**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Parts 9, 60 and 63**

**[AD–FRL–5272–1]**

**RIN 2060–AD94**

## National Emission Standards for Hazardous Air Pollutants: Petroleum Refineries

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** This final rule promulgates national emission standards for hazardous air pollutants (NESHAP) for petroleum refineries. This rule implements section 112 of the Clean Air Act (Act) and are based on the Administrator's determination that petroleum refineries emit organic hazardous air pollutants (HAPs) identified on the EPA's list of 189 HAPs. The health effects of exposure to HAPs can include cancer, respiratory irritation and damage to the nervous system. The petroleum refinery NESHAP requires petroleum refineries located at major sources to meet emission standards reflecting the application of the maximum achievable control technology (MACT), consistent with sections 112(d) and (h) of the Act. The petroleum refinery affected source is defined to include petroleum refinery process units, marine tank vessel loading operations, and gasoline loading rack operations classified under Standard Industrial Classification (SIC) code 2911 emission points located at petroleum refineries. The petroleum refinery affected source and source category description are revised to reflect the inclusion of these emission points. This action also amends two standards of performance for two stationary sources: Standards of performance for equipment leaks of volatile organic compounds (VOC) in the synthetic organic chemicals manufacturing industry (SOCMI); and standards of performance for VOC emissions from petroleum refinery wastewater systems. The amended standards were previously promulgated under section 111 of the Act.

**EFFECTIVE DATE:** August 18, 1995. See the Supplementary Information section concerning judicial review.

**ADDRESSES:** *Docket.* Docket No. A–93–48, containing information considered by the EPA in development of the promulgated standards, is available for public inspection between 8 a.m. and 4 p.m., Monday through Friday except for Federal holidays, at the following address: U.S. Environmental Protection Agency, Air and Radiation Docket and Information Center (MC–6102), 401 M Street SW, Washington, DC 20460; telephone: (202) 260–7548. The docket is located at the above address in Room M–1500, Waterside Mall (ground floor). A reasonable fee may be charged for copying.

*Response to Comment Document.* The response to comment document for the promulgated standards 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 "National Emission Standards for Hazardous Air Pollutants, Petroleum Refineries-Background Information for Final Standards, Summary of Public Comments and Responses" (EPA No.–453/R–95–015b). The document contains: (1) A summary of all 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. This document is also available for downloading from the Technology Transfer Network (see below) under the Clean Air Act, Recently Signed Rules.

*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) 541–5472 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.

**FOR FURTHER INFORMATION CONTACT:** For information concerning the final standards, contact Mr. James Durham, Waste and Chemical Processes Group, Emission Standards Division (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, 27711, telephone number (919) 541–5672.

**SUPPLEMENTARY INFORMATION:** *Judicial Review.* National emission standards for HAP's for petroleum refineries were proposed in the **Federal Register** (FR) on July 15, 1994 (59 FR 36130). This **Federal Register** action announces the EPA's final decisions on the rule. Under section 307(b)(1) of the Act, judicial review of the NESHAP is available only by the 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 following outline is provided to aid in reading the preamble to the final regulation.

I. Background
II. Summary of Considerations in Developing the Rule
  A. Purpose of Regulation
  B. Technical Basis of Regulation
  C. Stakeholder and Public Participation
III. Summary of Promulgated Standards
  A. Miscellaneous Process Vent Provisions
  B. Storage Vessel Provisions
  C. Wastewater Provisions
  D. Equipment Leak Provisions
  E. Marine Vessel Loading and Unloading, Bulk Gasoline Terminal or Pipeline Breakout Station Storage Vessels, and Bulk Gasoline Terminal Loading Rack Provisions
  F. Recordkeeping and Reporting Provisions
  G. Emissions Averaging
IV. Summary of Impacts
V. Significant Comments and Changes to the Proposed Standards
  A. Process Vents Group Determination
  B. Process Vent Impacts
  C. Equipment Leaks Compliance Requirements
  D. Storage Vessels
  E. Overlapping Regulations
  F. Source Category Definition
  G. Emissions Averaging
  H. Monitoring, Recordkeeping, and Reporting
  I. Subcategorization
  J. Economic Analysis
  K. Benefits Analysis
  L. Emissions Data
VI. Changes to NSPS
VII. Administrative Requirements
  A. Docket
  B. Paperwork Reduction Act
  C. Executive Order 12866
  D. Regulatory Flexibility Act
  E. Unfunded Mandates

## I. Background

Section 112(b) of the Act lists 189 HAP's and directs the EPA to develop rules to control all major and some area sources emitting HAP's. On July 16, 1992 (57 FR 31576), the EPA published a list of major and area sources for which NESHAP are to be promulgated. Petroleum refineries were listed as a category of major sources. On December 3, 1993 (58 FR 83941), the EPA published a schedule for promulgating standards for the listed major and area sources. Standards for the petroleum refinery source category for sources not distinctly listed were scheduled for promulgation on November 15, 1994. The EPA is promulgating these standards under a July 28, 1995 court-ordered deadline.

## II. Summary of Considerations in Developing the Rule

### *A. Purpose of Regulation*

The Act was developed, in part,

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

Petroleum refineries are major sources of HAP emissions. Individual refineries emit over 23 megagrams per year (Mg/yr) (25 tons per year (tpy)) of organic HAP's including benzene, toluene, ethyl benzene, and other HAP's. The HAP's controlled by this rule are associated with a variety of adverse health effects. The range of adverse health effects include cancer and a number of other chronic health disorders (e.g., aplastic anemia, pancytopenia, pernicious anemia, pulmonary (lung) structural changes) and a number of acute health disorders (e.g., dyspnea (difficulty in breathing), upper respiratory tract irritation with cough, conjunctivitis, neurotoxic effects (e.g., visual blurring, tremors, delirium, unconsciousness, coma, convulsions). Table 1 presents the 11 most significant organic HAP's emitted from the petroleum refineries. Petroleum refineries also emit inorganic HAP's (e.g., hydrogen fluoride, hydrogen chloride). Inorganic HAP emissions from the emission points covered under this rule are low relative to organic HAP emissions. Emission points emitting inorganic HAP's are included in a separate source category under a separate schedule.

TABLE 1.—SIGNIFICANT HAZARDOUS AIR POLLUTANTS FROM PETROLEUM REFINERIES

[Hazardous Air Pollutant]

| | |
|---|---|
| 2,2,4-Trimethylpentane | Methyl tert butyl ether. |
| Benzene | Naphthalene. |
| Cresols/cresylic acid | Phenol. |
| Ethylbenzene | Toluene. |
| Hexane | Xylenes. |
| Methyl ethyl ketone | |

The catalytic cracking unit catalyst regeneration vent emits primarily metal HAP's, which would be controlled using particulate controls. Catalytic reformer catalyst regeneration vents emit hydrogen chloride, and sulfur plant vents emit carbonyl sulfide and carbon disulfide. Because of these compounds' unique characteristics, the EPA concluded that these emission points warranted separate consideration for control of inorganic HAP's. Because limited data are currently available, these emission points are included in a separate source category under a separate schedule.

The Regulatory Impacts Analysis (RIA) presents the results of an examination of the potential health and welfare benefits associated with air emission reductions projected as a result of implementation of the petroleum refinery NESHAP. Of the pollutants emitted by petroleum refineries, some are classified as VOC, which are ozone precursors. Benefits from HAP emission reductions are presented separately from the benefits associated specifically with VOC emission reductions.

The predicted emissions of a few HAP's associated with this regulation have been classified as possible, probable, or known human carcinogens. Benzene and cresols are the two HAP's identified as carcinogens.

Benzene is classified as a class A or a known human carcinogen. Benzene is a concern to the EPA because long term exposure to this chemical causes an increased risk of cancer in humans, and is also associated with aplastic anemia, pancytopenia, chromosomal breakages, and weakening of the bone marrow.

Cresols are classified as class C or possible human carcinogens. For this HAP, there is either inadequate data or no data on human carcinogenicity. Therefore, while cancer risk is a possibility, there is not sufficient evidence to quantify the increased cancer risk to humans caused by these chemicals.

There are serious health effects reported from exposure to some of the noncarcinogenic HAP's. These serious health effects typically occur at higher levels of exposure than estimated for the regulatory baseline. Exposure to phenol is very toxic to animals and increases mortality, but there is little human data. Exposure to n-hexane can cause polyneuropathy (muscle weakness and numbness) in humans, and exposure to naphthalene is linked to cataracts and anemia in human infants. It is also possible that there are less serious health effects in the regulatory baseline from exposure to these HAP's.

Emissions of VOC have been associated with a variety of health and welfare impacts. Volatile organic compound emissions, together with nitrogen oxides ($NO_X$), are precursors to the formation of tropospheric ozone. Exposure to ambient ozone is responsible for a series of health impacts, such as alterations in lung capacity; eye, nose, and throat irritation; malaise and nausea; and aggravation of existing respiratory disease. Among the welfare impacts from exposure to ambient ozone include damage to selected commercial timber species and economic losses for commercially valuable crops such as soybeans and cotton.

Based on existing data, the benefits associated with reduced HAP and VOC emissions were quantified. The quantification of dollar benefits for all benefit categories is not possible at this time because of limitations in both data and available methodologies. Although an estimate of the total reduction in HAP emissions for various regulatory alternatives has been developed for the RIA, it has not been possible to identify the speciation of the HAP emission reductions for each type of emission point. However, an estimate of HAP speciation for equipment leaks has been made. Using emissions data for equipment leaks and the Human Exposure Model (version 1), the annual cancer risk caused by HAP emissions from petroleum refineries was estimated. Generally, this benefit category is calculated as the difference in estimated annual cancer incidence before and after implementation of each regulatory alternative. Since the annual cancer incidence associated with baseline conditions was less than one life per year, the cancer benefits associated with HAP reductions for the petroleum refinery NESHAP were determined to be low. Therefore, these quantified benefits are not part of the overall quantified benefits estimate for the analysis.

The benefits of reduced emissions of VOC from a MACT regulation of petroleum refineries were quantified using the technique of "benefits transfer." Because analysis by the Office of Technology Assessment from which benefits transfer values were obtained only estimated acute health benefits in ozone nonattainment areas, the transfer values can be applied to VOC reductions occurring only in ozone nonattainment areas. The range of benefit transfer values used in this analysis is from $25 to $1,574 per megagram (Mg) ($23 to $1,431 per ton) of VOC with an average of $800/Mg ($727/ton) of VOC.

In order to quantify benefits from VOC emission reductions, the average value is multiplied by VOC emission reductions from petroleum refineries in ozone nonattainment areas. Estimated annual benefits for VOC reductions are $108.8 million for selected regulatory alternatives. The quantified annual

HeinOnline 60 Fed. Reg. 43245 1995

benefits exceed annual compliance costs by $29.8 million (1992 dollars).

The promulgated NESHAP will reduce HAP emissions from petroleum refineries by 59 percent. Table 2 presents the national baseline emissions and emission reductions for petroleum refinery process vents, storage vessels, wastewater, and equipment leaks. The emissions reductions for controlling gasoline loading racks and the marine vessel loading emission points are discussed in supporting material for the Gasoline Distribution (Stage I) and the Marine Vessel Loading Operations rules.

TABLE 2.—NATIONAL PRIMARY AIR POLLUTION IMPACT IN THE FIFTH YEAR

| Source | Baseline emissions (Mg/yr) | | Emission reductions | | | |
|---|---|---|---|---|---|---|
| | | | (Mg/yr) | | (Percent) | |
| | HAP | VOC | HAP | VOC | HAP | VOC |
| Miscellaneous process vents | 10,000 | 109,000 | 6,700 | 85,000 | 67 | 78 |
| Equipment leaks | 52,000 | 189,000 | 40,000 | 146,000 | 77 | 77 |
| Storage vessels | 9,300 | 111,000 | 1,300 | 21,000 | 14 | 19 |
| Wastewater collection and treatment | 10,000 | 10,000 | (a) | (a) | (a) | (a) |
| Total | 81,300 | 419,000 | 48,000 | 252,000 | 59 | 60 |

[a] The MACT level of control is no additional control.

*B. Technical Basis of Regulation*

National emission standards for major sources of HAP's established under section 112 of the Act 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, determine is achievable for new or existing sources in the category or subcategory to which such emission standard applies * * * (the Act section 112(d)(2)).

Prior to proposal, section 114 questionnaires, information collection requests (ICR's), and telephone surveys were used to obtain information on emissions, emissions control, and emissions control costs for petroleum refinery emission points. Section 114 questionnaires were sent out to nine large refineries, of approximately 130 existing petroleum refineries nationally, to obtain emissions and emissions control information for equipment leaks, wastewater, process vents, and storage vessel emission points located in a petroleum refinery. The ICR's were sent out to the refineries that were not sent section 114 questionnaires to obtain information on emissions control equipment and emissions for process vents, storage vessels, and equipment leaks emission points. A telephone survey of equipment vendors was conducted to obtain leak detection and repair (LDAR) cost information.

Data and information were received for approximately 130 petroleum refineries. This information was used, in part, as the technical basis in determining the MACT level of control for the process units covered under this rule. In addition to information collected from industry, the EPA used information on refinery locations and processes available in the general literature. The EPA also used control technology performance and cost information developed under previous rulemakings for the petroleum and chemical industries, such as the petroleum refinery new source performance standard (NSPS), benzene NESHAP, and synthetic organic chemical manufacturing industry (SOCMI) standards. The EPA also considered existing State regulations and additional information received during the public comment period for the proposed rule in developing the final rule.

*C. Stakeholder and Public Participation*

In the development of this rule, numerous representatives of the petroleum refinery industry were consulted prior to proposal. Industry representatives have included trade associations, and refiners responding to section 114 questionnaires, ICR's, and telephone surveys. Representatives from State agencies and the EPA regions were also consulted and participated in the development of the rule.

The standards were proposed and published in the **Federal Register** on July 15, 1994 (59 FR 36130). The preamble to the proposed standard describes the rationale for the proposed rule. 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. A public hearing was held in Research Triangle Park, North Carolina, on August 5, 1994. The hearing was open to the public and four persons presented oral testimony. The public comment period was from July 15, 1994 to September 13, 1994. Sixty-two comment letters were received. Commenters included industry representatives, States, environmental organizations, and others. The comments have been carefully considered, and changes have been made in the proposed standards when determined by the Administrator to be appropriate. A detailed discussion of these comments and responses can be found in the Response of Comment Document, which is referenced in the **ADDRESSES** section of this preamble. The summary of comments and responses in the document serve as the basis for the revisions that have been made to the standards between proposal and promulgation. Section V of this preamble discusses the major comments that resulted in changes to the standards.

## III. Summary of Promulgated Standards

The promulgated standard applies to petroleum refining process units as well as other colocated emission points that are part of a plant site that is a major source as defined in section 112 of the Act. The determination of potential to emit, and therefore major source status, is based on the total of all HAP emissions from all activities at the plant site. The applicability section of the regulation specifies what is included in the petroleum refining source category and defines the sources regulated by the NESHAP.

The general standards consist of compliance dates for new and existing sources, require sources to be properly operated and maintained at all times, and clarify the applicability of the NESHAP General Provisions (40 Code of Federal Regulations (CFR) part 63, subpart A) to sources subject to subpart CC.

HeinOnline 60 Fed. Reg. 43246 1995

The affected source comprises the miscellaneous process vents, storage vessels, wastewater streams, and equipment leaks associated with petroleum refining process units, and marine tank vessel loading operations and gasoline loading racks classified under SIC code 2911 located at a refinery. The inclusion of marine tank vessel loading operations and gasoline loading racks in the definition of the petroleum refinery affected source and source category is a revision from the proposal. These emission points have been included as part of the petroleum refinery affected source and source category to permit an owner or operator of a petroleum refinery to average emissions among emission points collocated at the refinery to comply with the standards. These standards do not apply to distillation units located at pipeline pumping stations whose primary purpose is to produce fuel to operate turbines and internal combustion engines at the pipeline pumping stations. A summary of the specific provisions that apply to each of the emission points contained within a petroleum refinery affected source follows. All of the specified provisions for each of the covered emission points allow for, or are based on and encourage, pollution prevention.

These standards do not address three vents that will be subject to future NESHAP standards. These are the catalyst regeneration vents on catalytic cracking units and catalytic reforming units (CRU's) and vents from sulfur recovery units (SRU's). Industry is concerned that standards for these three vents will require the use of control technologies designed to reduce non-HAP emissions and will preclude the use of alternatives that can achieve comparable HAP control at a lower cost. The EPA recognizes that standards should be structured on a performance basis wherever possible to ensure that industry is provided the flexibility to seek out and implement cost-effective controls. The EPA's existing standards for sulfur dioxide and particular matter emissions from new FCCU catalyst regenerator vents demonstrate such recognition. The allowable emissions were expressed in terms of the amount of coke burned off the catalyst in order to provide industry with the flexibility to comply through operational changes or through traditional end-of-pipe controls or a combination of the two. The EPA has every intention to ensure that future rules also provide similar flexibility.

*A. Miscellaneous Process Vent Provisions*

Miscellaneous process vents include vents from petroleum refining process units that emit organic HAP's. Vents that are routed to the refinery fuel gas system are considered to be part of the process and are not subject to the standard. The miscellaneous process vent provisions define two groups of vents. Group 1 process vents are those with VOC emissions greater than or equal to 33 kilograms per day (kg/day) (72 pounds per day (lb/day)) for existing sources and 6.8 kg/day (15 lb/day) for new sources. Group 2 vents are vents with emissions below these levels.

The miscellaneous process vent provisions for new and existing sources require the owner or operator of a Group 1 miscellaneous process vent to reduce organic HAP emissions by 98 percent or to less than 20 parts per million by volume (ppmv), or to reduce emissions using a flare meeting the requirements of § 63.11(b) of the NESHAP General Provisions (40 CFR part 63, subpart A).

Monitoring requirements for Group 1 vents include an initial performance demonstration and monitoring of control device operating parameters. The owner could also comply by reducing emissions from a Group 1 process vent to less than 33 kg/day (72 lb/day) for existing sources and 6.8 kg/day (15 day) for new sources, thereby converting it to a Group 2 process vent. No controls or monitoring are required for Group 2 process vents.

*B. Storage Vessel Provisions*

The storage vessel provisions define two groups of vessels: Group 1 vessels are vessels with a design storage capacity and a maximum true vapor pressure above the values specified in the regulation. Group 2 vessels are all storage vessels that are not Group 1 vessels. The storage vessel provisions require that one of the following control systems be applied to Group 1 storage vessels: (1) An internal floating roof (IFR) with proper seals; (2) an external floating roof (EFR) with proper seals; (3) an EFR converted to an IFR with proper seals; or (4) a closed vent system to a control device that reduces HAP emissions by 95 percent or to 20 ppmv. The storage provisions give details on the type of seals required. Monitoring and compliance provisions for Group 1 vessels include periodic external visual inspections of vessels and roof seals, as well as less frequent internal inspections. If a closed vent system and control device is used for venting emissions from Group 1 storage vessels, the owner or operator must establish appropriate monitoring procedures. No controls or inspections are required for Group 2 storage vessels.

For existing sources, the final rule requires that fixed roof tanks with capacities greater than or equal to 177 cubic meters ($m^3$) (47,000 gallons (gal)) that store liquids containing more than 4 percent organic HAP with vapor pressures greater than 10.4 kilopascals (kPa) (1.5 pounds per square inch absolute (psia)) comply fully with the rule within 3 years. If an owner or operator must replace an existing fixed roof tank in order to comply with the rule, it would be reasonable for the State to grant an additional year to comply as authorized under section 112(i)(3)(B) of the Act (a total of four years). This additional time would allow time to design and construct tanks without disrupting refinery operations that could create additional emissions. Owners or operators of IFR or EFR tanks are allowed to defer upgrading of their seals to meet the NESHAP requirements until the next scheduled inspection and maintenance activity or within 10 years, whichever comes first.

For new sources, the final rule requires that vessels with capacities greater than or equal to 151 $m^3$ (40,000 gal), that store liquids containing more than 2 percent organic HAP with vapor pressures equal to or greater than 3.4 kPa (0.5 psia), and vessels with capacities equal to or greater than 76 $m^3$ (20,000 gal) storing liquids containing more than 2 percent organic HAP with vapor pressures equal to or greater than 77 kPa (11.1 psia) comply with the level of control required by 40 CFR part 63, subpart G (including the controlled fitting requirements).

*C. Wastewater Provisions*

The wastewater provisions define two groups of wastewater streams. Group 1 streams are those that are located at a refinery with a total annual benzene loading of at least 10 megagrams per year (Mg/yr) (11 tpy) and are not exempt from control requirements under 40 CFR part 61, subpart FF (the benzene waste operations NESHAP or BWON). In general, streams are not exempt from 40 CFR part 61 subpart FF if they contain a concentration of at least 10 parts per million by weight (ppmw) benzene, and have a flow rate of at least 0.02 liters per minute (L/min) (0.005 gallons per minute (gal/min)). Group 2 streams are wastewater streams that are not Group 1.

The wastewater provisions of the final rule refer to the BWON for both new and existing sources, which requires owners or operators of a Group 1 wastewater stream to reduce benzene

mass emissions by 99 percent using suppression followed by steam stripping, biotreatment, or other treatment processes. Vents from steam strippers and other waste management or treatment units are required to be controlled by a control device achieving 95 percent emissions reduction or 20 ppmv at the outlet of the control device. The performance tests, monitoring, reporting, and recordkeeping provisions required to demonstrate compliance are included in the BWON. No controls or monitoring are required for Group 2 wastewater streams.

*D. Equipment Leak Provisions*

The equipment leak standards for the petroleum refinery NESHAP allow owners or operators of existing sources to choose between complying with equipment leaks provisions in 40 CFR part 60, subpart VV (NSPS for Equipment Leaks) or complying with a modified negotiated regulation for equipment leaks presented in 40 CFR part 63, subpart H (Hazardous Organic NESHAP or HON equipment leaks). The differences in the NSPS equipment leak requirements and the HON equipment leak requirements are in the leak definitions and connector monitoring provisions.

Under either of the two options, existing refineries subject to the rule will be required to implement a LDAR program with the same leak definitions (10,000 parts per million (ppm)) and frequencies as specified in 40 CFR part 60, subpart VV within 3 years after promulgation of the petroleum refineries NESHAP. Refineries that choose to comply with the modified negotiated regulation would implement the Phase II leak definitions and frequencies at the end of the fourth year, and comply with Phase III requirements 5½ years after promulgation. Phase III defines a leak at a lower level, but allows less frequent monitoring for good performers. Although the modified negotiated regulation is not required in the final rule, the EPA believes that it would provide greater emission reductions and, in many cases, would be more cost effective than 40 CFR part 60, subpart VV and could even provide cost savings. Cost savings would occur because it would reduce equipment leak product loss, and facilities with a low percentage of leaking valves would be able to monitor less frequently, thereby reducing monitoring costs.

New sources must comply at startup with the modified negotiated regulation; pumps and valves at new sources must be in compliance with the Phase II requirements at startup rather than Phase I. This is consistent with the negotiated rule (40 CFR part 63, subpart H).

*E. Marine Tank Vessel Loading and Gasoline Loading Rack Provisions*

The final refineries NESHAP requires marine tank vessel loading operations at refineries to comply with the marine loading NESHAP (40 CFR part 63, subpart Y) unless they are included in an emissions average. Gasoline loading racks classified under SIC code 2911 at refineries are required to comply with the 40 CFR part 63, subpart R loading rack provisions unless they are included in an emissions average.

*F. Recordkeeping and Reporting Provisions*

The final rule requires that petroleum refineries subject to 40 CFR part 63, subpart CC maintain required records for a period of at least 5 years. The final rule requires that the following reports be submitted: (1) A Notification of compliance status report, (2) periodic reports, and (3) other reports (e.g., notifications of storage vessel internal inspections; startup, shutdown, and malfunction reports).

*G. Emissions Averaging*

The EPA is allowing emissions averaging among existing miscellaneous process vents, storage vessels, wastewater streams, marine tank vessel loading operations, and gasoline loading racks classified under SIC code 2911 located at a refinery. New sources are not allowed to use emissions averaging. Under emissions averaging, a system of emission "credits" and "debits" is allowed to determine whether a source is achieving the required emission reductions.

## IV. Summary of Impacts

The impacts presented in this section include process vents, storage vessels, equipment leaks, and wastewater streams from petroleum refinery process units. Impacts for control of marine tank vessel loading operations and gasoline loading rack operations classified under SIC code 2911 located at refineries are presented in the background documentation for 40 CFR part 63, subparts Y and R.

These standards will reduce nationwide emissions of HAP from petroleum refineries by 48,000 Mg/yr (53,000 tpy), or 59 percent by 1998 compared to the emissions that would result in the absence of standards. No adverse secondary air impacts, water or solid waste impacts are anticipated from the promulgation of these standards.

The national electric usage required to comply with the rule is expected to increase by 48 million kilowatt-hours per year, which is equivalent to approximately 77,500 barrels of oil.

The implementation of this regulation is expected to result in an overall annual national cost of $79 million. This includes a cost of $59 million from operation of control devices, and a monitoring, recordkeeping, and reporting cost of $20 million. The monitoring, reporting, and recordkeeping cost has been reduced by 25 percent from proposal. Table 3 presents the national control cost impacts for petroleum refinery process vents, storage vessels, wastewater, and equipment leaks. The control costs for gasoline loading racks and marine tank vessel loading operations are discussed in supporting material for the Gasoline Distribution (Stage I) and the Marine Vessel Loading Operations rules.

TABLE 3.—NATIONAL CONTROL COST IMPACTS IN THE FIFTH YEAR

| Source | Total[a] capital costs[b] ($10[6]) | Total[a] annual costs ($10[6]/yr) | Average HAP cost effectiveness ($/Mg HAP) | Average VOC cost effectiveness ($/Mg VOC) |
|---|---|---|---|---|
| Miscellaneous process vents | 21 (2) | 12 (1) | 1,800 | 140 |
| Equipment leaks | 142 (16) | 58 (17) | 1,500 | 400 |
| Storage vessels | 48 (1) | 8 (1) | 6,100 | 380 |
| Wastewater collection and treatment | (c) | (c) | (c) | (c) |
| Other recordkeeping and reporting | 2 | 1 | (d) | (d) |

HeinOnline 60 Fed. Reg. 43248 1995

TABLE 3.—NATIONAL CONTROL COST IMPACTS IN THE FIFTH YEAR—Continued

| Source | Total[a] capital costs[b] ($10[6]) | Total[a] annual costs ($10[6]/yr) | Average HAP cost effectiveness ($/Mg HAP) | Average VOC cost effectiveness ($/Mg VOC) |
|---|---|---|---|---|
| Total | 213 (21) | 79 (20) | 1,600 | 310 |

[a] Numbers in parentheses are recordkeeping and reporting costs included in total annual cost and total capital cost estimates. For equipment leaks, activities associated with setting up and operating a LDAR program (e.g., tagging and identifying, monitoring, data entry, setting up a data management system, etc.) are not reflected in the equipment leak recordkeeping and reporting costs, but are included in the equipment leak total annual cost and total capital cost estimate.
[b] Total capital costs incurred in the 5-year period.
[c] The MACT level of control is no additional control.
[d] Not applicable.

The EPA estimates that changes in the compliance times for storage vessels with floating roofs and changes to the process vents Group 1 applicability cutoff will provide substantial cost savings and emissions reductions for refineries. Estimates of degassing and cleaning storage tank costs provided by the refining industry indicate that premature (within 3 years of promulgation) degassing and cleaning activities would cost between $34,000 and $213,000 per floating roof tank depending on the type of material stored. If extrapolated to the entire refining industry for floating roof tanks, the cost savings from allowing floating roofs to comply at the next scheduled maintenance would be $6.6 million per year.

The EPA determined that substantial HAP emissions occur when storage vessels are degassed and cleaned. Typically, storage vessels are inspected and maintained on a 10-year schedule, at which time tanks are degassed and cleaned. If a 3-year compliance schedule were required, storage vessels would be degassed and cleaned prematurely, resulting in substantial HAP emissions caused by the rule. These HAP emissions could not be balanced in less than 5 years for floating roof tanks by the emission reduction achieved from complying with the rule. By changing the proposed rule to allow floating roof tanks to comply with the storage vessel requirements 10 years after promulgation of the rule or at the next scheduled inspection, the EPA estimates that 3,000 Mg/yr (2,700 tpy) of HAP, or 8,000 Mg (7,200 tpy) of HAP over 3 years, would be prevented from being emitted.

The existing source process vent applicability cutoff (33 kg of VOC/day (72 lb of VOC/day) per vent) will exclude 3,000 vents from requiring control at a total annual cost savings of $4.5 million. The new source process vent applicability cutoff (7 kg of VOC/day (15 lb of VOC/day) per vent) will exclude 35 vents from requiring control at a total annual cost savings of $25,000. The total annual cost reduction of these changes in the rule is a reduction of approximately $11 million.

The economic impact analysis for the selected regulatory alternatives shows that the estimated price increases for affected products range from 0.24 percent for residual fuel oil to 0.53 percent for jet fuel. Estimated decreases in product output range from 0.13 percent for jet fuel to 0.50 percent for residual fuel oil. Annual net exports (exports minus imports) are predicted to decrease by 2.3 million barrels, with the range of reductions varying from 0.21 million barrels for liquid petroleum gas to 0.91 million barrels for residual fuel oil.

Between zero and seven refineries, all of which are classified as small, may close due to the regulation. For more information, consult the "Economic Impact Analysis for the Petroleum Refinery NESHAP" in the docket (see **ADDRESSES** section of this preamble).

## V. Significant Comments and Changes to the Proposed Standards

In response to comments received on the proposed standards, several changes have been made to the final rule. While several of these changes are clarifications designed to make the Agency's intent clearer, a number of them are significant changes to the proposed standard requirements. A summary of the substantive comments and/or changes made since the proposal are described in the following sections. Detailed Agency responses to public comments and the revised analysis for the final rule are contained in the BID and docket (see **ADDRESSES** section of this preamble).

### *A. Process Vents Group Determination*

The proposed NESHAP would have required control of all miscellaneous process vents with HAP concentrations over 20 ppmv. This level was based on the fact that combustion control technologies can reduce organic emissions by 98 percent or to 20 ppmv, but cannot necessarily achieve lower concentrations. Several commenters suggested that other applicability criteria were needed to determine which process vents are required to apply control. They pointed out that the HON and State regulations use a total resource effectiveness (TRE) or emission rate cutoff to exclude small vents that have low emission potential and high costs from control requirements. The commenters contended that the MACT floor does not include control of such vents.

In response to these comments, the EPA examined potential control applicability criteria. The EPA reevaluated the miscellaneous process vents data base. The EPA's information on miscellaneous process vent streams was insufficient to establish an emission rate cutoff. This was because industry did not have sufficient information on the HAP and VOC content of vent streams requested by the section 114 questionnaires and ICR's and it would have been impractical to obtain this information. Therefore, as suggested by a number of commenters, and after consultations with industry and others, the EPA decided to use State regulations.

The EPA evaluated the current level of control for miscellaneous process vents in eight States and two air districts that contain the majority of refineries and were expected to have the most stringent regulations. Of the refineries in the United States, the 12 percent that are subject to the most stringent regulations are located in three States. In these three States, miscellaneous process vents emitting greater than 6.8 to 45 kg/day (15 to 100 lb/day) of VOC are required to be controlled. The median applicability cutoff level for the 12 percent of U.S. refineries subject to the most stringent regulations is 33 kg/day (72 lb/day VOC). Thus, control of vents with VOC emissions greater than 33 kg/day (72 lb/day) is the MACT floor for existing sources and 6.8 kg/day (15 lb/day) is the

MACT floor level of control for new sources. The primary organic HAP's at refineries are also VOC. Additionally, a VOC-based applicability criteria is most reflective of the current level of control required for miscellaneous process vents as the majority of State regulations are expressed in terms of VOC. Therefore, the EPA has adopted these emission levels in the final rule to distinguish Group 1 from Group 2 vents. Group 1 vents are those that emit over 33 kg/day (72 lb/day) for existing sources and over 6.8 kg/day (15 lb/day) for new sources. Group 1 vents must be controlled, whereas Group 2 vents (which emit less than 33 kg/day (72 lb/day) for existing sources and less than 6.8 kg/day (15 lb/day) for new sources) are not required to apply controls under the final rule. The 33 kg/day (72 lb/day) and 6.8 kg/day (15 lb/day) applicability limits are to be determined as the gases exit from process unit equipment (including any recovery devices) and prior to any non-recovery emission control device.

*B. Process Vent Impacts*

At proposal, the EPA estimated that the baseline HAP and VOC emissions from process vents were 9,800 Mg/yr (10,780 tpy) and 190,000 Mg/yr (209,000 tpy), respectively. Several commenters contended that the impacts analysis for process vents should be redone because: (1) The data base used in the analysis contained several errors, and (2) the emission estimation methodology was incorrect. The commenters asserted that these inaccuracies resulted in overestimates of emissions. Some of the commenters asserted that the data base flaws included: (1) A lack of data concerning the number, flowrates, and HAP concentrations of miscellaneous process vents, and (2) an erroneously high percentage of controlled vents because many uncontrolled vents were not reported. Some of the commenters contended that the emission estimation methodology was flawed because (1) It included wastewater and maintenance emissions, (2) emission factors were calculated from a HAP-to-VOC ratio that included reformer emissions, and (3) alkylation emissions and crude unit emissions were based on one refinery where vents were uncontrolled at the time of the questionnaire and are now controlled.

The EPA agrees with the commenters that the process vents emission impacts estimate has several assumptions that needed to be reanalyzed. The EPA also agrees that the data base used at proposal should be reevaluated to consider the commenters' concerns. Therefore, the EPA has reestimated the emissions and cost impacts of the process vents provisions using the commenters' recommendations.

The emissions at proposal were estimated using responses from only the section 114 questionnaires extrapolated to the entire refining industry. Because the section 114 questionnaires were sent to the largest companies, the data obtained from them skewed the results based on what the largest refineries did. The revised emissions were estimated using data from both the section 114 and ICR responses. The ICR questionnaires were sent to refineries not receiving the section 114 questionnaires. This additional data increased the number of vents in the data base by 1,300. The increase in vents resulted in a decrease in controlled vents from 40 percent to 24 percent. However, information on the HAP and VOC content of vent streams remained limited as no new data was provided by the ICR respondents. Additionally, no new HAP information was provided by industry after proposal of the rule.

Additionally, errors in the data base were corrected and non-miscellaneous process vents were removed from the data base (e.g., vents from wastewater, maintenance, catalytic reformer regeneration vents, etc). In the revised emission estimates, emissions from alkylation and crude units were estimated from a number of different data points (not just one, as the commenters have stated). Additionally, the one data point the commenters have referred to has been changed to reflect the change in control status. The revised baseline miscellaneous process vents HAP and VOC emissions are 10,000 Mg/yr (11,000 tpy) and 109,000 Mg/yr (119,900 tpy), respectively.

The EPA agrees that the data on HAP concentrations is limited. However, no new data was supplied by the commenters. The EPA's revised emission estimates are based on technically sound methods and the best available information.

*C. Equipment Leaks Compliance Requirements*

The proposed rule for equipment leaks at existing sources was an above-the-floor option modeled after the HON negotiated rule for equipment leaks. The floor level of control for equipment leaks from existing sources was determined to be control equal to the petroleum refinery NSPS. The modified negotiated rule was chosen as an above-the-floor option because it was estimated to be cost effective. The option chosen in the proposed rule differed from the HON in that: (1) Existing sources were not required to monitor connectors, and (2) the leak definitions were higher to reflect the different volatility of materials found in refinery process lines as opposed to SOCMI process lines. The proposed rule required one-third of the refinery to be in compliance 6 months after promulgation of the rule, two-thirds of the refinery to be in compliance 1 year after promulgation of the rule, and the entire refinery to be in compliance 18 months after promulgation of the rule.

Several commenters contended that the emissions and cost information used to determine the cost effectiveness of going from the floor level of control to the modified negotiated rule were inaccurate and did not consider recent changes to the equipment leak correlation equations for petroleum refineries. The commenters concluded that using the most recent information for refineries would show that it is not cost effective to go beyond the floor level of control.

The cost information used in the analysis was the best data available, and is based on surveys of vendors and established costs presented in previous projects. No new cost information was submitted by the industry. The equipment leak emission factors that are being used to estimate the emissions and emission reductions of the rule were developed in 1980. These are the only complete and accurate emission factors available for this purpose. To accurately estimate emissions from equipment leaks, two sets of information are needed. These include the amount of emissions generated per piece of equipment leaking at a given concentration and the percent of equipment that are actually leaking at these concentrations. The 1980 study that was used to estimate the impacts of the refinery MACT rule used a consistent sampling methodology to address both of these factors based on sampling at uncontrolled refineries. The 1993 API study developed new information only on emissions per piece of leaking equipment using a different methodology. As stated in API's report, this information was developed from refineries in California for use with other information to estimate facility-specific equipment leak emissions. Thus, this study was not designed to provide information on industry average percent leaking equipment. Therefore, it was not possible to redefine average emission factors. To actually use this information, however, the EPA would need corresponding new information on the percent of equipment leaking. The EPA does not believe that it would be appropriate to combine 1993

HeinOnline 60 Fed. Reg. 43250 1995

information with the 1980 data to develop new emission factors because sampling methodologies were different and because the 1993 study collected information from information from well-controlled facilities while the 1980 study collected information from uncontrolled facilities. However, the EPA agrees that new correlation equations developed for the refining industry indicate that the refinery factors may overestimate emissions by as much as a factor of two, which may make the modified negotiated rule option less cost effective. This cannot be accurately determined because the appropriate information to update average emission factors is not available. The EPA recognizes that enough uncertainty exists in the emission and cost estimates to question the results of the cost-effectiveness analysis.

In recognition of this uncertainty and to provide compliance flexibility, the EPA has changed the final rule to provide each existing refinery with a choice of complying with either: (1) The equipment leaks NSPS requirements (40 CFR part 60, subpart VV) or (2) a modified version of the negotiated rule (40 CFR part 63, subpart H). The NSPS represents the MACT floor for existing sources. The modified negotiated regulation is the same as what was contained in the proposed petroleum refinery NESHAP except that the compliance dates have been extended for reasons described below. Although not required in the final rule, the EPA promotes use of the modified negotiated rule option because it is believed to provide considerable product, emissions, and cost savings to a refinery.

Under either option, existing refineries will be required to implement an LDAR program with the same leak definitions (10,000 ppm) and the same leak frequencies as contained in the NSPS by 3 years after promulgation. A refinery may opt to remain at this level of control and do the monitoring, recordkeeping, and reporting specified in the NSPS. This option allows refineries that are familiar with the NSPS to continue to implement that standard without needing to change their procedures.

Alternatively, a refinery may choose to comply with Phase I of the negotiated rule (10,000 ppm leak definition) 3 years after promulgation, comply with Phase II 4 years after promulgation, and comply with Phase III 5½ years after promulgation. Each phase has lower leak definitions for pumps and valves. In Phase III, monitoring frequencies for valves are dependent on performance (percent leakers), providing an incentive (less frequent monitoring and reduced monitoring costs) for good performance. Refineries choosing to comply with the modified negotiated rule are subject to monitoring, recordkeeping, and reporting requirements of subpart H. The EPA has included this compliance alternative to add flexibility and opportunities for adjustment for differences among facilities.

The compliance dates for equipment leaks were revised to address commenter concerns that contended that small refineries and refineries in ozone attainment areas would be at a disadvantage if they were required to comply with the proposed equipment leak regulations because they would not have the experience to implement an equipment leaks control program within 6 to 18 months.

The EPA agrees that small refineries may not have the experience to implement an LDAR program for equipment leaks in a short timeframe without significant expense. The EPA also contends that other refineries that do not currently have LDAR programs may also have trouble implementing the rule in 6 to 18 months. In response to these comments, the EPA has changed the final rule to require that existing refineries, regardless of size, comply with an LDAR program with the same leak definitions (10,000 ppm) and monitoring frequencies as the petroleum refinery NSPS within 3 years of promulgation of the rule. At the end of the third year, the entire refinery must be in compliance with the petroleum refinery NSPS level of control; there will not be interim deadlines during the 3-year period by which portions of the refinery are required to comply during this time. A refinery owner or operator who chooses to comply with the modified negotiated rule must then implement Phase II within 4 years and Phase III within 5½ years of promulgation. The total annual cost estimates for the rule have been revised in accordance with the changes made to the equipment leak requirements.

*D. Storage Vessels*

The proposed rule required existing storage vessels containing liquids with vapor pressures greater than or equal to 8 kPa (1.2 psia) to comply with storage vessel requirements within 3 years. For tanks that were already controlled with internal or external floating roofs, the proposed rule allowed operators to defer upgrading of seals until the next scheduled maintenance with the following exceptions: (1) Fixed roof tanks, (2) EFR tanks with only a vapor-mounted primary seal, and (3) all tanks storing a liquid with a true vapor pressure greater than 34 kPa (5.0 psia).

Commenters to the proposed rule maintained that before additional emission controls (e.g., secondary seals) can be installed, tanks must be removed from service, degassed, and cleaned. Storage tanks are currently emptied and cleaned roughly every 10 years for inspection and maintenance. The commenters contended that removing storage tanks that already have floating roofs from service before scheduled maintenance would have adverse environmental impacts that could not be overcome by the emissions reductions from upgrading the seals on the tank. The commenters further stated that tank owners or operators would incur substantial costs as a result of degassing and cleaning a tank before scheduled maintenance. The commenters contended that a 3-year compliance schedule could not be met because there would not be enough trained and capable fabricators and contractors to support the tank modification work. Commenters stated that the reason was that the refinery rule compliance period overlaps with the implementation of other EPA rules and that a 10-year compliance schedule would be consistent with other EPA rulemakings such as the HON and the benzene storage NESHAP.

The EPA agrees with the commenters that the HON and the benzene storage NESHAP allow floating roof tanks to achieve compliance in 10 years or at the time of the next scheduled degassing. Most existing floating roof storage vessels at refineries also fall under the 10-year compliance schedule. Therefore, these storage vessels will be inspected within 5 to 10 years after promulgation of the rule. This is consistent with industry practice.

In response to these comments, the EPA analyzed the emissions resulting from degassing and cleaning storage vessels using empirical mass-transfer models. The analysis indicated that degassing and cleaning of floating roof vessels generally results in substantial volatilization of HAP's to the air. These emissions could not be balanced in less than 5 years by the emission reductions achieved by controlling the tank to the requirements in the rule. Additionally, the degassing and cleaning information submitted by the refining industry indicated substantial costs for each degassing and cleaning activity if required within 3 years after promulgation of the rule. Based on information provided by industry and the EPA's empirical analysis, the EPA determined that the proposed storage vessel provisions would, in many cases,

HeinOnline 60 Fed. Reg. 43251 1995

result in increased overall emissions because of the extra degassing emissions.

The final rule allows owners or operators of storage vessels subject to the rule to defer installation of better seals on floating roof tanks storing any liquid until the next scheduled maintenance or within 10 years, whichever comes first. This change addresses the commenters' concerns about emissions and costs as well as their concern about the availability of trained fabricators and contractors to modify the tanks within a 3-year period. The final rule maintains the requirement to retrofit IFR tanks at existing sources with secondary seals that meet 40 CFR part 60 subpart Kb requirements because it is the MACT floor for IFR vessels.

Based on the EPA's analysis, the emissions from degassing and cleaning fixed roof tanks can be balanced within 1 year (justifying a 3-year compliance date) by the emission reductions achieved by controlling the tank to the requirements in the rule. Therefore, the final rule maintains the proposed compliance times (within 3 years) for fixed roof tanks. The EPA believes that in certain situations, such as when replacement of a tank is required, it would be reasonable for States to grant an additional year to comply as authorized under section 112(i)(3)(B) of the Act. The additional year would provide time to design and construct the tanks without disrupting refinery operations which could cause additional emissions. The EPA will work with the industry and States to find ways to use the emissions averaging program to deal with cases where tanks have to replaced or where it is extremely difficult or costly to install the required controls.

Several commenters contended that the Group 1 definition of 8 kPa (1.2 psia) in the proposed NESHAP was based on data requests in section 114 and ICR questionnaires that were misinterpreted by respondents. The commenters stated that the questionnaires did not specify whether respondents were to provide maximum true vapor pressures or average annual true vapor pressures. The commenters elaborated that because other data were provided to estimate emissions on an annual basis, it was reasonable to assume that respondents provided average annual true vapor pressures instead of maximum true vapor pressures. The commenters concluded that vapor pressures based on the maximum monthly temperatures may be 0.3 psia higher than the average annual true vapor pressure. The commenters recommended that the EPA either change the applicability cutoff to 10 kPa (1.5 psia) maximum true vapor pressure to account for this difference or specify that the 8 kPa (1.2 psia) cutoff is the average annual true vapor pressure instead of the maximum true vapor pressure.

The EPA agrees with the commenters that because the questionnaires did not specify the type of vapor pressure, the respondents may have provided annual average true vapor pressures instead of maximum true vapor pressures. In order to reflect the uncertainty of the type of vapor pressure provided in the questionnaires, the EPA has decided to change the storage vessel applicability cutoff in the final rule from a maximum true vapor pressure of 8 kPa (1.2 psia) to 10 kPa (1.5 psia). An analysis of the storage vessel data base indicated that a change from 8.3 kPa (1.2 psia) to 10 kPa (1.5 psia) will not affect the impacts analysis.

Several commenters requested that a minimum HAP content be considered as well as a vapor pressure cut-off for storage vessels because some liquids may have very low HAP concentrations and high vapor pressures due to the volatility of non-HAP compounds in the material. The EPA agrees that several products, such as asphalt, have minimal HAP's that may have vapor pressures greater than 10 kPa (1.5 psia) if stored at elevated temperatures. To determine HAP weight percent applicability criteria, the EPA reviewed the MACT floor analysis for storage vessels to determine the HAP weight percents in controlled storage vessels at the best-controlled sources. The MACT floor for new sources is based on the best-controlled source, while the floor for existing sources is the average of the best-controlled 12 percent of sources (or 16 refineries). The HAP weight percent applicability criterion was determined using the same population of storage tanks used to determine the vapor pressure applicability cut-off (i.e., the best-controlled 16 refineries). The minimum HAP concentrations for materials stored in the tanks meeting subpart Kb at the 16 best-controlled sources ranged from 2 weight percent to 22 weight percent. The average HAP weight percent in the liquids stored in these tanks is 4 percent. The best-controlled tanks contain liquids with a HAP weight percent in the liquid of 2 percent. Therefore, the HAP weight percent criterion for existing sources is 4 percent HAP in the liquid; the HAP weight percent for new sources is 2 percent HAP in the liquid.

*E. Overlapping Regulations*

Several commenters contended that the petroleum refinery NESHAP will lead to overlap with other existing and future regulations such as the 40 CFR part 60 NSPS, 40 CFR parts 61 and 63 NESHAP, and State and local regulations. Commenters stated that the overlap between regulations will lead to confusion, uncertainty, and frustration for sources and regulators.

The EPA has clarified the applicability of subpart CC as it relates to other NSPS and parts 61 and 63 NESHAP that apply to the same source in § 63.640 of the final rule.

The final rule clarifies the applicability of 40 CFR part 63, subpart CC storage vessel provisions to storage vessels at existing and new petroleum refinery sources subject to 40 CFR part 60, subparts K, Ka, or Kb. The specific provisions are structured such that each vessel is subject to only the more stringent rule. For example, a Group 1 storage vessel at an existing refinery that is also subject to subpart K or Ka is required only to comply with the petroleum refinery NESHAP storage vessel provisions.

The final rule clarifies the applicability of 40 CFR part 63, subpart CC wastewater provisions by stating that a Group 1 wastewater stream managed in a piece of equipment that is also subject to the provisions of 40 CFR part 60, subpart QQQ is required only to comply with 40 CFR part 63, subpart CC. The final rule also clarifies that a Group 2 wastewater stream managed in equipment that is also subject to the provisions of 40 CFR part 60, subpart QQQ is required only to comply with subpart QQQ. Clarification of the applicable provisions for a wastewater stream that is conveyed, stored, or treated in a wastewater stream management unit that also receives streams subject to the provisions of 40 CFR part 63, subpart F has been included in the final rule.

There should not be any process vent applicability overlap between subpart CC and any other Federal rule. Process vents regulated under the HON are not subject to the petroleum refinery NESHAP.

The EPA clarifies the applicability of subpart CC equipment leak provisions in the final rule by stating that petroleum refinery sources subject to subpart CC and 40 CFR parts 60 or 61 equipment leaks regulations are required to comply only with the petroleum refinery NESHAP (40 CFR part 63; subpart CC) equipment leak provisions.

HeinOnline 60 Fed. Reg. 43252 1995

The EPA has also included a Standard Industrial Classification (SIC) code definition for petroleum refining (2911) to the petroleum refinery process units definition in the final rule in order to clarify which provisions of the rule apply to storage vessels and equipment leaks. The EPA believes that the inclusion of the SIC code reference in the definition of refinery process unit will alleviate confusion about applicability of this rule (reducing potential confusion regarding process unit regulatory overlap) and other source categories scheduled for the development of NESHAP under the Act. The EPA has also added a list of pollutants covered under the rule to assist facilities in the determination of whether emission points are covered under the rule.

Another issue raised by several commenters was the potential for overlap between the petroleum refinery MACT and other MACT standards such as the HON. These commenters requested that the EPA clarify the distinction between process units subject to the HON or other MACT standards and process units subject to the petroleum refinery MACT standard. These commenters thought that the description of refinery process units was too general and could include chemical processes subject to the HON or other MACT standards.

The final rule provides that 40 CFR part 63, subpart CC does not apply to units that are also subject to the provisions of the HON. The applicability of subpart CC versus the HON or other MACT standard to an emission point is determined by the primary product produced in the unit. The primary product is the product that is produced in the greatest mass or volume that the unit produces. For example, if a refinery operates a unit that produces upgraded feedstock for the alkylation unit and this unit also produces a small quantity (less than 20 percent) of the chemical methyl tert butyl ether (MTBE), that unit is considered to be subject to the petroleum refinery MACT standard and not to the HON. In contrast, if a facility operated a process unit that produced MTBE as the primary product and also produced small quantities of a mixed hydrocarbon stream, the unit would be subject to the HON because the unit produces MTBE as the primary product and the HON applies to chemical manufacturing units that produce MTBE. The distinction between the units is the difference in the primary product produced in the different units. In the first case, the unit is integral to the petroleum refinery's operations and the MTBE is a by-product of the unit. In the second case, the unit's operation could be replaced by purchased MTBE and the operation is not integral to the petroleum refinery's operations.

The EPA believes that including the concept of primary use in the petroleum refining process unit definition clarifies the applicability of the petroleum refinery MACT standard, and that including the primary product concept in HON and other MACT standards will avoid the same emission point from the same process unit being subject to multiple MACT standards. The EPA also believes that by directly stating in the rule that process units subject to the HON are not subject to this rule, the commenter's concerns over applicability issues have been addressed.

*F. Source Category Definition*

In the July 1994 notice of proposed rulemaking, the proposed rule preamble provided notice of and sought comment on the issues of a broad affected source definition and source category; source-wide averaging; and the relationship between the gasoline distribution affected source definition and source category and refineries. In the preamble of the proposed refinery rule, the EPA noted that it did not intend to include emission points that are subject to the gasoline distribution standard in the refinery source category, that all emission points within the refinery source category would be treated as one stationary source for purposes of the refinery standard, and that the EPA intended to permit averaging among all emission points within the source category except for equipment leaks.

Comments on both the gasoline distribution rule and the refinery proposal indicated that the Agency needed to clarify which rule applied to which emissions points and whether averaging would apply to collocated emission points. Both proposed rules addressed similar emission points; for example, both proposed rules addressed storage tanks and equipment leaks where refineries were collocated with gasoline distribution operations. In the preamble accompanying the final gasoline distribution rule, the EPA indicated the intent to rely on SIC codes to distinguish between emission points at refineries covered by the gasoline distribution standard and those covered by the refinery standard. The Agency noted that the SIC code for particular equipment would indicate the department with managerial oversight responsibility for each emission point. However, the EPA specifically provided that this rule, if appropriate, would modify the gasoline distribution standard to incorporate SIC code limits.

Today's rule identifies petroleum refinery process units and the gasoline loading rack emission points by SIC code for purposes of identifying the appropriate control requirements. A broad source category and affected source definition increases the opportunity to use flexible compliance options such as emissions averaging. Because the control technology under today's rule for gasoline loading racks is the same as the requirements under the gasoline distribution NESHAP, the required emissions reductions from gasoline loading racks would be at least as great as would have been required had gasoline loading racks been excluded from the petroleum refinery source category and affected source; due to the credit discount factors, overall emissions may be less than otherwise would be required if gasoline loading racks are included in an emissions averaging plan.

*G. Emissions Averaging*

The preamble to the proposed petroleum refinery rule requested comments on whether marine loading operations at refineries should be included in emissions averaging. The EPA also reopened the comment period for the proposed NESHAP for marine tank vessel loading operations (59 FR 44955) to request comment on whether marine terminals collocated at refineries should be moved to the petroleum refinery source category. In addition, as noted above, issues related to including gasoline distribution emissions in averaging at refineries were also raised in the proposed rule preamble.

During the comment period for the gasoline distribution NESHAP, commenters requested that gasoline bulk terminals contiguous to a refinery be regulated by the petroleum refinery NESHAP. Several commenters on the proposed petroleum refinery NESHAP and proposed marine tank vessel loading operations NESHAP supported averaging of refinery process unit emissions with emissions from marine terminals and gasoline distribution operations that are located at refineries. The commenters cited more cost-effective emission reduction as the advantage of including these emission points in emissions averaging, and specifically commented that the costs per megagram emission reduction of the marine loading controls are high. These commenters also claimed that emission calculation procedures for loading are well established and that adding marine loading to the averaging provisions will not appreciably increase the complexity

of enforcement. Other commenters opposed including marine loading and gasoline distribution emission points in emissions averaging. Some commenters claimed that these are separate source categories and that the Act does not permit averaging across source categories. Other commenters were of the opinion that the EPA has the flexibility to allow trading within a facility that includes units in different source categories. These commenters argued that it is unnecessary to redefine the source category to include marine loading operations and gasoline distribution operations collocated at refineries.

In the final rule, the definitions of the petroleum refinery source category and affected source have been changed to include gasoline loading racks classified under SIC code 2911 (Petroleum Refineries) and marine tank vessel loading operations that are located at refinery plant sites. Because marine loading operations and bulk gasoline transfer operations located at refineries are supplying raw materials to, or transferring products from, petroleum refinery process units, they are logically considered to be part of the same source as the petroleum refinery process units. The EPA considers this definition to be the most appropriate definition and, as noted by several commenters, to present fewer implementation problems.

A gasoline loading rack classified under SIC code 2911 or a marine tank vessel loading operation that is located at a petroleum refinery may be included in an emissions average with other refinery process unit emission points. Because these operations are included as part of a single source within one source category intersource averaging is not an issue.

In keeping with the EPA's stated goal of increasing flexibility in rulemakings, this decision has been made to provide more opportunities to average. This increases the opportunities for refiners to find cost-effective emission reductions from overall facility operations onsite. Costs and cost effectiveness of controlling a particular kind of emission point, such as marine loading, will vary depending on many site-specific factors. Emissions averaging allows the owner and operator to find the optimal control strategy for their particular situation.

The EPA is presently reviewing the emission averaging policy and considering whether any more flexibility can be provided while maintaining environmental protection. The issue of intersource averaging will be considered along with other aspects of the emissions averaging policy such as limitations on the number of points allowed in an average. The EPA believes that any decision to provide additional flexibility must be based on careful consideration of enforcement issues as well as equity in environmental protection. Given the complexity of these issues, the EPA does not believe that the Refinery MACT standard is the appropriate place to address these issues. The EPA plans to examine the issue independently of any specific rulemaking. In this, the EPA plans to work closely with both the refining and chemical industries and other interested parties to determine if there are opportunities for increasing flexibility and reducing the burden associated with demonstrating compliance with the MACT rules while remaining within the law.

The EPA would like to clarify that the emissions averaging program was designed to result in equal or greater environmental protection while providing sources flexibility to reduce emissions in the most cost-effective manner. Specifically, allowing marine loading operations, and gasoline loading racks classified under SIC code 2911, located at a refinery to be included in emissions averages will result in equivalent or greater overall HAP emission reduction at each refinery. The averaging provisions are structured such that "debits" generated by not controlling an emission point that otherwise would require control must be balanced by achieving extra control at other refinery emission points covered by the NESHAP. The averaging provisions also require that a source demonstrate that compliance through averaging will not result in greater risk or hazard than compliance without averaging.

Some commenters were concerned that including marine loading in averages could result in uncontrolled peak emissions. With regard to the commenters' concerns about peak emissions, the quarterly cap on the ratio of debits to credits is intended to limit the possibility of exposure peaks. Furthermore, because loading occurs fairly frequently, and emissions from an individual vessel filling or loading event are relatively small, such emissions are not expected to cause significant exposure peaks. Moreover, no evidence has been presented that emissions averaging would permit a very different mix of emissions to occur than would point-by-point compliance. That is, peaks of exposures from batch streams, storage, and loading operations should be equally likely under point-by-point compliance as under emissions averaging, so emissions averaging does not represent a less effective control strategy. Furthermore, in order to receive approval for an emissions average, the owner or operator is required to demonstrate that the emissions average does not increase the risk or hazard relative to compliance without averaging.

*H. Monitoring, Recordkeeping, and Reporting*

Several commenters alleged that the recordkeeping and reporting requirements of the proposed rule were extremely burdensome. The commenters requested that the EPA reduce the monitoring, recordkeeping, and reporting burden associated with the proposed rule. Commenters also requested that provisions be added to the final rule to avoid duplicative reporting for equipment subject to multiple NESHAP and NSPS. Other commenters requested that flexibility to allow alternative monitoring, recordkeeping, and reporting be incorporated into the final rule.

The EPA recognizes that unnecessary monitoring, recordkeeping, and reporting requirements would burden both the source and enforcement agencies. Prior to proposal, the EPA attempted to reduce the amount of monitoring, recordkeeping, and reporting to only that which is necessary to demonstrate compliance. For example, at proposal almost all reports were consolidated into the Notification of Compliance Status and the Periodic Reports. This was done to simplify and reduce the frequency of reporting. Sources also have the option of retaining records either in paper copy or in computer-readable formats, whichever is less burdensome. If multiple performance tests are conducted for the same kind of emission point using the same test method, only one complete test report is submitted along with summaries of the results of other tests. This reduces the number of lengthy test reports to be copied, reviewed, and submitted.

Site-specific test plans describing quality assurance in § 63.7(c) of 40 CFR part 63, subpart A are not required because the test methods cited in subpart CC already contain applicable quality assurance protocols. The quality assurance provisions in the individual test methods remain applicable and are not superseded by the nonapplicability of § 63.7(c) of subpart A. For continuously monitored parameters, periodic reporting is limited to excursions outside the established ranges and the in-range values are not required to be reported.

In response to the commenters, the EPA reevaluated whether monitoring, recordkeeping, and reporting requirements could be further reduced while maintaining the enforceability of the rule. The EPA has made the following changes in the promulgated rule to further reduce the monitoring, recordkeeping, and reporting burden:

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

(2) Periodic reports are required to be submitted semiannually for all facilities that do not use emissions averaging (the proposal required quarterly reports if monitored parameters were out of range more than a specified percentage of the time);

(3) A reduction in the frequency for parameter monitoring and recording. The proposal required values of monitored parameters to be recorded every 15 minutes and all 15-minute records had to be retained for those days when excess emissions occurred. The final rule allows hourly monitoring and recording;

(4) Recordkeeping and reporting provisions that eliminate duplicate reporting for equipment subject to multiple NESHAP and NSPS were added to the applicability section (§ 63.640) of the final rule. The additions specify which rule applies and overrides the less stringent NSPS or NESHAP. For State and local regulation applicability determination, the final rule has been amended to state that the local regulatory authority (e.g., State or permitting authority) can decide how monitoring, recordkeeping, and reporting requirements can be consolidated, and can approve alternative monitoring, recordkeeping, and reporting requirements.

These reductions reduce the proposal monitoring, recordkeeping, and reporting burden by 25 percent. The EPA plans to continue to work with the industry as well as with other interested parties to identify further opportunities for reduction of the monitoring, recordkeeping, and reporting burden of the rule. The EPA will consider ways to eliminate overlapping requirements and to address any inconsistencies among the rules. The EPA will investigate the possibility of consolidating and simplifying the various rules while maintaining the same level of environmental protection. Assuming that the pilot project with the chemical industry is successful, the EPA expects to be able to complete the review of the Refinery rule monitoring, recordkeeping, and reporting requirements before the compliance date.

*I. Subcategorization*

Several commenters to the proposed petroleum refinery NESHAP requested that the EPA subcategorize refineries by size and/or location in an ozone attainment area. Other commenters stated that subcategorizing small refineries because of an arbitrary size exemption can result in an unfair competitive advantage. These commenters further elaborated that large refineries should not be penalized for an economy of scale achieved through its own effective competitiveness.

In response to these comments, the refinery data bases were subcategorized based on crude charge capacity. The refineries were also subcategorized by ozone attainment status and by refineries containing processes that are used to produce gasoline (such as catalytic cracking, coking, and catalytic reforming). Within each subcategory, the process vents, storage vessels, and equipment leaks data bases were sorted from most stringent control to least stringent. The MACT floor (average of the top 12 percent of sources) for each subcategory was identified.

The MACT floors for small refineries are not significantly different from the industry as a whole. The floor for process vents is the same for small refiners as for the entire industry. The floor for storage tanks would increase the materials vapor pressure cutoff from 10 kPa (1.5 psia) to 11 kPa (1.7 psia), which would result in a minimal cost savings since there are few petroleum liquids in this volatility range. The floor for equipment leaks would reduce the monitoring frequency; however, small refiners would still incur the cost of setting up and implementing an LDAR program.

Based on the EPA's analysis and the comments received during the public comment period, a separate subcategory for small refineries has not been included in the final rule. This decision was based on there being no clear relationship between refinery size or design and emission potential.

*J. Economic Analysis*

Comments were received on both the methodology of the economic analysis and the potential impacts of the analysis results. The EPA's economic model focused on estimating changes in product price and quantity of production for several petroleum products. Once the effects on price and quantity were evaluated, other impacts were estimated. The model the EPA used is predicated on neoclassical microeconomic theory.

The model assumed that those refineries with the highest per-unit control are marginal (i.e., near the margin between shutdown and continuing operation) in the post-control markets, and that they also have the highest underlying per-unit cost of production. This assumption may result in an overstatement of the adverse impacts, such as closure, since the assumed relationship between per-unit control cost and per-unit production cost may not hold for all refineries. For more information, consult the "Economic Impact Analysis for the Petroleum Refinery NESHAP" in the docket.

Most of the comments about the economic analyses methodology were focused on possible impacts on other parts of the petroleum industry other than refineries. The economic analysis for this rule, like most of the EPA's economic analyses, focuses on the impacts on the industry being regulated and does not calculate impacts to other industries indirectly affected unless those impacts are significant. In this case, the impacts to indirectly affected industries were not calculated since the impacts estimated for the petroleum refinery industry were not significant, impacts to indirectly affected industries would likely be insignificant also.

*K. Benefits Analysis*

Comments noted that naphthalene is classified as a possible carcinogen, not a known carcinogen, and therefore should not be included in the risk analysis. Commenters also argued that the estimates for monetized VOC benefits were too high, since the VOC reductions claimed in the regulation would occur as a result of State Implementation Plans (SIP's) required by the Act. Other commenters wrote that the level of benefits from HAP emissions reduction was not of sufficient justification for pursuing the regulation.

When the rule was proposed, naphthalene was classified as a possible human carcinogen. Naphthalene is no longer classified as a possible human carcinogen and is not included in the risk analysis for the final rule.

To estimate the benefits of reducing VOC, the EPA used a 1989 study conducted by the Office of Technology Assessment (OTA). The study examined a variety of acute health impacts related to ozone exposure as well as the benefits of reduced ozone concentrations for selected agricultural crops. A number of factors were not considered in the analysis, including chronic health effects and health impacts for attainment areas.

As to the comment about some of the benefits being attributable to VOC

HeinOnline 60 Fed. Reg. 43255 1995

emission reductions brought about by implementing SIP's, the EPA attempted to include in the baseline all possible impacts from SIP implementation. Control of VOC in this rule will be incorporated into future SIP's by affecting their baselines, thus making the emission reductions needed to meet them less, and leading to lower costs for petroleum refineries to meet those SIP's. Therefore, control of VOC emissions in this rule will lead to lower costs to future SIP implementation. Also, the emission streams from petroleum refineries are primarily VOC, with a small fraction of VOC being HAP. Control of any petroleum refinery emission stream involves control of VOC as well as HAP. Thus, any benefits estimated to occur from a rule that controls VOC, though their control is of secondary importance, should be included as benefits of the rule.

*L. Emissions Data*

Commenters raised concerns about the amount and quality of the data on HAP emissions, and the uncertainties in the emission estimates. Throughout the rulemaking, the EPA has been aware of these concerns. During the course of this rulemaking, the EPA requested information from the petroleum refining industry on emissions and emission control technologies. The industry provided sufficient information on the emission control technologies to determine the best controlled facilities, as required by section 112 of the Act. However, the information received on existing emission control levels was limited because it was not available. Thus, there is uncertainty in the refinery baseline emission estimates, and emission reductions and other benefits achieved from the emission controls required to comply with the rule. The EPA and the petroleum refinery industry are unable to reduce this uncertainty at this time. The Agency has characterized the costs and emission reductions of the requirements of this rule as accurately as possible. While there is a great deal of qualitative information on the benefits of this rule, the uncertainty in the emission estimates and the monetary value that can be placed on the emission reductions limits the Agency's ability to directly quantify all the benefits of the refinery MACT rule. The EPA does know, however, that the controls required in this rulemaking are in widespread use in the refining industry and that they provide substantial emission reductions.

Under section 112(f) of the Act, the EPA must determine whether further control of refinery emissions is necessary to protect the health of the general public. This determination will require more accurate emission estimates than currently exist. The EPA has made a commitment to work cooperatively with industry to identify the data needed to improve the emission estimates and any other information that is required to determine the health risks that may remain after implementation of the refinery MACT rule.

## VI. Changes to NSPS

The changes to 40 CFR part 60, subparts VV and QQQ are promulgated with minor edits for clarity and consistency.

## VII. Administrative Requirements

*A. Docket*

The docket is an organized and complete file of all the information considered by the EPA in the development of this rulemaking. The docket is a dynamic file, since material is added throughout the rulemaking development. The docketing system is intended to allow members of the public and industries involved to readily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the proposed and promulgated standards and their preambles, and the BID containing the EPA's responses to significant comments, the contents of the docket will serve as the record in case of judicial review (section 307(d)(7)(A)).

*B. Paperwork Reduction Act*

The information collection requirements in this rule have been approved by the Office of Management and Budget (OMB) under the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq* and have been assigned control number 2060–0340. This collection of information has an estimated annual reporting burden averaging 320 hours per respondent and an estimated annual recordkeeping burden averaging 2,880 hours per respondent. 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.

This reflects a reduction of the proposal monitoring, recordkeeping, and reporting burden of 25 percent. The EPA plans to continue to work with the industry as well as with other interested parties to identify further opportunities for reduction of the monitoring, recordkeeping, and reporting burden of the rule. The EPA will consider ways to eliminate overlapping requirements and to address any inconsistencies among the rules. The EPA will investigate the possibility of consolidating and simplifying the various rules while maintaining the same level of environmental protection. Assuming that the pilot project with the chemical industry is successful, the EPA expects to be able to complete the review of the Refinery rule monitoring, recordkeeping, and reporting requirements before the compliance date.

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Chief, Information Policy Branch; EPA; 401 M St. SW., (Mail Code 2136); 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."

*C. Executive Order 12866*

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

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

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

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

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

This action is a "significant regulatory action" within the meaning of Executive Order 12866. The EPA has submitted this action to OMB for review. Changes made in response to OMB suggestions or recommendations will be documented in the public record.

*D. Regulatory Flexibility Act*

Pursuant to the Regulatory Flexibility Act of 1980, 5 U.S.C. 601 *et seq.*, when an agency publishes a notice of rulemaking, for a rule that will have a significant effect on a substantial number of small entities, the agency

HeinOnline 60 Fed. Reg. 43256 1995

must prepare and make available for public comment a regulatory flexibility analysis (RFA) that considers the effect of the rule on small entities (i.e., small businesses, small organizations, and small governmental jurisdictions). In assessing the regulatory approach for dealing with small entities in today's final rule, the EPA guidelines indicate that an economic impact should be considered significant if it meets one of the following criteria:

(1) Compliance increases annual production costs by more than 5 percent, assuming costs are passed on to consumers;

(2) Compliance costs as a percentage of sales for small entities are at least 10 percent more than compliance costs as a percentage of sales for large entities;

(3) Capital costs of compliance represent a "significant" portion of capital available to small entities, considering internal cash flow plus external financial capabilities, or

(4) Regulatory requirements are likely to result in closure of small entities.

Data were not readily available to determine if criteria (1) and (3) were met or not, so the analysis focused on the other two. Results from the economic impact analysis indicate that between zero and seven refiners, all of which are classified as small, are at risk of closure (refer to the "Economic Impact Analysis of the Regulatory Alternatives for the Petroleum Refineries NESHAP" in the *Background Information Documents* section). While this percentage of net closures is less than 20 percent of the total number of small refineries (88), it was deemed high enough for carrying out an RFA on that basis alone. Criterion (2), however, was satisfied. The compliance costs-to-sales ratio for the small refiners was more than 10 percent greater than the same ratio calculated for all other refiners.

There are four reasons why small entities are disproportionately affected by the regulation. The first is the fact that they tend to own smaller facilities, and therefore have smaller economics of scale. Because of the smaller economies of scale, per-unit costs of production and compliance are higher for the small refiners compared to others. Related to this is the fact that small refiners have less ability to produce differentiated products. This ability, called complexity, increases with increasing refinery capacity. A large refinery can respond to a relative increase in production costs for one product by increasing production of a product now relatively cheaper to produce, an ability most small refiners rarely enjoy.

A second reason is they have fewer capital resources. Small refineries have less ability to finance the capital expenditures needed to purchase the equipment required to comply with the regulation. A third reason is the difference in internal structure. None of the small refiners are vertically or horizontally integrated, and in all but a few cases are not the subsidiary of a large parent company. The small refiners are typically independent owners and operators of their facilities, and most are owners of a single refinery. They do not possess the ability to shift production between different refineries and have less market power than their large competitors.

A fourth reason why smaller refiners experience greater economic impacts than other refiners is due to the small industry-level price increases (less than 1 percent in all cases). It is unlikely that small refiners will be able to recover annualized control costs by increasing product prices, since the large refiners will not be significantly impacted. As seen in the examination of criterion (2), the large refiners will not be significantly affected from compliance with the regulation.

In calculating the number of closures, the assumption was made that those refineries with the highest per-unit control costs were marginal after compliance with the regulation. While this assumption is often useful in closure analysis, it is not always true. The assumption is consistent with perfect competition theory that presumes all firms are price-takers. If a refiner does have some monopoly power in a particular market, then it is possible a refiner experiencing some economic distress could continue to operate for some period while complying with the regulation. It is a conservative assumption that likely biases the results to overstate the number of refinery closures and other impacts of the proposed regulation.

To mitigate the economic impacts on small refiners, the Agency has considered whether to subcategorize the MACT floors for the various emission sources or to allow refiners more time to comply with the regulation. The Agency has decided not to include a separate subcategory for small refiners, but has decided to allow refiners more time to comply with various requirements for control of equipment leak and storage vessel emissions (refer to section V, "Significant Comments and Changes to the Proposed Standards").

The definition of small refinery used in the analysis is 50,000 bbl per stream day production capacity. This differs from the definition of 75,000 barrels per stream current as of May 1, 1992, a definition announced by the Small Business Administration that day in the **Federal Register** (57 FR 18808).

*E. 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 rule that includes a Federal mandate that may result in estimated costs to State, local, or tribal governments in the aggregate, or to the private sector, of $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 rule 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 rule.

The EPA has determined that the action promulgated today does not include a Federal mandate that may result in estimated costs of $100 million or more to either State, local, or tribal governments in the aggregate, or to the private sector. Therefore, the requirements of the Unfunded Mandates Act do not apply to this action.

**List of Subjects**

*40 CFR Part 60*

Environmental protection, Administrative practice and procedure, Air pollution control, Gasoline, Intergovernmental relations, Natural gas, Volatile organic compounds.

*40 CFR Part 63*

Air pollution control, Hazardous air pollutants, Petroleum refineries, Reporting and recordkeeping requirements.

Dated: July 28, 1995.

**Carol M. Browner,**

*Administrator.*

For the reasons set out in the preamble, parts 9, 60, and 63 of title 40, chapter I, of the Code of Federal Regulations are amended as follows:

## PART 9—OMB APPROVALS UNDER THE PAPERWORK REDUCTION ACT

1. The authority citation for part 9 continues to read as follows:

**Authority:** 7 U.S.C. 135 et seq., 136–136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601–2671; 21 U.S.C. 331, 346a, 348; 31 U.S.C. 9701; 33 U.S.C. 1251 et seq., 1311, 1313d, 1314, 1321, 1326, 1330, 1344, 1345(d), and (e), 1381; E.O. 11735, 38 FR 21243, 3 CFR, 1971–1975

HeinOnline 60 Fed. Reg. 43257 1995

Comp. p. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g–i, 300j–2, 300j–3, 300j–4, 300j–9, 1857 et seq., 6901–6992k, 7401–7671q, 7542, 9601–9657, 11023, 11048.

2. Section 9.1 is amended by adding the new entries to the table under the indicated heading in numerical order to read as follows:

**§ 9.1 OMB approvals under the paperwork reduction act.**

* * * * *

| 40 CFR citation | OMB control No. |
|---|---|
| * * * * * | |
| National Emission Standards for Hazardous Air Pollutants for Source Categories | |
| * * * * * | |
| 63.653 | 2060–0340 |
| 63.654 | 2060–0340 |
| * * * * * | |

## PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

1. The authority citation for part 60 continues to read as follows:

**Authority:** 42 U.S.C. 7401–7601.

### Subpart VV—[Amended]

2. Section 60.481 is amended by revising the definition of "closed vent system" to read as follows:

**§ 60.481 Definitions.**

* * * * *

*Closed vent system* means a system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device. If gas or vapor from regulated equipment is routed to a process (e.g., to a petroleum refinery fuel gas system), the process shall not be considered a closed vent system and is not subject to the closed vent system standards.

* * * * *

3. Section 60.482–5 is revised to read as follows:

**§ 60.482–5 Standards: Sampling connection systems.**

(a) Each sampling connection system shall be equipped with a closed-purged, closed-loop, or closed-vent system, except as provided in § 60.482–1(c).

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (b)(3) of this section:

(1) Return the purged process fluid directly to the process line; or

(2) Collect and recycle the purged process fluid to a process; or

(3) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of § 60.482–10.

(c) In situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

4. Section 60.482–10 is amended by revising paragraphs (f) and (g) and adding paragraphs (h) through (l) to read as follows:

**§ 60.482–10 Standards: Closed vent systems and control devices.**

* * * * *

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this section:

(i) Conduct an initial inspection according to the procedures in § 60.485(b); and

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

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in § 60.485(b); and

(ii) Conduct annual inspections according to the procedures in § 60.485(b).

(g) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

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

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section.

(j) Any parts of the closed vent system that are designated, as described in paragraph (k)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (j)(2) of this section:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (k)(3) of this section:

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

(2) The process unit within which the closed vent system is located becomes an affected facility through §§ 60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (l)(5) of this section.

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated

HeinOnline 60 Fed. Reg. 43258 1995

as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in § 60.486(c).

(4) For each inspection conducted in accordance with § 60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

* * * * *

## Subpart QQQ—[Amended]

* * * * *

5. Section 60.691 is amended by revising the definition of "closed vent system" to read as follows:

### § 60.691 Definitions.

* * * * *

*Closed vent system* means a system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow-inducing devices that transport gas or vapor from an emission source to a control device. If gas or vapor from regulated equipment are routed to a process (e.g., to a petroleum refinery fuel gas system), the process shall not be considered a closed vent system and is not subject to the closed vent system standards.

* * * * *

6. Section 60.692–3 is amended by revising paragraph (d) to read as follows:

### § 60.692–3 Standards: Oil-water separators.

* * * * *

(d) Storage vessels, including slop oil tanks and other auxiliary tanks that are subject to the standards in §§ 60.112, 60.112a, and 60.112b and associated requirements, 40 CFR part 60, subparts K, Ka, or Kb are not subject to the requirements of this section.

* * * * *

7. Section 60.693–2 is amended by revising paragraphs (a)(1)(i) introductory text and (a)(1)(i)(A) to read as follows:

### § 60.693–2 Alternative standards for oil-water separators.

* * * * *

(a) * * *

(1) * * *

(i) The primary seal shall be a liquid-mounted seal or a mechanical shoe seal.

(A) A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the separator and the floating roof. A mechanical shoe seal means a metal sheet held vertically against the wall of the separator by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

* * * * *

8. Section 60.695 is amended by adding paragraphs (a)(3)(i) and (a)(3)(ii) to read as follows:

### § 60.695 Monitoring of operations.

* * * * *

(a) * * *

(3) * * *

(i) For a carbon adsorption system that regenerates the carbon bed directly onsite, a monitoring device that continuously indicates and records the volatile organic compound concentration level or reading of organics in the exhaust gases of the control device outlet gas stream or inlet and outlet gas stream shall be used.

(ii) For a carbon adsorption system that does not regenerate the carbon bed directly onsite in the control device (e.g., a carbon canister), the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system shall be monitored on a regular schedule, and the existing carbon shall be replaced with fresh carbon immediately when carbon breakthrough is indicated. The device shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater. As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and organic concentration in the gas stream vented to the carbon adsorption system.

* * * * *

9. Section 60.697 is amended by revising paragraphs (f)(3)(i), (f)(3)(ii); and by adding paragraphs (f)(3)(x) (A) and (B) to read as follows:

### § 60.697 Recordkeeping requirements.

* * * * *

(f) * * *

(3) * * *

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions shall be kept for the life of the facility. This documentation is to include a general description of the gas streams that enter the control device, including flow and volatile organic compound content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C (1,500 °F) is used to meet the 95-percent requirement, documentation that those conditions exist is sufficient to meet the requirements of this paragraph.

(ii) For a carbon adsorption system that does not regenerate the carbon bed directly onsite in the control device such as a carbon canister, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

* * * * *

(x) * * *

(A) Each owner or operator of an affected facility that uses a carbon adsorber which is regenerated directly onsite shall maintain continuous records of the volatile organic compound concentration level or reading of organics of the control device outlet gas stream or inlet and outlet gas stream and records of all 3-hour periods of operation during which the average volatile organic compound concentration level or reading of organics in the exhaust gases, or inlet and outlet gas stream, is more than 20 percent greater than the design exhaust gas concentration level, and shall keep such records for 2 years after the information is recorded.

(B) If a carbon adsorber that is not regenerated directly onsite in the control device is used, then the owner or operator shall maintain records of dates and times when the control device is monitored, when breakthrough is measured, and shall record the date and

time that the existing carbon in the control device is replaced with fresh carbon.

* * * * *

10. Section 60.698 is amended by adding paragraphs (d)(3)(i) and (d)(3)(ii) to read as follows:

**§ 60.698 Reporting requirements.**

* * * * *

(d) * * *

(3) * * *

(i) Each 3-hour period of operation during which the average volatile organic compound concentration level or reading of organics in the exhaust gases from a carbon adsorber which is regenerated directly onsite is more than 20 percent greater than the design exhaust gas concentration level or reading.

(ii) Each occurrence when the carbon in a carbon adsorber system that is not regenerated directly onsite in the control device is not replaced at the predetermined interval specified in § 60.695(a)(3)(ii).

* * * * *

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

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

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

### Subpart R—[Amended]

2. Section 63.420 is amended by adding paragraph (i) to read as follows:

**§ 63.420 Applicability.**

* * * * *

(i) A bulk gasoline terminal or pipeline breakout station with a Standard Industrial Classification code 2911 located within a contiguous area and under common control with a refinery complying with subpart CC, §§ 63.646, 63.648, 63.649, and 63.650 is not subject to subpart R standards, except as specified in subpart CC, § 63.650.

* * * * *

3. Part 63 is amended by adding subpart CC consisting of §§ 63.640 through 63.679 to read as follows:

**Subpart CC—National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries**

*Sec.*

63.640 Applicability and designation of affected source.
63.641 Definitions.
63.642 General standards.
63.643 Miscellaneous process vents provisions.
63.644 Monitoring provisions for miscellaneous process vents.
63.645 Test methods and procedures for miscellaneous process vents.
63.646 Storage vessel provisions.
63.647 Wastewater provisions.
63.648 Equipment leak standards.
63.649 Alternative means of emission limitation: Connectors in gas/vapor service and light liquid service.
63.650 Gasoline loading rack provisions.
63.651 Marine vessel tank loading operations provisions.
63.652 Emissions averaging provisions.
63.653 Monitoring, recordkeeping, and implementation plan for emissions averaging.
63.654 Reporting and recordkeeping requirements.
63.655 through 63.679 [Reserved]

**Appendix to Subpart CC—Tables**

### Subpart CC—National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries

**§ 63.640 Applicability and designation of affected source.**

(a) This subpart applies to petroleum refining process units and to related emission points that are specified in paragraphs (c)(5) through (c)(7) of this section that are located at a plant site that meet the criteria in paragraphs (a)(1) and (a)(2) of this section;

(1) Are located at a plant site that is a major source as defined in section 112(a) of the Clean Air Act; and

(2) Emit or have equipment containing or contacting one or more of the hazardous air pollutants listed in table 1 of this subpart.

(b) For process units that are designed and operated as flexible operation units, the applicability of this subpart shall be determined for existing sources based on the expected utilization for the first 5 years after startup.

(1) If the predominant use of the flexible operation unit, as described in paragraphs (b)(1)(i) and (b)(1)(ii) of this section, is as a petroleum refining process unit, as defined in § 63.641, then the flexible operation unit shall be subject to the provisions of this subpart.

(i) Except as provided in paragraph (b)(1)(ii) of this section, the predominant use of the flexible operation unit shall be the use representing the greatest annual operating time.

(ii) If the flexible operation unit is used as a petroleum refining process unit and for another purpose equally based on operating time, then the predominant use of the flexible operation unit shall be the use that produces the greatest annual production on a mass basis.

(2) The determination of applicability of this subpart to petroleum refining process units that are designed and operated as flexible operation units shall be reported as specified in § 63.654(h)(6)(i).

(c) For the purpose of this subpart, the affected source shall comprise all emission points, in combination, listed in paragraphs (c)(1) through (c)(7) of this section that are located at a single refinery plant site.

(1) All miscellaneous process vents from petroleum refining process units meeting the criteria in paragraph (a) of this section;

(2) All storage vessels associated with petroleum refining process units meeting the criteria in paragraph (a) of this section;

(3) All wastewater streams and treatment operations associated with petroleum refining process units meeting the criteria in paragraph (a) of this section;

(4) All equipment leaks from petroleum refining process units meeting the criteria in paragraph (a) of this section;

(5) All gasoline loading racks classified under Standard Industrial Classification code 2911 meeting the criteria in paragraph (a) of this section;

(6) All marine vessel loading operations located at a petroleum refinery meeting the criteria in paragraph (a) of this section and the applicability criteria of subpart Y, § 63.560; and

(7) All storage vessels and equipment leaks associated with a bulk gasoline terminal or pipeline breakout station classified under Standard Industrial Classification code 2911 located within a contiguous area and under common control with a refinery meeting the criteria in paragraph (a) of this section.

(d) The affected source subject to this subpart does not include the emission points listed in paragraphs (d)(1) through (d)(4) of this section.

(1) Stormwater from segregated stormwater sewers;

(2) Spills; and

(3) Equipment that is intended to operate in organic hazardous air pollutant service, as defined in § 63.641 of this subpart, for less than 300 hours during the calendar year.

(4) Catalytic cracking unit and catalytic reformer catalyst regeneration vents, and sulfur plant vents.

(e) The owner or operator shall follow the procedures specified in paragraphs (e)(1) and (e)(2) of this section to determine whether a storage vessel is part of a source to which this subpart applies.

(1) Where a storage vessel is used exclusively by a process unit, the

HeinOnline 60 Fed. Reg. 43260 1995

storage vessel shall be considered part of that process unit.

(i) If the process unit is a petroleum refining process unit subject to this subpart, then the storage vessel is part of the affected source to which this subpart applies.

(ii) If the process unit is not subject to this subpart, then the storage vessel is not part of the affected source to which this subpart applies.

(2) If a storage vessel is not dedicated to a single process unit, then the applicability of this subpart shall be determined according to the provisions in paragraphs (e)(2)(i) through (e)(2)(iii) of this section.

(i) If a storage vessel is shared among process units and one of the process units has the predominant use, as determined by paragraphs (e)(2)(i)(A) and (e)(2)(i)(B) of this section, then the storage vessel is part of that process unit.

(A) If the greatest input on a volume basis into the storage vessel is from a process unit that is located on the same plant site, then that process unit has the predominant use.

(B) If the greatest input on a volume basis into the storage vessel is provided from a process unit that is not located on the same plant site, then the predominant use shall be the process unit that receives the greatest amount of material on a volume basis from the storage vessel at the same plant site.

(ii) If a storage vessel is shared among process units so that there is no single predominant use, and at least one of those process units is a petroleum refining process unit subject to this subpart, the storage vessel shall be considered to be part of the petroleum refining process unit that is subject to this subpart. If more than one petroleum refining process unit is subject to this subpart, the owner or operator may assign the storage vessel to any of the petroleum refining process units subject to this subpart.

(iii) If the predominant use of a storage vessel varies from year to year, then the applicability of this subpart shall be determined based on the utilization of that storage vessel during the year preceding promulgation of this subpart. This determination shall be reported as specified in § 63.654(h)(6)(ii) of this subpart.

(f) The owner or operator shall follow the procedures specified in paragraphs (f)(1) through (f)(5) of this section to determine whether a miscellaneous process vent from a distillation unit is part of a source to which this subpart applies.

(1) If the greatest input to the distillation unit is from a process unit located on the same plant site, then the distillation unit shall be assigned to that process unit.

(2) If the greatest input to the distillation unit is provided from a process unit that is not located on the same plant site, then the distillation unit shall be assigned to the process unit located at the same plant site that receives the greatest amount of material from the distillation unit.

(3) If a distillation unit is shared among process units so that there is no single predominant use, as described in paragraphs (f)(1) and (f)(2) of this section, and at least one of those process units is a petroleum refining process unit subject to this subpart, the distillation unit shall be assigned to the petroleum refining process unit that is subject to this subpart. If more than one petroleum refining process unit is subject to this subpart, the owner or operator may assign the distillation unit to any of the petroleum refining process units subject to this rule.

(4) If the process unit to which the distillation unit is assigned is a petroleum refining process unit subject to this subpart and the vent stream contains greater than 20 parts per million by volume total organic hazardous air pollutants, then the vent from the distillation unit is considered a miscellaneous process vent (as defined in § 63.641 of this subpart) and is part of the source to which this subpart applies.

(5) If the predominant use of a distillation unit varies from year to year, then the applicability of this subpart shall be determined based on the utilization of that distillation unit during the year preceding promulgation of this subpart. This determination shall be reported as specified in § 63.654(f)(1)(ii).

(g) The provisions of this subpart do not apply to the processes specified in paragraphs (g)(1) through (g)(7) of this section.

(1) Research and development facilities, regardless of whether the facilities are located at the same plant site as a petroleum refining process unit that is subject to the provisions of this subpart;

(2) Equipment that does not contain any of the hazardous air pollutants listed in table 1 of this subpart that is located within a petroleum refining process unit that is subject to this subpart;

(3) Units processing natural gas liquids;

(4) Units that are used specifically for recycling discarded oil;

(5) Shale oil extraction units;

(6) Ethylene processes; and

(7) Process units and emission points subject to subparts F, G, H, and I of this part.

(h) Except as provided in paragraphs (k), (l), or (m) of this section, sources subject to this subpart are required to achieve compliance on or before the dates specified in paragraphs (h)(1) through (h)(4) of this section.

(1) New sources that commence construction or reconstruction after July 14, 1994 shall be in compliance with this subpart upon initial startup or the date of promulgation of this subpart, whichever is later, as provided in § 63.6(b) of subpart A of this part.

(2) Except as provided in paragraphs (h)(3) through (h)(5) of this section, existing sources shall be in compliance with this subpart no later than August 18, 1998, except as provided in § 63.6(c) of subpart A of this part, or unless an extension has been granted by the Administrator as provided in § 63.6(i) of subpart A of this part.

(3) [Reserved].

(4) Existing Group 1 floating roof storage vessels shall be in compliance with § 63.646 at the next degassing and cleaning activity or within 10 years after promulgation of the rule, whichever is first.

(5) An owner or operator may elect to comply with the provisions of § 63.648 (c) through (f) as an alternative to the provisions of § 63.648 (a) and (b). In such cases, the owner or operator shall comply no later than the dates specified in paragraphs (h)(5)(i) through (h)(5)(iii) of this section.

(i) Phase I (see table 2 of this subpart), beginning on August 18, 1998;

(ii) Phase II (see table 2 of this subpart), beginning no later than August 18, 1999; and

(iii) Phase III (see table 2 of this subpart), beginning no later than June 18, 2001.

(i) If an additional petroleum refining process unit is added to a plant site that is a major source as defined in section 112(a) of the Clean Air Act, the addition shall be subject to the requirements for a new source if it meets the criteria specified in paragraphs (i)(1) through (i)(3) of this section:

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

(2) Such construction commenced after July 14, 1994; and

(3) The addition has the potential to emit 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.

(j) If any change is made to a petroleum refining process unit subject to this subpart, the change shall be

HeinOnline 60 Fed. Reg. 43261 1995

subject to the requirements for a new source if it meets the criteria specified in paragraphs (j)(1) and (j)(2) of this section:

(1) It is a change that meets the definition of reconstruction in § 63.2 of subpart A of this part; and

(2) Such reconstruction commenced after July 14, 1994.

(k) If an additional petroleum refining process unit is added to a plant site or a change is made to a petroleum refining process unit and the addition or change is determined to be subject to the new source requirements according to paragraphs (i) or (j) of this section it must comply with the requirements specified in paragraphs (k)(1) and (k)(2) of this section:

(1) The reconstructed source, addition, or change shall be in compliance with the new source requirements upon initial startup of the reconstructed source or by the date of promulgation of this subpart, whichever is later; and

(2) The owner or operator of the reconstructed source, addition, or change shall comply with the reporting and recordkeeping requirements that are applicable to new sources. The applicable reports include, but are not limited to:

(i) The application for approval of construction or reconstruction shall be submitted as soon as practical before the construction or reconstruction is planned to commence (but it need not be sooner than 90 days after the date of promulgation of this subpart);

(ii) The Notification of Compliance Status report as required by § 63.654(f) for a new source, addition, or change;

(iii) Periodic Reports and Other Reports as required by § 63.654 (g) and (h);

(iv) Reports and notifications required by § 60.487 of subpart VV of part 60 or § 63.182 of subpart H of this part. The requirements for subpart H are summarized in table 3 of this subpart;

(v) Reports required by 40 CFR 61.357 of subpart FF;

(vi) Reports and notifications required by § 63.428 (b), (c), (g)(1), and (h)(1) through (h)(3) of subpart R. These requirements are summarized in table 4 of this subpart; and

(vii) Reports and notifications required by §§ 63.566 and 63.567 of subpart Y of this part. These requirements are summarized in table 5 of this subpart.

(l) If an additional petroleum refining process unit is added to a plant site or if a miscellaneous process vent, storage vessel, gasoline loading rack, or marine tank vessel loading operation that meets the criteria in paragraphs (c)(1) through (c)(7) of this section is added to an existing petroleum refinery or if another deliberate operational process change creating an additional Group 1 emission point(s) (as defined in § 63.641) is made to an existing petroleum refining process unit, and if the addition or process change is not subject to the new source requirements as determined according to paragraphs (i) or (j) of this section, the requirements in paragraphs (l)(1) through (l)(3) of this section shall apply. Examples of process changes include, but are not limited to, changes in production capacity, or feed or raw material where the change requires construction or physical alteration of the existing equipment or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. For purposes of this paragraph and paragraph (m) 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 § 63.654(f).

(1) The added emission point(s) and any emission point(s) within the added or changed petroleum refining process unit are subject to the requirements for an existing source.

(2) The added emission point(s) and any emission point(s) within the added or changed petroleum refining process unit shall be in compliance with this subpart by the dates specified in paragraphs (l)(2)(i) or (l)(2)(ii) of this section, as applicable.

(i) If a petroleum refining process unit is added to a plant site or an emission point(s) is added to any existing petroleum refining process unit, the added emission point(s) shall be in compliance upon initial startup of any added petroleum refining process unit or emission point(s) or by 3 years after the date of promulgation of this subpart, whichever is later.

(ii) If a deliberate operational process change to an existing petroleum refining process unit causes a Group 2 emission point to become a Group 1 emission point (as defined in § 63.641), the owner or operator shall be in compliance upon initial startup or by 3 years after the date of promulgation of this subpart, 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 (m)(1) through (m)(3) of this section to establish a compliance date.

(3) The owner or operator of a petroleum refining process unit or of a storage vessel, miscellaneous process vent, wastewater stream, gasoline loading rack, or marine tank vessel loading operation meeting the criteria in paragraphs (c)(1) through (c)(7) of this section that is added to a plant site and is subject to the requirements for existing sources shall comply with the reporting and recordkeeping requirements that are applicable to existing sources including, but not limited to, the reports listed in paragraphs (l)(3)(i) through (l)(3)(vii) of this section. A process change to an existing petroleum refining process unit shall be subject to the reporting requirements for existing sources including, but not limited to, the reports listed in paragraphs (l)(3)(i) through (l)(3)(vii) of this section. The applicable reports include, but are not limited to:

(i) The Notification of Compliance Status report as required by § 63.654(f) for the emission points that were added or changed;

(ii) Periodic Reports and other reports as required by § 63.654 (g) and (h);

(iii) Reports and notifications required by sections of subpart A of this part that are applicable to this subpart, as identified in table 6 of this subpart.

(iv) Reports and notifications required by § 63.182 of subpart H of this part, or § 60.407 of subpart VV of part 60. The requirements of subpart H are summarized in table 3 of this subpart;

(v) Reports required by § 61.357 of subpart FF;

(vi) Reports and notifications required by § 63.428 (b), (c), (g)(1), and (h)(1) through (h)(3) of subpart R of this part. These requirements are summarized in table 4 of this subpart; and

(vii) Reports and notifications required by § 63.567 of subpart Y of this part. These requirements are summarized in table 5 of this subpart.

(m) If a change that does not meet the criteria in paragraph (l) of this section is made to a petroleum refining process unit subject to this subpart, and the change causes a Group 2 emission point to become a Group 1 emission point (as defined in § 63.641), then the owner or operator shall comply with the requirements of this subpart for existing sources for the Group 1 emission point as expeditiously as practicable, but in no event later than 3 years after the emission point becomes Group 1.

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

HeinOnline 60 Fed. Reg. 43262 1995

(2) The compliance schedule shall be submitted within 180 days after the change is made or the information regarding the change is known to the source, 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 change is made after the date the Notification of Compliance Status report is due.

(3) The Administrator shall approve or deny the compliance schedule or request changes within 120 calendar days of receipt of the compliance schedule and justification. Approval is automatic if not received from the Administrator within 120 calendar days of receipt.

(n) Overlap of subpart CC with other regulations for storage vessels.

(1) After the compliance dates specified in paragraph (h) of this section, a Group 1 or Group 2 storage vessel that is part of an existing source and is also subject to the provisions of 40 CFR part 60 subpart Kb is required to comply only with the requirements of 40 CFR part 60 subpart Kb.

(2) After the compliance dates specified in paragraph (h) of this section a Group 1 storage vessel that is part of a new source and is subject to 40 CFR part 60, subpart Kb is required to comply only with this subpart.

(3) After the compliance dates specified in paragraph (h) of this section, a Group 2 storage vessel that is part of a new source and is subject to the control requirements in § 60.112b of 40 CFR part 60, subpart Kb is required to comply only with 40 CFR part 60, subpart Kb.

(4) After the compliance dates specified in paragraph (h) of this section, a Group 2 storage vessel that is part of a new source and is subject to the § 60.110b subpart Kb, but is not required to apply controls by § 63.110b or 63.112b of subpart Kb is required to comply only with this subpart.

(5) After the compliance dates specified in paragraph (h) of this section a Group 1 storage vessel that is also subject to the provisions of 40 CFR part 60, subparts K or Ka is required to only comply with the provisions of this subpart.

(6) After compliance dates specified in paragraph (h) of this section, a Group 2 storage vessel that is subject to the control requirements of 40 CFR part 60, subparts K or Ka is required to only comply with the provisions of 40 CFR part 60, subparts K or Ka.

(7) After the compliance dates specified in paragraph (h) of this section, a Group 2 storage vessel that is subject to 40 CFR part 60, subparts K or Ka, but not to the control requirements of 40 CFR part 60, subparts K or Ka, is required to comply only with this subpart.

(o) Overlap of this subpart CC with other regulations for wastewater.

(1) After the compliance dates specified in paragraph (h) of this section a Group 1 wastewater stream managed in a piece of equipment that is also subject to the provisions of 40 CFR part 60, subpart QQQ is required to comply only with this subpart.

(2) After the compliance dates specified in paragraph (h) of this section a Group 1 or Group 2 wastewater stream that is conveyed, stored, or treated in a wastewater stream management unit that also receives streams subject to the provisions of §§ 63.133 through 63.147 of subpart G wastewater provisions of this part shall comply as specified in paragraphs (o)(2)(i) through (o)(2)(iii) of this section. Compliance with the provisions of paragraph (o)(2) of this section shall constitute compliance with the requirements of this subpart for that wastewater stream.

(i) The provisions in §§ 63.133 through 63.137 and § 63.140 of subpart G for all equipment used in the storage and conveyance of the Group 1 or Group 2 wastewater stream.

(ii) The provisions in both 40 CFR part 61, subpart FF and in §§ 63.138 and 63.139 of subpart G for the treatment and control of the Group 1 or Group 2 wastewater stream.

(iii) The provisions in §§ 63.143 through 63.148 of subpart G for monitoring and inspections of equipment and for recordkeeping and reporting requirements. The owner or operator is not required to comply with the monitoring, recordkeeping, and reporting requirements associated with the treatment and control requirements in 40 CFR part 61, subpart FF, §§ 61.355 through 61.357.

(p) Overlap of subpart CC with other regulations for equipment leaks. After the compliance dates specified in paragraph (h) of this section equipment leaks that are also subject to the provisions of 40 CFR parts 60 and 61 are required to comply only with the provisions specified in this subpart.

(q) For overlap of subpart CC with local or State regulations, the permitting authority for the affected source may allow consolidation of the monitoring, recordkeeping, and reporting requirements under this subpart with the monitoring, recordkeeping, and reporting requirements under other applicable requirements in 40 CFR parts 60, 61, or 63, and in any 40 CFR part 52 approved State implementation plan provided the implementation plan allows for approval of alternative monitoring, reporting, or recordkeeping requirements and provided that the permit contains an equivalent degree of compliance and control.

**§ 63.641 Definitions.**

All terms used in this subpart shall have the meaning given them in the Clean Air Act, subpart A of this part, and in this section. If the same term is defined in subpart A and in this section, it shall have the meaning given in this section for purposes of this subpart.

*Affected source* means the collection of emission points to which this subpart applies as determined by the criteria in § 63.640. The term "affected source," as used in this subpart, has the same meaning as the term "affected source" in subpart A of this part.

*Aliphatic* means open-chained structure consisting of paraffin, olefin and acetylene hydrocarbons and derivatives.

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

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

*Car-seal* means a seal that is placed on a device that is used to change the position of a valve (e.g., from opened to closed) in such a way that the position of the valve cannot be changed without breaking the seal.

*Closed vent system* means a system that is not open to the atmosphere and is configured of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device or back into the process. If gas or vapor from regulated equipment is routed to a process (e.g., to a petroleum refinery fuel gas system), the process shall not be considered a closed vent system and is not subject to closed vent system standards.

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

*Connector* means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are accessible.

*Continuous record* means documentation, either in hard copy or

computer readable form, of data values measured at least once every hour and recorded at the frequency specified in § 63.654(i).

*Continuous recorder* means a data recording device recording an instantaneous data value or an average data value at least once every hour.

*Control device* means any equipment used for recovering, removing, or oxidizing organic hazardous air pollutants. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters. For miscellaneous process vents (as defined in this section), recovery devices (as defined in this section) are not considered control devices.

*Delayed coker vent* means a vent that is typically intermittent in nature, and usually occurs only during the initiation of the depressuring cycle of the decoking operation when vapor from the coke drums cannot be sent to the fractionator column for product recovery, but instead is routed to the atmosphere through a closed blowdown system or directly to the atmosphere in an open blowdown system. The emissions from the decoking phases of delayed coker operations, which include coke drum deheading, draining, or decoking (coke cutting), are not considered to be delayed coker vents.

*Distillate receiver* means overhead receivers, overhead accumulators, reflux drums, and condenser(s) including ejector-condenser(s) associated with a distillation unit.

*Distillation unit* means a device or vessel in which one or more feed streams are separated into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and the vapor phases by vaporization and condensation as they approach equilibrium within the distillation unit. Distillation unit includes the distillate receiver, reboiler, and any associated vacuum pump or steam jet.

*Emission point* means an individual miscellaneous process vent, storage vessel, wastewater stream, or equipment leak associated with a petroleum refinery process unit; an individual storage vessel or equipment leak associated with a bulk gas terminal or pipeline breakout station classified under Standard Industrial Classification code 2911; a gasoline loading rack classified under Standard Industrial Classification code 2911; or a marine tank vessel loading operation located at a petroleum refinery.

*Equipment leak* means emissions of organic hazardous air pollutants from a pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, or instrumentation system "in organic hazardous air pollutant service" as defined in this section. Vents from wastewater system drains, tank mixers, and sample valves on storage tanks are not equipment leaks.

*Flame zone* means the portion of a combustion chamber of a boiler or process heater occupied by the flame envelope created by the primary fuel.

*Flexible operation unit* means a process unit that manufactures different products periodically by alternating raw materials or operating conditions. These units are also referred to as campaign plants or blocked operations.

*Flow indicator* means a device that indicates whether gas is flowing, or whether the valve position would allow gas to flow, in a line.

*Fuel gas system* means the offsite and onsite piping and control system that gathers gaseous streams generated by refinery operations, may blend them with sources of gas, if available, and transports the blended gaseous fuel at suitable pressures for use as fuel in heaters, furnaces, boilers, incinerators, gas turbines, and other combustion devices located within or outside of the refinery. The fuel is piped directly to each individual combustion device, and the system typically operates at pressures over atmospheric. The gaseous streams can contain a mixture of methane, light hydrocarbons, hydrogen and other miscellaneous species.

*Gasoline loading rack* means the loading arms, pumps, meters, shutoff valves, relief valves, and other piping and valves necessary to fill gasoline cargo tanks.

*Group 1 gasoline loading rack* means any gasoline loading rack classified under Standard Industrial Classification code 2911 that emits from the vapor collection and processing system 10 milligrams of total organic compounds per liter of gasoline loaded.

*Group 1 marine tank vessel* means a vessel loaded at any land- or sea-based terminal or structure that loads liquid commodities with vapor pressures greater than or equal to 10.3 kilopascals in bulk onto marine tank vessels, that emits greater than 9.1 megagrams of any individual HAP or 13.6 megagrams of any combination of HAP annually after August 18, 1999.

*Group 1 miscellaneous process vent* means a miscellaneous process vent for which the volatile organic compound concentration, or the total organic concentration (minus ethane and methane), is greater than or equal to 20 parts per million by volume, and the total volatile organic compound emissions are greater than or equal to 33 kilograms per day for existing and 7 kilograms per day for new sources at the outlet of the final recovery device (if any) and prior to any control device and prior to discharge to the atmosphere.

*Group 1 storage vessel* means a storage vessel at an existing source that has a design storage capacity greater than or equal to 177 cubic meters and stored-liquid maximum true vapor pressure greater than or equal to 10.4 kilopascals and HAP liquid concentration greater than 4 percent by weight total organic HAP; a storage vessel at a new source that has a design storage capacity greater than or equal to 151 cubic meters and stored-liquid maximum true vapor pressure greater than or equal to 3.4 kilopascals and HAP liquid concentration greater than 2 percent by weight total organic HAP; or a storage vessel at a new source that has a design storage capacity greater than or equal to 76 cubic meters and less than 151 cubic meters and stored-liquid maximum true vapor pressure greater than or equal to 77 kilopascals and HAP liquid concentration greater than 2 percent by weight total organic HAP.

*Group 1 wastewater stream* means a wastewater stream at a petroleum refinery with a total annual benzene loading of 10 megagrams per year or greater as calculated according to the procedures in 40 CFR 61.342 of subpart FF of part 61 that has a flow rate of 0.02 liters per minute or greater, a benzene concentration of 10 parts per million by weight or greater, and is not exempt from control requirements under the provisions of 40 CFR part 61, subpart FF.

*Group 2 gasoline loading rack* means a gasoline loading rack classified under Standard Industrial Classification code 2911 that does not meet the definition of a Group 1 gasoline loading rack.

*Group 2 marine tank vessel* means a marine tank vessel that does not meet the definition of a Group 1 marine tank vessel.

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

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

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

HeinOnline 60 Fed. Reg. 43264 1995

*Hazardous air pollutant* or *HAP* means one of the chemicals listed in section 112(b) of the Clean Air Act.

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

*In heavy liquid service* means that the piece of equipment is not in gas/vapor service or in light liquid service.

*In light liquid service* means that the piece of equipment contains a liquid that meets the conditions specified in § 60.593(d) of part 60, subpart GGG.

*In organic hazardous air pollutant service* means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP's as determined according to the provisions of § 63.180(d) of subpart H of this part and table 1 of this subpart. The provisions of § 63.180(d) of subpart H also specify how to determine that a piece of equipment is not in organic HAP service.

*Maximum true vapor pressure* means the equilibrium partial pressure exerted by the stored liquid at the temperature equal to the highest calendar-month average of the liquid storage temperature for liquids stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for liquids stored at the ambient temperature, as determined:

(1) In accordance with methods specified in § 63.111 of subpart G of this part;

(2) From standard reference texts; or

(3) By any other method approved by the Administrator.

*Miscellaneous process vent* means a gas stream containing greater than 20 parts per million by volume organic HAP that is continuously or periodically discharged during normal operation of a petroleum refining process unit meeting the criteria specified in § 63.640(a). Miscellaneous process vents include gas streams that are discharged directly to the atmosphere, gas streams that are routed to a control device prior to discharge to the atmosphere, or gas streams that are diverted through a product recovery device prior to control or discharge to the atmosphere. Miscellaneous process vents include vent streams from: caustic wash accumulators, distillation tower condensers/accumulators, flash/knockout drums, reactor vessels, scrubber overheads, stripper overheads, vacuum (steam) ejectors, wash tower overheads, water wash accumulators, blowdown condensers/accumulators, and delayed coker vents. Miscellaneous process vents do not include:

(1) Gaseous streams routed to a fuel gas system;

(2) Relief valve discharges;

(3) Leaks from equipment regulated under § 63.648;

(4) Episodic or nonroutine releases such as those associated with startup, shutdown, malfunction, maintenance, depressuring, and catalyst transfer operations;

(5) In situ sampling systems (onstream analyzers);

(6) Catalytic cracking unit catalyst regeneration vents;

(7) Catalytic reformer regeneration vents;

(8) Sulfur plant vents;

(9) Vents from control devices such as scrubbers, boilers, incinerators, and electrostatic precipitators applied to catalytic cracking unit catalyst regeneration vents, catalytic reformer regeneration vents, and sulfur plant vents;

(10) Vents from any stripping operations applied to comply with the wastewater provisions of this subpart, subpart G of this part, or 40 CFR part 61, subpart FF;

(11) Coking unit vents associated with coke drum depressuring at or below a coke drum outlet pressure of 15 pounds per square inch gauge, deheading, draining, or decoking (coke cutting) or pressure testing after decoking; and

(12) Vents from storage vessels.

*Operating permit* means a permit required by 40 CFR parts 70 or 71.

*Organic hazardous air pollutant* or *organic HAP* in this subpart, means any of the organic chemicals listed in table 1 of this subpart.

*Petroleum-based solvents* means mixtures of aliphatic hydrocarbons or mixtures of one and two ring aromatic hydrocarbons.

*Periodically discharged* means discharges that are intermittent and associated with routine operations. Discharges associated with maintenance activities or process upsets are not considered periodically discharged miscellaneous process vents and are therefore not regulated by the petroleum refinery miscellaneous process vent provisions.

*Petroleum refining process unit* means a process unit used in an establishment primarily engaged in petroleum refining as defined in the Standard Industrial Classification code for petroleum refining (2911), and used primarily for the following:

(1) Producing transportation fuels (such as gasoline, diesel fuels, and jet fuels), heating fuels (such as kerosene, fuel gas distillate, and fuel oils), or lubricants;

(2) Separating petroleum; or

(3) Separating, cracking, reacting, or reforming intermediate petroleum streams.

(4) Examples of such units include, but are not limited to, petroleum-based solvent units, alkylation units, catalytic hydrotreating, catalytic hydrorefining, catalytic hydrocracking, catalytic reforming, catalytic cracking, crude distillation, lube oil processing, hydrogen production, isomerization, polymerization, thermal processes, and blending, sweetening, and treating processes. Petroleum refining process units also include sulfur plants.

*Plant site* means all contiguous or adjoining property that is under common control including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

*Primary fuel* means the fuel that provides the principal heat input (i.e., more than 50 percent) to the device. To be considered primary, the fuel must be able to sustain operation without the addition of other fuels.

*Process heater* means an enclosed combustion device that primarily transfers heat liberated by burning fuel directly to process streams or to heat transfer liquids other than water.

*Process unit* means the equipment assembled and connected by pipes or ducts to process raw and/or intermediate materials and to manufacture an intended product. A process unit includes any associated storage vessels. For the purpose of this subpart, process unit includes, but is not limited to, chemical manufacturing process units and petroleum refining process units.

*Process unit shutdown* means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be accomplished. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not considered a process unit shutdown. An unscheduled

HeinOnline 60 Fed. Reg. 43265 1995

work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start up the unit, or would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown is not considered a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not considered process unit shutdowns.

*Recovery device* means an individual unit of equipment capable of and used for the purpose of recovering chemicals for use, reuse, or sale. Recovery devices include, but are not limited to, absorbers, carbon adsorbers, and condensers.

*Reference control technology for gasoline loading racks* means a vapor collection and processing system used to reduce emissions due to the loading of gasoline cargo tanks to 10 milligrams of total organic compounds per liter of gasoline loaded or less.

*Reference control technology for marine vessels* means a vapor collection system and a control device that reduces captured HAP emissions by 97 percent.

*Reference control technology for miscellaneous process vents* means a combustion device used to reduce organic HAP emissions by 98 percent, or to an outlet concentration of 20 parts per million by volume.

*Reference control technology for storage vessels* means either:

(1) An internal floating roof meeting the specifications of § 63.119(b) of subpart G except for § 63.119 (b)(5) and (b)(6);

(2) An external floating roof meeting the specifications of § 63.119(c) of subpart G except for § 63.119(c)(2);

(3) An external floating roof converted to an internal floating roof meeting the specifications of § 63.119(d) of subpart G except for § 63.119(d)(2); or

(4) A closed-vent system to a control device that reduces organic HAP emissions by 95-percent, or to an outlet concentration of 20 parts per million by volume.

(5) For purposes of emissions averaging, these four technologies are considered equivalent.

*Reference control technology for wastewater* means the use of:

(1) Controls specified in §§ 61.343 through 61.347 of subpart FF of part 61;

(2) A treatment process that achieves the emission reductions specified in table 7 of this subpart for each individual HAP present in the wastewater stream or is a steam stripper that meets the specifications in § 63.138(g) of subpart G of this part; and

(3) A control device to reduce by 95 percent (or to an outlet concentration of 20 parts per million by volume for combustion devices) the organic HAP emissions in the vapor streams vented from treatment processes (including the steam stripper described in paragraph (2) of this definition) managing wastewater.

*Refinery fuel gas* means a gaseous mixture of methane, light hydrocarbons, hydrogen, and other miscellaneous species (nitrogen, carbon dioxide, hydrogen sulfide, etc.) that is produced in the refining of crude oil and/or petrochemical processes and that is separated for use as a fuel in boilers and process heaters throughout the refinery.

*Relief valve* means a valve used only to release an unplanned, nonroutine discharge. A relief valve discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause that requires immediate venting of gas from process equipment in order to avoid safety hazards or equipment damage.

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

*Storage vessel* means a tank or other vessel that is used to store organic liquids that are in organic HAP service. Storage vessel does 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 40 cubic meters;

(4) Bottoms receiver tanks; or

(5) Wastewater storage tanks. Wastewater storage tanks are covered under the wastewater provisions.

*Temperature monitoring device* means a unit of equipment used to monitor temperature and having an accuracy of ±1 percent of the temperature being monitored expressed in degrees Celsius or ±0.5 °C), whichever is greater.

*Total annual benzene* means the total amount of benzene in waste streams at a facility on an annual basis as determined in § 61.342 of 40 CFR part 61, subpart FF.

*Total organic compounds* or *TOC*, as used in this subpart, means those compounds excluding methane and ethane measured according to the procedures of Method 18 of 40 CFR part 60, appendix A. Method 25A may be used alone or in combination with Method 18 to measure TOC as provided in § 63.645 of this subpart.

*Wastewater* means water or wastewater that, during production or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product and is discharged into any individual drain system. Examples are feed tank drawdown; water formed during a chemical reaction or used as a reactant; water used to wash impurities from organic products or reactants; water used to cool or quench organic vapor streams through direct contact; and condensed steam from jet ejector systems pulling vacuum on vessels containing organics.

**§ 63.642 General standards.**

(a) Each owner or operator of a source subject to this subpart is required to apply for a part 70 or part 71 operating permit from the appropriate permitting authority. If the EPA has approved a State operating permit program under part 70, the permit shall be obtained from the State authority. If the State operating permit program has not been approved, the source shall apply to the EPA Regional Office pursuant to part 71.

(b) [Reserved]

(c) Table 6 of this subpart specifies the provisions of subpart A of this part that apply and those that do not apply to owners and operators of sources subject to this subpart.

(d) Initial performance tests and initial compliance determinations shall be required only as specified in this subpart.

(1) Performance tests and compliance determinations shall be conducted according to the schedule and procedures specified in this subpart.

(2) The owner or operator shall notify the Administrator of the intention to conduct a performance test at least 30 days before the performance test is scheduled.

(3) Performance tests shall be conducted according to the provisions of § 63.7(e) except that performance tests shall be conducted at maximum representative operating capacity for the process. During the performance test, an owner or operator shall operate the control device at either maximum or minimum representative operating conditions for monitored control device

HeinOnline 60 Fed. Reg. 43266 1995

parameters, whichever results in lower emission reduction.

(4) Data shall be reduced in accordance with the EPA-approved methods specified in the applicable section 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.

(e) Each owner or operator of a source subject to this subpart shall keep copies of all applicable reports and records required by this subpart for at least 5 years except as otherwise specified in this subpart. All applicable records shall be maintained in such a manner that they can be readily accessed. Records for the most recent 2 years shall be retained onsite at the source or shall be accessible from a central location by computer. The remaining 3 years of records may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.

(f) 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.

(g) The owner or operator of an existing source subject to the requirements of this subpart shall control emissions of organic HAP's to the level represented by the following equation:

$$E_A = 0.02\Sigma EPV_1 + \Sigma EPV_2 + 0.025\Sigma ES_1 + \Sigma ES_2 + \Sigma EGLR_{1C} + \Sigma EGLR_2 + (R)\Sigma EMV_1 + \Sigma EMV_2 + \Sigma EWW_{1C} + \Sigma EWW_2$$

where:

$E_A$=Emission rate, megagrams per year, allowed for the source.

$0.02\Sigma EPV_1$=Sum of the residual emissions, megagrams per year, from all Group 1 miscellaneous process vents, as defined in § 63.641.

$\Sigma EPV_2$=Sum of the emissions, megagrams per year, from all Group 2 process vents, as defined in § 63.641.

$0.05\Sigma ES_1$=Sum of the residual emissions, megagrams per year, from all Group 1 storage vessels, as defined in § 63.641.

$\Sigma ES_2$=Sum of the emissions, megagrams per year, from all Group 2 storage vessels, as defined in § 63.641.

$\Sigma EGLR_{1C}$=Sum of the residual emissions, megagrams per year, from all Group 1 gasoline loading racks, as defined in § 63.641.

$\Sigma EGLR_2$=Sum of the emissions, megagrams per year, from all Group 2 gasoline loading racks, as defined in § 63.641.

$(R)\Sigma EMV_1$=Sum of the residual emissions, megagrams per year, from all Group 1 marine tank vessels, as defined in § 63.641.

R=0.03 for existing sources, 0.02 for new sources except offshore loading terminals, and 0.05 for new offshore loading terminals.

$\Sigma EMV_2$=Sum of the emissions, megagrams per year, from all Group 2 marine tank vessels, as defined in § 63.641.

$\Sigma EWW_{1C}$=Sum of the residual emissions from all Group 1 wastewater streams, as defined in § 63.641. This term is calculated for each Group 1 stream according to the equation for EWWic in § 63.652(h)(6).

$\Sigma EWW_2$=Sum of emissions from all Group 2 wastewater streams, as defined in § 63.641.

The emissions level represented by this equation is dependent on the collection of emission points in the source. The level is not fixed and can change as the emissions from each emission point change or as the number of emission points in the source change.

(h) The owner or operator of a new source subject to the requirements of this subpart shall control emissions of organic HAP's to the level represented by the equation in paragraph (g) of this section.

(i) The owner or operator of an existing source shall demonstrate compliance with the emission standard in paragraph (g) of this section by following the procedures specified in paragraph (k) of this section for all emission points, or by following the emissions averaging compliance approach specified in paragraph (l) of this section for specified emission points and the procedures specified in paragraph (k) of this section for all other emission points within the source.

(j) The owner or operator of a new source shall demonstrate compliance with the emission standard in paragraph (h) of this section only by following the procedures in paragraph (k) of this section. The owner or operator of a new source may not use the emissions averaging compliance approach.

(k) The owner or operator of an existing source may comply, and the owner or operator of a new source shall comply, with the miscellaneous process vent provisions in §§ 63.643 through 63.645, the storage vessel provisions in § 63.646, the wastewater provisions in § 63.647, the gasoline loading rack provisions in § 63.650, and the marine tank vessel loading operation provisions in § 63.651 of this subpart.

(1) The owner or operator using this compliance approach shall also comply with the requirements of § 63.654 as applicable.

(2) The owner or operator using this compliance approach is not required to calculate the annual emission rate specified in paragraph (g) of this section.

(l) The owner or operator of an existing source may elect to control some of the emission points within the source to different levels than specified under §§ 63.643 through 63.647, §§ 63.650 and 63.651 by using an emissions averaging compliance approach as long as the overall emissions for the source do not exceed the emission level specified in paragraph (g) of this section. The owner or operator using emissions averaging shall meet the requirements in paragraphs (l)(1) and (l)(2) of this section.

(1) Calculate emission debits and credits for those emission points involved in the emissions average according to the procedures specified in § 63.652; and

(2) Comply with the requirements of §§ 63.652, 63.653, and 63.654, as applicable.

(m) A State may restrict the owner or operator of an existing source to using only the procedures in paragraph (k) of this section to comply with the emission standard in paragraph (g) of this section. Such a restriction would preclude the source from using an emissions averaging compliance approach.

**§ 63.643 Miscellaneous process vent provisions.**

(a) The owner or operator of a Group 1 miscellaneous process vent as defined in § 63.641 shall comply with the requirements of either paragraphs (a)(1) or (a)(2) of this section.

(1) Reduce emissions of organic HAP's using a flare that meets the requirements of § 63.11(b) of subpart A of this part.

(2) Reduce emissions of organic HAP's, using a control device, by 98 weight-percent or to a concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent. Compliance can be determined by measuring either organic HAP's or TOC's using the procedures in § 63.645.

(b) If a boiler or process heater is used to comply with the percentage of reduction requirement or concentration limit specified in paragraph (a)(2) of this section, then the vent stream shall be introduced into the flame zone of such

HeinOnline 60 Fed. Reg. 43267 1995

a device, or in a location such that the required percent reduction or concentration is achieved. Testing and monitoring is required only as specified in § 63.644(a) and § 63.645 of this subpart.

**§ 63.644 Monitoring provisions for miscellaneous process vents.**

(a) Except as provided in paragraph (b) of this section, each owner or operator of a Group 1 miscellaneous process vent that uses a combustion device to comply with the requirements in § 63.643(a) shall install the monitoring equipment specified in paragraph (a)(1), (a)(2), (a)(3), or (a)(4) of this section, depending on the type of combustion device used. All monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturer's specifications.

(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, a 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, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of a pilot flame is required.

(3) Any boiler or process heater with a design heat input capacity greater than or equal to 44 megawatt or any boiler or process heater in which all vent streams are introduced into the flame zone is exempt from monitoring.

(4) Any boiler or process heater less than 44 megawatts design heat capacity where the vent stream is not introduced into the flame zone is required to use a temperature monitoring device in the firebox equipped with a continuous recorder.

(b) An owner or operator of a Group 1 miscellaneous process vent may request approval to monitor parameters other than those listed in paragraph (a) of this section. The request shall be submitted according to the procedures specified in § 63.654(h). Approval shall be requested if the owner or operator:

(1) Uses a control device other than an incinerator, boiler, process heater, or flare; or

(2) Uses one of the control 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 of a Group 1 miscellaneous process vent using a vent system that contains bypass lines that could divert a vent stream away from the control device used to comply with paragraph (a) of this section shall comply with either paragraph (c)(1) or (c)(2) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, pressure relief valves needed for safety reasons, and equipment subject to § 63.648 are not subject to this paragraph.

(1) Install, calibrate, maintain, and operate a flow indicator that determines whether a vent stream flow is present at least once every hour. Records shall be generated as specified in § 63.654(h) and (i). 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 closed 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 closed position and the vent stream is not diverted through the bypass line.

(d) The owner or operator shall establish a range that ensures compliance with the emissions standard for each parameter monitored under paragraphs (a) and (b) of this section. In order to establish the range, the information required in § 63.654(f)(1)(ii) shall be submitted in the Notification of Compliance Status report.

(e) Each owner or operator of a control device subject to the monitoring provisions of this section shall operate the control device in a manner consistent with the minimum and/or maximum operating parameter value or procedure required to be monitored under paragraphs (a) and (b) of this section. Operation of the control device in a manner that constitutes a period of excess emissions, as defined in § 63.654(g)(6), or failure to perform procedures required by this section shall constitute a violation of the applicable emission standard of this subpart.

**§ 63.645 Test methods and procedures for miscellaneous process vents.**

(a) To demonstrate compliance with § 63.643, an owner or operator shall follow § 63.116 except for § 63.116(d) and (e) of subpart G of this part except as provided in paragraphs (b) through (d) of this section.

(b) All references to § 63.113(a)(1) or (a)(2) in § 63.116 of subpart G of this part shall be replaced with § 63.643(a)(1) or (a)(2), respectively.

(c) In § 63.116(c)(4)(ii)(C) of subpart G of this part, organic HAP's in the list of HAP's in table 1 of this subpart shall be considered instead of the organic HAP's in table 2 of subpart F of this part.

(d) All references to § 63.116(b)(1) or (b)(2) shall be replaced with paragraphs (d)(1) and (d)(2) of this section, respectively.

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

(2) Any boiler or process heater in which all vent streams are introduced into the flame zone.

(e) For purposes of determining the TOC emission rate, as specified under paragraph (f) of this section, the sampling site shall be after the last product recovery device (as defined in § 63.641 of this subpart) (if any recovery devices are present) but prior to the inlet of any control device (as defined in § 63.641 of this subpart) that is present, prior to any dilution of the process vent stream, and prior to release to the atmosphere.

(1) Methods 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling site.

(2) No traverse site selection method is needed for vents smaller than 0.10 meter in diameter.

(f) Except as provided in paragraph (g) of this section, an owner or operator seeking to demonstrate that a process vent TOC mass flow rate is less than 33 kilograms per day for an existing source or less than 6.8 kilograms per day for a new source in accordance with the Group 2 process vent definition of this subpart shall determine the TOC mass flow rate by the following procedures:

(1) The sampling site shall be selected as specified in paragraph (e) of this section.

(2) The gas volumetric flow rate shall be determined using Methods 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

(3) Method 18 or Method 25A of 40 CFR part 60, appendix A shall be used to measure concentration; alternatively, any other method or data that has been validated according to the protocol in Method 301 of appendix A of this part may be used. If Method 25A is used, and the TOC mass flow rate calculated from the Method 25A measurement is greater than or equal to 33 kilograms per day for an existing source or 6.8 kilograms per day for a new source, Method 18 may be used to determine

HeinOnline 60 Fed. Reg. 43268 1995

any non-VOC hydrocarbons that may be deducted to calculate the TOC (minus non-VOC hydrocarbons) concentration and mass flow rate. The following procedures shall be used to calculate parts per million by volume concentration:

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

(ii) The TOC concentration ($C_{TOC}$) is the sum of the concentrations of the individual components and shall be computed for each run using the following equation if Method 18 is used:

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

where:

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

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

n=Number of components in the sample.

x=Number of samples in the sample run.

(4) The emission rate of TOC (minus methane and ethane) ($E_{TOC}$) shall be calculated using the following equation if Method 18 is used:

$$E = K_2\left[\sum_{j=1}^{n} C_j M_j\right] Q_s$$

where:

E=Emission rate of TOC (minus methane and ethane) in the sample, kilograms per day.

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

$C_j$=Concentration on a dry basis of organic compound j in parts per million as measured by Method 18 of 40 CFR part 60, appendix A, as indicated in paragraph (f)(3) of this section. $C_j$ includes all organic compounds measured minus methane and ethane.

$M_j$=Molecular weight of organic compound j, gram per gram-mole.

$Q_s$=Vent stream flow rate, dry standard cubic meters per minute, at a temperature of 20 °C.

(5) If Method 25A is used the emission rate of TOC (ETOC) shall be calculated using the following equation:

$E=K_2\ C_{TOC}\ Q_s$

where:

E=Emission rate of TOC (minus methane and ethane) in the sample, kilograms per day.

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

$C_{TOC}$=Concentration of TOC on a dry basis in parts per million volume as measured by Method 25A of 40 CFR part 60, appendix A, as indicated in paragraph (f)(3) of this section.

$Q_s$=Vent stream flow rate, dry standard cubic meters per minute, at a temperature of 20 °C.

(g) Engineering assessment may be used to determine the TOC emission rate for the representative operating condition expected to yield the highest daily emission rate.

(1) 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) TOC emission rate specified or implied within a permit limit applicable to the process vent.

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

(A) Use of material balances based on process stoichiometry to estimate maximum TOC concentrations;

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

(C) Estimation of TOC concentrations based on saturation conditions.

(v) All data, assumptions, and procedures used in the engineering assessment shall be documented.

(h) The owner or operator of a Group 2 process vent shall recalculate the TOC emission rate for each process vent, as necessary, whenever process changes are made to determine whether the vent is in Group 1 or Group 2. Examples of process changes include, but are not limited to, changes in production capacity, production rate, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. For purposes of this paragraph, process changes do not include: process upsets; unintentional, temporary process changes; and changes that are within the range on which the original calculation was based.

(1) The TOC emission rate shall be recalculated based on measurements of vent stream flow rate and TOC as specified in paragraphs (e) and (f) of this section, as applicable, or on best engineering assessment of the effects of the change. Engineering assessments shall meet the specifications in paragraph (g) of this section.

(2) Where the recalculated TOC emission rate is greater than 33 kilograms per day for an existing source or greater than 6.8 kilograms per day for a new source, the owner or operator shall submit a report as specified in § 63.654 (c), (d), (e), (f), or (g), or (h) and shall comply with the appropriate provisions in § 63.643 by the dates specified in § 63.640.

**§ 63.646 Storage vessel provisions.**

(a) Each owner or operator of a Group 1 storage vessel subject to this subpart shall comply with the requirements of §§ 63.119 through 63.121 of subpart G of this part except as provided in paragraphs (b) through (m) of this section.

(b) As used in this section, all terms not defined in § 63.641 shall have the meaning given them in 40 CFR part 63, subparts A or G. The Group 1 storage vessel definition presented in § 63.641 shall apply in lieu of the Group 1 storage vessel definitions presented in tables 5 and 6 of § 63.119 of subpart G of this part.

(1) An owner or operator may use good engineering judgement or test results to determine the stored liquid weight percent total organic HAP for purposes of group determination. Data, assumptions, and procedures used in the determination shall be documented.

(2) When an owner or operator and the Administrator do not agree on whether the weight percent organic HAP in the stored liquid is above or below 4 percent for existing sources and 2 percent for new sources, Method 18 of 40 CFR part 60, appendix A shall be used.

(c) The following paragraphs do not apply to storage vessels at existing sources subject to this subpart: § 63.119 (b)(5), (b)(6), (c)(2), and (d)(2).

(d) References shall be replaced as specified in paragraphs (d)(1) through (d)(9) of this section.

(1) All references to § 63.100(k) of subpart F of this part (or the schedule provisions and the compliance date) shall be replaced with § 63.640(h),

(2) All references to April 22, 1994 shall be replaced with August 18, 1995.

(3) All references to December 31, 1992 shall be replaced with July 15, 1994.

(4) All references to the compliance dates specified in § 63.100 of subpart F shall be replaced with § 63.640 (h) through (m).

(5) All references to § 63.150 in § 63.119 of subpart G of this part shall be replaced with § 63.652.

(6) All references to § 63.113(a)(2) of subpart G shall be replaced with § 63.643(a)(2) of this subpart.

(7) All references to § 63.126(b)(1) of subpart G shall be replaced with § 63.422(b) of subpart R of this part.

(8) All references to § 63.128(a) of subpart G shall be replaced with § 63.425, paragraphs (a) through (c) and (e) through (h) of subpart R of this part.

(9) All references to § 63.139(d)(1) in § 63.120(d)(1)(iii) of subpart G shall be replaced with § 61.355 of subpart FF of part 61.

(e) When complying with the inspection requirements of § 63.120 of subpart G of this part, owners and operators of storage vessels at existing sources subject to this subpart are not required to comply with the provisions for gaskets, slotted membranes, and sleeve seals.

(f) The following paragraphs (f)(1), (f)(2), and (f)(3) of this section apply to Group 1 storage vessels at existing sources:

(1) If a cover or lid is installed on an opening on a floating roof, the cover or lid shall remain closed except when the cover or lid must be open for access.

(2) Rim space vents are to be set to open only when the floating roof is not floating or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(3) Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(g) Failure to perform inspections and monitoring required by this section shall constitute a violation of the applicable standard of this subpart.

(h) References in §§ 63.119 through 63.121 to § 63.122(g)(1), § 63.151, and references to initial notification requirements do not apply.

(i) References to the Implementation Plan in § 63.120, paragraphs (d)(2) and (d)(3)(i) shall be replaced with the Notification of Compliance Status report.

(j) References to the Notification of Compliance Status report in § 63.152(b) shall be replaced with § 63.654(f).

(k) References to the Periodic Reports in § 63.152(c) shall be replaced with § 63.654(g).

(l) The State or local permitting authority can waive the notification requirements of §§ 63.120(a)(5), 63.120(a)(6), 63.120(b)(10)(ii), and 63.120(b)(10)(iii) for all or some storage vessels at petroleum refineries subject to this subpart. The State or local permitting authority may also grant permission to refill storage vessels sooner than 30 days after submitting the notifications in §§ 63.120(a)(6) or 63.120(b)(10)(iii) for all storage vessels at a refinery or for individual storage vessels on a case-by-case basis.

**§ 63.647 Wastewater provisions.**

(a) Except as provided in paragraph (b) of this section, each owner or operator of a Group 1 wastewater stream shall comply with the requirements of §§ 61.340 through 61.355 of 40 CFR part 61, subpart FF for each process wastewater stream that meets the definition in § 63.641.

(b) As used in this section, all terms not defined in § 63.641 shall have the meaning given them in the Clean Air Act or in 40 CFR part 61, subpart FF, § 61.341.

(c) Each owner or operator required under subpart FF of 40 CFR part 61 to perform periodic measurement of benzene concentration in wastewater, or to monitor process or control device operating parameters shall operate in a manner consistent with the minimum or maximum (as appropriate) permitted concentration or operating parameter values. Operation of the process, treatment unit, or control device resulting in a measured concentration or operating parameter value outside the permitted limits shall constitute a violation of the emission standards. Failure to perform required leak monitoring for closed vent systems and control devices or failure to repair leaks within the time period specified in subpart FF of 40 CFR part 61 shall constitute a violation of the standard.

**§ 63.648 Equipment leak standards.**

(a) Each owner or operator of an existing source subject to the provisions of this subpart shall comply with the provisions of 40 CFR part 60 subpart VV and paragraph (b) of this section except as provided in paragraphs (a)(1), (a)(2), and (c) through (i) of this section. Each owner or operator of a new source subject to the provisions of this subpart shall comply with subpart H of this part except as provided in paragraphs (c) through (i) of this section.

(1) For purposes of compliance with this section, the provisions of 40 CFR part 60, subpart VV apply only to equipment in organic HAP service, as defined in § 63.641 of this subpart.

(2) Calculation of percentage leaking equipment components for subpart VV of 40 CFR part 60 may be done on a process unit basis or a sourcewide basis. Once the owner or operator has decided, all subsequent calculations shall be on the same basis unless a permit change is made.

(b) The use of monitoring data generated before August 18, 1995 to qualify for less frequent monitoring of valves and pumps as provided under 40 CFR part 60 subpart VV or subpart H of this part and paragraph (c) of this section (i.e., quarterly or semiannually) is governed by the requirements of paragraphs (b)(1) and (b)(2) of this section.

(1) Monitoring data must meet the test methods and procedures specified in § 60.485(b) of 40 CFR part 60, subpart VV or § 63.180(b)(1) through (b)(5) of subpart H of this part except for minor departures.

(2) Departures from the criteria specified in § 60.485(b) of 40 CFR part 60 subpart VV or § 63.180(b)(1) through (b)(5) of subpart H of this part or from the monitoring frequency specified in subpart VV or in paragraph (c) of this section (such as every 6 weeks instead of monthly or quarterly) are minor and do not significantly affect the quality of the data. An example of a minor departure is monitoring at a slightly different frequency (such as every 6 weeks instead of monthly or quarterly). Failure to use a calibrated instrument is not considered a minor departure.

(c) In lieu of complying with the existing source provisions of paragraph (a) in this section, an owner or operator may elect to comply with the requirements of §§ 63.161 through 63.169, 63.171, 63.172, 63.175, 63.176, 63.177, 63.179, and 63.180 of subpart H of this part except as provided in paragraphs (c)(1) through (c)(10) and (e) through (i) of this section.

(1) The instrument readings that define a leak for light liquid pumps subject to § 63.163 of subpart H of this part and gas/vapor and light liquid valves subject to § 63.168 of subpart H of this part are specified in table 2 of this subpart.

(2) In phase III of the valve standard, the owner or operator may monitor valves for leaks as specified in paragraphs (c)(2)(i) or (c)(2)(ii) of this section.

(i) If the owner or operator does not elect to monitor connectors, then the owner or operator shall monitor valves according to the frequency specified in table 8 of this subpart.

(ii) If an owner or operator elects to monitor connectors according to the provisions of § 63.649, paragraphs (b),

HeinOnline 60 Fed. Reg. 43270 1995

(c), or (d), then the owner or operator shall monitor valves at the frequencies specified in table 9 of this subpart.

(3) The owner or operator shall decide no later than the first required monitoring period after the phase I compliance date specified in § 63.640(h) whether to calculate the percentage leaking valves on a process unit basis or on a sourcewide basis. Once the owner or operator has decided, all subsequent calculations shall be on the same basis unless a permit change is made.

(4) The owner or operator shall decide no later than the first monitoring period after the phase III compliance date specified in § 63.640(h) whether to monitor connectors according to the provisions in § 63.649, paragraphs (b), (c), or (d).

(5) Connectors in gas/vapor service or light liquid service are subject to the requirements for connectors in heavy liquid service in § 63.169 of subpart H of this part (except for the agitator provisions). The leak definition for valves, connectors, and instrumentation systems subject to § 63.169 is 1,000 parts per million.

(6) In phase III of the pump standard, except as provided in paragraph (c)(7) of this section, owners or operators that achieve less than 10 percent of light liquid pumps leaking or three light liquid pumps leaking, whichever is greater, shall monitor light liquid pumps monthly.

(7) Owners or operators that achieve less than 3 percent of light liquid pumps leaking or one light liquid pump leaking, whichever is greater, shall monitor light liquid pumps quarterly.

(8) An owner or operator may make the election described in paragraphs (c)(3) and (c)(4) of this section at any time except that any election to change after the initial election shall be treated as a permit modification according to the terms of part 70 of this chapter.

(9) When complying with the requirements of § 63.138(e)(3)(i) of subpart H of this part, non-repairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and non-repairable. Otherwise, a number of non-repairable valves up to a maximum of 1 percent per year of the total number of valves in organic HAP service up to a maximum of 3 percent may be excluded from calculation of percent leaking valves for subsequent monitoring periods. When the number of non-repairable valves exceeds 3 percent of the total number of valves in organic HAP service, the number of non-repairable valves exceeding 3 percent of the total number shall be included in the calculation of percent leaking valves.

(10) If in phase III of the valve standard any valve is designated, as described in 40 CFR 60.4685(e)(2), as having no detectable emissions the owner or operator has the option of following the provisions of § 60.482–7(f) of subpart VV of part 60. If an owner or operator chooses to comply with the provisions of 40 CFR 60.482–7(f), the valve is exempt from the valve monitoring provisions of § 63.168 of subpart H of this part.

(d) Upon startup of new sources, the owner or operator shall comply with § 63.163(a)(1)(ii) of subpart H of this part for light liquid pumps and § 63.168(a)(1)(ii) of subpart H of this part for gas/vapor and light liquid valves.

(e) For reciprocating pumps in heavy liquid service, owners and operators are not required to comply with the requirements in § 63.169 of subpart H of this part.

(f) Reciprocating pumps in light liquid service are exempt from §§ 63.163 and 60.482 if recasting the distance piece or reciprocating pump replacement is required.

(g) Compressors in hydrogen service are exempt from the requirements of paragraphs (a) and (c) of this section if an owner or operator demonstrates that a compressor is in hydrogen service.

(1) Each compressor is presumed not to be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service.

(2) For a piece of equipment to be considered in hydrogen service, it must be determined that the percentage hydrogen content can be reasonably expected always to exceed 50 percent by volume.

(i) For purposes of determining the percentage hydrogen content in the process fluid that is contained in or contacts a compressor, the owner or operator shall use either:

(A) Procedures that conform to those specified in § 60.593(b)(2) of 40 part 60, subpart GGG.

(B) Engineering judgment to demonstrate that the percentage content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume.

(*1*) When an owner or operator and the Administrator do not agree on whether a piece of equipment is in hydrogen service, the procedures in paragraph (g)(2)(i)(A) of this section shall be used to resolve the disagreement.

(*2*) If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only by following the procedures in paragraph (g)(2)(i)(A) of this section.

(h) Each owner or operator of a source subject to the provisions of this subpart must maintain all records for a minimum of 5 years.

(i) Reciprocating compressors are exempt from seal requirements if recasting the distance piece or compressor replacement is required.

**§ 63.649 Alternative means of emission limitation: Connectors in gas/vapor service and light liquid service.**

(a) If an owner or operator elects to monitor valves according to the provisions of § 63.648(c)(2)(ii), the owner or operator shall implement one of the connector monitoring programs specified in paragraphs (b), (c), or (d) of this section.

(b) *Random 200 connector alternative.* The owner or operator shall implement a random sampling program for accessible connectors of 2.0 inches nominal diameter or greater. The program does not apply to inaccessible or unsafe-to-monitor connectors, as defined in § 63.174 of subpart H. The sampling program shall be implemented source-wide.

(1) Within the first 12 months after the phase III compliance date specified in § 63.640(h), a sample of 200 connectors shall be randomly selected and monitored using Method 21 of 40 CFR part 60, appendix A.

(2) The instrument reading that defines a leak is 1,000 parts per million.

(3) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected except as provided in paragraph (e) of this section. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(4) If a leak is detected, the connector shall be monitored for leaks within the first 3 months after its repair.

(5) After conducting the initial survey required in paragraph (b)(1) of this section, the owner or operator shall conduct subsequent monitoring of connectors at the frequencies specified in paragraphs (b)(5)(i) through (b)(5)(iv) of this section.

(i) If the percentage leaking connectors is 2.0 percent or greater, the owner or operator shall survey a random sample of 200 connectors once every 6 months.

(ii) If the percentage leaking connectors is 1.0 percent or greater but less than 2.0 percent, the owner or

operator shall survey a random sample of 200 connectors once per year.

(iii) If the percentage leaking connectors is 0.5 percent or greater but less than 1.0 percent, the owner or operator shall survey a random sample of 200 connectors once every 2 years.

(iv) If the percentage leaking connectors is less than 0.5 percent, the owner or operator shall survey a random sample of 200 connectors once every 4 years.

(6) Physical tagging of the connectors to indicate that they are subject to the monitoring provisions is not required. Connectors may be identified by the area or length of pipe and need not be individually identified.

(c) *Connector inspection alternative.* The owner or operator shall implement a program to monitor all accessible connectors in gas/vapor service that are 2.0 inches (nominal diameter) or greater and inspect all accessible connectors in light liquid service that are 2 inches (nominal diameter) or greater as described in paragraphs (c)(1) through (c)(7) of this section. The program does not apply to inaccessible or unsafe-to-monitor connectors.

(1) Within 12 months after the phase III compliance date specified in § 63.640(h), all connectors in gas/vapor service shall be monitored using Method 21 of 40 CFR part 60 appendix A. The instrument reading that defines a leak is 1,000 parts per million.

(2) All connectors in light liquid service shall be inspected for leaks. A leak is detected if liquids are observed to be dripping at a rate greater than three drops per minute.

(3) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected except as provided in paragraph (e) of this section. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(4) If a leak is detected, connectors in gas/vapor service shall be monitored for leaks within the first 3 months after repair. Connectors in light liquid service shall be inspected for indications of leaks within the first 3 months after repair. A leak is detected if liquids are observed to be dripping at a rate greater than three drops per minute.

(5) After conducting the initial survey required in paragraphs (c)(1) and (c)(2) of this section, the owner or operator shall conduct subsequent monitoring at the frequencies specified in paragraphs (c)(5)(i) through (c)(5)(iii) of this section.

(i) If the percentage leaking connectors is 2.0 percent or greater, the owner or operator shall monitor or inspect, as applicable, the connectors once per year.

(ii) If the percentage leaking connectors is 1.0 percent or greater but less than 2.0 percent, the owner or operator shall monitor or inspect, as applicable, the connectors once every 2 years.

(iii) If the percentage leaking connectors is less than 1.0 percent, the owner or operator shall monitor or inspect, as applicable, the connectors once every 4 years.

(6) The percentage leaking connectors shall be calculated for connectors in gas/vapor service and for connectors in light liquid service. The data for the two groups of connectors shall not be pooled for the purpose of determining the percentage leaking connectors.

(i) The percentage leaking connectors shall be calculated as follows:

$$\% C_L=[(C_L-C_{AN})/C_t+C_c)]\times 100$$

where:

$\% C_L$=Percentage leaking connectors.

$C_L$=Number of connectors including nonrepairables, measured at 1,000 parts per million or greater, by Method 21 of 40 CFR part 60, Appendix A.

$C_{AN}$=Number of allowable nonrepairable connectors, as determined by monitoring, not to exceed 3 percent of the total connector population, $C_t$.

$C_t$=Total number of monitored connectors, including nonrepairables, in the process unit.

$C_c$=Optional credit for removed connectors=0.67×net number (i.e., the total number of connectors removed minus the total added) of connectors in organic HAP service removed from the process unit after the applicability date set forth in § 63.640(h)(4)(iii) for existing process units, and after the date of start-up for new process units. If credits are not taken, then $C_c$=0.

(ii) Nonrepairable connectors shall be included in the calculation of percentage leaking connectors the first time the connector is identified as leaking and nonrepairable. Otherwise, a number of nonrepairable connectors up to a maximum of 1 percent per year of the total number of connectors in organic HAP service up to a maximum of 3 percent may be excluded from calculation of percentage leaking connectors for subsequent monitoring periods.

(iii) If the number of nonrepairable connectors exceeds 3 percent of the total number of connectors in organic HAP service, the number of nonrepairable connectors exceeding 3 percent of the total number shall be included in the calculation of the percentage leaking connectors.

(7) Physical tagging of the connectors to indicate that they are subject to the monitoring provisions is not required. Connectors may be identified by the area or length of pipe and need not be individually identified.

(d) *Subpart H program.* The owner or operator shall implement a program to comply with the provisions in § 63.174 of this part.

(e) Delay of repair of connectors for which leaks have been detected is allowed if repair is not technically feasible by normal repair techniques without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown.

(1) Delay of repair is allowed for equipment that is isolated from the process and that does not remain in organic HAP service.

(2) Delay of repair for connectors is also allowed if:

(i) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and

(ii) When repair procedures are accomplished, the purged material would be collected and destroyed or recovered in a control device.

(f) Any connector that is designated as an unsafe-to-repair connector is exempt from the requirements of paragraphs (b)(3) and (b)(4), (c)(3) and (c)(4), or (d) of this section if:

(1) The owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (b)(3) and (b)(4), (c)(3) and (c)(4), of this section; or

(2) The connector will be repaired before the end of the next scheduled process unit shutdown.

(g) The owner or operator shall maintain records to document that the connector monitoring or inspections have been conducted as required and to document repair of leaking connectors as applicable.

**§ 63.650 Gasoline loading rack provisions.**

(a) Except as provided in paragraphs (b) through (c) of this section, each owner or operator of a gasoline loading rack classified under Standard Industrial Classification code 2911 located within a contiguous area and under common control with a petroleum refinery shall comply with subpart R, §§ 63.421, 63.422(a) through (d), 63.425(a) through (c), 63.425(e) through (h), 63.427(a) and (b), and

63.428(b), (c), (g)(1), and (h)(1) through (h)(3).

(b) As used in this section, all terms not defined in § 63.641 shall have the meaning given them in subpart A or in 40 CFR part 63, subpart R. The § 63.641 definition of "affected source" applies under this section.

(c) Gasoline loading racks regulated under this subpart are subject to the compliance dates specified in § 63.640(h).

**§ 63.651 Marine tank vessel loading operation provisions.**

(a) Except as provided in paragraphs (b) through (c) of this section, each owner or operator of a marine tank vessel loading operation located at a petroleum refinery shall comply with the requirements of §§ 63.560 through 63.567 of 40 CFR part 63, subpart Y.

(b) As used in this section, all terms not defined in § 63.641 shall have the meaning given them in subpart A or in 40 CFR part 63, subpart Y. The § 63.641 definition of "affected source" applies under this section.

(c) The Initial Notification Report under § 63.567(b) is not required.

**§ 63.652 Emissions averaging provisions.**

(a) This section applies to owners or operators of existing sources who seek to comply with the emission standard in § 63.642(g) by using emissions averaging according to § 63.642(l) rather than following the provisions of §§ 63.643 through 63.647, and §§ 63.650 and 63.651. Existing marine tank vessel loading operations unable to comply with the standard by using emissions averaging are those marine tank vessels subject to 40 CFR 63.562(e) of this part and the Valdez Marine Terminal source.

(b) The owner or operator shall develop and submit for approval an Implementation Plan containing all of the information required in § 63.653(d) for all points to be included in an emissions average. The Implementation Plan shall identify all emission points to be included in the emissions average. This must include any Group 1 emission points to which the reference control technology (defined in § 63.641) is not applied and all other emission points being controlled as part of the average.

(c) The following emission points 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:

(1) Group 2 emission points;

(2) Group 1 storage vessels, Group 1 wastewater streams, Group 1 gasoline loading racks, Group 1 marine tank vessels, and Group 1 miscellaneous process vents 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; and

(3) Emission points from which emissions are reduced by pollution prevention measures. Percentages of reduction for pollution prevention measures shall be determined as specified in paragraph (j) of this section.

(i) For a Group 1 emission point, the pollution prevention measure must reduce emissions more than the reference control technology would have had the reference control technology been applied to the emission point instead of the pollution prevention measure except as provided in paragraph (c)(3)(ii) of this section.

(ii) If a pollution prevention measure is used in conjunction with other controls for a Group 1 emission point, the pollution prevention measure alone does not have to reduce emissions more than the reference control technology, but the combination of the pollution prevention measure and other controls must reduce emissions more than the reference control technology would have had it been applied instead.

(d) The following emission points cannot be used to generate emissions averaging credits:

(1) Emission points already controlled on or before November 15, 1990 unless the level of control is increased after November 15, 1990, in which case credit will be allowed only for the increase in control after November 15, 1990;

(2) Group 1 emission points that are controlled by a reference control technology 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. For example, it is not allowable to claim that an internal floating roof meeting only the specifications stated in the reference control technology definition in § 63.641 (i.e., that meets the specifications of § 63.119(b) of subpart G but does not have controlled fittings per § 63.119 (b)(5) and (b)(6) of subpart G) applied to a storage vessel is achieving greater than 95 percent control;

(3) Emission points on shutdown process units. Process units that are shut down cannot be used to generate credits or debits;

(4) Wastewater that is not process wastewater or wastewater streams treated in biological treatment units. These two types of wastewater cannot be used to generate credits or debits. Group 1 wastewater streams cannot be left undercontrolled or uncontrolled to generate debits. For the purposes of this section, the terms "wastewater" and "wastewater stream" are used to mean process wastewater; and

(5) Emission points controlled to comply with a State or Federal rule other than this subpart, unless the level of control has been increased after November 15, 1990 above what is required by the other State or Federal rule. Only the control above what is required by the other State or Federal rule will be credited. However, if an emission point has been used to generate emissions averaging credit in an approved emissions average, and the point is subsequently made subject to a State or Federal rule other than this subpart, the point can continue to generate emissions averaging credit for the purpose of complying with the previously approved average.

(e) For all points included in an emissions average, the owner or operator shall:

(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 for those emission points. Equations in paragraph (g) of this section shall be used to calculate debits.

(2) Calculate and record monthly credits for all Group 1 or 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 initial demonstration in the Implementation Plan 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.

(ii) 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 § 63.654(g)(8). Every fourth Periodic Report shall include a certification of compliance with the emissions averaging provisions as required by § 63.654(g)(8)(iii).

(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 from the following:

(1) More than 20 individual emission points. Where pollution prevention measures (as specified in paragraph (j)(1) of this section) are used to control emission points to be included in an emissions average, no more than 25 emission points may be included in the average. For example, if two emission points to be included in an emissions average are controlled by pollution prevention measures, the average may include up to 22 emission points.

(2) Periods of startup, shutdown, and malfunction as described in the source's startup, shutdown, and malfunction plan required by § 63.6(e)(3) of subpart A of this part.

(3) For emission points for which continuous monitors are used, periods of excess emissions as defined in § 63.654(g)(6)(i). For these periods, the calculation of monthly credits and debits shall be adjusted as specified in paragraphs (f)(3)(i) through (f)(3)(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 use the procedures in paragraph (l) of this section to demonstrate to the Administrator that full or partial credits or debits should be assigned.

(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 reference control technology, and the emissions allowed for Group 1 emission point. Debits shall be calculated as follows:

(1) The overall equation for calculating sourcewide debits is:

$$\text{Debits} = \sum_{i=1}^{n}\left(EPV_{iACTUAL} - (0.02)EPV_{iu}\right) + \sum_{i=1}^{n}\left(ES_{iACTUAL} - (0.05)ES_{iu}\right) + \sum_{i=1}^{n}\left(EGLR_{iACTUAL} - EGLR_{iC}\right) + \sum_{i=1}^{n}\left(EMV_{iACTUAL} - (0.03)EMViu\right)$$

where:

Debits and all terms of the equation are in units of megagrams per month, and

$EPV_{iACTUAL}$=Emissions from each Group 1 miscellaneous process vent i that is uncontrolled or is controlled to a level less stringent than the reference control technology. This is calculated according to paragraph (g)(2) of this section.

(0.02) $EPV_{iu}$=Emissions from each Group 1 miscellaneous process vent i if the reference control technology had been applied to the uncontrolled emissions, calculated according to paragraph (g)(2) 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 reference control technology. This is calculated according to paragraph (g)(3) of this section.

(0.05) $ES_{iu}$=Emissions from each Group 1 storage vessel i if the reference control technology had been applied to the uncontrolled emissions, calculated according to paragraph (g)(3) of this section.

$EGLR_{iACTUAL}$=Emissions from each Group 1 gasoline loading rack i that is uncontrolled or is controlled to a level less stringent than the reference control technology. This is calculated according to paragraph (g)(4) of this section.

$EGLR_{ic}$=Emissions from each Group 1 gasoline loading rack i if the reference control technology had been applied to the uncontrolled emissions. This is calculated according to paragraph (g)(4) of this section.

$EMV_{ACTUAL}$=Emissions from each Group 1 marine tank vessel i that is uncontrolled or is controlled to a level less stringent than the reference control technology. This is calculated according to paragraph (g)(5) of this section.

(0.03) $EMV_{iu}$=Emissions from each Group 1 marine tank vessel i if the reference control technology had been applied to the uncontrolled emissions calculated according to paragraph (g)(5) of this section.

n=The number of Group 1 emission points being included in the emissions average. The value of n is not necessarily the same for each kind of emission point.

(2) Emissions from miscellaneous process vents shall be calculated as follows:

(i) For purposes of determining miscellaneous 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 miscellaneous process vents, recovery devices shall not be considered control devices); and before discharge to the atmosphere. Method 1 or 1A of part 60, appendix A shall be used for selection of the sampling site.

(ii) The following equation shall be used for each miscellaneous process vent i to calculate $EPV_{iu}$:

$$EPV_{iu} = \left(2.494\times10^{-9}\right)Qh\left(\sum_{j=1}^{n} C_j M_j\right)$$

where:

$EPV_{iu}$=Uncontrolled process vent emission rate from miscellaneous process vent i, megagrams per month.

Q=Vent stream flow rate, dry standard cubic meters per minute, measured using Methods 2, 2A, 2C, or 2D of part 60 appendix A, as appropriate.

h=Monthly hours of operation during which positive flow is present in the vent, hours per month.

$C_j$=Concentration, parts per million by volume, dry basis, of organic HAP j as measured by Method 18 of part 60 appendix A.

HeinOnline 60 Fed. Reg. 43274 1995

$M_j$=Molecular weight of organic HAP j, gram per gram-mole.

n=Number of organic HAP's in the miscellaneous process vent stream.

(A) The values of Q, $C_j$, and $M_j$ shall be determined during a performance test conducted under representative operating conditions. The values of Q, $C_j$, and $M_j$ shall be established in the Notification of Compliance Status report 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, $C_j$, and $M_j$ are no longer representative, a new performance test shall be conducted to determine new representative values of Q, $C_j$, and $M_j$. 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 $EPV_{iACTUAL}$:

(A) If the vent is not controlled by a control device or pollution prevention measure, $EPV_{iACTUAL} = EPV_{iu}$, where $EPV_{iu}$ is calculated according to the procedures in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(B) If the vent is controlled using a control device or a pollution prevention measure achieving less than 98-percent reduction,

$$EPV_{iACTUAL} = EPV_{iu} \times \left(1 - \frac{\text{Percent reduction}}{100\%}\right)$$

(*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 § 63.645(d) of this subpart or § 63.116(b) of subpart G, the percentage of reduction shall be 98 percent. If a noncombustion control device is used, percentage of 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 miscellaneous process vents, product recovery devices shall not be considered control devices and cannot be assigned a percentage of reduction in calculating $EPV_{iACTUAL}$. The sampling site for measurement of uncontrolled emissions is after the final product recovery device.

(*3*) Procedures for calculating the percentage of reduction of pollution prevention measures are specified in paragraph (j) of this section.

(3) Emissions from storage vessels shall be calculated as specified in § 63.150(g)(3) of subpart G.

(4) Emissions from gasoline loading racks shall be calculated as follows:

(i) The following equation shall be used for each gasoline loading rack i to calculate $EGLR_{iu}$:

$$EGLR_{iu} = \left(1.20 \times 10^{-7}\right)\frac{SPMG}{T}$$

where:

$EGLR_{iu}$=Uncontrolled transfer HAP emission rate from gasoline loading rack i, megagrams per month

S=Saturation factor, dimensionless (see table 33 of subpart G).

P=Weighted average rack partial pressure of organic HAP's transferred at the rack during the month, kilopascals.

M=Weighted average molecular weight of organic HAP's transferred at the gasoline loading rack during the month, gram per gram-mole.

G=Monthly volume of gasoline transferred from gasoline loading rack, liters per month.

T=Weighted rack bulk liquid loading temperature during the month, degrees kelvin (degrees Celsius °C + 273).

(ii) The following equation shall be used for each gasoline loading rack i to calculate the weighted average rack partial pressure:

$$P = \frac{\sum_{1}^{j=n}(P_j)(G_j)}{G}$$

where:

$P_j$=Maximum true vapor pressure of individual organic HAP transferred at the rack, kilopascals.

G=Monthly volume of organic HAP transferred, liters per month, and

$$G = \sum_{1}^{j=n} G_j$$

$G_j$=Monthly volume of individual organic HAP transferred at the gasoline loading rack, liters per month.

n=Number of organic HAP's transferred at the gasoline loading rack.

(iii) The following equation shall be used for each gasoline loading rack i to calculate the weighted average rack molecular weight:

$$M = \frac{\sum_{1}^{j=n}(M_j)(G_j)}{G}$$

where:

$M_j$=Molecular weight of individual organic HAP transferred at the rack, gram per gram-mole.

G, $G_j$, and n are as defined in paragraph (g)(4)(ii) of this section.

(iv) The following equation shall be used for each gasoline loading rack i to calculate the monthly weighted rack bulk liquid loading temperature:

$$T = \frac{\sum_{1}^{j=n}(T_j)(G_j)}{G}$$

$T_j$=Average annual bulk temperature of individual organic HAP loaded at the gasoline loading rack, kelvin (degrees Celsius °C+273).

G, $G_j$, and n are as defined in paragraph (g)(4)(ii) of this section.

(v) The following equation shall be used to calculate $EGLR_{ic}$:

$$EGLR_{ic} = 1 \times 10^{-8}\, G$$

G is as defined in paragraph (g)(4)(ii) of this section.

(vi) The following procedures and equations shall be used to calculate $EGLR_{iACTUAL}$:

(A) If the gasoline loading rack is not controlled, $EGLR_{iACTUAL}$=$EGLR_{iu}$, where $EGLR_{iu}$ is calculated using the equations specified in paragraphs (g)(4)(i) through (g)(4)(iv) of this section.

(B) If the gasoline loading rack is controlled using a control device or a pollution prevention measure not achieving the requirement of less than 10 milligrams of TOC per liter of gasoline loaded,

$$EMV_{iu} = \sum_{i=1}^{m}(Q_i)(F_i)(P_i)$$

(*1*) The percent reduction for a control device shall be measured according to the procedures and test methods specified in § 63.128(a) of subpart G. If testing is not feasible, the percentage of reduction shall be determined through a design evaluation according to the procedures specified in § 63.128(h) of subpart G.

(*2*) Procedures for calculating the percentage of reduction for pollution prevention measures are specified in paragraph (j) of this section.

(5) Emissions from marine tank vessel loading shall be calculated as follows:

(i) The following equation shall be used for each marine tank vessel i to calculate $EMV_{iu}$:

$$EMV_{iu} = \sum_{i=1}^{m}(Q_i)(F_i)(P_i)$$

where:

$EMV_{iu}$=Uncontrolled marine tank vessel HAP emission rate from marine tank vessel i, megagrams per month.

$Q_i$=Quantity of commodity loaded (per vessel type), liters.

$F_i$=Emission factor, megagrams per liter.

$P_i$=Percent HAP.

m=Number of combinations of commodities and vessel types loaded.

Emission factors shall be based on test data or emission estimation procedures specified in § 63.565(l) of subpart Y.

(ii) The following procedures and equations shall be used to calculate $EMV_{iACTUAL}$:

(A) If the marine tank vessel is not controlled, $EMV_{iACTUAL}$=$EMV_{iu}$, where $EMV_{iu}$ is calculated using the equations specified in paragraph (g)(5)(i) of this section.

(B) If the marine tank vessel is controlled using a control device or a pollution prevention measure achieving less than 97-percent reduction,

$$EMV_{iACTUAL} = EMV_{iu}\left(\frac{1 - \text{Percent reduction}}{100\%}\right)$$

(*1*) The percent reduction for a control device shall be measured according to the procedures and test methods specified in § 63.565(c) of subpart Y. If testing is not feasible, the percentage of reduction shall be determined through a design evaluation according to the procedures specified in § 63.128(h) of subpart G.

(*2*) Procedures for calculating the percentage of reduction for pollution prevention measures are 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 a 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) The overall equation for calculating sourcewide credits is:

$$\begin{aligned}
\text{Credits} = {} & D\sum_{i=1}^{n}\left((0.02)EPV1_{iu} - EPV1_{iACTUAL}\right) + D\sum_{i=1}^{m}\left(EPV2_{iBASE} - EPV2_{iACTUAL}\right) D\sum_{i=1}^{n}\left((0.05)ES1_{iu} - ES1_{iACTUAL}\right) \\
& + D\sum_{i=1}^{m}\left(ES2_{iBASE} - ES2_{iACTUAL}\right) + D\sum_{i=1}^{n}\left(EGLR_{ic} - EGLR1_{iACTUAL}\right) + D\sum_{i=1}^{m}\left(EGLR2_{iBASE} - EGLR2_{iACTUAL}\right) \\
& + D\sum_{i=1}^{n}\left((0.03)EMV1_{iu} - EMV1_{iACTUAL}\right) + D\sum_{i=1}^{m}\left(EMV2_{iBASE} - EMV2_{iACTUAL}\right) + D\sum_{i=1}^{n}\left(EWW1_{ic} - EWW1_{iACTUAL}\right) \\
& + D\sum_{i=1}^{m}\left(EWW2_{iBASE} - EWW2_{iACTUAL}\right)
\end{aligned}$$

where:

Credits and all terms of the equation are in units of megagrams per month, the baseline date is November 15, 1990, and

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

$EPV1_{iACTUAL}$=Emissions for each Group 1 miscellaneous process vent i that is controlled to a level more stringent than the reference control technology, calculated according to paragraph (h)(2) of this section.

(0.02) $EPV1_{iu}$=Emissions from each Group 1 miscellaneous process vent i if the reference control technology had been applied to the uncontrolled emissions. $EPV1_{iu}$ is calculated according to paragraph (h)(2) of this section.

$EPV2_{iBASE}$=Emissions from each Group 2 miscellaneous process vent; at the baseline date, as calculated in paragraph (h)(2) of this section.

$EPV2_{iACTUAL}$=Emissions from each Group 2 miscellaneous process vent that is controlled, calculated according to paragraph (h)(2) 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, 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, calculated according to paragraph (h)(3) of this section.

$ES2_{iBASE}$=Emissions from each Group 2 storage vessel i at the baseline date, as calculated in paragraph (h)(3) of this section.

$EGLR1_{iACTUAL}$=Emissions from each Group 1 gasoline loading rack i that is controlled to a level more stringent than the reference control technology, calculated according to paragraph (h)(4) of this section.

$EGLR_{ic}$=Emissions from each Group 1 gasoline loading rack i if the reference control technology had been applied to the uncontrolled emissions. $EGLR_{iu}$ is calculated according to paragraph (h)(4) of this section.

$EGRL2_{iACTUAL}$=Emissions from each Group 2 gasoline loading rack i that is controlled, calculated according to paragraph (h)(4) of this section.

$EGLR2_{iBASE}$=Emissions from each Group 2 gasoline loading rack i at the baseline date, as calculated in paragraph (h)(4) of this section.

$EMV1_{iACTUAL}$=Emissions from each Group 1 marine tank vessel i that is controlled to a level more stringent than the reference control technology, calculated according to paragraph (h)(4) of this section.

(0.03)$EMV1_{iu}$=Emissions from each Group 1 marine tank vessel i if the reference control technology had been applied to the uncontrolled emissions. $EMV1_{iu}$ is calculated according to paragraph (h)(5) of this section.

$EMV2_{iACTUAL}$=Emissions from each Group 2 marine tank vessel i that is controlled, calculated according to paragraph (h)(5) of this section.

$EMV2_{iBASE}$=Emissions from each Group 2 marine tank vessel i at the baseline date, as calculated in paragraph (h)(5) 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, calculated according to paragraph (h)(6) 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, calculated according to paragraph (h)(6) of this section.

$EWW2_{iACTUAL}$=Emissions from each Group 2 wastewater stream i that is controlled, calculated according to paragraph (h)(6) of this section.

$EWW2_{iBASE}$=Emissions from each Group 2 wastewater stream i at the baseline date, calculated according to paragraph (h)(6) 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 each kind of emission point.

m=Number of Group 2 emission points included in the emissions average. The value of m is not necessarily the same for each kind of emission point.

(i) For an emission point controlled using a reference control technology, the percentage of 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.

(iii) For an emission point controlled using a pollution prevention measure, the nominal efficiency for calculating credits shall be determined as described in paragraph (j) of this section.

(2) Emissions from process vents shall be determined as follows:

(i) Uncontrolled emissions from miscellaneous process vents, $EPV1_{iu}$, shall be calculated according to the procedures and equation for $EPV_{iu}$ in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(ii) Actual emissions from miscellaneous 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, $EPV1_{iACTUAL}$, shall be calculated according to the following equation:

$$EPV1_{iACTUAL} = EPV1_{iu}\left(1 - \frac{\text{Nominal efficiency}\%}{100\%}\right)$$

(iii) The following procedures shall be used to calculate actual emissions from Group 2 process vents, $EPV2_{iACTUAL}$:

(A) For a Group 2 process vent controlled by a control device, a recovery device applied as a pollution prevention project, or a pollution prevention measure, if the control achieves a percentage of reduction less than or equal to a 98 percent reduction,

$$EPV2_{iACTUAL} = EPV2_{iu} \times \left(1 - \frac{\text{Percent reduction}}{100\%}\right)$$

(*1*) $EPV2_{iu}$ shall be calculated according to the equations and procedures for $EPV_{iu}$ 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 percentage of 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, $EPV2_{iu}$ shall be calculated prior to that recovery device. The equation for $EPV_{iu}$ in paragraph (g)(2)(ii) of this section shall be used to calculate $EPV2_{iu}$; 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 percentage of reduction shall be demonstrated by conducting a performance test at the inlet and outlet of that recovery device.

(B) For a Group 2 process vent controlled using a technology with an approved nominal efficiency greater than a 98 percent or a pollution prevention measure achieving greater than 98 percent reduction,

$$EPV2_{iACTUAL} = EPV2_{iu}\left(1 - \frac{\text{Nominal efficiency}\%}{100\%}\right)$$

(iv) Emissions from Group 2 process vents at baseline, $EPV2_{iBASE}$, shall be calculated as follows:

(A) If the process vent was uncontrolled on November 15, 1990, $EPV2_{iBASE}=EPV2_{iu}$, and shall be calculated according to the procedures and equation for $EPV_{iu}$ in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(B) If the process vent was controlled on November 15, 1990,

$$EPV2_{BASE} = EPV2_{iu}\left(1 - \frac{\text{Percent reduction}\%}{100\%}\right)$$

where $EPV2_{iu}$ is calculated according to the procedures and equation for $EPV_{iu}$ in paragraphs (g)(2)(i) and (g)(2)(ii) of this section. The percentage of 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 to a process vent as part of a pollution prevention project initiated after November 15, 1990, $EPV2_{iBASE}=EPV2_{iu}$, where $EPV2_{iu}$ is calculated according to paragraph (h)(2)(iii)(A)(*3*) of this section.

(3) Emissions from storage vessels shall be determined as specified in § 63.150(h)(3) of subpart G, except as follows:

(i) All references to § 63.119(b) in § 63.150(h)(3) of subpart G shall be replaced with: § 63.119 (b) or § 63.119(b) except for § 63.119(b)(5) and (b)(6).

(ii) All references to § 63.119(c) in § 63.150(h)(3) of subpart G shall be replaced with: § 63.119(c) or § 63.119(c) except for § 63.119(c)(2).

(iii) All references to § 63.119(d) in § 63.150(h)(3) of subpart G shall be replaced with: § 63.119(d) or § 63.119(d) except for § 63.119(d)(2).

(4) Emissions from gasoline loading racks shall be determined as follows:

(i) Uncontrolled emissions from Group 1 gasoline loading racks, $EGLR1_{iu}$, shall be calculated according to the procedures and equations for $EGLR_{iu}$ as described in paragraphs (g)(4)(i) through (g)(4)(iv) of this section.

(ii) Emissions from Group 1 gasoline loading racks if the reference control technology had been applied, $EGLR_{ic}$, shall be calculated according to the procedures and equations in paragraph (g)(4)(v) of this section.

(iii) Actual emissions from Group 1 gasoline loading racks controlled to less than 10 milligrams of TOC per liter of gasoline loaded; $EGLR_{iACTUAL}$, shall be calculated according to the following equation:

$$EGLR1_{iACTUAL} = EGLR1_{iu}\left(1 - \frac{\text{Nominal efficiency}}{100\%}\right)$$

(iv) The following procedures shall be used to calculate actual emissions from Group 2 gasoline loading racks, $EGLR2_{iACTUAL}$:

(A) For a Group 2 gasoline loading rack controlled by a control device or a pollution prevention measure achieving emissions reduction but where emissions are greater than the 10 milligrams of TOC per liter of gasoline loaded requirement,

$$EGLR2_{iACTUAL} = EGLR2_{iu}\left(1 - \frac{\text{Percent reduction}}{100\%}\right)$$

HeinOnline 60 Fed. Reg. 43278 1995

(*1*) $EGLR2_{iu}$ shall be calculated according to the equations and procedures for $EGLR_{iu}$ in paragraphs (g)(4)(i) through (g)(4)(iv) of this section.

(*2*) The percentage of reduction shall be calculated according to the procedures in paragraphs (g)(4)(vi)(B)(*1*) and (g)(4)(vi)(B)(*2*) of this section.

(B) For a Group 2 gasoline loading rack controlled by using a technology with an approved nominal efficiency greater than 98 percent or a pollution prevention measure achieving greater than a 98-percent reduction,

$$EGLR2_{iACTUAL} = EGLR2_{iu}\left(1 - \frac{\text{Nominal efficiency}}{100\%}\right)$$

(v) Emissions from Group 2 gasoline loading racks at baseline, $EGLR2_{iBASE}$, shall be calculated as follows:

(A) If the gasoline loading rack was uncontrolled on November 15, 1990, $EGLR2_{iBASE}=EGLR2_{iu}$, and shall be calculated according to the procedures and equations for $EGLR_{iu}$ in paragraphs (g)(4)(i) through (g)(4)(iv) of this section.

(B) If the gasoline loading rack was controlled on November 15, 1990,

$$EGLR2_{iBASE} = EGLR2_{iu}\left(1 - \frac{\text{Percent reduction}}{100\%}\right)$$

where $EGLR2_{iu}$ is calculated according to the procedures and equations for $EGLR_{iu}$ in paragraphs (g)(4)(i) through (g)(4)(iv) of this section. Percentage of reduction shall be calculated according to the procedures in paragraphs (g)(4)(vi)(B)(*1*) and (g)(4)(vi)(B)(*2*) of this section.

(5) Emissions from marine tank vessels shall be determined as follows:

(i) Uncontrolled emissions from Group 1 marine tank vessels, $EMV1_{iu}$, shall be calculated according to the procedures and equations for $EMV_{iu}$ as described in paragraph (g)(5)(i) of this section.

(ii) Actual emissions from Group 1 marine tank vessels controlled using a technology or pollution prevention measure with an approved nominal efficiency greater than 97 percent, $EMV_{iACTUAL}$, shall be calculated according to the following equation:

$$EMV1_{iACTUAL} = EMV1_{iu}\left(1 - \frac{\text{Nominal efficiency}}{100\%}\right)$$

(iii) The following procedures shall be used to calculate actual emissions from Group 2 marine tank vessels, $EMV2_{iACTUAL}$:

(A) For a Group 2 marine tank vessel controlled by a control device or a pollution prevention measure achieving a percentage of reduction less than or equal to 97 percent reduction,

$$EMV2_{iACTUAL} = EMV2_{iu}\left(1 - \frac{\text{Percent reduction}}{100\%}\right)$$

(*1*) $EMV2_{iu}$ shall be calculated according to the equations and procedures for $EMV_{iu}$ in paragraph (g)(5)(i) of this section.

(*2*) The percentage of reduction shall be calculated according to the procedures in paragraphs (g)(5)(ii)(B)(*1*) and (g)(5)(ii)(B)(*2*) of this section.

(B) For a Group 2 marine tank vessel controlled using a technology or a pollution prevention measure with an approved nominal efficiency greater than 97 percent,

$$EMV2_{iACTUAL} = EMV2_{iu}\left(1 - \frac{\text{Nominal efficiency}}{100\%}\right)$$

(iv) Emissions from Group 2 marine tank vessels at baseline, $EMV2_{iBASE}$, shall be calculated as follows:

(A) If the marine terminal was uncontrolled on November 15, 1990, $EMV2_{iBASE}$ equals $EMV2_{iu}$, and shall be calculated according to the procedures and equations for $EMV_{iu}$ in paragraph (g)(5)(i) of this section.

(B) If the marine tank vessel was controlled on November 15, 1990,

$$EMV2_{iBASE} = EMV2_{iu}\left(1 - \frac{\text{Percent reduction}}{100\%}\right)$$

where $EMV2_{iu}$ is calculated according to the procedures and equations for $EMV_{iu}$ in paragraph (g)(5)(i) of this section. Percentage of reduction shall be calculated according to the procedures in paragraphs (g)(5)(ii)(B)(*1*) and (g)(5)(ii)(B)(*2*) of this section.

(6) Emissions from wastewater shall be determined as follows:

(i) For purposes of paragraphs (h)(4)(ii) through (h)(4)(vi) of this section, the following terms will have the meaning given them in paragraphs (h)(6)(i)(A) through (h)(6)(i)(C) of this section.

(A) *Correctly suppressed* means that a wastewater stream is being managed according to the requirements of §§ 61.343 through 61.347 or § 61.342(c)(l)(iii) of 40 CFR part 61, subpart FF, as applicable, and the emissions from the waste management units subject to those requirements are routed to a control device that reduces HAP emissions by 95 percent or greater.

(B) *Treatment process* has the meaning given in § 61.341 of 40 CFR part 61, subpart FF except that it does not include biological treatment units.

(C) *Vapor control device* means the control device that receives emissions vented from a treatment process or treatment processes.

(ii) The following equation shall be used for each wastewater stream i to calculate $EWW_{ic}$:

$$EWW_{ic} = \left(6.0*10^{-8}\right)Q_i H_i \sum_{m=1}^{s}\left(1 - Fr_m\right)Fe_m HAP_{im} + (0.05)\left(6.0*10^{-8}\right)Q_i H_i \sum_{m=1}^{s}\left(Fr_m HAP_{im}\right)$$

where:

$EWW_{ic}$ = Monthly wastewater stream emission rate if wastewater stream i were controlled by the reference control technology, megagrams per month.

$Q_i$ = Average flow rate for wastewater stream i, liters per minute.

$H_i$ = Number of hours during the month that wastewater stream i was generated, hours per month.

$Fr_m$=Fraction removed of organic HAP m in wastewater, from table 7 of this subpart, dimensionless.

$Fe_m$=Fraction emitted of organic HAP m in wastewater from table 7 of this subpart, dimensionless.

s=Total number of organic HAP's in wastewater stream i.

$HAP_{im}$=Average concentration of organic HAP m in wastewater stream i, parts per million by weight.

(A) $HAP_{im}$ shall be determined for the point of generation or at a location downstream of the point of generation. Wastewater samples shall be collected using the sampling procedures specified in Method 25D of 40 CFR part 60, appendix A. Where feasible, samples shall be taken from an enclosed pipe prior to the wastewater being exposed to the atmosphere. When sampling from an enclosed pipe is not feasible, a minimum of three representative samples shall be collected in a manner to minimize exposure of the sample to the atmosphere and loss of organic HAP's prior to sampling. The samples collected may be analyzed by either of the following procedures:

(*1*) A test method or results from a test method that measures organic HAP concentrations in the wastewater, and that has been validated pursuant to section 5.1 or 5.3 of Method 301 of appendix A of this part may be used; or

(*2*) Method 305 of appendix A of this part may be used to determine $C_{im}$, the average volatile organic HAP concentration of organic HAP m in wastewater stream i, and then $HAP_{im}$ may be calculated using the following equation: $HAP_{im}=C_{im}/Fm_m$, where $Fm_m$ for organic HAP m is obtained from table 7 of this subpart.

(B) Values for $Q_i$, $HAP_{im}$, and $C_{im}$ shall be determined during a performance test conducted under representative conditions. The average value obtained from three test runs shall be used. The values of $Q_i$, $HAP_{im}$, and $C_{im}$ shall be established in the Notification of Compliance Status report and must be updated as provided in paragraph (h)(6)(i)(C) of this section.

(C) If there is a change to the process or operation such that the previously measured values of $Q_i$, $HAP_{im}$, and $C_{im}$ are no longer representative, a new performance test shall be conducted to determine new representative values of $Q_i$, $HAP_{im}$, and $C_{im}$. 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 equations shall be used to calculate $EWW1_{iACTUAL}$ for each Group 1 wastewater stream i that is correctly suppressed and is treated to a level more stringent than the reference control technology.

(A) If the Group 1 wastewater stream i is controlled using a treatment process or series of treatment processes with an approved nominal reduction efficiency for an individually speciated HAP that is greater than that specified in table 7 of this subpart, and the vapor control device achieves a percentage of reduction equal to 95 percent, the following equation shall be used:

$$EWW1_{iACTUAL} = \left(6.0*10^{-8}\right)Q_i H_i \sum_{m=1}^{s}\left[Fe_m HAP_{im}\left(1 - PR_{im}\right)\right] + 0.05\left(6.0*10^{-8}\right)Q_i H_i \sum_{m=1}^{s}\left[HAP_{im} PR_{im}\right]$$

Where:

$EWW_{iACTUAL}$=Monthly wastewater stream emission rate if wastewater stream i is treated to a level more stringent than the reference control technology, megagrams per month.

$PR_{im}$=The efficiency of the treatment process, or series of treatment processes, that treat wastewater stream i in reducing the emission potential of organic HAP m in wastewater, dimensionless, as calculated by:

$$PR_{im} = \frac{HAP_{im\text{-}in} - HAP_{im\text{-}out}}{HAP_{im\text{-}in}}$$

Where:

$HAP_{im\text{-}in}$=Average concentration of organic HAP m, parts per million by weight, as defined and determined according to paragraph (h)(6)(ii)(A) of this section, in the wastewater entering the first treatment process in the series.

$HAP_{im\text{-}out}$=Average concentration of organic HAP m, parts per million by weight, as defined and determined according to paragraph (h)(6)(ii)(A) of this section, in the wastewater exiting the last treatment process in the series.

All other terms are as defined and determined in paragraph (h)(6)(ii) of this section.

(B) If the Group 1 wastewater stream i is not controlled using a treatment process or series of treatment processes with an approved nominal reduction efficiency for an individually speciated HAP that is greater than that specified in table 7 of this subpart, but the vapor control device has an approved nominal efficiency greater than 95 percent, the following equation shall be used:

$$EWW1_{iACTUAL} = \left(6.0*10^{-8}\right)Q_i H_i \sum_{m=1}^{s}\left[Fe_m HAP_{im}\left(1-A_m\right)\right] + \left(1-\frac{\text{Nominal efficiency }\%}{100}\right)\left(6.0*10^{-8}\right)Q_i H_i \sum_{m=1}^{s}\left[HAP_{im}A_m\right]$$

Where:

Nominal efficiency=Approved reduction efficiency of the vapor control device, dimensionless, as determined according to the procedures in § 63.652(i).

$A_m$=The efficiency of the treatment process, or series of treatment processes, that treat wastewater stream i in reducing the emission potential of organic HAP m in wastewater, dimensionless.

All other terms are as defined and determined in paragraphs (h)(6)(ii) and (h)(6)(iii)(A) of this section.

(*1*) If a steam stripper meeting the specifications in the definition of reference control technology for wastewater is used, $A_m$ shall be equal to the value of $Fr_m$ given in table 7 of this subpart.

(*2*) If an alternative control device is used, the percentage of reduction must be determined using the equation and methods specified in paragraph (h)(6)(iii)(A) of this section for determining $PR_{im}$. If the value of $PR_{im}$ is greater than or equal to the value of $Fr_m$ given in table 7 of this subpart, then $A_m$ equals $Fr_m$ unless a higher nominal efficiency has been approved. If a higher nominal efficiency has been approved for the treatment process, the owner or operator shall determine $EWW1_{iACTUAL}$ according to paragraph (h)(6)(iii)(B) of this section rather than paragraph (h)(6)(iii)(A) of this section. If $PR_{im}$ is less than the value of $FR_m$ given in table 7 of this subpart, emissions averaging shall not be used for this emission point.

(C) If the Group 1 wastewater stream i is controlled using a treatment process or series of treatment processes with an approved nominal reduction efficiency for an individually speciated hazardous air pollutant that is greater than that specified in table 7 of this subpart, and the vapor control device has an approved nominal efficiency greater than 95 percent, the following equation shall be used:

$$EWW1_{iACTUAL} = \left(6.0*10^{-8}\right)Q_i H_i \sum_{m=1}^{s}\left[Fe_m HAP_{im}\left(1-PR_{im}\right)\right] + \left(1-\frac{\text{Nominal efficiency }\%}{100}\right)\left(6.0*10^{-8}\right)Q_i H_i \sum_{m=1}^{s}\left[HAP_{im}PR_{im}\right]$$

where all terms are as defined and determined in paragraphs (h)(6)(ii) and (h)(6)(iii)(A) of this section.

(iv) The following equation shall be used to calculate $EWW2_{iBASE}$ for each Group 2 wastewater stream i that on November 15, 1990 was not correctly suppressed or was correctly suppressed but not treated:

$$EWW2_{iBASE} = \left(6.0\times10^{-8}\right)Q_i H_i \sum_{m=1}^{s} Fe_m HAP_{im}$$

Where:

$EWW2_{iBASE}$=Monthly wastewater stream emission rate if wastewater stream i is not correctly suppressed, megagrams per month.

$Q_i$, $H_i$, s, $Fe_m$, and $HAP_{im}$ are as defined and determined according to paragraphs (h)(6)(ii) and (h)(6)(iii)(A) of this section.

(v) The following equation shall be used to calculate $EWW2_{iBASE}$ for each Group 2 wastewater stream i on November 15, 1990 was correctly suppressed. $EWW2_{iBASE}$ shall be calculated as if the control methods being used on November 15, 1990 are in place and any control methods applied after November 15, 1990 are ignored. However, values for the parameters in the equation shall be representative of present production levels and stream properties.

$$EWW2_{iBASE} = \left(6.0*10^{-8}\right)Q_i H_i \sum_{m=1}^{s}\left[Fe_m HAP_{im}\left(1-PR_{im}\right)\right]+\left(1-\frac{R_i}{100\%}\right)\left(6.0*10^{-8}\right)Q_i H_i \sum_{m=1}^{s}\left[HAP_{im}PR_{im}\right]$$

where $R_i$ is calculated according to paragraph (h)(6)(vii) of this section and all other terms are as defined and determined according to paragraphs (h)(6)(ii) and (h)(6)(iii)(A) of this section.

(vi) For Group 2 wastewater streams that are correctly suppressed, $EWW2_{iACTUAL}$ shall be calculated according to the equation for $EWW2_{iBASE}$ in paragraph (h)(6)(v) of this section. $EWW2_{iACTUAL}$ shall be calculated with all control methods in place accounted for.

(vii) The reduction efficiency, $R_i$, of the vapor control device shall be demonstrated according to the following procedures:

(A) Sampling sites shall be selected using Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate.

(B) The mass flow rate of organic compounds entering and exiting the control device shall be determined as follows:

(*1*) The time period for the test shall not be less than 3 hours during which at least three runs are conducted.

(*2*) A run shall consist of a 1-hour period during the test. For each run:

(*i*) The volume exhausted shall be determined using Methods 2, 2A, 2C, or 2D of 40 CFR part 60 appendix A, as appropriate;

(*ii*) The organic concentration in the vent stream entering and exiting the control device shall be determined using Method 18 of 40 CFR part 60, appendix A. Alternatively, any other test method validated according to the procedures in Method 301 of appendix A of this part may be used.

(*3*) The mass flow rate of organic compounds entering and exiting the control device during each run shall be calculated as follows:

$$E_a = \frac{0.0416}{10^6 \times m}\left[\sum_{p=1}^{m} V_{ap}\left(\sum_{p=1}^{n} C_{aip} MW_i\right)\right]$$

$$E_b = \frac{0.0416}{10^6 \times m}\left[\sum_{p=1}^{m} V_{bp}\left(\sum_{p=1}^{n} C_{bip} MW_i\right)\right]$$

Where:

$E_a$=Mass flow rate of organic compounds exiting the control device, kilograms per hour.

$E_b$=Mass flow rate of organic compounds entering the control device, kilograms per hour.

$V_{ap}$=Average volumetric flow rate of vent stream exiting the control device during run p at standards conditions, cubic meters per hour.

$V_{bp}$ = Average volumetric flow rate of vent stream entering the control device during run p at standards conditions, cubic meters per hour.

p = Run.

m = Number of runs.

$C_{aip}$ = Concentration of organic compound i measured in the vent stream exiting the control device during run p as determined by Method 18 of 40 CFR part 60 appendix A, parts per million by volume on a dry basis.

$C_{bip}$ = Concentration of organic compound i measured in the vent stream entering the control device during run p as determined by Method 18 of 40 CFR part 60, appendix A, parts per million by volume on a dry basis.

$MW_i$ = Molecular weight of organic compound i in the vent stream, kilograms per kilogram-mole.

n = Number of organic compounds in the vent stream.

0.0416 = Conversion factor for molar volume, kilograms-mole per cubic meter at 293 kelvin and 760 millimeters mercury absolute.

(C) The organic reduction efficiency for the control device shall be calculated as follows:

$$R = \frac{E_b - E_a}{E_b} \times 100$$

Where:

R = Total organic reduction efficiency for the control device, percentage.

$E_b$ = Mass flow rate of organic compounds entering the control device, kilograms per hour.

$E_a$ = Mass flow rate of organic compounds exiting the control device, kilograms per hour.

(i) The following procedures shall be followed to establish nominal efficiencies. 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 percentages of reduction than the percentages of efficiency assigned to the reference control technologies in § 63.641.

(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 Administrator 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 of this part. 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

HeinOnline 60 Fed. Reg. 43282 1995

assumptions made in the calculations shall be documented; and

(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 calendar 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 calendar 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 conditional permission to take emission credits for use of the control technology on 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 paragraphs (i)(1)(i) through (i)(1)(iv) of this section can be submitted to the permitting authority for the 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. 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 submittal, 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 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 (percentage of reduction) of pollution prevention measures:

(1) A pollution prevention measure is any practice that 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 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 percentage of reduction used in the equations in paragraphs (g)(2) and (g)(3) of this section and paragraphs (h)(2) through (h)(4) of this section is the difference in percentage 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) The following equation shall be used to calculate the percentage of reduction of a pollution prevention measure for each emission point.

$$\text{Percent reduction} = \frac{E_B - \dfrac{\left(E_{pp} \times P_B\right)}{P_{pp}}}{E_B} \times 100\%$$

Where:

Percent reduction=Efficiency of pollution prevention measure (percentage of organic HAP reduction).

$E_B$=Monthly emissions before the pollution prevention measure, megagrams per 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, megagrams per month, as determined for the most recent month, determined as specified in paragraphs (j)(2)(ii)(D) or (j)(2)(ii)(E) of this section.

$P_B$=Monthly production before the pollution prevention measure, megagrams per month, during the same period over which $E_B$ is calculated.

$P_{pp}$=Monthly production after the pollution prevention measure, megagrams per 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 paragraphs (g)(2), (g)(3), (g)(4), and (g)(5) of this section for miscellaneous process vents, storage vessels, gasoline loading racks, and marine tank vessels.

(B) For wastewater, $E_B$ shall be calculated as follows:

$$E_B = \sum_{i=1}^{n} \left[ \left(6.0*10^{-8}\right) Q_{Bi} H_{Bi} \sum_{m=1}^{s} Fe_m HAP_{Bim} \right]$$

where:

n=Number of wastewater streams.

$Q_{Bi}$=Average flow rate for wastewater stream i before the pollution prevention measure, liters per minute.

$H_{Bi}$=Number of hours per month that wastewater stream i was discharged before the pollution prevention measure, hours per month.

s=Total number of organic HAP's in wastewater stream i.

$Fe_m$=Fraction emitted of organic HAP m in wastewater from table 7 of this subpart, dimensionless.

$HAP_{Bim}$=Average concentration of organic HAP m in wastewater stream i, defined and determined according to paragraph (h)(6)(ii)(A)(*2*) of this section, before the pollution prevention measure, parts per million by weight, as measured before the implementation of the pollution measure.

(C) If the pollution prevention measure was implemented prior to July 14, 1994, 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 using the following equation:

$$E_{pp} = \sum_{i=1}^{n} \left[ \left(6.0*10^{-8}\right) Q_{ppi} H_{ppi} \sum_{m=1}^{s} Fe_m HAP_{ppim} \right]$$

where n, Q, H, s, $Fe_m$, and HAP are defined and determined as described in paragraph (j)(2)(ii)(B) of this section except that $Q_{ppi}$, $H_{ppi}$, and $HAP_{ppim}$ shall be determined after the pollution prevention measure has been implemented.

(iii) All equations, calculations, test procedures, test results, and other information used to determine the percentage of 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 percentage of reduction in emissions for each emission point must be calculated.

(v) For the purposes of the equations in paragraphs (h)(2) through (h)(6) 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 percentage of reduction of the pollution prevention measure. When a pollution prevention measure is used, the owner or operator of a 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 shall demonstrate that the emissions from the emission points proposed to be included in the average will not result in greater hazard or, at the option of the State or local permitting authority, greater risk to human health or the environment than if the emission points were controlled according to the provisions in §§ 63.643 through 63.647, and §§ 63.650 and 63.651.

(1) This demonstration of hazard or risk equivalency shall be made to the satisfaction of the State or local permitting authority.

(i) The State or local permitting authority 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 may be made according to any guidance that the EPA makes available for use.

(2) Owners and operators shall provide documentation demonstrating the hazard or risk equivalency of their proposed emissions average in their Implementation Plan.

(3) An emissions averaging plan that does not demonstrate an equivalent or lower hazard or risk to the satisfaction of the State or local permitting authority shall not be approved. The State or local permitting authority may require such adjustments to the emissions averaging plan as are necessary in order to ensure that the average will not result in greater hazard or risk to human health or the environment than would result if the emission points were controlled according to §§ 63.643 through 63.647, and §§ 63.650 and 63.651.

(4) A hazard or risk equivalency demonstration shall:

(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 State or local permitting authority for such demonstrations.

(l) For periods of excess emissions, 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)(3)(i) and (f)(3)(ii) of this section.

(1) The owner or operator shall notify the Administrator of excess emissions in the Periodic Reports as required in § 63.654(g)(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 period of excess emissions and the other type 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.

HeinOnline 60 Fed. Reg. 43284 1995

**§ 63.653 Monitoring, recordkeeping, and implementation plan for emission averaging.**

(a) 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 §§ 63.643 through 63.647, and §§ 63.650 and 63.651. The specific requirements for miscellaneous process vents, storage vessels, wastewater, gasoline loading racks, and marine tank vessels are identified in paragraphs (a)(1) through (a)(7) of this section.

(1) The source shall implement the following testing, monitoring, recordkeeping, and reporting procedures for each miscellaneous process vent equipped with a flare, incinerator, boiler, or process heater:

(i) Conduct initial performance tests to determine the percentage of reduction as specified in § 63.645 of this subpart and § 63.116 of subpart G; and

(ii) Monitor the operating parameters specified in § 63.644, as appropriate for the specific control device.

(2) The source shall implement the following procedures for each miscellaneous process vent, equipped with a carbon adsorber, absorber, or condenser but not equipped with a control device:

(i) Determine the flow rate and organic HAP concentration using the methods specified in § 63.115 (a)(1) and (a)(2), § 63.115 (b)(1) and (b)(2), and § 63.115(c)(3) of subpart G; and

(ii) Monitor the operating parameters specified in § 63.114 of subpart G, as appropriate for the specific recovery device.

(3) The source shall implement the following procedures 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 in § 63.646 of this subpart and § 63.120 of subpart G; and

(ii) For closed vent systems with control devices, conduct an initial design evaluation as specified in § 63.646 of this subpart and § 63.120(d) of subpart G.

(4) For each gasoline loading rack that is controlled, perform the testing and monitoring procedures specified in §§ 63.425 and 63.427 of subpart R of this part.

(5) For each marine tank vessel that is controlled, perform the compliance, monitoring, and performance testing, procedures specified in §§ 63.563, 63.564, and 63.565 of subpart Y of this part.

(6) The source shall implement the following procedures for wastewater emission points, as appropriate to the control techniques:

(i) For wastewater treatment processes, conduct tests as specified in § 61.355 of subpart FF of part 60;

(ii) Conduct inspections and monitoring as specified in §§ 61.343 through 61:349 and § 61.354 of 40 CFR part 61, subpart FF.

(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 specified in §§ 63.643 through 63.647 and §§ 63.650 and 63.651, the owner or operator shall establish a site-specific monitoring parameter and shall submit the information specified in § 63.654(h)(4) in the Implementation Plan.

(b) Records of all information required to calculate emission debits and credits and records required by § 63.654 shall be retained for 5 years.

(c) Notifications of Compliance Status report, Periodic Reports, and other reports shall be submitted as required by § 63.654.

(d) Each owner or operator of an existing source who elects to comply with § 63.654 (g) and (h) by using emissions averaging for any emission points shall submit an Implementation Plan.

(1) The Implementation Plan shall be submitted no later than 18 months prior to the compliance date in § 63.640(h). This information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination of the three. If an owner or operator submits the information specified in paragraph (d)(2) of this section at different times, and/or in different submittals, later submittals may refer to earlier submittals instead of duplicating the previously submitted information.

(2) The Implementation Plan shall include the information specified in paragraphs (d)(2)(i) through (d)(2)(ix) of this section for all points included in the average.

(i) The identification of all emission points in the planned emissions average and notation of whether each emission point is a Group 1 or Group 2 emission point as defined in § 63.641.

(ii) The projected annual emission debits and credits for each emission point and the sum for the emission points involved in the average calculated according to § 63.652. The annual projected credits must be greater than the projected debits, as required under § 63.652(e)(3).

(iii) 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.

(iv) The specific identification of each emission point affected by a pollution prevention measure. To be considered a pollution prevention measure, the criteria in § 63.652(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.

(v) A statement that the compliance demonstration, monitoring, inspection, recordkeeping, and reporting provisions in paragraphs (a), (b), and (c) of this section that are applicable to each emission point in the emissions average will be implemented beginning on the date of compliance.

(vi) Documentation of the information listed in paragraphs (d)(2)(vi)(A) through (d)(2)(vi)(D) of this section for each emission point included in the average.

(A) The values of the parameters used to determine whether each emission point in the emissions average is Group 1 or Group 2.

(B) The estimated values of all parameters needed for input to the emission debit and credit calculations in § 63.652 (g) and (h). These parameter values or, as appropriate, limited ranges for the parameter values, shall be specified in the source's Implementation Plan as enforceable operating conditions. Changes to these parameters must be reported in the next Periodic Report.

(C) The estimated percentage of reduction if a control technology achieving a lower percentage of reduction than the efficiency of the reference control technology, as defined in § 63.641, is or will be applied to the emission point.

(D) The anticipated nominal efficiency if a control technology achieving a greater percentage emission reduction than the efficiency of the reference control technology is or will be applied to the emission point. The procedures in § 63.652(i) shall be followed to apply for a nominal efficiency.

(vii) The information specified in § 63.654(h)(4) for:

(A) Each miscellaneous process vent controlled by a pollution prevention measure or control technique for which monitoring parameters or inspection procedures are not specified in

paragraphs (a)(1) or (a)(2) of this section; and

(B) Each storage vessel controlled by a pollution prevention measure or a control technique other than an internal or external floating roof or a closed vent system with a control device.

(viii) Documentation of the information listed in paragraphs (d)(2)(viii)(A) through (d)(2)(viii)(G) of this section for each process wastewater stream included in the average.

(A) The information used to determine whether the wastewater stream is a Group 1 or Group 2 wastewater stream.

(B) The estimated values of all parameters needed for input to the wastewater emission credit and debit calculations in § 63.652(h)(6).

(C) The estimated percentage of reduction if the wastewater stream is or will be controlled using a treatment process or series of treatment processes that achieves an emission reduction less than or equal to the emission reduction specified in table 7 of this subpart.

(D) The estimated percentage of reduction if 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.

(E) The estimated percentage of reduction if a pollution prevention measure is or will be applied.

(F) The anticipated nominal efficiency if the owner or operator plans to apply for a nominal efficiency under § 63.652(i). A nominal efficiency shall be applied for if:

(*1*) A control technology is or will be applied to the wastewater stream and achieves an emission reduction greater than the emission reduction specified in table 7 of this subpart; or

(*2*) 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.

(G) For each pollution prevention measure, treatment process, or control device used to reduce air emissions of organic HAP's from wastewater and for which no monitoring parameters or inspection procedures are specified in § 63.647, the information specified in § 63.654(h)(4) shall be included in the Implementation Plan.

(ix) Documentation required in § 63.652(k) demonstrating the hazard or risk equivalency of the proposed emissions average.

(3) The Administrator shall determine within 120 calendar days whether the Implementation Plan submitted presents sufficient information. The Administrator shall either approve the Implementation 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 calendar days.

**§ 63.654 Reporting and recordkeeping requirements.**

(a) Each owner or operator subject to the wastewater provisions in § 63.647 shall comply with the recordkeeping and reporting provisions in §§ 61.356 and 61.357 of 40 CFR part 61 subpart FF. There are no additional reporting and recordkeeping requirements for wastewater under this subpart unless a wastewater stream is included in an emissions average. Recordkeeping and reporting for emissions averages are specified in § 63.653 and in paragraphs (f)(5) and (g)(8) of this section.

(b) Each owner or operator subject to the gasoline loading rack provisions in § 63.650 shall comply with the recordkeeping and reporting provisions in § 63.428 (b) and (c), (g)(1), and (h)(1) through (h)(3) of subpart R of this part. These requirements are summarized in table 4 of this subpart. There are no additional reporting and recordkeeping requirements for gasoline loading racks under this subpart unless a loading rack is included in an emissions average. Recordkeeping and reporting for emissions averages are specified in § 63.653 and in paragraphs (f)(5) and (g)(8) of this section.

(c) Each owner or operator subject to the marine tank vessel loading operation standards in § 63.651 shall comply with the recordkeeping and reporting provisions in §§ 63.566 and 63.567(a) and § 63.567 (c) through (i) of subpart Y of this part. These requirements are summarized in table 5 of this subpart. There are no additional reporting and recordkeeping requirements for marine tank vessel loading operations under this subpart unless marine tank vessel loading operations are included in an emissions average. Recordkeeping and reporting for emissions averages are specified in § 63.653 and in paragraphs (f)(5) and (g)(8) of this section.

(d) Each owner or operator subject to the equipment leaks standards in § 63.648 shall comply with the recordkeeping and reporting provisions in paragraphs (d)(1) through (d)(3) of this section.

(1) Sections 60.486 and 60.487 of subpart VV of part 60, or §§ 63.181 and 63.182 of subpart H of this part except for § 63.182, paragraphs (b), (c)(2), and (c)(4).

(2) The Notification of Compliance Status report required by § 63.182(c) of subpart H and the initial semiannual report required by § 60.487(b) of 40 CFR part 60, subpart VV shall be submitted within 150 days of the compliance date specified in § 63.640(h); the requirements of subpart H of this part are summarized in table 3 of this subpart.

(3) An owner or operator who determines that a compressor qualifies for the hydrogen service exemption in § 63.646 shall also keep a record of the demonstration required by § 63.646.

(e) Each owner or operator of a source subject to this subpart shall submit the reports listed in paragraphs (e)(1) through (e)(3) of this section except as provided in paragraph (h)(5) of this section, and shall keep records as described in paragraph (i) of this section.

(1) A Notification of Compliance Status report as described in paragraph (f) of this section;

(2) Periodic Reports as described in paragraph (g) of this section; and

(3) Other reports as described in paragraph (h) of this section.

(f) Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status report within 150 days after the compliance dates specified in § 63.640(h). This information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination of the three. If the required information has been submitted before the date 150 days after the compliance date specified in § 63.640(h), a separate Notification of Compliance Status report is not required within 150 days after the compliance dates specified in § 63.640(h). If an owner or operator submits the information specified in paragraphs (f)(1) through (f)(5) of this section at different times, and/or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information.

(1) The Notification of Compliance Status report shall include the information specified in paragraphs (f)(1)(i) through (f)(1)(v) of this section.

(i) For storage vessels, this report shall include the information specified in paragraphs (f)(1)(i)(A) through (f)(1)(i)(D) of this section.

(A) Identification of each storage vessel subject to this subpart, whether the vessel is Group 1 or Group 2, and the method of compliance for each Group 1 storage vessel that is not included in an emissions average (i.e.,

internal floating roof, external floating roof, or closed-vent system and control device).

(B) If a closed vent system and a control device other than a flare is used to comply with § 63.646 the owner or operator shall submit:

(1) A description of the parameter or parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the frequency with which monitoring will be performed; and either

(2) The design evaluation documentation specified in § 63.120(d)(1)(i) of subpart G, if the owner or operator elects to prepare a design evaluation; or

(3) If the owner or operator elects to submit the results of a performance test, identification of the storage vessel and control device for which the performance test will be submitted, and identification of the emission point(s) that share the control device with the storage vessel and for which the performance test will be conducted.

(C) If a closed vent system and control device other than a flare is used, the owner or operator shall submit:

(1) The operating range for each monitoring parameter. The specified operating range shall represent the conditions for which the control device is being properly operated and maintained.

(2) If a performance test is conducted instead of a design evaluation, results of the performance test demonstrating that the control device achieves greater than or equal to the required control efficiency. A performance test conducted prior to the compliance date of this subpart can be used to comply with this requirement, provided that the test was conducted using EPA methods and that the test conditions are representative of current operating practices.

(D) If a closed vent system and a flare is used, the owner or operator shall submit:

(1) Flare design (e.g., steam-assisted, air-assisted, or nonassisted);

(2) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by § 63.120(e) of subpart G of this part; and

(3) All periods during the compliance determination when the pilot flame is absent.

(ii) For miscellaneous process vents, identification of each miscellaneous process vent subject to this subpart, whether the process vent is Group 1 or Group 2, and the method of compliance for each Group 1 miscellaneous process vent that is not included in an emissions average (e.g., use of a flare or other control device meeting the requirements of § 63.643(a)).

(iii) For miscellaneous process vents controlled by control devices required to be tested under § 63.645 of this subpart and § 63.116(c) of subpart G of this part, performance test results including the information in paragraphs (f)(1)(iii)(A) and (B) of this section. Results of a performance test conducted prior to the compliance date of this subpart can be used provided that the test was conducted using the methods specified in § 63.645 and that the test conditions are representative of current operating conditions.

(A) The percentage of reduction of organic HAP's or TOC, or the outlet concentration of organic HAP's or TOC (parts per million by volume on a dry basis corrected to 3 percent oxygen), determined as specified in § 63.116(c) of subpart G of this part; and

(B) The value of the monitored parameters specified in table 10 of this subpart, or a site-specific parameter approved by the permitting authority, averaged over the full period of the performance test,

(iv) For miscellaneous process vents controlled by flares, performance test results including the information in paragraphs (f)(1)(iv)(A) and (B) of this section;

(A) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by § 63.645 of this subpart and § 63.116(a) of subpart G of this part, and

(B) A statement of whether a flame was present at the pilot light over the full period of the compliance determination.

(v) For equipment leaks complying with § 63.648(c) (i.e., complying with the requirements of subpart H of this part), the Notification of Compliance Report Status report information required by § 63.182(c) of subpart H and whether the percentage of leaking valves will be reported on a process unit basis or a sourcewide basis.

(2) If initial performance tests are required by §§ 63.643 through 63.653 of this subpart, the Notification of Compliance Status report shall include one complete test report for each test method used for a particular source.

(i) For additional tests performed using the same method, the results specified in paragraph (f)(1) of this section shall be submitted, but a complete test report is not required.

(ii) A complete test report shall include a sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(iii) Performance tests are required only if specified by §§ 63.643 through 63.653 of this subpart. Initial performance tests are required for some kinds of emission points and controls. Periodic testing of the same emission point is not required.

(3) For each monitored parameter for which a range is required to be established under § 63.120(d) of subpart G of this part for storage vessels or § 63.644 for miscellaneous process vents, the Notification of Compliance Status report shall include the information in paragraphs (f)(3)(i) through (f)(3)(iii) of this section.

(i) The specific range of the monitored parameter(s) for each emission point;

(ii) The rationale for the specific range for each parameter for each emission point, including any data and calculations used to develop the range and a description of why the range ensures compliance with the emission standard.

(A) If a performance test is required by this subpart for a control device, the range 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 permitted parameter values.

(B) If a performance test is not required by this subpart for a control device, the range may be based solely on engineering assessments and manufacturers' recommendations.

(iii) A definition of the source's operating day for purposes of determining daily average values of monitored parameters. The definition shall specify the times at which an operating day begins and ends.

(4) Results of any continuous monitoring system performance evaluations shall be included in the Notification of Compliance Status report.

(5) For emission points included in an emissions average, the Notification of Compliance Status report shall include

HeinOnline 60 Fed. Reg. 43287 1995

the values of the parameters needed for input to the emission credit and debit equations in § 63.652(g) and (h), calculated or measured according to the procedures in § 63.652(g) and (h), and the resulting credits and debits for the first quarter of the year. The first quarter begins on the compliance date specified in § 63.640.

(g) The owner or operator of a source subject to this subpart shall submit Periodic Reports no later than 60 days after the end of each 6-month period when any of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of this section occur. The first 6-month period shall begin on the date the Notification of Compliance Status report is required to be submitted. A Periodic Report is not required if none of the compliance exceptions specified in paragraphs (g)(1) through (g)(6) of this section occurred during the 6-month period unless emissions averaging is utilized. Quarterly reports must be submitted for emission points included in emissions averages, as provided in paragraph (g)(8) of this section. An owner or operator may submit reports required by other regulations in place of or as part of the Periodic Report required by this paragraph if the reports contain the information required by paragraphs (g)(1) through (g)(8) of this section.

(1) For storage vessels, Periodic Reports shall include the information specified for Periodic Reports in paragraph (g)(2) through (g)(5) of this section except that information related to gaskets, slotted membranes, and sleeve seals is not required for storage vessels that are part of an existing source.

(2) An owner or operator who elects to comply with § 63.646 by using a fixed roof and an internal floating roof or by using an external floating roof converted to an internal floating roof shall submit the results of each inspection conducted in accordance with § 63.120(a) of subpart G of this part in which a failure is detected in the control equipment.

(i) For vessels for which annual inspections are required under § 63.120(a)(2)(i) or (a)(3)(ii) of subpart G of this part, the specifications and requirements listed in paragraphs (g)(2)(i)(A) through (g)(2)(i)(C) of this section apply.

(A) A failure is defined as any time in which the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached from the internal floating roof; or there are holes, tears, or other openings in the seal or seal fabric; or there are visible gaps between the seal and the wall of the storage vessel.

(B) Except as provided in paragraph (g)(2)(i)(C) of this section, each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made or the date the storage vessel was emptied.

(C) If an extension is utilized in accordance with § 63.120(a)(4) of subpart G of this part, the owner or operator shall, in the next Periodic Report, identify the vessel; include the documentation specified in § 63.120(a)(4) of subpart G of this part; and describe the date the storage vessel was emptied and the nature of and date the repair was made.

(ii) For vessels for which inspections are required under § 63.120(a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of subpart G of this part (i.e., internal inspections), the specifications and requirements listed in paragraphs (g)(2)(ii)(A) and (g)(2)(ii)(B) of this section apply.

(A) A failure is defined as any time in which the internal floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal (if one has been installed) has holes, tears, or other openings in the seal or the seal fabric; or, for a storage vessel that is part of a new source, the gaskets no longer close off the liquid surface from the atmosphere; or, for a storage vessel that is part of a new source, the slotted membrane has more than a 10 percent open area.

(B) Each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made.

(3) An owner or operator who elects to comply with § 63.646 by using an external floating roof shall meet the periodic reporting requirements specified in paragraphs (g)(3)(i) through (g)(3)(iii) of this section.

(i) The owner or operator shall submit, as part of the Periodic Report, documentation of the results of each seal gap measurement made in accordance with § 63.120(b) of subpart G of this part in which the seal and seal gap requirements of § 63.120(b)(3), (b)(4), (b)(5), or (b)(6) of subpart G of this part are not met. This documentation shall include the information specified in paragraphs (g)(3)(i)(A) through (g)(3)(i)(D) of this section.

(A) The date of the seal gap measurement.

(B) The raw data obtained in the seal gap measurement and the calculations described in § 63.120(b)(3) and (b)(4) of subpart G of this part.

(C) A description of any seal condition specified in § 63.120(b)(5) or (b)(6) of subpart G of this part that is not met.

(D) A description of the nature of and date the repair was made, or the date the storage vessel was emptied.

(ii) If an extension is utilized in accordance with § 63.120(b)(7)(ii) or (b)(8) of subpart G of this part, the owner or operator shall, in the next Periodic Report, identify the vessel; include the documentation specified in § 63.120(b)(7)(ii) or (b)(8) of subpart G of this part, as applicable; and describe the date the vessel was emptied and the nature of and date the repair was made.

(iii) The owner or operator shall submit, as part of the Periodic Report, documentation of any failures that are identified during visual inspections required by § 63.120(b)(10) of subpart G of this part. This documentation shall meet the specifications and requirements in paragraphs (g)(3)(iii)(A) and (g)(3)(iii)(B) of this section.

(A) A failure is defined as any time in which the external floating roof has defects; or the primary seal has holes or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or, for a storage vessel that is part of a new source, the gaskets no longer close off the liquid surface from the atmosphere; or, for a storage vessel that is part of a new source, the slotted membrane has more than 10 percent open area.

(B) Each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made.

(4) An owner or operator who elects to comply with § 63.646 by using an external floating roof converted to an internal floating roof shall comply with the periodic reporting requirements of paragraph (g)(2) of this section.

(5) An owner or operator who elects to comply with § 63.646 by installing a closed vent system and control device shall submit, as part of the next Periodic Report, the information specified in paragraphs (g)(5)(i) through (g)(5)(iii) of this section.

(i) The Periodic Report shall include the information specified in paragraphs (g)(5)(i)(A) and (g)(5)(i)(B) of this section for those planned routine maintenance

HeinOnline 60 Fed. Reg. 43288 1995

operations that would require the control device not to meet the requirements of § 63.119(e)(1) or (e)(2) of subpart G of this part, as applicable.

(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6 months. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(B) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of § 63.119 (e)(1) or (e)(2) of subpart G of this part, as applicable, due to planned routine maintenance.

(ii) If a control device other than a flare is used, the Periodic Report shall describe each occurrence when the monitored parameters were outside of the parameter ranges documented in the Notification of Compliance Status report. The description shall include: Identification of the control device for which the measured parameters were outside of the established ranges, and causes for the measured parameters to be outside of the established ranges.

(iii) If a flare is used, the Periodic Report shall describe each occurrence when the flare does not meet the general control device requirements specified in § 63.11(b) of subpart A of this part and shall include: Identification of the flare that does not meet the general requirements specified in § 63.11(b) of subpart A of this part, and reasons the flare did not meet the general requirements specified in § 63.11(b) of subpart A of this part.

(6) For miscellaneous process vents for which continuous parameter monitors are required by this subpart, periods of excess emissions shall be identified in the Periodic Reports and shall be used to determine compliance with the emission standards.

(i) Period of excess emission means any of the following conditions:

(A) An operating day when the daily average value of a monitored parameter, except presence of a flare pilot flame, is outside the range specified in the Notification of Compliance Status report. Monitoring data recorded during periods of monitoring system breakdown, repairs, calibration checks and zero (low-level) and high-level adjustments shall not be used in computing daily average values of monitored parameters.

(B) An operating day when all pilot flames of a flare are absent.

(C) An operating day when monitoring data required to be recorded in paragraphs (i)(3) (i) and (ii) of this section are available for less than 75 percent of the operating hours.

(D) For data compression systems approved under paragraph (h)(5)(iii) of this section, an operating day when the monitor operated for less than 75 percent of the operating hours or a day when less than 18 monitoring values were recorded.

(ii) For miscellaneous process vents, excess emissions shall be reported for the operating parameters specified in table 10 of this subpart unless other site-specific parameter(s) have been approved by the operating permit authority.

(iii) Periods of startup, shutdown, and malfunction that meet the definitions in § 63.2 of subpart A of this part and periods of performance testing and monitoring system calibration shall not be considered periods of excess emissions. Malfunctions may include process unit, control device, or monitoring system malfunctions.

(7) If a performance test for determination of compliance for a new emission point subject to this subpart or for an emission point that has changed from Group 2 to Group 1 is conducted during the period covered by a Periodic Report, the results of the performance test shall be included in the Periodic Report.

(i) Results of the performance test shall include the percentage of emissions reduction or outlet pollutant concentration reduction (whichever is needed to determine compliance) and the values of the monitored operating parameters.

(ii) The complete test report shall be maintained onsite.

(8) The owner or operator of a source shall submit quarterly reports for all emission points included in an emissions average.

(i) The quarterly reports shall be submitted no later than 60 calendar days after the end of each quarter. The first report shall be submitted with the Notification of Compliance Status report no later than 150 days after the compliance date specified in § 63.640.

(ii) The quarterly reports shall include:

(A) The information specified in this paragraph and in paragraphs (g)(2) through (g)(7) of this section for all storage vessels and miscellaneous process vents included in an emissions average;

(B) The information required to be reported by § 63.428(h)(1) of subpart R of this part for each gasoline loading rack included in an emissions average, unless this information has already been submitted in a separate report;

(C) The information required to be included in quarterly reports by §§ 63.567(f) and 63.567(i)(2) of subpart Y of this part for each marine tank vessel loading operation included in an emissions average, unless the information has already been submitted in a separate report;

(D) Any information pertaining to each wastewater stream included in an emissions average that the source is required to report under the Implementation Plan for the source;

(E) The credits and debits calculated each month during the quarter;

(F) A demonstration that debits calculated for the quarter are not more than 1.30 times the credits calculated for the quarter, as required under §§ 63.652(e)(4);

(G) The values of any inputs to the credit and debit equations in § 63.652 (g) and (h) that change from month to month during the quarter or that have changed since the previous quarter; and

(H) Any other information the source is required to report under the Implementation Plan for the source.

(iii) Every fourth quarterly report shall include the following:

(A) A demonstration that annual credits are greater than or equal to annual debits as required by § 63.652(e)(3); and

(B) A certification of compliance with all the emissions averaging provisions in § 63.652 of this subpart.

(h) Other reports shall be submitted as specified in subpart A of this part and as follows:

(1) Reports of startup, shutdown, and malfunction required by § 63.10(d)(5) of subpart A of this part; and

(2) For storage vessels, notifications of inspections as specified in paragraphs (h)(2)(i) and (h)(2)(ii) of this section;

(i) In order to afford the Administrator the opportunity to have an observer present, the owner or operator shall notify the Administrator of the refilling of each Group 1 storage vessel that has been emptied and degassed.

(A) Except as provided in paragraphs (h)(2)(i) (B) and (C) of this section, the owner or operator shall notify the Administrator in writing at least 30 calendar days prior to filling or refilling of each storage vessel with organic HAP's to afford the Administrator the opportunity to inspect the storage vessel prior to refilling.

(B) Except as provided in paragraph (h)(2)(i)(C) of this section, if the internal inspection required by §§ 63.120(a)(2), 63.120(a)(3), or 63.120(b)(10) of subpart

G of this part is not planned and the owner or operator could not have known about the inspection 30 calendar days in advance of refilling the vessel with organic HAP's, the owner or operator shall notify the Administrator at least 7 calendar days prior to refilling of the storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. This notification, including the written documentation, may also be made in writing and sent so that it is received by the Administrator at least 7 calendar days prior to the refilling.

(C) The State or local permitting authority can waive the notification requirements of paragraphs (h)(2)(i)(A) and/or (h)(2)(i)(B) of this section for all or some storage vessels at petroleum refineries subject to this subpart. The State or local permitting authority may also grant permission to refill storage vessels sooner than 30 days after submitting the notification required by paragraph (h)(2)(i)(A) of this section, or sooner than 7 days after submitting the notification required by paragraph (h)(2)(i)(B) of this section for all storage vessels, or for individual storage vessels on a case-by-case basis.

(ii) In order to afford the Administrator the opportunity to have an observer present, the owner or operator of a storage vessel equipped with an external floating roof shall notify the Administrator of any seal gap measurements. The notification shall be made in writing at least 30 calendar days in advance of any gap measurements required by § 63.120 (b)(1) or (b)(2) of subpart G of this part. The State or local permitting authority can waive this notification requirement for all or some storage vessels subject to the rule or can allow less than 30 calendar days' notice.

(3) For owners or operators of sources required to request approval for a nominal control efficiency for use in calculating credits for an emissions average, the information specified in § 63.652(h).

(4) The owner or operator who requests approval to monitor a different parameter than those listed in § 63.644 for miscellaneous process vents or who is required by § 63.653(a)(8) to establish a site-specific monitoring parameter for a point in an emissions average shall submit the information specified in paragraphs (h)(4)(i) through (h)(4)(iii) of this section. For new or reconstructed sources, the information shall be submitted with the application for approval of construction or reconstruction required by § 63.5(d) of subpart A and for existing sources, and the information shall be submitted no later than 18 months prior to the compliance date. The information may be submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal.

(i) A description of the parameter(s) to be monitored to determine whether excess emissions occur and an explanation of the criteria used to select the parameter(s).

(ii) A description of the methods and procedures that will be used to demonstrate that the parameter can be used to determine excess emissions and the schedule for this demonstration. The owner or operator must certify that they will establish a range for the monitored parameter as part of the Notification of Compliance Status report required in paragraphs (e) and (f) of this section.

(iii) The frequency and content of monitoring, recording, and reporting if: monitoring and recording are not continuous; or if periods of excess emissions, as defined in paragraph (g)(6) of this section, will not be identified in Periodic Reports required under paragraphs (e) and (g) of this section. The rationale for the proposed monitoring, recording, and reporting system shall be included.

(5) An owner or operator may request approval to use alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in paragraph (i) of this section.

(i) Requests shall be submitted with the Application for Approval of Construction or Reconstruction for new sources and no later than 18 months prior to the compliance date for existing sources. The information may be submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal. Requests shall contain the information specified in paragraphs (h)(5)(iii) through (h)(5)(iv) of this section, as applicable.

(ii) The provisions in § 63.8(f)(5)(i) of subpart A of this part shall govern the review and approval of requests.

(iii) 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 hour) but records all values that meet set criteria for variation from previously recorded values.

(A) The requested system shall be designed to:

(*1*) Measure the operating parameter value at least once every hour.

(*2*) Record at least 24 values each day during periods of operation.

(*3*) Record the date and time when monitors are turned off or on.

(*4*) Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator, and record the incident.

(*5*) Compute daily average values of the monitored operating parameter based on recorded data.

(B) The request shall contain a description of the monitoring system and data compression recording system including the criteria used to determine which monitored values are recorded and retained, the method for calculating daily averages, and a demonstration that the system meets all criteria of paragraph (h)(5)(iii)(A) of this section.

(iv) An owner or operator may request approval to use other alternative monitoring systems according to the procedures specified in § 63.8(f) of subpart A of this part.

(6) The owner or operator shall submit the information specified in paragraphs (h)(6)(i) through (h)(6)(iii) of this section, as applicable. For existing sources, this information shall be submitted no later than 18 months prior to the compliance date. For a new source, the information shall be submitted with the application for approval of construction or reconstruction required by § 63.5(d) of subpart A of this part. The information may be submitted in an operating permit application, in an amendment to an operating permit application, or in a separate submittal.

(i) The determination of applicability of this subpart to petroleum refining process units that are designed and operated as flexible operation units.

(ii) The determination of applicability of this subpart to any storage vessel for which use varies from year to year.

(iii) The determination of applicability of this subpart to any distillation unit for which use varies from year to year.

(i) Recordkeeping.

(1) Each owner or operator subject to the storage vessel provisions in § 63.646 shall keep the records specified in § 63.123 of subpart G of this part except as specified in paragraphs (i)(1)(i) through (i)(1)(iv) of this section.

(i) Records related to gaskets, slotted membranes, and sleeve seals are not required for storage vessels within existing sources.

(ii) All references to § 63.122 in § 63.123 of subpart G of this part shall be replaced with § 63.654(e),

(iii) All references to § 63.150 in § 63.123 of subpart G of this part shall be replaced with § 63.652.

HeinOnline 60 Fed. Reg. 43290 1995

(iv) If a storage vessel is determined to be Group 2 because the weight percent total organic HAP of the stored liquid is less than or equal to 4 percent for existing sources or 2 percent for new sources, a record of any data, assumptions, and procedures used to make this determination shall be retained.

(2) Each owner or operator required to report the results of performance tests under paragraphs (f) and (g)(7) of this section shall retain a record of all reported results as well as a complete test report, as described in paragraph (f)(2)(ii) of this section for each emission point tested.

(3) Each owner or operator required to continuously monitor operating parameters under § 63.644 for miscellaneous process vents or under §§ 63.652 and 63.653 for emission points in an emissions average shall keep the records specified in paragraphs (i)(3)(i) through (i)(3)(v) of this section unless an alternative recordkeeping system has been requested and approved under paragraph (h) of this section.

(i) The monitoring system shall measure data values at least once every hour.

(ii) The owner or operator shall record either:

(A) Each measured data value; or

(B) 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.

(iii) Daily average values of each continuously monitored parameter shall be calculated for each operating day and retained for 5 years except as specified in paragraph (i)(3)(iv) 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. The average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per day if operation is not continuous.

(B) The operating day shall be the period defined in the Notification of Compliance Status report. It may be from midnight to midnight or another daily period.

(iv) If all recorded values for a monitored parameter during an operating day are within the range established in the Notification of Compliance Status report, the owner or operator may record that all values were within the range and retain this record for 5 years rather than calculating and recording a daily average for that day. For these days, the records required in paragraph (i)(3)(ii) of this section shall also be retained for 5 years.

(v) 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 and any other periods during process or control device operation when monitors are not operating.

(4) All other information required to be reported under paragraphs (a) through (h) of this section shall be retained for 5 years.

**§§ 63.655 through 63.679 [Reserved].**

## Appendix to Subpart CC—Tables

TABLE 1.—HAZARDOUS AIR POLLUTANTS

| Chemical name | CAS No.[a] |
|---|---|
| Benzene | 71432 |
| Biphenyl | 92524 |
| Butadiene (1,3) | 10990 |
| Carbon disulfide | 75150 |
| Carbonyl sulfide | 463581 |
| Cresol (mixed isomers[b]) | 1319773 |
| Cresol (m-) | 108394 |
| Cresol (o-) | 95487 |
| Cresol (p-) | 106445 |
| Cumene | 98828 |
| Dibromoethane (1,2) (ethylene dibromide) | 106934 |
| Dichloroethane (1,2) | 107062 |
| Diethanolamine | 111422 |
| Ethylbenzene | 100414 |
| Ethylene glycol | 107211 |
| Hexane | 110543 |
| Methanol | 67561 |
| Methyl ethyl ketone (2-butanone) | 78933 |
| Methyl isobutyl ketone (hexone) | 108101 |
| Methyl tert butyl ether | 1634044 |
| Naphthalene | 91203 |
| Phenol | 108952 |
| Toluene | 108883 |
| Trimethylpentane (2,2,4) | 540841 |
| Xylene (mixed isomers[b]) | 1330207 |
| xylene (m-) | 108383 |
| xylene (o-) | 95476 |
| xylene (p-) | 106423 |

[a] CAS number = Chemical Abstract Service registry number assigned to specific compounds, isomers, or mixtures of compounds.

[b] Isomer means all structural arrangements for the same number of atoms of each element and does not mean salts, esters, or derivatives.

TABLE 2.—LEAK DEFINITIONS FOR PUMPS AND VALVES

| Standard[a] | Phase | Leak definition (parts per million) |
|---|---|---|
| § 63.163 (pumps) | I | 10,000 |
| | II | 5,000 |
| | III | 2,000 |
| § 63.168 (valves) | I | 10,000 |
| | II | 1,000 |
| | III | 1,000 |

[a] Subpart H of this part.

TABLE 3.—EQUIPMENT LEAK RECORDKEEPING AND REPORTING REQUIREMENTS FOR SOURCES COMPLYING WITH § 63.648 OF SUBPART CC BY COMPLIANCE WITH SUBPART H OF THIS PART[a]

| Reference (section of subpart H of this part) | Description | Comment |
|---|---|---|
| 63.181(a) | Recordkeeping system requirements | Except for §§ 63.181(b)(2)(iii) and 63.181(b)(9). |
| 63.181(b) | Records required for process unit equipment | Except for §§ 63.181(b)(2)(iii) and 63.181(b)(9). |
| 63.181(c) | Visual inspection documentation | Except for §§ 63.181(b)(2)(iii) and 63.181(b)(9). |
| 63.181(d) | Leak detection record requirements | Except for § 63.181(d)(8). |
| 63.181(e) | Compliance requirements for pressure tests for batch product process equipment trains. | This subsection does not apply to subpart CC. |
| 63.181(f) | Compressor compliance test records. | |
| 63.181(g) | Closed-vent systems and control device record requirements. | |
| 63.181(h) | Process unit quality improvement program records. | |

TABLE 3.—EQUIPMENT LEAK RECORDKEEPING AND REPORTING REQUIREMENTS FOR SOURCES COMPLYING WITH § 63.648 OF SUBPART CC BY COMPLIANCE WITH SUBPART H OF THIS PART [a]—Continued

| Reference (section of subpart H of this part) | Description | Comment |
|---|---|---|
| 63.181(i) | Heavy liquid service determination record. | |
| 63.181(j) | Equipment identification record. | |
| 63.181(k) | Enclosed-vented process unit emission limitation record requirements. | |
| 63.182(a) | Reports. | |
| 63.182(b) | Initial notification report requirements. | |
| 63.182(c) | Notification of compliance status report | Except in § 63.182(2); change "within 90 days of the compliance dates" to "within 150 days of the compliance dates." |
| 63.182(d) | Periodic report | Except for §§ 63.182 (d)(2)(vii), (d)(2)(viii), and (d)(3). |

[a] This table does not include all the requirements delineated under the referenced sections. See referenced sections for specific requirements.

TABLE 4.—GASOLINE DISTRIBUTION EMISSION POINT RECORDKEEPING AND REPORTING REQUIREMENTS [a]

| Reference (section of subpart R of this part) | Description | Comment |
|---|---|---|
| 63.428(b) | Records of test results for each gasoline cargo tank loaded at the facility | |
| 63.428(c) | Continuous monitoring data recordkeeping requirements | |
| 63.428(g)(1) | Semiannual report loading rack information | Required to be submitted with the periodic report required under 40 CFR part 63 subpart CC. |
| 63.428(h)(1) through (h)(3) | Excess emissions report loading rack information | Required to be submitted with the periodic report required under 40 CFR part 63 subpart CC. |
| 63.428(i) | Records and annual reports for facilities meeting § 63.420(c) (emissions screening factor <1.0, but ≥0.5). | The information required under this paragraph is to be submitted with the Periodic Report required under 40 CFR part 63 subpart CC. |
| 63.428(j) | Records and reports for facilities meeting § 63.420(d) (emissions screening factor <0.5). | The information required under this paragraph is to be submitted with the periodic report required under 40 CFR part 63 subpart CC. |

[a] This table does not include all the requirements delineated under the referenced sections. See referenced sections for specific requirements.

TABLE 5.—MARINE VESSEL LOADING AND UNLOADING OPERATIONS RECORDKEEPING AND REPORTING REQUIREMENTS [a]

| Reference (section of subpart Y of this part) | Description | Comment |
|---|---|---|
| 63.566(a) | Performance test/site test plan | The information required under this paragraph is to be submitted with the notification of compliance status report required under 40 CFR part 63 subpart CC. |
| 63.566(b) | Performance test data requirements | |
| 63.567(a) | General Provisions (subpart A) applicability | |
| 63.567(c) | Vent system valve bypass recordkeeping requirements | |
| 63.567(d) | Continuous equipment monitoring recordkeeping requirements | |
| 63.567(e) | Flare recordkeeping requirements | |
| 63.567(f) | Quarterly report requirements | The information required under this paragraph is to be submitted with the periodic report required under 40 CFR part 63 subpart CC. |
| 63.567(g) | Marine vessel vapor-tightness documentation | |
| 63.567(h) | Documentation file maintenance | |
| 63.567(i) | Emission estimation reporting and recordkeeping procedures | |

[a] This table does not include all the requirements delineated under the referenced sections. See referenced sections for specific requirements.

TABLE 6.—GENERAL PROVISIONS APPLICABILITY TO SUBPART CC [a]

| Reference | Applies to subpart CC | Comment |
|---|---|---|
| 63.1(a)(1) | Yes | |
| 63.1(a)(2) | Yes | |
| 63.1(a)(3) | Yes | |

HeinOnline 60 Fed. Reg. 43292 1995

TABLE 6.—GENERAL PROVISIONS APPLICABILITY TO SUBPART CC [a]—Continued

| Reference | Applies to subpart CC | Comment |
|---|---|---|
| 63.1(a)(4) | No | Subpart CC (this table) specifies applicability of each paragraph in subpart A to subpart CC. |
| 63.1(a)(5)–63.1(a)(9) | No | |
| 63.1(a)(10) | No | Subpart CC and other cross-referenced subparts specify calendar or operating day. |
| 63.1(a)(11) | Yes | |
| 63.1(a)(12) | Yes | |
| 63.1(a)(13) | Yes | |
| 63.1(a)(14) | Yes | |
| 63.1(b)(1) | No | Subpart CC specifies its own applicability. |
| 63.1(b)(2) | Yes | |
| 63.1(b)(3) | No | |
| 63.1(c)(1) | No | Subpart CC explicitly specifies requirements that apply. |
| 63.1(c)(2) | No | Area sources are not subject to subpart CC. |
| 63.1(c)(3) | No | |
| 63.1(c)(4) | Yes | |
| 63.1(c)(5) | Yes | Except that sources are not required to submit notifications overridden by this table. |
| 63.1(d) | No | |
| 63.1(e) | No | |
| 63.2 | Yes | § 63.641 of subpart CC specifies that if the same term is defined in subparts A and CC, it shall have the meaning given in subpart CC. |
| 63.3 | No | Units of measure are spelled out in subpart CC. |
| 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)(1) | Yes | Except replace term "source" and "stationary source" in § 63.5(a)(1) of subpart A with "affected source." |
| 63.5(a)(2) | Yes | |
| 63.5(b)(1) | Yes | |
| 63.5(b)(2) | No | Reserved. |
| 63.5(b)(3) | Yes | |
| 63.5(b)(4) | Yes | Except the cross-reference to § 63.9(b) is changed to § 63.9(b)(4) and (5). Subpart CC overrides § 63.9 (b)(2) and (b)(3). |
| 63.5(b)(5) | Yes | |
| 63.5(b)(6) | Yes | |
| 63.5(c) | No | Reserved. |
| 63.5(d)(1)(i) | Yes | Except that the application shall be submitted as soon as practicable before startup but no later than 90 days (rather than 60 days) after the promulgation date of subpart CC if the construction or reconstruction had commenced and initial startup had not occurred before the promulgation of subpart CC. |
| 63.5(d)(1)(ii) | Yes | Except that for affected sources subject to subpart CC, emission estimates specified in § 63.5(d)(1)(ii)(H) are not required. |
| 63.5(d)(1)(iii) | No | Subpart CC requires submittal of the notification of compliance status report in § 63.654(e). |
| 63.5(d)(2) | No | |
| 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 the "60 days" in the cross-referenced § 63.5(d)(1) is changed to "90 days," and the cross-reference to (b)(2) does not apply. |
| 63.6(a) | Yes | |
| 63.6(b)(1) | No | Subpart CC specifies compliance dates for sources subject to subpart CC. |
| 63.6(b)(2) | No | |
| 63.6(b)(3) | Yes | |
| 63.6(b)(4) | No | May apply when standards are proposed under section 112(f) of the Clean Air Act. |
| 63.6(b)(5) | No | § 63.654(d) of subpart CC includes notification requirements. |
| 63.6(b)(6) | No | |
| 63.6(b)(7) | No | |
| 63.6(c)(1) | No | § 63.640 of subpart CC specifies the compliance date. |
| 63.6(c)(2)–63.6(c)(4) | No | |

HeinOnline 60 Fed. Reg. 43293 1995

TABLE 6.—GENERAL PROVISIONS APPLICABILITY TO SUBPART CC [a]—Continued

| Reference | Applies to subpart CC | Comment |
|---|---|---|
| 63.6(c)(5) | Yes | |
| 63.6(d) | No | |
| 63.6(e) | Yes | Does not apply to Group 2 emission points.[b] |
| 63.6(f)(1) | Yes | |
| 63.6(f)(2)(i) | Yes | |
| 63.6(f)(2)(ii) | Yes | Subpart CC specifies the use of monitoring data in determining compliance with subpart CC. |
| 63.6(f)(2)(iii) (A), (B), and (C) | Yes | |
| 63.6(f)(2)(iii)(D) | No | |
| 63.6(f)(2)(iv) | Yes | |
| 63.6(f)(2)(v) | Yes | |
| 63.6(f)(3) | Yes | |
| 63.6(g) | Yes | |
| 63.6(h) | No | Subpart CC does not require opacity and visible emission standards. |
| 63.6(i) | Yes | Except for § 63.6(i)(15), which is reserved. |
| 63.6(j) | Yes | |
| 63.7(a)(1) | No | Subpart CC specifies required testing and compliance demonstration procedures. |
| 63.7(a)(2) | No | Test results must be submitted in the notification of compliance status report due 150 days after compliance date, as specified in § 63.654(d) of subpart CC. |
| 63.7(a)(3) | Yes | |
| 63.7(b) | No | |
| 63.7(c) | No | |
| 63.7(d) | Yes | |
| 63.7(e)(1) | Yes | |
| 63.7(e)(2) | Yes | |
| 63.7(e)(3) | No | Subpart CC specifies test methods and procedures. |
| 63.7(e)(4) | Yes | |
| 63.7(f) | No | Subpart CC specifies applicable methods and provides alternatives. |
| 63.7(g) | No | Performance test reporting specified in § 63.654(d). |
| 63.7(h)(1) | Yes | |
| 63.7(h)(2) | Yes | |
| 63.7(h)(3) | Yes | Yes, except site-specific test plans shall not be required, and where § 63.7(g)(3) specifies submittal by the date the site-specific test plan is due, the date shall be 90 days prior to the notification of compliance status report in § 63.654(d). |
| 63.7(h)(4) | No | |
| 63.7(h)(5) | Yes | |
| 63.8(a) | No | |
| 63.8(b)(1) | Yes | |
| 63.8(b)(2) | No | Subpart CC specifies locations to conduct monitoring. |
| 63.8(b)(3) | Yes | |
| 63.8(c)(1)(i) | Yes | |
| 63.8(c)(1)(ii) | No | Addressed by periodic reports in § 63.654(e) of subpart CC. |
| 63.8(c)(1)(iii) | Yes | |
| 63.8(c)(2) | Yes | |
| 63.8(c)(3) | Yes | |
| 63.8(c)(4) | No | Subpart CC specifies monitoring frequency in § 63.641 and § 63.654(g)(3) of subpart CC. |
| 63.8(c)(5)–63.8(c)(8) | No | |
| 63.8(d) | No | |
| 63.8(e) | No | |
| 63.8(f)(1) | Yes | |
| 63.8(f)(2) | Yes | |
| 63.8(f)(3) | Yes | |
| 63.8(f)(4)(i) | No | Timeframe for submitting request is specified in § 63.654(f)(4) of subpart CC. |
| 63.8(f)(4)(ii) | Yes | |
| 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 CC does not require continuous emission monitors. |
| 63.8(g) | No | Subpart CC specifies data reduction procedures in § 63.654(h)(3). |
| 63.9(a) | Yes | Except that the owner or operator does not need to send a copy of each notification submitted to the Regional Office of the EPA as stated in § 63.9(a)(4)(ii). |

HeinOnline 60 Fed. Reg. 43294 1995

TABLE 6.—GENERAL PROVISIONS APPLICABILITY TO SUBPART CC[a]—Continued

| Reference | Applies to subpart CC | Comment |
|---|---|---|
| 63.9(b)(1)(i) | No | Specified in § 63.654(d)(2) of subpart CC. |
| 63.9(b)(1)(ii) | No | |
| 63.9(b)(2) | No | An initial notification report is not required under subpart CC. |
| 63.9(b)(3) | No | |
| 63.9(b)(4) | Yes | Except that the notification in § 63.9(b)(4)(i) shall be submitted at the time specified in § 63.654(d)(2) of subpart CC. |
| 63.9(b)(5) | Yes | Except that the notification in § 63.9(b)(5) shall be submitted at the time specified in § 63.654(d)(2) of subpart CC. |
| 63.9(c) | Yes | |
| 63.9(d) | Yes | |
| 63.9(e) | No | |
| 63.9(f) | No | |
| 63.9(g) | No | |
| 63.9(h) | No | Subpart CC § 63.652(d) specifies notification of compliance status report requirements. |
| 63.9(i) | Yes | |
| 63.9(j) | No | |
| 63.10(a) | Yes | |
| 63.10(b)(1) | No | § 63.644(d) of subpart CC specifies record retention requirements. |
| 63.10(b)(2)(i) | Yes | |
| 63.10(b)(2)(ii) | Yes | |
| 63.10(b)(2)(iii) | No | |
| 63.10(b)(2)(iv) | Yes | |
| 63.10(b)(2)(v) | Yes | |
| 63.10(b)(2)(vi)–(ix) | No | |
| 63.10(b)(2)(x) | Yes | |
| 63.10(b)(2)(xii)–(xiv) | No | |
| 63.10(b)(3) | No | |
| 63.10(c) | No | |
| 63.10(d)(1) | No | |
| 63.10(d)(2) | No | § 63.654(d) of subpart CC specifies performance test reporting. |
| 63.10(d)(3) | No | |
| 63.10(d)(4) | Yes | |
| 63.10(d)(5)(i) | Yes[b] | Except that reports required by § 63.10(d)(5)(i) may be submitted at the same time as periodic reports specified in § 63.654(e) of subpart CC. |
| 63.10(d)(5)(ii) | Yes[b] | |
| 63.10(e) | No | |
| 63.10(f) | Yes | |
| 63.11–63.15 | Yes | |

[a] Wherever subpart A specifies "postmark" dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or courier). Submittals shall be sent by the specified dates, but a postmark is not required.
[b] The plan, and any records or reports of startup, shutdown, and malfunction do not apply to Group 2 emission points.

TABLE 7.—FRACTION MEASURED ($F_m$), FRACTION EMITTED ($F_e$), AND FRACTION REMOVED (Fr) FOR HAP COMPOUNDS IN WASTEWATER STREAMS

| Chemical name | CAS No.[a] | $F_m$ | $F_e$ | Fr |
|---|---|---|---|---|
| Benzene | 71432 | 1.00 | 0.80 | 0.99 |
| Biphenyl | 92524 | 0.86 | 0.45 | 0.99 |
| Butadiene (1,3-) | 106990 | 1.00 | 0.98 | 0.99 |
| Carbon disulfide | 75150 | 1.00 | 0.92 | 0.99 |
| Cumene | 98828 | 1.00 | 0.88 | 0.99 |
| Dichloroethane (1,2-) (Ethylene dichloride) | 107062 | 1.00 | 0.64 | 0.99 |
| Ethylbenzene | 100414 | 1.00 | 0.83 | 0.99 |
| Hexane | 110543 | 1.00 | 1.00 | 0.99 |
| Methanol | 67561 | 0.85 | 0.17 | 0.31 |
| Methyl ethyl ketone (2-Butanone) | 78933 | 0.99 | 0.48 | 0.95 |
| Methyl isobutyl ketone (Hexone) | 108101 | 0.98 | 0.53 | 0.99 |
| Methyl tert-butyl ether | 1634044 | 1.00 | 0.57 | 0.99 |
| Naphthalene | 91203 | 0.99 | 0.51 | 0.99 |
| Trimethylpentane (2,2,4-) | 540841 | 1.00 | 1.00 | 0.99 |
| Xylene (m-) | 108383 | 1.00 | 0.82 | 0.99 |
| Xylene (o-) | 95476 | 1.00 | 0.79 | 0.99 |
| Xylene (p-) | 106423 | 1.00 | 0.82 | 0.99 |

[a] CAS numbers refer to the Chemical Abstracts Service registry number assigned to specific compounds, isomers, or mixtures of compounds.

HeinOnline 60 Fed. Reg. 43295 1995

TABLE 8.—VALUE MONITORING FREQUENCY FOR PHASE III

| Performance level | Valve monitoring frequency |
|---|---|
| Leaking valves[a] (%) | |
| ≥4 | Monthly or QIP.[b] |
| <4 | Quarterly. |
| <3 | Semiannual. |
| <2 | Annual. |

[a] Percent leaking valves is calculated as a rolling average of two consecutive monitoring periods.
[b] QIP=Quality improvement program. Specified in § 63.175 of subpart H of this part.

TABLE 9.—VALVE MONITORING FREQUENCY FOR ALTERNATIVE

| Performance level | Valve monitoring frequency under § 63.649 alternative |
|---|---|
| Leaking valves[a] (%) | |
| ≥5 | Monthly or QIP.[b] |
| <5 | Quarterly. |
| <4 | Semiannual. |
| <3 | Annual. |

[a] Percent leaking valves is calculated as a rolling average of two consecutive monitoring periods.
[b] QIP=Quality improvement program. Specified in § 63.175 of subpart H of this part.

TABLE 10.—MISCELLANEOUS PROCESS VENTS—MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME

| Control device | Parameters to be monitored[a] | Recordkeeping and reporting requirements for monitored parameters |
|---|---|---|
| Thermal incinerator | Firebox temperature[b] (63.644(a)(1)(i)). | 1. Continuous records[c].<br>2. Record and report the firebox temperature averaged over the full period of the performance test—NCS[d].<br>3. Record the daily average firebox temperature for each operating day[e].<br>4. Report all daily average temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected[f]—PR[g]. |
| Catalytic incinerator | Temperature upstream and downstream of the catalyst bed (63.644(a)(1)(ii)). | 1. Continuous records[c].<br>2. Record and report the upstream and downstream temperatures and the temperature difference across the catalyst bed averaged over the full period of the performance test—NCS[d].<br>3. Record the daily average upstream temperature and temperature difference across the catalyst bed for each operating day[e].<br>4. Report all daily average upstream temperatures that are outside the range established in the NCS or operating permit—PR[g].<br>5. Report all daily average temperature differences across the catalyst bed that are outside the range established in the NCS or operating permit—PR[g].<br>6. Report all operating days when insufficient monitoring data are collected[f]. |
| Boiler or process heater with a design heat capacity less than 44 megawatts where the vent stream is *not* introduced into the flame zone[h,i]. | Firebox temperature[b] (63.644(a)(4)). | 1. Continuous records[c].<br>2. Record and report the firebox temperature averaged over the full period of the performance test—NCS[d].<br>3. Record the daily average firebox temperature for each operating day[e].<br>4. Report all daily average firebox temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected[f]—PR[g]. |
| Flare | Presence of a flame at the pilot light (63.644(a)(2)). | 1. Hourly records of whether the monitor was continuously operating and whether a pilot flame was continuously present during each hour.<br>2. Record and report the presence of a flame at the pilot light over the full period of the compliance determination—NCS[d]. |

HeinOnline 60 Fed. Reg. 43296 1995

TABLE 10.—MISCELLANEOUS PROCESS VENTS—MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME—Continued

| Control device | Parameters to be monitored [a] | Recordkeeping and reporting requirements for monitored parameters |
|---|---|---|
| | | 3. Record the times and durations of all periods when all pilot flames for a flare are absent or the monitor is not operating.<br>4. Report the times and durations of all periods when all pilot flames for a flare are absent or the monitor is not operating. |
| All control devices | Presence of flow diverted to the atmosphere from the control device (63.644(c)(1)) *or*. | 1. Hourly records of whether the flow indicator was operating and whether flow was detected at any time during each hour.<br>2. Record and report the times and durations of all periods when the vent stream is diverted through a bypass line or the monitor is not operating—PR [g]. |
| | Monthly inspections of sealed valves [63.644(c)(2)]. | 1. Records that monthly inspections were performed.<br>2. Record and report all monthly inspections that show the valves are not closed or the seal has been changed—PR [g]. |

[a] Regulatory citations are listed in parentheses.
[b] Monitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.
[c] "Continuous records" is defined in § 63.641.
[d] NCS = Notification of compliance status report described in § 63.654.
[e] The daily average is the average of all recorded parameter values for the operating day. If all recorded values during an operating day are within the range established in the NCS or operating permit, a statement to this effect can be recorded instead of the daily average.
[f] When a period of excess emission is caused by insufficient monitoring data, as described in § 63.654(g)(6)(i) (C) or (D), the duration of the period when monitoring data were not collected shall be included in the Periodic Report.
[g] PR = Periodic Reports described in § 63.654(g).
[h] No monitoring is required for boilers and process heaters with a design heat capacity ≥44 megawatts or for boilers and process heaters where all vent streams are introduced into the flame zone. No recordkeeping or reporting associated with monitoring is required for such boilers and process heaters.
[i] Process vents that are routed to refinery fuel gas systems are not regulated under this subpart. No monitoring, recordkeeping, or reporting is required for boilers and process heaters that combust refinery fuel gas.

[FR Doc. 95–20252 Filed 8–17–95; 8:45 am]
BILLING CODE 6560–50–P