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National Emission Standards for Hazardous Air Pollutants: Oil and Natural Gas Production and Natural Gas Transmission and Storage; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[AD–FRL–6346–8]

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National Emission Standards for Hazardous Air Pollutants: Oil and Natural Gas Production and National Emission Standards for Hazardous Air Pollutants: Natural Gas Transmission and Storage

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rules.

SUMMARY: These promulgated national emission standards for hazardous air pollutants (NESHAP) limit emissions of hazardous air pollutants (HAP) from oil and natural gas production and natural gas transmission and storage facilities. These final rules implement section 112 of the Clean Air Act (Act) and are based on the Administrator's determination that oil and natural gas production and natural gas transmission and storage facilities emit HAP identified on the EPA's list of 188 HAP.

The EPA estimates that approximately 69,000 megagrams per year (Mg/yr) of HAP are emitted from facilities in these source categories. The primary HAP emitted by the facilities covered by these final standards include benzene, toluene, ethyl benzene, mixed xylenes (collectively referred to as BTEX), and n-hexane. Benzene is carcinogenic and has also been shown to cause various adverse health effects other than cancer (i.e., noncancer effects). The other four HAP are not classified as carcinogens based on available information; however, exposures to these four HAP have been shown to cause various noncancer effects.

The EPA estimates that these promulgated NESHAP will reduce HAP emissions from major sources in the oil and natural gas production source category by 77 percent and from major sources in the natural gas transmission and storage source category by 95.0 percent.

EFFECTIVE DATE: This regulation is effective June 17, 1999. See **SUPPLEMENTARY INFORMATION** concerning judicial review.

ADDRESSES: *Docket.* A docket, No. A–94–04, containing information considered by the EPA in developing the promulgated standards for the oil and natural gas production and natural gas transmission and storage source categories, is available for public inspection between 8:00 a.m. and 5:30 p.m., Monday through Friday (except for Federal holidays) at the following address: U.S. Environmental Protection Agency, Air and Radiation Docket and Information Center (MC–6102), 401 M Street SW., Washington DC 20460, telephone: (202) 260–7548. The docket is located at the above address in Room M–1500, Waterside Mall. The promulgated regulations, background information document (BID) volumes 1 and 2, and other supporting information are available for inspection and copying. A reasonable fee may be charged for copying.

Responses to Comments Document. The responses to comments document for the promulgated standards may be obtained from the 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) 605–6000 or (800) 553–6847 or via the Internet at www.fedworld.gov/ntis/ntishome.html. Please refer to ''National Emissions Standards for Hazardous Air Pollutants for Source Categories: Oil and Natural Gas Production and Natural Gas Transmission and Storage—Background Information for Final Standards: Summary of Public Comments and Responses'' (EPA–453/R–99–004b, May 1999). The document contains the following: (1) a summary of all the public comments made on the proposed standards and the Administrator's responses 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 **SUPPLEMENTARY INFORMATION**).

FOR FURTHER INFORMATION CONTACT: For information concerning today's action, contact Mr. Greg Nizich, Waste and Chemical Processes Group (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone: (919) 541–3078; facsimile: (919) 541–0246; or electronically at: nizich.greg@epa.gov.

SUPPLEMENTARY INFORMATION: *Regulated Entities.* Regulated categories and entities include:

Category	Examples of regulated entities
Industry	Condensate tank batteries, glycol dehydration units, natural gas processing plants, and natural gas transmission and storage facilities.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by these actions. This table lists the types of entities that the EPA is now aware could potentially be regulated by these actions. Other types of entities not listed in the table could also be regulated. To determine whether your facility is regulated by these actions, you should carefully examine the applicability criteria in sections 63.760 and 63.1270 of the rules. If you have questions regarding the applicability of these actions to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Technology Transfer Network. This document, the final regulatory texts, and BID volumes 1 and 2 are available in Docket No. A–94–04 from the EPA's Air and Radiation Docket and Information Center (see **ADDRESSES**). They can also be accessed through the EPA's Technology Transfer Network (TTN) Internet web site at: http://www.epa.gov/ttn/oarpg.

Judicial Review. National emission standards for hazardous air pollutants for facilities in the oil and natural gas production and natural gas transmission and storage source categories were proposed in the **Federal Register** on February 6, 1998 (63 FR 6288). This **Federal Register** action announces the EPA's final decisions on the rules. Under section 307(b)(1) of the Act, judicial review of the NESHAP is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of today's publication of these final rules. Under section 307(b)(2) of the Act, the requirements that are the subject of today's action may not be challenged later in civil or criminal proceedings brought by the EPA to enforce these requirements.

Preamble Outline. The following outline is provided to aid in reading the preamble to the promulgated oil and natural gas production and natural gas transmission and storage NESHAP.

I. Background
II. Summary of Considerations in Developing the Rules
  A. Purpose of the Regulations
  B. Technical Basis of the Regulations
  C. Stakeholder and Public Participation
III. Summary of Promulgated Standards
  A. Promulgated Standards for Oil and Natural Gas Production for Major Sources
  B. Promulgated Standards for Natural Gas Transmission and Storage for Major Sources
  C. Recordkeeping and Reporting Provisions
IV. Summary of Impacts
  A. HAP Emission Reductions
  B. Secondary Environmental Impacts
  C. Energy Impacts
  D. Cost Impacts

E. Economic Impacts
V. Significant Comments and Changes to the Proposed Standards
A. Definition of Facility
B. Definition of ''Associated Equipment''
C. Applicability
D. Glycol Dehydration Unit Process Vent Standards
E. Storage Vessel Standards
F. Standards for Natural Gas Transmission and Storage
G. Monitoring, Recordkeeping, and Reporting Requirements
H. Cost and Economic Impacts
VI. Administrative Requirements
A. Docket
B. Paperwork Reduction Act
C. Executive Order 12866: A Significant Regulatory Action Determination
D. Regulatory Flexibility Act
E. Congressional Review Act
F. Unfunded Mandates Reform Act
G. Executive Order 12875: Enhancing the Intergovernmental Partnership
H. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks
I. Executive Order 13084: Consultation and Coordination with Indian Tribal Governments
J. National Technology Transfer and Advancement Act

The following conversions from metric to English units are provided to aid in reading the preamble to the promulgated oil and natural gas production and natural gas transmission and storage NESHAP.

Metric values	Equivalent English values
0.31 cubic meter per liter (m^3/liter)	1,750 standard cubic feet per barrel (ft^3/barrel).
39,700 liter/day	250 barrels per day (bpd).
79,500 liter/day	500 bpd.
0.90 Megagrams per year (Mg/yr)	1.0 ton per year (tpy).
18.4 thousand cubic meters per day (m^3/day)	650 thousand cubic feet per day (scf/day).
28.3 thousand m^3/day	1 million scf/day (MMscf/day).
85 thousand m^3/day	3 MMscf/day.
283 thousand m^3/day	10 MMscf/day.

I. Background

Section 112(b) of the Act lists 188 HAP and directs the EPA to develop rules to control all major and some area sources emitting HAP. On July 16, 1992 (57 FR 31576), the EPA published a list of major and area sources for which NESHAP are to be published (i.e., the source category list). Oil and natural gas production facilities were listed as a category of major sources.

The EPA included natural gas transmission and storage facilities in the proposed initial listing of source categories that was published in 1991. Comments received on the proposed initial list indicated that this source category did not contain major sources of HAP. As a result, natural gas transmission and storage facilities were not included as a distinct source category in the July 1992 final list of source categories of major sources of HAP.

During the development of the standards for the oil and natural gas production source category, information was obtained on glycol dehydration unit HAP emissions that are representative of both oil and natural gas production facilities and natural gas transmission and storage facilities. The information indicated that natural gas transmission and storage facilities have the potential to be major HAP sources. In addition, representatives of the natural gas transmission and storage source category stated to the EPA that there are major source glycol dehydration units in the source category. Therefore, the EPA amended the source category list on February 12, 1998 (63 FR 7155) to add natural gas transmission and storage as a major source category.

On February 6, 1998, the EPA also gave notice of its intention to add oil and natural gas production as an area source category (63 FR 6291), but did not amend the source category list to include such a category. In order to ensure that regulations applicable to the area source category are consistent with the Urban Air Toxics Strategy, to be implemented under section 112(k) of the Act, the EPA has deferred the regulation of oil and natural gas production facilities which are area sources until the Urban Air Toxics Strategy is finalized. The EPA expects this strategy to be finalized later this year.

II. Summary of Considerations in Developing the Rules

A. Purpose of the Regulations

The Act was developed, in part,

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

Oil and natural gas production and natural gas transmission and storage facilities are major and area sources of HAP emissions. The EPA estimates that approximately 67,000 Mg/yr of HAP are emitted from facilities in the oil and natural gas production source category and 2,100 Mg/yr of HAP are emitted from facilities in the natural gas transmission and storage source category. The primary HAP associated with oil and natural gas that have been identified include BTEX and n-hexane. Exposure to these chemicals has been demonstrated to cause adverse health effects. The likelihood of these adverse health effects depends on the range of ambient concentrations and the amount, frequency, and duration of exposures. The ambient concentrations are influenced by source-specific characteristics such as emission rates and local meteorological conditions. Exposure and health impacts due to the ambient concentrations are dependent on multiple factors that affect human variability such as genetics, age, health status (e.g., the presence of pre-existing disease), lifestyle, location of residence, activity patterns, and other factors.

Benzene, one of the HAP associated with these NESHAP, is classified as a known human carcinogen based on convincing human evidence (such as observed increases in the incidence of leukemia in exposed workers), as well as supporting evidence from animal studies. In addition, short-term inhalation of high benzene levels may cause nervous system effects such as drowsiness, dizziness, headaches, and unconsciousness in humans. At even higher concentrations of benzene, exposure may cause death, while lower concentrations may irritate the skin, eyes, and upper respiratory tract. Long-term inhalation exposure to benzene may cause various disorders of the blood, and toxicity to the immune system. Reproductive disorders in women, as well as developmental effects in animals, have also been reported for benzene exposure.

Short-term inhalation of relatively high concentrations of toluene by humans may cause nervous system effects such as fatigue, sleepiness, headaches, and nausea, as well as

irregular heartbeat. Repeated exposure to high concentrations may cause additional nervous system effects, including incoordination, tremors, death of brain cells, involuntary eye movements, and may impair speech, hearing, and vision. Long-term exposure to toluene by humans has also been reported to irritate the skin, eyes, and respiratory tract, and to cause dizziness, headaches, and difficulty with sleep. Children whose mothers have been exposed to high levels of toluene before birth may suffer nervous system dysfunction, attention deficits, and minor face and limb defects. Inhalation of toluene by pregnant women may also increase the risk of spontaneous abortion. Not enough information exists to determine toluene's carcinogenic potential.

Short-term inhalation of high levels of ethyl benzene by humans may cause throat and eye irritation, chest constriction, and dizziness. Long-term inhalation of ethyl benzene by humans may cause blood disorders. Animal studies have reported blood, liver, and kidney effects associated with ethyl benzene inhalation. Birth defects have been reported in animals exposed via inhalation; whether these effects may occur in humans is not known. Not enough information exists concerning ethyl benzene to determine its carcinogenic potential.

Short-term inhalation of high levels of mixed xylenes (a mixture of three closely-related compounds) by humans may cause irritation of the nose and throat, nausea, vomiting, gastric irritation, mild transient eye irritation, and neurological effects. Long-term inhalation of high levels of xylene in humans may result in nervous system effects such as headaches, dizziness, fatigue, tremors, and incoordination. Other reported effects include labored breathing, heart palpitation, severe chest pain, abnormal heart functioning, and possible effects on the blood and kidneys. Developmental effects have been reported in animals from xylene exposure via inhalation. Not enough information exists to determine the carcinogenic potential of mixed xylenes.

Short-term inhalation of high levels of n-hexane by humans may cause mild central nervous system effects (dizziness, giddiness, slight nausea, and headache) and irritation of the skin and mucous membranes. Long-term inhalation exposure to high levels of n-hexane by humans has been reported to cause nerve damage expressed as numbness in the extremities, muscular weakness, blurred vision, headache, and fatigue. Reproductive effects have been reported in animals after inhalation exposure (testicular damage in rats). Not enough information exists concerning n-hexane to determine its carcinogenic potential.

The EPA estimates that the NESHAP will reduce HAP emissions from those impacted HAP emission points in the oil and natural gas production source category by 77 percent and will reduce HAP emissions from impacted glycol dehydration units in the natural gas transmission and storage source category by 95.0 percent.

B. Technical Basis of Regulations

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

Section 112(a)(1) of the Act defines a major source as:

> * * * any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential-to-emit considering controls, in the aggregate 10 tons per year (tpy) or more of any HAP or 25 tpy or more of any combination of HAP.

An area source is defined as a stationary source that is not a major source.

For major sources, the statute requires the EPA to establish standards that reflect the maximum degree of reduction in HAP emissions through application of maximum achievable control technology (MACT). Further, the EPA is required to establish standards that are no less stringent than the level of control defined under section 112(d)(3) of the Act, often referred to as the MACT floor. The final standards for major sources in the oil and natural gas production and natural gas transmission and storage source categories are based on the MACT floor for these source categories.

Prior to proposal, information on industry processes and operations, HAP emission points, and HAP emission reduction techniques were collected through section 114 questionnaires that were distributed to companies in the oil and natural gas production and natural gas transmission and storage source categories. These companies provided information on their representative facilities.

This information was used, in part, as the technical basis for determining the MACT level of control for the emission points covered under the final standards. In addition to information collected in the questionnaires, the EPA considered information available in the general literature, information submitted by industry on technical issues subsequent to the questionnaire responses, and additional information received during the public comment period for the proposed rules, in developing the final rules.

C. Stakeholder and Public Participation

In the development of these final standards, numerous representatives of the oil and natural gas production industry, the natural gas transmission and storage industry, and other interested parties were consulted. Industry representatives assisted in data gathering, arranging site visits, technical review, and sharing of industry-sponsored data collection activities. A data base comprised of all industry-supplied information was developed for evaluating HAP emissions and air emission controls for the final standards.

The standards for the oil and natural gas production and natural gas transmission and storage source categories were proposed in the **Federal Register** on February 6, 1998 (63 FR 6288). The preamble to the proposed standards described the rationale for the proposed standards. Public comments were solicited at the time of proposal. To provide interested parties the opportunity for oral presentation of data, views, or arguments concerning the proposed standards, a public hearing was offered at proposal. However, the public did not request a hearing and, therefore, one was not held. The public comment period was from February 6, 1998 to April 7, 1998. Fifty comment letters were received. Commenters included industry representatives, trade associations, State agencies, and other interested parties.

On January 15, 1999, in response to comments received on the proposal, the EPA also published a supplemental notice announcing the availability of additional data collected from facilities in the natural gas transmission and storage source category (64 FR 2611). Four comment letters were received from industry representatives and trade associations.

All of the comments were carefully considered and changes were made to the proposed standards when determined by the EPA to be appropriate. A detailed discussion of these comments and responses can be found in a document entitled ''National Emissions Standards for Hazardous Air Pollutants for Source Categories: Oil and Natural Gas Production and Natural Gas Transmission and Storage—Background Information for Final Standards: Summary of Public Comments and Responses'' (BID volume 2), which is

referenced in the **ADDRESSES** section of this preamble (EPA–453/R/99–004b, May 1999). The summary of comments and responses in the BID volume 2 serves 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 changes.

III. Summary of Promulgated Standards

A. Promulgated Standards for Oil and Natural Gas Production for Major Sources

This final action amends title 40, chapter I, part 63 of the Code of Federal Regulations by adding a new Subpart HH—National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities. The standards apply to owners and operators of facilities that process, upgrade, or store (1) hydrocarbon liquids (with the exception of those facilities that exclusively handle black oil) to the point of custody transfer and (2) natural gas from the well up to and including the natural gas processing plant. The standards limit HAP emissions from the following emission points at facilities that are major sources of HAP: (1) process vents on glycol dehydration units, (2) storage vessels with flash emissions, and (3) equipment leaks at natural gas processing plants.

As required by the Act, the determination of a facility's potential to emit HAP and, therefore, its status as a major source, is based on the total of all HAP emissions from all activities at a facility, except that section 112(n)(4) of the Act prohibits aggregating emissions from oil or gas exploration or production wells (and their associated equipment) and emissions from pipeline compressor or pump stations with emissions from other similar units. A definition of associated equipment is contained in the final standards.

To determine potential emissions for determining major source status, the final standards specify that an owner or operator that can document a decline in annual production each year for 5 years prior to the effective date of the rule must calculate the maximum facility throughput as the average of the annual throughput for the 3 years prior to the effective date of the rule, multiplied by 1.2. If any increase in production is observed over the 5 years prior to the effective date of the rule, the owner or operator must calculate the maximum facility throughput as the maximum annual throughput over the 5 years prior to the effective date times 1.2. The owner or operator must recalculate the maximum throughput if actual annual throughput increases to a rate above the calculated values. In addition, for other parameters used to estimate emissions, the owner or operator must use the maximum value measured over the period for which the maximum throughput is calculated and may be determined as an annual average or the highest single measured value.

1. Applicability

The final standards for oil and natural gas production facilities require that the owner or operator of a major source of HAP reduce HAP emissions from glycol dehydration units and storage vessels through the application of air emission control equipment or pollution prevention measures, or a combination of both. In addition, the owner or operator of a natural gas processing plant that is a major source of HAP is required to reduce HAP emissions from equipment leaks by establishing a leak detection and repair (LDAR) program.

The following are exempt from the requirements of subpart HH:

- Owners and operators of facilities that exclusively process, handle, and store black oil are not subject to the final standards. Black oil is defined in the final rule as a hydrocarbon liquid with an initial gas-to-oil ratio (GOR) less than 0.31 cubic meters per liter (m^3/liter) and an American Petroleum Institute (API) gravity less than 40 degrees. For this subpart, a facility that uses natural gas for fuel or generates gas from black oil still qualifies for this exemption.
- Oil and natural gas production facilities prior to the point of custody transfer that have a facilitywide actual annual average natural gas throughput less than 18.4 thousand cubic meters per day (m^3/day), and a facilitywide actual annual average hydrocarbon liquid throughput less than 39,700 liters per day (liter/day.) Oil and natural gas production facilities after the point of custody transfer, including natural gas processing plants, do not qualify for these exemptions.

2. Glycol Dehydration Unit Process Vent Standards

The MACT standard for process vents on new and existing glycol dehydration units was set at the floor level of control. To determine the MACT floor, the EPA divided glycol dehydration units into two sizes: (1) small glycol dehydration units with actual annual average natural gas throughputs less than 85 thousand m^3/day or with actual average benzene emissions less than 0.90 Mg/yr, and (2) large glycol dehydration units with actual annual average natural gas throughputs equal to or greater than 85 thousand m^3/day or with actual average benzene emissions equal to or greater than 0.90 Mg/yr. For small glycol dehydration units, the EPA determined that the MACT floor was no control and that it was not cost effective to select a regulatory alternative beyond the floor.

For large glycol dehydration units, the EPA reviewed the information that was available to develop a MACT floor (a detailed discussion of the development of the MACT floor can be found in the docket, Air Docket A–94–04). This information consisted of data gathered from: (1) industry responses to the EPA's Air Emission Survey Questionnaires, (2) site visits, (3) meetings with stakeholders, and (4) literature.

As required under section 112(d) of the Act, the EPA developed the MACT floor based on ''* * * the average limitation achieved by the best performing 12 percent of the existing sources * * *.'' The EPA obtained information on 200 glycol dehydration units that were considered to be major sources of HAP (prior to control). Of these, 34 percent (67 units) were controlled using a variety of control technologies, including: condensation, combustion, and a combination of condensation and combustion. The types of control technologies used by the industry have been demonstrated, in other applications, to achieve varying levels of emission reduction (ranging from 95.0 to 98 percent or better). The EPA could not identify a technical basis for the variation in the performance levels achieved by the controls reported to be used to control process vents on glycol dehydration units. In order to account for the variability in HAP emission reduction efficiencies, the EPA selected 95.0 percent as the required emission reduction (i.e., the MACT floor) for large glycol dehydration units in the oil and natural gas production source category.

The final standards require that all process vents on new and existing glycol dehydration units that are located at major HAP sources be controlled unless (1) the actual flowrate of natural gas to the glycol dehydration unit is less than 85 thousand m^3/day, on an annual average basis; or (2) the actual average benzene emissions from the glycol dehydration unit are less than 0.90 Mg/yr. Glycol dehydration units that meet these criteria are not subject to the control requirements of subpart HH.

Glycol dehydration units that are subject to the control requirements are required to connect, through a closed-vent system, each process vent on the glycol dehydration unit to an air

emission control system. The control system must reduce emissions: (1) by 95.0 percent or more of HAP, (2) to an outlet concentration of 20 parts per million by volume (ppmv) or less (for combustion devices), or (3) to a benzene emission level of 0.90 Mg/yr or less. Pollution prevention measures, such as process modifications or combinations of process modifications and one or more control devices that reduce the amount of HAP emissions generated, are allowed as an alternative provided they achieve the required emission reductions.

3. Storage Vessel Standards

Final standards are established for existing and new storage vessels with the potential for flash emissions that are located at major HAP sources. Storage vessels with the potential for flash emissions are defined as those that contain a hydrocarbon liquid with a storage tank GOR equal to or greater than 0.31 m^3/liter, an API gravity equal to or greater than 40 degrees, and an actual annual average throughput of hydrocarbon liquids equal to or greater than 79,500 liter/day.

Flash emissions from storage vessels occur when a hydrocarbon liquid with a high vapor pressure flows from a pressurized vessel into a vessel with a lower pressure. Flash emissions typically occur when a hydrocarbon liquid, such as condensate, is transferred from a production separator to a storage vessel. The final standards require that storage vessels with the potential for flash emissions be equipped with an air emission control system.

Under the final standards, a storage vessel with the potential for flash emissions is required to be equipped with a cover vented through a closed-vent system to a control device that (1) recovers or destroys HAP emissions with an efficiency of 95.0 percent or greater, or (2) for combustion devices, reduces HAP emissions to an outlet concentration of 20 ppmv or less.

A pressurized storage vessel that is designed to operate as a closed system is considered in compliance with the promulgated requirements for storage vessels. In addition, owners or operators that are meeting the requirements of 40 CFR part 60, subpart Kb; 40 CFR part 63, subpart G; or 40 CFR part 63, subpart CC, are also considered in compliance.

4. Standards for Equipment Leaks

The final rule requires owners and operators of natural gas processing plants that are major HAP sources to control HAP emissions from leaks from ancillary equipment and compressors that contain or contact a liquid or gas that has a total volatile hazardous air pollutant (VHAP) concentration equal to or greater than 10 percent by weight. The final equipment leak standards do not apply to ancillary equipment and compressors that operate in VHAP service less than 300 hours per year. Also, an owner or operator that is subject to and controlled under the provisions of 40 CFR part 60, subpart KKK; or 40 CFR part 61, subpart V; or 40 CFR part 63, subpart H, is only required to comply with the requirements of that subpart.

For equipment subject to these standards at either an existing or new source, the owner or operator is required to implement a LDAR program and where necessary, perform equipment modifications. Pumps in light liquid service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service within a process unit that is located (1) at a nonfractionating facility that processes less than 283 thousand m^3/day, or (2) on the Alaskan North Slope, are exempt from some of the routine LDAR monitoring requirements. In addition, reciprocating compressors in wet gas service are exempt from the compressor requirements.

5. Air Emission Control Equipment Requirements

Specific performance and operating requirements are included for each control device installed by the owner or operator. Control devices are required to reduce the mass content of the gases vented to the device (1) by 95.0 percent or greater by weight as total organic compounds (TOC), less methane and ethane, or total HAP; or (2) for combustion devices, to an outlet HAP or TOC concentration of 20 ppmv or less.

Closed vent systems that contain bypass devices that could divert vent streams away from the control device must either install a flow indicator or secure the bypass valve in the nondiverting position to ensure that the control device is not bypassed.

Certain specifications for covers apply based on the type of cover and where the cover is installed. Requirements are specified for vapor leak-tight covers installed on storage vessels.

6. Test Methods and Procedures

An owner or operator must be able to demonstrate that the criteria for exemptions from control requirements are met when controls are not applied or when existing controls are adequate to meet the exemption criteria. For example, owners or operators of glycol dehydration units that do not install air emission controls because the actual average benzene emission rate from the unit is less than 0.90 Mg/yr must be able to demonstrate that the actual average benzene emission rate from the unit is less than 0.90 Mg/yr.

Procedures for demonstrating the HAP emission reduction efficiency of control devices and HAP concentration are consistent with procedures established in previously promulgated NESHAP that apply to emission sources similar to those addressed in the final standards. Engineering calculations, modeling (using EPA-approved models), and previous test results are generally acceptable means of demonstrating compliance, except where such means are not conclusive. Test procedures are specified in the final rule for use when testing is required to demonstrate compliance.

An alternative test procedure is provided to demonstrate control efficiency when a condenser is used for controlling emissions from a glycol dehydration unit reboiler vent. The inclusion of the alternative test procedure is appropriate in this standard because of difficulties associated with testing the inlet to a condenser in this application.

Procedures and test methods are also specified for the detection of leaks from ancillary equipment and compressors and leaks in covers and closed vent systems.

7. Monitoring and Inspection Requirements

The final standards require that the owner or operator periodically inspect and monitor air emission control equipment. Periodic inspections are required for certain types of covers to ensure gaskets and seals are in good condition and for closed-vent systems to ensure all fittings remain leak-tight. An owner or operator is required to periodically perform these inspections to determine and ensure that these equipment operate with no leaks.

For covers, the owner or operator is required to perform initial and semiannual visual inspections. For closed vent systems, the owner or operator is required to perform an initial leak inspection and annual visual inspections to detect leaks. In addition, the owner or operator of closed vent system components that are not permanently or semi-permanently sealed must perform annual leak inspections.

The final standards require continuous monitoring of control device operation through the use of automated instrumentation. Continuous monitoring systems measure and record control

device operating parameters to ensure compliance with the standards.

8. Recordkeeping and Reporting Requirements

The recordkeeping and reporting requirements associated with the final standards are primarily those specified in the part 63 General Provisions (40 CFR 63, subpart A). Major sources are subject to all of the requirements of the General Provisions with the exception that (1) owners or operators are allowed up to 1 year from the effective date of the standards to submit the initial notification described in § 63.9(b) of subpart A; and (2) owners or operators are allowed to submit Periodic reports and startup, shutdown, and malfunction reports semiannually instead of quarterly. The EPA selected these specific exceptions due to the large number of facilities that need to submit notifications or reports related to the NESHAP. The EPA believes that these exceptions will not adversely affect the implementation of the final regulation or reduce its impact on HAP emissions.

B. Promulgated Standards for Natural Gas Transmission and Storage for Major Sources

The final standards amend title 40, chapter I, part 63 CFR by adding a new Subpart HHH—National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities. The standards apply to owners and operators of facilities that process, upgrade, transport or store natural gas prior to delivery to a local distribution company (LDC) or a final end user if no LDC is present. A compressor station that transports natural gas to a natural gas processing plant is considered a part of the oil and natural gas production source category.

A facility's potential to emit is required to be calculated based on a maximum facility throughput. For storage facilities or facilities that store and transport natural gas, the final rule specifies procedures for calculating this maximum throughput based on the facility's maximum withdrawal and injection rates and the working gas capacity of the storage field. Facilities that only transport natural gas are required to calculate maximum throughput as the highest annual throughput over 5 years prior to the effective date of the rule, multiplied by 1.2. The owner or operator must also establish maximum values of other parameters required to calculate emissions over the same period used to determine maximum throughput.

1. Applicability

The final standards for natural gas transmission and storage facilities require that the owner or operator of a major source of HAP reduce HAP emissions from glycol dehydration units through the application of air emission control equipment or pollution prevention measures, or a combination of both. The owner or operator of a facility that processes less than 28.3 thousand m^3/day of natural gas facilitywide on an actual annual average basis, where glycol dehydration units are the only HAP emission points, is exempt from the requirements of subpart HHH.

2. Glycol Dehydration Unit Process Vent Standards

The MACT standard for process vents on new and existing glycol dehydration units was set at the floor level of control. To determine the MACT floor, the EPA divided glycol dehydration units into two sizes: (1) small glycol dehydration units with actual annual average natural gas throughputs less than 283 thousand m^3/day or with actual average benzene emissions less than 0.90 Mg/yr, and (2) large glycol dehydration units with actual annual average natural gas throughputs equal to or greater than 283 thousand m^3/day or with actual average benzene emissions equal to or greater than 0.90 Mg/yr. As discussed in the January 15, 1999 supplemental notice (64 FR 2611), the EPA determined that the MACT floor for large glycol dehydration units was 95.0 percent control. For small glycol dehydration units, the EPA determined that the MACT floor was no control and that it was not cost effective to select a regulatory alternative beyond the floor.

The final standards require that all process vents on new and existing glycol dehydration units that are located at major HAP sources be controlled unless (1) the actual annual average flowrate of natural gas to the glycol dehydration unit is less than 283 thousand m^3/day, or (2) the actual average benzene emissions from the glycol dehydration unit are less than 0.90 Mg/yr.

Glycol dehydration units that are subject to the control requirements are required to connect, through a closed-vent system, each process vent on the glycol dehydration unit to an air emission control system that reduces emissions: (1) by 95.0 percent or more of HAP, (2) to an outlet HAP concentration of 20 ppmv or less, for combustion devices, or (3) to a benzene emission level of 0.90 Mg/yr or less. As with the final standards for the oil and natural gas production NESHAP, pollution prevention measures, such as process modifications (or combinations of process modifications and control devices) that reduce the amount of HAP emissions generated, are allowed as an alternative provided they achieve the required emission reductions.

3. Air Emission Control Equipment Requirements

Specific performance and operating requirements are included for each control device installed by the owner or operator. Control devices are required to reduce the mass content of the gases vented to the device (1) by 95.0 percent or greater by weight as TOC, less methane and ethane, or total HAP; or (2) for combustion devices, to an outlet HAP or TOC concentration of 20 ppmv or less.

Closed vent systems that contain bypass devices that could divert vent streams away from the control device must either install a flow indicator or secure the bypass valve in the nondiverting position to ensure that the control device is not bypassed.

4. Test Methods and Procedures

An owner or operator must be able to demonstrate that the criteria for exemptions from control requirements are met when controls are not applied or when existing controls are adequate to meet the exemption criteria. For example, owners or operators of glycol dehydration units that do not install air emission controls because the actual average benzene emission rate from the unit is less than 0.90 Mg/yr must be able to demonstrate that the actual average benzene emission rate from the unit is less than 0.90 Mg/yr.

Procedures for demonstrating the HAP emission reduction efficiency of control devices and HAP concentration are consistent with procedures established in previously promulgated NESHAP that apply to emission sources similar to those addressed in the final standards. Engineering calculations, modeling (using EPA-approved models), and previous test results are generally acceptable means of demonstrating compliance, except where such means are not conclusive. Test procedures are specified in the final rule for use when testing is required to demonstrate compliance.

An alternative test procedure is provided to demonstrate control efficiency when a condenser is used for controlling emissions from a glycol dehydration unit reboiler vent. The inclusion of the alternative test procedure is appropriate in this standard because of difficulties

associated with testing the inlet to a condenser in this application. Procedures and test methods are also specified for detection of leaks in closed-vent systems.

5. Monitoring and Inspection Requirements

The monitoring and inspection requirements are (1) periodic control equipment monitoring, (2) initial leak detection inspections for closed-vent systems to ensure all fittings are leak-tight, (3) annual visual inspections of closed-vent systems (closed vent system components that are not permanently or semi-permanently sealed are also required to be annually inspected for leaks), and (4) continuous monitoring of control device operation. Continuous monitoring requires the use of automated instrumentation that measures and records control device compliance operating parameters.

C. Recordkeeping and Reporting Provisions

The recordkeeping and reporting requirements associated with the final standards are primarily those specified in the part 63 General Provisions (40 CFR 63, subpart A). Major sources are subject to all of the requirements of the General Provisions, except that (1) owners or operators are allowed up to 1 year from the effective date of the standards to submit the initial notification required under § 63.9(b) of subpart A and (2) owners or operators are allowed to submit Periodic reports and startup, shutdown, and malfunction reports semiannually instead of quarterly. These exceptions were selected to maintain consistency between the major source provisions of the final regulations for natural gas transmission and storage facilities and oil and natural gas production facilities.

IV. Summary of Impacts

A. HAP Emission Reductions

For major sources, the EPA estimated that the final oil and natural gas production standards for existing sources will result in a reduction of HAP emissions from 39,000 Mg/yr to 9,000 Mg/yr. In addition, HAP emissions would be reduced by 3,000 Mg/yr for new sources over the first 3 years after promulgation of these standards.

Table 1 presents the major source emission reductions, in addition to other environmental, energy, and cost impacts, that the EPA estimates will occur from the implementation of the standards for oil and natural gas production.

TABLE 1.—SUMMARY OF ESTIMATED ENVIRONMENTAL, ENERGY, AND ECONOMIC IMPACTS EXISTING AND NEW MAJOR SOURCES

Impact category	Existing oil and natural gas production	New oil and natural gas production	Existing natural gas transmission and storage *
Estimated number of impacted facilities	440	44	7
Emission reductions (Mg/yr):			
HAP	30,000	3,000	390
VOC	61,000	6,100	610
Methane	7,000	700	230
Secondary environmental emission increases (Mg/yr):			
Sulfur oxides	<1	<1	<1
Nitrogen oxides	<5	<1	<1
Carbon monoxide	<1	<1	<1
Energy (Kilowatt hours per year)	38,000	3,800	None
Implementation costs (Million of July 1993 $):			
Total installed capital	6.5	0.7	0.28
Total annual	4.0	0.4	0.3

*No new major sources are anticipated for this source category after the effective date for new sources and in the first 3 years following promulgation of the rule.

The EPA estimates that the final natural gas transmission and storage standards for existing sources will result in a reduction of HAP emissions from 2,100 Mg/yr to 1,710 Mg/yr. No new major sources are anticipated in the first 3 years after promulgation of this NESHAP. Table 1 also presents the major source emission reductions, in addition to other environmental, energy, and cost impacts, that the EPA estimates will occur from the implementation of the standards for existing natural gas transmission and storage facilities.

The air emission reductions achieved by these standards, when combined with the air emission reductions achieved by other standards mandated by the Act, will accomplish the primary goal of the Act to:

* * * enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population.

B. Secondary Environmental Impacts

Other environmental impacts are those associated with operation of certain air emission control devices. The EPA's secondary air emissions impact analyses for the oil and natural gas production source category consider a facility's ability to handle collected vapors. Some remotely located facilities may not be able to use collected vapor for fuel or recycle it back into the process. In addition, it may not be technically feasible for some facilities to safely utilize the non-condensable vapor streams from condenser systems as an alternative fuel source. An option for these facilities is to combust these vapors by flaring, rather than installing condensers.

These limitations are reflected in the analyses conducted by the EPA. In the analyses, the EPA estimated that (1) 45 percent of all impacted production facilities will be able to use collected vapors from installed control options as an alternative fuel source for an on-site combustion device such as a process heater or the glycol dehydration unit firebox, (2) 45 percent will be able to recycle collected vapors from installed control options into a low pressure header system for combination with other hydrocarbon streams handled at the facility, and (3) 10 percent will direct all collected vapor to an on-site flare. The secondary air impacts are associated with flare operations.

The adverse secondary air impacts would be minimal in comparison to the primary HAP reduction benefits from the implementation of the control options for major oil and natural gas sources. The estimated national annual increase in secondary air pollutant emissions that would result from the use of a flare to comply with the standards is estimated to be less than 1.0 Mg/yr for both sulfur oxide (SO_X) and carbon monoxide (CO) and less than 5 Mg/yr for nitrogen oxides (NO_X). These estimates are for major oil and natural gas production sources.

The anticipated increases in secondary air pollutant emissions are based on six affected facilities utilizing flares and are estimated to be less than 1.0 Mg/yr for SO_X, CO, and NO_X, each, from the implementation of the control options for major sources at natural gas transmission and storage facilities.

The adverse water impacts anticipated from the implementation of control options for the standards are expected to be minimal. The water impacts associated with the installation of a condenser system for the glycol dehydration unit reboiler vent would be minimal. This is because the condensed water collected with the hydrocarbon condensate can be directed back into the system for reprocessing with the hydrocarbon condensate or, if separated, combined with produced water for disposal by reinjection.

Similarly, the water impacts associated with installation of a vapor control system would be minimal. This is because the water vapor collected along with hydrocarbon vapors in the vapor collection and redirect system can be directed back into the system for reprocessing with the hydrocarbon condensate or, if separated, combined with the produced water for disposal by reinjection.

There are no adverse solid waste impacts anticipated from the implementation of the standards.

C. Energy Impacts

Energy impacts are those energy requirements associated with the operation of emission control devices. The EPA estimated that the operation of add-on control devices (e.g., condensers, flares, etc.) would not require additional energy. Vapor collection and redirect systems used for the control of emissions from a fixed-roof storage vessel require electricity for operation of the primary components of the system, including fans and blowers.

The EPA estimated that the annual energy requirements for each vapor collection/recovery system installed to comply with the oil and natural gas production storage vessel standards are estimated to be 300 kilowatt hours per year (kW-hr/yr). The EPA also estimated that approximately 125 oil and natural gas production major source facilities would install this control option. The national energy demand increase for existing sources was estimated to be 38,000 kW-hr/yr.

Because storage vessels are not regulated under the natural gas transmission and storage NESHAP, the EPA estimated that there would be no national energy demand increase from the operation of any of the control options analyzed under the natural gas transmission and storage standards for major sources.

The standards encourage the use of emission controls that recover hydrocarbon products, such as methane and condensate, that can be used on-site as fuel or reprocessed, within the production process, for sale. Thus, the standards have a positive impact associated with the recovery of non-renewable energy resources.

D. Cost Impacts

The estimated total capital cost to comply with the rule for existing major sources in the oil and natural gas production source category is approximately $6.5 million. The total capital cost for new major sources is estimated to be approximately $700,000.

The total estimated net annual cost to industry to comply with the requirements for existing major sources in the oil and natural gas production source category is approximately $4.0 million per year. The total net annual cost for new major sources is approximately $400,000 per year. These estimated annual costs include (1) the cost of capital; (2) operating and maintenance costs; (3) the cost of monitoring, recordkeeping, and reporting (MRR); and (4) any associated product recovery credits.

The estimated total capital cost to comply with the rule for major sources in the natural gas transmission and storage source category is approximately $280,000.

The total estimated net annual cost to industry to comply with the requirements for major sources in the natural gas transmission and storage source category is approximately $300,000. As with the oil and natural gas production total estimated annual cost to industry, this annual cost estimate includes (1) the cost of capital, (2) operating and maintenance costs, (3) the cost of MRR, and (4) any associated product recovery credits.

E. Economic Impacts

The EPA prepared an economic impact analysis that evaluates the impacts of the regulation on affected producers, consumers, and society. The economic analysis focuses on the regulatory effects on the U.S. natural gas market that is modeled as a national, perfectly competitive market for a homogenous commodity. The analysis does not include a model to assess the regulatory effects on the world crude oil market because the regulation is anticipated to affect less than 5 percent of the total U.S. crude oil production, and thus, it is unlikely to have any influence on the U.S. supply of crude oil or world crude oil prices.

The imposition of regulatory costs on the natural gas market result in negligible changes in natural gas prices, output, employment, foreign trade, and business profitability. Price and output changes as a result of the regulation are less than 0.0005 of 1 percent, which is significantly less than observed market trends. For example, between 1992 and 1993 the average change in wellhead price increased by 14 percent, while domestic production rose by 3 percent.

The total annual social cost of the regulation is $4.6 million, which accounts for the compliance cost imposed on producers, as well as market adjustments that influence the revenues to producers and consumption by end users, plus the associated deadweight loss to society of the reallocation of resources.

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 rules. While several of these changes are clarifications designed to clarify the Agency's original intent, a number of them are significant changes to the proposed standard requirements. A summary of the substantive comments and/or changes made since 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, volume 2 (EPA–453/R–99–004b, May 1999) and docket (see **ADDRESSES** section of this preamble).

A. Definition of Facility

The EPA developed the proposed definition of facility to (1) identify criteria that define a grouping of emission points that meet the intent of the language contained in section 112(a)(1) of the Act: ''* * * located within a contiguous area and under

common control, * * *''; and (2) contain terms that are meaningful and easily understood within the regulated industries. The proposed definition was based on individual surface sites and the idea that equipment located on different oil and gas properties (oil and gas lease, mineral fee tract, subsurface unit area, surface fee tract, or surface lease tract) shall not be aggregated. In addition, the proposed definition of a production field facility was limited to glycol dehydration units and storage vessels with the potential for flash emissions. The EPA requested comments on the proposed definition of facility. Specifically, the EPA requested comments on whether the proposed definition appropriately implements the intent of the major source definition in section 112(a)(1) for the oil and natural gas production and natural gas transmission and storage source categories or whether another definition would better implement this intent.

Several commenters responded to the EPA's request for comments on the definition of facility. The commenters requested clarification of, or suggested changes to, the proposed definition of facility. The commenters were primarily concerned that large groupings of equipment would inappropriately be considered a part of the same facility, resulting in a major source determination. In particular, the commenters were concerned about how subparts HH and HHH would treat units, contiguous surface sites, and surface sites with equipment under separate ownership. The commenters requested clarification of the definition of facility to prevent this confusion.

The EPA intended that the facility definition, as it applies to the oil and natural gas production source category, should lead to an aggregation of emissions in a major source determination that is reasonable, consistent with the intent of the Act, and easily implementable.

The EPA believes that it would not be reasonable to aggregate emissions from surface sites that are located on the same lease, but are great distances apart. The definition of facility states that equipment located on different oil and natural gas properties (e.g., leases) are not to be aggregated. Although units (which are made up of more than lease or tract) are under common control, under the definition of facility, the equipment located on different leases contained within each unit would not be aggregated.

Under section 112(a)(1) of the Act, a major source is defined as ''* * * any stationary source or group of stationary sources located within a contiguous area and under common control.* * *'' The EPA believes that by defining facility based on individual surface sites, the EPA has provided relief for individual surface sites that are located on the same lease, but are far apart, and excluding contiguous surface sites located on the same lease would be contrary to the intent of the Act.

Finally, the terms contained in the definition of facility (e.g., surface site and lease) are well understood within the industry and by enforcement agencies, and the EPA does not believe that additional definitions or clarifications regarding these terms are necessary.

In response to comments regarding specific clarification to the definition of facility, the EPA has made several changes to the definition of facility. The EPA modified the definition of facility to point to the definition of ''surface site.'' In subpart HHH, the EPA has added a definition of ''surface site,'' and modified the definition of facility to point to the new definition of ''surface site.''

The EPA further modified the definition of facility in subpart HH by: (1) specifying that ''upgraded'' means ''the removal of impurities or other constituents to meet contract specifications''; (2) changing the term ''unit areas'' to ''surface unit areas''; and (3) specifying that separate surface sites, whether or not connected by a road, waterway, power line or pipeline, would not be considered a part of the same facility.

Commenters recommended that the EPA expand its definition of production field facility in subpart HH to include additional HAP emission points beyond glycol dehydration units and storage vessels with flash emission potential. The concern was that several facilities that could otherwise be major sources of HAP would be exempt from subpart HH under the proposed definition of facility.

One of the EPA's objectives was to develop a definition of facility that would comply with section 112(n)(4) of the Act and at the same time, reduce the burden on owners and operators in making a major source determination. The EPA's evaluation of HAP emission sources in production field operations suggested that other potential HAP emission points at these facilities (e.g., equipment leaks) would be inconsequential to the determination of a facility's major source status. The EPA believes that eliminating the need to quantify HAP emissions from small sources at production field facilities would not affect the major source status determination, but would reduce the burden on owners or operators.

Other commenters requested that the EPA clarify, within the definition of facility in subpart HHH, whether the EPA intended to exclude facilities used to store natural gas after the gas enters the local distribution system of a gas utility. The commenter recommended that the EPA clarify that the definition of facility applies all the way to the end user only if there is no local distribution company.

The affected source in the natural gas transmission and storage source category should run all the way to the end user only if there is no local distribution company. Therefore, the EPA modified the definition of facility in subpart HHH to state that if there is not a local distribution company, the facility runs to the end user.

Some commenters were concerned that the definition of facility in subpart HH suggests that a natural gas storage facility could qualify as a production facility, since natural gas storage takes place in depleted gas wells, and liquids are transferred for processing to the plant.

Subpart HH contains a definition of field natural gas which means ''* * * natural gas that is extracted from a production well prior to entering the first stage of processing, such as dehydration.'' In addition, a production well is defined in § 63.761 as a ''* * * hole drilled in the earth from which * * * field natural gas is extracted.'' Since the gas handled by a natural gas storage facility has been dehydrated, the EPA believes that the natural gas handled by a storage facility would not be considered field natural gas. Therefore, given the definitions of production well and field natural gas, a natural gas storage field that uses a depleted gas well for storage would not qualify as a production facility. The EPA does not believe that clarification of the definition of facility is necessary in response to this comment.

B. Definition of ''Associated Equipment''

Section 112(n)(4)(A) of the Act states:

> * * * emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources, and in the case of any oil or gas exploration or production well (with its associated equipment), such emissions shall not be aggregated for any purpose under this section.

According to the statutory definition of major source in section 112(a)(1) of the Act, HAP emissions from all emission points within a contiguous area and under common control must be counted in a major source determination. By stating that emissions from any oil and gas production and exploration well (with its associated equipment) cannot be aggregated for a major source determination, the provisions of section 112(n)(4)(A) mean HAP emissions from each well and each piece of equipment considered to be associated with the well must be evaluated separately in a major source determination. That is, any well or piece of associated equipment would only be determined to be a major source if HAP emissions from that well or piece of associated equipment were major.

Therefore, to implement this special provision of the Act for the oil and natural gas production source category, a definition of ''associated equipment'' was necessary. However, a definition for the term ''associated equipment'' was not provided in the statute. The EPA proposed that ''associated equipment'' be defined as all equipment associated with a production well up to the point of custody transfer, except that glycol dehydration units and storage vessels with the potential for flash emissions would not be associated equipment. In developing this proposed definition, the Agency identified and evaluated several options. The Agency also sought and received input from industry and other stakeholders.

In the proposal, the EPA specifically requested comments on the proposed definition of ''associated equipment.'' The EPA requested that commenters disagreeing with the proposal provide alternative definition options, along with supporting documentation, that would provide the relief that Congress intended for this industry in section 112(n)(4), while preserving the EPA's ability to regulate HAP emissions from glycol dehydration units and storage vessels with the potential for flash emissions.

Several commenters responded to the EPA's request for comments on the EPA's interpretation of the term ''associated equipment'' as used in section 112(n)(4) of the Act. Although several commenters did not fully support the EPA's interpretation of section 112(n)(4), they acknowledged that the proposed definition of associated equipment is a workable solution in comparison to other options for this definition. According to the commenters, aggregation of glycol dehydration units and storage vessels with flash emission potential would result in the same major source determination as aggregation of all potential sources, but would reduce the burden on the facility operator. Other commenters argued that section 112(n)(4) mandates no aggregation of emissions from individual sources at oil and gas production fields, and that the EPA exceeded its statutory authority by allowing for the aggregation of emissions from glycol dehydration units and storage vessels with the potential for flash emissions.

After consideration of these comments, the EPA agrees with those commenters who supported the proposed definition as a workable solution, and is promulgating the definition as proposed. The EPA disagrees with those commenters who argued that the Agency exceeded its statutory authority for the reasons discussed below.

Section 112(a)(1) generally requires HAP emission points within a contiguous area and under common control to be aggregated in a major source determination for the purposes of section 112. While this approach is appropriate for facilities in most industries, it may lead to unreasonable aggregations if strictly applied to oil and natural gas field operations. Given that some oil and natural gas operations (e.g., a production field) may cover several square miles or that leases and mineral rights agreements give some companies control over a large area of contiguous property, determination of major source status strictly by the language of section 112(a)(1) could mean in this industry that HAP emissions must be aggregated from emission points separated by large distances.

Congress addressed the unique aspects of the oil and natural gas production industry by providing the special provisions in section 112(n)(4) of the Act referring to the ''* * * oil and gas exploration and production well (and its associated equipment) * * *.'' However, Congress did not provide a definition of the term ''associated equipment'' in the statutory language, leaving its interpretation to the EPA. A definition of this term is important in determining the major source status of facilities in both the oil and natural gas production and the natural gas transmission and storage source categories.

In the absence of clear guidance in the statute, the EPA evaluated various options for defining ''associated equipment'' prior to proposal. The EPA's objective was to arrive at a reasonable interpretation that would (1) provide substantive meaning to the term ''associated equipment'' consistent with congressional intent; (2) prevent the aggregation of small, scattered HAP emission points in major source determinations; (3) be easily implementable; and (4) not preclude the aggregation of significant HAP emission points in the source category. Due to the lack of clarity in the statute and the potential impact on major source determinations, the Agency worked with industry stakeholders to identify and evaluate options prior to proposal. Industry representatives expressed their goals for the interpretation of associated equipment, and provided information on the magnitude of HAP emission points and the potential impacts of various options considered by the EPA.

The EPA considered, but rejected, a definition based on a narrow interpretation that would include only valves and fittings on a well as being associated equipment primarily because this option would not provide any additional relief to industry beyond what would have been provided had Congress only used the term ''well'' in section 112(n)(4) of the Act. The EPA also rejected a definition, initially recommended by industry, that was based on a broad interpretation that would include equipment far beyond the well as associated equipment.

In discussions with industry stakeholders over an extended period of time prior to proposal, the Agency sought to reach a workable solution on the definition of associated equipment, one that recognized the need to implement relief for this industry as Congress intended, and that also allowed for the appropriate regulation of significant emission points. In a technical evaluation, the EPA identified glycol dehydration units and storage tanks with flash emission potential as substantial contributors to HAP emissions, particularly relative to sources such as production wells. This conclusion was supported by industry. Under the proposed approach, associated equipment was defined as all equipment up to the point of custody transfer, excluding glycol dehydration units and storage vessels with the potential for flash emissions. This approach also included a definition of facility in the rule that effectively limited the distance over which all emission points (including glycol dehydration units and storage vessels with the potential for flash emissions) may be aggregated. Based on discussions with industry prior to proposal, as well as comments received supporting the proposed definition of associated equipment, the Agency believes that the proposed approach

best meets both industry and EPA goals for implementation of the language of section 112(n)(4).

Commenters who argued that the Agency exceeded its authority with the definition of associated equipment offered no substantive new information to support their claim. The EPA could not find support in the statute or in the legislative history that indicated that Congress intended to preclude aggregation of all emission points, including such significant ones as glycol dehydration units and storage tanks with flash emission potential through their inclusion as associated equipment. Rather, there are clear indications, in the EPA's judgement, that Congress' primary intent was to preclude the aggregation of small emitting sources over vast distances. The legislative history of the Act, for example, indicates that Congress believed that oil and natural gas production wells and their ''associated equipment'' generally have low HAP emissions, and are typically located in widely dispersed geographic areas, rather than being concentrated in a single area. The EPA used this background as a guide in developing an interpretation of ''associated equipment'' along with available data on HAP emissions from emission points within the oil and natural gas production source category. The EPA believes that glycol dehydration units and storage vessels with the potential for flash emissions are not the type of small HAP emission points that Congress intended to be included in the definition of associated equipment.

After the EPA's review and consideration of all comments received on the proposal, the definition of associated equipment promulgated in today's rule is the same as proposed.

C. Applicability

1. Black Oil Definition

In the proposed subpart HH, the EPA provided an exemption from the subpart for facilities that exclusively handle black oil. Black oil was defined in subpart HH as a hydrocarbon liquid with an API gravity less than 40 degrees and a GOR less than 0.31 m^3/liter of liquid.

Several commenters questioned the EPA's basis for the black oil definition. The commenters requested that the EPA revise the GOR and API gravity cutoffs. One commenter stated that it was unclear whether the definition of black oil, with the proposed cutoffs, was a determination related to human health risk.

During the development of the proposal, representatives of the oil and natural gas production industry stressed that their industry was composed of large numbers of facilities that handle black oil, and that black oil was not a significant contributor to overall source category HAP emissions. The EPA reviewed the available information and agreed with the industry representatives that facilities that exclusively handle black oil are not significant contributors to overall HAP emissions from the source category. Furthermore, the EPA did not identify control technologies, designed to reduce HAP, in use at existing facilities that exclusively process, handle, or store black oil. Therefore, the EPA determined that the MACT floor for black oil facilities was no control. This determination was not made based on the health risks associated with black oil.

The EPA developed the proposed definition of black oil based on a series of technical articles that describe five basic hydrocarbon fluids that typically exist in a reservoir: black oil, volatile oil, retrograde gas, wet gas, and dry gas (Air Docket A–94–04). Of these, black oil and volatile oil exist as liquid in the reservoir. Black oil, which is a mixture of chemical species ranging from methane to large, heavy, nonvolatile organic molecules, is in solution with dry gas, which is primarily methane. Volatile oil, which contains fewer heavy molecules, is in solution with retrograde gas, which has fewer of the heavy organic molecules.

According to these articles, reservoir fluid types are determined by rules-of-thumb based on an initial producing GOR, stock-tank liquid gravity, and stock tank liquid color. In particular, fluid type is usually determined by initial producing GOR and confirmed by stock tank gravity values and stock tank color. (Note: The distinction between initial producing GOR and producing GOR is important. As reservoir pressure reduces over time, the producing GOR for black oil increases. Therefore, if any other GOR is used, the facility may not appear to qualify for the exemption.) The rule-of-thumb for volatile oil is an initial producing GOR of 0.31 m^3/liter. Volatile oil is also suspected if the API gravity is equal to or greater than 40 degrees and a color that is brown, reddish, orange, or green. The rule-of-thumb for black oil is an initial producing GOR less than 0.31 m^3/liter, an API gravity of less than 45 degrees, and a color that is dark, usually black (sometimes with a greenish cast) or brown.

Since color determination is subjective, the EPA selected initial producing GOR and API gravity as quantifiable criteria for defining black oil. In addition, since there is a gap between the rule-of-thumb API gravity criteria for black oil and volatile oil, the EPA selected the lower, more conservative value of 40 degrees. The EPA believes that using a higher API gravity to define black oil, such as 45 or 50 degrees as recommended by the commenters, would increase the possibility that the liquid is a volatile oil, thus exempting sources that are likely to have higher HAP emissions. The EPA believes that the criteria for defining a black oil, which were obtained directly from widely recognized definitions of black oil and volatile oil used in the oil and natural gas industry, are technically sound for identifying which sources are included as black oil facilities. Therefore, the EPA has not modified the black oil definition.

2. Potential-to-Emit

Several commenters were concerned with the methods used to determine whether or not a facility was a major source. In particular, the EPA received several comment letters regarding the calculation of a facility's potential-to-emit (PTE) when determining a facility's major source status. The EPA received comments regarding the calculation of PTE on the following issues: (1) potential emissions calculated to determine major source status should consider controls and operational limitations whether or not they are federally enforceable as specified in the *National Mining Congress* v. *EPA* (59 F.3d.1351, D.C. Cir. 1995) court case; (2) potential emissions should not be based on equipment operating capacity because it would result in overregulation, but should consider the inherent operating limitations of the facility (e.g., declining production levels over time); (3) the EPA should provide a simplified approach to calculate PTE, which takes into account design and operational limitations; and (4) the EPA should use the logic in the PTE Transition policy where sources with low emissions may be considered nonmajor if records of actual emissions are maintained.

a. *Use of Limitations in Calculating PTE.* The EPA received comments requesting that potential emissions calculated to determine major source status should consider controls and operational limits whether or not they are federally enforceable.

The EPA believes that by referring to the definition of PTE in § 63.2 of subpart A, subparts HH and HHH contain the provisions for accounting for control

devices and federally enforceable operating limitations as requested by the commenters.

With respect to the *National Mining* court case, the court required the EPA to reconsider the Federal enforceability requirement, but did not vacate the requirement. As a result, the requirement for Federal enforceability is still in effect. The definition of PTE for the NESHAP program (40 CFR 63.2) is currently under review, and the EPA is engaged in a rulemaking process to amend the requirements in the General Provisions. The EPA has not modified subparts HH and HHH in response to these comments.

b. *Use of Inherent Design and Operational Limitations in Calculating PTE.* Several commenters were concerned that PTE estimates, as defined in the General Provisions, would be unrealistically high and would subject many small insignificant sources to the NESHAP requirements. The commenters requested that PTE be based on the inherent design and operational limitations of production and transmission and storage facilities, such as throughput rates.

According to commenters, the throughput of oil and natural gas production operations declines over time, and existing equipment is often designed, constructed and operated based on high initial production rates. Therefore, the commenters suggested that the facilities are usually operated at actual throughput rates that are much lower than the design capacities.

The EPA agrees that there are certain inherent throughput limitations associated with the production of oil and natural gas, primarily related to declining production rates. Therefore, the final subpart HH specifies a method for calculating maximum facility throughput to determine major source status and applicability to subpart HH. This method is based on a facility's past production rate and ability to document declining annual operations. However, it is the responsibility of the owner or operator to be aware of changes that could require a facility to recalculate its PTE and to do so in a timely manner. The owner or operator could be found in violation back until the point in time at which an engineering judgement would have shown that the facility was reasonably capable of emitting at major source thresholds. A detailed discussion is presented in section 2.1.1 of the BID volume 2.

The EPA also received comments that the EPA should consider the seasonal operation of natural gas storage facilities in estimating potential emissions, and that the facility's PTE cannot be based on withdrawal for the entire season at maximum capacity. The commenters explained that natural gas storage facilities must spend part of the year injecting gas, and that withdrawal rates decrease as the storage field's pressure drops.

The EPA agrees that natural gas storage facilities have inherent limitations due to the nature of their operations. Therefore, the final rule (subpart HHH) contains a method for calculating maximum facility throughput to determine major source status and applicability of subpart HHH. The method is based on the maximum withdrawal and injection rates and the working gas capacity for a given storage field. A more detailed discussion is presented in section 2.1.1 of BID volume 2.

c. *Simplified Approach to Calculate PTE.* Several commenters recommended a simplified approach to calculating PTE, such as screening equations similar to those developed for other NESHAP, to take into account design and operational limitations.

The EPA evaluated the use of an equation similar in structure to the Gasoline Distribution NESHAP, 40 CFR part 63, subpart R. After extended effort, the EPA found that the number of variables was too extensive to allow development of a manageable equation. The EPA also received supplemental comments from industry and trade associations indicating that their efforts in developing such an equation resulted in the same outcome (Air Docket A–94–04).

Therefore, as an alternative, the EPA developed a simplified major source determination (MSD) for HAP emission sources in the oil and natural gas production and natural gas transmission and storage source categories. The simplified MSD allows the owner or operator of a facility to easily determine (1) if they are major sources and whether NESHAP requirements apply to their facility, and (2) if they are required to obtain a title V operating permit.

Therefore, the final subpart HH states that facilities, prior to the point of custody transfer, that have a facilitywide actual annual average natural gas throughput less than 18.4 thousand m^3/day and a facilitywide actual annual average hydrocarbon liquid throughput less than 39,700 liter/day are exempt from subpart HH. A more detailed discussion on the development of this MSD is presented in section 2.1.1 of the BID volume 2.

Owners and operators of production facilities, after the point of custody transfer (including natural gas processing plants), must aggregate emissions from all HAP emissions units at the facility when determining whether or not the facility is a major source. Production facilities, after the point of custody transfer, are likely to have emission units in addition to glycol dehydration units and storage vessels, such as amine treaters and sulfur recovery units that are typically located at natural gas processing plants. Since these emissions units must be included in the total emissions for the facility, the EPA could not develop a cutoff that would reasonably ensure that sources operating below such a cutoff would not be major sources. Therefore, production facilities located after the point of custody transfer, including natural gas processing plants, do not qualify for the simplified major source determination.

Using the same procedure, the EPA developed an MSD for natural gas transmission and storage facilities where glycol dehydration units are the only HAP emission points. The final subpart HHH states that natural gas transmission and storage facilities operating with an actual annual average natural gas throughput below 28.3 thousand m^3/day are exempt from subpart HHH.

d. *Use of PTE Transition Policy.* Under the EPA's 1995 Potential to Emit Transition Policy, sources with low emissions (e.g., less than 50 percent of major source thresholds) may be deemed nonmajor if records of actual emissions are kept. Several commenters suggested the use of written documentation of physical and operational limitations that would be federally, State, or otherwise practically enforceable.

In the January 25, 1995 policy memorandum entitled ''Options for Limiting the Potential to Emit (PTE) of a Stationary Source Under Section 112 and Title V of the Clean Air Act (Act),'' the EPA issued a transition policy for section 112 and title V. The transition policy addressed concerns that some sources may face gaps in the ability to acquire federally enforceable PTE limits because of delays in State adoption or EPA approval of programs or in their implementation. In order to ensure that such gaps would not create adverse consequences for States or for sources, the EPA provided that, during a 2-year period extending from January 1995 through January 1997, sources lacking federally enforceable limitations, State and local air regulators had the option of treating the following types of sources as non-major under section 112 and in their title V programs: (1) sources that maintain adequate records to demonstrate that their actual emissions

are less than 50 percent of the applicable major source threshold and have continued to operate at less than 50 percent of the threshold since January 1994, and (2) sources with actual emissions between 50 and 100 percent of the major source threshold but which hold State-enforceable limits that are enforceable as a practical matter. On August 27, 1996, the transition policy was extended until July 31, 1998. On July 10, 1998, in a memorandum entitled ''Second Extension of January 25, 1995 Potential to Emit Transition Policy and Clarification of Interim Policy,'' the EPA announced a second extension of the transition policy. The extensions were provided because the EPA is engaged in a rulemaking process to consider amendments to the current PTE requirements. Currently, the PTE rulemaking, which will address the PTE requirements in the General Provisions (40 CFR part 63, subpart A) and the title V operating permits program, has not been completed. Those rule amendments will affect federal enforceability requirements for PTE limits under these programs. Thus, there will continue to be uncertainty with respect to federally enforceable limits. Therefore, in the July 10, 1998 memorandum, the EPA extended the transition policy until December 31, 1999, or until the effective date of the final rule in the PTE rulemaking, whichever is sooner.

The EPA expects that the rulemaking will be completed before December 31, 1999, and owners and operators will have the option of complying with the PTE rulemaking as well as the procedures specified in subparts HH and HHH.

D. Glycol Dehydration Unit Process Vent Standards

The proposed standards required a 95.0 percent control efficiency for all control devices, but did not specify over which averaging period the 95.0 percent should be determined. By not specifying an averaging period, the proposed rule required continuous compliance for all control devices. The EPA received several comment letters requesting that the EPA specify an averaging period. The commenters were particularly concerned that condensers could not achieve a 95.0 percent control efficiency on a continuous basis and that additional controls would be required to ensure compliance with the 95.0 percent requirement.

The commenters' primary point was that condensers are significantly affected by changes in ambient temperature. According to the commenters, when the ambient temperature is high, the condensers are less efficient. The commenters were concerned that during the warm summer months, condensers would not meet the control requirements. Therefore, the commenters specifically requested either a 30-day or a 12-month averaging period for compliance with the control requirements to balance changes in ambient temperature. In support of this request, the commenters maintained that using a longer averaging period would create no significant change in the emissions to the environment, but would substantially decrease the number of technical violations of the standard and reduce the administrative burden for the industry and the EPA.

The EPA reviewed the control efficiency and averaging period requirements in response to these comments. Based on the Agency's review of the possible options, today's rules require 95.0 percent control as a daily average. As an alternative for owners or operators that install condensers, the EPA has modified subpart HH to allow 95.0 percent condenser control as a 365-day rolling average, based on daily average condenser efficiency as a function of condenser outlet temperature (i.e., at the end of each operating day, the owner or operator calculates the daily average condenser outlet temperature, then calculates the 365-day average control efficiency for the preceding 365 days, including the current operating day).

Based on the information collected under the authority of section 114 of the Act, the comments received during the public comment period, and site visits, the EPA believes that an averaging period shorter than 365 days is appropriate for the natural gas transmission and storage source category. To the Agency's knowledge, glycol dehydration units located at storage facilities do not typically operate throughout the year. Therefore, the EPA was concerned that it would take more than 1 calendar year for a facility to obtain 365 days of data. Additionally, glycol dehydration units located at these sources do not typically operate during the warm summer months when condenser efficiency is lower. Although transmission facilities do operate for most of the year, the EPA believes that the HAP emission units in operation at these facilities are primarily compressors, and that most glycol dehydration units located at these facilities are used for withdrawing natural gas from storage (i.e., not likely to operate year-round). Therefore, for condensers installed on glycol dehydration units subject to control requirements under subpart HHH, the EPA has modified the requirements to specify that owners or operators that install condensers have the option of meeting a 95.0 percent control efficiency as a 30-day rolling average.

Several commenters requested that the EPA allow for combinations of controls and process modifications to achieve the required control efficiency. The commenters provided several suggestions for modifying the language in § 63.765(c)(2) stating that the owner or operator could reduce emissions from the glycol dehydration unit by 95.0 percent through process modifications or process modifications with controls. In addition, one of the suggestions was to include language allowing the owner or operator to complete a one-time compliance demonstration for the process modification.

The EPA agrees that owners or operators should be allowed to achieve a 95.0 percent emission reduction using process modifications or combinations of process modifications and one or more control devices. Therefore, today's rules contain requirements for demonstrating compliance with a 95.0 percent emission reduction using process modifications or a combination of process modifications and one or more control devices. In particular, the final rule requires the owner or operator to demonstrate how emissions have been reduced and to what level, and that the facility continues to be operated such that the 95.0 percent emission reduction is maintained.

The EPA does not believe that a one-time compliance demonstration would ensure future or continuous compliance, and the EPA believes that it is not appropriate. Therefore, the EPA has not included the commenter's suggested language allowing a one-time compliance demonstration for process modification. Instead, the final rules require the owner or operator to document facility operations and to provide this information in the Periodic reports.

E. Storage Vessel Standards

The criteria for an API gravity equal to or greater than 40 degrees or an initial producing GOR equal to or greater than 0.31 m3/liter were used in the proposed rule to define storage vessels with the potential for flash emissions. Prior to proposal, the EPA's analysis of storage vessels that contain hydrocarbon liquids that have an API gravity or an initial producing GOR higher than these criteria indicated the potential for significant flash emissions.

The EPA received comment letters objecting to the proposed cutoffs for storage vessels with the potential for flash emissions. In order to demonstrate their objection to the technical basis for these exemption criteria, the commenters provided emissions estimates for tanks containing hydrocarbon liquids with an API gravity less than 40 degrees and GOR of less than 0.31 m^3/liter. According to the emission estimates, these tanks, which do not meet the criteria for a storage vessel with the potential for flash emissions and would be exempt from the storage vessel control requirements, had significant HAP emissions. The EPA also received emission estimates for a tank containing a hydrocarbon liquid with an API gravity greater than 40 degrees and a GOR greater than 0.31 m^3/liter. According to the analysis provided by the commenter, this tank would be subject to the storage vessel control requirements but had no flash emissions.

The commenters did not provide alternative suggestions for defining storage vessels with the potential for flash emissions, other than recommending that ''the proposed storage tank exemption/control criteria be based on credible engineering methods supported by fundamental principles of fluid phase behavior.''

The EPA developed the definition for storage vessels with the potential for flash emissions based on criteria (i.e., API gravity and GOR) that were easily recognized by industry personnel and relatively easy to obtain. Furthermore, these criteria are based on hydrocarbon liquid characteristics.

According to section 112(d)(1), the Administrator is required to establish emission standards for each category of major sources. Section 112(d)(1) states that ''[T]he Administrator may distinguish among classes, types, and sizes of sources within a category or subcategory in establishing such standards * * *.'' Furthermore, section 112(d)(3) states that emission standards for existing sources in a category may be no less stringent than the MACT floor.

As stated in section V.C.1 of this preamble, the EPA has established that among the class of sources referred to as black oil facilities, the MACT floor is no control. For the class of sources defined as storage vessels with the potential for flash emissions (which includes storage vessels that do not process black oil), the EPA evaluated '' * * * the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emissions information) * * *'' (section 112(d)(3)(A) of the Act). The EPA determined that the top 12 percent of existing storage vessels with the potential for flash emissions were controlled.

The EPA recognizes that there could be specific situations, such as the ones analyzed by the commenters, where emissions of an exempted stream are higher than those of a non-exempted stream. In addition, there are many factors that affect whether flash emissions occur (e.g., pressure drop between two tanks, liquid vapor pressure, etc.). However, the EPA believes that this approach identifies hydrocarbon liquids that have a potential for significant flash emissions under conditions representative of industry operations.

In today's rule (final subpart HH), the EPA has added the throughput cutoff criterion to the storage vessels with the potential for flash emissions definition. The final rule states that a storage vessel with the potential for flash emissions is defined as a storage vessel that contains a hydrocarbon liquid with a stock tank GOR equal to or greater than 0.31 m3/liter and an API gravity equal to or greater than 40 degrees, and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liter/day. By adding the throughput criterion to the definition of storage vessels with the potential for flash emissions, rather than as a cutoff specified in proposed § 63.764(c)(2), storage vessels that do not meet the criteria for a storage vessel with the potential for flash emissions are not considered affected sources in the final rule and are not included in a facility's PTE calculation for determining major source status. The EPA believes that based on representative industry operations, the 40 degrees, 0.31 m^3/liter and the 79,500-liter/day exemption criteria are appropriate for defining storage vessels with the potential for flash emissions.

F. Standards for Natural Gas Transmission and Storage

The EPA received several comment letters expressing concern for the EPA's proposed standard for the natural gas transmission and storage source category. The commenters stated that the EPA did not have sufficient data to develop standards for the natural gas transmission and storage source category. The commenters requested that the EPA delay the natural gas transmission and storage portion of the proposed rulemaking to properly survey the industry for more meaningful data and assess whether a standard for the natural gas transmission and storage source category is necessary or achievable.

Several commenters explained that a review of the background information for proposed subpart HHH showed that the database consisted of information on the methods used in natural gas transmission from only two companies and no underground storage facilities. The commenters noted that the companies surveyed were predominately oil production facilities that handled gas as a by-product of oil production and that have higher HAP emissions because they handle more liquids with higher concentrations of HAP.

In response to these comments, the EPA collected additional data on glycol dehydration units in the natural gas transmission and storage source category through site visits and requests for information under the authority of section 114 of the Act.

Through these site visits and survey questionnaires, the EPA collected information from 83 facilities in the natural gas transmission and storage source category. The EPA considered this new information, along with the previously collected information on the natural gas transmission and storage source category, in developing a MACT floor for existing and new process vents on glycol dehydration units located at facilities in this source category. The EPA also used this information to better characterize processes and operations at natural gas transmission and storage facilities.

As stated in the January 15, 1999 supplemental notice (64 FR 2611), the additional data supported a MACT floor of 95.0 percent for existing and new natural gas transmission and storage facilities. In addition, the EPA announced that the Agency was considering raising the proposed throughput cutoff of 85 thousand m^3/day to 283 thousand m^3/day on an actual annual average basis. Glycol dehydration units operating below this cutoff would not be required to install controls under subpart HHH. The data did not warrant a change in the benzene emission cutoff of 0.90 Mg/yr.

The public comment period closed on February 16, 1999. The EPA received four comment letters in response to the EPA's request for comments and supporting information on the consideration of a 95.0 percent HAP emission reduction as the floor level of control, on the 283 thousand m^3/day natural gas throughput cutoff and the 0.90-Mg/yr benzene emission cutoff. The commenters agreed that exempting glycol dehydration units with actual annual average natural gas throughputs

less than 283 thousand 78m^3/day and with actual average benzene emissions less than 0.90 Mg/yr from the control requirements under subpart HHH was appropriate.

However, the commenters indicated that they did not agree with a MACT floor of 95.0 percent for the transmission and storage source category. The commenters requested that the final rule should either exempt existing sources controlled by condensers, or require that existing sources controlled with condensers be controlled to a different level (i.e., 70 percent) than the combustion technology-based MACT floor. The commenters stated that condensers could consistently achieve a 75 percent emission reduction and that requiring an additional 20 percentage points of emission reduction in HAP would be inconsistent with the cost-to-benefit analysis in the February 6, 1998 proposal.

The EPA does not believe that it is necessary to provide exemptions or alternative levels of control for existing glycol dehydration units that are controlled by condensers. The EPA believes that this would not be consistent with the Act, which specifies in section 112(d)(3) that for a source category with 30 or more sources (such as the transmission and storage source category), the MACT floor for existing sources shall not be less stringent than ''* * * the average limitation achieved by the best performing 12 percent of the existing sources * * *.'' The data collected by the EPA indicated that the average limitation achieved by the top 12 percent of the existing glycol dehydration units located at natural gas transmission and storage facilities was 95.0 percent. Furthermore, the data indicated that the top 12 percent of the existing glycol dehydration units were controlled using combustion or a combination of combustion and condensation. Therefore, in accordance with the statute, the EPA established the MACT floor to be 95.0 percent for glycol dehydration units located at natural gas transmission and storage facilities, which corresponds to combustion.

However, the EPA agrees that the supplemental notice did not address the issue of averaging period for condensers in use at transmission and storage facilities. As stated in this preamble, the final rule allows an owner or operator that installs a condenser for control of HAP from glycol dehydration unit process vents to establish compliance with the 95.0 percent HAP emission reduction on a 30-day rolling average. In addition, the final rule allows the owner or operator to comply with one of the following: (1) 95.0 percent HAP emission reduction, (2) 20 ppmv outlet HAP concentration for combustion devices, or (3) outlet emissions of 0.90 Mg/yr of benzene. The EPA believes that the 0.90 Mg/yr benzene emission limit and the 30-day averaging period for condensers provides sufficient flexibility for owners and operators of existing controlled glycol dehydration units. A more detailed discussion regarding the EPA's responses to the comments received on the supplemental notice are presented in the BID volume 2.

G. Monitoring, Recordkeeping, and Reporting Requirements

The EPA received several comment letters claiming 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. In particular, commenters were concerned that remote and unmanned facilities would be overburdened by the proposed monitoring, recordkeeping and reporting requirements. Commenters also requested that provisions be added to the rule to avoid duplicative reporting. 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.

Although the EPA has not removed the monitoring requirements for unmanned or remote facilities, the EPA did evaluate the possibility of reducing the requirements for unmanned facilities. The EPA concluded, however, that the monitoring requirements are the minimum necessary to ensure that control devices are operating to ensure compliance.

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

(1) Almost all reports have been consolidated into the Notification of Compliance Status report and the Periodic reports.

(2) If multiple tests are conducted for the same kind of emission point, using the same test method, only one complete test report is required to be submitted along with the summaries of the results of other tests.

(3) Site-specific test plans describing quality assurance in § 63.7(c) of 40 CFR part 63, subpart A, are not specifically required in the individual subparts because the test methods cited in subparts HH and HHH already contain applicable quality assurance protocols. It should be noted that the Administrator would still have the authority to request a test plan.

(4) Periodic reports are required to be submitted semiannually for all facilities (the proposal required quarterly reports if monitored parameters were out of range more than a specified percentage of time).

(5) A reduction in the record retention requirements for monitored parameters. The proposal required values of monitored parameters to be recorded every 15 minutes and all 15-minute records had to be retained. The final rule requires monitored parameters to be recorded every hour and all hourly records to be retained.

Several commenters were concerned with the provisions specifying the accuracy of the measurement devices used to comply with the subpart and requested that the EPA change or remove the accuracy requirements.

The EPA believes that accuracy requirements are necessary to demonstrate ongoing compliance. Furthermore, if the accuracy requirements were removed, additional recordkeeping and reporting requirements would be necessary to ensure that less accurate monitors were not installed after the performance tests. However, the EPA agrees with the commenters that the accuracy levels could be slightly less restrictive. Therefore, the EPA has changed the accuracy levels from ±1 percent of the temperature being monitored, in ^oC or ±0.5 ^oC, to ±2 percent of the temperature being monitored, in ^oC or ±2.5 ^oC, whichever is greater.

H. Cost and Economic Impacts

The EPA specifically requested comments on the cost impact and the production recovery credits as discussed in section IV of the preamble to the proposal (63 FR 6297), along with supporting documentation. The EPA received comment letters stating that the EPA had underestimated the costs of controls, had underestimated the cost of treating produced water, and had

overstated the quantity of product recovered that could be sold to offset the costs associated with subpart HH. Of specific concern was the closure of smaller facilities due to the rule.

The EPA based its cost estimates for control devices on published installed control system costs from the Ventura County (California) Air Pollution Control District (APCD) (Air Docket A–94–04). These costs were associated with a glycol dehydration unit regulation issued by the Ventura County APCD. According to this information, the cost of installing a condenser control system does not vary significantly based on the size (capacity) of a glycol dehydration system.

Approximately 20 billion barrels per year of produced water are generated by the oil and natural gas production source category (Air Docket A–94–04). Using an emission model developed by the Gas Research Institute (GRI–GLYCalc, version 3.0) to determine the amount of produced water generated by the number of facilities estimated to be affected by subpart HH, the EPA calculated that the oil and natural gas production NESHAP would result in an increase in produced water production of approximately 590,000 barrels per year. A GRI report (GRI Publication Number GRI–96/0049) indicated that produced water would be typically handled along with other produced water streams, either by underground injection control, surface impoundment, or other miscellaneous methods. Thus, the EPA believes that the final NESHAP would have a minimal impact on existing produced water disposal costs and that the estimated NESHAP control costs are, therefore, reasonable.

The EPA based its national cost estimate impacts on the estimated number of facilities that would be impacted by the regulatory provisions of subparts HH and HHH, along with detailed emission control cost estimates per HAP emission point (Air Docket A–94–04). In addition, the monitoring, recordkeeping, and reporting (MRR) costs were based on a detailed analysis of the regulatory requirements of subparts HH and HHH. The EPA currently believes that the MRR cost estimates accurately reflect the estimated effort required to address MRR requirements in the final NESHAP.

Further, the EPA expects that the 85 thousand m^3/day size cutoff will prevent the premature closure of a large number of small and often marginal well operations. Not accounting for this size cutoff would contribute to differences in the estimated reduction in natural gas production and employment losses associated with the standards.

As described in Section 4 of the economic impact analysis report, the EPA's economic model determines production and closure decisions on the basis of a producing field (i.e., a group of similar wells) that is consistent with commenters concerns that ''production decisions are made on a well-by-well or project basis and if an individual project's profits fall below its break-even point, that the well will be abandoned.'' The EPA did not estimate losses of economically producible natural gas reserves. The economic analysis conducted by the EPA is unable to address possible impacts on production from future natural gas reserves. However, based on the negligible impact on current natural gas production associated with the EPA's engineering estimate of compliance cost, it is not expected that these impacts would be as great as indicated by the commenter.

VI. Administrative Requirements

A. Docket

The docket for these rulemakings is A–94–04. The docket is an organized and complete file of all the information considered by the EPA in the development of these rulemakings. The principal purposes of the docket are (1) to allow interested parties a means to identify and locate documents so that they can effectively participate in the rulemaking process and (2) to serve as the record in case of judicial review (except for interagency review materials) [section 307(d)(7)(A) of the Act]. This docket contains copies of the regulatory texts, BID volumes 1 and 2, references not readily available to the public, and technical memoranda documenting the information considered by the EPA in the development of the rules. The docket is available for public inspection at the EPA's Air and Radiation Docket and Information Center, the location of which is given in the **ADDRESSES** section of this notice.

B. Paperwork Reduction Act

The information collection requirements in these rules have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* Information collection request (ICR) documents have been prepared by the EPA (ICR Nos. 1788.02 and 1789.02) and copies may be obtained from Sandy Farmer, OPPE Regulatory Information Division; U.S. Environmental Protection Agency (2137); 401 M Street, SW; Washington, DC 20460 or by calling (202) 260–2740. The information requirements are not effective until OMB approves them.

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

The final rules require that facility owners or operators retain records for a period of 5 years, which exceeds the 3 year retention period contained in the guidelines in 5 CFR 1320.6. The 5 year retention period is consistent with the provisions of the General Provisions of 40 CFR part 63, and with the 5 year records retention requirement in the operating permit program under title V of the Act.

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

Information to be reported consists of emission data and other information that are not of a sensitive nature. No sensitive personal or proprietary data are being collected.

The estimated annual average hour burden for the final oil and natural gas production NESHAP is 56 hours per respondent. The estimated annual average cost of this burden is $2,400 for each of the estimated 484 existing and new (projected) respondents.

The estimated annual average hour burden for the final natural gas transmission and storage NESHAP is 30 hours per respondent. The estimated annual average cost of this burden is $1,300 for each of the estimated 7 existing respondents.

Reports are required on a semiannual basis and as required, as in the case of startup, shutdown, and malfunction plans. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or

for a Federal agency. This includes the time needed to review instructions; to develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; to adjust the existing ways to comply with any previously applicable instructions and requirements; to train personnel to be able to respond to a collection of information; to search data sources; to complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15. The EPA is amending the table in 40 CFR part 9 of currently approved ICR control numbers issued by OMB for various regulations to list the information requirements contained in these final rules.

C. Executive Order 12866: A Significant Regulatory Action Determination

Under Executive Order 12866, ''Regulatory Planning and Review,'' (58 FR 5173 (October 4, 1993)), the EPA must determine whether the regulatory action is ''significant'' and therefore subject to OMB review and the requirements of the Executive Order. The criteria set forth in section 1 of the Order for determining whether a regulation is a significant rule are as follows: (1) is likely to have an annual effect on the economy of $100 million or more, or adversely and materially affect a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local or tribal governments or communities; (2) is likely to create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) is likely to materially alter the budgetary impact of entitlements, grants, user fees or loan programs, or the rights and obligations of recipients thereof; or (4) is likely to raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to Executive Order 12866, OMB has reviewed these rules. Changes made in response to OMB suggestions or recommendations are documented in the public record.

D. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to conduct a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements, unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and small governmental jurisdictions. These final rules will not have a significant economic impact on a substantial number of small entities. According to *Wards Business Directory* (1993), there are 1,152 firms in the seven affected Standard Industrial Classification (SIC) codes and 735 of these firms meet the Small Business Administration (SBA) definition of a small entity.

The number of affected small entities for these rules is likely to be minimal due to several considerations in these rules that minimize the burden on all firms, both small and large. These considerations include exempting from the control requirements of the oil and natural gas production NESHAP those glycol dehydration units located at major sources with (1) an actual flowrate of natural gas to the glycol dehydration unit less than 85 thousand m^3/day, on an annual average basis, or (2) benzene emissions less than 0.90 Mg/yr. Also, these considerations include exempting from the control requirements of the natural gas transmission and storage NESHAP those glycol dehydration units located at major sources with (1) an actual flowrate of natural gas to the glycol dehydration unit less than 283 thousand m^3/day, on an annual average basis; or (2) benzene emissions less than 0.90 Mg/yr.

In a screening of potential impacts on a sample of small entities, the EPA found that there are minimal impacts on these entities. The weighted average of control costs as a percent of sales is 0.09 of 1 percent for the small firms in the sample, while a maximum value of 1.1 percent results for only two of these firms. The analysis also indicates that with the regulations, the change in measures of profitability are minimal (i.e., 0.11 of 1 percent change in the cost-to-sales ratio for small firms), and there are no indications of financial failures or employment losses for both small and large firms. The screening analysis for these rules is detailed in the Economic Impact Analysis (see Docket No. A–94–04).

E. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2). This rule will be effective June 17, 1999.

F. Unfunded Mandates Reform Act

Title II of the Unfunded Mandate Reform Act of 1995 (UMRA), Pub. L. 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, the EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires the EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least-costly, most cost-effective, or least-burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows the EPA to adopt an alternative other than the least-costly, most cost-effective, or least-burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before the EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in

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

The EPA has determined that today's final rules do not include a Federal mandate that may result in expenditures of $100 million of more for State, local, and tribal governments, in the aggregate, or the private sector in any 1 year. Therefore, the requirements of the Unfunded Mandates Reform Act do not apply to today's final rules.

G. Executive Order 12875: Enhancing the Intergovernmental Partnership

Under Executive Order 12875, the EPA may not issue a regulation that is not required by statute and that creates a mandate upon a State, local or tribal government unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by those governments, or the EPA consults with those governments. If the EPA complies by consulting, Executive Order 12875 requires the EPA to provide OMB a description of the extent of the EPA's prior consultation with representatives of affected State, local and tribal governments, the nature of their concerns, copies of any written communications from the governments, and a statement supporting the need to issue the regulation. In addition, Executive Order 12875 requires the EPA to develop an effective process permitting elected officials and other representatives of State, local and tribal governments to provide meaningful and timely input in the development of regulatory proposals containing significant unfunded mandates.

Today's rules do not create a mandate on the State, local or tribal governments. These rules do not impose any enforceable duties on these entities. Accordingly, the requirements of Section 1(a) of Executive Order 12875 do not apply to these rules. The EPA, nevertheless, involved State and local governments in their development of the final rules.

H. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

Executive Order 13045, ''Protection of Children from Environmental Health Risks and Safety Risks,'' (62 FR 19885, April 23, 1997) applies to any rule that: (1) the EPA determines is economically significant as defined under Executive Order 12866, (2) concerns an environmental health or safety risks, and (3) the EPA has any reason to believe may disproportionately affect children. If the regulatory action meets these criteria, the EPA must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the EPA.

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5.501 of the Order has the potential to influence the regulation. These rules are not subject to Executive Order 13045 for two reasons: (1) the rule is based solely on technology performance; and (2) no alternative technologies have been identified that would provide greater stringency at a reasonable cost, therefore, an assessment of impacts on children would have no impact on the stringency decision.

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

Under Executive Order 13084, the EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities unless the Federal Government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments, or the EPA consults with those governments. If the EPA complies by consulting, Executive Order 13084 requires the EPA to provide to OMB, in a separately identified section of the preamble to the rule, a description of the extent of the EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires the EPA to develop an effective process permitting elected officials and other representatives of Indian tribal governments ''to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.''

Today's rules do not significantly or uniquely affect the communities of Indian tribal governments. The final rules do not create mandates upon tribal governments. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to these rules.

J. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA), Pub. L. 104–113 (March 7, 1996), directs all Federal agencies to use voluntary consensus standards in regulatory and procurement activities unless doing so would be inconsistent with applicable law or otherwise impracticable. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) developed or adopted by one or more voluntary consensus bodies. The NTTAA requires Federal agencies to provide Congress, through annual reports to OMB, with explanations when an agency does not use available and applicable voluntary consensus standards. This section summarizes the EPA's response to the requirements of the NTTAA for the analytical and test methods required by this final rule.

Consistent with the NTTAA, the EPA conducted a search to identify voluntary consensus standards. The search identified 16 voluntary consensus standards that appeared to have possible use in lieu of EPA standard reference methods. However, after reviewing available standards, the EPA determined that eight of the candidate consensus standards identified for measuring HAP or surrogate pollutant emissions subject to the emission standards in the rule would not be practical due to lack of equivalency, documentation, validation data and other important technical and policy considerations. Seven of the remaining candidate consensus standards are new standards under development that the EPA plans to follow, review, and consider adopting at a later date.

One consensus standard, ASTM Z7420Z, is potentially practical for EPA use in lieu of EPA Method 18 (See 40 CFR part 60, appendix A). At the time of the EPA's search, the ASTM standard was still under development and the EPA had provided comments on the method. The EPA also compared a draft of this ASTM standard to methods previously reviewed as alternatives to EPA Method 18 that were approved with specific applicability limitations. These methods are designated as ALT–017 and CTM–028 and available through EPA's Emission Measurement Center Internet site at www.epa.gov/ttn/emc/tmethods.html. The proposed ASTM Z7420Z standard is very similar to these approved alternative methods. When finalized and adopted by ASTM, the standard may be equally suitable for the same applications as the approved

alternatives. However, this rule does not adopt the ASTM standard since it is not practical to do so until the potential candidate is final and the EPA has review the final standard. The EPA plans to continue to follow the progress of the standard and will consider adopting the ASTM standard at a later date.

Similarly, the Gas Research Institute has developed a sampling method for glycol dehydration units, the ''Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions'' (GRI–95/0368.1). The development of this procedure included a field evaluation program and technical review by the EPA. A report documenting this procedure has been available to the public from the GRI since 1996. This procedure provides a simpler, cheaper, and technically appropriate means of determining HAP emissions from glycol dehydration unit process vents when direct measurement is necessary. Consistent with the Agency's commitment to reduce costs to the private sector where technically feasible and in accordance with Clean Air Act requirements, the EPA has included the ''Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions'' as an alternative control device performance test procedure.

This rule requires standard EPA methods known to the industry and States. Approved alternative methods also may be used with prior EPA approval.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous air pollutants, Black oil, Associated equipment, Storage vessels with the potential for flash emissions, Glycol dehydration units, Oil and natural gas production, Natural gas transmission and storage, Equipment leaks, Natural gas processing plant, Reporting and recordkeeping requirements.

Dated: May 14, 1999.

Carol M. Browner,

Administrator.

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

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

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

Authority: 42 U.S.C. 7401, *et seq.*, as amended by Pub. L. 101–549, 104 Stat. 2399.

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

Subpart HH—National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities

Sec.

63.760 Applicability and designation of affected source.
63.761 Definitions.
63.762 Startups, shutdowns, and malfunctions.
63.763 [Reserved]
63.764 General standards.
63.765 Glycol dehydration unit process vent standards.
63.766 Storage vessel standards.
63.767 [Reserved]
63.768 [Reserved]
63.769 Equipment leak standards.
63.770 [Reserved]
63.771 Control equipment requirements.
63.772 Test methods, compliance procedures, and compliance determinations.
63.773 Inspection and monitoring requirements.
63.774 Recordkeeping requirements.
63.775 Reporting requirements.
63.776 Delegation of authority.
63.777 Alternative means of emission limitation.
63.778 [Reserved]
63.779 [Reserved]
Appendix to Subpart HH—Tables

Subpart HH—National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities

§ 63.760 Applicability and designation of affected source.

(a) This subpart applies to the owners and operators of the emission points, specified in paragraph (b) of this section that are located at oil and natural gas production facilities that meet the specified criteria in paragraphs (a)(1) and either (a)(2) or (a)(3) of this section.

(1) Major sources of hazardous air pollutants (HAP) as determined using the maximum natural gas or hydrocarbon liquid throughput, as appropriate, calculated in paragraphs (a)(1)(i) through (a)(1)(iii) of this section. A facility that is determined to be an area source based on emission estimates using the maximum natural gas or hydrocarbon throughput calculated as specified in paragraphs (a)(1)(i) through (iii) of this section, but subsequently increases emissions or potential to emit above the major source levels (without first obtaining and complying with other limitations that keep its potential to emit HAP below major source levels), becomes a major source and must comply thereafter with all applicable provisions of this subpart starting on the applicable compliance date specified in paragraph (f) of this section. Nothing in this paragraph is intended to preclude a source from limiting its potential to emit through other appropriate mechanisms that may be available through the permitting authority.

(i) If the owner or operator documents, to the Administrator's satisfaction, a decline in annual natural gas or hydrocarbon liquid throughput, as appropriate, each year for the 5 years prior to June 17, 1999, the owner or operator shall calculate the maximum natural gas or hydrocarbon liquid throughput used to determine maximum potential emissions according to the requirements specified in paragraph (a)(1)(i)(A) of this section. In all other circumstances, the owner or operator shall calculate the maximum throughput used to determine whether a facility is a major source in accordance with the requirements specified in paragraph (a)(1)(i)(B) of this section.

(A) The maximum natural gas or hydrocarbon liquid throughput is the average of the annual natural gas or hydrocarbon liquid throughput for the 3 years prior to June 17, 1999, multiplied by a factor of 1.2.

(B) The maximum natural gas or hydrocarbon liquid throughput is the highest annual natural gas or hydrocarbon liquid throughput over the 5 years prior to June 17, 1999, multiplied by a factor of 1.2.

(ii) The owner or operator shall maintain records of the annual facility natural gas or hydrocarbon liquid throughput each year and upon request submit such records to the Administrator. If the facility annual natural gas or hydrocarbon liquid throughput increases above the maximum natural gas or hydrocarbon liquid throughput calculated in paragraph (a)(1)(i)(A) or (a)(1)(i)(B) of this section, the maximum natural gas or hydrocarbon liquid throughput must be recalculated using the higher throughput multiplied by a factor of 1.2.

(iii) The owner or operator shall determine the maximum values for other parameters used to calculate emissions as the maximum for the period over which the maximum natural gas or hydrocarbon liquid throughput is determined in accordance with paragraph (a)(1)(i)(A) or (B) of this section. Parameters shall be based on either highest measured values or annual average.

(2) Facilities that process, upgrade, or store hydrocarbon liquids prior to the point of custody transfer.

(3) Facilities that process, upgrade, or store natural gas prior to the point at which natural gas enters the natural gas

transmission and storage source category or is delivered to a final end user. For the purposes of this subpart, natural gas enters the natural gas transmission and storage source category after the natural gas processing plant, when present. If no natural gas processing plant is present, natural gas enters the natural gas transmission and storage source category after the point of custody transfer.

(b) The affected sources to which the provisions of this subpart apply shall comprise each emission point located at a facility that meets the criteria specified in paragraph (a) of this section and listed in paragraphs (b)(1) through (4) of this section.

(1) Each glycol dehydration unit;

(2) Each storage vessel with the potential for flash emissions;

(3) The group of all ancillary equipment, except compressors, intended to operate in volatile hazardous air pollutant service (as defined in § 63.761), which are located at natural gas processing plants; and

(4) Compressors intended to operate in volatile hazardous air pollutant service (as defined in § 63.761), which are located at natural gas processing plants.

(c) [Reserved]

(d) The owner and operator of a facility that does not contain an affected source as specified in paragraph (b) of this section are not subject to the requirements of this subpart.

(e) *Exemptions.* The facilities listed in paragraphs (e)(1) and (e)(2) of this section are exempt from the requirements of this subpart. Records shall be maintained as required in § 63.10(b)(3).

(1) A facility that exclusively processes, stores, or transfers black oil (as defined in § 63.761) is not subject to the requirements of this subpart. For the purposes of this subpart, a black oil facility that uses natural gas for fuel or generates gas from black oil shall qualify for this exemption.

(2) A facility, prior to the point of custody transfer, with a facilitywide actual annual average natural gas throughput less than 18.4 thousand standard cubic meters per day and a facilitywide actual annual average hydrocarbon liquid throughput less than 39,700 liters per day.

(f) The owner or operator of an affected source shall achieve compliance with the provisions of this subpart by the dates specified in paragraphs (f)(1) and (f)(2) of this section.

(1) The owner or operator of an affected source, the construction or reconstruction of which commenced before February 6, 1998, shall achieve compliance with provisions of this subpart no later than June 17, 2002 except as provided for in § 63.6(i). The owner or operator of an area source, the construction or reconstruction of which commenced before February 6, 1998, that increases its emissions of (or its potential to emit) HAP such that the source becomes a major source that is subject to this subpart shall comply with this subpart 3 years after becoming a major source.

(2) The owner or operator of an affected source, the construction or reconstruction of which commences on or after February 6, 1998, shall achieve compliance with the provisions of this subpart immediately upon initial startup or June 17, 1999, whichever date is later. Area sources, the construction or reconstruction of which commences on or after February 6, 1998, that become major sources shall comply with the provisions of this standard immediately upon becoming a major source.

(g) The following provides owners or operators of an affected source with information on overlap of this subpart with other regulations for equipment leaks. The owner or operator shall document that they are complying with other regulations by keeping the records specified in § 63.774(b)(9).

(1) After the compliance dates specified in paragraph (f) of this section, ancillary equipment and compressors that are subject to this subpart and that are also subject to and controlled under the provisions of 40 CFR part 60, subpart KKK, are only required to comply with the requirements of 40 CFR part 60, subpart KKK.

(2) After the compliance dates specified in paragraph (f) of this section, ancillary equipment and compressors that are subject to this subpart and are also subject to and controlled under the provisions of 40 CFR part 61, subpart V, are only required to comply with the requirements of 40 CFR part 61, subpart V.

(3) After the compliance dates specified in paragraph (f) of this section, ancillary equipment and compressors that are subject to this subpart and are also subject to and controlled under the provisions of 40 CFR part 63, subpart H, are only required to comply with the requirements of 40 CFR part 63, subpart H.

(h) An owner or operator of an affected source that is a major source or is located at a major source and is subject to the provisions of this subpart is also subject to 40 CFR part 70 or part 71 operating permit requirements.

§ 63.761 Definitions.

All terms used in this subpart shall have the meaning given them in the Clean Air Act (Act), subpart A of this part (General Provisions), 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.

Alaskan North Slope means the approximately 180,000 square kilometer area (69,000 square mile area) extending from the Brooks Range to the Arctic Ocean.

Ancillary equipment means any of the following pieces of equipment: pumps, pressure relief devices, sampling connection systems, open-ended valves, or lines, valves, flanges, or other connectors.

API gravity means the weight per unit volume of hydrocarbon liquids as measured by a system recommended by the American Petroleum Institute (API) and is expressed in degrees.

Associated equipment, as used in this subpart and as referred to in section 112(n)(4) of the Act, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the wellbore to the point of custody transfer, except glycol dehydration units and storage vessels with the potential for flash emissions.

Black oil means hydrocarbon (petroleum) liquid with an initial producing gas-to-oil ratio (GOR) less than 0.31 cubic meters per liter and an API gravity less than 40 degrees.

Boiler means an enclosed device using controlled flame combustion and having the primary purpose of recovering and exporting thermal energy in the form of steam or hot water. Boiler also means any industrial furnace as defined in 40 CFR 260.10.

Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and if necessary, flow inducing devices that transport gas or vapor from an emission point to one or more control devices. If gas or vapor from regulated equipment is routed to a process (e.g., to a fuel gas system), the conveyance system 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 HAP emissions.

Condensate means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature, pressure, or both, and

remains liquid at standard conditions, as specified in § 63.2.

Continuous recorder means a data recording device that either records an instantaneous data value at least once every hour or records hourly or more frequent block average values.

Control device means any equipment used for recovering or oxidizing HAP or volatile organic compound (VOC) vapors. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters. For the purposes of this subpart, if gas or vapor from regulated equipment is used, reused (i.e., injected into the flame zone of a combustion device), returned back to the process, or sold, then the recovery system used, including piping, connections, and flow inducing devices, is not considered to be control devices or closed-vent systems.

Cover means a device which is placed on top of or over a material such that the entire surface area of the material is enclosed and sealed. A cover may have openings (such as access hatches, sampling ports, and gauge wells) if those openings are necessary for operation, inspection, maintenance, or repair of the unit on which the cover is installed, provided that each opening is closed and sealed when the opening is not in use. In addition, a cover may have one or more safety devices. Examples of a cover include, but are not limited to, a fixed-roof installed on a tank, an external floating roof installed on a tank, and a lid installed on a drum or other container.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: after processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Equipment leaks means emissions of HAP from ancillary equipment (as defined in this section) and compressors.

Facility means any grouping of equipment where hydrocarbon liquids are processed, upgraded (i.e., remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For the purpose of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Field natural gas means natural gas extracted from a production well prior to entering the first stage of processing, such as dehydration.

Fixed-roof means a cover that is mounted on a storage vessel in a stationary manner and that does not move with fluctuations in liquid level.

Flame zone means the portion of the combustion chamber in a combustion device occupied by the flame envelope.

Flash tank. See the definition for gas-condensate-glycol (GCG) separator.

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

Gas-condensate-glycol (GCG) separator means a two- or three-phase separator through which the ''rich'' glycol stream of a glycol dehydration unit is passed to remove entrained gas and hydrocarbon liquid. The GCG separator is commonly referred to as a flash separator or flash tank.

Gas-to-oil ratio (GOR) means the number of standard cubic meters of gas produced per liter of crude oil or other hydrocarbon liquid.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes ''rich'' glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The ''lean'' glycol is then recycled.

Glycol dehydration unit baseline operations means operations representative of the glycol dehydration unit operations as of June 17, 1999. For the purposes of this subpart, for determining the percentage of overall HAP emission reduction attributable to process modifications, baseline operations shall be parameter values (including, but not limited to, glycol circulation rate or glycol-HAP absorbency) that represent actual long-term conditions (i.e., at least 1 year). Glycol dehydration units in operation for less than 1 year shall document that the parameter values represent expected long-term operating conditions had process modifications not been made.

Glycol dehydration unit process vent means either the glycol dehydration unit reboiler vent and the vent from the GCG separator (flash tank), if present.

Glycol dehydration unit reboiler vent means the vent through which exhaust from the reboiler of a glycol dehydration unit passes from the reboiler to the atmosphere or to a control device.

Hazardous air pollutants or *HAP* means the chemical compounds listed in section 112(b) of the Clean Air Act. All chemical compounds listed in section 112(b) of the Act need to be considered when making a major source determination. Only the HAP compounds listed in Table 1 of this subpart need to be considered when determining compliance.

Hydrocarbon liquid means any naturally occurring, unrefined petroleum liquid.

In VHAP service means that a piece of ancillary equipment or compressor either contains or contacts a fluid (liquid or gas) which has a total volatile HAP (VHAP) concentration equal to or greater than 10 percent by weight as determined according to the provisions of § 63.772(a).

In wet gas service means that a piece of equipment contains or contacts the field gas before the extraction of natural gas liquids.

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 is not physically formed into one manufactured or assembled unit with the combustion section; rather, the energy recovery section is a separate section following the combustion section and the two are joined by ducts or connections carrying flue gas. The above energy recovery section limitation does not apply to an energy recovery section used solely to preheat the incoming vent stream or combustion air.

Initial producing GOR means the producing standard cubic meters of gas per liter at the time that the reservoir pressure is above the bubble point pressure (or dewpoint pressure for a gas).

Initial startup means the first time a new or reconstructed source begins production. For the purposes of this subpart, initial startup does not include subsequent startups (as defined in this section) of equipment, for example, following malfunctions or shutdowns.

Major source, as used in this subpart, shall have the same meaning as in § 63.2, except that: (1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control; (2) Emissions from processes, operations, or equipment that are not part of the same facility, as defined in this section, shall not be aggregated; and (3) For facilities that are production field facilities, only HAP emissions from glycol dehydration units and storage tanks with flash emission potential shall be aggregated for a major source determination.

Natural gas means a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface. The principal hydrocarbon constituent is methane.

Natural gas liquids (NGL) means the liquid hydrocarbons, such as ethane, propane, butane, pentane, natural gasoline, and condensate that are extracted from field natural gas.

Natural gas processing plant (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, or the fractionation of mixed NGL to natural gas products, or a combination of both.

No detectable emissions means no escape of HAP from a device or system to the atmosphere as determined by:

(1) Instrument monitoring results in accordance with the requirements of § 63.772(c); and

(2) The absence of visible openings or defects in the device or system, such as rips, tears, or gaps.

Operating parameter value means a minimum or maximum value established for a control device or process parameter which, if achieved by itself or in combination with one or more other operating parameter values, indicates that an owner or operator has complied with an applicable operating parameter limitation, over the appropriate averaging period as specified in § 63.772(f) or (g).

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

Organic monitoring device means an instrument used to indicate the concentration level of organic compounds exiting a control device based on a detection principle such as infra-red, photoionization, or thermal conductivity.

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 device using a controlled flame, the primary purpose of which is to transfer heat to a process fluid or process material that is not a fluid, or to a heat transfer material for use in a process (rather than for steam generation).

Produced water means water that is extracted from the earth from an oil or natural gas production well, or that is separated from crude oil, condensate, or natural gas after extraction.

Production field facilities means those facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Reciprocating compressor means a piece of equipment that increases the pressure of a process gas by positive displacement, employing linear movement of the drive shaft.

Relief device means a device used only to release an unplanned, non-routine discharge in order to avoid safety hazards or equipment damage. A relief device 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.

Safety device means a device that meets both of the following conditions: it is not used for planned or routine venting of liquids, gases, or fumes from the unit or equipment on which the device is installed; and it remains in a closed, sealed position at all times except when an unplanned event requires that the device open for the purpose of preventing physical damage or permanent deformation of the unit or equipment on which the device is installed in accordance with good engineering and safety practices for handling flammable, combustible, explosive, or other hazardous materials. Examples of unplanned events which may require a safety device to open include failure of an essential equipment component or a sudden power outage.

Shutdown means for purposes including, but not limited to, periodic maintenance, replacement of equipment, or repair, the cessation of operation of a glycol dehydration unit, or other affected source under this subpart, or equipment required or used solely to comply with this subpart.

Startup means the setting into operation of a glycol dehydration unit, or other affected equipment under this subpart, or equipment required or used to comply with this subpart. Startup includes initial startup and operation solely for the purpose of testing equipment.

Storage vessel means a tank or other vessel that is designed to contain an accumulation of crude oil, condensate, intermediate hydrocarbon liquids, or produced water and that is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) that provide structural support.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank GOR equal to or greater than 0.31 cubic meters per liter and an API gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Tank battery means a collection of equipment used to separate, treat, store, and transfer crude oil, condensate, natural gas, and produced water. A tank battery typically receives crude oil, condensate, natural gas, or some combination of these extracted products from several production wells for accumulation and separation prior to transmission to a natural gas plant or petroleum refinery. A tank battery may or may not include a glycol dehydration unit.

Temperature monitoring device means an instrument used to monitor temperature and having a minimum accuracy of ±2 percent of the temperature being monitored expressed in °C, or ±2.5 °C, whichever is greater. The temperature monitoring device may

measure temperature in degrees Fahrenheit or degrees Celsius, or both.

Total organic compounds or *TOC*, as used in this subpart, means those compounds which can be measured according to the procedures of Method 18, 40 CFR part 60, appendix A.

Volatile hazardous air pollutant concentration or *VHAP concentration* means the fraction by weight of all HAP contained in a material as determined in accordance with procedures specified in § 63.772(a).

§ 63.762 Startups, shutdowns, and malfunctions.

(a) The provisions set forth in this subpart shall apply at all times except during startups or shutdowns, during malfunctions, and during periods of non-operation of the affected sources (or specific portion thereof) resulting in cessation of the emissions to which this subpart applies. However, during the startup, shutdown, malfunction, or period of non-operation of one portion of an affected source, all emission points which can comply with the specific provisions to which they are subject must do so during the startup, shutdown, malfunction, or period of non-operation.

(b) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with the provisions of this subpart during times when emissions are being routed to such items of equipment, if the shutdown would contravene requirements of this subpart applicable to such items of equipment. This paragraph does not apply if the item of equipment is malfunctioning, or if the owner or operator must shut down the equipment to avoid damage due to a contemporaneous startup, shutdown, or malfunction of the affected source or a portion thereof.

(c) During startups, shutdowns, and malfunctions when the requirements of this subpart do not apply pursuant to paragraphs (a) and (b) of this section, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions to the maximum extent practical. For purposes of this paragraph, the term ''excess emissions'' means emissions in excess of those that would have occurred if there were no startup, shutdown, or malfunction, and the owner or operator complied with the relevant provisions of this subpart. The measures to be taken shall be identified in the applicable startup, shutdown, and malfunction plan, and may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the source. Back-up control devices are not required, but may be used if available.

(d) The owner or operator shall prepare a startup, shutdown, or malfunction plan as required in § 63.6(e)(3) except that the plan is not required to be incorporated by reference into the source's title V permit as specified in § 63.6(e)(3)(i). Instead, the owner or operator shall keep the plan on record as required by § 63.6(e)(3)(v). The failure of the plan to adequately minimize emissions during startup, shutdown, or malfunctions does not shield an owner or operator from enforcement actions.

§ 63.763 [Reserved].

§ 63.764 General standards.

(a) Table 1 of this subpart specifies the provisions of subpart A (General Provisions) that apply and those that do not apply to owners and operators of affected sources subject to this subpart.

(b) All reports required under this subpart shall be sent to the Administrator at the appropriate address listed in § 63.13. Reports may be submitted on electronic media.

(c) Except as specified in paragraph (e) of this section, the owner or operator of an affected source located at an existing or new major source of HAP emissions shall comply with the standards in this subpart as specified in paragraphs (c)(1) through (3) of this section.

(1) For each glycol dehydration unit process vent subject to this subpart, the owner or operator shall comply with the requirements specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) The owner or operator shall comply with the control requirements for glycol dehydration unit process vents specified in § 63.765;

(ii) The owner or operator shall comply with the monitoring requirements specified in § 63.773; and

(iii) The owner or operator shall comply with the recordkeeping and reporting requirements specified in §§ 63.774 and 63.775.

(2) For each storage vessel with the potential for flash emissions subject to this subpart, the owner or operator shall comply with the requirements specified in paragraphs (c)(2)(i) through (iii) of this section.

(i) The control requirements for storage vessels specified in § 63.766;

(ii) The monitoring requirements specified in § 63.773; and

(iii) The recordkeeping and reporting requirements specified in §§ 63.774 and 63.775.

(3) For ancillary equipment (as defined in § 63.761) and compressors at a natural gas processing plant subject to this subpart, the owner or operator shall comply with the requirements for equipment leaks specified in § 63.769.

(d) [Reserved]

(e) *Exemptions.* (1) The owner or operator is exempt from the requirements of paragraph (c)(1) of this section if the criteria listed in paragraph (e)(1)(i) or (e)(1)(ii) are met. Records of the determination of these criteria must be maintained as required in § 63.774(d)(1) of this subpart.

(i) The actual annual average flowrate of natural gas to the glycol dehydration unit is less than 85 thousand standard cubic meters per day, as determined by the procedures specified in § 63.772(b)(1) of this subpart; or

(ii) The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year, as determined by the procedures specified in § 63.772(b)(2) of this subpart.

(2) The owner or operator is exempt from the requirements of paragraph (c)(3) of this section for ancillary equipment (as defined in § 63.761) and compressors at a natural gas processing plant subject to this subpart, if the criteria listed in paragraphs (e)(2)(i) and (e)(2)(ii) are met. Records of the determination of these criteria must be maintained as required in § 63.774(d)(2) of this subpart.

(i) Any ancillary equipment and compressors that contain or contact a fluid (liquid or gas) must have a total VHAP concentration less than 10 percent by weight, as determined by the procedures specified in § 63.772(a) of this subpart; and

(ii) That ancillary equipment and compressors must operate in VHAP service less than 300 hours per calendar year.

(f) Each owner or operator of a major HAP source subject to this subpart is required to apply for a 40 CFR part 70 or part 71 operating permit from the appropriate permitting authority. If the Administrator has approved a State operating permit program under 40 CFR part 70, the permit shall be obtained from the State authority. If a State operating permit program has not been approved, the owner or operator of a source shall apply to the EPA Regional Office pursuant to 40 CFR part 71.

(g) [Reserved]

(h) [Reserved]

(i) In all cases where the provisions of this subpart require an owner or operator to repair leaks by a specified time after the leak is detected, it is a violation of this standard to fail to take

action to repair the leak(s) within the specified time. If action is taken to repair the leak(s) within the specified time, failure of that action to successfully repair the leak(s) is not a violation of this standard. However, if the repairs are unsuccessful, a leak is detected and the owner or operator shall take further action as required by the applicable provisions of this subpart.

§ 63.765 Glycol dehydration unit process vent standards.

(a) This section applies to each glycol dehydration unit subject to this subpart with an actual annual average natural gas flowrate equal to or greater than 85 thousand standard cubic meters per day and with actual average benzene glycol dehydration unit process vent emissions equal to or greater than 0.90 megagrams per year, that must be controlled for HAP emissions as specified in § 63.764(c)(1)(i).

(b) Except as provided in paragraph (c) of this section, an owner or operator of a glycol dehydration unit process vent shall comply with the requirements specified in paragraphs (b)(1) and (b)(2) of this section.

(1) For each glycol dehydration unit process vent, the owner or operator shall control air emissions by either paragraph (b)(1)(i) or (b)(1)(ii) of this section.

(i) The owner or operator shall connect the process vent to a control device or a combination of control devices through a closed-vent system. The closed-vent system shall be designed and operated in accordance with the requirements of § 63.771(c). The control device(s) shall be designed and operated in accordance with the requirements of § 63.771(d).

(ii) The owner or operator shall connect the process vent to a control device or combination of control devices through a closed-vent system and the outlet benzene emissions from the control device(s) shall be reduced to a level less than 0.90 megagrams per year. The closed-vent system shall be designed and operated in accordance with the requirements of § 63.771(c). The control device(s) shall be designed and operated in accordance with the requirements of § 63.771(d), except that the performance levels specified in § 63.771(d)(1)(i) and (ii) do not apply.

(2) One or more safety devices that vent directly to the atmosphere may be used on the air emission control equipment installed to comply with paragraph (b)(1) of this section.

(c) As an alternative to the requirements of paragraph (b) of this section, the owner or operator may comply with one of the requirements specified in paragraphs (c)(1) through (3) of this section.

(1) The owner or operator shall control air emissions by connecting the process vent to a process natural gas line.

(2) The owner or operator shall demonstrate, to the Administrator's satisfaction, that the total HAP emissions to the atmosphere from the glycol dehydration unit process vent are reduced by 95.0 percent through process modifications, or a combination of process modifications and one or more control devices, in accordance with the requirements specified in § 63.771(e).

(3) Control of HAP emissions from a GCG separator (flash tank) vent is not required if the owner or operator demonstrates, to the Administrator's satisfaction, that total emissions to the atmosphere from the glycol dehydration unit process vent are reduced by one of the levels specified in paragraphs (c)(3)(i) through (c)(3)(ii) of this section, through the installation and operation of controls as specified in paragraph (b)(1) of this section.

(i) HAP emissions are reduced by 95.0 percent or more.

(ii) Benzene emissions are reduced to a level less than 0.90 megagrams per year.

§ 63.766 Storage vessel standards.

(a) This section applies to each storage vessel with the potential for flash emissions (as defined in § 63.761) subject to this subpart.

(b) The owner or operator of a storage vessel with the potential for flash emissions (as defined in § 63.761) shall comply with one of the control requirements specified in paragraphs (b)(1) and (2) of this section.

(1) The owner or operator shall equip the affected storage vessel with the potential for flash emissions with a cover that is connected, through a closed-vent system that meets the conditions specified in § 63.771(c), to a control device or a combination of control devices that meets any of the conditions specified in § 63.771(d). The cover shall be designed and operated in accordance with the requirements of § 63.771(b).

(2) The owner or operator of a pressure storage vessel that is designed to operate as a closed system shall operate the storage vessel with no detectable emissions at all times that material is in the storage vessel, except as provided for in paragraph (c) of this section.

(c) One or more safety devices that vent directly to the atmosphere may be used on the storage vessel and air emission control equipment complying with paragraphs (b)(1) and (2) of this section.

(d) This section does not apply to storage vessels for which the owner or operator is meeting the requirements specified in 40 CFR part 60, subpart Kb; or is meeting the requirements specified in 40 CFR part 63, subparts G or CC.

§ 63.767 [Reserved].

§ 63.768 [Reserved].

§ 63.769 Equipment leak standards.

(a) This section applies to equipment subject to this subpart, located at natural gas processing plants and specified in paragraphs (a)(1) and (a)(2) of this section, that contains or contacts a fluid (liquid or gas) that has a total VHAP concentration equal to or greater than 10 percent by weight (determined according to the procedures specified in § 63.772(a)) and that operates in VHAP service equal to or greater than 300 hours per calendar year.

(1) Ancillary equipment, as defined in § 63.761; and

(2) Compressors.

(b) This section does not apply to ancillary equipment and compressors for which the owner or operator is meeting the requirements specified in subpart H of this part; or is meeting the requirements specified in 40 CFR part 60, subpart KKK.

(c) For each piece of ancillary equipment and each compressor subject to this section located at an existing or new source, the owner or operator shall meet the requirements specified in 40 CFR part 61, subpart V, §§ 61.241 through 61.247, except as specified in paragraphs (c)(1) through (8) of this section.

(1) Each pressure relief device in gas/vapor service shall be monitored quarterly and within 5 days after each pressure release to detect leaks, except under the following conditions.

(i) The owner or operator has obtained permission from the Administrator to use an alternative means of emission limitation that achieves a reduction in emissions of VHAP at least equivalent to that achieved by the control required in this subpart.

(ii) The pressure relief device is located in a nonfractionating facility that is monitored only by non-facility personnel, it may be monitored after a pressure release the next time the monitoring personnel are on site, instead of within 5 days. Such a pressure relief device shall not be allowed to operate for more than 30 days after a pressure release without monitoring.

(2) For pressure relief devices, if an instrument reading of 10,000 parts per

million or greater is measured, a leak is detected.

(3) For pressure relief devices, when a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected, unless a delay in repair of equipment is granted under 40 CFR 61.242–10.

(4) Sampling connection systems are exempt from the requirements of 40 CFR 61.242–5.

(5) Pumps in VHAP service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service that are located at a nonfractionating plant that does not have the design capacity to process 283,000 standard cubic meters per day or more of field gas are exempt from the routine monitoring requirements of 40 CFR 61.242–2(a)(1) and 61.242–7(a), and paragraphs (c)(1) through (3) of this section.

(6) Pumps in VHAP service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service located within a natural gas processing plant that is located on the Alaskan North Slope are exempt from the routine monitoring requirements of 40 CFR 61.242–2(a)(1) and 61.242–7(a), and (c)(1) through (3) of this section.

(7) Reciprocating compressors in wet gas service are exempt from the compressor control requirements of 40 CFR 61.242–3.

(8) Flares used to comply with this subpart shall comply with the requirements of § 63.11(b).

§ 63.770 [Reserved].

§ 63.771 Control equipment requirements.

(a) This section applies to each cover, closed-vent system, and control device installed and operated by the owner or operator to control air emissions as required by the provisions of this subpart. Compliance with paragraphs (b), (c), and (d) of this section will be determined by review of the records required by § 63.774 and the reports required by § 63.775, by review of performance test results, and by inspections.

(b) *Cover requirements.* (1) The cover and all openings on the cover (e.g., access hatches, sampling ports, and gauge wells) shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank.

(2) Each cover opening shall be secured in a closed, sealed position (e.g., covered by a gasketed lid or cap) whenever material is in the unit on which the cover is installed except during those times when it is necessary to use an opening as follows:

(i) To add material to, or remove material from the unit (this includes openings necessary to equalize or balance the internal pressure of the unit following changes in the level of the material in the unit);

(ii) To inspect or sample the material in the unit;

(iii) To inspect, maintain, repair, or replace equipment located inside the unit; or

(iv) To vent liquids, gases, or fumes from the unit through a closed-vent system to a control device designed and operated in accordance with the requirements of paragraphs (c) and (d) of this section.

(c) *Closed-vent system requirements.* (1) The closed-vent system shall route all gases, vapors, and fumes emitted from the material in a HAP emissions unit to a control device that meets the requirements specified in paragraph (d) of this section.

(2) The closed-vent system shall be designed and operated with no detectable emissions.

(3) If the closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device, the owner or operator shall meet the requirements specified in paragraphs (c)(3)(i) and (c)(3)(ii) of this section.

(i) For each bypass device, except as provided for in paragraph (c)(3)(ii) of this section, the owner or operator shall either:

(A) Properly install, calibrate, maintain, and operate a flow indicator at the inlet to the bypass device that could divert the stream away from the control device to the atmosphere that takes a reading at least once every 15 minutes and sounds an alarm when the bypass device is open such that the stream is being, or could be, diverted away from the control device to the atmosphere; or

(B) Secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using a car-seal or a lock-and-key type configuration. The owner or operator shall visually inspect the seal or closure mechanism at least once every month to verify that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass device.

(ii) Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements of paragraph (c)(3)(i) of this section.

(d) *Control device requirements.* (1) The control device used to reduce HAP emissions in accordance with the standards of this subpart shall be one of the control devices specified in paragraphs (d)(1)(i) through (iii) of this section.

(i) An enclosed combustion device (e.g., thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater) that is designed and operated in accordance with one of the following performance requirements:

(A) Reduces the mass content of either TOC or total HAP in the gases vented to the device by 95.0 percent by weight or greater as determined in accordance with the requirements of § 63.772(e); or

(B) Reduces the concentration of either TOC or total HAP in the exhaust gases at the outlet to the device to a level equal to or less than 20 parts per million by volume on a dry basis corrected to 3 percent oxygen as determined in accordance with the requirements of § 63.772(e); or

(C) Operates at a minimum residence time of 0.5 seconds at a minimum temperature of 760°C.

(D) If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(ii) A vapor recovery device (e.g., carbon adsorption system or condenser) or other control device that is designed and operated to reduce the mass content of either TOC or total HAP in the gases vented to the device by 95.0 percent by weight or greater as determined in accordance with the requirements of § 63.772(e).

(iii) A flare that is designed and operated in accordance with the requirements of § 63.11(b).

(2) [Reserved]

(3) The owner or operator shall demonstrate that a control device achieves the performance requirements of paragraph (d)(1) of this section as specified in § 63.772(e).

(4) The owner or operator shall operate each control device in accordance with the requirements specified in paragraphs (d)(4)(i) and (ii) of this section.

(i) Each control device used to comply with this subpart shall be operating at all times when gases, vapors, and fumes are vented from the HAP emissions unit or units through the closed-vent system to the control device, as required under §§ 63.765, 63.766, and 63.769, except when maintenance or repair on a unit cannot be completed without a shutdown of the control device. An owner or operator may vent more than one unit to a control device used to comply with this subpart.

(ii) For each control device monitored in accordance with the requirements of § 63.773(d), the owner or operator shall demonstrate compliance according to

the requirements of § 63.772(f) or (g), as applicable.

(5) For each carbon adsorption system used as a control device to meet the requirements of paragraph (d)(1) of this section, the owner or operator shall manage the carbon as follows:

(i) Following the initial startup of the control device, all carbon in the control device shall be replaced with fresh carbon on a regular, predetermined time interval that is no longer than the carbon service life established for the carbon adsorption system.

(ii) The spent carbon removed from the carbon adsorption system shall be either regenerated, reactivated, or burned in one of the units specified in paragraphs (d)(5)(ii)(A) through (d)(5)(ii)(G) of this section.

(A) Regenerated or reactivated in a thermal treatment unit for which the owner or operator has been issued a final permit under 40 CFR part 270 that implements the requirements of 40 CFR part 264, subpart X.

(B) Regenerated or reactivated in a thermal treatment unit equipped with and operating air emission controls in accordance with this section.

(C) Regenerated or reactivated in a thermal treatment unit equipped with and operating organic air emission controls in accordance with a national emissions standard for HAP under another subpart in 40 CFR part 61 or this part.

(D) Burned in a hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 that implements the requirements of 40 CFR part 264, subpart O.

(E) Burned in a hazardous waste incinerator which the owner or operator has designed and operates in accordance with the requirements of 40 CFR part 265, subpart O.

(F) Burned in a boiler or industrial furnace for which the owner or operator has been issued a final permit under 40 CFR part 270 that implements the requirements of 40 CFR part 266, subpart H.

(G) Burned in a boiler or industrial furnace which the owner or operator has designed and operates in accordance with the interim status requirements of 40 CFR part 266, subpart H.

(e) *Process modification requirements.* Each owner or operator that chooses to comply with § 63.765(c)(2) shall meet the requirements specified in paragraphs (e)(1) through (e)(3) of this section.

(1) The owner or operator shall determine glycol dehydration unit baseline operations (as defined in § 63.761). Records of glycol dehydration unit baseline operations shall be retained as required under § 63.774(b)(10).

(2) The owner or operator shall document, to the Administrator's satisfaction, the conditions for which glycol dehydration unit baseline operations shall be modified to achieve the 95.0 percent overall HAP emission reduction, either through process modifications or through a combination of process modifications and one or more control devices. If a combination of process modifications and one or more control devices are used, the owner or operator shall also establish the percent HAP reduction to be achieved by the control device to achieve an overall HAP emission reduction of 95.0 percent for the glycol dehydration unit process vent. Only modifications in glycol dehydration unit operations directly related to process changes, including, but not limited to, changes in glycol circulation rate or glycol-HAP absorbency, shall be allowed. Changes in the inlet gas characteristics or natural gas throughput rate shall not be considered in determining the overall HAP emission reduction.

(3) The owner or operator that achieves a 95.0 percent HAP emission reduction using process modifications alone shall comply with paragraph (e)(3)(i) of this section. The owner or operator that achieves a 95.0 percent HAP emission reduction using a combination of process modifications and one or more control devices shall comply with paragraphs (e)(3)(i) and (e)(3)(ii) of this section.

(i) The owner or operator shall maintain records, as required in § 63.774(b)(11), that the facility continues to operate in accordance with the conditions specified under paragraph (e)(2) of this section.

(ii) The owner or operator shall comply with the control device requirements specified in paragraph (d) of this section, except that the emission reduction achieved shall be the emission reduction specified for the control device(s) in paragraph (e)(2) of this section.

§ 63.772 Test methods, compliance procedures, and compliance demonstrations.

(a) *Determination of material VHAP or HAP concentration to determine the applicability of the equipment leak standards under this subpart (§ 63.769).* Each piece of ancillary equipment and compressors are presumed to be in VHAP service or in wet gas service unless an owner or operator demonstrates that the piece of equipment is not in VHAP service or in wet gas service.

(1) For a piece of ancillary equipment and compressors to be considered not in VHAP service, it must be determined that the percent VHAP content can be reasonably expected never to exceed 10.0 percent by weight. For the purposes of determining the percent VHAP content of the process fluid that is contained in or contacts a piece of ancillary equipment or compressor, Method 18 of 40 CFR part 60, appendix A, shall be used.

(2) For a piece of ancillary equipment and compressors to be considered in wet gas service, it must be determined that it contains or contacts the field gas before the extraction of natural gas liquids.

(b) *Determination of glycol dehydration unit flowrate or benzene emissions.* The procedures of this paragraph shall be used by an owner or operator to determine glycol dehydration unit natural gas flowrate or benzene emissions to meet the criteria for an exemption from control requirements under § 63.764(e)(1).

(1) The determination of actual flowrate of natural gas to a glycol dehydration unit shall be made using the procedures of either paragraph (b)(1)(i) or (b)(1)(ii) of this section.

(i) The owner or operator shall install and operate a monitoring instrument that directly measures natural gas flowrate to the glycol dehydration unit with an accuracy of plus or minus 2 percent or better. The owner or operator shall convert annual natural gas flowrate to a daily average by dividing the annual flowrate by the number of days per year the glycol dehydration unit processed natural gas.

(ii) The owner or operator shall document, to the Administrator's satisfaction, that the actual annual average natural gas flowrate to the glycol dehydration unit is less than 85 thousand standard cubic meters per day.

(2) The determination of actual average benzene emissions from a glycol dehydration unit shall be made using the procedures of either paragraph (b)(2)(i) or (b)(2)(ii) of this section. Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.

(i) The owner or operator shall determine actual average benzene emissions using the model GRI–GLYCalc™, Version 3.0 or higher, and the procedures presented in the associated GRI–GLYCalc™ Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be

determined using the procedures documented in the Gas Research Institute (GRI) report entitled ''Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions'' (GRI–95/0368.1); or

(ii) The owner or operator shall determine an average mass rate of benzene emissions in kilograms per hour through direct measurement by performing three runs of Method 18, 40 CFR Part 60, appendix A (or an equivalent method), and averaging the results of the three runs. Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year.

(c) *No detectable emissions test procedure.* (1) The no detectable emissions test procedure shall be conducted in accordance with Method 21, 40 CFR part 60, appendix A.

(2) The detection instrument shall meet the performance criteria of Method 21, 40 CFR part 60, appendix A, except that the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the fluid and not for each individual organic compound in the stream.

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

(4) Calibration gases shall be as follows:

(i) Zero air (less than 10 parts per million by volume hydrocarbon in air); and

(ii) A mixture of methane in air at a concentration less than 10,000 parts per million by volume.

(5) An owner or operator may choose to adjust or not adjust the detection instrument readings to account for the background organic concentration level. If an owner or operator chooses to adjust the instrument readings for the background level, the background level value must be determined according to the procedures in Method 21 of 40 CFR part 60, appendix A.

(6)(i) Except as provided in paragraph (c)(6)(i) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual volatile organic compound in the stream. For process streams that contain nitrogen, air, or other inerts which are not organic hazardous air pollutants or volatile organic compounds, the average stream response factor shall be calculated on an inert-free basis.

(ii) If no instrument is available at the facility that will meet the performance criteria specified in paragraph (c)(6)(i) of this section, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (c)(6)(i) of this section.

(7) An owner or operator must determine if a potential leak interface operates with no detectable emissions using the applicable procedure specified in paragraph (c)(7)(i) or (c)(7)(ii) of this section.

(i) If an owner or operator chooses not to adjust the detection instrument readings for the background organic concentration level, then the maximum organic concentration value measured by the detection instrument is compared directly to the applicable value for the potential leak interface as specified in paragraph (c)(8) of this section.

(ii) If an owner or operator chooses to adjust the detection instrument readings for the background organic concentration level, the value of the arithmetic difference between the maximum organic concentration value measured by the instrument and the background organic concentration value as determined in paragraph (c)(5) of this section is compared with the applicable value for the potential leak interface as specified in paragraph (c)(8) of this section.

(8) A potential leak interface is determined to operate with no detectable organic emissions if the organic concentration value determined in paragraph (c)(7) of this section, is less than 500 parts per million by volume.

(d) [Reserved]

(e) *Control device performance test procedures.* This paragraph applies to the performance testing of control devices. The owners or operators shall demonstrate that a control device achieves the performance requirements of § 63.771(d)(1) or (e)(3)(ii) using either a performance test as specified in paragraph (e)(3) of this section or a design analysis as specified in paragraph (e)(4) of this section. The owner or operator may elect to use the alternative procedures in paragraph (e)(5) of this section for performance testing of a condenser used to control emissions from a glycol dehydration unit process vent.

(1) The following control devices are exempt from the requirements to conduct performance tests and design analyses under this section:

(i) A flare that is designed and operated in accordance with § 63.11(b);

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

(iii) A boiler or process heater into which the vent stream is introduced with the primary fuel or is used as the primary fuel;

(iv) A boiler or process heater burning hazardous waste for which the owner or operator has either been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H; or has certified compliance with the interim status requirements of 40 CFR part 266, subpart H;

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

(vi) A control device for which a performance test was conducted for determining compliance with a regulation promulgated by the EPA and the test was conducted using the same methods specified in this section and either no process changes have been made since the test, or the owner or operator can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes.

(2) An owner or operator shall design and operate each flare in accordance with the requirements specified in § 63.11(b) and in paragraphs (e)(2)(i) and (e)(2)(ii) of this section.

(i) The compliance determination shall be conducted using Method 22 of 40 CFR part 60, appendix A, to determine visible emissions.

(ii) An owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration when a flare is used.

(3) For a performance test conducted to demonstrate that a control device meets the requirements of § 63.771(d)(1) or (e)(3)(ii), the owner or operator shall use the test methods and procedures specified in paragraphs (e)(3)(i) through (e)(3)(iv) of this section. The performance test shall be conducted according to the schedule specified in § 63.7(a)(2) and the results of the performance test shall be submitted in the Notification of Compliance Status Report as required in § 63.775(d)(1)(ii.

(i) Method 1 or 1A, 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling sites in paragraphs (e)(3)(i)(A) and (B) of this section. Any references to particulate

mentioned in Methods 1 and 1A do not apply to this section.

(A) To determine compliance with the control device percent reduction requirement specified in § 63.771(d)(1)(i)(A), (d)(1)(ii) or (e)(3)(ii), sampling sites shall be located at the inlet of the first control device, and at the outlet of the final control device.

(B) To determine compliance with the enclosed combustion device total HAP concentration limit specified in § 63.771(d)(1)(i)(B), the sampling site shall be located at the outlet of the combustion device.

(ii) The gas volumetric flowrate shall be determined using Method 2, 2A, 2C, or 2D, 40 CFR part 60, appendix A, as appropriate.

(iii) To determine compliance with the control device percent reduction performance requirement in § 63.771(d)(1)(i)(A),(d)(1)(ii), and (e)(3)(ii), the owner or operator shall use either Method 18, 40 CFR part 60, appendix A or Method 25A, 40 CFR part 60, appendix A; alternatively, any other method or data that have been validated according to the applicable procedures in Method 301, 40 CFR part 63, appendix A, may be used. The following procedures shall be used to calculate percent reduction efficiency:

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

(B) The mass rate of either TOC (minus methane and ethane) or total HAP (E_i, E_o) shall be computed.

(*1*) The following equations shall be used:

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

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

Where:

C_{ij}, C_{oj} = Concentration of sample component j of the gas stream at the inlet and outlet of the control device, respectively, dry basis, parts per million by volume.

E_i, E_o = Mass rate of TOC (minus methane and ethane) or total HAP at the inlet and outlet of the control device, respectively, dry basis, kilogram per hour.

M_{ij}, M_{oj} = Molecular weight of sample component j of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole.

Q_i, Q_o = Flowrate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute.

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

(*2*) When the TOC mass rate is calculated, all organic compounds (minus methane and ethane) measured by Method 18, 40 CFR part 60, appendix A, or Method 25A, 40 CFR part 60, appendix A, shall be summed using the equations in paragraph (e)(3)(iii)(B)(*1*) of this section.

(*3*) When the total HAP mass rate is calculated, only HAP chemicals listed in Table 1 of this subpart shall be summed using the equations in paragraph (e)(3)(iii)(B)(*1*) of this section.

(C) The percent reduction in TOC (minus methane and ethane) or total HAP shall be calculated as follows:

$$R_{cd} = \frac{E_i - E_o}{E_i} \times 100\%$$

Where:

R_{cd} = Control efficiency of control device, percent.

E_i = Mass rate of TOC (minus methane and ethane) or total HAP at the inlet to the control device as calculated under paragraph (e)(3)(iii)(B) of this section, kilograms TOC per hour or kilograms HAP per hour.

E_o = Mass rate of TOC (minus methane and ethane) or total HAP at the outlet of the control device, as calculated under paragraph (e)(3)(iii)(B) of this section, kilograms TOC per hour or kilograms HAP per hour.

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

(iv) To determine compliance with the enclosed combustion device total HAP concentration limit specified in § 63.771(d)(1)(i)(B), the owner or operator shall use either Method 18, 40 CFR part 60, appendix A, or Method 25A, 40 CFR part 60, appendix A, to measure either TOC (minus methane and ethane) or total HAP. Alternatively, any other method or data that have been validated according to Method 301 of appendix A of this part, may be used. The following procedures shall be used to calculate parts per million by volume concentration, corrected to 3 percent oxygen:

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

(B) The TOC concentration or total HAP concentration shall be calculated according to paragraph (e)(3)(iv)(B)(*1*) or (e)(3)(iv)(B)(*2*) of this section.

(*1*) The TOC concentration is the sum of the concentrations of the individual components and shall be computed for each run using the following equation:

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

Where:

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

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

n = Number of components in the sample.

x = Number of samples in the sample run.

(*2*) The total HAP concentration shall be computed according to the equation in paragraph (e)(3)(iv)(B)(*1*) of this section, except that only HAP chemicals listed in Table 1 of this subpart shall be summed.

(C) The TOC concentration or total HAP concentration shall be corrected to 3 percent oxygen as follows:

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

(*2*) The TOC or HAP concentration shall be corrected for percent oxygen by using the following equation:

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

Where:

C_c = TOC concentration or total HAP concentration corrected to 3 percent oxygen, dry basis, parts per million by volume.

C_m = TOC concentration or total HAP concentration, dry basis, parts per million by volume.

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

(4) For a design analysis conducted to meet the requirements of § 63.771(d)(1) or (e)(3)(ii), the owner or operator shall meet the requirements specified in paragraphs (e)(4)(i) and (e)(4)(ii) of this section. Documentation of the design analysis shall be submitted as a part of the Notification of Compliance Status Report as required in § 63.775(d)(1)(i).

(i) The design analysis shall include analysis of the vent stream characteristics and control device operating parameters for the applicable control device as specified in paragraphs (e)(4)(i)(A) through (F) of this section.

(A) For a thermal vapor incinerator, the design analysis shall include the vent stream composition, constituent concentrations, and flowrate and shall establish the design minimum and average temperatures in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall include the vent stream composition, constituent concentrations, and flowrate and shall establish the design minimum and average temperatures across the catalyst bed inlet and outlet, and the design service life of the catalyst.

(C) For a boiler or process heater, the design analysis shall include the vent stream composition, constituent concentrations, and flowrate; shall establish the design minimum and average flame zone temperatures and combustion zone residence time; and shall describe the method and location where the vent stream is introduced into the flame zone.

(D) For a condenser, the design analysis shall include the vent stream composition, constituent concentrations, flowrate, relative humidity, and temperature, and shall establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and the design average temperatures of the coolant fluid at the condenser inlet and outlet. As an alternative to the design analysis, an owner or operator may elect to use the procedures specified in paragraph (e)(5) of this section.

(E) For a regenerable carbon adsorption system, the design analysis shall include the vent stream composition, constituent concentrations, flowrate, relative humidity, and temperature, and shall establish the design exhaust vent stream organic compound concentration level, adsorption cycle time, number and capacity of carbon beds, type and working capacity of activated carbon used for the carbon beds, design total regeneration stream flow over the period of each complete carbon bed regeneration cycle, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of the carbon.

(F) For a nonregenerable carbon adsorption system, such as a carbon canister, the design analysis shall include the vent stream composition, constituent concentrations, flowrate, relative humidity, and temperature, and shall establish the design exhaust vent stream organic compound concentration level, capacity of the carbon bed, type and working capacity of activated carbon used for the carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule. In addition, these systems will incorporate dual carbon canisters in case of emission breakthrough occurring in one canister.

(ii) If the owner or operator and the Administrator do not agree on a demonstration of control device performance using a design analysis then the disagreement shall be resolved using the results of a performance test performed by the owner or operator in accordance with the requirements of paragraph (e)(3) of this section. The Administrator may choose to have an authorized representative observe the performance test.

(5) As an alternative to the procedures in paragraphs (e)(3) and (e)(4)(i)(D) of this section, an owner or operator may elect to use the procedures documented in the GRI report entitled, ''Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions'' (GRI–95/0368.1) as inputs for the model GRI–GLYCalc™, Version 3.0 or higher, to determine condenser performance.

(f) *Compliance demonstration for control device performance requirements.* This paragraph applies to the demonstration of compliance with the control device performance requirements specified in §§ 63.771(d)(1)(ii) and 63.765(c)(2). Compliance shall be demonstrated using the requirements in paragraphs (f)(1) through (f)(3) of this section. As an alternative, an owner or operator that installs a condenser as the control device to achieve the requirements specified in § 63.771(d)(1)(ii) or § 63.765(c)(2), may demonstrate compliance according to paragraph (g) of this section. An owner or operator may switch between compliance with paragraph (f) of this section and compliance with paragraph (g) of this section only after at least 1 year of operation in compliance with the selected approach. Notification of such a change in the compliance method shall be reported in the next Periodic Report, as required in § 63.775(e), following the change.

(1) The owner or operator shall establish a site specific maximum or minimum monitoring parameter value (as appropriate) according to the requirements of § 63.773(d)(5)(i).

(2) The owner or operator shall calculate the daily average of the applicable monitored parameter in accordance with § 63.773(d)(4).

(3) Compliance with the operating parameter limit is achieved when the daily average of the monitoring parameter value calculated under paragraph (f)(2) of this section is either equal to or greater than the minimum or equal to or less than the maximum monitoring value established under paragraph (f)(1) of this section.

(g) *Compliance demonstration with percent reduction performance requirements—condensers.* This paragraph applies to the demonstration of compliance with the performance requirements specified in § 63.771(d)(1)(ii) or § 63.765(c)(2) for condensers. Compliance shall be demonstrated using the procedures in paragraphs (g)(1) through (g)(3) of this section.

(1) The owner or operator shall establish a site-specific condenser performance curve according to § 63.773(d)(5)(ii).

(2) Compliance with the percent reduction requirement in § 63.771(d)(1)(ii) or § 63.765(c)(2) shall be demonstrated by the procedures in paragraphs (g)(2)(i) through (g)(2)(iii) of this section.

(i) The owner or operator must calculate the daily average condenser outlet temperature in accordance with § 63.773(d)(4).

(ii) The owner or operator shall determine the condenser efficiency for the current operating day using the daily average condenser outlet temperature calculated under paragraph (g)(2)(i) of this section and the condenser performance curve established under paragraph (g)(1) of this section.

(iii) Except as provided in paragraphs (g)(2)(iii) (A) and (B) of this section, at the end of each operating day, the

owner or operator shall calculate the 365-day average HAP emission reduction from the condenser efficiencies determined in paragraph (g)(2)(ii) of this section for the preceding 365 operating days. If the owner or operator uses a combination of process modifications and a condenser in accordance with the requirements of § 63.765(c)(2), the 365-day average HAP emission reduction shall be calculated using the emission reduction achieved through process modifications and the condenser efficiency determined in paragraph (g)(2)(ii) of this section, both for the previous 365 operating days.

(A) After the compliance dates specified in § 63.760(f), an owner or operator with less than 120 days of data for determining average HAP emission reduction, shall calculate the average HAP emission reduction for the first 120 days of operation after the compliance dates. Compliance with the performance requirements is achieved if the 120-day average HAP emission reduction is equal to or greater than 90.0 percent.

(B) After 120 days and no more than 364 days of operation after the compliance dates specified in § 63.760(f), the owner or operator shall calculate the average HAP emission reduction as the HAP emission reduction averaged over the number of days between the current day and the applicable compliance date. Compliance with the performance requirements is achieved if the average HAP emission reduction is equal to or greater than 90.0 percent.

(3) If the owner or operator has data for 365 days or more of operation, compliance is achieved with the emission limitation specified in § 63.771(d)(1)(ii) or § 63.765(c)(2) if the average HAP emission reduction calculated in paragraph (g)(2)(iii) of this section is equal to or greater than 95.0 percent.

§ 63.773 Inspection and monitoring requirements.

(a) This section applies to an owner or operator using air emission controls in accordance with the requirements of §§ 63.765 and 63.766.

(b) [Reserved]

(c) *Cover and closed-vent system inspection and monitoring requirements.* (1) For each closed-vent system or cover required to comply with this section, the owner or operator shall comply with the requirements of paragraphs (c) (2) through (7) of this section.

(2) Except as provided in paragraphs (c) (5) and (6) of this section, each closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (c)(2) (i) and (ii) of this section, and each cover shall be inspected according to the procedures and schedule specified in paragraph (c)(2)(iii) of this section.

(i) For each closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange), the owner or operator shall:

(A) Conduct an initial inspection according to the procedures specified in § 63.772(c) to demonstrate that the closed-vent system operates with no detectable emissions.

(B) Conduct annual visual inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; or broken or missing caps or other closure devices. The owner or operator shall monitor a component or connection using the procedures in § 63.772(c) to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced or the connection is unsealed.

(ii) For closed-vent system components other than those specified in paragraph (c)(2)(i) of this section, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures specified in § 63.772(c) to demonstrate that the closed-vent system operates with no detectable emissions.

(B) Conduct annual inspections according to the procedures specified in § 63.772(c) to demonstrate that the components or connections operate with no detectable emissions.

(C) Conduct annual visual inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork; loose connections; or broken or missing caps or other closure devices.

(iii) For each cover, the owner or operator shall:

(A) Conduct visual inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover, or between the cover and the separator wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices. In the case where the tank is buried partially or entirely underground, inspection is required only for those portions of the cover that extend to or above the ground surface, and those connections that are on such portions of the cover (e.g., fill ports, access hatches, gauge wells, etc.) and can be opened to the atmosphere.

(B) The inspections shall be conducted initially, following the installation of the cover. Thereafter, the owner or operator shall perform the inspection at least once every calendar year, except as provided in paragraphs (c) (5) and (6) of this section.

(3) In the event that a leak or defect is detected, the owner or operator shall repair the leak or defect as soon as practicable, except as provided in paragraph (c)(4) of this section.

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

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

(4) Delay of repair of a closed-vent system or cover for which leaks or defects have been detected is allowed if the repair is technically infeasible without a shutdown, as defined in § 63.761, 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 shutdown.

(5) Any parts of the closed-vent system or cover that are designated, as described in paragraphs (c)(5) (i) and (ii) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (c)(2)(i), (ii), and (iii) of this section if:

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

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

(6) Any parts of the closed-vent system or cover that are designated, as described in paragraphs (c)(6) (i) and (ii) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (c)(2)(i), (ii), and (iii) of this section if:

(i) 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

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

(7) Records shall be maintained as specified in § 63.774(b)(5) through (8).

(d) *Control device monitoring requirements.* (1) For each control device, except as provided for in paragraph (d)(2) of this section, the owner or operator shall install and operate a continuous parameter monitoring system in accordance with the requirements of paragraphs (d)(3) through (9) of this section. The continuous monitoring system shall be designed and operated so that a determination can be made on whether the control device is achieving the applicable performance requirements of § 63.771(d) or § 63.771(e)(3). The continuous parameter monitoring system shall meet the following specifications and requirements:

(i) Each continuous parameter monitoring system shall measure data values at least once every hour and record either:

(A) Each measured data value; or

(B) Each block average value for each 1-hour period 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.

(ii) The monitoring system must be installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications or other written procedures that provide reasonable assurance that the monitoring equipment is operating properly.

(2) An owner or operator is exempt from the monitoring requirements specified in paragraphs (d)(3) through (9) of this section for the following types of control devices:

(i) A boiler or process heater in which all vent streams are introduced with the primary fuel or is used as the primary fuel; or

(ii) A boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts.

(3) The owner or operator shall install, calibrate, operate, and maintain a device equipped with a continuous recorder to measure the values of operating parameters appropriate for the control device as specified in either paragraph (d)(3)(i), (d)(3)(ii), or (d)(3)(iii) of this section.

(i) A continuous monitoring system that measures the following operating parameters as applicable:

(A) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The monitoring device shall have a minimum accuracy of ±2 percent of the temperature being monitored in °C ,or ±2.5 °C, whichever value is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(B) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have a minimum accuracy of ±2 percent of the temperature being monitored in °C, or ±2.5 °C, whichever value is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(C) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(D) For a boiler or process heater with a design heat input capacity of less than 44 megawatts, a temperature monitoring device equipped with a continuous recorder. The temperature monitoring device shall have a minimum accuracy of ±2 percent of the temperature being monitored in °C, or ±2.5 °C, whichever value is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(E) For a condenser, a temperature monitoring device equipped with a continuous recorder. The temperature monitoring device shall have a minimum accuracy of ±2 percent of the temperature being monitored in °C, or ±2.5 °C, whichever value is greater. The temperature sensor shall be installed at a location in the exhaust vent stream from the condenser.

(F) For a regenerative-type carbon adsorption system:

(*1*) A continuous parameter monitoring system to measure and record the average total regeneration stream mass flow or volumetric flow during each carbon bed regeneration cycle. The integrating regenerating stream flow monitoring device must have an accuracy of ±10 percent; and

(*2*) A continuous parameter monitoring system to measure and record the average carbon bed temperature for the duration of the carbon bed steaming cycle and to measure the actual carbon bed temperature after regeneration and within 15 minutes of completing the cooling cycle. The temperature monitoring device shall have a minimum accuracy of ±2 percent of the temperature being monitored in °C, or ±2.5 °C, whichever value is greater.

(G) For a nonregenerative-type carbon adsorption system, the owner or operator shall monitor the design carbon replacement interval established using a performance test performed in accordance with § 63.772(e)(3) or a design analysis in accordance with § 63.772(e)(4)(i)(F) and shall be based on the total carbon working capacity of the control device and source operating schedule.

(ii) A continuous monitoring system that measures the concentration level of organic compounds in the exhaust vent stream from the control device using an organic monitoring device equipped with a continuous recorder. The monitor must meet the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR part 60 and must be installed, calibrated, and maintained according to the manufacturer's specifications.

(iii) A continuous monitoring system that measures alternative operating parameters other than those specified in paragraph (d)(3)(i) or (d)(3)(ii) of this section upon approval of the Administrator as specified in § 63.8(f)(1) through (5).

(4) Using the data recorded by the monitoring system, the owner or operator must calculate the daily average value for each monitored operating parameter for each operating day. If the HAP emissions unit operation is continuous, the operating day is a 24-hour period. If HAP emissions unit operation is not continuous, the operating day is the total number of hours of control device operation per 24-hour period. Valid data points must be available for 75 percent of the operating hours in an operating day to compute the daily average.

(5) For each operating parameter monitor installed in accordance with the requirements of paragraph (d)(3) of this section, the owner or operator shall comply with paragraph (d)(5)(i) of this section for all control devices except for condensers, and when condensers are installed, the owner or operator shall also comply with paragraph (d)(5)(ii) of this section.

(i) The owner or operator shall establish a minimum operating parameter value or a maximum operating parameter value, as appropriate for the control device, to define the conditions at which the control device must be operated to continuously achieve the applicable performance requirements of § 63.771(d)(1) or § 63.771(e)(3)(ii). Each minimum or maximum operating parameter value shall be established as follows:

(A) If the owner or operator conducts performance tests in accordance with the requirements of § 63.772(e)(3) to demonstrate that the control device achieves the applicable performance requirements specified in § 63.771(d)(1) or § 63.771(e)(3)(ii), then the minimum operating parameter value or the maximum operating parameter value shall be established based on values measured during the performance test and supplemented, as necessary, by control device design analysis or control device manufacturer recommendations or a combination of both.

(B) If the owner or operator uses a control device design analysis in accordance with the requirements of § 63.772(e)(4) to demonstrate that the control device achieves the applicable performance requirements specified in § 63.771(d)(1) or (e)(3)(ii), then the minimum operating parameter value or the maximum operating parameter value shall be established based on the control device design analysis and may be supplemented by the control device manufacturer's recommendations.

(ii) The owner or operator shall establish a condenser performance curve showing the relationship between condenser outlet temperature and condenser control efficiency. The curve shall be established as follows:

(A) If the owner or operator conducts a performance test in accordance with the requirements of § 63.772(e)(3) to demonstrate that the condenser achieves the applicable performance requirements in § 63.771(d)(1) or (e)(3)(ii), then the condenser performance curve shall be based on values measured during the performance test and supplemented as necessary by control device design analysis, or control device manufacturer's recommendations, or a combination or both.

(B) If the owner or operator uses a control device design analysis in accordance with the requirements of § 63.772(e)(4)(i)(D) to demonstrate that the condenser achieves the applicable performance requirements specified in § 63.771(d)(1) or (e)(3)(ii), then the condenser performance curve shall be based on the condenser design analysis and may be supplemented by the control device manufacturer's recommendations.

(C) As an alternative to paragraphs (d)(5)(ii)(A) and (B) of this section, the owner or operator may elect to use the procedures documented in the GRI report entitled, ''Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions'' (GRI–95/0368.1) as inputs for the model GRI–GLYCalc™, Version 3.0 or higher, to generate a condenser performance curve.

(6) An excursion for a given control device is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in paragraphs (d)(6)(i) through (d)(6)(v) of this section being met. When multiple operating parameters are monitored for the same control device and during the same operating day and more than one of these operating parameters meets an excursion criterion specified in paragraphs (d)(6)(i) through (d)(6)(v) of this section, then a single excursion is determined to have occurred for the control device for that operating day.

(i) An excursion occurs when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit) established for the operating parameter in accordance with the requirements of paragraph (d)(5)(i) of this section.

(ii) An excursion occurs when the 365-day average condenser efficiency calculated according to the requirements specified in § 63.772(g)(2)(iii) is less than 95.0 percent.

(iii) If an owner or operator has less than 365 days of data, an excursion occurs when the average condenser efficiency calculated according to the procedures specified in § 63.772(g)(2)(iii)(A) or (B) is less than 90.0 percent.

(iv) An excursion occurs when the monitoring data are not available for at least 75 percent of the operating hours.

(v) If the closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device, an excursion occurs when:

(A) For each bypass line subject to § 63.771(c)(3)(i)(A) the flow indicator indicates that flow has been detected and that the stream has been diverted away from the control device to the atmosphere.

(B) For each bypass line subject to § 63.771(c)(3)(i)(B), if the seal or closure mechanism has been broken, the bypass line valve position has changed, the key for the lock-and-key type lock has been checked out, or the car-seal has broken.

(7) For each excursion, except as provided for in paragraph (d)(8) of this section, the owner or operator shall be deemed to have failed to have applied control in a manner that achieves the required operating parameter limits. Failure to achieve the required operating parameter limits is a violation of this standard.

(8) An excursion is not a violation of the operating parameter limit as specified in paragraphs (d)(8)(i) and (d)(8)(ii) of this section.

(i) An excursion does not count toward the number of excused excursions allowed under paragraph (d)(8)(ii) of this section when the excursion occurs during any one of the following periods:

(A) During a period of startup, shutdown, or malfunction when the affected facility is operated during such period in accordance with the facility's startup, shutdown, and malfunction plan; or

(B) During periods of non-operation of the unit or the process that is vented to the control device (resulting in cessation of HAP emissions to which the monitoring applies).

(ii) For each control device, or combinations of control devices installed on the same HAP emissions unit, one excused excursion is allowed per semiannual period for any reason. The initial semiannual period is the 6-month reporting period addressed by the first Periodic Report submitted by the owner or operator in accordance with § 63.775(e) of this subpart.

(9) Nothing in paragraphs (d)(1) through (d)(8) of this section shall be construed to allow or excuse a monitoring parameter excursion caused by any activity that violates other applicable provisions of this subpart.

§ 63.774 Recordkeeping requirements.

(a) The recordkeeping provisions of 40 CFR part 63, subpart A, that apply and those that do not apply to owners and operators of sources subject to this subpart are listed in Table 2 of this subpart.

(b) Except as specified in paragraphs (c) and (d) of this section, each owner or operator of a facility subject to this subpart shall maintain the records specified in paragraphs (b)(1) through (b)(11) of this section:

(1) The owner or operator of an affected source subject to the provisions of this subpart shall maintain files of all information (including all reports and notifications) required by this subpart. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or period.

(i) All applicable records shall be maintained in such a manner that they can be readily accessed.

(ii) The most recent 12 months of records shall be retained on site or shall be accessible from a central location by

computer or other means that provides access within 2 hours after a request.

(iii) The remaining 4 years of records may be retained offsite.

(iv) 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.

(2) Records specified in § 63.10(b)(2);

(3) Records specified in § 63.10(c) for each monitoring system operated by the owner or operator in accordance with the requirements of § 63.773(d). Notwithstanding the requirements of § 63.10(c), monitoring data recorded during periods identified in paragraphs (b)(3)(i) through (b)(3)(iv) of this section shall not be included in any average or percent leak rate 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.

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

(ii) Startups, shutdowns, or malfunctions events. During startups, shutdowns, or malfunction events, the owner or operator shall maintain records indicating whether or not the startup, shutdown or malfunction plan required under § 63.762(d), was followed.

(iii) Periods of non-operation resulting in cessation of the emissions to which the monitoring applies; and

(iv) Excursions due to invalid data as defined in § 63.773(d)(6)(iv).

(4) Each owner or operator using a control device to comply with § 63.764 of this subpart shall keep the following records up-to-date and readily accessible:

(i) Continuous records of the equipment operating parameters specified to be monitored under § 63.773(d) of this subpart or specified by the Administrator in accordance with § 63.773(d)(3)(iii) of this subpart. For flares, the hourly records and records of pilot flame outages specified in § 63.773(d)(3)(i)(C) of this subpart shall be maintained in place of continuous records.

(ii) Records of the daily average value of each continuously monitored parameter for each operating day determined according to the procedures specified in § 63.773(d)(4) of this subpart, except as specified in paragraphs (b)(4)(ii)(A) and (B) of this section.

(A) For flares, records of the times and duration of all periods during which all pilot flames are absent shall be kept rather than daily averages.

(B) For condensers installed to comply with § 63.765, records of the annual 365-day rolling average condenser efficiency determined under § 63.772(g) shall be kept in addition to the daily averages.

(iii) Hourly records of whether the flow indicator specified under § 63.771(c)(3)(i)(A) was operating and whether flow was detected at any time during the hour, as well as records of the times and durations of all periods when the vent stream is diverted from the control device or the monitor is not operating.

(iv) Where a seal or closure mechanism is used to comply with § 63.771(c)(3)(i)(B), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanism has been done, and shall record the duration of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken.

(5) Records identifying all parts of the cover or closed-vent system that are designated as unsafe to inspect in accordance with § 63.773(c)(5), an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(6) Records identifying all parts of the cover or closed-vent system that are designated as difficult to inspect in accordance with § 63.773(c)(6), an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(7) For each inspection conducted in accordance with § 63.773(c), during which a leak or defect is detected, a record of the information specified in paragraphs (b)(7)(i) through (b)(7)(viii) of this section.

(i) The instrument identification numbers, operator name or initials, and identification of the equipment.

(ii) The date the leak or defect was detected and the date of the first attempt to repair the leak or defect.

(iii) Maximum instrument reading measured by the method specified in § 63.772(c) after the leak or defect is successfully repaired or determined to be nonrepairable.

(iv) ''Repair delayed'' and the reason for the delay if a leak or defect is not repaired within 15 calendar days after discovery of the leak or defect.

(v) The name, initials, or other form of identification of the owner or operator (or designee) whose decision it was that repair could not be effected without a shutdown.

(vi) The expected date of successful repair of the leak or defect if a leak or defect is not repaired within 15 calendar days.

(vii) Dates of shutdowns that occur while the equipment is unrepaired.

(viii) The date of successful repair of the leak or defect.

(8) For each inspection conducted in accordance with § 63.773(c) during which no leaks or defects are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(9) Records identifying ancillary equipment and compressors that are subject to and controlled under the provisions of 40 CFR part 60, subpart KKK; 40 CFR part 61, subpart V; or 40 CFR part 63, subpart H.

(10) Records of glycol dehydration unit baseline operations calculated as required under § 63.771(e)(1).

(11) Records required in § 63.771(e)(3)(i) documenting that the facility continues to operate under the conditions specified in § 63.771(e)(2).

(c) An owner or operator that elects to comply with the benzene emission limit specified in § 63.765(b)(1)(ii) shall document, to the Administrator's satisfaction, the following items:

(1) The method used for achieving compliance and the basis for using this compliance method; and

(2) The method used for demonstrating compliance with 0.90 megagrams per year of benzene.

(3) Any information necessary to demonstrate compliance as required in the methods specified in paragraphs (c)(1) and (c)(2) of this section.

(d) (1) An owner or operator that is exempt from control requirements under § 63.764(e)(1) shall maintain the records specified in paragraph (d)(1)(i) or (d)(1)(ii) of this section, as appropriate, for each glycol dehydration unit that is not controlled according to the requirements of § 63.764(c)(1)(i).

(i) The actual annual average natural gas throughput (in terms of natural gas flowrate to the glycol dehydration unit per day) as determined in accordance with § 63.772(b)(1), or

(ii) The actual average benzene emissions (in terms of benzene emissions per year) as determined in accordance with § 63.772(b)(2).

(2) An owner or operator that is exempt from the control requirements under § 63.764(e)(2) of this subpart shall maintain the following records:

(i) Information and data used to demonstrate that a piece of equipment is not in VHAP service or not in wet gas service shall be recorded in a log that is kept in a readily accessible location.

(ii) Identification and location of equipment, located at a natural gas processing plant subject to this subpart, that is in VHAP service less than 300 hours per year.

(e) Record the following when using a flare to comply with § 63.771(d):

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

(2) All visible emission readings, heat content determinations, flowrate measurements, and exit velocity determinations made during the compliance determination required by § 63.772(e)(2); and

(3) All periods during the compliance determination when the pilot flame is absent.

§ 63.775 Reporting requirements.

(a) The reporting 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 are listed in Table 2 of this subpart.

(b) Each owner or operator of a major source subject to this subpart shall submit the information listed in paragraphs (b)(1) through (b)(6) of this section, except as provided in paragraphs (b)(7) and (b)(8) of this section.

(1) The initial notifications required for existing affected sources under § 63.9(b)(2) shall be submitted by 1 year after an affected source becomes subject to the provisions of this subpart or by June 17, 2000, whichever is later. Affected sources that are major sources on or before June 17, 2000 and plan to be area sources by June 17, 2002 shall include in this notification a brief, nonbinding description of a schedule for the action(s) that are planned to achieve area source status.

(2) The date of the performance evaluation as specified in § 63.8(e)(2), required only if the owner or operator is required by the Administrator to conduct a performance evaluation for a continuous monitoring system. A separate notification of the performance evaluation is not required if it is included in the initial notification submitted in accordance with paragraph (b)(1) of this section.

(3) The planned date of a performance test at least 60 days before the test in accordance with § 63.7(b). Unless requested by the Administrator, a site-specific test plan is not required by this subpart. If requested by the Administrator, the owner or operator must also submit the site-specific test plan required by § 63.7(c) with the notification of the performance test. A separate notification of the performance test is not required if it is included in the initial notification submitted in accordance with paragraph (b)(1) of this section.

(4) A Notification of Compliance Status report as described in paragraph (d) of this section;

(5) Periodic Reports as described in paragraph (e) of this section; and

(6) Startup, shutdown, and malfunction reports specified in § 63.10(d)(5) shall be submitted as required. Separate startup, shutdown, and malfunction reports as described in § 63.10(d)(5) are not required if the information is included in the Periodic Report specified in paragraph (e) of this section.

(7) Each owner or operator of a glycol dehydration unit subject to this subpart that is exempt from the control requirements for glycol dehydration unit process vents in § 63.765, is exempt from all reporting requirements for major sources in this subpart, for that unit.

(8) Each owner or operator of ancillary equipment and compressors subject to this subpart that are exempt from the control requirements for equipment leaks in § 63.769, are exempt from all reporting requirements for major sources in this subpart, for that equipment.

(c) [Reserved]

(d) Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status Report as required under § 63.9(h) within 180 days after the compliance date specified in § 63.760(f). In addition to the information required under § 63.9(h), the Notification of Compliance Status Report shall include the information specified in paragraphs (d)(1) through (d)(11) of this section. 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 all of the information required under this paragraph has been submitted at any time prior to 180 days after the applicable compliance dates specified in § 63.760(f), a separate Notification of Compliance Status Report is not required. If an owner or operator submits the information specified in paragraphs (d)(1) through (d)(11) of this section at different times, and/or different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information.

(1) If a closed-vent system and a control device other than a flare are used to comply with § 63.764, the owner or operator shall submit:

(i) The design analysis documentation specified in § 63.772(e)(4) of this subpart, if the owner or operator elects to prepare a design analysis; or

(ii) If the owner or operator elects to conduct a performance test, the performance test results including the information specified in paragraphs (d)(1)(ii)(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 § 63.772(e)(3) and that the test conditions are representative of current operating conditions.

(A) The percent reduction of HAP or TOC, or the outlet concentration of HAP or TOC (parts per million by volume on a dry basis), determined as specified in § 63.772(e)(3) of this subpart; and

(B) The value of the monitored parameters specified in § 63.773(d) of this subpart, or a site-specific parameter approved by the permitting agency, averaged over the full period of the performance test.

(2) If a closed-vent system and a flare are used to comply with § 63.764, the owner or operator shall submit performance test results including the information in paragraphs (d)(2) (i) and (ii) of this section.

(i) All visible emission readings, heat content determinations, flowrate measurements, and exit velocity determinations made during the compliance determination required by § 63.772(e)(2) of this subpart, and

(ii) A statement of whether a flame was present at the pilot light over the full period of the compliance determination.

(3) For each owner or operator subject to the provisions specified in § 63.769, the owner or operator shall submit the information required by § 61.247(a), except that the initial report required in § 61.247(a) shall be submitted as a part of the Notification of Compliance Status Report required in paragraph (d) of this section. The owner or operator shall also submit the information specified in paragraphs (d)(3) (i) and (ii) of this section.

(i) The number of each equipment (e.g., valves, pumps, etc.) excluding equipment in vacuum service, and

(ii) Any change in the information submitted in this paragraph shall be provided to the Administrator as a part of subsequent Periodic Reports described in paragraph (e)(2)(iv) of this section.

(4) The owner or operator shall submit one complete test report for each test method used for a particular source.

(i) For additional tests performed using the same test method, the results

specified in paragraph (d)(1)(ii) 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.

(5) For each control device other than a flare used to meet the requirements of § 63.764, the owner or operator shall submit the information specified in paragraphs (d)(5) (i) through (iii) of this section for each operating parameter required to be monitored in accordance with the requirements of § 63.773(d).

(i) The minimum operating parameter value or maximum operating parameter value, as appropriate for the control device, established by the owner or operator to define the conditions at which the control device must be operated to continuously achieve the applicable performance requirements of § 63.771(d)(1) or (e)(3)(ii).

(ii) An explanation of the rationale for why the owner or operator selected each of the operating parameter values established in § 63.773(d)(5). This explanation shall include any data and calculations used to develop the value and a description of why the chosen value indicates that the control device is operating in accordance with the applicable requirements of § 63.771(d)(1) or § 63.771(e)(3)(ii).

(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.

(6) Results of any continuous monitoring system performance evaluations shall be included in the Notification of Compliance Status Report.

(7) After a title V permit has been issued to the owner or operator of an affected source, the owner or operator of such source shall comply with all requirements for compliance status reports contained in the source's title V permit, including reports required under this subpart. After a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this subpart, the owner or operator of such source shall submit the notification of compliance status to the appropriate permitting authority following completion of the relevant compliance demonstration activity specified in this subpart.

(8) The owner or operator that elects to comply with the requirements of § 63.765(b)(1)(ii) shall submit the records required under § 63.774(c).

(9) The owner or operator shall submit an analysis demonstrating whether an affected source is a major source using the maximum throughput calculated according to § 63.760(a)(1).

(10) The owner or operator shall submit a statement as to whether the source has complied with the requirements of this subpart.

(11) The owner or operator shall submit the analysis prepared under § 63.771(e)(2) to demonstrate the conditions by which the facility will be operated to achieve an overall HAP emission reduction of 95.0 percent through process modifications or a combination of process modifications and one or more control devices.

(e) *Periodic Reports.* An owner or operator shall prepare Periodic Reports in accordance with paragraphs (e) (1) and (2) of this section and submit them to the Administrator.

(1) An owner or operator shall submit Periodic Reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status Report is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status Report is due.

(2) The owner or operator shall include the information specified in paragraphs (e)(2)(i) through (ix) of this section, as applicable.

(i) The information required under § 63.10(e)(3). For the purposes of this subpart and the information required under § 63.10(e)(3), excursions (as defined in § 63.773(d)(6)) shall be considered excess emissions.

(ii) A description of all excursions as defined in § 63.773(d)(6) of this subpart that have occurred during the 6-month reporting period.

(A) For each excursion caused when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit), as specified in § 63.773(d)(6)(i), the report must include the daily average values of the monitored parameter, the applicable operating parameter limit, and the date and duration of the period that the excursion occurred.

(B) For each excursion caused when the 365-day average condenser control efficiency is less than 95.0 percent, as specified in § 63.773(d)(6)(ii), the report must include the 365-day average values of the condenser control efficiency, and the date and duration of the period that the excursion occurred.

(C) For each excursion caused when condenser control efficiency is less than 90.0 percent, as calculated according to the procedures specified in § 63.772(g)(2)(iii) (A) or (B), the report must include the average values of the condenser control efficiency, and the date and duration of the period that the excursion occurred.

(D) For each excursion caused by lack of monitoring data, as specified in § 63.773(d)(6)(iii), the report must include the date and duration of the period when the monitoring data were not collected and the reason why the data were not collected.

(iii) For each inspection conducted in accordance with § 63.773(c) during which a leak or defect is detected, the records specified in § 63.774(b)(7) must be included in the next Periodic Report.

(iv) For each owner or operator subject to the provisions specified in § 63.769, the owner or operator shall comply with the reporting requirements specified in 40 CFR 61.247, except that the Periodic Reports shall be submitted on the schedule specified in paragraph (e)(1) of this section.

(v) For each closed-vent system with a bypass line subject to § 63.771(c)(3)(i)(A), records required under § 63.774(b)(4)(iii) of all periods when the vent stream is diverted from the control device through a bypass line. For each closed-vent system with a bypass line subject to § 63.771(c)(3)(i)(B), records required under § 63.774(b)(4)(iv) of all periods in which the seal mechanism is broken, the bypass valve position has changed, or the key to unlock the bypass line valve was checked out.

(vi) If an owner or operator elects to comply with § 63.765(b)(1)(ii), the records required under § 63.774(c)(3).

(vii) The information in paragraphs (e)(2)(vii) (A) and (B) of this section shall be stated in the Periodic Report, when applicable.

(A) No excursions.

(B) No continuous monitoring system has been inoperative, out of control, repaired, or adjusted.

(viii) Any change in compliance methods as specified in § 63.772(f).

(ix) If the owner or operator elects to comply with § 63.765(c)(2), the records required under § 63.774(b)(11).

(f) *Notification of process change.* Whenever a process change is made, or

a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report within 180 days after the process change is made or as a part of the next Periodic Report as required under paragraph (e) of this section, whichever is sooner. The report shall include:

(1) A brief description of the process change;

(2) A description of any modification to standard procedures or quality assurance procedures;

(3) Revisions to any of the information reported in the original Notification of Compliance Status Report under paragraph (d) of this section; and

(4) Information required by the Notification of Compliance Status Report under paragraph (d) of this section for changes involving the addition of processes or equipment.

§ 63.776 Delegation of authority.

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

(b) Authorities will not be delegated to States for §§ 63.772 and 63.777 of this subpart.

§ 63.777 Alternative means of emission limitation.

(a) If, in the judgment of the Administrator, an alternative means of emission limitation will achieve a reduction in HAP emissions at least equivalent to the reduction in HAP emissions from that source achieved under the applicable requirements in §§ 63.764 through 63.771, the Administrator will publish in the **Federal Register** a notice permitting the use of the alternative means for purposes of compliance with that requirement. The notice may condition the permission on requirements related to the operation and maintenance of the alternative means.

(b) Any notice under paragraph (a) of this section shall be published only after public notice and an opportunity for a hearing.

(c) Any person seeking permission to use an alternative means of compliance under this section shall collect, verify, and submit to the Administrator information demonstrating that the alternative achieves equivalent emission reductions.

§ 63.778 [Reserved]

§ 63.779 [Reserved]

Appendix to Subpart HH—Tables

TABLE 1 TO SUBPART HH.—LIST OF HAZARDOUS AIR POLLUTANTS FOR SUBPART HH

CAS Number [a]	Chemical name
75070 ...	Acetaldehyde
71432 ...	Benzene (includes benzene in gasoline)
75150 ...	Carbon disulfide
463581	Carbonyl sulfide
100414	Ethyl benzene
107211	Ethylene glycol
50000 ...	Formaldehyde
110543	n-Hexane
91203 ...	Naphthalene
108883	Toluene
540841	2,2,4-Trimethylpentane
1330207	Xylenes (isomers and mixture)
95476 ...	o-Xylene
108383	m-Xylene
106423	p-Xylene

[a] CAS numbers refer to the Chemical Abstracts Services registry number assigned to specific compounds, isomers, or mixtures of compounds.

TABLE 2 TO SUBPART HH.—APPLICABILITY OF 40 CFR PART 63 GENERAL PROVISIONS TO SUBPART HH

General provisions reference	Applicable to subpart HH	Explanation
§ 63.1(a)(1)	Yes	
§ 63.1(a)(2)	Yes	
§ 63.1(a)(3)	Yes	
§ 63.1(a)(4)	Yes	
§ 63.1(a)(5)	No	Section reserved.
§ 63.1(a)(6) through (a)(8)	Yes	
§ 63.1(a)(9)	No	Section reserved.
§ 63.1(a)(10)	Yes	
§ 63.1(a)(11)	Yes	
§ 63.1(a)(12) through (a)(14)	Yes	
§ 63.1(b)(1)	No	Subpart HH specifies applicability.
§ 63.1(b)(2)	Yes	
§ 63.1(b)(3)	No	
§ 63.1(c)(1)	No	Subpart HH specifies applicability.
§ 63.1(c)(2)	No	
§ 63.1(c)(3)	No	Section reserved.
§ 63.1(c)(4)	Yes	
§ 63.1(c)(5)	Yes	
§ 63.1(d)	No	Section reserved.
§ 63.1(e)	Yes	
§ 63.2	Yes	Except definition of major source is unique for this source category and there are additional definitions in subpart HH.
§ 63.3(a) through (c)	Yes	
§ 63.4(a)(1) through (a)(3)	Yes	
§ 63.4(a)(4)	No	Section reserved.
§ 63.4(a)(5)	Yes	
§ 63.4(b)	Yes	
§ 63.4(c)	Yes	
§ 63.5(a)(1)	Yes	
§ 63.5(a)(2)	No	Preconstruction review required only for major sources that commence construction after promulgation of the standard.
§ 63.5(b)(1)	Yes	
§ 63.5(b)(2)	No	Section reserved.
§ 63.5(b)(3)	Yes	

TABLE 2 TO SUBPART HH.—APPLICABILITY OF 40 CFR PART 63 GENERAL PROVISIONS TO SUBPART HH—Continued

General provisions reference	Applicable to subpart HH	Explanation
§ 63.5(b)(4)	Yes	
§ 63.5(b)(5)	Yes	
§ 63.5(b)(6)	Yes	
§ 63.5(c)	No	Section reserved.
§ 63.5(d)(1)	Yes	
§ 63.5(d)(2)	Yes	
§ 63.5(d)(3)	Yes	
§ 63.5(d)(4)	Yes	
§ 63.5(e)	Yes	
§ 63.5(f)(1)	Yes	
§ 63.5(f)(2)	Yes	
§ 63.6(a)	Yes	
§ 63.6(b)(1)	Yes	
§ 63.6(b)(2)	Yes	
§ 63.6(b)(3)	Yes	
§ 63.6(b)(4)	Yes	
§ 63.6(b)(5)	Yes	
§ 63.6(b)(6)	No	Section reserved.
§ 63.6(b)(7)	Yes	
§ 63.6(c)(1)	Yes	
§ 63.6(c)(2)	Yes	
§ 63.6(c)(3) through (c)(4)	No	Section reserved.
§ 63.6(c)(5)	Yes	
§ 63.6(d)	No	Section reserved.
§ 63.6(e)	Yes	Except as otherwise specified.
§ 63.6(e)(1)(i)	No	Addressed in § 63.762.
§ 63.6(e)(1)(ii)	Yes	
§ 63.6(e)(1)(iii)	Yes	
§ 63.6(e)(2)	Yes	
§ 63.6(e)(3)(i)	Yes	Except as otherwise specified.
§ 63.6(e)(3)(i)(A)	No	Addressed by § 63.762(c).
§ 63.6(e)(3)(i)(B)	Yes	
§ 63.6(e)(3)(i)(C)	Yes	
§ 63.6(e)(3)(ii) through (3)(vi)	Yes	
§ 63.6(e)(3)(vii).		
§ 63.6(e)(3)(vii)(A)	Yes	
§ 63.6(e)(3)(vii)(B)	Yes	Except that the plan must provide for operation in compliance with § 63.762(c).
§ 63.6(e)(3)(vii)(C)	Yes	
§ 63.6(e)3)(viii)	Yes	
§ 63.6(f)(1)	Yes	
§ 63.6(f)(2)	Yes	
§ 63.6(f)(3)	Yes	
§ 63.6(g)	Yes	
§ 63.6(h)	No	Subpart HH does not require continuous emissions monitoring systems.
§ 63.6(i)(1) through (i)(14)	Yes	
§ 63.6(i)(15)	No	Section reserved.
§ 63.6(i)(16)	Yes	
§ 63.6(j)	Yes	
§ 63.7(a)(1)	Yes	
§ 63.7(a)(2)	Yes	
§ 63.7(a)(3)	Yes	
§ 63.7(b)	Yes	
§ 63.7(c)	Yes	
§ 63.7(d)	Yes	
§ 63.7(e)(1)	Yes	
§ 63.7(e)(2)	Yes	
§ 63.7(e)(3)	Yes	
§ 63.7(e)(4)	Yes	
§ 63.7(f)	Yes	
§ 63.7(g)	Yes	
§ 63.7(h)	Yes	
§ 63.8(a)(1)	Yes	
§ 63.8(a)(2)	Yes	
§ 63.8(a)(3)	No	Section reserved.
§ 63.8(a)(4)	Yes	
§ 63.8(b)(1)	Yes	
§ 63.8(b)(2)	Yes	
§ 63.8(b)(3)	Yes	
§ 63.8(c)(1)	Yes	
§ 63.8(c)(2)	Yes	
§ 63.8(c)(3)	Yes	

TABLE 2 TO SUBPART HH.—APPLICABILITY OF 40 CFR PART 63 GENERAL PROVISIONS TO SUBPART HH—Continued

General provisions reference	Applicable to subpart HH	Explanation
§ 63.8(c)(4)	No	
§ 63.8(c)(5) through (c)(8)	Yes	
§ 63.8(d)	Yes	
§ 63.8(e)	Yes	Subpart HH does not specifically require continuous emissions monitor performance evaluations, however, the Administrator can request that one be conducted.
§ 63.8(f)(1) through (f)(5)	Yes	
§ 63.8(f)(6)	No	Subpart HH does not require continuous emissions monitoring.
§ 63.8(g)	No	Subpart HH specifies continuous monitoring system data reduction requirements.
§ 63.9(a)	Yes	
§ 63.9(b)(1)	Yes	
§ 63.9(b)(2)	Yes	Sources are given 1 year (rather than 120 days) to submit this notification.
§ 63.9(b)(3)	Yes	
§ 63.9(b)(4)	Yes	
§ 63.9(b)(5)	Yes	
§ 63.9(c)	Yes	
§ 63.9(d)	Yes	
§ 63.9(e)	Yes	
§ 63.9(f)	Yes	
§ 63.9(g)	Yes	
§ 63.9(h)(1) through (h)(3)	Yes	
§ 63.9(h)(4)	No	Section reserved.
§ 63.9(h)(5) through (h)(6)	Yes	
§ 63.9(i)	Yes	
§ 63.9(j)	Yes	
§ 63.10(a)	Yes	
§ 63.10(b)(1)	Yes	
§ 63.10(b)(2)	Yes	
§ 63.10(b)(3)	No	
§ 63.10(c)(1)	Yes	
§ 63.10(c)(2) through (c)(4)	No	Sections reserved.
§ 63.10(c)(5) Through (c)(8)	Yes	
§ 63.10(c)(9)	No	Section reserved.
§ 63.10(c)(10) through (c)(15)	Yes	
§ 63.10(d)(1)	Yes	
§ 63.10(d)(2)	Yes	
§ 63.10(d)(3)	Yes	
§ 63.10(d)(4)	Yes	
§ 63.10(d)(5)	Yes	Subpart HH requires major sources to submit a startup, shutdown and malfunction report semi-annually.
§ 63.10(e)(1)	Yes	
§ 63.10(e)(2)	Yes	
§ 63.10(e)(3)(i)	Yes	Subpart HH requires major sources to submit Periodic Reports semi-annually.
§ 63.10(e)(3)(i)(A)	Yes	
§ 63.10(e)(3)(i)(B)	Yes	
§ 63.10(e)(3)(i)(C)	No	Subpart HH does not require quarterly reporting for excess emissions.
§ 63.10(e)(3)(ii) through (viii)	Yes	
§ 63.10(f)	Yes	
§ 63.11(a) and (b)	Yes	
§ 63.12(a) through (c)	Yes	
§ 63.13(a) through (c)	Yes	
§ 63.14(a) and (b)	Yes	
§ 63.15(a) and (b)	Yes	

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

3. Part 63 is amended by adding subpart HHH to read as follows:

Subpart HHH—National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities

Sec.

63.1270 Applicability and designation of affected source.
63.1271 Definitions.
63.1272 Startups, shutdowns, and malfunctions.
63.1273 [Reserved]
63.1274 General standards.
63.1275 Glycol dehydration unit process vent standards.
63.1276–63.1280 [Reserved]
63.1281 Control equipment requirements.
63.1282 Test methods, compliance procedures, and compliance demonstrations.
63.1283 Inspection and monitoring requirements.
63.1284 Recordkeeping requirements.
63.1285 Reporting requirements.
63.1286 Delegation of authority.
63.1287 Alternative means of emission limitation.

63.1288 [Reserved]
63.1289 [Reserved]
Appendix to Subpart HHH—Tables

Subpart HHH—National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities

§ 63.1270 Applicability and designation of affected source.

(a) This subpart applies to owners and operators of natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user (if there is no local distribution company), and that are major sources of hazardous air pollutants (HAP) emissions as determined using the maximum natural gas throughput calculated in either paragraph (a)(1) or (a)(2) of this section and paragraphs (a)(3) and (a)(4) of this section. A compressor station that transports natural gas prior to the point of custody transfer, or to a natural gas processing plant (if present) is considered a part of the oil and natural gas production source category. A facility that is determined to be an area source, based on emission estimates using the maximum natural gas throughput calculated as specified in paragraph (a)(1) or (a)(2) of this section, but subsequently increases emissions or potential to emit above the major source levels (without first obtaining and complying with other limitations that keep its potential to emit HAP below major source levels, becomes a major source and must comply thereafter with all applicable provisions of this subpart starting on the applicable compliance date specified in paragraph (d) of this section. Nothing in this paragraph is intended to preclude a source from limiting its potential to emit through other appropriate mechanisms that may be available through the permitting authority.

(1) Facilities that store natural gas or facilities that transport and store natural gas shall determine major source status using the maximum annual facility natural gas throughput calculated according to paragraphs (a)(1)(i) through (a)(1)(iv) of this section.

(i) The owner or operator shall determine the number of hours to complete the storage cycle for the facility. The storage cycle is the number of hours for the injection cycle, calculated according to the equation in paragraph (a)(1)(i)(A) of this section, plus the number of hours for the withdrawal cycle, calculated according to the equation in paragraph (a)(1)(i)(B) of this section.

(A) The hours for the facility injection cycle are determined according to the following equation:

$$IC = \frac{WGC}{IR_{max}}$$

Where:

IC = Facility injection cycle in hours/cycle.

WGC = Working gas capacity in cubic meters. The working gas capacity is defined as the maximum storage capacity minus the FERC cushion (as defined in § 63.1271).

IR_{max} = Maximum facility injection rate in cubic meters per hour.

(B) The hours for the facility withdrawal cycle are determined according to the following equation:

$$WC = \frac{WGC}{WR_{max}}$$

Where:

WC = Facility withdrawal cycle, hours/cycle.

WGC = Working gas capacity, cubic meters. The working gas capacity is defined as the maximum storage capacity minus the FERC cushion (as defined in § 63.1271) and shall be the same value as used in paragraph (a)(1)(i)(A) of this section.

WR_{max} = Maximum facility withdrawal rate in cubic meters per hour.

(ii) The owner or operator shall calculate the number of storage cycles for the facility per year according to the following equation:

$$Cycle = \frac{8760\ hr/yr}{IC + WC}$$

Where:

Cycle = Number of storage cycles for the facility per year.

IC = Number of hours for a facility injection cycle, hours/cycle, as calculated in paragraph (a)(1)(i)(A) of this section.

WC = Number of hours for a facility withdrawal cycle, hours/cycle, as calculated in paragraph (a)(1)(i)(B) of this section.

(iii) The owner or operator shall calculate the facilitywide maximum annual glycol dehydration unit hours of operation based on the following equation:

$$Operation = Cycles \times WC$$

Where:

Operation = Facilitywide maximum annual glycol dehydration unit hours of operation (hr/yr).

Cycles = Number of storage cycles for the facility per year, as calculated in paragraph (a)(1)(ii) of this section.

WC = Number of hours for a facility withdrawal cycle, hours/cycle, as calculated in paragraph (a)(1)(i)(B) of this section.

(iv) The owner or operator shall calculate the maximum facilitywide natural gas throughput based on the following equation:

$$Throughput = Operation \times WR_{max}$$

Where:

Throughput = Maximum facilitywide natural gas throughput in cubic meters per year.

Operation = Maximum facilitywide annual glycol dehydration unit hours of operation in hours per year, as calculated in paragraph (a)(1)(iii) of this section.

WR_{max} = Maximum facility withdrawal rate in cubic meters per hour.

(2) Facilities that only transport natural gas shall calculate the maximum natural gas throughput as the highest annual natural gas throughput over the 5 years prior to June 17, 1999, multiplied by a factor of 1.2.

(3) The owner or operator shall maintain records of the annual facility natural gas throughput each year and upon request, submit such records to the Administrator. If the facility annual natural gas throughput increases above the maximum natural gas throughput calculated in paragraph (a)(1) or (a)(2) of this section, the maximum natural gas throughput must be recalculated using the higher throughput multiplied by a factor of 1.2.

(4) The owner or operator shall determine the maximum values for other parameters used to calculate potential emissions as the maximum over the same period for which maximum throughput is determined as specified in paragraph (a)(1) or (a)(2) of this section. These parameters shall be based on an annual average or the highest single measured value.

(b) The affected source is each glycol dehydration unit.

(c) The owner or operator of a facility that does not contain an affected source, as specified in paragraph (b) of this section, is not subject to the requirements of this subpart.

(d) The owner or operator of each affected source shall achieve compliance with the provisions of this subpart by the following dates:

(1) The owner or operator of an affected source, the construction or reconstruction of which commenced before February 6, 1998, shall achieve compliance with this provisions of the subpart no later than June 17, 2002 except as provided for in § 63.6(i). The owner or operator of an area source, the construction or reconstruction of which commenced before February 6, 1998, that increases its emissions of (or its potential to emit) HAP such that the source becomes a major source that is subject to this subpart shall comply with this subpart 3 years after becoming a major source.

(2) The owner or operator of an affected source, the construction or reconstruction of which commences on or after February 6, 1998, shall achieve compliance with the provisions of this subpart immediately upon initial startup or June 17, 1999, whichever date is later. Area sources, the construction or reconstruction of which commences on or after February 6, 1998, that become major sources shall comply with the provisions of this standard immediately upon becoming a major source.

(e) An owner or operator of an affected source that is a major source or is located at a major source and is subject to the provisions of this subpart is also subject to 40 CFR part 70 or part 71 permitting requirements.

(f) *Exemptions.* A facility with a facilitywide actual annual average natural gas throughput less than 28.3 thousand standard cubic meters per day, where glycol dehydration units are the only HAP emission source, is not subject to the requirements of this subpart. Records shall be maintained as required in § 63.10(b)(3).

§ 63.1271 Definitions.

All terms used in this subpart shall have the meaning given to them in the Clean Air Act, subpart A of this part (General Provisions), 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.

Boiler means an enclosed device using controlled flame combustion and having the primary purpose of recovering and exporting thermal energy in the form of steam or hot water. Boiler also means any industrial furnace as defined in 40 CFR 260.10.

Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and if necessary, flow inducing devices that transport gas or vapor from an emission point to one or more control devices. If gas or vapor from regulated equipment is routed to a process (e.g., to a fuel gas system), the conveyance system 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 HAP emissions.

Compressor station means any permanent combination of compressors that move natural gas at increased pressure from fields, in transmission pipelines, or into storage.

Continuous recorder means a data recording device that either records an instantaneous data value at least once every hour or records hourly or more frequent block average values.

Control device means any equipment used for recovering or oxidizing HAP or volatile organic compounds (VOC) vapors. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters. For the purposes of this subpart, if gas or vapor from regulated equipment is used, reused (i.e., injected into the flame zone of a combustion device), returned back to the process, or sold, then the recovery system used, including piping, connections, and flow inducing devices, is not considered to be control devices or closed-vent systems.

Custody transfer means the transfer of hydrocarbon liquids or natural gas:

(1) After processing and/or treatment in the producing operations; or

(2) From storage vessels or automatic transfer facilities, or other equipment, including product loading racks, to pipelines or any other forms of transportation.

Facility means any grouping of equipment where natural gas is processed, compressed, or stored prior to entering a pipeline to a local distribution company or (if there is no local distribution company) to a final end user. Examples of a facility for this source category are: an underground natural gas storage operation; or a natural gas compressor station that receives natural gas via pipeline, from an underground natural gas storage operation, or from a natural gas processing plant. The emission points associated with these phases include, but are not limited to, process vents. Processes that may have vents include, but are not limited to, dehydration and compressor station engines.

Facility, for the purpose of a major source determination, means natural gas transmission and storage equipment that is located inside the boundaries of an individual surface site (as defined in this section) and is connected by ancillary equipment, such as gas flow lines or power lines. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Natural gas transmission and storage equipment or groupings of equipment located on different gas leases, mineral fee tracts, lease tracts, subsurface unit areas, surface fee tracts, or surface lease tracts shall not be considered part of the same facility.

Federal Energy Regulatory Commission Cushion or *FERC Cushion* means the minimum natural gas capacity of a storage field as determined by the Federal Energy Regulatory Commission.

Flame zone means the portion of the combustion chamber in a combustion device occupied by the flame envelope.

Flash tank. See the definition for gas-condensate-glycol (GCG) separator.

Flow indicator means a device which indicates whether gas flow is present in

a line or whether the valve position would allow gas flow to be present in a line.

Gas-condensate-glycol (GCG) separator means a two-or three-phase separator through which the ''rich'' glycol stream of a glycol dehydration unit is passed to remove entrained gas and hydrocarbon liquid. The GCG separator is commonly referred to as a flash separator or flash tank.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes ''rich'' glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The ''lean'' glycol is then recycled.

Glycol dehydration unit baseline operations means operations representative of the glycol dehydration unit operations as of June 17, 1999. For the purposes of this subpart, for determining the percentage of overall HAP emission reduction attributable to process modifications, glycol dehydration unit baseline operations shall be parameter values (including, but not limited to, glycol circulation rate or glycol-HAP absorbency) that represent actual long-term conditions (i.e., at least 1 year). Glycol dehydration units in operation for less than 1 year shall document that the parameter values represent expected long-term operating conditions had process modifications not been made.

Glycol dehydration unit process vent means either the glycol dehydration unit reboiler vent and the vent from the GCG separator (flash tank), if present.

Glycol dehydration unit reboiler vent means the vent through which exhaust from the reboiler of a glycol dehydration unit passes from the reboiler to the atmosphere or to a control device.

Hazardous air pollutants or *HAP* means the chemical compounds listed in section 112(b) of the Clean Air Act (Act). All chemical compounds listed in section 112(b) of the Act need to be considered when making a major source determination. Only the HAP compounds listed in Table 1 of this subpart need to be considered when determining compliance.

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 is not physically formed into one manufactured or assembled unit with the combustion section; rather, the energy recovery section is a separate section following the combustion section and the two are joined by ducts or connections carrying flue gas. The above energy recovery section limitation does not apply to an energy recovery section used solely to preheat the incoming vent stream or combustion air.

Initial startup means the first time a new or reconstructed source begins production. For the purposes of this subpart, initial startup does not include subsequent startups (as defined in this section) of equipment, for example, following malfunctions or shutdowns.

Major source, as used in this subpart, shall have the same meaning as in § 63.2, except that:

(1) Emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control; and

(2) Emissions from processes, operations, and equipment that are not part of the same facility, as defined in this section, shall not be aggregated.

Natural gas means a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface. The principal hydrocarbon constituent is methane.

Natural gas transmission means the pipelines used for the long distance transport of natural gas (excluding processing). Specific equipment used in natural gas transmission includes the land, mains, valves, meters, boosters, regulators, storage vessels, dehydrators, compressors, and their driving units and appurtenances, and equipment used for transporting gas from a production plant, delivery point of purchased gas, gathering system, storage area, or other wholesale source of gas to one or more distribution area(s).

No detectable emissions means no escape of HAP from a device or system to the atmosphere as determined by:

(1) Instrument monitoring results in accordance with the requirements of § 63.1282(b); and

(2) The absence of visible openings or defects in the device or system, such as rips, tears, or gaps.

Operating parameter value means a minimum or maximum value established for a control device or process parameter which, if achieved by itself or in combination with one or more other operating parameter values, indicates that an owner or operator has complied with an applicable operating parameter limitation, over the appropriate averaging period as specified in § 63.1282 (e) and (f).

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

Organic monitoring device means an instrument used to indicate the concentration level of organic compounds exiting a control device based on a detection principle such as infra-red, photoionization, or thermal conductivity.

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 device using a controlled flame, the primary purpose of which is to transfer heat to a process fluid or process material that is not a fluid, or to a heat transfer material for use in a process (rather than for steam generation) .

Safety device means a device that meets both of the following conditions: the device is not used for planned or routine venting of liquids, gases, or fumes from the unit or equipment on which the device is installed; and the device remains in a closed, sealed position at all times except when an unplanned event requires that the device open for the purpose of preventing physical damage or permanent deformation of the unit or equipment on which the device is installed in accordance with good engineering and safety practices for handling flammable, combustible, explosive, or other hazardous materials. Examples of unplanned events which may require a safety device to open include failure of an essential equipment component or a sudden power outage.

Shutdown means for purposes including, but not limited to, periodic maintenance, replacement of equipment, or repair, the cessation of operation of a glycol dehydration unit, or other affected source under this subpart, or equipment required or used solely to comply with this subpart.

Startup means the setting into operation of a glycol dehydration unit, or other affected equipment under this subpart, or equipment required or used to comply with this subpart. Startup includes initial startup and operation solely for the purpose of testing equipment.

Storage vessel means a tank or other vessel that is designed to contain an accumulation of crude oil, condensate, intermediate hydrocarbon liquids, produced water, or other liquid, and is constructed primarily of non-earthen

materials (e.g., wood, concrete, steel, plastic) that provide structural support.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Temperature monitoring device means an instrument used to monitor temperature and having a minimum accuracy of ±2 percent of the temperature being monitored expressed in °C, or ±2.5 °C, whichever is greater. The temperature monitoring device may measure temperature in degrees Fahrenheit or degrees Celsius, or both.

Total organic compounds or *TOC,* as used in this subpart, means those compounds which can be measured according to the procedures of Method 18, 40 CFR part 60, appendix A.

Underground storage means the subsurface facilities utilized for storing natural gas that has been transferred from its original location for the primary purpose of load balancing, which is the process of equalizing the receipt and delivery of natural gas. Processes and operations that may be located at an underground storage facility include, but are not limited to, compression and dehydration.

§ 63.1272 Startups, shutdowns, and malfunctions.

(a) The provisions set forth in this subpart shall apply at all times except during startups or shutdowns, during malfunctions, and during periods of non-operation of the affected sources (or specific portion thereof) resulting in cessation of the emissions to which this subpart applies. However, during the startup, shutdown, malfunction, or period of non-operation of one portion of an affected source, all emission points which can comply with the specific provisions to which they are subject must do so during the startup, shutdown, malfunction, or period of non-operation.

(b) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with the provisions of this subpart during times when emissions are being routed to such items of equipment, if the shutdown would contravene requirements of this subpart applicable to such items of equipment. This paragraph does not apply if the item of equipment is malfunctioning, or if the owner or operator must shut down the equipment to avoid damage due to a contemporaneous startup, shutdown, or malfunction of the affected source or a portion thereof.

(c) During startups, shutdowns, and malfunctions when the requirements of this subpart do not apply pursuant to paragraphs (a) and (b) of this section, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions to the maximum extent practical. For purposes of this paragraph, the term ''excess emissions'' means emissions in excess of those that would have occurred if there were no startup, shutdown, or malfunction, and the owner or operator complied with the relevant provisions of this subpart. The measures to be taken shall be identified in the applicable startup, shutdown, and malfunction plan, and may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the source. Back-up control devices are not required, but may be used if available.

(d) The owner or operator shall prepare a startup, shutdown, or malfunction plan as required in § 63.6(e)(3) except that the plan is not required to be incorporated by reference into the source's title V permit as specified in § 63.6(e)(3)(i). Instead, the owner or operator shall keep the plan on record as required by § 63.6(e)(3)(v). The failure of the plan to adequately minimize emissions during the startup, shutdown, or malfunction does not shield an owner or operator from enforcement actions.

§ 63.1273 [Reserved]

§ 63.1274 General standards.

(a) Table 2 of this subpart specifies the provisions of subpart A (General Provisions) that apply and those that do not apply to owners and operators of affected sources subject to this subpart.

(b) All reports required under this subpart shall be sent to the Administrator at the appropriate address listed in § 63.13. Reports may be submitted on electronic media.

(c) Except as specified in paragraph (d) of this section, the owner or operator of an affected source (i.e., glycol dehydration unit) located at an existing or new major source of HAP emissions shall comply with the requirements in this subpart as follows:

(1) The control requirements for glycol dehydration unit process vents specified in § 63.1275;

(2) The monitoring requirements specified in § 63.1283, and

(3) The recordkeeping and reporting requirements specified in §§ 63.1284 and 63.1285.

(d) *Exemptions.* The owner or operator is exempt from the requirements of paragraph (c) of this section if the criteria listed in paragraph (d)(1) or (d)(2) of this section are met. Records of the determination of these criteria must be maintained as required in § 63.1284(d) of this subpart.

(1) The actual annual average flow of gas to the glycol dehydration unit is less than 283 thousand standard cubic meters per day, as determined by the procedures specified in § 63.1282(a)(1) of this subpart; or

(2) The actual average emissions of benzene from the glycol dehydration unit process vents to the atmosphere are less than 0.90 megagram per year as determined by the procedures specified in § 63.1282(a)(2) of this subpart.

(e) Each owner or operator of a major HAP 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 Administrator has approved a State operating permit program under part 70, the permit shall be obtained from the State authority. If a State operating permit program has not been approved, the owner or operator shall apply to the EPA Regional Office pursuant to part 71.

(f) [Reserved]

(g) In all cases where the provisions of this subpart require an owner or operator to repair leaks by a specified time after the leak is detected, it is a violation of this standard to fail to take action to repair the leak(s) within the specified time. If action is taken to repair the leak(s) within the specified time, failure of that action to successfully repair the leak(s) is not a violation of this standard. However, if the repairs are unsuccessful, a leak is detected and the owner or operator shall take further action as required by the applicable provisions of this subpart.

§ 63.1275 Glycol dehydration unit process vent standards.

(a) This section applies to each glycol dehydration unit, subject to this subpart, with an actual annual average natural gas flowrate equal to or greater than 283 thousand standard cubic meters per day and with actual average benzene glycol dehydration unit process vent emissions equal to or greater than 0.90 megagrams per year.

(b) Except as provided in paragraph (c) of this section, an owner or operator of a glycol dehydration unit process vent shall comply with the requirements specified in paragraphs (b)(1) and (b)(2) of this section.

(1) For each glycol dehydration unit process vent, the owner or operator shall control air emissions by either paragraph (b)(1)(i) or (b)(1)(ii) of this section.

(i) The owner or operator shall connect the process vent to a control device or a combination of control devices through a closed-vent system. The closed-vent system shall be designed and operated in accordance with the requirements of § 63.1281(c). The control device(s) shall be designed and operated in accordance with the requirements of § 63.1281(d).

(ii) The owner or operator shall connect the process vent to a control device or a combination of control devices through a closed-vent system and the outlet benzene emissions from the control device(s) shall be less than 0.90 megagrams per year. The closed-vent system shall be designed and operated in accordance with the requirements of § 63.1281(c). The control device(s) shall be designed and operated in accordance with the requirements of § 63.1281(d), except that the performance requirements specified in § 63.1281(d)(1)(i) and (ii) do not apply.

(2) One or more safety devices that vent directly to the atmosphere may be used on the air emission control equipment installed to comply with paragraph (b)(1) of this section.

(c) As an alternative to the requirements of paragraph (b) of this section, the owner or operator may comply with one of the following:

(1) The owner or operator shall control air emissions by connecting the process vent to a process natural gas line.

(2) The owner or operator shall demonstrate, to the Administrator's satisfaction, that the total HAP emissions to the atmosphere from the glycol dehydration unit process vent are reduced by 95.0 percent through process modifications or a combination of process modifications and one or more control devices, in accordance with the requirements specified in § 63.1281(e).

(3) Control of HAP emissions from a GCG separator (flash tank) vent is not required if the owner or operator demonstrates, to the Administrator's satisfaction, that total emissions to the atmosphere from the glycol dehydration unit process vent are reduced by one of the levels specified in paragraphs (c)(3)(i) through (c)(3)(ii), through the installation and operation of controls as specified in paragraph (b) (1) of this section.

(i) HAP emissions are reduced by 95.0 percent or more.

(ii) Benzene emissions are reduced to a level less than 0.90 megagrams per year.

§ 63.1276–§ 63.1280 [Reserved]

§ 63.1281 Control equipment requirements.

(a) This section applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions as required by the provisions of this subpart. Compliance with paragraphs (c) and (d) of this section will be determined by review of the records required by § 63.1284, the reports required by § 63.1285, by review of performance test results, and by inspections.

(b) [Reserved]

(c) *Closed-vent system requirements.* (1) The closed-vent system shall route all gases, vapors, and fumes emitted from the material in a HAP emissions unit to a control device that meets the requirements specified in paragraph (d) of this section.

(2) The closed-vent system shall be designed and operated with no detectable emissions.

(3) If the closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device, the owner or operator shall meet the requirements specified in paragraphs (c)(3)(i) and (c)(3)(ii) of this section.

(i) For each bypass device, except as provided for in paragraph (c)(3)(ii) of this section, the owner or operator shall either:

(A) Properly install, calibrate, maintain, and operate a flow indicator at the inlet to the bypass device that could divert the stream away from the control device to the atmosphere that takes a reading at least once every 15 minutes, and that sounds an alarm when the bypass device is open such that the stream is being, or could be, diverted away from the control device to the atmosphere; or

(B) Secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using a car-seal or a lock-and-key type configuration. The owner or operator shall visually inspect the seal or closure mechanism at least once every month to verify that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass device.

(ii) Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements of paragraph (c)(3)(i) of this section.

(d) *Control device requirements.* (1) The control device used to reduce HAP emissions in accordance with the standards of this subpart shall be one of the control devices specified in paragraphs (d)(1)(i) through (iii) of this section.

(i) An enclosed combustion device (e.g., thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater) that is designed and operated in accordance with one of the following performance requirements:

(A) Reduces the mass content of either TOC or total HAP in the gases vented to the device by 95.0 percent by weight or greater, as determined in accordance with the requirements of § 63.1282(d);

(B) Reduces the concentration of either TOC or total HAP in the exhaust gases at the outlet to the device to a level equal to or less than 20 parts per million by volume on a dry basis corrected to 3 percent oxygen as determined in accordance with the requirements of § 63.1282(d); or

(C) Operates at a minimum residence time of 0.5 second at a minimum temperature of 760 °C.

(D) If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(ii) A vapor recovery device (e.g., carbon adsorption system or condenser) or other control device that is designed and operated to reduce the mass content of either TOC or total HAP in the gases vented to the device by 95.0 percent by weight or greater as determined in accordance with the requirements of § 63.1282(d).

(iii) A flare that is designed and operated in accordance with the requirements of § 63.11(b).

(2) [Reserved]

(3) The owner or operator shall demonstrate that a control device achieves the performance requirements of paragraph (d)(1) of this section by following the procedures specified in § 63.1282(d).

(4) The owner or operator shall operate each control device in accordance with the requirements specified in paragraphs (d)(4)(i) and (ii) of this section.

(i) Each control device used to comply with this subpart shall be operating at all times when gases, vapors, and fumes are vented from the emissions unit or units through the closed-vent system to the control device, as required under § 63.1275, except when maintenance or repair of a unit cannot be completed without a shutdown of the control device. An owner or operator may vent more than one unit to a control device used to comply with this subpart.

(ii) For each control device monitored in accordance with the requirements of

§ 63.1283(d), the owner or operator shall demonstrate compliance according to the requirements of § 63.1282(e), or (f) as applicable.

(5) For each carbon adsorption system used as a control device to meet the requirements of paragraph (d)(1) of this section, the owner or operator shall manage the carbon as follows:

(i) Following the initial startup of the control device, all carbon in the control device shall be replaced with fresh carbon on a regular, predetermined time interval that is no longer than the carbon service life established for the carbon adsorption system.

(ii) The spent carbon removed from the carbon adsorption system shall be either regenerated, reactivated, or burned in one of the units specified in paragraphs (d)(5)(ii)(A) through (d)(5)(ii)(G) of this section.

(A) Regenerated or reactivated in a thermal treatment unit for which the owner or operator has been issued a final permit under 40 CFR part 270 that implements the requirements of 40 CFR part 264, subpart X.

(B) Regenerated or reactivated in a thermal treatment unit equipped with and operating organic air emission controls in accordance with this section.

(C) Regenerated or reactivated in a thermal treatment unit equipped with and operating organic air emission controls in accordance with a national emissions standard for HAP under another subpart in 40 CFR part 61 or this part.

(D) Burned in a hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 that implements the requirements of 40 CFR part 264, subpart O.

(E) Burned in a hazardous waste incinerator which the owner or operator has designed and operates in accordance with the requirements of 40 CFR part 265, subpart O.

(F) Burned in a boiler or industrial furnace for which the owner or operator has been issued a final permit under 40 CFR part 270 that implements the requirements of 40 CFR part 266, subpart H.

(G) Burned in a boiler or industrial furnace which the owner or operator has designed and operates in accordance with the interim status requirements of 40 CFR part 266, subpart H.

(e) *Process modification requirements.* Each owner or operator that chooses to comply with § 63.1275(c)(2) shall meet the requirements specified in paragraphs (e)(1) through (e)(3) of this section.

(1) The owner or operator shall determine glycol dehydration unit baseline operations (as defined in § 63.1271). Records of glycol dehydration unit baseline operations shall be retained as required under § 63.1284(b)(9).

(2) The owner or operator shall document, to the Administrator's satisfaction, the conditions for which glycol dehydration unit baseline operations shall be modified to achieve the 95.0 percent overall HAP emission reduction, either through process modifications or through a combination of process modifications and one or more control devices. If a combination of process modifications and one or more control devices are used, the owner or operator shall also establish the percent HAP reduction to be achieved by the control device to achieve an overall HAP emission reduction of 95.0 percent for the glycol dehydration unit process vent. Only modifications in glycol dehydration unit operations directly related to process changes, including, but not limited to, changes in glycol circulation rate or glycol-HAP absorbency, shall be allowed. Changes in the inlet gas characteristics or natural gas throughput rate shall not be considered in determining the overall HAP emission reduction.

(3) The owner or operator that achieves a 95.0 percent HAP emission reduction using process modifications alone shall comply with paragraph (e)(3)(i) of this section. The owner or operator that achieves a 95.0 percent HAP emission reduction using a combination of process modifications and one or more control devices shall comply with paragraphs (e)(3)(i) and (e)(3)(ii) of this section.

(i) The owner or operator shall maintain records, as required in § 63.1284(b)(10), that the facility continues to operate in accordance with the conditions specified under paragraph (e)(2) of this section.

(ii) The owner or operator shall comply with the control device requirements specified in paragraph (d) of this section, except that the emission reduction achieved shall be the emission reduction specified in paragraph (e)(2) of this section.

§ 63.1282 Test methods, compliance procedures, and compliance demonstrations.

(a) *Determination of glycol dehydration unit flowrate or benzene emissions.* The procedures of this paragraph shall be used by an owner or operator to determine glycol dehydration unit natural gas flowrate or benzene emissions to meet the criteria for the exemption from control requirements under § 63.1274(d).

(1) The determination of actual flowrate of natural gas to a glycol dehydration unit shall be made using the procedures of either paragraph (a)(1)(i) or (a)(1)(ii) of this section.

(i) The owner or operator shall install and operate a monitoring instrument that directly measures natural gas flowrate to the glycol dehydration unit with an accuracy of plus or minus 2 percent or better. The owner or operator shall convert the annual natural gas flowrate to a daily average by dividing the annual flowrate by the number of days per year the glycol dehydration unit processed natural gas.

(ii) The owner or operator shall document, to the Administrator's satisfaction, that the actual annual average natural gas flowrate to the glycol dehydration unit is less than 85 thousand standard cubic meters per day.

(2) The determination of actual average benzene emissions from a glycol dehydration unit shall be made using the procedures of either paragraph (a)(2)(i) or (a)(2)(ii) of this section. Emissions shall be determined either uncontrolled or with federally enforceable controls in place.

(i) The owner or operator shall determine actual average benzene emissions using the model GRI–GLYCalc™, Version 3.0 or higher, and the procedures presented in the associated GRI–GLYCalc™ Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled ''Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions'' (GRI–95/0368.1); or

(ii) The owner or operator shall determine an average mass rate of benzene emissions in kilograms per hour through direct measurement by performing three runs of Method 18 in 40 CFR part 60, appendix A (or an equivalent method), and averaging the results of the three runs. Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year.

(b) *No detectable emissions test procedure.* (1) The procedure shall be conducted in accordance with Method 21, 40 CFR part 60, appendix A.

(2) The detection instrument shall meet the performance criteria of Method 21, 40 CFR part 60, appendix A, except the instrument response factor criteria

in section 3.1.2(a) of Method 21 shall be for the average composition of the fluid, and not for each individual organic compound in the stream.

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

(4) Calibration gases shall be as follows:

(i) Zero air (less than 10 parts per million by volume hydrocarbon in air); and

(ii) A mixture of methane in air at a methane concentration of less than 10,000 parts per million by volume.

(5) An owner or operator may choose to adjust or not adjust the detection instrument readings to account for the background organic concentration level. If an owner or operator chooses to adjust the instrument readings for the background level, the background level value must be determined according to the procedures in Method 21 of 40 CFR part 60, appendix A.

(6)(i) Except as provided in paragraph (b)(6)(i) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual volatile organic compound in the stream. For process streams that contain nitrogen, air, or other inerts which are not organic hazardous air pollutants or volatile organic compounds, the average stream response factor shall be calculated on an inert-free basis.

(ii) If no instrument is available at the facility that will meet the performance criteria specified in paragraph (b)(6)(i) of this section, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (b)(6)(i) of this section.

(7) An owner or operator must determine if a potential leak interface operates with no detectable emissions using the applicable procedure specified in paragraph (b)(7)(i) or (b)(7)(ii) of this section.

(i) If an owner or operator chooses not to adjust the detection instrument readings for the background organic concentration level, then the maximum organic concentration value measured by the detection instrument is compared directly to the applicable value for the potential leak interface as specified in paragraph (b)(8) of this section.

(ii) If an owner or operator chooses to adjust the detection instrument readings for the background organic concentration level, the value of the arithmetic difference between the maximum organic concentration value measured by the instrument and the background organic concentration value as determined in paragraph (b)(5) of this section is compared with the applicable value for the potential leak interface as specified in paragraph (b)(8) of this section.

(8) A potential leak interface is determined to operate with no detectable organic emissions if the organic concentration value determined in paragraph (b)(7) is less than 500 parts per million by volume.

(c) [Reserved]

(d) *Control device performance test procedures.* This paragraph applies to the performance testing of control devices. The owners or operators shall demonstrate that a control device achieves the performance requirements of § 63.1281(d)(1) or (e)(3)(ii) using either a performance test as specified in paragraph (d)(3) of this section or a design analysis as specified in paragraph (d)(4) of this section. The owner or operator may elect to use the alternative procedures in paragraph (d)(5) of this section for performance testing of a condenser used to control emissions from a glycol dehydration unit process vent.

(1) The following control devices are exempt from the requirements to conduct performance tests and design analyses under this section:

(i) A flare that is designed and operated in accordance with § 63.11(b);

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

(iii) A boiler or process heater into which the vent stream is introduced with the primary fuel or is used as the primary fuel;

(iv) A boiler or process heater burning hazardous waste for which the owner or operator has either been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H, or has certified compliance with the interim status requirements of 40 CFR part 266, subpart H;

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

(vi) A control device for which a performance test was conducted for determining compliance with a regulation promulgated by the EPA, and the test was conducted using the same methods specified in this section, and either no process changes have been made since the test, or the owner or operator can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes.

(2) An owner or operator shall design and operate each flare in accordance with the requirements specified in § 63.11(b) and in paragraphs (d)(2)(i) and (d)(2)(ii) of this section.

(i) The compliance determination shall be conducted using Method 22 of 40 CFR part 60, appendix A, to determine visible emissions.

(ii) An owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration when a flare is used.

(3) For a performance test conducted to demonstrate that a control device meets the requirements of § 63.1281(d)(1) or (e)(3)(ii), the owner or operator shall use the test methods and procedures specified in paragraphs (d)(3)(i) through (d)(3)(iv) of this section. The performance test shall be conducted according to the schedule specified in § 63.7(a)(2), and the results of the performance test shall be submitted in the Notification of Compliance Status Report as required in § 63.1285(d)(1)(ii).

(i) Method 1 or 1A, 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling sites specified in paragraphs (d)(3)(i)(A) and (B) of this section. Any references to particulate mentioned in Methods 1 and 1A do not apply to this section.

(A) To determine compliance with the control device percent reduction requirements specified in § 63.1281(d)(1)(i)(A),(d)(1)(ii), or (e)(3)(ii), sampling sites shall be located at the inlet of the first control device and at the outlet of the final control device.

(B) To determine compliance with the enclosed combustion device total HAP concentration limit specified in § 63.1281(d)(1)(i)(B), the sampling site shall be located at the outlet of the device.

(ii) The gas volumetric flowrate shall be determined using Method 2, 2A, 2C, or 2D, 40 CFR part 60, appendix A, as appropriate.

(iii) To determine compliance with the control device percent reduction performance requirement in § 63.1281(d)(1)(i)(A), 63.1281(d)(1)(ii), or 63.1281(e)(3)(ii), the owner or operator shall use either Method 18, 40 CFR part 60, appendix A, or Method 25A, 40 CFR part 60, appendix A;

alternatively, any other method or data that have been validated according to the applicable procedures in Method 301 of appendix A of this part may be used. The following procedures shall be used to calculate the percentage of reduction:

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

(B) The mass rate of either TOC (minus methane and ethane) or total HAP (E_i, E_o) shall be computed.

(*1*) The following equations shall be used:

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

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

Where:

C_{ij}, C_{oj} = Concentration of sample component j of the gas stream at the inlet and outlet of the control device, respectively, dry basis, parts per million by volume.

E_i, E_o = Mass rate of TOC (minus methane and ethane) or total HAP at the inlet and outlet of the control device, respectively, dry basis, kilogram per hour.

M_{ij}, M_{oj} = Molecular weight of sample component j of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole.

Q_i, Q_o = Flowrate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute.

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

(*2*) When the TOC mass rate is calculated, all organic compounds (minus methane and ethane) measured by Method 18, of 40 CFR part 60, appendix A; or Method 25A, 40 CFR part 60, appendix A, shall be summed using the equations in paragraph (d)(3)(iii)(B)(*1*) of this section.

(*3*) When the total HAP mass rate is calculated, only HAP chemicals listed in Table 1 of this subpart shall be summed using the equations in paragraph (d)(3)(iii)(B)(*1*) of this section.

(C) The percentage of reduction in TOC (minus methane and ethane) or total HAP shall be calculated as follows:

$$R_{cd} = \frac{E_i - E_o}{E_i} \times 100\%$$

Where:

R_{cd} = Control efficiency of control device, percent.

E_i = Mass rate of TOC (minus methane and ethane) or total HAP at the inlet to the control device as calculated under paragraph (d)(3)(iii)(B) of this section, kilograms TOC per hour or kilograms HAP per hour.

E_o = Mass rate of TOC (minus methane and ethane) or total HAP at the outlet of the control device, as calculated under paragraph (d)(3)(iii)(B) of this section, kilograms TOC per hour or kilograms HAP per hour.

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

(iv) To determine compliance with the enclosed combustion device total HAP concentration limit specified in § 63.1281(d)(1)(i)(B), the owner or operator shall use either Method 18, 40 CFR part 60, appendix A; or Method 25A, 40 CFR part 60, appendix A, to measure either TOC (minus methane and ethane) or total HAP. Alternatively, any other method or data that have been validated according to Method 301 of appendix A of this part, may be used. The following procedures shall be used to calculate parts per million by volume concentration, corrected to 3 percent oxygen:

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

(B) The TOC concentration or total HAP concentration shall be calculated according to paragraph (d)(3)(iv)(B)(*1*) or (d)(3)(iv)(B)(*2*) of this section.

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

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

Where:

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

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

n = Number of components in the sample.

x = Number of samples in the sample run.

(*2*) The total HAP concentration (C_{HAP}) shall be computed according to the equation in paragraph (d)(3)(iv)(B)(*1*) of this section, except that only HAP chemicals listed in Table 1 of this subpart shall be summed.

(C) The TOC concentration or total HAP concentration shall be corrected to 3 percent oxygen as follows:

(*1*) The emission rate correction factor for excess air, integrated sampling and analysis procedures of Method 3B, 40 CFR part 60, appendix A, shall be used to determine the oxygen concentration ($\%O_{2d}$). The samples shall be taken during the same time that the samples are taken for determining TOC concentration or total HAP concentration.

(*2*) The concentration corrected to 3 percent oxygen (C_c) shall be computed using the following equation:

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

Where:

C_c = TOC concentration of total HAP concentration corrected to 3 percent oxygen, dry basis, parts per million by volume.

C_m = TOC concentration or total HAP concentration, dry basis, parts per million by volume.

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

(4) For a design analysis conducted to meet the requirements of § 63.1281(d)(1) or (e)(3)(ii), the owner or operator shall meet the requirements specified in paragraphs (d)(4)(i) and (d)(4)(ii) of this section. Documentation of the design analysis shall be submitted as a part of the Notification of Compliance Status Report as required in § 63.1285(d)(1)(i).

(i) The design analysis shall include analysis of the vent stream characteristics and control device

operating parameters for the applicable control device as specified in paragraphs (d)(4)(i) (A) through (F) of this section.

(A) For a thermal vapor incinerator, the design analysis shall include the vent stream composition, constituent concentrations, and flowrate and shall establish the design minimum and average temperatures in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall include the vent stream composition, constituent concentrations, and flowrate and shall establish the design minimum and average temperatures across the catalyst bed inlet and outlet, and the design service life of the catalyst.

(C) For a boiler or process heater, the design analysis shall include the vent stream composition, constituent concentrations, and flowrate; shall establish the design minimum and average flame zone temperatures and combustion zone residence time; and shall describe the method and location where the vent stream is introduced into the flame zone.

(D) For a condenser, the design analysis shall include the vent stream composition, constituent concentrations, flowrate, relative humidity, and temperature, and shall establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and the design average temperatures of the coolant fluid at the condenser inlet and outlet. As an alternative to the design analysis, an owner or operator may elect to use the procedures specified in paragraph (d)(5) of this section.

(E) For a regenerable carbon adsorption, the design analysis shall include the vent stream composition, constituent concentrations, flowrate, relative humidity, and temperature, and shall establish the design exhaust vent stream organic compound concentration level, adsorption cycle time, number and capacity of carbon beds, type and working capacity of activated carbon used for the carbon beds, design total regeneration stream flow over the period of each complete carbon bed regeneration cycle, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of the carbon.

(F) For a nonregenerable carbon adsorption system, such as a carbon canister, the design analysis shall include the vent stream composition, constituent concentrations, flowrate, relative humidity, and temperature, and shall establish the design exhaust vent stream organic compound concentration level, capacity of the carbon bed, type and working capacity of activated carbon used for the carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule. In addition, these systems will incorporate dual carbon canisters in case of emission breakthrough occurring in one canister.

(ii) If the owner or operator and the Administrator do not agree on a demonstration of control device performance using a design analysis, then the disagreement shall be resolved using the results of a performance test performed by the owner or operator in accordance with the requirements of paragraph (d)(3) of this section. The Administrator may choose to have an authorized representative observe the performance test.

(5) As an alternative to the procedures in paragraphs (d)(3) and (d)(4)(i)(D) of this section, an owner or operator may elect to use the procedures documented in the GRI report entitled, ''Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions,'' (GRI–95/0368.1) as inputs for the model GRI–GLYCalc™, Version 3.0 or higher, to determine condenser performance.

(e) *Compliance demonstration for control devices performance requirements.* This paragraph applies to the demonstration of compliance with the control device performance requirements specified in § 63.1281(d)(1) and (e)(3)(ii). Compliance shall be demonstrated using the requirements in paragraphs (e)(1) through (e)(3) of this section. As an alternative, an owner or operator that installs a condenser as the control device to achieve the requirements specified in § 63.1281(d)(2)(ii) or § 63.1275(c)(2), may demonstrate compliance according to paragraph (f) of this section. An owner or operator may switch between compliance with paragraph (e) of this section and compliance with paragraph (f) of this section only after at least 1 year of operation in compliance with the selected approach. Notification of such a change in the compliance method shall be reported in the next Periodic Report, as required in § 63.1285(e), following the change.

(1) The owner or operator shall establish a site specific maximum or minimum monitoring parameter value (as appropriate) according to the requirements of § 63.1283(d)(5)(i).

(2) The owner or operator shall calculate the daily average of the applicable monitored parameter in accordance with § 63.1283(d)(4).

(3) Compliance is achieved when the daily average of the monitoring parameter value calculated under paragraph (e)(2) of this section is either equal to or greater than the minimum or equal to or less than the maximum monitoring value established under paragraph (e)(1) of this section.

(f) *Compliance demonstration with percent reduction performance requirements—condensers.* This paragraph applies to the demonstration of compliance with the performance requirements specified in § 63.1281(d)(1)(ii) for condensers. Compliance shall be demonstrated using the procedures in paragraphs (f)(1) through (f)(3) of this section.

(1) The owner or operator shall establish a site-specific condenser performance curve according to the procedures specified in § 63.1283(d)(5)(ii).

(2) Compliance with the percent reduction requirement in § 63.1281(d)(1)(ii) or § 63.1275(c)(2) shall be demonstrated by the procedures in paragraphs (f)(2)(i) through (f)(2)(iii) of this section.

(i) The owner or operator must calculate the daily average condenser outlet temperature in accordance with § 63.1283(d)(4).

(ii) The owner or operator shall determine the condenser efficiency for the current operating day using the daily average condenser outlet temperature calculated in paragraph (f)(2)(i) of this section and the condenser performance curve established in paragraph (f)(1) of this section.

(iii) Except as provided in paragraphs (f)(2)(iii) (A), (B), and (D) of this section, at the end of each operating day the owner or operator shall calculate the 30-day average HAP emission reduction from the condenser efficiencies determined in paragraph (f)(2)(ii) of this section for the preceding 30 operating days. If the owner or operator uses a combination of process modifications and a condenser in accordance with the requirements of § 63.1275(c)(2), the 30-day average HAP emission reduction shall be calculated using the emission reduction achieved through process modifications and the condenser efficiency determined in paragraph (f)(2)(ii) of this section, both for the preceding 30 operating days.

(A) After the compliance date specified in § 63.1270(f), an owner or operator of a facility that stores natural gas that has less than 30 days of data for determining the average HAP emission reduction, shall calculate the cumulative average at the end of the withdrawal season, each season, until 30 days of condenser operating data are

accumulated. For a facility that does not store natural gas, the owner or operator that has less than 30 days of data for determining average HAP emission reduction, shall calculate the cumulative average at the end of the calendar year, each year, until 30 days of condenser operating data are accumulated.

(B) After the compliance date specified in § 63.1270(f), an owner or operator that has less than 30 days of data for determining the average HAP emission reduction, compliance is achieved if the average HAP emission reduction calculated in paragraph (f)(2)(iii)(A) of this section, is equal to or greater than 95.0 percent.

(C) For the purposes of this subpart, a withdrawal season begins the first time gas is withdrawn from the storage field after July 1 of the calendar year and ends on June 30 of the next calendar year.

(D) Glycol dehydration units that are operated continuously have the option of complying with the requirements specified in 40 CFR 63.772(g).

(3) Compliance is achieved with the emission limitation specified in § 63.1281(d)(1)(ii) or § 63.1275(c)(2) if the average HAP emission reduction calculated in paragraph (f)(2)(iii) of this section is equal to or greater than 95.0 percent.

§ 63.1283 Inspection and monitoring requirements.

(a) This section applies to an owner or operator using air emission controls in accordance with the requirements of § 63.1275.

(b) [Reserved]

(c) *Closed-vent system inspection and monitoring requirements.* (1) For each closed-vent system required to comply with this section, the owner or operator shall comply with the requirements of paragraphs (c)(2) through (7) of this section.

(2) Except as provided in paragraphs (c) (5) and (6) of this section, each closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (c)(2) (i) and (ii) of this section.

(i) For each closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted or gasketed ducting flange), the owner or operator shall:

(A) Conduct an initial inspection according to the procedures specified in § 63.1282(b) to demonstrate that the closed-vent system operates with no detectable emissions.

(B) Conduct annual visual inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; or broken or missing caps or other closure devices. The owner or operator shall monitor a component or connection using the procedures specified in § 63.1282(b) to demonstrate that it operates with no detectable emissions following any time the component or connection is repaired or replaced or the connection is unsealed.

(ii) For closed-vent system components other than those specified in paragraph (c)(2)(i) of this section, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures specified in § 63.1282(b) to demonstrate that the closed-vent system operates with no detectable emissions.

(B) Conduct annual inspections according to the procedures specified in § 63.1282(b) to demonstrate that the components or connections operate with no detectable emissions.

(C) Conduct annual visual inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork; loose connections; or broken or missing caps or other closure devices.

(3) In the event that a leak or defect is detected, the owner or operator shall repair the leak or defect as soon as practicable, except as provided in paragraph (c)(4) of this section.

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

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

(4) Delay of repair of a closed-vent system for which leaks or defects have been detected is allowed if the repair is technically infeasible without a shutdown, as defined in § 63.1271, 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 completed by the end of the next shutdown.

(5) Any parts of the closed-vent system or cover that are designated, as described in paragraphs (c)(5) (i) and (ii) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (c)(2) (i) and (ii) of this section if:

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

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

(6) Any parts of the closed-vent system or cover that are designated, as described in paragraphs (c)(6) (i) and (ii) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (c)(2) (i) and (ii) of this section if:

(i) 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

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

(7) Records shall be maintained as specified in § 63.1284(b)(5) through (8).

(d) *Control device monitoring requirements.* (1) For each control device except as provided for in paragraph (d)(2) of this section, the owner or operator shall install and operate a continuous parameter monitoring system in accordance with the requirements of paragraphs (d)(3) through (9) of this section that will allow a determination to be made whether the control device is achieving the applicable performance requirements of § 63.1281(d) or (e)(3). The continuous parameter monitoring system must meet the following specifications and requirements:

(i) Each continuous parameter monitoring system shall measure data values at least once every hour and record either:

(A) Each measured data value; or

(B) Each block average value for each 1-hour period 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.

(ii) The monitoring system must be installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications or other written procedures that provide reasonable assurance that the monitoring equipment is operating properly.

(2) An owner or operator is exempted from the monitoring requirements specified in paragraphs (d)(3) through (9) of this section for the following types of control devices:

(i) A boiler or process heater in which all vent streams are introduced with the primary fuel or are used as the primary fuel;

(ii) A boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts.

(3) The owner or operator shall install, calibrate, operate, and maintain a device equipped with a continuous recorder to measure the values of operating parameters appropriate for the control device as specified in either paragraph (d)(3)(i), (d)(3)(ii), or (d)(3)(iii) of this section.

(i) A continuous monitoring system that measures the following operating parameters as applicable:

(A) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The monitoring device shall have a minimum accuracy of ±2 percent of the temperature being monitored in °C, or ±2.5 °C, whichever value is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(B) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperatures at two locations and have a minimum accuracy of ±2 percent of the temperatures being monitored in °C, or ±2.5 °C, whichever value is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(C) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(D) For a boiler or process heater with a design heat input capacity of less than 44 megawatts, a temperature monitoring device equipped with a continuous recorder. The temperature monitoring device shall have a minimum accuracy of ±2 percent of the temperature being monitored in °C, or ±2.5 °C, whichever value is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(E) For a condenser, a temperature monitoring device equipped with a continuous recorder. The temperature monitoring device shall have a minimum accuracy of ±2 percent of the temperature being monitored in °C, or ±2.5 °C, whichever value is greater. The temperature sensor shall be installed at a location in the exhaust vent stream from the condenser.

(F) For a regenerative-type carbon adsorption system:

(*1*) A continuous parameter monitoring system to measure and record the average total regeneration stream mass flow or volumetric flow during each carbon bed regeneration cycle. The integrating regenerating stream flow monitoring device must have an accuracy of ±10 percent; and

(*2*) A continuous parameter monitoring system to measure and record the average carbon bed temperature for the duration of the carbon bed steaming cycle and to measure the actual carbon bed temperature after regeneration and within 15 minutes of completing the cooling cycle. The temperature monitoring device shall have a minimum accuracy of ±2 percent of the temperature being monitored in °C, or ±2.5 °C, whichever value is greater.

(G) For a nonregenerative-type carbon adsorption system, the owner or operator shall monitor the design carbon replacement interval established using a performance test performed in accordance with § 63.1282(d)(3) or a design analysis in accordance with § 63.1282(d)(4)(i)(F) and shall be based on the total carbon working capacity of the control device and source operating schedule.

(ii) A continuous monitoring system that measures the concentration level of organic compounds in the exhaust vent stream from the control device using an organic monitoring device equipped with a continuous recorder. The monitor must meet the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR part 60 and must be installed, calibrated, and maintained according to the manufacturer's specifications.

(iii) A continuous monitoring system that measures alternative operating parameters other than those specified in paragraph (d)(3)(i) or (d)(3)(ii) of this section upon approval of the Administrator as specified in § 63.8(f)(1) through (5).

(4) Using the data recorded by the monitoring system, the owner or operator must calculate the daily average value for each monitored operating parameter for each operating day. If HAP emissions unit operation is continuous, the operating day is a 24-hour period. If the HAP emissions unit operation is not continuous, the operating day is the total number of hours of control device operation per 24-hour period. Valid data points must be available for 75 percent of the operating hours in an operating day to compute the daily average.

(5) For each operating parameter monitored in accordance with the requirements of paragraph (d)(3) of this section, the owner or operator shall comply with paragraph (d)(5)(i) of this section for all control devices, and when condensers are installed, the owner or operator shall also comply with paragraph (d)(5)(ii) of this section for condensers.

(i) The owner or operator shall establish a minimum operating parameter value or a maximum operating parameter value, as appropriate for the control device, to define the conditions at which the control device must be operated to continuously achieve the applicable performance requirements of § 63.1281(d)(1) or (e)(3)(ii). Each minimum or maximum operating parameter value shall be established as follows:

(A) If the owner or operator conducts performance tests in accordance with the requirements of § 63.1282(d)(3) to demonstrate that the control device achieves the applicable performance requirements specified in § 63.1281(d)(1) or (e)(3)(ii), then the minimum operating parameter value or the maximum operating parameter value shall be established based on values measured during the performance test and supplemented, as necessary, by control device design analysis or control device manufacturer's recommendations or a combination of both.

(B) If the owner or operator uses a control device design analysis in accordance with the requirements of § 63.1282(d)(4) to demonstrate that the control device achieves the applicable performance requirements specified in § 63.1281(d)(1) or (e)(3)(ii), then the minimum operating parameter value or the maximum operating parameter value shall be established based on the control device design analysis and may be supplemented by the control device manufacturer's recommendations.

(ii) The owner or operator shall establish a condenser performance curve showing the relationship between condenser outlet temperature and condenser control efficiency. The curve shall be established as follows:

(A) If the owner or operator conducts a performance test in accordance with the requirements of § 63.1282(d)(3) to demonstrate that the condenser achieves the applicable performance requirements in § 63.1281(d)(1) or (e)(3)(ii), then the condenser performance curve shall be based on values measured during the performance test and supplemented as necessary by control device design analysis, or control device

manufacturer's recommendations, or a combination or both.

(B) If the owner or operator uses a control device design analysis in accordance with the requirements of § 63.1282(d)(4)(i)(D) to demonstrate that the condenser achieves the applicable performance requirements specified in § 63.1281(d)(1) or (e)(3)(ii), then the condenser performance curve shall be based on the condenser design analysis and may be supplemented by the control device manufacturer's recommendations.

(C) As an alternative to paragraphs (d)(5)(ii)(A) and (B) of this section, the owner or operator may elect to use the procedures documented in the GRI report entitled, ''Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions'' (GRI–95/0368.1) as inputs for the model GRI–GLYCalc™, Version 3.0 or higher, to generate a condenser performance curve.

(6) An excursion for a given control device is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in paragraphs (d)(6)(i) through (d)(6)(iv) of this section being met. When multiple operating parameters are monitored for the same control device and during the same operating day, and more than one of these operating parameters meets an excursion criterion specified in paragraphs (d)(6)(i) through (d)(6)(iv) of this section, then a single excursion is determined to have occurred for the control device for that operating day.

(i) An excursion occurs when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit) established for the operating parameter in accordance with the requirements of paragraph (d)(5)(i) of this section.

(ii) An excursion occurs when average condenser efficiency calculated according to the requirements specified in § 63.1282(f)(2)(iii) is less than 95.0 percent, as specified in § 63.1282(f)(3).

(iii) An excursion occurs when the monitoring data are not available for at least 75 percent of the operating hours.

(iv) If the closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device, an excursion occurs when:

(A) For each bypass line subject to § 63.1281(c)(3)(i)(A) the flow indicator indicates that flow has been detected and that the stream has been diverted away from the control device to the atmosphere.

(B) For each bypass line subject to § 63.1281(c)(3)(i)(B), if the seal or closure mechanism has been broken, the bypass line valve position has changed, the key for the lock-and-key type lock has been checked out, or the car-seal has broken.

(7) For each excursion, except as provided for in paragraph (d)(8) of this section, the owner or operator shall be deemed to have failed to have applied control in a manner that achieves the required operating parameter limits. Failure to achieve the required operating parameter limits is a violation of this standard.

(8) An excursion is not a violation of the operating parameter limit as specified in paragraphs (d)(8)(i) and (d)(8)(ii) of this section.

(i) An excursion does not count toward the number of excused excursions allowed under paragraph (d)(8)(ii) of this section when the excursion occurs during any one of the following periods:

(A) During a period of startup, shutdown, or malfunction when the affected facility is operated during such period in accordance with the facility's startup, shutdown, and malfunction plan; or

(B) During periods of non-operation of the unit or the process that is vented to the control device (resulting in cessation of HAP emissions to which the monitoring applies).

(ii) For each control device, or combinations of control devices, installed on the same HAP emissions unit, one excused excursion is allowed per semiannual period for any reason. The initial semiannual period is the 6-month reporting period addressed by the first Periodic Report submitted by the owner or operator in accordance with § 63.1285(e) of this subpart.

(9) Nothing in paragraphs (d)(1) through (d)(8) of this section shall be construed to allow or excuse a monitoring parameter excursion caused by any activity that violates other applicable provisions of this subpart.

§ 63.1284 Recordkeeping requirements.

(a) The recordkeeping provisions of subpart A of this part, that apply and those that do not apply to owners and operators of facilities subject to this subpart are listed in Table 2 of this subpart.

(b) Except as specified in paragraphs (c) and (d) of this section, each owner or operator of a facility subject to this subpart shall maintain the records specified in paragraphs (b)(1) through (b)(10) of this section:

(1) The owner or operator of an affected source subject to the provisions of this subpart shall maintain files of all information (including all reports and notifications) required by this subpart. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or period.

(i) All applicable records shall be maintained in such a manner that they can be readily accessed.

(ii) The most recent 12 months of records shall be retained on site or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request.

(iii) The remaining 4 years of records may be retained offsite.

(iv) 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.

(2) Records specified in § 63.10(b)(2);

(3) Records specified in § 63.10(c) for each monitoring system operated by the owner or operator in accordance with the requirements of § 63.1283(d). Notwithstanding the previous sentence, monitoring data recorded during periods identified in paragraphs (b)(2)(i) through (b)(2)(iv) of this section shall not be included in any average or percent leak rate 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.

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

(ii) Startup, shutdown, and malfunction events. During startup, shutdown and malfunction events, the owner or operator shall maintain records indicating whether or not the startup, shutdown, or malfunction plan, required under § 63.1272(d), was followed.

(iii) Periods of non-operation resulting in cessation of the emissions to which the monitoring applies; and

(iv) Excursions due to invalid data as defined in § 63.1283(d)(6)(iii).

(4) Each owner or operator using a control device to comply with § 63.1274 shall keep the following records up-to-date and readily accessible:

(i) Continuous records of the equipment operating parameters specified to be monitored under § 63.1283(d) or specified by the Administrator in accordance with § 63.1283(d)(3)(iii). For flares, the hourly records and records of pilot flame outages specified in § 63.1283(d)(3)(i)(C) shall be maintained in place of continuous records.

(ii) Records of the daily average value of each continuously monitored parameter for each operating day determined according to the procedures specified in § 63.1283(d)(4) of this subpart. For flares, records of the times and duration of all periods during which all pilot flames are absent shall be kept rather than daily averages.

(iii) Hourly records of whether the flow indicator specified under § 63.1281(c)(3)(i)(A) was operating and whether flow was detected at any time during the hour, as well as records of the times and durations of all periods when the vent stream is diverted from the control device or the monitor is not operating.

(iv) Where a seal or closure mechanism is used to comply with § 63.1281(c)(3)(i)(B), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanism has been done, and shall record the duration of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken.

(5) Records identifying all parts of the closed-vent system that are designated as unsafe to inspect in accordance with § 63.1283(c)(5), an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(6) Records identifying all parts of the closed-vent system that are designated as difficult to inspect in accordance with § 63.1283(c)(6), an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(7) For each inspection conducted in accordance with § 63.1283(c), during which a leak or defect is detected, a record of the information specified in paragraphs (b)(7)(i) through (b)(7)(viii) of this section.

(i) The instrument identification numbers, operator name or initials, and identification of the equipment.

(ii) The date the leak or defect was detected and the date of the first attempt to repair the leak or defect.

(iii) Maximum instrument reading measured by the method specified in § 63.1283(c)(3) after the leak or defect is successfully repaired or determined to be nonrepairable.

(iv) ''Repair delayed'' and the reason for the delay if a leak or defect is not repaired within 15 calendar days after discovery of the leak or defect.

(v) The name, initials, or other form of identification of the owner or operator (or designee) whose decision it was that repair could not be effected without a shutdown.

(vi) The expected date of successful repair of the leak or defect if a leak or defect is not repaired within 15 calendar days.

(vii) Dates of shutdowns that occur while the equipment is unrepaired.

(viii) The date of successful repair of the leak or defect.

(8) For each inspection conducted in accordance with § 63.1283(c) during which no leaks or defects are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks or defects were detected.

(9) Records of glycol dehydration unit baseline operations calculated as required under § 63.1281(e)(1).

(10) Records required in § 63.1281(e)(3)(i) documenting that the facility continues to operate under the conditions specified in § 63.1281(e)(2).

(c) An owner or operator that elects to comply with the benzene emission limit specified in § 63.1275(b)(1)(ii) shall document, to the Administrator's satisfaction, the following items:

(1) The method used for achieving compliance and the basis for using this compliance method; and

(2) The method used for demonstrating compliance with 0.90 megagrams per year of benzene.

(3) Any information necessary to demonstrate compliance as required in the methods specified in paragraphs (c)(1) and (c)(2) of this section.

(d) An owner or operator that is exempt from control requirements under § 63.1274(d) shall maintain the records specified in paragraph (d)(1) or (d)(2) of this section, as appropriate, for each glycol dehydration unit that is not controlled according to the requirements of § 63.1274(c).

(1) The actual annual average natural gas throughput (in terms of natural gas flowrate to the glycol dehydration unit per day), as determined in accordance with § 63.1282(a)(1); or

(2) The actual average benzene emissions (in terms of benzene emissions per year), as determined in accordance with § 63.1282(a)(2).

(e) Record the following when using a flare to comply with § 63.1281(d):

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

(2) All visible emission readings, heat content determinations, flowrate measurements, and exit velocity determinations made during the compliance determination required by § 63.1282(d)(2); and

(3) All periods during the compliance determination when the pilot flame is absent.

§ 63.1285 Reporting requirements.

(a) The reporting provisions of subpart A, of this part that apply and those that do not apply to owners and operators of facilities subject to this subpart are listed in Table 2 of this subpart.

(b) Each owner or operator of a facility subject to this subpart shall submit the information listed in paragraphs (b)(1) through (b)(6) of this section, except as provided in paragraph (b)(7) of this section.

(1) The initial notifications required for existing affected sources under § 63.9(b)(2) shall be submitted by 1 year after an affected source becomes subject to the provisions of this subpart or by June 17, 2000, whichever is later. Affected sources that are major sources on or before June 17, 2000 and plan to be area sources by June 17, 2002 shall include in this notification a brief, nonbinding description of a schedule for the action(s) that are planned to achieve area source status.

(2) The date of the performance evaluation as specified in § 63.8(e)(2), required only if the owner or operator is requested by the Administrator to conduct a performance evaluation for a continuous monitoring system. A separate notification of the performance evaluation is not required if it is included in the initial notification submitted in accordance with paragraph (b)(1) of this section.

(3) The planned date of a performance test at least 60 days before the test in accordance with § 63.7(b). Unless requested by the Administrator, a site-specific test plan is not required by this subpart. If requested by the Administrator, the owner or operator must also submit the site-specific test plan required by § 63.7(c) with the notification of the performance test. A separate notification of the performance test is not required if it is included in the initial notification submitted in accordance with paragraph (b)(1) of this section.

(4) A Notification of Compliance Status Report as described in paragraph (d) of this section;

(5) Periodic Reports as described in paragraph (e) of this section; and

(6) Startup, shutdown, and malfunction reports, as specified in § 63.10(d)(5), shall be submitted as required. Separate startup, shutdown, or malfunction reports as described in § 63.10(d)(5)(i) are not required if the information is included in the Periodic Report specified in paragraph (e) of this section.

(7) Each owner or operator of a glycol dehydration unit subject to this subpart that is exempt from the control

requirements for glycol dehydration unit process vents in § 63.1275, is exempt from all reporting requirements for major sources in this subpart for that unit.

(c) [Reserved]

(d) Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status Report as required under § 63.9(h) within 180 days after the compliance date specified in § 63.1270(d). In addition to the information required under § 63.9(h), the Notification of Compliance Status Report shall include the information specified in paragraphs (d)(1) through (d)(10) of this section. 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 all of the information required under this paragraph have been submitted at any time prior to 180 days after the applicable compliance dates specified in § 63.1270(d), a separate Notification of Compliance Status Report is not required. If an owner or operator submits the information specified in paragraphs (d)(1) through (d)(9) of this section at different times, and/or different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information.

(1) If a closed-vent system and a control device other than a flare are used to comply with § 63.1274, the owner or operator shall submit:

(i) The design analysis documentation specified in § 63.1282(d)(4) of this subpart if the owner or operator elects to prepare a design analysis; or

(ii) If the owner or operator elects to conduct a performance test, the performance test results including the information specified in paragraphs (d)(1)(ii)(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 § 63.1282(d)(3), and that the test conditions are representative of current operating conditions.

(A) The percent reduction of HAP or TOC, or the outlet concentration of HAP or TOC (parts per million by volume on a dry basis), determined as specified in § 63.1282(d)(3) of this subpart; and

(B) The value of the monitored parameters specified in § 63.1283(d) of this subpart, or a site-specific parameter approved by the permitting agency, averaged over the full period of the performance test.

(2) If a closed-vent system and a flare are used to comply with § 63.1274, the owner or operator shall submit performance test results including the information in paragraphs (d)(2)(i) and (ii) of this section.

(i) All visible emission readings, heat content determinations, flowrate measurements, and exit velocity determinations made during the compliance determination required by § 63.1282(d)(2) of this subpart, and

(ii) A statement of whether a flame was present at the pilot light over the full period of the compliance determination.

(3) The owner or operator shall submit one complete test report for each test method used for a particular source.

(i) For additional tests performed using the same test method, the results specified in paragraph (d)(1)(ii) 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.

(4) For each control device other than a flare used to meet the requirements of § 63.1274, the owner or operator shall submit the information specified in paragraphs (d)(4)(i) through (iii) of this section for each operating parameter required to be monitored in accordance with the requirements of § 63.1283(d).

(i) The minimum operating parameter value or maximum operating parameter value, as appropriate for the control device, established by the owner or operator to define the conditions at which the control device must be operated to continuously achieve the applicable performance requirements of § 63.1281(d)(1) or (e)(3)(ii).

(ii) An explanation of the rationale for why the owner or operator selected each of the operating parameter values established in § 63.1283(d)(5) of this subpart. This explanation shall include any data and calculations used to develop the value, and a description of why the chosen value indicates that the control device is operating in accordance with the applicable requirements of § 63.1281(d)(1) or (e)(3)(ii).

(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.

(5) Results of any continuous monitoring system performance evaluations shall be included in the Notification of Compliance Status Report.

(6) After a title V permit has been issued to the owner or operator of an affected source, the owner or operator of such source shall comply with all requirements for compliance status reports contained in the source's title V permit, including reports required under this subpart. After a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this subpart, the owner or operator of such source shall submit the notification of compliance status to the appropriate permitting authority following completion of the relevant compliance demonstration activity specified in this subpart.

(7) The owner or operator that elects to comply with the requirements of § 63.1275(b)(1)(ii) shall submit the records required under § 63.1284(c).

(8) The owner or operator shall submit an analysis demonstrating whether an affected source is a major source using the maximum throughput calculated according to § 63.1270(a).

(9) The owner or operator shall submit a statement as to whether the source has complied with the requirements of this subpart.

(10) The owner or operator shall submit the analysis prepared under § 63.1281(e)(2) to demonstrate that the conditions by which the facility will be operated to achieve an overall HAP emission reduction of 95.0 percent through process modifications or a combination of process modifications and one or more control devices.

(e) *Periodic Reports.* An owner or operator shall prepare Periodic Reports in accordance with paragraphs (e)(1) and (2) of this section and submit them to the Administrator.

(1) An owner or operator shall submit Periodic Reports semiannually, beginning 60 operating days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status Report is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status Report is due.

(2) The owner or operator shall include the information specified in paragraphs (e)(2)(i) through (viii) of this section, as applicable.

(i) The information required under § 63.10(e)(3). For the purposes of this

subpart and the information required under § 63.10(e)(3), excursions (as defined in § 63.1283(d)(6)) shall be considered excess emissions.

(ii) A description of all excursions as defined in § 63.1283(d)(6) of this subpart that have occurred during the 6-month reporting period.

(A) For each excursion caused when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit), as specified in § 63.1283(d)(6)(i), the report must include the daily average values of the monitored parameter, the applicable operating parameter limit, and the date and duration of the period that the excursion occurred.

(B) For each excursion caused when the 30-day average condenser control efficiency is less than 95.0 percent, as specified in § 63.1283(d)(6)(ii), the report must include the 30-day average values of the condenser control efficiency, and the date and duration of the period that the excursion occurred.

(C) For each excursion caused by lack of monitoring data, as specified in § 63.1283(d)(6)(iii), the report must include the date and duration of period when the monitoring data were not collected and the reason why the data were not collected.

(iii) For each inspection conducted in accordance with § 63.1283(c) during which a leak or defect is detected, the records specified in § 63.1284(b)(7) must be included in the next Periodic Report.

(iv) For each closed-vent system with a bypass line subject to § 63.1281(c)(3)(i)(A), records required under § 63.1284(b)(4)(iii) of all periods when the vent stream is diverted from the control device through a bypass line. For each closed-vent system with a bypass line subject to § 63.1281(c)(3)(i)(B), records required under § 63.1284(b)(4)(iv) of all periods in which the seal or closure mechanism is broken, the bypass valve position has changed, or the key to unlock the bypass line valve was checked out.

(v) If an owner or operator elects to comply with § 63.1275(b)(1)(ii), the records required under § 63.1284(c)(3).

(vi) The information in paragraphs (e)(2)(vi)(A) and (B) of this section shall be stated in the Periodic Report, when applicable.

(A) No excursions.

(B) No continuous monitoring system has been inoperative, out of control, repaired, or adjusted.

(vii) Any change in compliance methods as specified in § 63.1275(b).

(viii) If the owner or operator elects to comply with § 63.1275(c)(2), the records required under § 63.1284(b)(10).

(f) *Notification of process change.* Whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report within 180 days after the process change is made or as a part of the next Periodic Report as required under paragraph (e) of this section, whichever is sooner. The report shall include:

(1) A brief description of the process change;

(2) A description of any modification to standard procedures or quality assurance procedures;

(3) Revisions to any of the information reported in the original Notification of Compliance Status Report under paragraph (d) of this section; and

(4) Information required by the Notification of Compliance Status Report under paragraph (d) of this section for changes involving the addition of processes or equipment.

§ 63.1286 Delegation of authority.

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

(b) Authorities will not be delegated to States for §§ 63.1282 and 63.1287 of this subpart.

§ 63.1287 Alternative means of emission limitation.

(a) If, in the judgment of the Administrator, an alternative means of emission limitation will achieve a reduction in HAP emissions at least equivalent to the reduction in HAP emissions from that source achieved under the applicable requirements in §§ 63.1274 through 63.1281, the Administrator will publish a notice in the **Federal Register** permitting the use of the alternative means for purposes of compliance with that requirement. The notice may condition the permission on requirements related to the operation and maintenance of the alternative means.

(b) Any notice under paragraph (a) of this section shall be published only after public notice and an opportunity for a hearing.

(c) Any person seeking permission to use an alternative means of compliance under this section shall collect, verify, and submit to the Administrator information showing that this means achieves equivalent emission reductions.

§ 63.1288 [Reserved]

§ 63.1289 [Reserved]

Appendix to Subpart HHH—Tables

TABLE 1.—LIST OF HAZARDOUS AIR POLLUTANTS (HAP) FOR SUBPART HHH

CAS Number [a]	Chemical name
75070 ...	Acetaldehyde
71432 ...	Benzene (includes benzene in gasoline)
75150 ...	Carbon disulfide
463581	Carbonyl sulfide
100414	Ethyl benzene
107211	Ethylene glycol
75050 ...	Acetaldehyde
50000 ...	Formaldehyde
110543	n-Hexane
91203 ...	Naphthalene
108883	Toluene
540841	2,2,4-Trimethylpentane
1330207	Xylenes (isomers and mixture)
95476 ...	o-Xylene
108383	m-Xylene
106423	p-Xylene

[a] CAS numbers refer to the Chemical Abstracts Services registry number assigned to specific compounds, isomers, or mixtures of compounds.

TABLE 2 TO SUBPART HHH.—APPLICABILITY OF 40 CFR PART 63 GENERAL PROVISIONS TO SUBPART HHH

General provisions reference	Applicable to subpart HHH	Explanation
§ 63.1(a)(1)	Yes	
§ 63.1(a)(2)	Yes	
§ 63.1(a)(3)	Yes	
§ 63.1(a)(4)	Yes	
§ 63.1(a)(5)	No	Section reserved.
§ 63.1(a)(6) through (a)(8)	Yes	
§ 63.1(a)(9)	No	Section reserved.
§ 63.1(a)(10)	Yes	

TABLE 2 TO SUBPART HHH.—APPLICABILITY OF 40 CFR PART 63 GENERAL PROVISIONS TO SUBPART HHH—Continued

General provisions reference	Applicable to subpart HHH	Explanation
§63.1(a)(11)	Yes	
§63.1(a)(12) through (a)(14)	Yes	
§63.1(b)(1)	No	Subpart HHH specifies applicability.
§63.1(b)(2)	Yes	
§63.1(b)(3)	No.	
§63.1(c)(1)	No	Subpart HHH specifies applicability.
§63.1(c)(2)	No	
§63.1(c)(3)	No	Section reserved.
§63.1(c)(4)	Yes	
§63.1(c)(5)	Yes	
§63.1(d)	No	Section reserved.
§63.1(e)	Yes	
§63.2	Yes	Except definition of major source is unique for this source category and there are additional definitions in subpart HHH.
§63.3(a) through (c)	Yes	
§63.4(a)(1) through (a)(3)	Yes	
§63.4(a)(4)	No	Section reserved.
§63.4(a)(5)	Yes	
§63.4(b)	Yes	
§63.4(c)	Yes	
§63.5(a)(1)	Yes	
§63.5(a)(2)	No	Preconstruction review required only for major sources that commence construction after promulgation of the standard.
§63.5(b)(1)	Yes	
§63.5(b)(2)	No	Section reserved.
§63.5(b)(3)	Yes	
§63.5(b)(4)	Yes	
§63.5(b)(5)	Yes	
§63.5(b)(6)	Yes	
§63.5(c)	No	Section reserved.
§63.5(d)(1)	Yes	
§63.5(d)(2)	Yes	
§63.5(d)(3)	Yes	
§63.5(d)(4)	Yes	
§63.5(e)	Yes	
§63.5(f)(1)	Yes	
§63.5(f)(2)	Yes	
§63.6(a)	Yes	
§63.6(b)(1)	Yes	
§63.6(b)(2)	Yes	
§63.6(b)(3)	Yes	
§63.6(b)(4)	Yes	
§63.6(b)(5)	Yes	
§63.6(b)(6)	No	Section reserved.
§63.6(b)(7)	Yes	
§63.6(c)(1)	Yes	
§63.6(c)(2)	Yes	
§63.6(c)(3) and (c)(4)	No	Section reserved.
§63.6(c)(5)	Yes	
§63.6(d)	No	Section reserved.
§63.6(e)	Yes	
§63.6(e)	Yes	Except as otherwise specified.
§63.6(e)(1)(i)	No	Addressed in §63.1272.
§63.6(e)(1)(ii)	Yes	
§63.6(e)(1)(iii)	Yes	
§63.6(e)(2)	Yes	
§63.6(e)(3)(i)	Yes	Except as otherwise specified.
§63.6(e)(3)(i)(A)	No	Addressed by §63.1272(c).
§63.6(e)(3)(i)(B)	Yes	
§63.6(e)(3)(i)(C)	Yes	
§63.6(e)(3)(ii) through (3)(vi)	Yes	
§63.6(e)(3)(vii).		
§63.6(e)(3)(vii) (A)	Yes	
§63.6(e)(3)(vii) (B)	Yes	Except that the plan must provide for operation in compliance with §63.1272(c).
§63.6(e)(3)(vii) (C)	Yes	
§63.6(e)3)(viii)	Yes	
§63.7(e)(1)	Yes	
§63.7(e)(2)	Yes	
§63.7(e)(3)	Yes	
§63.7(e)(4)	Yes	
§63.7(f)	Yes	
§63.7(g)	Yes	
§63.7(h)	Yes	
§63.8(a)(1)	Yes	
§63.8(a)(2)	Yes	
§63.8(a)(3)	No	Section reserved.
§63.8(a)(4)	Yes	
§63.8(b)(1)	Yes	
§63.8(b)(2)	Yes	
§63.8(b)(3)	Yes	

TABLE 2 TO SUBPART HHH.—APPLICABILITY OF 40 CFR PART 63 GENERAL PROVISIONS TO SUBPART HHH—Continued

General provisions reference	Applicable to subpart HHH	Explanation
§ 63.8(c)(1)	Yes	
§ 63.8(c)(2)	Yes	
§ 63.8(c)(3)	Yes	
§ 63.8(c)(4)	No.	
§ 63.8(c)(5) through (c)(8)	Yes	
§ 63.8(d)	Yes	
§ 63.8(e)	Yes	Subpart HHH does not specifically require continuous emissions monitor performance evaluations, however, the Administrator can request that one be conducted.
§ 63.8(f)(1) through (f)(5)	Yes	
§ 63.8(f)(6)	No	Subpart HHH does not require continuous emissions monitoring.
§ 63.8(g)	No	Subpart HHH specifies continuous monitoring system data reduction requirements.
§ 63.9(a)	Yes	
§ 63.9(b)(1)	Yes	
§ 63.9(b)(2)	Yes	Sources are given 1 year (rather than 120 days) to submit this notification.
§ 63.9(b)(3)	Yes	
§ 63.9(b)(4)	Yes	
§ 63.9(b)(5)	Yes	
§ 63.9(c)	Yes	
§ 63.9(d)	Yes	
§ 63.9(e)	Yes	
§ 63.9(f)	No.	
§ 63.9(g)	Yes	
§ 63.9(h)(1) through (h)(3)	Yes	
§ 63.9(h)(4)	No	Section reserved.
§ 63.9(h)(5) and (h)(6)	Yes	
§ 63.9(i)	Yes	
§ 63.9(j)	Yes	
§ 63.10(a)	Yes	
§ 63.10(b)(1)	Yes	
§ 63.10(b)(2)	Yes	
§ 63.10(b)(3)	No	
§ 63.10(c)(1)	Yes	
§ 63.10(c)(2) through (c)(4)	No	Sections reserved.
§ 63.10(c)(5) through (c)(8)	Yes	
§ 63.10(c)(9)	No	Section reserved.
§ 63.10(c)(10) through (c)(15)	Yes	
§ 63.10(d)(1)	Yes	
§ 63.10(d)(2)	Yes	
§ 63.10(d)(3)	Yes	
§ 63.10(d)(4)	Yes	
§ 63.10(d)(5)	Yes	Subpart HHH requires major sources to submit a startup, shutdown and malfunction report semi-annually.
§ 63.10(e)(1)	Yes	
§ 63.10(e)(2)	Yes	
§ 63.10(e)(3)(i)	Yes	Subpart HHH requires major sources to submit Periodic Reports semi-annually.
§ 63.10(e)(3)(i)(A)	Yes	
§ 63.10(e)(3)(i)(B)	Yes	
§ 63.10(e)(3)(i)(C)	No	Subpart HHH does not require quarterly reporting for excess emissions.
§ 63.10(e)(3)(ii) through (e)(3)(viii)	Yes	
§ 63.10(f)	Yes	
§ 63.11(a) and (b)	Yes	
§ 63.12(a) through (c)	Yes	
§ 63.13(a) through (c)	Yes	
§ 63.14(a) and (b)	Yes	
§ 63.15(a) and (b)	Yes	

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