineering basis of the calculation procedures and all inputs and assumptions made in the calculations shall be documented.

(iv) A description of the parameter or parameters to be monitored to ensure that the control technology will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) The Administrator shall determine within 120 operating days whether an application presents sufficient information to determine nominal efficiency. The Administrator reserves the right to request specific data in addition to the items listed in paragraph (i)(1) of this section.

(3) The Administrator shall determine within 120 operating days of the submittal of sufficient data whether a control technology shall have a nominal efficiency and the level of that nominal efficiency. If, in the Administrator's judgment, the control technology achieves a level of emission reduction greater than the reference control technology for a particular kind of emission point, the Administrator will publish a Federal Register notice establishing a nominal efficiency for the control technology.

(4) The Administrator may grant permission to take emission credits for use of the control technology. The Administrator may also impose requirements that may be necessary to ensure operation and maintenance to achieve the specified nominal efficiency.

(5) In those cases where the owner or operator is seeking permission to take credit for use of a control technology that is different in use or design from the reference control technology and the different control technology will be used in no more than three applications at a single plant site, the information listed in paragraph (i)(1)(i) can be submitted to the permitting authority for the affected source for approval instead of the Administrator.

(i) In these instances, use and conditions for use of the control technology can be approved by the permitting authority as part of an operating permit application or modification. The permitting authority shall follow the procedures specified in paragraphs (i)(2) through (i)(4) of this section except that, in these instances, a Federal Register notice is not required to establish the nominal efficiency for the different technology.

(ii) If, in reviewing the application, the permitting authority believes the control technology has broad applicability for use by other sources, the permitting authority shall submit the information provided in the application to the Director of the EPA Office of Air Quality Planning and Standards. The Administrator shall review the technology for broad applicability and may publish a Federal Register notice; however, this review shall not affect the permitting authority's approval of the nominal efficiency of the control technology for the specific application.

(6) If, in reviewing an application for a control technology for an emission point, the Administrator or permitting authority determines that the control technology is not different in use or design from the reference control technology, the Administrator or permitting authority shall deny the application.

(j) The following procedures shall be used for calculating the efficiency (percent reduction) of pollution prevention measures for storage vessels, continuous front-end process vents, batch front-end process vents, aggregate batch vent streams, and wastewater streams:

(1) A pollution prevention measure is any practice which meets the criteria of paragraphs (j)(1)(i) and (j)(1)(ii) of this section.

(i) A pollution prevention measure is any practice that results in a lesser quantity of organic 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.

(ii) Pollution prevention measures may include substitution of feedstocks that reduce organic 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.

(2) The emission reduction efficiency of pollution prevention measures implemented after November 15, 1990, can be used in calculating the actual emissions from an emission point in the debit and credit equations in paragraphs (g) and (h) of this section.

(i) For pollution prevention measures, the percent reduction is used in the equations in paragraphs (g)(2) through (g)(7) of this section and paragraphs (h)(2) through (h)(7) of this section is the percent difference between the monthly organic HAP emissions for each emission point after the pollution prevention measure for the most recent month versus monthly emissions from the same emission point before the pollution prevention measure, adjusted by the volume of product produced during the two monthly periods.

(ii) Equation 52 shall be used to calculate the percent reduction of a pollution prevention measure for each emission point.

$$\text{Percent reduction} = E_B - \frac{\left(E_{pp} \times P_B\right)}{P_{pp}} \times 100 \qquad [\text{Eq. } 52]$$

where:

Percent reduction=Efficiency of pollution prevention measure (percent organic HAP reduction).

E_B=Monthly emissions before the pollution prevention measure, Mg/month, determined as specified in paragraphs (j)(2)(ii)(A), (j)(2)(ii)(B), and (j)(2)(ii)(C) of this section.

E_{pp}=Monthly emissions after the pollution prevention measure, Mg/month, as determined for the most recent month, determined as specified in either paragraphs (j)(2)(ii)(D) or (j)(2)(ii)(E) of this section.

P_B=Monthly production before the pollution prevention measure, Mg/month, during the same period over which E_B is calculated.

P_{pp}=Monthly production after the pollution prevention measure, Mg/month, as determined for the most recent month.

(A) The monthly emissions before the pollution prevention measure, E_B, shall be determined in a manner consistent with the equations and procedures in paragraph (g)(2) of this section for continuous front-end process vents, paragraph (g)(3) of this section for storage vessels, paragraph (g)(6) of this section for batch front-end process vents, and paragraph (g)(7) of this section for aggregate batch vent streams.

(B) For wastewater, E_B shall be calculated according to § 63.150(j)(2)(ii)(B) of subpart G.

(C) If the pollution prevention measure was implemented prior to September 5, 1996, records may be used to determine E_B.

(D) The monthly emissions after the pollution prevention measure, E_{pp}, may be determined during a performance test or by a design evaluation and documented engineering calculations. Once an emissions-to-production ratio has been established, the ratio can be used to estimate monthly emissions from monthly production records.

(E) For wastewater, E_{pp} shall be calculated according to § 63.150(j)(2)(ii)(E) of subpart G.

(iii) All equations, calculations, test procedures, test results, and other information used to determine the percent reduction achieved by a pollution prevention measure for each emission point shall be fully documented.

(iv) The same pollution prevention measure may reduce emissions from multiple emission points. In such cases, the percent reduction in emissions for each emission point must be calculated.

(v) For the purposes of the equations in paragraphs (h)(2) through (h)(7) of this section, used to calculate credits for emission points controlled more stringently than the reference control technology, the nominal efficiency of a pollution prevention measure is equivalent to the percent reduction of the pollution prevention measure. When a pollution prevention measure is used, the owner or operator of an affected source is not required to apply to the Administrator for a nominal efficiency and is not subject to paragraph (i) of this section.

(k) The owner or operator must demonstrate that the emissions from the emission points proposed to be included in the emissions average will not result in greater hazard, or at the option of the Administrator, greater risk to human health or the environment than if the emission points were controlled according to the provisions in §§ 63.484, 63.485, 63.486, 63.493, and 63.501.

(1) This demonstration of hazard or risk equivalency shall be made to the satisfaction of the Administrator.

(i) The Administrator may require owners and operators to use specific methodologies and procedures for making a hazard or risk determination.

(ii) The demonstration and approval of hazard or risk equivalency shall be made according to any guidance that the Administrator makes available for use.

(2) Owners and operators shall provide documentation demonstrating the hazard or risk equivalency of their proposed emissions average in their operating permit application or in their Emissions Averaging Plan if an operating permit application has not yet been submitted.

(3) An Emissions Averaging Plan that does not demonstrate hazard or risk equivalency to the satisfaction of the Administrator shall not be approved. The Administrator may require such adjustments to the Emissions Averaging Plan as are necessary in order to ensure that the emissions average will not result in greater hazard or risk to human health or the environment than would result if the emission points were controlled according to §§ 63.484, 63.485, 63.486, 63.493, and 63.501.

(4) A hazard or risk equivalency demonstration must:

(i) Be a quantitative, bona fide chemical hazard or risk assessment;

(ii) Account for differences in chemical hazard or risk to human health or the environment; and

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

(l) For periods of monitoring excursions, an owner or operator may request that the provisions of paragraphs (l)(1) through (l)(4) of this section be followed instead of the procedures in paragraphs (f)(2)(i) and (f)(2)(ii) of this section.

(1) The owner or operator shall notify the Administrator of monitoring excursions in the Periodic Reports as required in § 63.506(e)(6).

(2) The owner or operator shall demonstrate that other types of monitoring data or engineering calculations are appropriate to establish that the control device for the emission point was operating in such a fashion to warrant assigning full or partial credits and debits. This demonstration shall be made to the Administrator's satisfaction, and the Administrator may establish procedures for demonstrating compliance that are acceptable.

(3) The owner or operator shall provide documentation of the excursion and the other types of monitoring data or engineering calculations to be used to demonstrate that the control device for the emission point was operating in such a fashion to warrant assigning full or partial credits and debits.

(4) The Administrator may assign full or partial credit and debits upon review of the information provided.

(m) For each emission point included in an emissions average, the owner or operator shall perform testing, monitoring, recordkeeping, and reporting equivalent to that required for Group 1 emission points complying with §§ 63.484, 63.485, 63.486, 63.493, and 63.501, as applicable. If back-end process operations are included in an emissions average, the owner or operator shall perform testing, monitoring, recordkeeping, and reporting equivalent to that required for back-end process operations complying with § 63.493. The specific requirements for continuous front-end process vents, batch front-end process vents, aggregate batch vent streams, storage vessels, back-end process operations, and wastewater are identified in paragraphs (m)(1) through (m)(6) of this section.

(1) For each continuous front-end process vent equipped with a flare, incinerator, boiler, or process heater, as appropriate to the control technique:

(i) Determine whether the continuous front-end process vent is Group 1 or Group 2 according to the procedures specified in § 63.115 of subpart G and as required by § 63.485;

(ii) Conduct initial performance tests to determine percent reduction as specified in § 63.116 of subpart G and as required by § 63.485; and

(iii) Monitor the operating parameters, keep records, and submit reports as specified in § 63.114, § 63.117(a), and § 63.118(a), (f), and (g) of subpart G, as required, for the specific control device as required by § 63.485.

(2) For each continuous front-end process vent equipped with a carbon adsorber, absorber, or condenser but not equipped with a control device, as appropriate to the control technique:

(i) Determine the flow rate, organic HAP concentration, and TRE index value according to the procedures specified in § 63.115 of subpart G; and

(ii) Monitor the operating parameters, keep records, and submit reports according to the procedures specified in § 63.114, § 63.117(a), and § 63.118 (b), (f), and (g) of subpart G, as required, for the specific recovery device, and as required by § 63.485.

(3) For each storage vessel controlled with an internal floating roof, external roof, or a closed vent system with a control device, as appropriate to the control technique:

(i) Perform the monitoring or inspection procedures according to the procedures specified in § 63.120 of subpart G, and as required by § 63.484;

(ii) Perform the reporting and recordkeeping procedures according to the procedures specified in §§ 63.122 and 63.123 of subpart G, and as required by § 63.484; and

(iii) For closed vent systems with control devices, conduct an initial design evaluation and submit an operating plan according to the procedures specified in § 63.120(d) and § 63.122(a)(2) and (b) of subpart G, and as required by § 63.484.

(4) For back-end process operations included in an emissions average:

(i) If stripping technology, and no control or recovery device, is used to reduce back-end process operation emissions, the owner or operator shall implement the following portions of this subpart:

(A) Paragraphs (b)(1), (b)(2), and (b)(3) of § 63.495, paragraph (b) of § 63.498, and the applicable provisions of § 63.499, or

(B) Paragraphs (c) (1), (2), and (3) of § 63.495, paragraph (c) of § 63.498, and the applicable provisions of § 63.499;

(ii) If a control or recovery device is used to reduce back-end process operation emissions, the owner or operator shall comply with §§ 63.496, 63.497, 63.498(d), and the applicable provisions of 63.499, and shall

implement the provisions of these sections.

(5) For wastewater emission points, as appropriate to the control techniques:

(i) For wastewater treatment processes, conduct tests according to the procedures specified in § 63.138(i) and (j) of subpart G, and as required by § 63.501;

(ii) Conduct inspections and monitoring according to the procedures specified in § 63.143 of subpart G, and as required by § 63.501;

(iii) Implement a recordkeeping program according to the procedures specified in § 63.147 of subpart G, and as required by § 63.501; and

(iv) Implement a reporting program according to the procedures specified in § 63.146 of subpart G, and as required by § 63.501.

(6) For each batch front-end process vent and aggregate batch vent stream equipped with a control device, as appropriate to the control technique:

(i) Determine whether the batch front-end process vent or aggregate batch vent stream is Group 1 or Group 2 according to the procedures specified in § 63.488;

(ii) Conduct performance tests according to the procedures specified in § 63.490;

(iii) Conduct monitoring according to the procedures specified in § 63.489; and

(iv) Perform the recordkeeping and reporting procedures according to the procedures specified in §§ 63.491 and 63.492.

(7) If an emission point in an emissions average is controlled using a pollution prevention measure or a device or technique for which no monitoring parameters or inspection procedures are required by §§ 63.484, 63.485, 63.486, 63.493, or § 63.501, the owner or operator shall submit the information specified in § 63.506(f) for alternate monitoring parameters or inspection procedures in the Emissions Averaging Plan or operating permit application.

(n) Records of all information required to calculate emission debits and credits shall be retained for 5 years.

(o) Precompliance Reports, Emission Averaging Plans, Notifications of Compliance Status, Periodic Reports, and other reports shall be submitted as required by § 63.506.

§ 63.504 Additional test methods and procedures.

(a) Performance testing shall be conducted in accordance with § 63.7 (a)(3), (d), (e), (g), and (h) of subpart A, with the exceptions specified in paragraphs (a)(1) through (a)(4) of this section and the additions specified in paragraph (b) of this section. Sections 63.484 through 63.501 also contain specific testing requirements.

(1) Performance tests shall be conducted according to the provisions of § 63.7(e) of subpart A, except that performance tests shall be conducted at maximum representative operating conditions for the process.

(2) References in § 63.7(g) of subpart A to the Notification of Compliance Status requirements in § 63.9(h) shall refer to the requirements in § 63.506(e)(5).

(3) Because the site-specific test plans in § 63.7(c)(3) of subpart A are not required, § 63.7(h)(4)(ii) is not applicable.

(4) 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 during the test.

(b) Data shall be reduced in accordance with the EPA approved methods specified in the applicable subpart or, if other test methods are used, the data and methods shall be validated according to the protocol in Method 301 of appendix A of this part.

§ 63.505 Parameter monitoring levels and excursions.

(a) *Establishment of parameter monitoring levels.* The owner or operator of a control or recovery device that has one or more parameter monitoring level requirements specified under this subpart shall establish a maximum or minimum level for each measured parameter using the procedures specified in paragraph (b), (c), or (d) of this section. The procedures specified in paragraph (b) have been approved by the Administrator. The procedures in paragraphs (c) and (d) of this section have not been approved by the Administrator, and determination of the parameter monitoring level using the procedures in paragraphs (c) or (d) of this section and is subject to review and approval by the Administrator. The determination and supporting documentation shall be included in the Precompliance Report.

(1) The owner or operator shall operate control and recovery devices such that monitored parameters remain above the minimum established level or below the maximum established level.

(2) As specified in § 63.506(e)(5) and § 63.506(e)(8), all established levels, along with their supporting documentation and the definition of an operating day, shall be approved as part of and incorporated into the Notification of Compliance Status or operating permit, respectively.

(3) Nothing in this section shall be construed to allow a monitoring parameter excursion caused by an activity that violates other applicable provisions of subparts A, F, or G of this part.

(b) *Establishment of parameter monitoring levels based on performance tests.* The procedures specified in paragraphs (b)(1) through (b)(3) of this section shall be used, as applicable, in establishing parameter monitoring levels. Level(s) established under this paragraph shall be based on the parameter values measured during the performance test.

(1) *Storage tanks and wastewater.* The maximum and/or minimum monitoring levels shall be based on the parameter values measured during the performance test, supplemented, if desired, by engineering assessments and/or manufacturer's recommendations.

(2) *Continuous front-end process vents and back-end process operations complying using control or recovery devices.* During initial compliance testing, the appropriate parameter shall be continuously monitored during the required 1-hour runs. The monitoring level(s) shall then be established as the average of the maximum (or minimum) point values from the three test runs. The average of the maximum values shall be used when establishing a maximum level, and the average of the minimum values shall be used when establishing a minimum level.

(3) *Batch front-end process vents.* The monitoring level(s) shall be established using the procedures specified in paragraphs (b)(3)(i) through (b)(3)(iii) of this section, as appropriate. The procedures specified in this paragraph may only be used if the batch emission episodes, or portions thereof, selected to be controlled were tested, and monitoring data were collected, during the entire period in which emissions were vented to the control device, as specified in § 63.490(c)(1)(i). If the owner or operator chose to test only a portion of the batch emission episode, or portion thereof, selected to be controlled, as specified in § 63.490(c)(1)(i)(A), the procedures in paragraph (c) of this section must be used.

(i) If more than one batch emission episode or more than one portion of a batch emission episode has been selected to be controlled, a single level for the batch cycle shall be calculated as follows:

(A) During initial compliance testing, the appropriate parameter shall be

monitored continuously at all times when batch emission episodes, or portions thereof, selected to be controlled are vented to the control device.

(B) The average monitored parameter value shall be calculated for each batch emission episode, or portion thereof, in the batch cycle selected to be controlled. The average shall be based on all values measured during the required performance test.

(C) If the level to be established is a maximum operating parameter, the level shall be defined as the minimum of the average parameter values of the batch emission episodes, or portions thereof, in the batch cycle selected to be controlled.

(D) If the level to be established is a minimum operating parameter, the level shall be defined as the maximum of the average parameter values of the batch emission episodes, or portions thereof, in the batch cycle selected to be controlled.

(E) Alternatively, an average monitored parameter value shall be calculated for the entire batch cycle based on all values measured during each batch emission episode, or portion thereof, selected to be controlled.

(ii) Instead of establishing a single level for the batch cycle, as described in paragraph (b)(3)(i) of this section, an owner or operator may establish separate levels for each batch emission episode, or portion thereof, selected to be controlled. Each level shall be determined as specified in paragraphs (b)(3)(i)(A) and (b)(3)(i)(B) of this section.

(iii) The batch cycle shall be defined in the Notification of Compliance Status, as specified in § 63.506(e)(5). The definition shall include an identification of each batch emission episode and the information required to determine parameter monitoring compliance for partial batch cycles (i.e., when part of a batch cycle is accomplished during two different operating days).

(4) *Aggregate batch vent streams.* For aggregate batch vent streams, the monitoring level shall be established in accordance with paragraph (b)(2) of this section.

(c) *Establishment of parameter monitoring levels based on performance tests, engineering assessments, and/or manufacturer's recommendations.* As required in paragraph (a) of this section, the information specified in paragraphs (c)(2) and (c)(3) of this section shall be provided in the Precompliance Report.

(1) Parameter monitoring levels established under this paragraph shall be based on the parameter values measured during the performance test supplemented by engineering assessments and manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of expected parameter values.

(2) The specific level of the monitored parameter(s) for each emission point.

(3) The rationale for the specific level for each parameter for each emission point, including any data and calculations used to develop the level and a description of why the level indicates proper operation of the control or recovery device.

(d) *Establishment of parameter monitoring based on engineering assessments and/or manufacturer's recommendations.* If a performance test is not required by this subpart for a control or recovery device, the maximum or minimum level may be based solely on engineering assessments and/or manufacturer's recommendations. As required in paragraph (a) of this section, the determined level and all supporting documentation shall be provided in the Precompliance Report.

(e) *Demonstration of compliance with back-end process provisions using stripper parameter monitoring.* If the owner or operator is demonstrating compliance with § 63.495 using stripper parameter monitoring, stripper parameter levels shall be established for each grade in accordance with paragraphs (e)(1) and (e)(2) of this section. A single set of stripper parameter levels can be representative of multiple grades.

(1) For each grade, the owner or operator shall calculate the residual organic HAP content using the procedures in paragraphs (e)(1)(i) and (e)(1)(ii) of this section.

(i) The location of the sampling shall be in accordance with § 63.495(d).

(ii) The residual organic HAP content in each sample is to be determined using specified methods.

(2) For each grade, the owner or operator shall establish stripper operating parameter levels that represent stripper operation during the residual organic HAP content determination in paragraph (e)(1) of this section. The stripper operating parameters shall include, at a minimum, temperature, pressure, steaming rates (for steam strippers), and some parameter that is indicative of residence time.

(3) After the initial determinations, an owner or operator can add a grade, with corresponding stripper parameter levels, using the procedures in paragraphs (e)(1) and (e)(2) of this section. The results of this determination shall be submitted in the next periodic report.

(4) An owner or operator complying with the residual organic HAP limitations in paragraph (a) of § 63.494 using stripping, and demonstrating compliance by stripper parameter monitoring, shall redetermine the residual organic HAP content for all affected grades whenever process changes are made. For the purposes of this section, a process change is any action that would reasonably be expected to impair the performance of the stripping operation. For the purposes of this section, examples of process changes may include changes in production capacity or production rate, or removal or addition of equipment. For purposes of this paragraph, process changes do not include: Process upsets; unintentional, temporary process changes; or changes that reduce the residual organic HAP content of the elastomer.

(f) *Compliance determinations.* The provisions of this paragraph apply only to emission points and control or recovery devices for which continuous monitoring is required under this subpart.

(1) The parameter monitoring data for storage vessels, front-end process vents, back-end process operations complying through the use of control or recovery devices, process wastewater streams, and emission points included in emissions averages that are required to perform continuous monitoring shall be used to determine compliance for the monitored control or recovery devices.

(2) Except as provided in paragraph (f)(3) and (i) of this section, for each excursion, as defined in paragraphs (g) and (h) of this section, the owner or operator shall be deemed out of compliance with the provisions of this subpart.

(3) If the daily average value of a monitored parameter is above the maximum level or below the minimum level established, or if monitoring data cannot be collected during monitoring device calibration check or monitoring device malfunction, but the affected source is operated during the periods of startup, shutdown, or malfunction in accordance with the affected source's Startup, Shutdown, and Malfunction Plan, then the event shall not be considered a monitoring parameter excursion.

(g) *Parameter monitoring excursion definitions.* (1) For storage vessels, continuous front-end process vents, aggregate batch vent streams, back-end process operations complying through the use of control or recovery devices, and wastewater streams, an excursion

means any of the three cases listed in paragraphs (g)(1)(i) through (g)(1)(iii) of this section. For a control or recovery device where multiple parameters are monitored, if one or more of the parameters meets the excursion criteria in paragraphs (g)(1)(i) through (g)(1)(iii) of this section, this is considered a single excursion for the control or recovery device.

(i) When the daily average value of one or more monitored parameters is above the maximum level or below the minimum level established for the given parameters.

(ii) When the period of control or recovery device operation is 4 hours or greater in an operating day and monitoring data are insufficient, as defined in paragraph (g)(1)(iv) of this section, to constitute a valid hour of data for at least 75 percent of the operating hours.

(iii) When the period of control or recovery device operation is less than 4 hours in an operating day and more than two of the hours during the period of operation do not constitute a valid hour of data due to insufficient monitoring data, as defined in paragraph (g)(1)(iv) of this section.

(iv) Monitoring data are insufficient to constitute a valid hour of data, as used in paragraphs (g)(1)(ii) and (g)(1)(iii) of this section, if measured values are unavailable for any of the 15-minute periods within the hour. For data compression systems approved under § 63.506(g)(3), monitoring data are insufficient to calculate a valid hour of data if there are less than four data measurements made during the hour.

(2) For batch front-end process vents, an excursion means one of the two cases listed in paragraphs (g)(2)(i) and (g)(2)(ii) of this section. For a control device where multiple parameters are monitored, if one or more of the parameters meets the excursion criteria in either paragraph (g)(2)(i) or (g)(2)(ii) of this section, this is considered a single excursion for the control device.

(i) When the batch cycle daily average value of one or more monitored parameters is above the maximum or below the minimum established level for the given parameters.

(ii) When monitoring data are insufficient. Monitoring data shall be considered insufficient when measured values are not available for at least 75 percent of the 15-minute periods when batch emission episodes, or portions thereof, selected to be controlled are being vented to the control device during the operating day.

(h) *Excursion definitions for back-end operations complying through stripping.* (1) For back-end process operations complying through the use of stripping technology, and demonstrating compliance by sampling, an excursion means one of the two cases listed in paragraphs (h)(1)(i) and (h)(1)(ii) of this section.

(i) When the monthly weighted average residual organic HAP content is above the applicable residual organic HAP limitation in § 63.494; or

(ii) When less than 75 percent of the samples required in 1 month are taken and analyzed in accordance with the provisions of § 63.495(b).

(2) For back-end process operations complying through the use of stripping technology, and demonstrating compliance by stripper parameter monitoring, an excursion means one of the three cases listed in paragraphs (h)(2)(i), (h)(2)(ii), and (h)(2)(iii) of this section.

(i) When the monthly weighted average residual organic HAP content is above the applicable residual organic HAP limitation in § 63.494;

(ii) When an owner or operator fails to sample and analyze the organic HAP content of a sample for a grade with an hourly average stripper operating parameter value not in accordance with the established monitoring parameter levels for that parameter; or

(iii) When an owner or operator does not collect sufficient monitoring data for at least 75 percent of the grades or batches processed during a month. Stripper monitoring data are considered insufficient if monitoring parameters are obtained for less than 75 percent of the 15-minute periods during the processing of a grade, and a sample of that grade or batch is not taken and analyzed to determine the residual organic HAP content.

(i) *Excused excursions.* A number of excused excursions shall be allowed for each control or recovery device for each semiannual period. The number of excused excursions for each semiannual period is specified in paragraphs (i)(1) through (i)(6) of this section. This paragraph applies to affected sources required to submit Periodic Reports semiannually or quarterly. The first semiannual period is the 6-month period starting the date the Notification of Compliance Status is due.

(1) For the first semiannual period—six excused excursions.

(2) For the second semiannual period—five excused excursions.

(3) For the third semiannual period—four excused excursions.

(4) For the fourth semiannual period—three excused excursions.

(5) For the fifth semiannual period—two excused excursions.

(6) For the sixth and all subsequent semiannual periods—one excused excursion.

§ 63.506 General recordkeeping and reporting provisions.

(a) *Data retention.* Each owner or operator of an affected source shall keep copies of all applicable records and reports required by this subpart for at least 5 years, unless otherwise specified in this subpart.

(b) *Subpart A requirements.* The owner or operator of an affected source shall comply with the applicable recordkeeping and reporting requirements in 40 CFR part 63, subpart A as specified in Table 1 of this subpart. These requirements include, but are not limited to, the requirements specified in paragraphs (b)(1) and (b)(2) of this section.

(1) *Startup, shutdown, and malfunction plan.* The owner or operator of an affected source shall develop and implement a written startup, shutdown, and malfunction plan as specified in § 63.6(e)(3) of subpart A. This plan shall describe, in detail, procedures for operating and maintaining the affected source during periods of startup, shutdown, and malfunction and a program for corrective action for malfunctioning process and air pollution control equipment used to comply with this subpart. The affected source shall keep this plan onsite and shall incorporate it by reference into their operating permit. Records associated with the plan shall be kept as specified in paragraphs (b)(1)(i)(A) through (b)(1)(i)(D) of this section. Reports related to the plan shall be submitted as specified in paragraph (b)(1)(ii) of this section.

(i) *Records of startup, shutdown, and malfunction.* The owner or operator shall keep the records specified in paragraphs (b)(1)(i)(A) through (b)(1)(i)(D) of this section.

(A) Records of the occurrence and duration of each malfunction of air pollution control equipment or continuous monitoring systems used to comply with this subpart.

(B) For each startup, shutdown, or malfunction, a statement that the procedures specified in the affected source's startup, shutdown, and malfunction plan were followed; alternatively, documentation of any actions taken that are not consistent with the plan.

(C) For continuous monitoring systems used to comply with this subpart, records documenting the completion of calibration checks and maintenance of continuous monitoring

systems that are specified in the manufacturer's instructions.

(D) Records specified in paragraphs (b)(1)(i)(B) and (b)(1)(i)(C) of this section are not required if they pertain solely to Group 2 emission points that are not included in an emissions average.

(ii) *Reports of startup, shutdown, and malfunction.* For the purposes of this subpart, the semiannual startup, shutdown, and malfunction reports shall be submitted on the same schedule as the Periodic Reports required under paragraph (e)(6) of this section instead of the schedule specified in § 63.10(d)(5)(i) of subpart A. The reports shall include the information specified in paragraphs (b)(1)(i)(A) through (b)(1)(i)(C) of this section and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy.

(2) *Application for approval of construction or reconstruction.* For new affected sources, each owner or operator shall comply with the provisions in § 63.5 of subpart A regarding construction and reconstruction, excluding the provisions specified in § 63.5(d)(1)(ii)(H), (d)(1)(iii), (d)(2), and (d)(3)(ii) of subpart A.

(c) *Subpart H requirements.* Owners or operators of affected sources shall comply with the reporting and recordkeeping requirements in subpart H, except as specified in § 63.502(g) through § 63.502(i).

(d) *Recordkeeping and documentation.* Owners or operators required to keep continuous records shall keep records as specified in paragraphs (d)(1) through (d)(8) of this section, unless an alternative recordkeeping system has been requested and approved as specified in paragraph (f), (g), or (h) of this section. Documentation requirements are specified in paragraphs (d)(9) and (d)(10) of this section.

(1) The monitoring system shall measure data values at least once every 15 minutes.

(2) The owner or operator shall record either:

(i) Each measured data value; or

(ii) Block average values for 1 hour or shorter periods calculated from all measured data values during each period. If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the hourly (or shorter period) block average instead of all measured values; or

(iii) For batch front-end process vents, each batch cycle average or batch emission episode average, as appropriate, in addition to each measured data value recorded as required in paragraph (d)(2)(i) of this section.

(3) Daily average (or batch cycle daily average) values of each continuously monitored parameter shall be calculated for each operating day as specified in paragraphs (d)(3)(i) through (d)(3)(ii) of this section, except as specified in paragraph (d)(6) of this section.

(i) The daily average value or batch cycle daily average shall be calculated as the average of all parameter values recorded during the operating day. As specified in § 63.491(e)(2)(i), only parameter values measured during those batch emission episodes, or portions thereof, in the batch cycle that the owner or operator has chosen to control shall be used to calculate the average. The calculated average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per operating day if operation is not continuous.

(ii) The operating day shall be the period that the owner or operator specifies in the operating permit or the Notification of Compliance Status. It may be from midnight to midnight or another 24-hour period.

(4) *Records required when out of compliance.* If the daily average (or batch cycle daily average) value of a monitored parameter for a given operating day is below the minimum level or above the maximum level established in the Notification of Compliance Status or operating permit, the owner or operator shall retain the data recorded that operating day under paragraph (d)(2) of this section.

(5) *Records required when in compliance for daily average value or batch cycle daily average value.* If the daily average (or batch cycle daily average) value of a monitored parameter for a given operating day is above the minimum level or below the maximum level established in the Notification of Compliance Status or operating permit, the owner or operator shall either:

(i) Retain block average values for 1 hour or shorter periods for that operating day; or

(ii) Retain the data recorded in paragraphs (d)(2)(i) and (d)(2)(iii) of this section.

(6) *Records required when all recorded values are in compliance.* If all recorded values for a monitored parameter during an operating day are above the minimum level or below the maximum level established in the Notification of Compliance Status or operating permit, the owner or operator may record that all values were above the minimum level or below the maximum level rather than calculating and recording a daily average (or batch cycle daily average) for that operating day. For these operating days, the records required in paragraph (d)(5) of this section are required.

(7) Monitoring data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments shall not be included in any average computed under this subpart. Records shall be kept of the times and durations of all such periods.

(8) In addition to the periods specified in paragraph (d)(7) of this section, records shall be kept of the times and durations of any other periods during process operation or control device operation when monitors are not operating. For batch front-end process vents, this paragraph only applies during batch emission episodes, or portions thereof, that the owner or operator has selected for control.

(9) For each EPPU that is not part of the affected source because it does not use any organic HAP, the owner or operator shall maintain the documentation specified in § 63.480(b)(1).

(10) For each flexible operation unit in which the primary product is determined to be something other than an elastomer product, the owner or operator shall maintain the documentation specified in § 63.480(f)(6).

(e) *Reporting and notification.* (1) In addition to the reports and notifications required by subparts A and H, as specified in this subpart, the owner or operator of an affected source shall prepare and submit the reports listed in paragraphs (e)(3) through (e)(8) of this section, as applicable.

(2) All reports required under this subpart shall be sent to the Administrator at the addresses listed in § 63.13 of subpart A of this part. If acceptable to both the Administrator and the owner or operator of a source, reports may be submitted on electronic media.

(3) *Precompliance Report.* Affected sources requesting an extension for compliance, or requesting approval to use alternative monitoring parameters, alternative continuous monitoring and recordkeeping, or alternative controls, shall submit a Precompliance Report according to the schedule described in paragraph (e)(3)(i) of this section. The Precompliance Report shall contain the information specified in paragraphs (e)(3)(ii) through (e)(3)(vi) of this section, as appropriate.

(i) *Submittal dates.* The Precompliance Report shall be submitted to the Administrator no later

than 12 months prior to the compliance date. For new sources, the Precompliance Report shall be submitted to the Administrator with the application for approval of construction or reconstruction required in paragraph (b)(2) of this section.

(ii) A request for an extension for compliance must be submitted in the Precompliance Report, if it has not been submitted to the operating permit authority as part of the operating permit application. The request for a compliance extension will include the data outlined in § 63.6(i)(6)(i)(A), (B), and (D) of subpart A, as required in § 63.481(e)(1).

(iii) The alternative monitoring parameter information required in paragraph (f) of this section shall be submitted if, for any emission point, the owner or operator of an affected source seeks to comply through the use of a control technique other than those for which monitoring parameters are specified in this subpart or in subpart G of this part, or seeks to comply by monitoring a different parameter than those specified in this subpart or in subpart G of this part.

(iv) If the affected source seeks to comply using alternative continuous monitoring and recordkeeping as specified in paragraph (g) of this section, the information requested in paragraph (e)(3)(iv)(A) or (e)(3)(iv)(B) of this section must be submitted in the Precompliance Report.

(A) The owner or operator must submit notification of the intent to use the provisions specified in paragraph (h) of this section; or

(B) The owner or operator must submit a request for approval to use alternative continuous monitoring and recordkeeping provisions as specified in paragraph (g) of this section.

(v) The owner or operator shall report the intent to use alternative controls to comply with the provisions of this subpart. Alternative controls must be deemed by the Administrator to be equivalent to the controls required by the standard, under the procedures outlined in § 63.6(g) of subpart A.

(4) *Emissions Averaging Plan.* For all existing affected sources using emissions averaging, an Emissions Averaging Plan shall be submitted for approval according to the schedule and procedures described in paragraph (e)(4)(i) of this section. The Emissions Averaging Plan shall contain the information specified in paragraph (e)(4)(ii) of this section, unless the information required in paragraph (e)(4)(ii) of this section is submitted with an operating permit application. An owner or operator of an affected source who submits an operating permit application instead of an Emissions Averaging Plan shall submit the information specified in paragraph (e)(8) of this section. In addition, a supplement to the Emissions Averaging Plan, as required under paragraph (e)(4)(iii) of this section, is to be submitted whenever alternative controls or operating scenarios may be used to comply with this subpart. Updates to the Emissions Averaging Plan shall be submitted in accordance with paragraph (e)(4)(iv) of this section.

(i) *Submittal and approval.* The Emissions Averaging Plan shall be submitted no later than 18 months prior to the compliance date, and is subject to Administrator approval. The Administrator shall determine within 120 operating days whether the Emissions Averaging Plan submitted presents sufficient information. The Administrator shall either approve the Emissions Averaging Plan, request changes, or request that the owner or operator submit additional information. Once the Administrator receives sufficient information, the Administrator shall approve, disapprove, or request changes to the plan within 120 operating days.

(ii) *Information required.* The Emissions Averaging Plan shall contain the information listed in paragraphs (e)(4)(ii)(A) through (e)(4)(ii)(M) of this section for all emission points included in an emissions average.

(A) The required information shall include the identification of all emission points and process back-end operations in the planned emissions average and, where applicable, notation of whether each storage vessel, continuous front-end process vent, batch front-end process vent, aggregate batch vents stream, and process wastewater stream is a Group 1 or Group 2 emission point, as defined in § 63.482 or as designated under § 63.503(c)(2).

(B) The required information shall include the projected emission debits and credits for each emission point and the sum for the emission points involved in the average calculated according to § 63.503. The projected credits must be greater than or equal to the projected debits, as required under § 63.503(e)(3).

(C) The required information shall include the specific control technology or pollution prevention measure that will be used for each emission point included in the average and date of application or expected date of application.

(D) The required information shall include the specific identification of each emission point affected by a pollution prevention measure. To be considered a pollution prevention measure, the criteria in § 63.503(j)(1) must be met. If the same pollution prevention measure reduces or eliminates emissions from multiple emission points in the average, the owner or operator must identify each of these emission points.

(E) The required information shall include a statement that the compliance demonstration, monitoring, inspection, recordkeeping, and reporting provisions in § 63.503(m), (n), and (o) that are applicable to each emission point in the emissions average will be implemented beginning on or before the date of compliance.

(F) The required information shall include documentation of the data listed in paragraphs (e)(4)(ii)(F)(*1*) through (e)(4)(ii)(F)(*5*) of this section for each storage vessel and continuous front-end process vent included in the average.

(*1*) The required documentation shall include the values of the parameters used to determine whether the emission point is Group 1 or Group 2. Where a TRE index value is used for continuous front-end process vent group determination, the estimated or measured values of the parameters used in the TRE equation in § 63.115(d) of subpart G and the resulting TRE index value shall be submitted.

(*2*) The required documentation shall include the estimated values of all parameters needed for input to the emission debit and credit calculations in § 63.503 (g) and (h). These parameter values shall be specified in the affected source's Emissions Averaging Plan (or operating permit) as enforceable operating conditions. Changes to these parameters must be reported in an update to the Emissions Averaging Plan, as required by paragraph (e)(4)(iv)(B)(*2*) of this section.

(*3*) The required documentation shall include the estimated percent reduction if a control technology achieving a lower percent reduction than the efficiency of the applicable reference control technology or standard is or will be applied to the emission point.

(*4*) The required documentation shall include the anticipated nominal efficiency if a control technology achieving a greater percent emission reduction than the efficiency of the reference control technology is or will be applied to the emission point. The procedures in § 63.503(i) shall be followed to apply for a nominal efficiency.

(*5*) The required documentation shall include the information specified in § 63.120(d)(2)(i) and in either

§ 63.120(d)(2)(ii) or (d)(2)(iii) of subpart G for each storage vessel controlled with a closed-vent system using a control device other than a flare.

(G) The information specified in paragraph (f) of this section shall be included in the Emissions Averaging Plan for:

(*1*) Each continuous front-end process vent controlled by a pollution prevention measure or control technique for which monitoring parameters or inspection procedures are not specified in § 63.114 of subpart G, and

(*2*) Each storage vessel controlled by pollution prevention or a control technique other than an internal or external floating roof or a closed vent system with a control device.

(H) The required information shall include documentation of the data listed in paragraphs (e)(4)(ii)(H)(*1*) through (e)(4)(ii)(H)(*4*) of this section for each process wastewater stream included in the average.

(*1*) The required documentation shall include the data used to determine whether the wastewater stream is a Group 1 or Group 2 wastewater stream and the information specified in table 14b of subpart G of this part for wastewater streams at new and existing sources.

(*2*) The required documentation shall include the estimated values of all parameters needed for input to the wastewater emission credit and debit calculations in § 63.503(g)(5) and (h)(5). These parameter values shall be specified in the affected source's Emissions Averaging Plan (or operating permit) as enforceable operating conditions. Changes to these parameters must be reported as required by paragraph (e)(4)(iv)(B)(*2*) of this section.

(*3*) The required documentation shall include the estimated percent reduction if:

(*i*) A control technology that achieves an emission reduction less than or equal to the emission reduction that would otherwise have been achieved by a steam stripper designed to the specifications found in § 63.138(g) of subpart G is or will be applied to the wastewater stream, or external floating roof or a closed vent system with a control device.

(*ii*) A control technology achieving less than or equal to 95 percent emission reduction is or will be applied to the vapor stream(s) vented and collected from the treatment processes, or

(*iii*) A pollution prevention measure is or will be applied.

(*4*) The required documentation shall include the anticipated nominal efficiency if the owner or operator plans to apply for a nominal efficiency under § 63.503(i). A nominal efficiency shall be applied for if:

(*i*) A control technology that achieves an emission reduction greater than the emission reduction that would have been achieved by a steam stripper designed to the specifications found in § 63.138(g) of subpart G, is or will be applied to the wastewater stream; or

(*ii*) A control technology achieving greater than 95 percent emission reduction is or will be applied to the vapor stream(s) vented and collected from the treatment processes.

(I) For each pollution prevention measure, treatment process, or control device used to reduce air emissions of organic HAP from wastewater and for which no monitoring parameters or inspection procedures are specified in § 63.143 of subpart G, the information specified in paragraph (f) of this section (Alternative Monitoring Parameters) shall be included in the Emissions Averaging Plan.

(J) The required information shall include documentation of the data required by estimated values of all parameters needed for input to the emission debit and credit calculations in § 63.503 (g) and (h) for each process back-end operation included in an emissions average. These values shall be specified in the affected source's Emissions Averaging Plan (or operating permit) as enforceable operating conditions. Changes to these parameters must be reported as required by paragraph (e)(4)(iv)(B)(*2*) of this section.

(K) The required information shall include documentation of the information required by § 63.503(k). The documentation must demonstrate that the emissions from the emission points proposed to be included in the average will not result in greater hazard or, at the option of the Administrator, greater risk to human health or the environment than if the emission points were not included in an emissions average.

(L) The required information shall include documentation of the data listed in paragraphs (e)(4)(ii)(L)(*1*) through (e)(4)(ii)(L)(*3*) of this section for each batch front-end process vent and aggregate batch vent stream included in the average.

(*1*) The required documentation shall include the values of the parameters used to determine whether the emission point is Group 1 or Group 2.

(*2*) The required information shall include the estimated values of all parameters needed for input to the emission debit and credit calculations in § 63.503(g) and (h). These parameter values shall be specified in the affected source's Emissions Averaging Plan (or operating permit) as enforceable operating conditions. Changes to these parameters must be reported as required by paragraph (e)(4)(iv) of this section.

(*3*) For batch front-end process vents, the required documentation shall include the estimated percent reduction for the batch cycle. For aggregate batch vent streams, the required documentation shall include the estimated percent reduction achieved on a continuous basis.

(M) For each pollution prevention measure or control device used to reduce air emissions of organic HAP from batch front-end process vents or batch vent streams and for which no monitoring parameters or inspection procedures are specified in § 63.489, the information specified in paragraph (f) of this section, Alternative Monitoring Parameters, shall be included in the Emissions Averaging Plan.

(iii) *Supplement to Emissions Averaging Plan.* The owner or operator required to prepare an Emissions Averaging Plan under paragraph (e)(4) of this section shall also prepare a supplement to the Emissions Averaging Plan for any alternative controls or operating scenarios that may be used to achieve compliance.

(iv) *Updates to Emissions Averaging Plan.* The owner or operator of an affected source required to submit an Emissions Averaging Plan under paragraph (e)(4) of this section shall also submit written updates of the Emissions Averaging Plan to the Administrator for approval under the circumstances described in paragraphs (e)(4)(iv)(A) and (e)(4)(iv)(B) of this section unless the relevant information has been included and submitted in an operating permit application or amendment.

(A) The owner or operator who plans to make a change listed in either paragraph (e)(4)(iv)(A)(*1*) or (e)(4)(iv)(A)(*2*) of this section shall submit an Emissions Averaging Plan update at least 120 operating days prior to making the change.

(*1*) An Emissions Averaging Plan update shall be submitted whenever an owner or operator elects to achieve compliance with the emissions averaging provisions in § 63.503 by using a control technique other than that specified in the Emissions Averaging Plan, or plans to monitor a different parameter or operate a control device in a manner other than that specified in the Emissions Averaging Plan.

(*2*) An Emissions Averaging Plan update shall be submitted whenever an emission point or an EPPU is added to an existing affected source and is

planned to be included in an emissions average, or whenever an emission point not included in the emissions average described in the Emissions Averaging Plan is to be added to an emissions average. The information in paragraph (e)(4) of this section shall be updated to include the additional emission point.

(B) The owner or operator who has made a change as defined in paragraph (e)(4)(iv)(B)(*1*) or (e)(4)(iv)(B)(*2*) of this section shall submit an Emissions Averaging Plan update within 90 operating days after the information regarding the change is known to the affected source. The update may be submitted in the next quarterly periodic report if the change is made after the date the Notification of Compliance Status is due.

(*1*) An Emissions Averaging Plan update shall be submitted whenever a process change is made such that the group status of any emission point in an emissions average changes.

(*2*) An Emissions Averaging Plan update shall be submitted whenever a value of a parameter in the emission credit or debit equations in § 63.503(g) or (h) changes such that it is below the minimum or above the maximum established level specified in the Emissions Averaging Plan and causes a decrease in the projected credits or an increase in the projected debits.

(C) The Administrator shall approve or request changes to the Emissions Averaging Plan update within 120 operating days of receipt of sufficient information regarding the change for emission points included in emissions averages.

(5) *Notification of Compliance Status.* For existing and new affected sources, a Notification of Compliance Status shall be submitted within 150 operating days after the compliance dates specified in § 63.481. The notification shall contain the information listed in paragraphs (e)(5)(i) through (e)(5)(vii) of this section.

(i) The results of any emission point group determinations, process section applicability determinations, performance tests, inspections, continuous monitoring system performance evaluations, any other information used to demonstrate compliance, values of monitored parameters established during performance tests, and any other information required to be included in the Notification of Compliance Status under § 63.122 of subpart G for storage vessels, § 63.117 of subpart G for continuous front-end process vents, § 63.492 for batch front-end process vents, § 63.499 for back-end process operations, § 63.146 of subpart G for process wastewater, and § 63.503 for emission points included in an emissions average. In addition, each owner or operator shall comply with paragraphs (e)(5)(i)(A) and (e)(5)(i)(B) of this section.

(A) For performance tests, and group determinations, and process section applicability determinations that are based on measurements, the Notification of Compliance Status shall include one complete test report, as described in paragraph (e)(5)(i)(B) of this section, for each test method used for a particular kind of emission point. For additional tests performed for the same kind of emission point using the same method, the results and any other required information shall be submitted, but a complete test report is not required.

(B) 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.

(ii) For each monitored parameter for which a maximum or minimum level is required to be established under § 63.120(d)(3) of subpart G for storage vessels, § 63.485(k) for continuous front-end process vents, § 63.489 for batch front-end process vents and aggregate batch vent streams, § 63.497 for back-end process operations, § 63.143(f) of subpart G for process wastewater, § 63.503(m) for emission points in emissions averages, paragraph (e)(8) of this section, or paragraph (f) of this section, the information specified in paragraphs (e)(5)(ii)(A) through (e)(5)(ii)(E) of this section, unless this information has been established and provided in the operating permit.

(A) The required information shall include the specific maximum or minimum level of the monitored parameter(s) for each emission point.

(B) The required information shall include the rationale for the specific maximum or minimum level for each parameter for each emission point, including any data and calculations used to develop the level and a description of why the level indicates proper operation of the control device.

(C) The required information shall include a definition of the affected source's operating day, as specified in paragraph (d)(3)(ii) of this section, for purposes of determining daily average values of monitored parameters.

(D) For batch front-end process vents, the required information shall include a definition of each batch cycle that requires the control of one or more batch emission episodes during the cycle, as specified in § 63.490(c)(2) and 63.505(b)(3)(ii).

(E) The required information shall include a definition of the affected source's operating month for the purposes of determining monthly average values of residual organic HAP.

(iii) For emission points included in an emissions average, the values of all parameters needed for input to the emission credit and debit equations in § 63.503 (g) and (h), calculated or measured according to the procedures in § 63.503 (g) and (h), and the resulting calculation of credits and debits for the first quarter of the year. The first quarter begins on the compliance date specified.

(iv) For batch front-end process vents required to establish a batch cycle limitation under § 63.490(f), the owner or operator must define the 12-month period over which that source's ''year'' will be said to occur, as required by the definition of ''year'' in § 63.482.

(v) The determination of applicability for flexible operation units as specified in § 63.480(f)(6).

(vi) The parameter monitoring levels for flexible operation units, and the basis on which these levels were selected, or a demonstration that these levels are appropriate at all times, as specified in § 63.480(f)(7).

(vii) The results for each predominant use determination for storage vessels belonging to an affected source subject to this subpart that is made under § 63.480(g)(6).

(viii) The results for each predominant use determination for recovery operation equipment belonging to an affected source subject to this subpart that is made under § 63.480(h)(6).

(ix) For owners and operators of Group 2 batch front-end process vents establishing a batch cycle limitation, as specified in § 63.490(f), the affected source's operating year for purposes of determining compliance with the batch cycle limitation.

(6) *Periodic Reports.* For existing and new affected sources, each owner or operator shall submit Periodic Reports as specified in paragraphs (e)(6)(i) through (e)(6)(xi) of this section.

(i) Except as specified in paragraphs (e)(6)(x) and (e)(6)(xi) of this section, a report containing the information in paragraph (e)(6)(ii) of this section or paragraphs (e)(6)(iii) through (e)(6)(ix) of this section, as appropriate, shall be

submitted semiannually no later than 60 operating days after the end of each 180 day period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due. Subsequent reports shall cover each preceding 6-month period.

(ii) If none of the compliance exceptions in paragraphs (e)(6)(iii) through (e)(6)(ix) of this section occurred during the 6-month period, the Periodic Report required by paragraph (e)(6)(i) of this section shall be a statement that the affected source was in compliance for the preceding 6-month period and that none of the activities specified in paragraphs (e)(6)(iii) through (e)(6)(ix) of this section occurred.

(iii) For an owner or operator of an affected source complying with the provisions of §§ 63.484 through 63.501 for any emission point, Periodic Reports shall include:

(A) All information specified in § 63.122(a)(4) of subpart G for storage vessels, §§ 63.117(a)(3) and 63.118(f) of subpart G for continuous front-end process vents, § 63.492 for batch front-end process vents and aggregate batch vent streams, § 63.499 for back-end process operations, § 63.104(b)(4) of subpart F for heat exchange systems, and § 63.146(c) through § 63.146(f) of subpart G for process wastewater.

(B) The daily average values or batch cycle daily average values of monitored parameters for all excursions, as defined in § 63.505(g) and § 63.505(h).

(C) The periods when monitoring data were not collected shall be specified; and

(D) The information in paragraphs (e)(6)(iii)(D)(*1*) through (e)(6)(iii)(D)(*3*) of this section, as applicable:

(*1*) Any supplements to the Emissions Averaging Plan, as required in paragraph (e)(4)(iii) of this section;

(*2*) Notification if a process change is made such that the group status of any emission point changes. The information submitted shall include a compliance schedule, as specified in paragraphs (e)(6)(iii)(D)(*2*)(*i*) and (e)(6)(iii)(D)(*2*)(*ii*) of this section, for emission points that change from Group 2 to Group 1, or for continuous front-end process vents under the conditions listed in § 63.485(l)(1) through § 63.485(l)(4), or for batch front-end process vents under the conditions listed in § 63.492 (b) or (c).

(*i*) The owner of operator shall submit to the Administrator for approval a compliance schedule and a justification for the schedule.

(*ii*) The Administrator shall approve the compliance schedule or request changes within 120 operating days of receipt of the compliance schedule and justification.

(*3*) Notification if one or more emission points or one or more EPPU is added to an affected source. The owner or operator shall submit the information contained in paragraphs (e)(6)(iii)(D)(*3*)(*i*) through (e)(6)(iii)(D)(*3*)(*iii*) of this section.

(*i*) A description of the addition to the affected source;

(*ii*) Notification of the group status of the additional emission point or all emission points in the EPPU;

(*iii*) A compliance schedule, as required under paragraph (e)(6)(iii)(D)(*2*) of this section.

(*4*) Notification if a standard operating procedure, as defined in § 63.500(l), is changed. This shall also include test results of the carbon disulfide concentration resulting from the new standard operating procedure.

(E) The information in paragraph (b)(1)(ii) of this section for reports of startup, shutdown, and malfunction.

(iv) For each batch front-end process vent with a batch cycle limitation, the owner or operator shall include the number of batch cycles accomplished during the preceding 12-month period once per year in a Periodic Report.

(v) If any performance tests are reported in a Periodic Report, the following information shall be included:

(A) One complete test report shall be submitted for each test method used for a particular kind of emission point tested. A complete test report shall contain the information specified in paragraph (e)(5)(i)(B) of this section.

(B) For additional tests performed for the same kind of emission point using the same method, results and any other information required shall be submitted, but a complete test report is not required.

(vi) The results for each change made to a primary product determination for an elastomer product made under § 63.480(f)(6).

(vii) The results for each change made to a predominant use determination for a storage vessel belonging to an affected source subject to this subpart that is made under § 63.480(g)(6).

(viii) The results for each change made to a predominant use determination for recovery operation equipment belonging to an affected source subject to this subpart that is made under § 63.480(h)(6).

(ix) The Periodic Report required by § 63.502(i) shall be submitted as part of the Periodic Report required by paragraph (e)(6) of this section.

(x) The owner or operator of an affected source shall submit quarterly reports for all emission points included in an emissions average.

(A) The quarterly reports shall be submitted no later than 60 operating days after the end of each quarter. The first report shall be submitted with the Notification of Compliance Status no later than 150 days after the compliance date.

(B) The quarterly reports shall include the information specified in paragraphs (e)(6)(x)(B)(*1*) through (e)(6)(x)(B)(*7*) of this section for all emission points included in an emissions average.

(*1*) The credits and debits calculated each month during the quarter;

(*2*) A demonstration that debits calculated for the quarter are not more than 1.30 times the credits calculated for the quarter, as required under § 63.503(e)(4);

(*3*) The values of any inputs to the debit and credit equations in § 63.503(g) and (h) that change from month to month during the quarter or that have changed since the previous quarter;

(*4*) Results of any performance tests conducted during the reporting period including one complete report for each test method used for a particular kind of emission point as described in paragraph (e)(6)(v) of this section;

(*5*) Reports of daily average values or batch cycle daily averages of monitored parameters for excursions as defined in § 63.505(g) or (h);

(*6*) For excursions caused by lack of monitoring data, the duration of periods when monitoring data were not collected shall be specified; and

(*7*) Any other information the affected source is required to report under the operating permit or Emissions Averaging Plan for the affected source.

(C) § 63.505 shall govern the use of monitoring data to determine compliance for Group 1 and Group 2 emission points included in emissions averages.

(D) Every fourth quarterly report shall include the following:

(*1*) A demonstration that annual credits are greater than or equal to annual debits as required by § 63.503(e)(3); and

(*2*) A certification of compliance with all the emissions averaging provisions in § 63.503.

(xi) The owner or operator of an affected source shall submit quarterly reports for particular emission points and process sections not included in an emissions average as specified in paragraphs (e)(6)(xi)(A) through (e)(6)(xi)(E) of this section.

(A) If requested by the Administrator, the owner or operator of an affected

source shall submit quarterly reports for a period of 1 year for an emission point or process section that is not included in an emissions average if either the conditions in paragraph (e)(6)(xi)(A)(*1*) or (e)(6)(xi)(A)(*2*) of this section are met.

(*1*) An emission point has any excursions, as defined in § 63.505(g) or § 63.505(h) for a semiannual reporting period.

(*2*) The process section is out of compliance with its applicable standard.

(B) The quarterly reports shall include all information specified in paragraphs (e)(6)(iii) and (e)(6)(ix) of this section, as applicable to the emission point or process section for which quarterly reporting is required under paragraph (e)(6)(ix)(A) of this section. Information applicable to other emission points within the affected source shall be submitted in the semiannual reports required under paragraph (e)(6)(i) of this section.

(C) Quarterly reports shall be submitted no later than 60 operating days after the end of each quarter.

(D) After quarterly reports have been submitted for an emission point for 1 year, the owner or operator may return to semiannual reporting for the emission point or process section unless the Administrator requests the owner or operator to continue to submit quarterly reports.

(E) § 63.505 shall govern the use of monitoring data to determine compliance for Group 1 emission points.

(7) *Other reports.* Other reports shall be submitted as specified in paragraphs (e)(7)(i) and (e)(7)(ii) of this section.

(i) For storage vessels, the notifications of inspections required by § 63.484 shall be submitted, as specified in § 63.122(h)(1) and (h)(2) of subpart G.

(ii) For owners or operators of affected sources required to request approval for a nominal control efficiency for use in calculating credits for an emissions average, the information specified in § 63.503(i) shall be submitted.

(iii) For back-end process operations complying using control or recovery devices, the recompliance determination report required by § 63.499(d) shall be submitted within 180 days after the process change.

(8) *Operating Permit.* An owner or operator who submits an operating permit application instead of an Emissions Averaging Plan or a Precompliance Report shall submit the following information with the operating permit application:

(i) The information specified in paragraph (e)(4) of this section for points included in an emissions average; and

(ii) The information specified in paragraph (e)(3) of this section, Precompliance Report, as applicable.

(f) *Alternative monitoring parameters.* The owner or operator who has been directed by any section of this subpart to set unique monitoring parameters, or who requests approval to monitor a different parameter than those listed in § 63.484 for storage vessels, § 63.114 of subpart G for continuous front-end process vents, § 63.489 for batch front-end process vents and aggregate batch vent streams, § 63.497 for back-end process operations, or § 63.143 of subpart G for process wastewater shall submit the information specified in paragraphs (f)(1) through (f)(3) of this section in the Precompliance Report, as required by paragraph (e)(3) of this section. The owner or operator shall retain for a period of 5 years each record required by paragraphs (f)(1) through (f)(3) of this section.

(1) The required information shall include a description of the parameter(s) to be monitored to ensure the recovery device, control device, 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).

(2) The required information shall include a description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation, the schedule for this demonstration, and a statement that the owner or operator will establish a level for the monitored parameter as part of the Notification of Compliance Status report required in paragraph (e)(5) of this section, unless this information has already been included in the operating permit application.

(3) The required information shall include a description of the proposed monitoring, recordkeeping, and recording system, to include the frequency and content of monitoring, recordkeeping, and reporting. Further, the rationale for the proposed monitoring, recordkeeping, and reporting system shall be included if either condition in paragraph (f)(3)(i) or (f)(3)(ii) of this section are met:

(i) If monitoring and recordkeeping is not continuous, or

(ii) If reports of daily average values will not be included in Periodic Reports when the monitored parameter value is above the maximum level or below the minimum level as established in the operating permit or the Notification of Compliance Status.

(g) *Alternative continuous monitoring and recordkeeping.* An owner or operator choosing not to implement the continuous parameter operating and recordkeeping provisions listed in § 63.485 for continuous front-end process vents, § 63.486 for batch front-end process vents and aggregate batch vent streams, § 63.493 for back-end process operations, and § 63.501 for wastewater, may instead request approval to use alternative continuous monitoring and recordkeeping provisions according to the procedures specified in paragraphs (g)(1) through (g)(4) of this section. Requests shall be submitted in the Precompliance Report as specified in paragraph (e)(3)(iv) of this section, if not already included in the operating permit application, and shall contain the information specified in paragraphs (g)(2)(ii) and (g)(3)(ii) of this section, as applicable.

(1) The provisions in § 63.8(f)(5)(i) of subpart A shall govern the review and approval of requests.

(2) An owner or operator of an affected source that does not have an automated monitoring and recording system capable of measuring parameter values at least once every 15 minutes and that does not generate continuous records may request approval to use a nonautomated system with less frequent monitoring, in accordance with paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(i) The requested system shall include manual reading and recording of the value of the relevant operating parameter no less frequently than once per hour. Daily average or batch cycle daily average values shall be calculated from these hourly values and recorded.

(ii) The request shall contain:

(A) A description of the planned monitoring and recordkeeping system;

(B) Documentation that the affected source does not have an automated monitoring and recording system;

(C) Justification for requesting an alternative monitoring and recordkeeping system; and

(D) Demonstration to the Administrator's satisfaction that the proposed monitoring frequency is sufficient to represent control device operating conditions, considering typical variability of the specific process and control device operating parameter being monitored.

(3) An owner or operator may request approval to use an automated data compression recording system that does not record monitored operating parameter values at a set frequency (for example, once every 15 minutes), but that records all values that meet set criteria for variation from previously

recorded values, in accordance with paragraphs (g)(3)(i) and (g)(3)(ii) of this section.

(i) The requested system shall be designed to:

(A) Measure the operating parameter value at least once every 15 minutes;

(B) Except for the monitoring of batch front-end process vents, record at least four values each hour during periods of operation;

(C) Record the date and time when monitors are turned off or on;

(D) Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator, and record the incident;

(E) Calculate daily average or batch cycle daily average values of the monitored operating parameter based on all measured data; and

(F) If the daily average is not an excursion, as defined in § 63.505 (g) or (h), the data for that operating day may be converted to hourly average values and the four or more individual records for each hour in the operating day may be discarded.

(ii) The request shall contain:

(A) A description of the monitoring system and data compression recording system, including the criteria used to determine which monitored values are recorded and retained;

(B) The method for calculating daily averages and batch cycle daily averages; and

(C) A demonstration that the system meets all criteria in paragraph (g)(3)(i) of this section.

(4) An owner or operator may request approval to use other alternative monitoring systems according to the procedures specified in § 63.8(f)(4) of subpart A.

(h) *Reduced recordkeeping program.* For any parameter with respect to any item of equipment, the owner or operator may implement the recordkeeping requirements in paragraph (h)(1) or (h)(2) of this section as alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in § 63.484 for storage vessels, § 63.485 for continuous front-end process vents, § 63.486 for batch front-end process vents and aggregate batch vent streams, § 63.493 for back-end processes, and § 63.501 for wastewater. The owner or operator shall retain for a period of 5 years each record required by paragraph (h)(1) or (h)(2) of this section.

(1) The owner or operator may retain only the daily average or the batch cycle daily average value, and is not required to retain more frequent monitored operating parameter values, for a monitored parameter with respect to an item of equipment, if the requirements of paragraphs (h)(1)(i) through (h)(1)(iv) of this section are met. An owner or operator electing to comply with the requirements of paragraph (h)(1) of this section shall notify the Administrator in the Notification of Compliance Status or, if the Notification of Compliance Status has already been submitted, in the Periodic Report immediately preceding implementation of the requirements of paragraph (h)(1) of this section.

(i) 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 an operating day constitute a single occurrence.

(ii) The monitoring system generates, updated at least hourly throughout each operating day, a running average of the monitoring values that have been obtained during that operating day, and the capability to observe this running average is readily available to the Administrator on-site during the operating day. The owner or operator shall record the occurrence of any period meeting the criteria in paragraphs (h)(1)(ii)(A) through (h)(1)(ii)(C) of this section. All instances in an operating day constitute a single occurrence.

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

(B) The running average is based on at least six one-hour periods; and

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

(iii) 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 an operating day constitute a single occurrence.

(iv) The monitoring system will alert the owner or operator by an alarm, if the running average parameter value calculated under paragraph (h)(1)(ii) of this section reaches a set point that is appropriately related to the established limit for the parameter that is being monitored.

(v) The owner or operator shall verify the proper functioning of the monitoring system, including its ability to comply with the requirements of paragraph (h)(1) of this section, at the times specified in paragraphs (h)(1)(v)(A) through (h)(1)(v)(C) of this section. The owner or operator shall document that the required verifications occurred.

(A) Upon initial installation.

(B) Annually after initial installation.

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

(vi) The owner or operator shall retain the records identified in paragraphs (h)(1)(vi)(A) through (h)(1)(vi)(C) of this section.

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

(B) A description of the applicable monitoring system(s), and how compliance will be achieved with each requirement of paragraphs (h)(1)(i) through (h)(1)(v) 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.

(C) 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 (h)(1) of this section.

(2) If an owner or operator has elected to implement the requirements of paragraph (h)(1) of this section for a monitored parameter with respect to an item of equipment and a period of 6 consecutive months has passed without an excursion as defined in paragraph (h)(2)(iv) of this section, the owner or operator is no longer required to record the daily average or batch cycle daily average value, for any operating day when the daily average or batch cycle daily 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 accomplished during the period prior to the compliance date was required and/or approved by the Administrator.

(i) If the owner or operator elects not to retain the daily average or batch cycle

daily 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.

(ii) If, on any operating day after the owner or operator has ceased recording daily average or batch cycle daily average values as provided in paragraph (h)(2) of this section, there is an excursion as defined in paragraph (h)(2)(iv) of this section, the owner or operator shall immediately resume retaining the daily average or batch cycle daily average value for each operating day and shall notify the Administrator in the next Periodic Report. The owner or operator shall continue to retain each daily average or batch cycle daily average value until another period of 6 consecutive months has passed without an excursion as defined in paragraph (h)(2)(iv) of this section.

(iii) The owner or operator shall retain the records specified in paragraphs (h)(1)(i), (h)(1)(ii), and (h)(1)(iv) of this section, for the duration specified in paragraph (h) of this section. For any calendar month, if compliance with paragraphs (h)(1)(i) through (h)(1)(iv) 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.

(iv) For the purposes of paragraph (h) of this section, an excursion means that the daily average or batch cycle daily 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 (h)(2)(iv)(A) and (h)(2)(iv)(B) of this section.

(A) The daily average or batch cycle daily average value during any startup, shutdown, or malfunction shall not be considered an excursion for purposes of paragraph (h)(2) of this section, if the owner or operator follows the applicable provisions of the startup, shutdown, and malfunction plan required by § 63.6(e)(3) of subpart A.

(B) An excused excursion, as described in § 63.505(i), shall not be considered an excursion for the purposes of paragraph (h)(2) of this section.

TABLE 1.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART U AFFECTED SOURCES

Reference	Applies to subpart U	Comment
63.1(a)(1)	Yes	§ 63.482 of Subpart U specifies definitions in addition to or that supersede definitions in § 63.2.
63.1(a)(2)–63.1(a)(3)	Yes	
63.1(a)(4)	Yes	Subpart U (this table) specifies the applicability of each paragraph in subpart A to subpart U.
63.1(a)(5)	No	Reserved.
63.1(a)(6)–63.1(a)(8)	Yes	
63.1(a)(9)	No	Reserved.
63.1(a)(10)	No	Subpart U and other cross-referenced subparts specify calendar or operating day.
63.1(a)(11)	Yes	
63.1(a)(12)–63.1(a)(14)	Yes	
63.1(b)(1)	Yes	§ 63.480(a) contains specific applicability criteria.
63.1(b)(2)	Yes	
63.1(b)(3)	No	§ 63.480(b) of subpart U provides documentation requirements for EPPUs not considered affected sources.
63.1(c)(1)	Yes	Subpart U (this table) specifies the applicability of each paragraph in subpart A to subpart U.
63.1(c)(2)	No	Area sources are not subject to subpart U.
63.1(c)(3)	No	Reserved.
63.1(c)(4)	Yes	
63.1(c)(5)	Yes	Except that affected sources are not required to submit notifications overridden by this table.
63.1(d)	No	Reserved.
63.1(e)	Yes	
63.2	Yes	§ 63.482 of subpart U specifies those subpart A definitions that apply to subpart U.
63.3	Yes	
63.4(a)(1)–63.4(a)(3)	Yes	
63.4(a)(4)	No	Reserved.
63.4(a)(5)	Yes	
63.4(b)	Yes	
63.4(c)	Yes	
63.5(a)	Yes	
63.5(b)(1)	Yes	
63.5(b)(2)	No	Reserved.
63.5(b)(3)	Yes	
63.5(b)(4)	Yes	
63.5(b)(5)	Yes	
63.5(b)(6)	No	§ 63.480(i) of subpart U specifies requirements.
63.5(c)	No	Reserved.
63.5(d)(1)(i)	Yes	
63.5(d)(1)(ii)	Yes	Except that for affected sources subject to subpart U, emission estimates specified in § 63.5(d)(1)(ii)(H) are not required.
63.5(d)(1)(iii)	No	§ 63.506(e)(5) of subpart U specifies Notification of Compliance Status requirements.
63.5(d)(2)	xlNo.	
63.5(d)(3)	Yes	Except § 63.5(d)(3)(ii) does not apply.
63.5(d)(4)	Yes	
63.5(e)	Yes	
63.5(f)(1)	Yes	
63.5(f)(2)	Yes	Except that where § 63.5(d)(1) is referred to, § 63.5(d)(1)(i) does not apply.
63.6(a)	Yes	
63.6(b)(1)	Yes	

TABLE 1.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART U AFFECTED SOURCES—Continued

Reference	Applies to subpart U	Comment
63.6(b)(2)	Yes	
63.6(b)(3)	Yes	
63.6(b)(4)	Yes	
63.6(b)(5)	Yes	
63.6(b)(6)	No	Reserved.
63.6(b)(7)	Yes	
63.6(c)(1)	Yes	§ 63.481 of subpart U specifies the compliance date.
63.6(c)(2)	Yes	
63.6(c)(3)	No	Reserved.
63.6(c)(4)	No	Reserved.
63.6(c)(5)	Yes	
63.6(d)	No	Reserved.
63.6(e)	Yes	Except the plan, and any records or reports of startup, shutdown and malfunction do not apply to Group 2 emission points, unless they are included in an emissions average.
63.6(f)(1)	Yes	
63.6(f)(2)	Yes	Except that in § 63.6(f)(2)(iii)(D), paragraph 63.7(c) does not apply.
63.6(f)(3)	Yes	Except that § 63.6(f)(2)(iii)(D) is not applicable.
63.6(g)	Yes	
63.6(h)	No	Subpart U does not require opacity and visible emission standards.
63.6(i)	Yes	Except for § 63.6(i)(15), which is reserved, and except that the requests for extension shall be submitted no later than the date on which the Precompliance Report is required to be submitted in § 63.506(e)(3)(i).
63.6(j)	Yes	
63.7(a)(1)	Yes	
63.7(a)(2)	No	§ 63.506(e)(5) of subpart U specifies submittal dates.
63.7(a)(3)	Yes	
63.7(b)	No	§ 63.504(a)(4) of subpart U specifies notification requirements.
63.7(c)	No	Except if the owner or operator chooses to submit an alternative nonopacity emission standard for approval under § 63.6(g).
63.7(d)	Yes	
63.7(e)	Yes	Except that performance tests must be conducted at maximum representative operating conditions. In addition, some of the testing requirements specified in subpart U are not consistent with § 63.7(e)(3).
63.7(f)	No	Subpart U specifies applicable test methods and provides alternatives.
63.7(g)	Yes	Except that references to the Notification of Compliance Status report in 63.9(h) of subpart A are replaced with the requirements in § 63.506(e)(5) of subpart U.
63.7(h)	Yes	Except § 63.7(h)(4)(ii) is not applicable, since the site-specific test plans in § 63.7(c)(3) are not required.
63.8(a)(1)	Yes	
63.8(a)(2)	No	
63.8(a)(3)	No	Reserved.
63.8(a)(4)	Yes	
63.8(b)(1)	Yes	
63.8(b)(2)	No	Subpart U specifies locations to conduct monitoring.
63.8(b)(3)		
63.8(c)(1)(i)	Yes	
63.8(c)(1)(ii)	No	
63.8(c)(1)(iii)	Yes	
63.8(c)(2)	Yes	
63.8(c)(3)	Yes	
63.8(c)(4)	No	§ 63.505 of subpart U specifies monitoring frequency.
63.8(c)(5)–63.8(c)(8)	No	
63.8(d)	No	
63.8(e)	No	
63.8(f)(1)–63.8(f)(3)	Yes	
63.8(f)(4)(i)	No	Timeframe for submitting request is specified in § 63.506(f) of subpart U.
63.8(f)(4)(ii)	No	
63.8(f)(4)(iii)	No	
63.8(f)(5)(i)	Yes	
63.8(f)(5)(ii)	No	
63.8(f)(5)(iii)	Yes	
63.8(f)(6)	No	Subpart U does not require CEM's.
63.8(g)	No	Data reduction procedures specified in § 63.506(d) of subpart U.
63.9(a)	Yes	
63.9(b)	No	Subpart U does not require an initial notification.
63.9(c)	Yes	
63.9(d)	Yes	
63.9(e)	No	
63.9(f)	No	Subpart U does not require opacity and visible emission standards.
63.9(g)	No	
63.9(h)	No	§ 63.506(e)(5) of subpart U specifies Notification of Compliance Status requirements.

TABLE 1.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART U AFFECTED SOURCES—Continued

Reference	Applies to subpart U	Comment
63.9(i)	Yes	
63.9(j)	No	
63.10(a)	Yes	
63.10(b)(1)	Yes	
63.10(b)(2)	Yes	
63.10(b)(3)	No	§ 63.480(b) of subpart U requires documentation of sources that are not affected sources.
63.10(c)	No	§ 63.506 of subpart U specifies recordkeeping requirements.
63.10(d)(1)	Yes	
63.10(d)(2)	No	
63.10(d)(3)	No	Subpart U does not require opacity and visible emission standards.
63.10(d)(4)	Yes	
63.10(d)(5)	Yes	Except that reports required by § 63.10(d)(5)(i) shall be submitted at the same time as Periodic Reports specified in § 63.506(e)(6) of subpart U. The startup, shutdown, and malfunction plan, and any records or reports of startup, shutdown, and malfunction do not apply to Group 2 emission points unless they are included in an emissions average.
63.10(e)	No	
63.10(f)	Yes	
63.10(d)(4)	Yes	
63.11	Yes	
63.12	Yes	
63.13	Yes	
63.14	Yes	
63.15	Yes	

TABLE 2. APPLICABILITY OF SUBPARTS F, G, & H TO SUBPART U AFFECTED SOURCES

Reference	Applies To subpart U	Comment	Applicable section of subpart U
Subpart F			
63.100	No		
63.101	Yes	Several definitions from 63.101 are incorporated by reference into 63.482	63.482
63.102–63.109	No		
Subpart G			
63.110	No		
63.111	Yes	Several definitions from 63.111 are incorporated by reference into 63.482	63.482
63.112	No		
63.113–63.118	Yes	With the differences noted in 63.485(b) through 63.485(k)	63.485
63.119–63.123	Yes	With the differences noted in 63.484(c) through 63.484(q)	63.484
63.124–63.125	No	Reserved	
63.126–63.130	No		
63.131–63.147	Yes	With the differences noted in 63.501(a)(1) through 63.501(a)(8)	63.501
63.148	Yes	With the differences noted in 63.484(c) through 63.484(q) and 63.501(a)(1) through 63.501(a)(8).	63.484 and 63.501
63.149	No	Reserved	
63.150(a) through 63.150(f).	No		
63.150(g)(1) and 63.150(g)(2).	No		
63.150(g)(3)	Yes		63.503(g)(3)
63.150(g)(4)	No		
63.150(g)(5)	Yes		63.503(g)(5)
63.150(h)(1) and 63.150(h)(2).	No		
63.150(h)(3)	Yes		63.503(h)(3)
63.150(h)(4)	No		
63.150(h)(5)	Yes		63.503(h)(5)
63.150(i) through 63.150(o).	No		
63.151–63.152	No		
Subpart H			
63.160–63.193	Yes	Subpart U affected sources must comply with all requirements of subpart H	63.502

TABLE 3.—GROUP 1 STORAGE VESSELS AT EXISTING AFFECTED SOURCES

Vessel capacity (cubic meters)	Vapor pressure [a] (kilopascals)
75 ≤ capacity < 151	≥13.1
151 ≤ capacity	≥5.2

[a] Maximum true vapor pressure of total organic HAP at storage temperature.

TABLE 4.—GROUP 1 STORAGE VESSELS AT NEW SOURCES

Vessel capacity (cubic meters)	Vapor Pressure [a] (kilopascals)
38 ≤ capacity < 151	≥ 13.1
151 ≤ capacity	≥ 0.7

[a] Maximum true vapor pressure of total organic HAP at storage temperature.

TABLE 5.—KNOWN ORGANIC HAP FROM ELASTOMER PRODUCTS

Organic HAP/chemical name (CAS No.)	Elastomer Product/Subcategory											
	BR	EPI	EPR	HBR	HYP	NEO	NBL	NBR	PBR/SBRS	PSR	SBL	SBRE
Acrylonitrile (107131)							✔	✔				
1,3 Butadiene (106990)							✔	✔	✔		✔	✔
Carbon Tetrachloride (56235)					✔							
Chlorobenzene (108907)					✔							
Chloroform (67663)					✔							
Chloroprene (126998)						✔						
Epichlorohydrin (106898)		✔										
Ethylbenzene (100414)	✔										✔	
Ethylene Dichloride (75343)												
Ethylene Oxide (75218)		✔								✔		
Formaldehyde (50000)										✔		
Hexane (100543)	✔		✔						✔		✔	✔
Methanol (67561)	✔								✔			
Methyl Chloride (74873)	✔				✔							
Propylene Oxide (75569)		✔										
Styrene (100425)									✔		✔	✔
Toluene (108883)		✔	✔			✔			✔		✔	✔
Xylenes (1330207)	✔										✔	

AAAACAS No. = Chemical Abstract Service Number.
BR = Butyl Rubber.
EPI = Epichlorohydrin Rubber.
EPR = Ethylene Propylene Rubber.
HBR = Halobutyl Rubber.
HYP = Hypalon™.
NEO = Neoprene.
NBL = Nitrile Butadiene Latex.
NBR = Nitrile Butadiene Rubber.
PBR/SBRS = Polybutadiene and Styrene Butadiene Rubber by Solution.
PSR = Polysulfide Rubber.
SBL = Styrene Butadiene Latex.
SBR = Styrene Butadiene Rubber by Emulsion or Solution.
[a] Includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol $R\text{-}(OCH_2\ CH_2)_n\text{-}OR'$ where:
n=1,2, or 3;
R=alkyl or aryl groups; and
R'=R, H, or groups which, when removed, yield glycol ethers with the structure:
$R\text{-}(OCH_2\ CH_2)_n\text{-}OH$

TABLE 6.—GROUP 1 BATCH FRONT-END PROCESS VENTS—MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

Control/recovery device	Parameter to be monitored	Recordkeeping and reporting requirements for monitored parameters
Thermal Incinerator	Firebox temperature [a]	1. Continuous records as specified in §63.491(e)(1) [b]. 2. Record and report the average firebox temperature measured during the performance test—NCS.[c]

TABLE 6.—GROUP 1 BATCH FRONT-END PROCESS VENTS—MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS—Continued

Control/recovery device	Parameter to be monitored	Recordkeeping and reporting requirements for monitored parameters
		3. Record the batch cycle daily average firebox temperature as specified in § 63.491(e)(2). 4. Report all batch cycle daily average temperatures that are below the minimum operating temperature established in the NCS or operating permit and all instances when monitoring data are not collected—PR.[d,e]
Catalytic Incinerator	Temperature upstream and downstream of the catalyst bed.	1. Continuous records as specified in § 63.491(e)(1).[b] 2. Record and report the average upstream and downstream temperatures and the average temperature difference across the catalyst bed measured during the performance test—NCS.[c] 3. Record the batch cycle daily average upstream temperature and temperature difference across catalyst bed as specified in § 63.491(e)(2). 4. Report all batch cycle daily average upstream temperatures that are below the minimum upstream temperature established in the NCS or operating permit—PR.[d,e] 5. Report all batch cycle daily average temperature differences across the catalyst bed that are below the minimum difference established in the NCS or operating permit—PR.[d,e] 6. Report all instances when monitoring data are not collected.[e]
Boiler or Process Heater with a design heat input capacity less than 44 megawatts and where the batch front-end process vents or aggregate batch vent streams are *not* introduced with or used as the primary fuel.	Firebox temperature [a]	1. Continuous records as specified in § 63.491(e)(1).[b] 2. Record and report the average firebox temperature measured during the performance test—NCS.[c] 3. Record the batch cycle daily average firebox temperature as specified in § 63.491(e)(2).[d] 4. Report all batch cycle daily average temperatures that are below the minimum operating temperature established in the NCS or operating permit and all instances when monitoring data are not collected—PR.[d,e]
Flare	Presence of a flame at the pilot light	1. Hourly records of whether the monitor was continuously operating during batch emission episodes selected for control and whether the pilot flame was continuously present during each hour. 2. Record and report the presence of a flame at the pilot light over the full period of the compliance determination—NCS.[c] 3. Record the times and durations of all periods during batch emission episodes when a pilot flame is absent or the monitor is not operating. 4. Report the times and durations of all periods during batch emission episodes selected for control when all pilot flames of a flare are absent—PR.[d]

TABLE 6.—GROUP 1 BATCH FRONT-END PROCESS VENTS—MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS—Continued

Control/recovery device	Parameter to be monitored	Recordkeeping and reporting requirements for monitored parameters
Scrubber for halogenated batch front-end process vents or aggregate batch vent streams (Note: Controlled by a combustion device other than a flare).	pH of scrubber effluent, and	1. Continuous records as specified in § 63.491(e)(1).[b] 2. Record and report the average pH of the scrubber effluent measured during the performance test—NCS.[c] 3. Record the batch cycle daily average pH of the scrubber effluent as specified in § 63.491(e)(2). 4. Report all batch cycle daily average pH values of the scrubber effluent that are below the minimum operating pH established in the NCS or operating permit and all instances when insufficient monitoring data are collected—PR.[d e]
	Scrubber liquid flow rate	1. Continuous records as specified in § 63.491(e)(1).[b] 2. Record and report the scrubber liquid flow rate measured during the performance test—NCS.[c] 3. Record the batch cycle daily average scrubber liquid flow rate as specified in § 63.491(e)(2). 4. Report all batch cycle daily average scrubber liquid flow rates that are below the minimum flow rate established in the NCS or operating permit and all instances when insufficient monitoring data are collected—PR.[d e]
Absorber[g]	Exit temperature of the absorbing liquid, and	1. Continuous records as specified in § 63.491(e)(1).[b] 2. Record and report the average exit temperature of the absorbing liquid measured during the performance test—NCS.[c] 3. Record the batch cycle daily average exit temperature of the absorbing liquid as specified in § 63.491(e)(2) for each batch cycle. 4. Report all the batch cycle daily average exit temperatures of the absorbing liquid that are below the minimum operating temperature established in the NCS or operating permit and all instances when monitoring data are not collected—PR.[d e]
Absorber[f]	Exit specific gravity for the absorbing liquid	1. Continuous records as specified in § 63.491(e)(1).[b] 2. Record and report the average exit specific gravity measured during the performance test—NCS. 3. Record the batch cycle daily average exit specific gravity as specified in § 63.491(e)(2). 4. Report all batch cycle daily average exit specific gravity values that are below the minimum operating temperature established in the NCS or operating permit and all instances when monitoring data are not collected—PR.[d e]
Condenser[f]	Exit (product side) temperature	1. Continuous records as specified in § 63.491(e)(1).[b] 2. Record and report the average exit temperature measured during the performance test—NCS. 3. Record the batch cycle daily average exit temperature as specified in § 63.491(e)(2). 4. Report all batch cycle daily average exit temperatures that are above the maximum operating temperature established in the NCS or operating permit and all instances when monitoring data are not collected—PR.[d,e]

TABLE 6.—GROUP 1 BATCH FRONT-END PROCESS VENTS—MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS—Continued

Control/recovery device	Parameter to be monitored	Recordkeeping and reporting requirements for monitored parameters
Carbon Adsorber [f]	Total regeneration stream mass flow during carbon bed regeneration cycle(s), and.	1. Record of total regeneration stream mass flow for each carbon bed regeneration cycle. 2. Record and report the total regeneration stream mass flow during each carbon bed regeneration cycle during the performance test—NCS.[c] 3. Report all carbon bed regeneration cycles when the total regeneration stream mass flow is above the maximum mass flow rate established in the NCS or operating permit—PR.[d e]
Carbon Adsorber [g]	Temperature of the carbon bed after regeneration and within 15 minutes of completing any cooling cycle(s).	1. Record the temperature of the carbon bed after each regeneration and within 15 minutes of completing any cooling cycle(s). 2. Record and report the temperature of the carbon bed after each regeneration and within 15 minutes of completing any cooling cycle(s) measured during the performance test—NCS.[c] 3. Report all carbon bed regeneration cycles when the temperature of the carbon bed after regeneration, or within 15 minutes of completing any cooling cycle(s), is above the maximum temperature established in the NCS or operating permit—PR.[d,e]
All Control Devices	Presence of flow diverted to the atmosphere from the control device *or*.	1. Hourly records of whether the flow indicator was operating during batch emission episodes selected for control and whether flow was detected at any time during the hour, as specified in § 63.491(e)(3). 2. Record and report the times and durations of all periods during batch emission episodes selected for control when emissions are diverted through a bypass line or the flow indicator is not operating—PD.[d]
All Control Devices	Monthly inspections of sealed valves	1. Records that monthly inspections were performed as specified in § 63.491(e)(4)(i). 2. Record and report all monthly inspections that show the valves are not closed or the seal has been changed—PR.[d]
Absorber, Condenser, and Carbon Adsorber (as an alternative to the above).	Concentration level or reading indicated by an organic monitoring device at the outlet of the recovery device.	1. Continuous records as specified in § 63.491(e)(1).[b] 2. Record and report the average concentration level or reading measured during the performance test—NCS. 3. Record the batch cycle daily average concentration level or reading as specified in § 63.491(e)(2). 4. Report all batch cycle daily average concentration levels or readings that are above the maximum concentration or reading established in the NCS or operating permit and all instances when monitoring data are not collected—PR.[d,e]

[a] Monitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.
[b] "Continuous records" is defined in § 63.111 of subpart G.
[c] NCS = Notification of Compliance Status described in § 63.506(e)(5).
[d] PR = Periodic Reports described in § 63.506(e)(6) of this subpart.
[e] The periodic reports shall include the duration of periods when monitoring data are not collected as specified in § 63.506(e)(6)(iii)(C) of this subpart.
[f] Alternatively, these devices may comply with the organic monitoring device provisions listed at the end of this table.

TABLE 7.—OPERATING PARAMETERS FOR WHICH MONITORING LEVELS ARE REQUIRED TO BE ESTABLISHED FOR CONTINUOUS AND BATCH FRONT-END PROCESS VENTS AND AGGREGATE BATCH VENT STREAMS

Control/Recovery device	Parameters to be monitored	Established operating parameter(s)
Thermal incinerator	Firebox temperature	Minimum temperature.

TABLE 7.—OPERATING PARAMETERS FOR WHICH MONITORING LEVELS ARE REQUIRED TO BE ESTABLISHED FOR CONTINUOUS AND BATCH FRONT-END PROCESS VENTS AND AGGREGATE BATCH VENT STREAMS—Continued

Control/Recovery device	Parameters to be monitored	Established operating parameter(s)
Catalytic incinerator	Temperature upstream and downstream of the catalyst bed.	Minimum upstream temperature; and minimum temperature difference across the catalyst bed.
Boiler or process heater	Firebox temperature	Minimum temperature.
Scrubber for halogenated vents	Ph of scrubber effluent; and scrubber liquid flow rate.	Minimum pH; and minimum flow rate.
Absorber	Exit temperature of the absorbing liquid; and exit specific gravity of the absorbing liquid.	Minimum temperature; and minimum specific gravity.
Condenser	Exit temperature	Maximum temperature.
Carbon absorber	Total regeneration stream mass flow during carbon bed regeneration cycle; and temperature of the carbon bed after regeneration (and within 15 minutes of completing any cooling cycle(s)).	Maximum mass flow; and maximum temperature.
Other devices (or as an alternate to the above) [a].	HAP concentration level or reading at outlet of device.	Maximum HAP concentration or reading.

[a] Concentration is measured instead of an operating parameter.

TABLE 8.—SUMMARY OF COMPLIANCE ALTERNATIVE REQUIREMENTS FOR THE BACK-END PROCESS PROVISIONS

Compliance alternative	Parameter to be monitored	Requirements
Compliance Using Stripping Technology, Demonstrated through Periodic Sampling [§ 63.495(b)].	Residual organic HAP content in each sample of crumb or latex.	(1) If batch stripping is used, at least one representative sample is to be taken from every batch. (2) If continuous stripping is used, at least one representative sample is to be taken each operating day.
	Quantity of Material (weight of latex or dry crumb rubber) represented by each sample.	(1) Acceptable methods of determining this quantity are production records, measurement of stream characteristics, and engineering calculations.
Compliance Using Stripping Technology, Demonstrated through Stripper Parameter Monitoring [§ 63.495(c)].	At a minimum, temperature, pressure, steaming rates (for steam strippers), and some parameter that is indicative of residence time..	(1) Establish stripper operating parameter levels for each grade in accordance with § 63.505(e). (2) Continuously monitor stripper operating parameters. (3) If hourly average parameters are outside of the established operating parameter levels, a crumb or latex sample shall be taken in accordance with § 63.495(c)(3)(ii).
Determining Compliance Using Control or Recovery Devices [§ 63.496].	Parameters to be monitored are described in Table 3 of subpart G..	Comply with requirements listed in Table 3 of subpart G, except for the requirements for halogenated vent stream scrubbers.

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