ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[FRL–7163–7]

RIN 2060–AF28

National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action establishes final national emission standards for hazardous air pollutants (NESHAP) for certain types of affected sources at petroleum refineries. The affected sources include catalytic cracking units (CCU), catalytic reforming units, and sulfur recovery units, as well as associated by-pass lines. The EPA has identified petroleum refineries as major sources of hazardous air pollutants (HAP). Hazardous air pollutants that would be reduced by this final rule include organics (acetaldehyde, benzene, formaldehyde, hexane, phenol, toluene, and xylene); reduced sulfur compounds (carbonyl sulfide, carbon disulfide); inorganics (hydrogen chloride, chlorine); and particulate metals (antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, and nickel). The health effects of exposure to these HAP can include cancer, respiratory irritation, and damage to the nervous system. These final standards implement section 112(d) of the Clean Air Act (CAA) by requiring all petroleum refineries that are major sources to meet standards reflecting the application of the maximum achievable control technology (MACT). When fully implemented, this rule will reduce HAP emissions from the affected sources by nearly 11,000 tons per year tpy—an 87 percent reduction from current levels. Emissions of other pollutants such as volatile organic compounds (VOC), particulate matter (PM), carbon monoxide (CO), and hydrogen sulfide will be reduced by about 60,000 tpy.

EFFECTIVE DATE: April 11, 2002.

ADDRESSES: Docket No. A–97–36 contains supporting information used in developing this rule. The docket is located at the U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460 in room M–1500, Waterside Mall (ground floor), and may be inspected from 8:30 a.m. to 5:30 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: For information on the basis for the rule, contact Mr. Robert B. Lucas, Waste and Chemical Process Group, Emission Standards Division (C439–03), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541–0884, electronic mail address, ‘‘*lucas.bob@epa.gov;*’’ for information concerning legal matters, contact Mr. Richard Vetter, Emission Standards Division (C439–03), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541–2127, electronic mail address, ‘‘*vetter.rick@epa.gov*’’ for questions concerning compliance determinations, contact Mr. Thomas Ripp, Office of Enforcement and Compliance Assurance (2223A), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, telephone number (202) 564–7003, electronic mail address, ‘‘*ripp.tom@epa.gov*’’ or for information on the test methods, contact Ms. Rima Howell, Emissions Monitoring and Analysis Division (D205–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541–0443, electronic mail address, ‘‘*howell.rima@epa.gov*’’. For applicability determination questions, refer to the table in the **SUPPLEMENTARY INFORMATION** section.

SUPPLEMENTARY INFORMATION: *Docket.* The docket is an organized and complete file of all the information considered by the EPA in the development of this rule. The docket is a dynamic file because material is added throughout the rulemaking process. The docketing system is intended to allow members of the public and industries involved to readily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the proposed and promulgated rules and their preambles, the contents of the docket will serve as the record in the case of judicial review. (See section 307(d)(7)(A) of the CAA.) Other material related to this rulemaking is available for review in the docket or copies may be mailed on request from the Air Docket by calling (202) 260–7548. A reasonable fee may be charged for copying docket materials.

World Wide Web (WWW). In addition to being available in the docket, an electronic copy of today's final rule will also be available on the WWW through the Technology Transfer Network (TTN). Following signature, a copy of the rule will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at *http://www.epa.gov/ttn/oarpg.* The TTN provides information and technology exchange in various areas of air pollution control. If more information regarding the TTN is needed, call the TTN HELP line at (919) 541–5384.

Judicial Review. Today's action constitutes final administrative action on the proposed NESHAP for CCU, catalytic reforming units, and sulfur recovery units (63 FR 48890, September 11, 1998). Under section 307(b)(1) of the CAA, judicial review of the final rule is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by June 10, 2002. Under section 307(b)(2) of the CAA, the requirements that are the subject of this document may not be challenged later in civil or criminal proceedings brought by the EPA to enforce these requirements.

Regional Contacts for Applicability Determination

Region I, Director, Air Compliance Programs, EPA New England, 1 Congress Street, Suite 1100 (SEA), Boston, MA 02114–2023, Phone contact: (617) 918–1656 FAX: (617) 918–1112.

Region II, U.S. EPA, 290 Broadway, New York, NY 10007–1866, Phone (212) 637–3000, FAX (212) 637–3526.

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Region IV, Leonardo Ceron, U.S. EPA, 61 Forsyth Street, SW., Atlanta, GA 30303–3104, Phone: (404) 562–9900, FAX: (404–562–8174.

Region V, Kathy Keith U.S. EPA, 77 West Jackson Boulevard, Chicago, IL 60604–3507, Phone: (312) 353–6956, FAX: (312) 353–4135.

Region VI, U.S. EPA, Martin E. Brittain (214) 665–7206, Jonathan York (214) 665–7289, Barry Feldman (214) 665–7439, Fountain Place, 12th Floor, Suite 1200, 1445 Ross Avenue, Dallas, TX 75292–2733, FAX: (214) 665–2146.

Region VII, Bill Peterson, U.S. EPA, 726 Minnesota Avenue, Kansas City, KS 66101, Phone: (913) 551–7881, FAX: (913) 551–7467.	Region VIII, Art Palomares (303–312–6332), e-mail: *Palomares.Art@epa.gov,* Tami Thomas-Burton (303–312–6581). e-mail: Thomas-burton.tami@epa.gov, U.S. EPA, MACT Enforcement, 999 18th Street, Suite 500, ENF–T, Denver, Colorado 80202, FAX: 303–312–6409.
Region IX, John Kim, U.S. EPA, 75 Hawthorne Street (AIR–5), San Francisco, CA 94105, Phone: (415) 744–1263, FAX: (415) 744–2499.	Region X, Kai–Hon Shum, U.S. EPA, Office of Air Quality, 1200 Sixth Avenue (OAQ–107), Seattle, Washington 98101, Phone: (206) 553–2117, FAX: 206–553–0149.

Regulated Entities. Categories and entities potentially regulated by this action include:

Category	SIC code	NAIC	Examples of regulated entities
Industry	2911	32411	Petroleum refineries that operate CCU, catalytic reforming units, or sulfur recovery units.
Federal Government			Not affected.
State/local/tribal			Not affected.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine whether your facility is regulated by this action, you should examine the applicability criteria in § 63.1561 of the final rule. If you have any questions regarding the applicability of this action to a particular entity, consult the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Outline. The information in this preamble is organized as follows:

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I. Background

The CAA was created in part to protect and enhance the quality of the Nation's air resources to promote public health and welfare and the productive capability of its population. Section 112(d) of the CAA requires us (the EPA) to establish standards for all categories and subcategories of major sources of HAP and for area sources listed for regulation under section 112(c). Major sources are those that emit or have the potential to emit at least 10 tpy of any single HAP or 25 tpy of any combination of HAP. Area sources are stationary sources of HAP that are not major sources.

We received 40 public comments on the proposed NESHAP. Commenters included industry representatives and trade associations, State and local agencies, environmental groups, vendors, and technical experts. To provide interested individuals the opportunity for oral presentations of data, views, or arguments concerning the proposed rule, we held a public hearing on October 14, 1998, and extended the end of the public comment period from November 10, 1998, to December 1, 1998 (Docket A–97–36). Today's final rule reflects our full consideration of all the comments we received. Major public comments on the proposed rule along with our responses to these comments are summarized in this document. See the Response to Comment Document (Docket A–97–36) for detailed responses to all the comments.

II. Summary of Final Rule and Changes Since Proposal

We revised the overall format of the rule to make it easier to understand, implement, and enforce. Separate sections of this ''plain language'' final rule cover the requirements for each type of HAP (i.e., metal HAP, organic HAP, inorganic HAP, or overall HAP) from an affected source. Each section of the rule refers you (the refinery owner or operator) to tables at the end of the rule that list the specific rule requirements and give step-by-step instructions on how to demonstrate initial and continuous compliance.

For purposes of the final rule, the title has been changed to ''National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units'' to better describe the affected population. The source category list will be amended to reflect this name change in a separate action.

In the past year, six petroleum refining companies have signed voluntary settlements with EPA which will add controls for CCU and SRU that will comply with this final rule. We have not revised the impact estimates to reflect the controls resulting from these settlements.

A. Who Must Comply With This Rule?

The final rule (subpart UUU) applies to you if your petroleum refinery is a major source of HAP emissions and includes an affected source covered by the rule. Based on our data, we believe all 164 existing petroleum refineries in the U.S. and its territories are major sources; 132 of these facilities have one or more of the affected sources subject to the rule requirements.

B. What Equipment Is Covered?

Section 63.1562 of the final rule identifies each type of affected source as well as equipment or processes not covered by the rule. As proposed, three types of existing, new, or reconstructed units are subject to the rule. These are:

- Each CCU that regenerates catalyst;
- Each catalytic reforming unit that regenerates catalyst; and
- Each sulfur recovery unit and the tail gas treatment unit serving it.

The rule also applies to each by-pass line serving a new, existing, or reconstructed affected source. We have clarified the applicability of the rule to emphasize that the unit is the affected source while the emission limits and standards apply to the specified type of vent associated with the unit.

The final rule applies only to the predominant type of CCU—those using a fluidized bed (i.e., fluid CCU). We also revised the applicability of the rule to exclude redundant sulfur recovery units not located at a petroleum refinery and used by the refinery only for emergency or maintenance backup. Consistent with the proposed rule, the final rule doesn't apply to a sulfur recovery unit that doesn't recover elemental sulfur, certain equipment associated with by-pass lines (i.e., low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, or pressure relief valves needed for safety reasons), or gaseous streams routed to a fuel gas system.

C. When Must I Comply?

Section 63.1563 of the final rule gives the compliance dates. As discussed further in section IV.A of this document, we have included provisions allowing an extended compliance date for existing fluid CCU located at a petroleum refinery that commits to hydrotreating the CCU feed to comply with the gasoline sulfur control requirements in the Tier 2 Motor Vehicle Emission Standards (40 CFR part 80) and the applicable emission limitations in subpart UUU. The compliance date for these existing affected sources will depend on when the refinery must meet the 30 parts per million (ppm) limit for gasoline sulfur content, but can't be any later than December 31, 2009. Otherwise, affected sources must comply within 3 years from today's date.

We also clarified the compliance dates for new or reconstructed affected sources. If you started your new or reconstructed affected source before today's date, you must comply with the applicable rule requirements by today. If you start your new or reconstructed affected source after today's date, you must comply with the rule requirements upon startup.

D. What Are the Emission Limitations and Other Standards?

The final rule includes emission limitations for HAP emissions of particulate metals and organic compounds from CCU, organic and inorganic compounds from catalytic reforming units, and reduced sulfur compounds from sulfur recovery units. An emission limitation means any emission limit, operating limit, opacity limit, or visible emissions limit. Surrogates are used in this rule to represent the HAP emissions. They allow easier, less expensive measurement and monitoring requirements. For CCU, PM and nickel (Ni) are used as surrogates for metal HAP. Carbon monoxide is used as a surrogate for organic HAP emissions. Total organic carbon (TOC) is a surrogate for organic HAP emissions from catalytic reforming units while hydrogen chloride (HCl) represents inorganic HAP emissions. Sulfur dioxide (SO_2) or total reduced sulfur (TRS) represent the reduced sulfur HAP emissions from sulfur recovery units.

We made no changes in the MACT floor determinations of control technologies serving as the basis of the proposed rule. The emission control technologies and limits are discussed in the preamble to the proposed NESHAP (63 FR 48890). However, we did revise in other respects the emission limitations and standards that reflect the performance of the MACT floor technologies.

In response to public comments, we clarified the requirements for affected sources also subject to the new source performance standard (NSPS) for petroleum refineries (40 CFR part 60, subpart J) and added new compliance options. If your affected source is also subject to the NSPS, complying with the NSPS emission limitations also allows you to comply with this rule. If your affected source isn't subject to the NSPS, you can elect to comply with the NSPS emission limitations in order to be in compliance with this rule.

As further discussed in section IV.B of this document, we also added a second Ni limit as another metal HAP compliance option for CCU. This alternative provides an emission limit formatted to account for the variable characteristics of these units. We added it to the rule both to credit and encourage hydrotreating of the CCU feed as a means of reducing metal HAP emissions to the atmosphere.

We also made a change to the TOC emission limit for catalytic reforming units in § 63.1562(b)(1)(iii) of the proposed rule. This provision exempted emissions during depressuring and purging operations if the reactor vent pressure or differential pressure between the reactor vent and the gas transfer system to the control device were under 1 pound per square inch gauge (psig). Since 5 psig is the limit in States with facilities representing the MACT floor, we revised this provision to state that the emission limitations do not apply to depressuring and purging when the reactor vent pressure is 5 psig or less.

The final rule also includes specific operating limits for monitored process or control device operating parameters. Operating limits also may apply if you choose to comply with certain options, such as the alternative Ni emission limitations for CCU.

Tables 1, 2, 8, and 9 to the final rule (subpart UUU) show the final emission limitations for CCU. Tables 15, 16, 22, and 23 to subpart UUU give the emission limitations for catalytic reforming units. The final emission limitations for sulfur recovery units are in Tables 29 and 30 to subpart UUU.

The final rule also includes work practice standards for HAP emissions from by-pass lines. A work practice standard may include a design, equipment, work practice, or operational requirement. Table 36 to subpart UUU lists the four options provided under the final rule. The final rule also includes work practice standards for all affected sources. These standards require you to prepare an operation, maintenance, and monitoring plan according to the rule requirements and comply with the procedures in the plan. This plan must be consistent with good air pollution control practices for minimizing emissions.

E. How Do I Demonstrate Initial Compliance?

You must install and operate the required continuous monitoring systems and show that you meet each emission limitation or work practice standard that applies to you. The requirements for demonstrating initial compliance differ by unit type and according to whether or not your affected source is also subject to the NSPS requirements.

If your CCU or sulfur recovery unit is also subject to the NSPS, you must meet the applicable emission limitations and monitoring requirements in this rule. These requirements in this case are the same as the NSPS. If you have already done a performance test to demonstrate initial compliance with the NSPS, you aren't required to do another test to demonstrate initial compliance with the limits in this rule. If you have already done a performance test, you aren't required to do another one to show that your continuous opacity and emission monitoring systems meet the applicable performance specifications. You can demonstrate initial compliance for these affected sources by submitting a written statement in your Notification of Compliance Status certifying that you comply with the applicable NSPS requirements.

We have revised the requirements for affected sources not subject to the NSPS to account for the new compliance options, as well as revisions to monitoring requirements. Your requirements for demonstrating initial compliance will vary according to the compliance option you elect and the type of continuous monitoring system you must use.

1. HAP Metal Emissions From CCU

If you elect to comply with the NSPS, you must install and operate a continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent. The final rule also requires a continuous opacity monitoring system if your CCU has a fresh feed capacity of 20,000 barrels per day (or more) and uses an add-on control device other than a wet scrubber (e.g., an electrostatic precipitator) to control the catalyst regenerator vent emissions. You also must install and operate a continuous opacity monitoring system if your CCU isn't equipped with an add-on control device. If you use a continuous opacity monitoring system and elect to comply with either of the Ni limits, you also must install and operate a continuous parameter monitoring system to measure and record the gas flow rate. Or, you can use the approved alternative procedure in the final rule to determine the gas flow rate.

For a smaller CCU (fresh feed capacity 20,000 barrels per day or less) that uses an electrostatic precipitator to control emissions from the catalyst regenerator vent, you can use a continuous opacity monitoring system (with a continuous monitoring parameter system for gas flow rate if you elect either of the Ni options) or continuous parameter monitoring systems. The continuous parameter monitoring systems must measure and record the gas flow rate as well as the voltage and secondary current (or total power input).

If you use a wet scrubber to control emissions from your catalyst regenerator vent, you must use continuous parameter monitoring systems to measure and record the pressure drop across the scrubber, the gas flow rate, and the total liquid (or scrubbing liquor) flow rate, regardless of unit capacity. In response to comments, we exempted non-Venturi wet scrubbers of the jet-ejector design from monitoring requirements and operating limits for pressure drop.

Section 63.1573 of the final rule provides approved alternative monitoring procedures. If applicable, you can use these alternative procedures to determine the gas flow rate rather than a continuous parameter monitoring system.

You must prepare a site-specific test plan and do a performance test to demonstrate initial compliance with the applicable emission limitation(s). If you use a continuous opacity monitoring system and elect to meet the NSPS, you also must do a site-specific performance evaluation test plan and performance evaluation to show that your monitoring system meets the applicable performance specification.

If you use a continuous opacity monitoring system and elect the PM limit, you must use the performance test results to establish a site-specific opacity operating limit. If you elect either Ni limit, you must use the performance test results to establish a site-specific Ni operating limit based on opacity, gas flow rate, equilibrium catalyst Ni concentration, and coke burn-rate (depending on the format of the option you elect). You can use EPA Method 6010b, 6020, 7520, or 7521 in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, Revision 5 (April 1998) or an alternative method satisfactory to the Administrator to analyze the equilibrium catalyst Ni concentration. The final rule includes procedures for establishing each type of operating limit.

If you use continuous parameter monitoring systems for an electrostatic precipitator and elect the PM emission limitation, you must use the performance test results to establish operating limits for gas flow rate and voltage and secondary current (or total power input). If you elect either of the Ni limits, you must establish operating limits for the equilibrium catalyst Ni concentration. If you use a wet scrubber, you must use the performance test results to establish operating limits for pressure drop and liquid-to-gas ratio (if you elect the PM limit) as well as equilibrium catalyst Ni concentration (if you elect either of the Ni limits).

Table 3 to subpart UUU shows the requirements for continuous monitoring systems for HAP metal emissions from CCU. Table 4 to subpart UUU shows the performance test requirements under each of the four compliance options. You have demonstrated initial compliance with the metal HAP emission limitations if you meet the conditions in Table 5 to subpart UUU.

2. Organic HAP Emissions From CCU

Table 10 to subpart UUU shows the requirements for continuous monitoring systems for organic HAP emissions from CCU. If you elect to comply with the NSPS requirements, you must install and operate a continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent.

If you don't elect to comply with the NSPS requirements, you must use continuous parameter monitoring systems. In response to comments, we have revised the proposed requirements for thermal incinerators to include a continuous parameter monitoring system to measure and record the oxygen content (percent dry basis) in the incinerator vent stream as well as the combustion zone temperature. If your unit is not equipped with a combustion control device, the final rule requires that you use a continuous emission monitoring system. Like the NSPS, if you can demonstrate that emissions from your vent average 50 ppm or less, the final rule does not require a continuous emission monitoring system or a continuous parameter monitoring system.

To demonstrate initial compliance, you must prepare a site-specific test plan and do a performance test to show that your vent meets the emission limit. If you use a continuous emission monitoring system and elect to comply with the NSPS, you also must prepare a site-specific performance evaluation test plan and do a performance evaluation to show that your system meets the applicable performance specification.

If you use continuous parameter monitoring systems, you must use the test results to establish operating limits for combustion zone temperature and oxygen concentration in the vent stream. We also clarified the performance test provisions for flares, which require a visible emissions test by Method 22 with a 2-hour observation period.

Table 11 to subpart UUU shows the performance test requirements for organic HAP emissions. You have demonstrated initial compliance with the organic HAP emission limits if you meet the conditions in Table 12 to subpart UUU.

3. Organic HAP Emissions From Catalytic Reforming Units

Table 17 to subpart UUU shows the continuous monitoring system requirements for organic HAP emissions from catalytic reforming units. We didn't revise the proposed requirements for continuous monitoring systems for these units.

To demonstrate initial compliance, you must prepare a site-specific test plan and do a performance test to show that your vent meets the applicable emission limitation. We revised the proposed performance test procedures to remove Method 18 (40 CFR part 60, appendix A) for measurement of TOC concentration. You can use Method 25 or 25A for TOC concentration. We also clarified the requirements for flares (see section II.E of this document). Using the performance test results, you must establish operating limits for the combustion zone temperature of your combustion control device. Table 18 to subpart UUU shows the performance test requirements. You have demonstrated initial compliance with the emission limitations if you meet the conditions in Table 19 to subpart UUU.

4. Inorganic HAP Emissions From Catalytic Reforming Units

Table 24 to subpart UUU shows the continuous monitoring system requirements for inorganic HAP emissions from catalytic reforming units. We revised the proposed requirements for wet scrubbers to include a continuous parameter monitoring system to measure and record the pH of the water (or scrubbing liquid) exiting the scrubber instead of a continuous parameter monitoring system for pressure drop. You can also use the approved monitoring alternative for pH strips in lieu of a continuous parameter monitoring system. We also revised the proposed rule to include requirements for units with an internal scrubbing system (i.e., no add-on control device) based on use of colormetric tube sampling systems.

Table 25 to subpart UUU shows the performance test requirements for inorganic HAP emissions from catalytic reforming units. You must prepare a site-specific test plan and do a performance test to show that you meet the applicable emission limitation. We revised the proposed performance test requirements to specify that you can't make any test runs during the first hour or the last 6 hours of the cycle for a semi-regenerative or cyclic regeneration unit. Using the results of the performance test, you must establish operating limits for the liquid-to-gas ratio and pH of the scrubber water (or scrubbing liquid). If you don't use a control device, you must establish an operating limit for the HCl concentration using colormetric tubes. You can use Method 26 in 40 CFR part 60, appendix B, to measure emissions from these units. You have achieved initial compliance with the inorganic HAP emission standards if you meet the conditions in Table 26 to subpart UUU.

5. Organic HAP Emissions From Sulfur Recovery Units

Table 31 to subpart UUU shows the continuous monitoring system requirements for organic HAP emissions from sulfur recovery units. If you elect to comply with the NSPS requirements, you must install and operate a continuous emission monitoring system to measure and record the concentration (dry basis, zero percent excess air) of SO2 emissions exiting each exhaust stack for the unit if you use an oxidation or reduction control system followed by incineration. If you use a reduction control system without incineration, you must use continuous emission monitoring systems to measure and record the concentration of reduced sulfur and oxygen emissions. If you elect to comply with the TRS limit and use an incinerator to control emissions from your vent, you must install and operate a continuous emission monitoring system or a continuous parameter monitoring system to measure and record the combustion zone temperature and the oxygen content (percent, dry basis) in the vent stream of the incinerator. If you do not use an add-on control device to control emissions from your vent, you must install and operate a continuous emission monitoring system to measure and record the concentration of TRS.

You must prepare a site-specific test plan and do a performance test to show that emissions from your vent meet the applicable standard. If you use a continuous emission monitoring system and elect to meet the NSPS, you also must do a site-specific performance evaluation test plan and a performance evaluation to show that your system meets the applicable performance specification. If you use continuous parameter monitoring systems, you must establish operating limits for oxygen concentration as well as for combustion zone temperature. Table 32 to subpart UUU shows the performance test requirements for each option. You have demonstrated initial compliance if you meet the conditions specified in Table 33 to subpart UUU.

6. HAP Emissions From Bypass Lines

We revised the proposed standards for by-pass lines to include two new equipment options suggested by commenters. Table 37 to subpart UUU shows the performance test requirement applicable to a flow indicator, level recorder, or electronic valve position monitor. You have achieved initial compliance if you meet the applicable conditions for the work practice option you select shown in Table 38 to subpart UUU.

7. Continuous Monitoring System Requirements

We added new sections (§§ 63.1572 and 63.1573) to the final rule to clearly identify the requirements for monitor installation and operation and monitoring alternatives. Table 40 to subpart UUU shows the requirements for continuous opacity monitoring systems and continuous emission monitoring systems, which are the same as the NSPS. Table 41 to subpart UUU shows the requirements for installation and operation of continuous parameter monitoring systems. We have revised these requirements to include more detailed requirements for inspections and calibration checks as well as performance specifications for some types of systems. We also revised the rule to clarify that each continuous parameter monitoring system must measure and record on an hourly or hourly average basis and determine and record the daily average value.

The final rule also specifies that you operate your monitors (or collect data at all required intervals) at all times the affected source is operating. This does not apply to monitoring malfunctions, associated repairs, required quality assurance or control activities, and preapproved planned maintenance activities. You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations or to meet a minimum data availability requirement.

8. Performance Tests, Performance Evaluations, and Engineering Assessments

Section 63.1571 of the final rule contains general information and criteria you must meet for these activities. We have clarified the rule to specify that you can do your performance test at any time from today's date to your compliance date. In response to comments, we revised

§ 63.1564(e) of the proposed rule to require that the tests be done under normal operating conditions rather than at ''maximum representative operating capacity for the process.'' You must base your process or control device operating limits on the performance test measurements. However, unless you elect one of the two Ni options for metal HAP emissions from CCU, you can adjust the measured values, if necessary, using control device design specifications, manufacturer recommendations, or other applicable data. You must document any adjustment to the satisfaction of your permitting authority. We added special provisions to the rule for adjusting the Ni-related values.

This section of the rule also covers how to change your operating limit. While you can change your site-specific opacity operating limit or Ni operating limit only by doing a new performance test, you can change other operating limits for continuous parameter monitoring systems by doing another performance test, a performance test in conjunction with an engineering assessment, or by an engineering assessment. You must establish a revised limit if you make any change in the process or operating conditions that could affect control system performance or if you change the designated conditions after the last performance or compliance tests were done.

F. How Do I Demonstrate Continuous Compliance?

A new section, § 63.1570, of the final rule states your general requirements for complying with this rule. You must be in compliance with all of the non-opacity emission limits during the times specified in § 63.6(g)(1). You must be in compliance with the opacity emission limits during the times specified in § 63.6(h)(1). You must always operate and maintain your affected source, including air pollution and control and monitoring equipment, according to the provisions in § 63.6(e)(1)(i).

Subpart UUU requires that you develop and implement a startup, shutdown, and malfunction plan according to the requirements in § 63.6(e)(3). During periods of startup, shutdown, or malfunction, you must operate your affected source and control equipment according to your plan.

You must report each instance in which you did not meet each emission limitation or work practice standard that applies to you. This includes periods of startup, shutdown, and malfunction. These instances are deviations from the emission limitations and work practice standards that must be reported according the requirements in § 63.1575 of the final rule.

Consistent with §§ 63.6(e) and 63.7(e)(1), a deviation that occurs during a period of startup, shutdown, or malfunction is not a violation if you demonstrate to the Administrator's satisfaction that you were operating in accordance with your startup, shutdown, and malfunction plan. The Administrator will determine whether a deviation that occurs during a period of startup, shutdown, or malfunction is a violation according to the provisions in § 63.6(e). As proposed, multiple deviations from the same control device at the same time when you monitor process or control device operating parameters are a single deviation. You still must report each deviation.

You must demonstrate continuous compliance with each emission limitation and work practice standard that applies to you. To demonstrate continuous compliance with the emission limitations for CCU, you must meet each of the conditions specified in Tables 6 and 7 to subpart UUU (for metal HAP emissions) and Tables 13 and 14 to subpart UUU (for organic HAP emissions). For catalytic reforming units, you must meet each of the conditions in Tables 20 and 21 to subpart UUU (for organic HAP emissions) and Tables 27 and 28 to subpart UUU (for inorganic HAP emissions). For HAP emissions from sulfur recovery units, you must meet each of the conditions in Tables 34 and 35 to subpart UUU. Continuous compliance requirements for by-pass lines are in Table 39 to subpart UUU. We have revised the continuous compliance requirements to reflect the inclusion of new compliance options and monitoring requirements.

G. What Are the Notification, Recordkeeping, and Reporting Requirements?

Sections 63.1574 through 63.1576 of the final rule describe the requirements for notices, reports, and records. As proposed, you may be required to provide up to seven types of one-time notifications of applicability, intention to construct or reconstruct (including construction and startup dates), performance test dates, and compliance status.

We added a one-time notice for owner and operators to obtain an extension of compliance on the emission limitations for an existing CCU. To obtain the extension, the owner or operator must commit to adding hydrotreatment of the CCU feedstock to meet the final Tier 2 gasoline sulfur control standards (40 CFR part 80, subpart J).

We have streamlined the data requirements for the Notification of Compliance Status by removing certain information on operation, maintenance, and monitoring of affected sources and control systems. This information is to be included in a separate operation, maintenance, and monitoring plan submitted to your permitting authority for review and approval. The plan must cover each affected source, monitoring system or procedure, and control device or method. This plan also contains information such as the procedures you will use to monitor certain process or control device operating parameters, your quality assurance/quality control plan for continuous monitoring systems, and monitoring and maintenance schedules.

You must submit a semiannual compliance report containing the information specified in the rule. We revised the rule to require that you submit the report whether or not a deviation occurred during the reporting period. However, only summary information is required if no deviation occurred. As proposed, the rule does not require that you make emergency reports if actions taken are consistent with your startup, shutdown, and malfunction plan. If actions taken are not consistent with your plan, you must report the events and the response in your semiannual compliance report.

We also revised the proposed rule in response to comments to include provisions allowing the permitting authority to approve a period of planned routine maintenance for a refinery with multiple CCU served by a single wet scrubber emission control device. During this pre-approved time period, the refinery may take the control device and/or one of the process units out of service for maintenance while the remaining process unit(s) continues to operate. To obtain approval, you must submit a written request at least 6 months before the planned maintenance is scheduled to begin that contains the specified information and data. This includes:

- A description of the planned routine maintenance and why it is necessary;
- The date the maintenance will begin and end;
- A quantified estimate of the emissions (including HAP and criteria pollutants) that would be released with an analysis of the environmental benefits (i.e., emission reduction) that would result as opposed to delaying the maintenance until the next unit turnaround; and
- Actions to be taken to minimize emissions during the period.

You must include a copy of the request in the compliance report due for the period before the planned maintenance is scheduled to begin. In the compliance report due after the routine planned maintenance is complete, you must provide followup information on the maintenance including the number of hours the control device did not operate.

As proposed, you must keep records of the information and data required by § 63.10. This includes information and data you must record to show continuous compliance with the emission limitations and work practice standards. You also must keep records of any changes that affect the performance of your emission control system.

III. Summary of Environmental, Energy, and Economic Impacts

In response to comments, we revised the environmental impacts analysis in two major respects. First, we incorporated the most current (1998) facility-specific data available. We removed thermal (non-fluid) CCU from the analysis because these units are not subject to the final rule. Finally, we changed the HAP metal emission estimate methodology to allow more site-specific and unit-specific estimates based on equilibrium catalyst Ni concentrations. The revised environmental impacts analysis is available in the docket (Docket A–97–37).

A. What Are the Air Quality Impacts?

We estimate nationwide HAP emissions from process vents on CCU, catalytic reforming units, and sulfur recovery units at 12,700 tpy at the current level of control. Most of the 162 existing refineries will meet the requirements of the rule within 3 years for all affected sources. A small number of fluid CCU may be granted an extension of compliance to install hydrotreating unit(s). When this rule is fully implemented for all affected sources, nationwide HAP emissions will be reduced by about 11,000 tpy, an 87 percent reduction. Emissions of non-HAP such as VOC, CO, PM, and hydrogen sulfide will be reduced by about 55 percent from the current level of about 109,000 tpy. Little or no adverse secondary air impacts, water, or solid waste impacts are anticipated from the implementation of these standards.

B. What Are the Cost Impacts?

For most facilities, the costs of the rule will be incurred over the next 3 years. For a few facilities, the costs for fluid CCU will be incurred over the next 8 years as hydrotreatment units are installed to meet the requirements of Tier 2 and this rule. The nationwide capital and annualized costs of control equipment (1998 dollars) are estimated at $163 million and $37.2 million/yr, respectively. When fully implemented, this rule is expected to result in an overall annual national cost of $47.3 million. This includes a cost of $37.2 million for operation and maintenance of control devices and a monitoring, recordkeeping, and reporting cost of $10.1 million ($9.2 million for operation and maintenance of monitoring systems and $0.9 million for recordkeeping and reporting).

About 75 percent of the facilities are currently meeting at least one of the emission limits required under the final rule. The costs for this rule are for the small fraction of refineries not already meeting the standard. Based on our cost analysis, only 29 of the 124 CCU (23 percent) and 53 of the 185 sulfur recovery units (29 percent) will require new or upgraded controls. We estimate that 102 of the 177 catalytic reforming units will require new or upgraded control systems for HCl.

C. What Are the Economic Impacts?

The economic analysis for the proposed rule showed that the estimated price increase of refined petroleum products is 0.24 percent for refineries expected to incur compliance costs as a result of the rule. The estimated decrease in output is 0.17 percent of domestic refinery products. The decline in domestic production is due to higher imports and reduced quantity demanded due to higher prices. However, the value of domestic shipments is expected to increase by 0.07 percent because the estimated price increase more than offsets the lower production volume. Annual net exports (exports minus imports) are predicted to decrease by 0.76 percent. Employment in the industry is likely to decrease by 0.19 percent (136 jobs). No plant closures or significant regional impacts are expected. The impacts for the final rule are expected to be similar to those predicted for the proposed rule since the overall costs and number of affected facilities changed only slightly; both overall capital and annual costs and number of affected sources are estimated to be lower for the final rule. Therefore, a new economic analysis was not considered necessary and was not conducted for the final rule. For more information on the economic impact analysis methodology and results, consult the ‘‘Economic Impact Analysis for the Petroleum Refinery NESHAP’’ (Docket A–97–37).

D. What Are the Non-Air Health and Environmental Impacts?

The control requirements in this rule are based on air pollution control systems currently in widespread use throughout the petroleum refining industry. The reduction in emissions of HAP and criteria pollutants will result in reduced deposition to waterbodies. The reduction in VOC will reduce ozone formation resulting in less damage to agricultural crops and forests. A small increase in annual water usage, about 6.2 million gallons nationwide, will result from the increased use of wet scrubbers.

E. What Are the Energy Impacts?

The energy impacts also are about the same as the proposed rule. Once fully implemented, annual electric usage is expected to increase by about 67,000 megawatt-hours (MW-hrs), primarily for CCU and sulfur recovery unit control systems. National natural gas usage, primarily for sulfur recovery unit control systems, is expected to increase by about 1.5 billion cubic feet per year.

IV. Summary of Major Comments and Responses

A. Why Did We Extend the Compliance Date?

Comment: Several industry commenters urge us to defer or delay promulgation of the rule to allow time to coordinate with the Tier 2 gasoline sulfur control requirements and other rules such as the reformulated gasoline (RFG) Phase II standard and the revised national ambient air quality standard for PM. Their major concern is that plants will be required to install expensive controls that may be extraneous as soon as they are installed depending on the outcome of the Tier 2 and other rules.

Response: To comply with the Tier 2 gasoline sulfur control requirements, individual refineries ultimately will need to produce gasoline with an average sulfur content of 30 ppm. The majority of refineries will need to undertake major construction projects to meet this limit. Since these projects could require modification of CCU and other affected sources, we revised the schedule to delay promulgation of this rule until completion of the Tier 2, which was promulgated on February 10, 2000 (65 FR 6698).

For some refineries, the Tier 2 rule significantly impacts its CCU. These refineries will have construction projects adding hydrotreating of the feed to the CCU. For these refineries, we also extended the compliance date to allow more time for construction projects. We believe that this will encourage refinery owners and operators to employ hydrotreating of the feedstock to comply with the Tier 2 rule. As discussed in more detail below, we believe that hydrotreating the feedstock has increased environmental benefits relative to other methods of reducing gasoline sulfur.

The extended compliance date for existing CCU is based on when and how a refinery produces low sulfur gasoline to meet the Tier 2 limit. Hydrotreating the feed to the CCU is one of the means of producing low sulfur gasoline. As discussed further below, hydrotreating the feedstock provides environmental benefits not realized with other methods of producing low sulfur gasoline. It is also, unfortunately, significantly more expensive than other methods of reducing the sulfur content of gasoline.

A refinery owner or operator must determine which technology to use in reducing gasoline sulfur to meet the fuel standards. A number of alternatives are available. Refineries may elect to hydrotreat after the CCU, to hydrotreat the CCU feedstock or to implement some other form of desulfurization technology. Hydrotreating the feedstock removes metals as well as sulfur. While hydrotreating the feedstock to the unit would allow greater flexibility within the overall refinery operations and would better position the refinery for any additional sulfur fuel standards that might be promulgated in the future, such as standards to reduce sulfur in diesel fuel (64 FR 26142, May 13, 1999), the cost of hydrotreating the CCU feed is considerably more than post-unit hydrotreating for desulfurization. Thus, despite the greater flexibility realized through hydrotreating the feedstock, there is an economic bias against its use to reduce gasoline sulfur to meet the fuel standards. We believe that this bias could increase substantially if we do not coordinate the compliance dates for these NESHAP and the Tier 2 rule. A substantial increase in the economic bias against hydrotreating the feedstock would likely result in less refineries implementing this method of reducing gasoline sulfur, thereby foregoing a potentially significant environmental benefit.

Some facilities will take longer than 3 years to comply with the Tier 2 standards. Should these facilities elect to install hydrotreatment units for the feed to the CCU, these new units will not be operating at the compliance date for the MACT standard, 3 years promulgation. To avoid non-compliance, an owner or operator would be required to install expensive PM controls to comply with the MACT standard. These new controls might then become redundant with the later startup of the hydrotreatment unit for the feed to the CCU. Therefore, if the owner or operator elects to install a hydrotreatment unit for the feed to the CCU, the MACT compliance date for the CCU becomes the same as the Tier 2 compliance date.

Linking the compliance dates for the two rules, in this particular instance for those refineries that elect to hydrotreat the CCU feedstock, will allow the refinery to coordinate both decision making and the actual construction projects and, thus, minimize disruption to the refinery operations. We believe that not linking the compliance dates for the two rules could result in an environmental benefit being foregone and that linking them will result in a net environmental benefit because the number of process unit shutdowns and startups would be minimized. Shutdowns and startups can result in considerably more emissions to the atmosphere than operations under normal conditions. An estimate of the emissions reductions that would result from linking the compliance dates for the CCU MACT standards and Tier 2 fuel standards is not possible at this time. This is because we lack information regarding how the refineries will choose to comply with the fuel standards and the uncertainties associated with startup and shutdown of these refinery operations.

Linking the MACT standards' compliance date to the Tier 2 fuel standards' compliance date (i.e., the date the refinery produces low sulfur gasoline at 30 ppm) will not result in an overall or complete delay of the MACT standards for all CCU. While we believe that linking the compliance dates will serve as an incentive to hydrotreat the CCU feedstock, we nevertheless expect that the majority of facilities will comply with the fuel standards without implementing CCU feedstock hydrotreating. In some cases, even those that elect to hydrotreat the feedstock will comply in 3 years or less to take advantage of the various pooling, averaging, banking, and trading options provided in the final Tier 2 standards. The remainder of refineries will begin production of low sulfur gasoline over the next 8-year period, although most are expected to be in full compliance (i.e., producing gasoline at the 30 ppm annual average) by the year 2006. In no case will refineries be allowed any later than December 31, 2009, to comply with the MACT standard for CCU, which corresponds to the final Tier 2 compliance date.

B. What Is the New Alternative Nickel Emission Limitation?

Comment: Several industry commenters urge us to include a rate-based Ni alternative of 0.007 lb Ni/1,000 lbs of coke burn-off in the final rule. According to the commenters, this approach avoids penalizing large units with low HAP emissions and equates to the NSPS for PM by using the highest or worst case Ni equilibrium concentration to convert PM to Ni. Most of the units that can comply with the PM limit cannot comply with the mass-based Ni limit due to their greater size. The commenters argue that larger units should not be subject to a more restrictive Ni limit than smaller units due to their greater processing capacity.

Environmental groups and one independent technical expert strongly disagree that we should provide the second Ni alternative at the level suggested by industry (i.e., 0.007 lb/1,000 lbs of coke burn-off). Commenters claim that this alternative is not technically equivalent to the MACT floor, is not protective of the environment as it is set at a level that allows all refiners to process heavy feeds with no control device, will actually increase emissions, and poses difficulties in ensuring continuous compliance.

Response: After careful review of all the information and data collected following proposal and received as part of the public comments, we decided to include an additional metal HAP alternative for CCU formatted in terms of Ni emissions per 1,000 lbs of coke burn-off. We concluded that this particular format (i.e., lb Ni/1,000 lbs of coke burn-off) does account for the wide variation of processing capacity within the industry and, with the new provisions added to the final rule, there are adequate means of ensuring continuous compliance.

We also concluded that the technical approach recommended by the industry commenters (using equilibrium catalyst Ni concentration to make a direct conversion of the PM emission standard to a Ni limit) is not appropriate. As discussed further in the Response to Comment Document, we must reject any method to derive a Ni emission limit in terms of lb Ni/1,000 lb coke burn-off based on the PM emission limit and some arbitrarily selected equilibrium catalyst concentration, whether it is a median, average or highest measured value. The emission limits calculated using these approaches do not correlate with actual emissions (in lb Ni/1,000 lbs coke burn-off) of any CCU, and the resulting Ni emission limits are not ''equivalent'' to the technology-based standard used as a basis of the PM emission limit that characterizes performance of the MACT floor technologies. This is because the equilibrium catalyst Ni concentration in no way reflects the performance of the MACT floor technology, as PM emissions. The equilibrium catalyst Ni concentration of a CCU is dependent on a complex mixture of operating and economic considerations; it is not totally dictated by the variability of Ni in the crude oil or the unit feed. In addition, we have no data or information to relate the equilibrium catalyst metals concentration to the best performing facilities (i.e., the equilibrium catalyst metal concentration does not reflect or relate to control device performance).

Although we do not accept the recommended approach in determining the emission limit based on an equilibrium catalyst conversion factor, we feel that the alternative format in terms of lb Ni/1,000 lb of coke burn-off has considerable merit. This particular format allows for flexible compliance on the part of the plant owner/operator. An emission limit expressed in this format can be met by using front-end hydrotreating, in-process operational changes, or end of pipe add-on controls alone or in combination.

In addition, to comply with the Tier 2 fuel standards, an owner or operator must choose one of a number of available methods of reducing sulfur in gasoline. One of those methods is to hydrotreat CCU feedstocks. This method of compliance has environmental benefits not realized with other methods. This is because feedstock hydrotreating has the potential to reduce Ni emissions from CCU, depending on what operating changes are made in the catalyst regeneration processes in conjunction with the feedstock hydrotreating. We believe that a Ni emission limit, in terms of lb Ni/1,000 lbs coke burn-off, has a potential to encourage feedstock hydrotreating as a means to comply with this limit and the Tier 2 fuel standards.

To determine an appropriate emission limit, we examined the available emissions data for the top performing CCU in terms of lb Ni emissions/1,000 lb coke burn-off rate. Although the currently available source test data are somewhat limited and are generally assumed to be representative of the lowest Ni emitters across the industry, they do allow an analysis following the basic criteria established for a MACT floor determination.

Through review of the emission data, we found that the average emission rates, as well as each individual test run result for the top-ranked CCU, are all below 0.001 lb Ni/1,000 lbs coke burn-off. Based on our data analysis, we determined that the emission limit of 0.001 lb Ni/1,000 lbs coke burn-off adequately characterizes performance of the MACT floor technology while taking into account process and measurement variability. This analysis provides an emission limit in the alternative format (Ni emissions per unit coke burn) that is reflective of the MACT floor technology. This emission limit is included in the final rule as an alternative format to the PM or Ni lb/hr limits that were also selected to characterize the performance of the MACT floor technologies. The determination of the emission limit formatted in terms of coke burn-off that is used to characterize the MACT floor technology is discussed in more detail in the Response to Comments Document (Docket A–97–36).

C. Why Did We Not Change the Proposed Nickel Emission Limitation?

Comment: Three commenters believe we should relax the proposed Ni emission limitation (lbs/hr) for metal HAP emissions from CCU. They question the method we used to determine the numerical emission limit that characterizes the MACT floor technology in this particular format. According to the commenters, our variability analysis is flawed for several reasons.

- We used the z-statistic rather than the student's t-statistic, which is appropriate for small samples from populations.
- We used the average relative standard deviation instead of the more representative maximum relative standard deviation.
- The analysis includes data known to be false or problematic.
- We used the 95 percent confidence level rather than the 98 percent interval, which the commenter claims is an EPA precedent.

The commenters also believe the level of emissions that would be excluded by the higher limit is trivial and of little environmental significance. Raising the limit would allow some refineries to avoid installing controls that are not cost effective and provide real *de minimus* relief. The commenters support a standard of 760 lbs/yr based on their approach.

Response: We acknowledge the quality assurance concerns regarding the results of certain Ni emission measurements and the use of larger confidence intervals about the average emission value in setting an emission limit that reflects use of the MACT floor technology. However, we also believe that the analysis must use the average of the top 12 percent or the 6th percentile facility, rather than the emissions of the 12th percentile facility. There are 124 fluid CCU in the U.S. and its territories; the 6th percentile of the industry would be represented by the emissions reductions achieved by the 7th and 8th ranked units. Reanalysis of the data, considering the reviewer's comments on the statistical approach while using the 6th percentile unit, yields an emission limit nearly identical to the proposed limit.

In response to this comment, we examined the emission rates of the top performing unit for which we have documented source test results. We found that the average emission rates, as well as each individual test run result for the top eight ranked units, are all below 200 lbs/yr. The 9th and 10th ranked units have similar average emission rates, but a wider fluctuation in the individual test run results. From the test data available, we determined that the proposed emission limit of 250 lbs/yr adequately characterizes the performance of the MACT floor technologies while taking into account process variability. For these reasons, we made no change in the proposed Ni lb/hr emission limit.

D. How Did We Change the Proposed Monitoring Requirements?

Comment: Environmental groups urge us to require continuous emission monitoring systems for HCl, TRS, and either CO, TOC, or total hydrocarbons (THC) for existing and new affected sources. They say these systems are commercially available, feasible (as stated in the background information document), ensure standards are met at all times, and provide better HAP monitoring. They say the cost of these systems is decreasing, and they may no longer be too costly. Also, the continuous monitoring of a process allows the operator greater flexibility in operation which could result in increased output, improved efficiency, and overall cost savings. Two commenters specifically request continuous emission monitoring systems for TRS limits. Due to the TRS emissions from refineries and numerous exceedances, more accurate information than operating parameter values is needed to assess compliance.

Response: We agree with the commenters' recommendations that the NSPS experience with continuous emission monitoring systems demonstrates their technical and economic feasibility for this industry, provides better data, and needs to be encouraged.

In determining monitoring requirements, we looked at the various options. One of the options examined was requiring continuous emission or opacity monitors for all affected sources under this rule. We did not select this option because of the high capital and operating costs.

However, in response to these comments, we reexamined these options to look for ways to encourage their use or require their use if needed. As a result, we included options in the rule allowing plants to choose to comply with the NSPS monitoring requirements.

We also included requirements in the rule for continuous opacity monitoring systems for catalyst regenerator vents on any CCU with a fresh feed capacity greater than 20,000 barrels per day (and not using wet scrubbers). We also added continuous opacity monitors as a monitoring option for smaller units. Continuous opacity monitoring systems are already required for the larger units under Federal/State implementation plan requirements in 40 CFR part 51, appendix P; therefore, these costs are not attributable to the standard. We did not require a continuous opacity monitoring system for a unit with a wet scrubber because of interference from water vapor in wet scrubber exhaust gases. For these units, parameter monitoring is still the only monitoring method.

A continuous emission monitoring system for TRS or reduced sulfur emissions is also required in the final rule for any sulfur recovery unit with no add-on control device. The cost of continuous emission monitoring systems for these units is reasonable and does not pose any economic hardship for plants that do not use a control device. For units with add-on control devices, we are confident that the process or control device parameter monitoring allowed in place of continuous emission or opacity monitoring systems provides adequate assurance of continuous compliance.

V. Administrative Requirements

A. Executive Order 12866, Regulatory Planning and Review

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

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

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

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

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

Pursuant to the terms of Executive Order 12866, OMB has notified EPA that it considers this a ‘‘significant regulatory action’’ within the meaning of the Executive Order. EPA has submitted this action to OMB for review. Changes made in response to OMB suggestions or recommendations are documented in the public record.

B. Executive Order 13132, Federalism

Executive Order 13132, entitled ‘‘Federalism’’ (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ‘‘meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.’’ ‘‘Policies that have federalism implications’’ is defined in the Executive Order to include regulations that have ‘‘substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.’’

Under section 6 of Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. The EPA also may not issue a regulation that has federalism implications and that preempts State law, unless the EPA consults with State and local officials early in the process of developing the proposed regulation.

This final rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. None of the affected facilities are owned or operated by State governments. Thus, the requirements of section 6 of the Executive Order do not apply to this rule.

C. Executive Order 13175, Consultation and Coordination With Indian Tribal Governments

Executive Order 13175, entitled ‘‘Consultation and Coordination with Indian Tribal Governments’’ (65 FR 67249, November 6, 2000), requires EPA to develop an accountable process to ensure ‘‘meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.’’ ‘‘Policies that have tribal implications’’ is defined in the Executive Order to include regulations that have ‘‘substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes.’’

This final rule does not have tribal implications. It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this rule.

D. Executive Order 13045, Protection of Children From Environmental Health Risks and Safety Risks

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be ‘‘economically significant,’’ as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both 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.

This final rule is not subject to Executive Order 13045 because it is not an economically significant regulatory action as defined by Executive Order 12866. The EPA interprets Executive Order 13045 as applying only to regulatory actions that are based on health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. These final NESHAP are not subject to Executive Order 13045 because they are based on technology performance and not on health or safety risks.

E. Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This rule is not a ''significant energy action'' as defined in Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355 (May 22, 2001)) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

F. Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 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 by State, local, and tribal governments, in the aggregate, or by 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 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 this rule does not contain a Federal mandate that may result in estimated costs of $100 million or more to either State, local, or tribal governments, in the aggregate, or to the private sector in any 1 year. The rule does not significantly or uniquely impact small governments because it contains no requirements that apply to such governments or impose obligations upon them. Thus, the requirements of the UMRA do not apply to this rule.

G. Regulatory Flexibility Act (RFA), As Amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601 et seq.

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with this final rule. For the purposes of assessing the impacts of today's rule on small entities, small entities are defined as: (1) A firm having no more than 1,500 employees and no more than 75,000 barrels per day capacity of petroleum-based inputs, including crude oil or bona fide feedstocks; [1] according to Small Business Administration (SBA) size standards established under the North American Industry Classification System (NAICS); (2) a small government jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field. Small entities in NAICS 32411 only will be affected.

After considering the economic impacts of today's final rule on small entities, EPA has concluded that this action will not have a significant economic impact on a substantial number of small entities. We have determined that nine of the 23 small refiners own one or more of the affected sources. None of the 9 small refiners will need additional air pollution control equipment for CCU or sulfur recovery units. Only those costs for monitoring, reporting, and recordkeeping would be incurred by these firms. Six small refiners will need to add control equipment for catalytic reforming units. Annual total compliance costs for the nine affected small refiners would be less than 0.01 percent of estimated revenues. For more information, please consult the public docket for this final rule.

Although this final rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this rule on small entities. As discussed in the preamble to the proposed rule, EPA met with representatives of five small refineries and listened to their concerns. In response, we exercised the maximum degree of flexibility in minimizing impacts on small business through the alternative Nickel standard and subcategorization for catalytic reforming units. The rule reflects the minimum level of control allowed under the CAA. Since proposal, we have further reduced the economic impact on all refineries, including small businesses, by subcategorizing CCU and, in appropriate circumstances, extending the compliance date to coincide with the Tier 2 gasoline sulfur control rule.

H. Paperwork Reduction Act

The information collection requirements in this final rule are being submitted for approval to OMB under the requirements of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* An information collection request (ICR) document has been prepared by EPA (ICR No. 1844.01), and a copy may be obtained from Sandy Farmer, Office of Environmental Information, Collection Strategies Division, U.S. Environmental Protection Agency (2137), 1200 Pennsylvania Avenue, NW., Washington, DC 20460, or by calling (202) 260–2740.

The information collection requirements in the final rule include mandatory notifications, records, and reports required by the NESHAP General Provisions (40 CFR part 63, subpart A). These information requirements are needed to confirm the compliance status of major sources, to identify any non-major sources not subject to the standard and any new or reconstructed sources subject to the standards, to confirm that emission control devices are being properly operated and maintained, and to ensure that the standards are being achieved. Based on the recorded and reported information, EPA can decide which facilities, records, or processes should be inspected. These recordkeeping and reporting requirements are specifically authorized under section 114 of the CAA (42 U.S.C. 7414). All information submitted to EPA for which a claim of

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[1] Capacity includes owned or leased facilities as well as facilities under a processing agreement or an agreement such as an exchange agreement or a throughput. The total product to be delivered under the contract must be at least 90 percent refined by the successful bidder from either crude oil or bona fide feedstocks.

confidentiality is made will be safeguarded according to EPA policies in 40 CFR part 2, subpart B.

The annual public reporting and recordkeeping burden for this collection of information (averaged over the first 3 years after the effective date of this rule) is estimated to total 19,428 labor hours per year at a total annual cost of $1.3 million. This estimate includes initial notifications, a performance test, one-time preparation of a startup, shutdown, and malfunction plan and operation, maintenance, and monitoring plan, semiannual deviation summary reports, and recordkeeping for 132 plants expected to be subject to the rule during this ICR clearance period. Total capital costs associated with the monitoring equipment over the 3-year period of the ICR is estimated at $15.8 million; the annualized cost of capital is estimated at $1.1 million. This estimate includes the capital and startup costs associated with installation of monitoring equipment.

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

An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

I. National Technology Transfer and Advancement Act of 1995

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104–113, § 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impracticable. Voluntary consensus standards are technical standards (e.g., material specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies.

The NTTTA 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.

Consistent with the NTTAA, we conducted searches to identify voluntary consensus standards for use in emissions testing. The search for emissions testing procedures identified 34 voluntary consensus standards that appeared to have possible use in lieu of EPA standard reference methods. After reviewing the available standards, we determined that 26 of the candidate consensus standards identified for measuring emissions of the HAP or surrogates subject to the emission limitations in the rule would not be practical due to lack of equivalency, documentation, validation data, and other important technical and policy considerations. Eight of the remaining candidate consensus are under development or currently under EPA review. We plan to follow, review, and consider adopting these standards after their development and we complete further review.

One consensus standard, ASTM D6216–98, is practical for EPA use in Performance Specification 1 (PS–1) in 40 CFR part 60, appendix B, ''Specifications and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources.'' This ASTM method can best be used in place of the design specification verification procedures currently in sections 5 and 6 of PS–1. We proposed ASTM D6216–98 for incorporation by reference in another rulemaking (63 FR 50824, September 23, 1998). Comments from the proposal have been addressed and we expect to complete this action in the near future. For these reasons, we do not propose to adopt ASTM D6216–98 in lieu of PS–1 requirements as it would be impractical to us to act independently from the other rulemaking already undergoing promulgation, and because ASTM D6216 does not address all the requirements specified in PS–1.

Tables 4 and 40 in subpart UUU list the EPA test methods and performance specifications included in this rule. Most of these methods and performance specifications have been used by States and industry for more than 10 years. Nevertheless, as provided by § 63.7(f) of the NESHAP General Provisions (40 CFR part 63, subpart A), any State or facility may apply to EPA for permission to use an alternative method in place of any of the EPA test methods or performance specifications listed in the rule.

J. 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**. This rule is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Petroleum refineries.

Dated: March 19, 2002.

Christine Todd Whitman,
Administrator.

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

PART 63—[AMENDED]

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

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

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

Subpart UUU—National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units

General Compliance Requirements

Notifications, Reports, and Records

Other Requirements and Information

Tables

What This Subpart Covers

§ 63.1560 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (HAP) emitted from petroleum refineries. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and work practice standards.

§ 63.1561 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a petroleum refinery that is located at a major source of HAP emissions.

(1) A petroleum refinery is an establishment engaged primarily in petroleum refining as defined in the Standard Industrial Classification (SIC) code 2911 and the North American Industry Classification (NAIC) code 32411, and used mainly for:

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

(ii) Separating petroleum; or

(iii) Separating, cracking, reacting, or reforming an intermediate petroleum stream, or recovering a by-product(s) from the intermediate petroleum stream (e.g., sulfur recovery).

(2) A major source of HAP is a plant site that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year.

(b) [Reserved]

§ 63.1562 What parts of my plant are covered by this subpart?

(a) This subpart applies to each new, reconstructed, or existing affected source at a petroleum refinery.

(b) The affected sources are:

(1) Each catalytic cracking unit that regenerates catalyst.

(2) Each catalytic reforming unit that regenerates catalyst.

(3) Each sulfur recovery unit and the tail gas treatment unit serving it.

(4) Each bypass line serving a new, existing, or reconstructed catalytic cracking unit, catalytic reforming unit, or sulfur recovery unit. This means each vent system that contains a bypass line (e.g., ductwork) that could divert an affected vent stream away from a control device used to comply with the requirements of this subpart.

(c) An affected source is a new affected source if you commence construction of the affected source after September 11, 1998, and you meet the applicability criteria in § 63.1561 at the time you commenced construction.

(d) Any affected source is reconstructed if you meet the criteria in § 63.2.

(e) An affected source is existing if it is not new or reconstructed.

(f) This subpart does not apply to:

(1) A thermal catalytic cracking unit.

(2) A sulfur recovery unit that does not recover elemental sulfur or where the modified reaction is carried out in a water solution which contains a metal ion capable of oxidizing the sulfide ion to sulfur (e.g., the LO–CAT II process).

(3) A redundant sulfur recovery unit not located at a petroleum refinery and used by the refinery only for emergency or maintenance backup.

(4) Equipment associated with bypass lines such as low leg drains, high point bleed, analyzer vents, open-ended valves or lines, or pressure relief valves needed for safety reasons.

(5) Gaseous streams routed to a fuel gas system.

§ 63.1563 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to the requirements in paragraphs (a)(1) and (2) of this section.

(1) If you startup your affected source before April 11, 2002, then you must comply with the emission limitations and work practice standards for new and reconstructed sources in this subpart no later than April 11, 2002.

(2) If you startup your affected source after April 11, 2002, you must comply with the emission limitations and work practice standards for new and reconstructed sources in this subpart upon startup of your affected source.

(b) If you have an existing affected source, you must comply with the emission limitations and work practice standards for existing affected sources in this subpart by no later than April 11, 2005 except as specified in paragraph (c) of this section.

(c) We will grant an extension of compliance for an existing catalytic cracking unit allowing additional time to meet the emission limitations and work practice standards for catalytic cracking units in §§ 63.1564 and 63.1565 if you commit to hydrotreating the catalytic cracking unit feedstock and to meeting the emission limitations of this subpart on the same date that your facility meets the final Tier 2 gasoline sulfur control standard (40 CFR part 80, subpart J). To obtain an extension, you must submit a written notification to your permitting authority according to the requirements in § 63.1574(e). Your notification must include the information in paragraphs (c)(1) and (2) of this section.

(1) Identification of the affected source with a brief description of the controls to be installed (if needed) to comply with the emission limitations for catalytic cracking units in this subpart.

(2) A compliance schedule, including the information in paragraphs (c)(2)(i) through (iv) of this section.

(i) The date by which onsite construction or the process change is to be initiated.

(ii) The date by which onsite construction or the process change is to be completed.

(iii) The date by which your facility will achieve final compliance with both the final Tier 2 gasoline sulfur control standard as specified in § 80.195, and the emission limitations and work practice standards for catalytic cracking units in this subpart. In no case will your permitting authority grant an extension beyond the date you are required to meet the Tier 2 gasoline sulfur control standard or December 31, 2009, whichever comes first. If you don't comply with the emission limitations and work practice standards for existing catalytic cracking units by the specified date, you will be out-of-compliance with the requirements for catalytic cracking units beginning April 11, 2005.

(iv) A brief description of interim emission control measures that will be taken to ensure proper operation and maintenance of the process equipment during the period of the compliance extension.

(d) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the requirements in paragraphs (d)(1) and (2) of this section apply.

(1) Any portion of the existing facility that is a new affected source or a new reconstructed source must be in compliance with the requirements of this subpart upon startup.

(2) All other parts of the source must be in compliance with the requirements of this subpart by no later than 3 years after it becomes a major source or, if applicable, the extended compliance date granted according to the requirements in paragraph (c) of this section.

(e) You must meet the notification requirements in § 63.1574 according to the schedule in § 63.1574 and in 40 CFR part 63, subpart A. Some of the notifications must be submitted before the date you are required to comply with the emission limitations and work practice standards in this subpart.

Catalytic Cracking Units, Catalytic Reforming Units, Sulfur Recovery Units, and Bypass Lines

§ 63.1564 What are my requirements for metal HAP emissions from catalytic cracking units?

(a) *What emission limitations and work practice standards must I meet?* You must:

(1) Meet each emission limitation in Table 1 of this subpart that applies to you. If your catalytic cracking unit is subject to the NSPS for PM in § 60.102 of this chapter, you must meet the emission limitations for NSPS units. If your catalytic cracking unit isn't subject to the NSPS for PM, you can choose from the four options in paragraphs (a)(1)(i) through (iv) of this section:

(i) You can elect to comply with the NSPS requirements (Option 1);

(ii) You can elect to comply with the PM emission limit (Option 2);

(iii) You can elect to comply with the Nickel (Ni) lb/hr emission limit (Option 3); or

(iv) You can elect to comply with the Ni lb/1,000 lbs of coke burn-off emission limit (Option 4).

(2) Comply with each operating limit in Table 2 of this subpart that applies to you.

(3) Prepare an operation, maintenance, and monitoring plan according to the requirements in § 63.1574(f) and operate at all times according to the procedures in the plan.

(4) The emission limitations and operating limits for metal HAP emissions from catalytic cracking units required in paragraphs (a)(1) and (2) of this section do not apply during periods of planned maintenance preapproved by the applicable permitting authority according to the requirements in § 63.1575(j).

(b) *How do I demonstrate initial compliance with the emission limitations and work practice standard?* You must:

(1) Install, operate, and maintain a continuous monitoring system(s) according to the requirements in § 63.1572 and Table 3 of this subpart.

(2) Conduct a performance test for each catalytic cracking unit not subject to the NSPS for PM according to the requirements in § 63.1571 and under the conditions specified in Table 4 of this subpart.

(3) Establish each site-specific operating limit in Table 2 of this subpart that applies to you according to the procedures in Table 4 of this subpart.

(4) Use the procedures in paragraphs (b)(4)(i) through (iv) of this section to determine initial compliance with the emission limitations.

(i) If you elect Option 1 in paragraph (a)(1)(i) of ths section, the NSPS requirements, compute the PM emission rate (lb/1,000 lbs of coke burn-off) for each run using Equations 1, 2, and 3 (if applicable) of this section as follows:

$$R_c = K_1 Q_r \left(\%CO_2 + \%CO\right) + K_2 Q_a - K_3 Q_r \left[\left(\%CO/2\right) + \%CO_2 + \%O_2\right] + K_3 Q_{oxy} \left(\%O_{xy}\right) \qquad \text{(Eq. 1)}$$

Where:

R_c = Coke burn-off rate, kg/hr (lb/hr);

Q_r = Volumetric flow rate of exhaust gas from catalyst regenerator before adding air or gas streams. Example: You may measure after an electrostatic precipitator, but you must measure before a carbon monoxide boiler, dscm/min (dscf/min);

Q_a = Volumetric flow rate of air to catalytic cracking unit catalyst regenerator, as determined from instruments in the catalytic cracking unit control room, dscm/min (dscf/min);

$\%CO_2$ = Carbon dioxide concentration in regenerator exhaust, percent by volume (dry basis);

%CO = Carbon monoxide concentration in regenerator exhaust, percent by volume (dry basis);

$\%O_2$ = Oxygen concentration in regenerator exhaust, percent by volume (dry basis);

K_1 = Material balance and conversion factor, 0.2982 (kg-min)/(hr-dscm-%) (0.0186 (lb-min)/(hr-dscf-%));

K_2 = Material balance and conversion factor, 2.088 (kg-min)/(hr-dscm) (0.1303 (lb-min)/(hr-dscf));

K_3 = Material balance and conversion factor, 0.0994 (kg-min)/(hr-dscm-%) (0.0062 (lb-min)/(hr-dscf-%));

Q_{oxy} = Volumetric flow rate of oxygen-enriched air stream to regenerator, as determined from instruments in the catalytic cracking unit control room, dscm/min (dscf/min); and

$\%O_{xy}$ = Oxygen concentration in oxygen-enriched air stream, percent by volume (dry basis).

$$E = \frac{K \times C_s \times Q_{sd}}{R_c} \qquad \text{(Eq. 2)}$$

Where:

E = Emission rate of PM, kg/1,000 kg (lb/1,000 lb) of coke burn-off;

C_s = Concentration of PM, g/dscm (lb/dscf);

Q_{sd} = Volumetric flow rate of the catalytic cracking unit catalyst regenerator flue gas as measured by Method 2 in appendix A to part 60 of this chapter, dscm/hr (dscf/hr);

R_c = Coke burn-off rate, kg coke/hr (1,000 lb coke/hr); and

K = Conversion factor, 1.0 (kg²/g)/(1,000 kg) (1,000 lb/(1,000 lb)).

$$E_s = 1.0 + A\left(H/R_c\right)K' \qquad \text{(Eq. 3)}$$

Where:

E_s = Emission rate of PM allowed, kg/1,000 kg (1b/1,000 lb) of coke burn-off in catalyst regenerator;

1.0 = Emission limitation, kg coke/1,000 kg (lb coke/1,000 lb);

A = Allowable incremental rate of PM emissions, 0.18 g/million cal (0.10 lb/million Btu); and

H = Heat input rate from solid or liquid fossil fuel, million cal/hr (million Btu/hr). Make sure your permitting authority approves procedures for determining the heat input rate.

R_c = Coke burn-off rate, kg coke/hr (1,000 lb coke/hr) determined using Equation 1 of this section; and

K′ = Conversion factor to units to standard, 1.0 (kg²/g)/(1,000 kg) (10³ lb/(1,000 lb)).

(ii) If you elect Option 2 in paragraph (a)(1)(ii) of this section, the PM emission limit, compute your PM emission rate (lb/1,000 lbs of coke burn-off) using Equations 1 and 2 of this section and your site-specific opacity operating limit (if you use a continuous opacity monitoring system) using Equation 4 of this section as follows:

$$\text{Opacity Limit} = \text{Opacity}_{st} \times \left(\frac{1\ \text{lb/klb coke burn}}{\text{PMEmR}_{st}}\right) \qquad \text{(Eq. 4)}$$

Where:

Opacity limit = Maximum permissible hourly average opacity, percent, or 10 percent, whichever is greater;

Opacity_{st} = Hourly average opacity measured during the source test runs, percent; and

PMEmR_{st} = PM emission rate measured during the source test, lb/1,000 lbs coke burn.

$$E_{Ni_1} = C_{Ni} \times Q_{sd} \qquad \text{(Eq. 5)}$$

(iii) If you elect Option 3 in paragraph (a)(1)(iii) of this section, the Ni lb/hr emission limit, compute your Ni emission rate using Equation 5 of this section and your site-specific Ni operating limit (if you use a continuous opacity monitoring system) using Equations 6 and 7 of this section as follows:

Where:

E_{Ni1} = Mass emission rate of Ni, mg/hr (lb/hr); and

C_{Ni} = Ni concentration in the catalytic cracking unit catalyst regenerator flue gas as measured by Method 29 in appendix A to part 60 of this chapter, mg/dscm (lbs/dscf).

$$\text{Opacity}_1 = \frac{13 \text{ g Ni/hr}}{\text{NiEmR1}_{st}} \times \text{Opacity}_{st} \qquad \text{(Eq. 6)}$$

Where:

Opacity_1 = Opacity value for use in Equation 7 of this section, percent, or 10 percent, whichever is greater; and

NiEmR1_{st} = Average Ni emission rate calculated as the arithmetic average Ni emission rate using Equation 5 of this section for each of the performance test runs, g Ni/hr.

$$\text{Ni Operating Limit}_1 = \text{Opacity}_1 \times Q_{mon,st} \times \text{E-Cat}_{st} \qquad \text{(Eq. 7)}$$

Where:

Ni operating limit_1 = Maximum permissible hourly average Ni operating limit, percent-acfm-ppmw, i.e., your site-specific Ni operating limit;

$Q_{mon,st}$ = Hourly average actual gas flow rate as measured by the continuous parameter monitoring system during the performance test or using the alternative procedure in § 63.1573, acfm; and

E–Cat_{st} = Ni concentration on equilibrium catalyst measured during source test, ppmw.

(iv) If you elect Option 4 in paragraph (a)(1)(iv) of this section, the Ni lbs/1,000 lbs of coke burn-off emission limit, compute your Ni emission rate using Equations 1 and 8 of this section and your site-specific Ni operating limit (if you use a continuous opacity monitoring system) using Equations 9 and 10 of this section as follows:

$$E_{Ni_2} = \frac{C_{Ni} \times Q_{sd}}{R_c} \qquad \text{(Eq. 8)}$$

Where:

E_{Ni2} = Normalized mass emission rate of Ni, mg/kg coke (lb/1,000 lbs coke).

$$\text{Opacity}_2 = \frac{1.0 \text{ mg/kg coke}}{\text{NiEmR2}_{st}} \times \text{Opacity}_{st} \qquad \text{(Eq. 9)}$$

Where:

Opacity_2 = Opacity value for use in Equation 10 of this section, percent, or 10 percent, whichever is greater; and

NiEmR2_{st} = Average Ni emission rate calculated as the arithmetic average Ni emission rate using Equation 8 of this section for each of the performance test runs, mg/kg coke.

$$\text{Ni Operating Limit}_2 = \text{Opacity}_2 \times \text{E-Cat}_{st} \times \frac{Q_{mon,st}}{R_{c,st}} \qquad \text{(Eq. 10)}$$

Where:

Ni operating limit_2 = Maximum permissible hourly average Ni operating limit, percent-ppmw-acfm-hr/kg coke, i.e., your site-specific Ni operating limit; and

$R_{c,st}$ = Coke burn rate from Equation 1 of this section, as measured during the initial performance test, kg coke/hr.

(5) Demonstrate initial compliance with each emission limitation that applies to you according to Table 5 of this subpart.

(6) Demonstrate initial compliance with the work practice standard in paragraph (a)(3) of this section by submitting your operation, maintenance, and monitoring plan to your permitting authority as part of your Notification of Compliance Status.

(7) Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.1574.

(c) *How do I demonstrate continuous compliance with the emission limitations and work practice standards?* You must:

(1) Demonstrate continuous compliance with each emission limitation in Tables 1 and 2 of this subpart that applies to you according to the methods specified in Tables 6 and 7 of this subpart.

(2) Demonstrate continuous compliance with the work practice standard in paragraph (a)(3) of this section by maintaining records to document conformance with the procedures in your operation, maintenance, and monitoring plan.

(3) If you use a continuous opacity monitoring system and elect to comply with Option 3 in paragraph (a)(1)(iii) of this section, determine continuous compliance with your site-specific Ni operating limit by using Equation 11 of this section as follows:

$$\text{Ni Operating Value}_1 = \text{Opacity} \times Q_{mon} \times \text{E-Cat} \qquad \text{(Eq. 11)}$$

Where:

Ni operating value$_1$ = Maximum permissible hourly average Ni standard operating value, %-acfm-ppmw;

Opacity = Hourly average opacity, percent;

Q_{mon} = Hourly average actual gas flow rate as measured by continuous parameter monitoring system or calculated by alternative procedure in § 63.1573, acfm; and

E-Cat = Ni concentration on equilibrium catalyst from weekly or more recent measurement, ppmw.

(4) If you use a continuous opacity monitoring system and elect to comply with Option 4 in paragraph (a)(1)(iv) of this section, determine continuous compliance with your site-specific Ni operating limit by using Equation 12 of this section as follows:

$$\text{Ni Operating Value}_2 = \frac{\text{Opacity} \times \text{E-Cat} \times Q_{mon}}{R_c} \qquad (\text{Eq. 12})$$

Where:

Ni operating value$_2$ = Maximum permissible hourly average Ni standard operating value, percent-acfm-ppmw-hr/kg coke.

§ 63.1565 What are my requirements for organic HAP emissions from catalytic cracking units?

(a) *What emission limitations and work practice standards must I meet?* You must:

(1) Meet each emission limitation in Table 8 of this subpart that applies to you. If your catalytic cracking unit is subject to the NSPS for carbon monoxide (CO) in § 60.103 of this chapter, you must meet the emission limitations for NSPS units. If your catalytic cracking unit isn't subject to the NSPS for CO, you can choose from the two options in paragraphs (a)(1)(i) through (ii) of this section:

(i) You can elect to comply with the NSPS requirements (Option 1); or

(ii) You can elect to comply with the CO emission limit (Option 2).

(2) Comply with each site-specific operating limit in Table 9 of this subpart that applies to you.

(3) Prepare an operation, maintenance, and monitoring plan according to the requirements in § 63.1574(f) and operate at all times according to the procedures in the plan.

(4) The emission limitations and operating limits for organic HAP emissions from catalytic cracking units required in paragraphs (a)(1) and (2) of this section do not apply during periods of planned maintenance preapproved by the applicable permitting authority according to the requirements in § 63.1575(j).

(b) *How do I demonstrate initial compliance with the emission limitations and work practice standards?* You must:

(1) Install, operate, and maintain a continuous monitoring system according to the requirements in § 63.1572 and Table 10 of this subpart. Except:

(i) Whether or not your catalytic cracking unit is subject to the NSPS for CO in § 60.103 of this chapter, you don't have to install and operate a continuous emission monitoring system if you show that CO emissions from your vent average less than 50 parts per million (ppm), dry basis. You must get an exemption from your permitting authority, based on your written request. To show that the emissions average is less than 50 ppm (dry basis), you must continuously monitor CO emissions for 30 days using a CO continuous emission monitoring system that meets the requirements in § 63.1572.

(ii) If your catalytic cracking unit isn't subject to the NSPS for CO, you don't have to install and operate a continuous emission monitoring system or a continuous parameter monitoring system if you vent emissions to a boiler (including a ''CO boiler'') or process heater that has a design heat input capacity of at least 44 megawatts (MW).

(iii) If your catalytic cracking unit isn't subject to the NSPS for CO, you don't have to install and operate a continuous emission monitoring system or a continuous parameter monitoring system if you vent emissions to a boiler or process heater in which all vent streams are introduced into the flame zone.

(2) Conduct each performance test for a catalytic cracking unit not subject to the NSPS for CO according to the requirements in § 63.1571 and under the conditions specified in Table 11 of this subpart.

(3) Establish each site-specific operating limit in Table 9 of this subpart that applies to you according to the procedures in Table 11 of this subpart.

(4) Demonstrate initial compliance with each emission limitation that applies to you according to Table 12 of this subpart.

(5) Demonstrate initial compliance with the work practice standard in paragraph (a)(3) of this section by submitting the operation, maintenance, and monitoring plan to your permitting authority as part of your Notification of Compliance Status according to § 63.1574.

(6) Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.1574.

(c) *How do I demonstrate continuous compliance with the emission limitations and work practice standards?* You must:

(1) Demonstrate continuous compliance with each emission limitation in Tables 8 and 9 of this subpart that applies to you according to the methods specified in Tables 13 and 14 of this subpart.

(2) Demonstrate continuous compliance with the work practice standard in paragraph (a)(3) of this section by complying with the procedures in your operation, maintenance, and monitoring plan.

§ 63.1566 What are my requirements for organic HAP emissions from catalytic reforming units?

(a) *What emission limitations and work practice standards must I meet?* You must:

(1) Meet each emission limitation in Table 15 of this subpart that applies to you. You can choose from the two options in paragraphs (a)(1)(i) through (ii) of this section:

(i) You can elect to vent emissions of total organic compounds (TOC) to a flare that meets the control device requirements in § 63.11(b) (Option 1); or

(ii) You can elect to use a control device to meet a TOC percent reduction standard or concentration limit, whichever is less stringent (Option 2).

(2) Comply with each site-specific operating limit in Table 16 of this subpart that applies to you.

(3) The emission limitations in Tables 15 and 16 of this subpart apply to emissions from catalytic reforming unit process vents that occur during depressuring and purging operations. These process vents include those used during unit depressurization, purging, coke burn, catalyst rejuvenation, and reduction or activation purge.

(4) The emission limitations in Tables 15 and 16 of this subpart do not apply to emissions from process vents during depressuring and purging operations when the reactor vent pressure is 5 pounds per square inch gauge (psig) or less.

(5) Prepare an operation, maintenance, and monitoring plan according to the requirements in § 63.1574(f) and operate at all times according to the procedures in the plan.

(b) *How do I demonstrate initial compliance with the emission limitations and work practice standard?* You must:

(1) Install, operate, and maintain a continuous monitoring system(s) according to the requirements in § 63.1572 and Table 17 of this subpart.

(2) Conduct each performance test for a catalytic reforming unit according to the requirements in § 63.1571 and under the conditions specified in Table 18 of this subpart.

(3) Establish each site-specific operating limit in Table 16 of this subpart that applies to you according to the procedures in Table 18 of this subpart.

(4) Use the procedures in paragraph (b)(4)(i) or (ii) of this section to determine initial compliance with the emission limitations.

(i) If you elect the percent reduction standard under Option 2, calculate the emission rate of TOC using Equation 1 of this section (if you use Method 25) or Equation 2 of this section (if you use Method 25A); then calculate the mass emission reduction using Equation 3 of this section as follows:

$$E = K_4 M_c Q_s \qquad \text{(Eq. 1)}$$

Where:

E = Emission rate of TOC in the vent stream, kilograms-C per hour;

K_4 = Constant, 6.0×10^{-5} (kilograms per milligram)(minutes per hour);

M_c = Mass concentration of total gaseous nonmethane organic as measured and calculated using Method 25 in appendix A to part 60 of this chapter, mg/dscm; and

Q_s = Vent stream flow rate, dscm/min, at a temperature of 20 degrees Celsius (C).

$$E = K_5 \, C_{TOC} \, Q_S \qquad \text{(Eq. 2)}$$

Where:

E = Emission rate of TOC in the vent stream, kilograms-C per hour;

K_5 = Constant, 9.0×10^{-5}(parts per million)$^{-1}$ (gram-mole per standard cubic meter) (gram-C per gram-mole-propane) (kilogram per gram) (minutes per hour), where the standard temperature (standard cubic meter) is at 20 degrees C (uses 36g–C/g.mole propane);

C_{TOC} = Concentration of TOC on a dry basis in ppmv as propane as measured by Method 25A in appendix A to part 60 of this chapter; and

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

$$\% \text{ reduction} = \frac{E_i - E_o}{E_i} \times 100\% \qquad \text{(Eq. 3)}$$

Where:

E_i = Mass emission rate of TOC at control device inlet, kg/hr; and

E_o = Mass emission rate of TOC at control device outlet, kg/hr.

(5) If you elect the 20 parts per million by volume (ppmv) concentration limit, correct the measured TOC concentration for oxygen (O_2) content in the gas stream using Equation 4 of this section as follows:

$$C_{TOC,3\%O_2} = C_{TOC}\left(\frac{17.9\%}{20.9\% - \%O_2}\right) \qquad \text{(Eq. 4)}$$

(6) You are not required to do a TOC performance test if:

(i) You elect to vent emissions to a flare as provided in paragraph (a)(1)(i) of this section (Option 1); or

(ii) You elect the TOC percent reduction or concentration limit in paragraph (a)(1)(ii) of this section (Option 2), and you use a boiler or process heater with a design heat input capacity of 44 MW or greater or a boiler or process heater in which all vent streams are introduced into the flame zone.

(7) Demonstrate initial compliance with each emission limitation that applies to you according to Table 19 of this subpart.

(8) Demonstrate initial compliance with the work practice standard in paragraph (a)(5) of this section by submitting the operation, maintenance, and monitoring plan to your permitting authority as part of your Notification of Compliance Status.

(9) Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.1574.

(c) *How do I demonstrate continuous compliance with the emission limitations and work practice standards?* You must:

(1) Demonstrate continuous compliance with each emission limitation in Tables 15 and 16 of this subpart that applies to you according to the methods specified in Tables 20 and 21 of this subpart.

(2) Demonstrate continuous compliance with the work practice standards in paragraph (a)(3) of this section by complying with the procedures in your operation, maintenance, and monitoring plan.

§ 63.1567 What are my requirements for inorganic HAP emissions from catalytic reforming units?

(a) *What emission limitations and work practice standards must I meet?* You must:

(1) Meet each emission limitation in Table 22 of this subpart that applies to you. These emission limitations apply during coke burn-off and catalyst rejuvenation. You can choose from the two options in paragraphs (a)(1)(i) through (ii) of this section:

(i) You can elect to use a control device to meet either a percent reduction standard for hydrogen chloride (HCl) emissions (Option 1); or

(ii) You can elect to meet an HCl concentration limit (Option 2).

(2) Meet each site-specific operating limit in Table 23 of this subpart that applies to you. These operating limits apply during coke burn-off and catalyst rejuvenation.

(3) Prepare an operation, maintenance, and monitoring plan according to the requirements in § 63.1574(f) and operate at all times according to the procedures in the plan.

(b) *How do I demonstrate initial compliance with the emission limitations and work practice standard?* You must:

(1) Install, operate, and maintain a continuous monitoring system(s) according to the requirements in § 63.1572 and Table 24 of this subpart.

(2) Conduct each performance test for a catalytic reforming unit according to the requirements in § 63.1571 and the conditions specified in Table 25 of this subpart.

(3) Establish each site-specific operating limit in Table 23 of this subpart that applies to you according to the procedures in Table 25 of this subpart.

(4) Demonstrate initial compliance with each emission limitation that applies to you according to Table 26 of this subpart.

(5) Demonstrate initial compliance with the work practice standard in paragraph (a)(3) of this section by submitting the operation, maintenance, and monitoring plan to your permitting authority as part of your Notification of Compliance Status.

(6) Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.1574.

(c) *How do I demonstrate continuous compliance with the emission limitations and work practice standard?* You must:

(1) Demonstrate continuous compliance with each emission limitation in Tables 22 and 23 of this subpart that applies to you according to the methods specified in Tables 27 and 28 of this subpart.

(2) Demonstrate continuous compliance with the work practice standard in paragraph (a)(3) of this section by maintaining records to document conformance with the procedures in your operation, maintenance and monitoring plan.

§ 63.1568 What are my requirements for HAP emissions from sulfur recovery units?

(a) *What emission limitations and work practice standard must I meet?* You must:

(1) Meet each emission limitation in Table 29 of this subpart that applies to you. If your sulfur recovery unit is subject to the NSPS for sulfur oxides in § 60.104 of this chapter, you must meet the emission limitations for NSPS units. If your sulfur recovery unit isn't subject to the NSPS for sulfur oxides, you can choose from the options in paragraphs (a)(1)(i) through (ii) of this section:

(i) You can elect to meet the NSPS requirements (Option 1); or

(ii) You can elect to meet the total reduced sulfur (TRS) emission limitation (Option 2).

(2) Meet each operating limit in Table 30 of this subpart that applies to you.

(3) Prepare an operation, maintenance, and monitoring plan according to the requirements in § 63.1574(f) and operate at all times according to the procedures in the plan.

(b) *How do I demonstrate initial compliance with the emission limitations and work practice standards?* You must:

(1) Install, operate, and maintain a continuous monitoring system according to the requirements in § 63.1572 and Table 31 of this subpart.

(2) Conduct each performance test for a sulfur recovery unit not subject to the NSPS for sulfur oxides according to the requirements in § 63.1571 and under the conditions specified in Table 32 of this subpart.

(3) Establish each site-specific operating limit in Table 30 of this subpart that applies to you according to the procedures in Table 32 of this subpart.

(4) Correct the reduced sulfur samples to zero percent excess air using Equation 1 of this section as follows:

$$C_{adj} = C_{meas}\left[20.9_c/\left(20.9-\%O_2\right)\right] \qquad (\text{Eq. } 1)$$

Where:

C_{adj} = pollutant concentration adjusted to zero percent oxygen, ppm or g/dscm;

C_{meas} = pollutant concentration measured on a dry basis, ppm or g/dscm;

20.9_c = 20.9 percent oxygen—0.0 percent oxygen (defined oxygen correction basis), percent;

20.9 = oxygen concentration in air, percent;

$\%O_2$ = oxygen concentration measured on a dry basis, percent.

(5) Demonstrate initial compliance with each emission limitation that applies to you according to Table 33 of this subpart.

(6) Demonstrate initial compliance with the work practice standard in paragraph (a)(3) of this section by submitting the operation, maintenance, and monitoring plan to your permitting authority as part of your notification of compliance status.

(7) Submit the notification of compliance status containing the results of the initial compliance demonstration according to the requirements in § 63.1574.

(c) *How do I demonstrate continuous compliance with the emission limitations and work practice standards?* You must:

(1) Demonstrate continuous compliance with each emission limitation in Tables 29 and 30 of this subpart that applies to you according to the methods specified in Tables 34 and 35 of this subpart.

(2) Demonstrate continuous compliance with the work practice standard in paragraph (a)(3) of this section by complying with the procedures in your operation, maintenance, and monitoring plan.

§ 63.1569 What are my requirements for HAP emissions from bypass lines?

(a) *What work practice standards must I meet?* (1) You must meet each work practice standard in Table 36 of this subpart that applies to you. You can choose from the four options in paragraphs (a)(1)(i) through (iv) of this section:

(i) You can elect to install an automated system (Option 1);

(ii) You can elect to use a manual lock system (Option 2);

(iii) You can elect to seal the line (Option 3); or

(iv) You can elect to vent to a control device (Option 4).

(2) As provided in § 63.6(g), we, the EPA, may choose to grant you permission to use an alternative to the work practice standard in paragraph (a)(1) of this section.

(3) You must prepare an operation, maintenance, and monitoring plan according to the requirements in § 63.1574(f) and operate at all times according to the procedures in the plan.

(b) *How do I demonstrate initial compliance with the work practice standards?* You must:

(1) If you elect the option in paragraph (a)(1)(i) of this section, conduct each performance test for a bypass line according to the requirements in § 63.1571 and under the conditions specified in Table 37 of this subpart.

(2) Demonstrate initial compliance with each work practice standard in Table 36 of this subpart that applies to you according to Table 38 of this subpart.

(3) Demonstrate initial compliance with the work practice standard in paragraph (a)(3) of this section by submitting the operation, maintenance, and monitoring plan to your permitting authority as part of your notification of compliance status.

(4) Submit the notification of compliance status containing the results of the initial compliance demonstration according to the requirements in § 63.1574.

(c) *How do I demonstrate continuous compliance with the work practice standards?* You must:

(1) Demonstrate continuous compliance with each work practice standard in Table 36 of this subpart that applies to you according to the requirements in Table 39 of this subpart.

(2) Demonstrate continuous compliance with the work practice standard in paragraph (a)(2) of this section by complying with the procedures in your operation, maintenance, and monitoring plan.

General Compliance Requirements

§ 63.1570 What are my general requirements for complying with this subpart?

(a) You must be in compliance with all of the non-opacity standards in this subpart during the times specified in § 63.6(f)(1).

(b) You must be in compliance with the opacity and visible emission limits in this subpart during the times specified in § 63.6(h)(1).

(c) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in § 63.6(e)(1)(i). During the period between the compliance date specified for your affected source and the date upon which continuous monitoring systems have been installed and validated and any applicable operating limits have been set, you must maintain a log detailing the operation and maintenance of the process and emissions control equipment.

(d) You must develop and implement a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in § 63.6(e)(3).

(e) During periods of startup, shutdown, and malfunction, you must operate in accordance with your SSMP.

(f) You must report each instance in which you did not meet each emission limitation and each operating limit in this subpart that applies to you. This includes periods of startup, shutdown, and malfunction. You also must report each instance in which you did not meet the work practice standards in this subpart that apply to you. These instances are deviations from the emission limitations and work practice standards in this subpart. These deviations must be reported according to the requirements in § 63.1575.

(g) Consistent with §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the SSMP. The SSMP must require that good air pollution control practices are used during those periods. The plan must also include elements designed to minimize the frequency of such periods (i.e., root cause analysis). The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in § 63.6(e) and the contents of the SSMP.

§ 63.1571 How and when do I conduct a performance test or other initial compliance demonstration?

(a) *When must I conduct a performance test?* You must conduct performance tests and report the results by no later than 150 days after the compliance date specified for your source in § 63.1563 and according to the provisions in § 63.7(a)(2). If you are required to do a performance evaluation or test for a semi-regenerative catalytic reforming unit catalyst regenerator vent, you may do them at the first regeneration cycle after your compliance date and report the results in a followup Notification of Compliance Status report due no later than 150 days after the test.

(1) For each emission limitation or work practice standard where initial compliance is not demonstrated using a performance test, opacity observation, or visible emission observation, you must conduct the initial compliance demonstration within 30 calendar days after the compliance date that is specified for your source in § 63.1563.

(2) For each emission limitation where the averaging period is 30 days, the 30-day period for demonstrating initial compliance begins at 12:00 a.m. on the compliance date that is specified for your source in § 63.1563 and ends at 11:59 p.m., 30 calendar days after the compliance date that is specified for your source in § 63.1563.

(3) If you commenced construction or reconstruction between September 11, 1998 and April 11, 2002, you must demonstrate initial compliance with either the proposed emission limitation or the promulgated emission limitation no later than October 8, 2002 or within 180 calendar days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(4) If you commenced construction or reconstruction between September 11, 1998 and April 11, 2002, and you chose to comply with the proposed emission limitation when demonstrating initial compliance, you must conduct a second compliance demonstration for the promulgated emission limitation by October 10, 2005, or after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(b) *What are the general requirements for performance test and performance evaluations?* You must:

(1) Conduct each performance test according to the requirements in § 63.7(e)(1).

(2) Except for opacity and visible emission observations, conduct three separate test runs for each performance test as specified in § 63.7(e)(3). Each test run must last at least 1 hour.

(3) Conduct each performance evaluation according to the requirements in § 63.8(e).

(4) Not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in § 63.7(e)(1).

(5) Calculate the average emission rate for the performance test by calculating the emission rate for each individual test run in the units of the applicable emission limitation using Equation 2, 5, or 8 of § 63.1564, and determining the arithmetic average of the calculated emission rates.

(c) *What procedures must I use for an engineering assessment?* You may choose to use an engineering assessment to calculate the process vent flow rate, net heating value, TOC emission rate, and total organic HAP emission rate expected to yield the highest daily emission rate when determining the emission reduction or outlet concentration for the organic HAP standard for catalytic reforming units. If you use an engineering assessment, you must document all data, assumptions, and procedures to the satisfaction of the applicable permitting authority. An engineering assessment may include the approaches listed in paragraphs (c)(1) through (c)(4) of this section. Other engineering assessments may be used but are subject to review and approval by the applicable permitting authority.

(1) You may use previous test results provided the tests are representative of current operating practices at the process unit, and provided EPA

methods or approved alternatives were used;

(2) You may use bench-scale or pilot-scale test data representative of the process under representative operating conditions;

(3) You may use maximum flow rate, TOC emission rate, organic HAP emission rate, or organic HAP or TOC concentration specified or implied within a permit limit applicable to the process vent; or

(4) You may use design analysis based on engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

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

(ii) Calculation of hourly average maximum flow rate based on physical equipment design such as pump or blower capacities; and

(iii) Calculation of TOC concentrations based on saturation conditions.

(d) *Can I adjust the process or control device measured values when establishing an operating limit?* If you do a performance test to demonstrate compliance, you must base the process or control device operating limits for continuous parameter monitoring systems on the results measured during the performance test. You may adjust the values measured during the performance test according to the criteria in paragraphs (d)(1) through (3) of this section.

(1) If you must meet the HAP metal emission limitations in § 63.1564, you elect the option in paragraph (a)(1)(iii) in § 63.1564 (Ni lb/hr), and you use continuous parameter monitoring systems, you must establish an operating limit for the equilibrium catalyst Ni concentration based on the laboratory analysis of the equilibrium catalyst Ni concentration from the initial performance test. Section 63.1564(b)(2) allows you to adjust the laboratory measurements of the equilibrium catalyst Ni concentration to the maximum level. You must make this adjustment using Equation 1 of this section as follows:

$$\text{Ecat-Limit} = \frac{13 \text{ g Ni/hr}}{\text{NiEmR1}_{st}} \times \text{Ecat}_{st} \qquad (\text{Eq. } 1)$$

Where:

Ecat-Limit = Operating limit for equilibrium catalyst Ni concentration, mg/kg;

NiEmR1_{st} = Average Ni emission rate calculated as the arithmetic average Ni emission rate using Equation 5 of this section for each performance test run, g Ni/hr; and

Ecat_{st} = Average equilibrium Ni concentration from laboratory test results, mg/kg.

(2) If you must meet the HAP metal emission limitations in § 63.1564, you elect the option in paragraph (a)(1)(iv) in § 63.1564 (Ni lb/1,000 lb of coke burn-off), and you use continuous parameter monitoring systems, you must establish an operating limit for the equilibrium catalyst Ni concentration based on the laboratory analysis of the equilibrium catalyst Ni concentration from the initial performance test. Section 63.1564(b)(2) allows you to adjust the laboratory measurements of the equilibrium catalyst Ni concentration to the maximum level. You must make this adjustment using Equation 2 of this section as follows:

$$\text{Ecat-Limit} = \frac{1.0 \text{ mg/kg coke burn-off}}{\text{NiEmR2}_{st}} \times \text{Ecat}_{st} \qquad (\text{Eq. } 2)$$

Where:

NiEmR2_{st} = Average Ni emission rate calculated as the arithmetic average Ni emission rate using Equation 8 of § 63.1564 for each performance test run, mg/kg coke burn-off.

(3) If you choose to adjust the equilibrium catalyst Ni concentration to the maximum level, you can't adjust any other monitored operating parameter (i.e., gas flow rate, voltage, pressure drop, liquid-to-gas ratio).

(4) Except as specified in paragraph (d)(3) of this section, if you use continuous parameter monitoring systems, you may adjust one of your monitored operating parameters (flow rate, voltage and secondary current, pressure drop, liquid-to-gas ratio) from the average of measured values during the performance test to the maximum value (or minimum value, if applicable) representative of worst-case operating conditions, if necessary. This adjustment of measured values may be done using control device design specifications, manufacturer recommendations, or other applicable information. You must provide supporting documentation and rationale in your Notification of Compliance Status, demonstrating to the satisfaction of your permitting authority, that your affected source complies with the applicable emission limit at the operating limit based on adjusted values.

(e) *Can I change my operating limit?* You may change the established operating limit by meeting the requirements in paragraphs (e)(1) through (3) of this section.

(1) You may change your established operating limit for a continuous parameter monitoring system by doing an additional performance test, a performance test in conjunction with an engineering assessment, or an engineering assessment to verify that, at the new operating limit, you are in compliance with the applicable emission limitation.

(2) You must establish a revised operating limit for your continuous parameter monitoring system if you make any change in process or operating conditions that could affect control system performance or you change designated conditions after the last performance or compliance tests were done. You can establish the revised operating limit as described in paragraph (e)(1) of this section.

(3) You may change your site-specific opacity operating limit or Ni operating limit only by doing a new performance test.

§ 63.1572 What are my monitoring installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain each continuous emission monitoring system according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) You must install, operate, and maintain each continuous emission monitoring system according to the requirements in Table 40 of this subpart.

(2) If you use a continuous emission monitoring system to meet the NSPS CO or SO_2 limit, you must conduct a performance evaluation of each continuous emission monitoring system according to the requirements in § 63.8 and Table 40 of this subpart. This requirement does not apply to an affected source subject to the NSPS that has already demonstrated initial compliance with the applicable performance specification.

(3) As specified in § 63.8(c)(4)(ii), each continuous emission monitoring system must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) Data must be reduced as specified in § 63.8(g)(2).

(b) You must install, operate, and maintain each continuous opacity monitoring system according to the requirements in paragraphs (b)(1) through (3) of this section.

(1) Each continuous opacity monitoring system must be installed, operated, and maintained according to the requirements in Table 40 of this subpart.

(2) If you use a continuous opacity monitoring system to meet the NSPS opacity limit, you must conduct a performance evaluation of each continuous opacity monitoring system according to the requirements in § 63.8 and Table 40 of this subpart. This requirement does not apply to an affected source subject to the NSPS that has already demonstrated initial compliance with the applicable performance specification.

(3) As specified in § 63.8(c)(4)(i), each continuous opacity monitoring system must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(c) You must install, operate, and maintain each continuous parameter monitoring system according to the requirements in paragraphs (c)(1) through (7) of this section.

(1) Each continuous parameter monitoring system must be installed, operated, and maintained according to the requirements in Table 41 of this subpart and in a manner consistent with the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately.

(2) The continuous parameter monitoring system must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data (or at least two if a calibration check is performed during that hour or if the continuous parameter monitoring system is out-of-control).

(3) Each continuous parameter monitoring system must have valid hourly average data from at least 75 percent of the hours during which the process operated.

(4) Each continuous parameter monitoring system must determine and record the hourly average of all recorded readings and if applicable, the daily average of all recorded readings for each operating day. The daily average must cover a 24-hour period if operation is continuous or the number of hours of operation per day if operation is not continuous.

(5) Each continuous parameter monitoring system must record the results of each inspection, calibration, and validation check.

(d) You must monitor and collect data according to the requirements in paragraphs (d)(1) and (2) of this section.

(1) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation (or collect data at all required intervals) at all times the affected source is operating.

(2) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities for purposes of this regulation, including data averages and calculations, for fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

§ 63.1573 What are my monitoring alternatives?

(a) *What is the approved alternative for monitoring gas flow rate?* You can elect to use this alternative to a continuous parameter monitoring system for the catalytic regenerator exhaust gas flow rate for your catalytic cracking unit if the unit does not introduce any other gas streams into the catalyst regeneration vent (i.e., complete combustion units with no additional combustion devices). If you select this alternative, you must use the same procedure for the performance test and for monitoring after the performance test.

(1) Install and operate a continuous parameter monitoring system to measure and record the hourly average volumetric air flow rate to the catalytic cracking unit regenerator. Or, you can determine and record the hourly average volumetric air flow rate to the catalytic cracking unit regenerator using the catalytic cracking unit control room instrumentation.

(2) Install and operate a continuous parameter monitoring system to measure and record the temperature of the gases entering the control device (or exiting the catalyst regenerator if you do not use an add-on control device).

(3) Calculate and record the hourly average actual exhaust gas flow rate using Equation 1 of this section as follows:

$$Q_{gas} = (1.12\ \text{scfm/dscfm}) \times \left(Q_{air} + Q_{oxy}\right) \times \left(\frac{Temp_{gas}}{273^\circ\ \text{K}}\right) \times \left(\frac{P_{vent}}{1\ \text{atm.}}\right) \qquad \text{(Eq. 1)}$$

Where:

Q_{gas} = Hourly average actual gas flow rate, acfm;

1.12 = Default correction factor to convert gas flow from dry standard cubic feet per minute (dscfm) to standard cubic feet per minute (scfm);

Q_{air} = Volumetric flow rate of air to regenerator, as determined from the catalytic cracking unit control room instrumentations, dscfm;

Q_{oxy} = Volumetric flow rate of oxygen-enriched air stream to regenerator, as determined from the catalytic cracking unit control room instrumentations, dscfm;

$Temp_{gas}$ = Temperature of gas stream in vent measured as near as practical to the control device or opacity monitor, °K. For wet scrubbers, temperature of gas prior to the wet scrubber; and

P_{vent} = Absolute pressure in the vent measured as near as practical to the control device or opacity monitor, atm. When used in conjunction with opacity in the final vent stack, you can assume P_{vent} = 1 atm.

(b) *What is the approved alternative for monitoring pH levels?* If you use a wet scrubber to control inorganic HAP emissions from your vent on a catalytic reforming unit, you can measure and record the pH of the water (or scrubbing liquid) exiting the scrubber at least once an hour during coke burn-off and catalyst rejuvenation using pH strips as an alternative to a continuous parameter monitoring system. The pH strips must meet the requirements in Table 41 of this subpart.

(c) *Can I use another type of monitoring system?* You may request approval from your permitting authority to use an automated data compression system. An automated data compression system does not record monitored operating parameter values at a set frequency (e.g., once every hour) but records all values that meet set criteria for variation from previously recorded values. Your request must contain a description of the monitoring system and data recording system, including the criteria used to determine which monitored values are recorded and retained, the method for calculating daily averages, and a demonstration that the system meets all of the criteria in paragraphs (c)(1) through (5) of this section:

(1) The system measures the operating parameter value at least once every hour;

(2) The system records at least 24 values each day during periods of operation;

(3) The system records the date and time when monitors are turned off or on;

(4) The system recognizes unchanging data that may indicate the monitor is not functioning properly, alerts the operator, and records the incident; and

(5) The system computes daily average values of the monitored operating parameter based on recorded data.

(d) *Can I monitor other process or control device operating parameters?* You may request approval to monitor parameters other than those required in this subpart. You must request approval if:

(1) You use a control device other than a thermal incinerator, boiler, process heater, flare, electrostatic precipitator, or wet scrubber;

(2) You use a combustion control device (e.g., incinerator, flare, boiler or process heater with a design heat capacity of at least 44 MW, boiler or process heater where the vent stream is introduced into the flame zone), electrostatic precipitator, or scrubber but want to monitor a parameter other than those specified; or

(3) You wish to use another type of continuous emission monitoring system that provides direct measurement of a pollutant (i.e., a PM or multi-metals HAP continuous emission monitoring system, a carbonyl sulfide/carbon disulfide continuous emission monitoring system, a TOC continuous emission monitoring system, or HCl continuous emission monitoring system).

(e) *How do I request to monitor alternative parameters?* You must submit a request for review and approval or disapproval to the Administrator. The request must include the information in paragraphs (e)(1) through (5) of this section.

(1) A description of each affected source and the parameter(s) to be monitored to determine whether the affected source will continuously comply with the emission limitations and an explanation of the criteria used to select the parameter(s).

(2) A description of the methods and procedures that will be used to demonstrate that the parameter can be used to determine whether the affected source will continuously comply with the emission limitations and the schedule for this demonstration. You must certify that you will establish an operating limit for the monitored parameter(s) that represents the conditions in existence when the control device is being properly operated and maintained to meet the emission limitation.

(3) The frequency and content of monitoring, recording, and reporting, if monitoring and recording are not continuous. You also must include the rationale for the proposed monitoring, recording, and reporting requirements.

(4) Supporting calculations.

(5) Averaging time for the alternative operating parameter.

Notifications, Reports, and Records

§ 63.1574 What notifications must I submit and when?

(a) Except as allowed in paragraphs (a)(1) through (3) of this section, you must submit all of the notifications in §§ 63.6(h), 63.7(b) and (c), 63.8(e), 63.8(f)(4), 63.8(f)(6), and 63.9(b) through (h) that apply to you by the dates specified.

(1) You must submit the notification of your intention to construct or reconstruct according to § 63.9(b)(5) unless construction or reconstruction had commenced and initial startup had not occurred before April 11, 2002. In this case, you must submit the notification as soon as practicable before startup but no later than July 10, 2002. This deadline also applies to the application for approval of construction or reconstruction and approval of construction or reconstruction based on State preconstruction review required in §§ 63.5(d)(1)(i) and 63.5(f)(2).

(2) You must submit the notification of intent to conduct a performance test required in § 63.7(b) at least 30 calendar days before the performance test is scheduled to begin (instead of 60 days).

(3) If you are required to conduct a performance test, performance evaluation, design evaluation, opacity observation, visible emission observation, or other initial compliance demonstration, you must submit a notification of compliance status according to § 63.9(h)(2)(ii). You can submit this information in an operating permit application, in an amendment to an operating permit application, in a separate submission, or in any combination. In a State with an approved operating permit program where delegation of authority under section 112(l) of the CAA has not been requested or approved, you must provide a duplicate notification to the applicable Regional Administrator. If the required information has been submitted previously, you do not have to provide a separate notification of compliance status. Just refer to the earlier submissions instead of duplicating and resubmitting the previously submitted information.

(i) For each initial compliance demonstration that does not include a performance test, you must submit the Notification of Compliance Status no later than 30 calendar days following completion of the initial compliance demonstration.

(ii) For each initial compliance demonstration that includes a performance test, you must submit the notification of compliance status, including the performance test results, no later than 150 calendar days after the compliance date specified for your affected source in § 63.1573.

(b) As specified in § 63.9(b)(2), if you startup your new affected source before April 11, 2002, you must submit the initial notification no later than August 9, 2002.

(c) As specified in § 63.9(b)(3), if you start your new or reconstructed affected source on or after April 11, 2002, you must submit the initial notification no later than 120 days after you become subject to this subpart.

(d) You also must include the information in Table 42 of this subpart in your notification of compliance status.

(e) If you request an extension of compliance for an existing catalytic cracking unit as allowed in § 63.1563(c), you must submit a notification to your permitting authority containing the required information by October 13, 2003.

(f) As required by this subpart, you must prepare and implement an operation, maintenance, and monitoring plan for each affected source, control system, and continuous monitoring system. The purpose of this plan is to detail the operation, maintenance, and monitoring procedures you will follow.

(1) You must submit the plan to your permitting authority for review and approval along with your notification of compliance status. While you do not have to include the entire plan in your part 70 or 71 permit, you must include the duty to prepare and implement the plan as an applicable requirement in your part 70 or 71 operating permit. You must submit any changes to your permitting authority for review and approval and comply with the plan until the change is approved.

(2) Each plan must include, at a minimum, the information specified in paragraphs (f)(2)(i) through (x) of this section.

(i) Process and control device parameters to be monitored for each affected source, along with established operating limits.

(ii) Procedures for monitoring emissions and process and control device operating parameters for each affected source.

(iii) Procedures that you will use to determine the coke burn-rate, the volumetric flow rate (if you use process data rather than direct measurement), and the rate of combustion of liquid or solid fossil fuels if you use an incinerator-waste heat boiler to burn the exhaust gases from a catalyst regenerator.

(iv) Procedures and analytical methods you will use to determine the equilibrium catalyst Ni concentration, the equilibrium catalyst Ni concentration monthly rolling average, and the hourly or hourly average Ni operating value.

(v) Procedures you will use to determine the pH of the water (or scrubbing liquid) exiting a wet scrubber if you use pH strips.

(vi) Procedures you will use to determine the HCl concentration of gases from a semi-regenerative catalytic reforming unit with an internal scrubbing system (i.e., no add-on control device) when you use a colormetric tube sampling system, including procedures for correcting for pressure (if applicable to the sampling equipment).

(vii) Procedures you will use to determine the gas flow rate for a catalytic cracking unit if you use the alternative procedure based on air flow rate and temperature.

(viii) Monitoring schedule, including when you will monitor and when you will not monitor an affected source (e.g., during the coke burn-off, regeneration process).

(ix) Quality control plan for each continuous opacity monitoring system and continuous emission monitoring system you use to meet an emission limit in this subpart. This plan must include procedures you will use for calibrations, accuracy audits, and adjustments to the system needed to meet applicable requirements for the system.

(x) Maintenance schedule for each affected source, monitoring system, and control device that is generally consistent with the manufacturer's instructions for routine and long-term maintenance.

§ 63.1575 What reports must I submit and when?

(a) You must submit each report in Table 43 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule, you must submit each report by the date in Table 43 of this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.1563 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your affected source in § 63.1563.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in § 63.1563.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to part 70 or 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to § 70.6(a)(3)(iii)(A) or § 71.6(a)(3)(iii)(A) of this chapter, you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information required in paragraphs (c)(1) through (4) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If there are no deviations from any emission limitation that applies to you and there are no deviations from the requirements for work practice standards, a statement that there were no deviations from the emission limitations or work practice standards during the reporting period and that no continuous emission monitoring system or continuous opacity monitoring system was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted.

(d) For each deviation from an emission limitation and for each deviation from the requirements for work practice standards that occurs at an affected source where you are not using a continuous opacity monitoring system or a continuous emission monitoring system to comply with the emission limitation or work practice standard in this subpart, the compliance report must contain the information in paragraphs (c)(1) through (3) of this section and the information in paragraphs (d)(1) through (3) of this section.

(1) The total operating time of each affected source during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(3) Information on the number, duration, and cause for monitor downtime incidents (including

unknown cause, if applicable, other than downtime associated with zero and span and other daily calibration checks).

(e) For each deviation from an emission limitation occurring at an affected source where you are using a continuous opacity monitoring system or a continuous emission monitoring system to comply with the emission limitation, you must include the information in paragraphs (d)(1) through (3) of this section and the information in paragraphs (e)(1) through (13) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date and time that each continuous opacity monitoring system or continuous emission monitoring system was inoperative, except for zero (low-level) and high-level checks.

(3) The date and time that each continuous opacity monitoring system or continuous emission monitoring system was out-of-control, including the information in § 63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period (recorded in minutes for opacity and hours for gases and in the averaging period specified in the regulation for other types of emission limitations), and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period and into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of downtime for the continuous opacity monitoring system or continuous emission monitoring system during the reporting period (recorded in minutes for opacity and hours for gases and in the averaging time specified in the regulation for other types of standards), and the total duration of downtime for the continuous opacity monitoring system or continuous emission monitoring system as a percent of the total source operating time during that reporting period.

(8) A breakdown of the total duration of downtime for the continuous opacity monitoring system or continuous emission monitoring system during the reporting period into periods that are due to monitoring equipment malfunctions, non-monitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes.

(9) An identification of each HAP that was monitored at the affected source.

(10) A brief description of the process units.

(11) The monitoring equipment manufacturer(s) and model number(s).

(12) The date of the latest certification or audit for the continuous opacity monitoring system or continuous emission monitoring system.

(13) A description of any change in the continuous emission monitoring system or continuous opacity monitoring system, processes, or controls since the last reporting period.

(f) You also must include the information required in paragraphs (f)(1) through (2) of this section in each compliance report, if applicable.

(1) A copy of any performance test done during the reporting period on any affected unit. The report may be included in the next semiannual report. The copy must include a complete report for each test method used for a particular kind of emission point tested. For additional tests performed for a similar emission point using the same method, you must submit the results and any other information required, but a complete test report is not required. A complete test report contains a brief process description; a simplified flow diagram showing affected processes, control equipment, and sampling point locations; sampling site data; 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.

(2) Any requested change in the applicability of an emission standard (e.g., you want to change from the PM standard to the Ni standard for catalytic cracking units or from the HCl concentration standard to percent reduction for catalytic reforming units) in your periodic report. You must include all information and data necessary to demonstrate compliance with the new emission standard selected and any other associated requirements.

(g) You may submit reports required by other regulations in place of or as part of the compliance report if they contain the required information.

(h) The reporting requirements in paragraphs (h)(1) and (2) of this section apply to startups, shutdowns, and malfunctions:

(1) When actions taken to respond are consistent with the plan, you are not required to report these events in the semiannual compliance report and the reporting requirements in §§ 63.6(e)(3)(iii) and 63.10(d)(5) do not apply.

(2) When actions taken to respond are not consistent with the plan, you must report these events and the response taken in the semiannual compliance report. In this case, the reporting requirements in §§ 63.6(e)(3)(iv) and 63.10(d)(5) do not apply.

(i) If the applicable permitting authority has approved a period of planned maintenance for your catalytic cracking unit according to the requirements in paragraph (j) of this section, you must include the following information in your compliance report.

(1) In the compliance report due for the 6-month period before the routine planned maintenance is to begin, you must include a full copy of your written request to the applicable permitting authority and written approval received from the applicable permitting authority.

(2) In the compliance report due after the routine planned maintenance is complete, you must include a description of the planned routine maintenance that was performed for the control device during the previous 6-month period, and the total number of hours during those 6 months that the control device did not meet the emission limitations and monitoring requirements as a result of the approved routine planned maintenance.

(j) If you own or operate multiple catalytic cracking units that are served by a single wet scrubber emission control device (e.g., a Venturi scrubber), you may request the applicable permitting authority to approve a period of planned routine maintenance for the control device needed to meet requirements in your operation, maintenance, and monitoring plan. You must present data to the applicable permitting authority demonstrating that the period of planned maintenance results in overall emissions reductions. During this pre-approved time period, the emission control device may be taken out of service while maintenance is performed on the control device and/or one of the process units while the remaining process unit(s) continue to operate. During the period the emission control device is unable to operate, the emission limits, operating limits, and monitoring requirements applicable to the unit that is operating and the wet scrubber emission control device do not apply. The applicable permitting authority may require that you take specified actions to minimize emissions during the period of planned maintenance.

(1) You must submit a written request to the applicable permitting authority at least 6 months before the planned maintenance is scheduled to begin with a copy to the EPA Regional Administrator.

(2) Your written request must contain the information in paragraphs (j)(2)(i) through (v) of this section.

(i) A description of the planned routine maintenance to be performed during the next 6 months and why it is necessary.

(ii) The date the planned maintenance will begin and end.

(iii) A quantified estimate of the HAP and criteria pollutant emissions that will be emitted during the period of planned maintenance.

(iv) An analysis showing the emissions reductions resulting from the planned maintenance as opposed to delaying the maintenance until the next unit turnaround.

(v) Actions you will take to minimize emissions during the period of planned maintenance.

§ 63.1576 What records must I keep, in what form, and for how long?

(a) You must keep the records specified in paragraphs (a)(1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or Notification of Compliance Status that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) The records in § 63.6(e)(1)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests, performance evaluations, and opacity and visible emission observations as required in § 63.10(b)(2)(viii).

(b) For each continuous emission monitoring system and continuous opacity monitoring system, you must keep the records required in paragraphs (b)(1) through (5) of this section.

(1) Records described in § 63.10(b)(2)(vi) through (xi).

(2) Monitoring data for continuous opacity monitoring systems during a performance evaluation as required in § 63.6(h)(7)(i) and (ii).

(3) Previous (i.e., superceded) versions of the performance evaluation plan as required in § 63.8(d)(3).

(4) Requests for alternatives to the relative accuracy test for continuous emission monitoring systems as required in § 63.8(f)(6)(i).

(5) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(c) You must keep the records in § 63.6(h) for visible emission observations.

(d) You must keep records required by Tables 6, 7, 13, and 14 of this subpart (for catalytic cracking units); Tables 20, 21, 27 and 28 of this subpart (for catalytic reforming units); Tables 34 and 35 of this subpart (for sulfur recovery units); and Table 39 of this subpart (for bypass lines) to show continuous compliance with each emission limitation that applies to you.

(e) You must keep a current copy of your operation, maintenance, and monitoring plan onsite and available for inspection. You also must keep records to show continuous compliance with the procedures in your operation, maintenance, and monitoring plan.

(f) You also must keep the records of any changes that affect emission control system performance including, but not limited to, the location at which the vent stream is introduced into the flame zone for a boiler or process heater.

(g) Your records must be in a form suitable and readily available for expeditious review according to § 63.10(b)(1).

(h) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(i) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You can keep the records offsite for the remaining 3 years.

Other Requirements and Information

§ 63.1577 What parts of the General Provisions apply to me?

Table 44 of this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

§ 63.1578 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that Agency has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (5) of this section.

(1) Approval of alternatives to the non-opacity emission limitations and work practice standards in §§ 63.1564 through 63.1569 under § 63.6(g).

(2) Approval of alternative opacity emission limitations in §§ 63.1564 through 63.1569 under § 63.6(h)(9).

(3) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(4) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.90.

(5) Approval of major alternatives to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

§ 63.1579 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA), in 40 CFR 63.2, the General Provisions of this part (§§ 63.1 through 63.15), and in this section as listed.

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

Catalytic cracking unit means a refinery process unit in which petroleum derivatives are continuously charged; hydrocarbon molecules in the presence of a catalyst suspended in a fluidized bed are fractured into smaller molecules, or react with a contact material suspended in a fluidized bed to improve feedstock quality for additional processing; and the catalyst or contact material is continuously regenerated by burning off coke and other deposits. The unit includes, but is not limited to, the riser, reactor, regenerator, air blowers, spent catalyst or contact material stripper, catalyst or contact material recovery equipment, and regenerator equipment for controlling air pollutant emissions and equipment used for heat recovery.

Catalytic cracking unit catalyst regenerator means one or more regenerators (multiple regenerators) which comprise that portion of the catalytic cracking unit in which coke burn-off and catalyst or contact material regeneration occurs and includes the regenerator combustion air blower(s).

Catalytic reforming unit means a refinery process unit that reforms or changes the chemical structure of naphtha into higher octane aromatics through the use of a metal catalyst and chemical reactions that include dehydrogenation, isomerization, and hydrogenolysis. The catalytic reforming unit includes the reactor, regenerator (if separate), separators, catalyst isolation and transport vessels (e.g., lock and lift hoppers), recirculation equipment, scrubbers, and other ancillary equipment.

Catalytic reforming unit regenerator means one or more regenerators which comprise that portion of the catalytic reforming unit and ancillary equipment in which the following regeneration steps typically are performed: depressurization, purge, coke burn-off, catalyst rejuvenation with a chloride (or other halogenated) compound(s), and a final purge. The catalytic reforming unit catalyst regeneration process can be done either as a semi-regenerative, cyclic, or continuous regeneration process.

Coke burn-off means the coke removed from the surface of the catalytic cracking unit catalyst or the catalytic reforming unit catalyst by combustion in the catalyst regenerator. The rate of coke burn-off is calculated using Equation 2 in § 63.1564.

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

Combustion zone means the space in an enclosed combustion device (e.g., vapor incinerator, boiler, furnace, or process heater) occupied by the organic HAP and any supplemental fuel while burning. The combustion zone includes any flame that is visible or luminous as well as that space outside the flame envelope in which the organic HAP continues to be oxidized to form the combustion products.

Contact material means any substance formulated to remove metals, sulfur, nitrogen, or any other contaminants from petroleum derivatives.

Continuous regeneration reforming means a catalytic reforming process characterized by continuous flow of catalyst material through a reactor where it mixes with feedstock, and a portion of the catalyst is continuously removed and sent to a special regenerator where it is regenerated and continuously recycled back to the reactor.

Control device means any equipment used for recovering, removing, or oxidizing HAP in either gaseous or solid form. Such equipment includes, but is not limited to, condensers, scrubbers, electrostatic precipitators, incinerators, flares, boilers, and process heaters.

Cyclic regeneration reforming means a catalytic reforming process characterized by continual batch regeneration of catalyst in situ in any one of several reactors (e.g., 4 or 5 separate reactors) that can be isolated from and returned to the reforming operation while maintaining continuous reforming process operations (i.e., feedstock continues flowing through the remaining reactors without change in feed rate or product octane).

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limit, operating limit, or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limit, operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Emission limitation means any emission limit, opacity limit, operating limit, or visible emission limit.

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

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

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

HCl means for the purposes of this subpart, gaseous emissions of hydrogen chloride that serve as a surrogate measure for total emissions of hydrogen chloride and chlorine as measured by Method 26 or 26A in appendix A to part 60 of this chapter or an approved alternative method.

Incinerator means an enclosed combustion device that is used for destroying organic compounds, with or without heat recovery. Auxiliary fuel may be used to heat waste gas to combustion temperatures. An incinerator may use a catalytic combustion process where a substance is introduced into an exhaust stream to burn or oxidize contaminants while the substances itself remains intact, or a thermal process which uses elevated temperatures as a primary means to burn or oxidize contaminants.

Ni means, for the purposes of this subpart, particulate emissions of nickel that serve as a surrogate measure for total emissions of metal HAP, including but not limited to: antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium as measured by Method 29 in appendix A to part 60 of this chapter or by an approved alternative method.

Oxidation control system means an emission control system which reduces emissions from sulfur recovery units by converting these emissions to sulfur dioxide.

PM means, for the purposes of this subpart, emissions of particulate matter that serve as a surrogate measure of the total emissions of particulate matter and metal HAP contained in the particulate matter, including but not limited to: antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium as measured by Methods 5B or 5F in appendix A to part 60 of this chapter or by an approved alternative method.

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

Process vent means, for the purposes of this subpart, a gas stream that is continuously or periodically discharged during normal operation of a catalytic cracking unit, catalytic reforming unit, or sulfur recovery unit, including gas streams that are discharged directly to the atmosphere, gas streams that are routed to a control device prior to discharge to the atmosphere, or gas streams that are diverted through a product recovery device line prior to control or discharge to the atmosphere.

Reduced sulfur compounds means hydrogen sulfide, carbonyl sulfide, and carbon disulfide.

Reduction control system means an emission control system which reduces emissions from sulfur recovery units by converting these emissions to hydrogen sulfide.

Responsible official means responsible official as defined in 40 CFR 70.2.

Semi-regenerative reforming means a catalytic reforming process characterized by shutdown of the entire reforming unit (e.g., which may employ three to four separate reactors) at specified intervals or at the owner's or operator's convenience for in situ catalyst regeneration.

Sulfur recovery unit means a process unit that recovers elemental sulfur from gases that contain reduced sulfur compounds and other pollutants, usually by a vapor-phase catalytic reaction of sulfur dioxide and hydrogen sulfide. This definition does not include a unit where the modified reaction is carried out in a water solution which contains a metal ion capable of oxidizing the sulfide ion to sulfur, e.g., the LO–CAT II process.

TOC means, for the purposes of this subpart, emissions of total organic compounds, excluding methane and ethane, that serve as a surrogate measure of the total emissions of organic HAP compounds, including but not limited to, acetaldehyde, benzene, hexane, phenol, toluene, and xylenes and non-HAP VOC as measured by Method 25 or 25A in appendix A to part 60 of this chapter or an approved alternative method.

TRS means, for the purposes of this subpart, emissions of total reduced sulfur compounds, expressed as an equivalent sulfur dioxide concentration, that serve as a surrogate measure of the total emissions of sulfide HAP carbonyl sulfide and carbon disulfide as measured by Method 15 in appendix A to part 60 of this chapter or by an approved alternative method.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

TABLE 1 TO SUBPART UUU OF PART 63.—METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

[As stated in § 63.1564(a)(1), you must meet each emission limitation in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	You must meet the following emission limits for each catalyst regenerator vent * * *
1. Subject to the new source performance standard (NSPS) for PM in 40 CFR 60.102.	PM emissions must not exceed 1.0 kilogram (kg) per 1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator; if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or supplemental liquid or solid fossil fuel, you must limit the incremental rate of PM to no more than 43.0 grams per Megajoule (g/MJ) or 0.10 pounds per million British thermal units (lb/million Btu) of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period.
2. Option 1: NSPS requirements not subject to the NSPS for PM in 40 CFR 60.102.	PM emissions must not exceed 1.0 kg/1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator; if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or in supplemental liquid or solid fossil fuel, you must limit the incremental rate of PM to no more than 43.0 g/MJ or lb/million Btu of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period.
3. Option 2: PM limit not subject to the NSPS for PM in 40 CFR 60.102.	PM emissions must not exceed 1.0 kg/1,000 kg (1.0 lb/1,000 lbs) of coke burn-off in the catalyst regenerator.
4. Option 3: Ni lb/hr not subject to the NSPS for PM in 40 CFR 60.102.	Nickel (Ni) emissions must not exceed 13,000 milligrams per hour (mg/hr) (0.029 lb/hr).
5. Option 4: Ni Lb/1,000 lbs of coke burn-off not subject to the NSPS for PM in 40 CFR 60.102.	Ni emissions must not exceed 1.0 mg/kg (0.001 lb/1,000 lbs) of coke burn-off in the catalyst regenerator.

TABLE 2 TO SUBPART UUU OF PART 63.—OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1564(a)(2), you must meet each operating limit in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	For this type of continuous monitoring system * * *	For this type of control device * * *	You must meet this operating limit * * *
1. Subject to the NSPS for PM in 40 CFR 60.102.	Continuous opacity monitoring system.	Not applicable	Not applicable.
2. Option 1: NSPS requirements not subject to the NSPS for PM in 40 CFR 60.102.	Continuous opacity monitoring system.	Not applicable	Not applicable.
3. Option 2: PM limit not subject to the NSPS for PM in 40 CFR 60.102.	a. Continuous opacity monitoring system.	Electrostatic precipitator	Maintain the hourly average opacity of emissions from your catalyst regenerator vent no higher than the site-specific opacity limit established during the performance test.

TABLE 2 TO SUBPART UUU OF PART 63.—OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

[As stated in § 63.1564(a)(2), you must meet each operating limit in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	For this type of continuous monitoring system * * *	For this type of control device * * *	You must meet this operating limit * * *
	b. Continuous parameter monitoring systems.	Electrostatic precipitator	Maintain the daily average gas flow rate no higher than the limit established in the performance test; and maintain the daily average voltage and secondary current (or total power input) above the limit established in the performance test.
	c. Continuous parameter monitoring systems.	Wet scrubber	Maintain the daily average pressure drop above the limit established in the performance test (not applicable to a wet scrubber of the non-venturi jet-ejector design); and maintain the daily average liquid-to-gas ratio above the limit established in the performance test.
4. Option 3: Ni lb/hr not subject to the NSPS for PM in 40 CFR 60.102.	a. Continuous opacity monitoring system.	Electrostatic precipitator	Maintain the daily average Ni operating value no higher than the limit established during the performance test.
	b. Continuous parameter monitoring systems.	i. Electrostatic precipitator	Maintain the daily average gas flow rate no higher than the limit established during the performance test; maintain the monthly rolling average of the equilibrium catalyst Ni concentration no higher than the limit established during the performance test; and maintain the daily average voltage and secondary current (or total power input) above the established during the performance test.
		ii. Wet scrubber	Maintain the monthly rolling average of the equilibrium catalyst Ni concentration no higher than the limit established during the performance test; maintain the daily average pressure drop above the limit established during the performance test (not applicable to a non-venturi wet scrubber of the jet-ejector design); and maintain the daily average liquid-to-gas ratio above the limit established during the performance test.
5. Option 4: Ni lb/1,000 lbs of coke burn-off not subject to the NSPS for PM in 40 CFR 60.102.	a. Continuous opacity monitoring system	Electrostatic precipitator	Maintain the daily average Ni operating value no higher than the Ni operating limit established during the performance test.
	b. Continuous parameter monitoring systems.	i. Electrostatic precipitator	Maintain the monthly rolling average of the equilibrium catalyst Ni concentration no higher than the limit established during the performance test; and maintain the daily average voltage and secondary current for total power input) above the limit established during the performance test.

TABLE 2 TO SUBPART UUU OF PART 63.—OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

[As stated in § 63.1564(a)(2), you must meet each operating limit in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	For this type of continuous monitoring system * * *	For this type of control device * * *	You must meet this operating limit * * *
		ii. Wet scrubber	Maintain the monthly rolling average of the equilibrium catalyst Ni concentration no higher than the limit established during the performance test; maintain the daily average pressure drop above the limit established during the performance test (not applicable to a non-venturi wet scrubber of the jet-ejector design); and maintain the daily average liquid-to-gas ratio above the limit established during the performance test.

TABLE 3 TO SUBPART UUU OF PART 63.—CONTINOUS MONITORING SYSTEMS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1564(b)(1), you must meet each requirement in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	If your catalytic cracking unit is * * *	And you use this type of control device for your vent * * *	You must install, operate, and maintain a * * *
1. Subject to the NSPS for PM in 40 CFR 60.102.	Any size	Electrostatic precipitator or wet scrubber or no control device.	Continous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent.
2. Option 1: NSPS limits not subject to the NSPS for PM in 40 CFR 60.102.	Any size	Electrostatic precipitator or wet scrubber or no control device.	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent.
3. Option 2: PM limit not subject to the NSPS for PM in 40 CFR 60.102.	a. Over 20,000 barrels per day fresh feed capacity.	Electrostatic precipitator	Continous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent.
	b. Up to 20,000 barrels per day fresh feed capacity.	Electrostatic precipitator	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent; or continuous parameter monitoring systems to measure and record the gas flow rate to the control device and the voltage and secondary current (or total power input) to the control device.
	c. Any size	i. Wet scrubber	(1) Continuous parameter monitoring system to measure and record the pressure drop across the scrubber, gas flow rate to the scrubber, and total liquid (or scrubbing liquor) flow rate to the scrubber. (2) If you use a wet scrubber of the non-venturi jet-ejector design, you're not required to install and operate a continuous parameter monitoring system for pressure drop.
	d. Any size	No electrostatic precipitator or wet scrubber.	Continous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent.

TABLE 3 TO SUBPART UUU OF PART 63.—CONTINOUS MONITORING SYSTEMS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

[As stated in § 63.1564(b)(1), you must meet each requirement in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	If your catalytic cracking unit is * * *	And you use this type of control device for your vent * * *	You must install, operate, and maintain a * * *
4. Option 3: Ni lb/hr not subject to the NSPS for PM in 40 CFR 60.102.	a. Over 20,000 barrels per day fresh feed capacity.	Electrostatic precipitator	Continous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate.
	b. Up to 20,000 barrels per day fresh feed capacity.	Electrostatic precipitator	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate; or continuous parameter monitoring systems to measure and record the gas flow rate and the voltage and secondary current (or total power input) to the control device.
	c. Any size	Wet scrubber	(1) Continuous parameter monitoring system to measure and record the pressure drop across the scrubber, gas flow rate to the scrubber, and total liquid (or scrubbing liquor) flow rate to the scrubber. (2) If you use a wet scrubber of the non-venturi jet-ejector, design, you're not required to install and operate a continuous parameter monitoring system for pressure drop.
	d. Any size	No electrostatic precipitator or wet scrubber.	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate.
5. Option 4: Ni lb/1,000 lbs of coke burn-off not subject to the NSPS for PM in 40 CFR 60.102.	a. Over 20,000 barrels per day fresh feed capacity.	Electrostatic precipitator	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate.
	b. Up to 20,000 barrels per day fresh feed capacity.	Electrostatic precipitator	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate; or continuous parameter monitoring systems to measure and record the gas flow rate and the voltage and secondary current (or total power input) to the control device.
	c. Any size	Wet scrubber	Continuous parameter monitoring system to measure and record the pressure drop across the scrubber, gas flow rate to the scrubber, and total liquid (or scrubbing liquor) flow rate to the scrubber.

TABLE 3 TO SUBPART UUU OF PART 63.—CONTINOUS MONITORING SYSTEMS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

[As stated in § 63.1564(b)(1), you must meet each requirement in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	If your catalytic cracking unit is * * *	And you use this type of control device for your vent * * *	You must install, operate, and maintain a * * *
	d. Any size	No electrostatic precipitator or wet scrubber	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate.

TABLE 4 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS NOT SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR PARTICULATE MATTER (PM)

[As stated in § 63.1564(b)(2), you must meet each requirement in the following table that applies to you]

For each new or existing catalytic cracking unit catalyst regenerator vent * * *	You must * * *	Using * * *	According to these requirements * * *
1. If you elect Option 1 in item 2 of Table 1, Option 2 in item 3 of Table 1, Option 3 in item 4 of Table 1, or Option 4 in item 5 of Table 1 of this subpart.	a. Select sampling port's location and the number of traverse ports.	Method 1 or 1A in appendix A to part 60 of this chapter.	Sampling sites must be located at the outlet of the control device or the outlet of the regenerator, as applicable, and prior to any releases to the atmosphere.
	b. Determine velocity and volumetric flow rate.	Method 2, 2A, 2C, 2D, 2F, or 2G in appendix A to part 60 of this chapter, as applicable.	
	c. Conduct gas molecular weight analysis.	Method 3, 3A, or 3B in appendix A to part 60 of this chapter, as applicable.	
	d. Measure moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.	
	e. If you use an electro-static precipitator, record the total number of fields in the control system and how many operated during the applicable performance test.		
	f. If you use a wet scrubber, record the total amount (rate) of water (or scrubbing liquid) and the amount (rate) of make-up liquid to the scrubber during each test run.		
2. Option 1: Elect NSPS	a. Measure PM emissions	Method 5B or 5F (40 CFR part 60, appendix A) to determine PM emissions and associated moisture content for units without wet scrubbers. Method 5B (40 CFR part 60, appendix A) to determine PM emissions and associated moisture content for unit with wet scrubber.	You must maintain a sampling rate of at least 0.15 dry standard cubic meters per minute (dscm/min) (0.53 dry standard cubic feet per minute (dscf/min)).
	b. Compute PM emission rate (lbs/1,000 lbs) of coke burn-off.	Equations 1, 2, and 3 of § 63.1564 (if applicable).	
	c. Measure opacity of emissions.	Continuous opacity monitoring system.	You must collect opacity monitoring data every 10 seconds during the entire period of the initial Method 5 performance test and reduce the data to 6-minute averages.
3. Option 2: PM limit	a. Measure PM emissions	See item 2. of this table	See item 2. of this table.
	b. Compute coke burn-off rate and PM emission rate.	Equations 1 and 2 of § 63.1564	

TABLE 4 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS NOT SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR PARTICULATE MATTER (PM)—Continued

[As stated in § 63.1564(b)(2), you must meet each requirement in the following table that applies to you]

For each new or existing catalytic cracking unit catalyst regenerator vent * * *	You must * * *	Using * * *	According to these requirements * * *
	c. Establish your site-specific opacity operating limit if you use a continuous opacity monitoring system.	Data from the continuous opacity monitoring system.	You must collect opacity monitoring data every 10 seconds during the entire period of the initial Method 5 performance test and reduce the data to 6-minute averages; determine and record the hourly average opacity from all the 6-minute averages; and compute the site-specific limit using Equation 4 of § 63.1564.
4. Option 3: Ni lb/hr	a. Measure concentration of Ni and total metal HAP.	Method 29 (40 CFR part 60, appendix A).	You must maintain a sampling rate of at least 0.028 dscm/min (0.74 dscf/min).
	b. Compute Ni emission rate (lb/hr).	Equation 5 of § 63.1564	
	c. Determine the equilibrium catalyst Ni concentration.	EPA Method 6010B or 6020 or EPA Method 7520 or 7521 in SW–846 [1]; or, you can use an alternative method satisfactory to the Administrator.	You must obtain 1 sample for each of the 3 runs; determine and record the average equilibrium catalyst Ni concentration for each of the 3 runs; and you may adjust the results for an individual run to the maximum value using Equation 1 of § 63.1571.
	d. If you use a continuous opacity monitoring system, establish your site-specific Ni operating limit.	i. Equations 6 and 7 of § 63.1564 using data from continuous opacity monitoring system, gas flow rate, results of equilibrium catalyst Ni concentration analysis, and Ni emission rate from Method 29 test.	(1) You must collect opacity monitoring data every 10 seconds during the entire period of the initial Ni performance test; reduce the data to 6-minute averages; and determine and record the hourly average opacity from all the 6-minute averages. (2) You must collect gas flow rate monitoring data every 15 minutes during the entire period of the initial Ni performance test; measure the gas flow as near as practical to the continuous opacity monitoring system; and determine and record the hourly average actual gas flow rate from all the readings.
5. Option 4: Ni lbs/1,000 lbs of coke burn-off.	a. Measure concentration of Ni and total metal HAP.	Method 29 (40 CFR part 60, appendix A).	You must maintain a sampling rate of at least 0.028 dscm/min (0.74 dscf/min).
	b. Compute Ni emission rate (lb/1,000 lbs of coke burn-off).	Equations 1 and 8 of § 63.1564.	
	c. Determine the equilibrium catalyst Ni concentration.	EPA Method 6010B or 6020 or EPA Method 7520 or 7521 (SW–846) [1]; or, you can use an alternative method satisfactory to the Administrator.	You must obtain 1 sample for each of the 3 runs; determine and record the equilibrium catalyst Ni concentration for each of the 3 samples; and you may adjust the laboratory results to the maximum value using Equation 2 of § 63.1571.

TABLE 4 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS NOT SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR PARTICULATE MATTER (PM)—Continued

[As stated in § 63.1564(b)(2), you must meet each requirement in the following table that applies to you]

For each new or existing catalytic cracking unit catalyst regenerator vent * * *	You must * * *	Using * * *	According to these requirements * * *
	d. If you use a continuous opacity monitoring system, establish your site-specific Ni operating limit.	i. Equations 9 and 10 of § 63.1564 with data from continuous opacity monitoring system, coke burn-off rate, gas flow rate, results of equilibrium catalyst Ni concentration analysis, and Ni emission rate from Method 29 test.	(1) You must collect opacity monitoring data every 10 seconds during the entire period of the initial Ni performance test; reduce the data to 6-minute averages; and determine and record the hourly average opacity from all the 6-minute averages. (2) You must collect gas flow rate monitoring data every 15 minutes during the entire period of the initial Ni performance test; measure the gas flow rate as near as practical to the continuous opacity monitoring system; and determine and record the hourly average actual gas flow rate from all the readings.
	e. Record the catalyst addition rate for each test and schedule for the 10-day period prior to the test.		
6. If you elect Option 2 in Entry 3 in Table 1, Option 3 in Entry 4 in Table 1, or Option 4 in Entry 5 in Table 1 of this subpart and you use continuous parameter monitoring systems.	a. Establish each operating limit in Table 2 of this subpart that applies to you.	Data from the continuous parameter monitoring systems and applicable performance test methods.	
	b. Electrostatic precipitator or wet scrubber: gas flow rate.	Data from the continuous parameter monitoring systems and applicable performance test methods.	You must collect gas flow rate monitoring data every 15 minutes during the entire period of the initial performance test; and determine and record the maximum hourly average gas flow rate from all the readings.
	c. Electrostatic precipitator: voltage and secondary current (or total power input).	Data from the continuous parameter monitoring systems and applicable performance test methods.	You must collect voltage and secondary current (or total power input) monitoring data every 15 minutes during the entire period of the initial performance test; and determine and record the minimum hourly average voltage and secondary current (or total power input) from all the readings.
	d. Electrostatic precipitator or wet scrubber: equilibrium catalyst Ni concentration.	Results of analysis for equilibrium catalyst Ni concentration.	You must determine and record the average equilibrium catalyst Ni concentration for the 3 runs based on the laboratory results. You may adjust the value using Equation 1 or 2 of § 63.1571 as applicable.
	e. Wet scrubber: pressure drop (not applicable to non-venturi scrubber of jet ejector design).	Data from the continuous parameter monitoring systems and applicable performance test methods.	You must collect pressure drop monitoring data every 15 minutes during the entire period of the initial performance test; and determine and record the minimum hourly average pressure drop from all the readings.

TABLE 4 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS NOT SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR PARTICULATE MATTER (PM)—Continued

[As stated in § 63.1564(b)(2), you must meet each requirement in the following table that applies to you]

For each new or existing catalytic cracking unit catalyst regenerator vent * * *	You must * * *	Using * * *	According to these requirements * * *
	f. Wet scrubber: liquid-to-gas ratio	Data from the continuous parameter monitoring systems and applicable performance test methods.	You must collect gas flow rate and total water (or scrubbing liquid) flow rate monitoring data every 15 minutes during the entire period of the initial performance test; determine and record the hourly average gas flow rate and total water (or scrubbing liquid) flow rate from all the readings; and determine and record the minimum liquid-to-gas ratio.
	g. Alternative procedure for gas flow rate.	Data from the continuous parameter monitoring systems and applicable performance test methods.	You must collect air flow rate monitoring data or determine the air flow rate using control room instrumentation every 15 minutes during the entire period of the initial performance test; determine and record the hourly average rate of all the readings; and determine and record the maximum gas flow rate using Equation 1 of § 63.1573.

[1] EPA Method 6010B, Inductively Coupled Plasma-Atomic Emission Spectrometry, EPA Method 6020, Inductively Coupled Plasma-Mass Spectrometry, EPA Method 7520, Nickel Atomic Absorption, Direct Aspiration, and EPA Method 7521, Nickel Atomic Absorption, Direct Aspiration are included in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, Revision 5 (April 1998). The SW–846 and Updates (document number 955–001–00000–1) are available for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512–1800; and from the National Technical Information Services (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 487–4650. Copies may be inspected at the Air and Radiation Docket and Information Center, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC; or at the Office of the Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, DC.

TABLE 5 TO SUBPART UUU OF PART 63.—INITIAL COMPLIANCE WITH METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

[As stated in § 63.1564(b)(5), you must meet each requirement in the following table that applies to you]

For each new and existing catalytic cracking unit catalyst regenerator vent * * *	For the following emission limit * * *	You have demonstrated initial compliance if * * *
1. Subject to the NSPS for PM in 40 CFR 60.102.	PM emissions must not exceed 1.0 kg/1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator; if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or supplemental liquid or solid fossil fuel, you must limit the incremental rate of PM to no more than 43.0 grams per Megajoule (g/MJ) or 0.10 pounds per million British thermal units (lb/million Btu) of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions 30 percent, except for one 6-minute average opacity reading in any 1-hour period.	You have already conducted a performance test to demonstrate initial compliance with the NSPS and the measured PM emission rate is less than or equal to 1.0 kg/1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator. As part of the Notification of Compliance Status, you must certify that your vent meets the PM limit. You are not required to do another performance test to demonstrate initial compliance. If applicable, you have already conducted a performance test to demonstrate initial compliance with the NSPS and the measured PM rate is less than or equal to 43.0 g/MJ or 0.010 lb/million Btu of heat input attributable to the liquid or solid fossil fuel. As part of the Notification of Compliance Status, you must certify that your vent meets the PM emission limit. You are not required to do another performance test to demonstrate initial compliance. You have already conducted a performance test to demonstrate initial compliance with the NSPS and the average hourly opacity of emissions is no more than 30 percent. Except: one 6-minute average in any 1-hour period can exceed 30 percent. As part of the Notification of Compliance Status, you must certify that your vent meets the opacity limit. You are not required to do another performance test to demonstrate initial compliance. You have already conducted a performance evaluation to demonstrate initial compliance with the applicable performance specification. As part of your Notification of Compliance Status, you certify that your continuous opacity monitoring system meets the requirements in § 63.1572. You are not required to do a performance evaluation to demonstrate initial compliance.
2. Option 1: Elect NSPS not subject to the NSPS for PM.	PM emissions must not exceed 1.0 kg/1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator; if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or supplemental liquid or solid fossil fuel, you must limit the incremental rate of PM to no more than 43.0 grams per Megajoule (g/MJ) or 0.10 pounds per million British thermal units (lb/million Btu) of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period.	The average PM emission rate, measured using EPA method 5 over the period of the initial performance test, is no higher than 1.0 kg/1,000 kg (1.0 lb/1,000 lbs) of coke burn-off in the catalyst regenerator. The PM emission rate is calculated using Equations 1 and 2 of the § 63.1564. If applicable, the average PM emission rate, measured using EPA Method 5 over the period of the initial performance test, is no higher than 43.0 g/MJ or 0.010 lb/million Btu of heat input attributable to the liquid or solid fossil fuel. The PM emission rate is calculated using Equation 3 of § 63.1564; no more than one 6-minute average measured by the continuous opacity monitoring system exceeds 30 percent opacity in any 1-hour period over the period of the performance test; and your performance evaluation shows the continuous opacity monitoring system meets the applicable requirements in § 63.1572.

TABLE 5 TO SUBPART UUU OF PART 63.—INITIAL COMPLIANCE WITH METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS—Continued

[As stated in § 63.1564(b)(5), you must meet each requirement in the following table that applies to you]

For each new and existing catalytic cracking unit catalyst regenerator vent * * *	For the following emission limit * * *	You have demonstrated initial compliance if * * *
3. Option 2: not subject to the NSPS for PM	PM emissions must not exceed 1.0 kg/1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator.	The average PM emission rate, measured using EPA Method 5 over the period of the initial performance test, is less than or equal to 1.0 kg/1,000 kg (1.0 lb/1,000 lbs) of coke burn-off in the catalyst regenerator. The PM emission rate is calculated using Equations 1 and 2 of § 63.1564; and if you use a continuous opacity monitoring system, your performance evaluation shows the system meets the applicable requirements in § 63.1572.
4. Option 3: not subject to the NSPS for PM	Nickel (Ni) emissions from your catalyst regenerator vent must not exceed 13,000 mg/hr (0.029 lb/hr).	The average Ni emission rate, measured using Method 29 over the period of the initial performance test, is not more than 13,000 mg/hr (0.029 lb/hr). The Ni emission rate is calculated using Equation 5 of § 63.1564; and if you use a continuous opacity monitoring system, your performance evaluation shows the system meets the applicable requirements in § 63.1572.
5. Option 4: Ni lb/1,000 lbs of coke burn-off not subject to the NSPS for PM.	Ni emissions from your catalyst regenerator vent must not exceed 1.0 mg/kg (0.001 lb/1,000 lbs) of coke burn-off in the catalyst regenerator.	The average Ni emission rate, measured using Method 29 over the period of the initial performance test, is not more than 1.0 mg/kg (0.001 lb/1,000 lbs) of coke burn-off in the catalyst regenerator. The Ni emission rate is calculated using Equation 8 of § 63.1564; and if you use a continuous opacity monitoring system, your performance evaluation shows the system meets the applicable requirements in § 63.1572.

TABLE 6 TO SUBPART UUU OF PART 63.—CONTINUOUS COMPLIANCE WITH METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

[As stated in § 63.1564(c)(1), you must meet each requirement in the following table that applies to you]

For each new and existing catalytic cracking unit * * *	Subject to this emission limit for your catalyst regenerator vent * * *	You must demonstrate continuous compliance by * * *
1. Subject to the NSPS for PM in 40 CFR 60.102.	a. PM emissions must not exceed 1.0 lb/1,000 lbs of coke burn-off in the catalyst regenerator; if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or supplemental liquid or solid fossil fuel, incremental rate of PM can't exceed 43.0 g/MJ (0.10 lb/million Btu) of heat input attributable to the liquid or solid fossil fuel; and opacity of emissions can't exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period.	i. Determining and recording each day the average coke burn-off rate (thousands of kilograms per hour) using Equation 2 in § 63.1564 and the hours of operation for each catalyst regenerator; maintaining PM emission rate below 1.0 kg/1,000 kg (1.0 lb/1,000 lbs) of coke burn-off; if applicable, determining and recording each day the rate of combustion of liquid or solid fossil fuels (liters/hour or kilograms/hour) using Equation 3 of § 63.1564 and the hours of operation during which liquid or solid fossil-fuels are combusted in the incinerator-waste heat boiler; if applicable, maintaining PM rate below 43 g/MJ (0.10 lb/million Btu) of heat input attributable to the solid or liquid fossil fuel; collecting the continuous opacity monitoring data for each catalyst regenerator vent according to § 63.1572; and maintaining each 6-minute average at or below 30 percent except that one 6-minute average during a 1-hour period can exceed 30 percent.
2. Option 1: Elect NSPS not subject to the NSPS for PM in 40 CFR 60.102.	See item 1.a. of this table	See item 1.a.i. of this table.

TABLE 6 TO SUBPART UUU OF PART 63.—CONTINUOUS COMPLIANCE WITH METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS—Continued

[As stated in § 63.1564(c)(1), you must meet each requirement in the following table that applies to you]

For each new and existing catalytic cracking unit * * *	Subject to this emission limit for your catalyst regenerator vent * * *	You must demonstrate continuous compliance by * * *
3. Option 2: PM limit not subject to the NSPS for PM.	PM emissions must not exceed 1.0 lb/1,000 lbs of coke burn-off in the catalyst regenerator.	Determining and recording each day the average coke burn-off rate (thousands of kilograms per hour) and the hours of operation for each catalyst regenerator by Equation 2 of § 63.1564. You can use process data to determine the volumetric flow rate; and maintaining PM emission rate below 1.0 kg/1,000 kg (1.0 lb/1,000 lbs) of coke burn-off.
4. Option 3: Ni lb/hr not subject to the NSPS for PM.	Ni emissions must not exceed 13,000 mg/hr (0.029 lb/hr).	Maintaining Ni emission rate below 13,000 mg/hr (0.029 lb/hr).
5. Option 4: Ni lb/1,000 lbs of coke burn-off not subject to the NSPS for PM.	Ni emissions must not exceed 1.0 mg/kg (0.001 lb/1,000 lbs) of coke burn-off in the catalyst regenerator.	Determining and recording each day the average coke burn-off rate (thousands of kilograms per hour) and the hours of operation for each catalyst regenerator by Equation 2 of § 63.1564. You can use process data to determine the volumetric flow rate; and maintaining Ni emission rate below 1.0 mg/kg (0.001 lb/1,000 lbs) of coke burn-off in the catalyst regenerator.

TABLE 7 TO SUBPART UUU OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1564(c)(1), you must meet each requirement in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	If you use * * *	For this operating limit * * *	You must demonstrate continuous compliance by * * *
1. Subject to NSPS for PM in 40 CFR 60.102.	Continuous opacity monitoring system.	Not applicable	Complying with Table 6 of this subpart.
2. Option 1: Elect NSPS not subject to the NSPS for PM in 40 CFR 60.102.	Continuous opacity monitoring system.	Not applicable	Complying with Table 6 of this subpart.
3. Option 2: PM limit not subject to the NSPS for PM in 40 CFR 60.102.	a. Continuous opacity monitoring system.	The opacity of emissions from your catalyst regenerator vent must not exceed the site-specific opacity operating limit established during the performance test	Collecting the hourly average continuous opacity monitoring system data according to § 63.1572; and maintaining each 6-minute average in each 1-hour period at or below the site-specific limit.
	b. Continuous parameter monitoring systems—electrostatic precipitator.	i. The daily average gas flow rate to the control device must not exceed the operating limit established during the performance test.	Collecting the hourly and daily average gas flow rate monitoring data according to § 63.1572[1]; and maintaining the daily average gas flow rate at limit or below the established during the performance test.
		ii. The daily average voltage and secondary current (or total power input) to the control device must not fall below the operating limit established during the performance test.	Collecting the hourly and daily average voltage and secondary current (or total power input) monitoring data according to § 63.1572; and maintaining the daily average voltage and secondary current (or total power input) at or above the limit established during the performance test.
	c. Continuous parameter monitoring systems—wet scrubber.	i. The daily average pressure drop across the scrubber must not fall below the operating limit established during the performance test.	Collecting the hourly and daily average pressure drop monitoring data according to § 63.1572; and maintaining the daily average press drop above the limit established during the performance test.

TABLE 7 TO SUBPART UUU OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

[As stated in § 63.1564(c)(1), you must meet each requirement in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	If you use * * *	For this operating limit * * *	You must demonstrate continuous compliance by * * *
		ii. The daily average liquid-to-gas ratio must not fall below the operating limit established during the performance test.	Collecting the hourly average gas flow rate and water (or scrubbing liquid) flow rate monitoring data according to § 63.1572[1]; determining and recording the hourly average liquid-to-gas ratio; determining and recording the daily average liquid-to-gas ratio; and maintaining the daily average liquid-to-gas ratio above the limit established during the performance test.
4. Option 3: Ni lb/hr not subject to the NSPS for PM in 40 CFR 60.102.	a. Continuous opacity monitoring system.	The daily average Ni operating value must not exceed the site-specific Ni operating limit established during the performance test.	Collecting the hourly average continuous opacity monitoring system data according § 63.1572; determining and recording equilibrium catalyst Ni concentration at least once a week collecting the hourly average gas flow rate monitoring data according to § 63.1572[1]; determining and recording the hourly average Ni operating value using Equation 11 of § 63.1564; determining and recording the daily average Ni operating value; and maintaining the daily average Ni operating value below the site-specific Ni operating limit established the performance test.
	b. Continuous parameter monitoring systems—electrostatic precipitator.	i. The daily average gas flow rate to the control device must notice exceed the level established in the performance test.	See item 3.b.i. of this table.
		ii. The daily average voltage and secondary current (or total power input) must not fall below the level established in the performance test.	See item 3.b.ii. of this table.
		iii. The monthly rolling average of equilibrium catalyst Ni concentration must not exceed the level established during the performance test.	Determining the recording the equilibrium catalyst Ni concentration at least once a week; determining and recording the monthly rolling average of the equilibrium catalyst Ni concentration once each week using the weekly or most recent value; and maintaining the monthly rolling average below the limit established in the performance test
	c. Continuous parameter monitoring systems—wet scrubber.	i. The daily average pressure drop must not fall below the operating limit established in the performance test.	See item 3.c.i. of this table.
		ii. The daily average liquid-to-gas ratio must not fall below the operating limit established during the performance test.	See item 3.c.ii. of this table.

TABLE 7 TO SUBPART UUU OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

[As stated in § 63.1564(c)(1), you must meet each requirement in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	If you use * * *	For this operating limit * * *	You must demonstrate continuous compliance by * * *
		iii. The monthly rolling average equilibrium catalyst Ni concentration must not exceed the level established during the performance test.	Determining and recording the equilibrium catalyst Ni concentration at least once a week; determining and recording the monthly rolling average of equilibrium catalyst Ni concentration once each week using the weekly or most recent value; and maintaining the monthly rolling average below the limit established in the performance test.
5. Option 4: Ni lb/ton of coke burn-off not subject to the NSPS for PM in 40 CFR 60.102	a. Continuous opacity monitoring system.	The daily average Ni operating value must not exceed the site-specific Ni operating limit established during the performance test.	Collecting the hourly average continuous opacity monitoring system data according to § 63.1572; collecting the hourly average gas flow rate monitoring data according to § 63.1572 [1]; determining and recording equilibrium catalyst Ni concentration at least once a week; determining and recording the hourly average Ni operating value using Equation 12 of § 63.1564; determining and recording the daily average Ni operating value; and maintaining the daily average Ni operating value below the site-specific Ni operating limit established during the performance test.
	b. Continuous parameter monitoring systems—electrostatic precipitator.	i. The daily average gas flow rate to the control device must not exceed the level established in the performance test.	See item 3.b.i. of this table.
		ii. The daily average voltage and secondary current (or total power input) must not fall below the level established in the performance test.	See item 3.b.ii. of this table.
		iii. The monthly rolling average equilibrium catalyst Ni concentration must not exceed the level established during the performance test.	See item 4.b.iii. of this table.
	c. Continuous parameter monitoring systems—wet scrubber.	i. The daily average pressure drop must not fall below the operating limit established in the performance test.	See item 3.c.i. of this table.
		ii. The daily average liquid-to-gas ratio must not fall below the operating limit established during the performance test. See item 3.c.ii. of this table.	
		iii. The monthly rolling average equilibrium catalyst Ni concentration must not exceed the level established during the performance test.	See item 4.c.iii. of this table.

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[1] If applicable, you can use the alternative in § 63.1573 for gas flow rate instead of a continuous parameter monitoring system if you used the alternative method in the initial performance test. If so, you must continuously monitor and record the air flow rate to the regenerator and the temperature of the gases entering the control device as described in § 63.1573. You must determine and record the hourly average gas flow rate using Equation 1 of § 63.1573 and the daily average gas flow rate. You must maintain the daily average gas flow rate below the operating limit established during the performance test.

TABLE 8 TO SUBPART UUU OF PART 63.—ORGANIC HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

[As stated in § 63.1565(a)(1), you must meet each emission limitation in the following table that applies to you]

For each new and existing catalytic cracking unit * * *	You must meet the following emission limit for each catalyst regenerator vent * * *
1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103.	CO emissions from the catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 parts per million volume (ppmv) (dry basis).
2. Not subject to the NSPS for CO in 40 CFR 60.103.	a. CO emissions from the catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis). b. If you use a flare to meet the CO limit, the flare must meet the requirements for control devices in § 63.11(b): visible emissions must not exceed a total of 5 minutes during any 2 consecutive hours.

TABLE 9 TO SUBPART UUU OF PART 63.—OPERATING LIMITS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1565(a)(2), you must meet each operating limit in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	For this type of continuous monitoring system * * *	For this type of control device * * *	You must meet this operating limit * * *
1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103.	Continuous emission monitoring system.	Not applicable	Not applicable.
2. Not subject to the NSPS for CO in 40 CFR 60.103.	a. Continuous emission monitoring system.	Not applicable	Not applicable.
	b. Continuous parameter monitoring systems.	i. Thermal incinerator	Maintain the daily average combustion zone temperature above the limit established during the performance test; and maintain the daily average oxygen concentration in the vent stream (percent, dry basis) above the limit established during the performance test.
		ii. Boiler or process heater with a design heat input capacity under 44 MW or a boiler or process heater in which all vent streams are not introduced into the flame zone.	Maintain the daily average combustion zone temperature above the limit established in the performance test.
		iii. Flare	The flare pilot light must be present at all times and the flare must be operating at all times that emissions may be vented to it.

TABLE 10 TO SUBPART UUU OF PART 63.—CONTINUOUS MONITORING SYSTEMS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1565(b)(1), you must meet each requirement in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	And you use this type of control device for your vent * * *	You must install, operate, and maintain this type of continuous monitoring system * * *
1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103.	Not applicable	Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent.
2. Not subject to the NSPS for CO in 40 CFR 60.103.	a. Thermal incinerator	Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent; or continuous parameter monitoring systems to measure and record the combustion zone temperature and oxygen content (percent, dry basis) in the incinerator vent stream.
	b. Process heater or boiler with a design heat input capacity under 44 MW or process heater or boiler in which all vent streams are not introduced into the flame zone.	Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent; or continuous parameter monitoring systems to measure and record the combustion zone temperature.

TABLE 10 TO SUBPART UUU OF PART 63.—CONTINUOUS MONITORING SYSTEMS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

[As stated in § 63.1565(b)(1), you must meet each requirement in the following table that applies to you]

For each new or existing catalytic cracking unit * * *	And you use this type of control device for your vent * * *	You must install, operate, and maintain this type of continuous monitoring system * * *
	c. Flare	Monitoring device such as a thermocouple, an ultraviolet beam sensor, or infrared sensor to continuously detect the presence of a pilot flame.
	d. No control device	Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent.

TABLE 11 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS NOT SUBJECT TO NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR CARBON MONOXIDE (CO)

[As stated in § 63.1565(b)(2) and (3), you must meet each requirement in the following table that applies to you]

For * * *	You must * * *	Using * * *	According to these requirements * * *
1. Each new or existing catalytic cracking unit catalyst regenerator vent.	a. Select sampling port's location and the number of traverse ports.	Method 1 or 1A in appendix A to part 60 of this chapter.	Sampling sites must be located at the outlet of the control device or the outlet of the regenerator, as applicable, and prior to any releases to the atmosphere.
	b. Determine velocity and volumetric flow rate.	Method 2, 2A, 2D, 2F, or 2G in appendix A to part 60 of this chapter, as applicable.	
	c. Conduct gas molecular weight analysis.	Method 3, 3A, or 3B in appendix A to part 60 of this chapter, as applicable.	
	d. Measure moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.	
2. For each new or existing catalytic cracking unit catalyst regenerator vent if you use a continuous emission monitoring system.	Measure CO emissions	Data from your continuous emission monitoring system.	Collect CO monitoring data for each vent for 24 consecutive operating hours; and reduce the continuous emission monitoring data to 1-hour averages computed from four or more data points equally spaced over each 1-hour period.
3. Each catalytic cracking unit catalyst regenerator vent if you use continuous parameter monitoring systems.	a. Measure the CO concentration (dry basis) of emissions exiting the control device.	Method 10, 10A, or 10B in appendix A to part 60 of this chapter, as applicable.	
	b. Establish each operating limit in Table 9 of this subpart that applies to you.	Data from the continuous parameter monitoring systems.	
	c. Thermal incinerator combustion zone temperature.	Data from the continuous parameter monitoring systems.	Collect temperature monitoring data every 15 minutes during the entire period of the CO initial performance test; and determine and record the minimum hourly average combustion zone temperature from all the readings.
	d. Thermal incinerator: oxygen, content (percent, dry basis) in the incinerator vent stream.	Data from the continuous parameter monitoring systems.	Collect oxygen concentration (percent, dry basis) monitoring data every 15 minutes during the entire period of the CO initial performance test; and determine and record the minimum hourly average percent excess oxygen concentration from all the readings.

TABLE 11 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS NOT SUBJECT TO NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR CARBON MONOXIDE (CO)—Continued

[As stated in § 63.1565(b)(2) and (3), you must meet each requirement in the following table that applies to you]

For * * *	You must * * *	Using * * *	According to these requirements * * *
	e. If you use a process heater or boiler with a design heat input capacity under 44 MW or process heater or boiler in which all vent streams are not introduced into the flame zone, establish operating limit for combustion zone temperature.	Data from the continuous parameter monitoring systems.	Collect the temperature monitoring data every 15 minutes during the entire period of the CO initial performance test; and determine and record the minimum hourly average combustion zone temperature from all the readings.
	f. If you use a flare, conduct visible emission observations.	Method 22 (40 CFR part 60, appendix A).	Maintain a 2-hour observation period; and record the presence of a flame at the pilot light over the full period of the test.
	g. If you use a flare, determine that the flare meets the requirements for net heating value of the gas being combusted and exit velocity.	40 CFR 60.11(b)(6)through(8).	

TABLE 12 TO SUBPART UUU OF PART 63.—INITIAL COMPLIANCE WITH ORGANIC HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

[As stated in § 63.1565(b)(4), you must meet each requirement in the following table that applies to you]

For each new and existing catalytic cracking unit * * *	For the following emission limit * * *	You have demonstrated initial compliance if * * *
1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103.	CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	You have already conducted a performance test to demonstrate initial compliance with the NSPS and the measured CO emissions are less than or equal to 500 ppm (dry basis). As part of the Notification of Compliance Status, you must certify that your vent meets the CO limit. You are not required to conduct another performance test to demonstrate initial compliance. You have already conducted a performance evaluation to demonstrate initial compliance with the applicable performance specification. As part of your Notification of Compliance Status, you must certify that your continuous emission monitoring system meets the applicable requirements in § 63.1572. You are not required to conduct another performance evaluation to demonstrate initial compliance.
2. Not subject to the NSPS for CO in 40 CFR 60.103.	a. CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	i. If you use a continuous parameter monitoring system, the average CO emissions measured by Method 10 over the period of the initial performance test are less than or equal to 500 ppmv (dry basis).
		ii. If you use a continuous emission monitoring system, the hourly average CO emissions over the 24-hour period for the initial performance test are not more than 500 ppmv (dry basis); and your performance evaluation shows your continuous emission monitoring system meets the applicable requirements in § 63.1572.
	b. If you use a flare, visible emissions must not exceed a total of 5 minutes during any 2 operating hours.	Visible emissions, measured by Method 22 during the 2-hour observation period during the initial performance test, are no higher than 5 minutes.

TABLE 13 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH ORGANIC HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

[As stated in § 63.1565(c)(1), you must meet each requirement in the following table that applies to you]

For each new and existing catalytic cracking unit * * ;*	Subject to this emission limit for your catalyst regenerator vent * * *	If you must * * *	You must demonstrate continuous compliance by * * *
1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103.	CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	Continuous emission monitoring system.	Collecting the hourly average CO monitoring data according to § 63.1572; and maintaining the hourly average CO concentration at or below 500 ppmv (dry basis).
2. Not subject to the NSPS for CO in 40 CFR 60.103.	i. CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	Continuous emission monitoring system.	Same as above.
	ii. CO emissisons from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	Continuous parameter monitoring system.	Maintaining the hourly average CO concentration below 500 ppmv (dry basis).
	iii. Visible emissions from a flare must not exceed a total of 5 minutes during any 2-hour period.	Control device-flare	Maintaining visible emissions below a total of 5 minutes during any 2-hour operating period.

TABLE 14 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1565(c)(1), you must meet each requirement in the following table that applies to you]

For each new existing catalytic cracking unit * * *	If you use * * *	For this operating limit * * *	You must demonstrate continuous compliance by * * *
1. Subject to NSPS for carbon monoxide (CO) in 40 CFR 60.103.	Continuous emission monitoring system.	Not applicable	Complying with Table 13 of this subpart.
2. Not subject to the NSPS for CO in 40 CFR 60.103.	a. Continuous emission monitoring system.	Not applicable	Complying with Table 13 of this subpart.
	b. Continuous parameter monitoring systems—thermal incinerator.	i. The daily average combustion zone temperature must not fall below the level established during the performance test.	Collecting the hourly and daily average temperature monitoring data according to § 63.1572; and maintaining the daily average combustion zone temperature above the limit established during the performance test.
		ii. The daily average oxygen concentration in the vent stream (percent, dry basis) must not fall below the level established during the performance test.	Collecting the hourly and daily average oxygen concentration monitoring data according to § 63.1572; and maintaining the daily average oxygen concentration above the limit established during the performance test.
	c. Continuous parameter monitoring systems—boiler or process heater with a design heat input capacity under 44 MW or boiler or process heater in which all vent streams are not introduced into the flame zone.	The daily combustion zone temperature must not fall below the level established in the performance test.	Collecting the average hourly and daily temperature monitoring data according to § 63.1572; and maintaining the daily average combustion zone temperature above the limit established during the performance test.
	d. Continuous parameter monitoring system—flare.	The flare pilot light must be present at all times and the flare must be operating at all times that emissions may be vented to it.	Collecting the flare monitoring data according to § 63.1572; and recording for each 1-hour period whether the monitor was continuously operating and the pilot light was continuously present during each 1-hour period.

TABLE 15 TO SUBPART UUU OF PART 63.—ORGANIC HAP EMISSION LIMITS FOR CATALYTIC REFORMING UNITS

[As stated in § 63.1566(a)(1), you must meet each emission limitation in the following table that applies to you]

For each new or existing catalytic reforming unit * * *	You must meet this emission limit for each process vent during depressuring and purging operation * * *
1. Option 1	Vent emissions to a flare that meets the requirements for control devices in § 63.11(b). Visible emissions from a flare must not exceed a total of 5 minutes during any 2-hour operating period.
2. Option 2	Using a control device, reduce uncontrolled emissions of total organic compounds (TOC) from your process vent by 98 percent by weight or to a concentration of 20 ppmv (dry basis), corrected to 3 percent oxygen, whichever is less stringent. If you vent emissions to a boiler or process heater to comply with the percent reduction or concentration emission limitation, the vent stream must be introduced into the flame zone, or any other location that will achieve the percent reduction or concentration standard.

TABLE 16 TO SUBPART UUU OF PART 63.—OPERATING LIMITS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

[As stated in § 63.1566(a)(2), you must meet each operating limit in the following table that applies to you]

For each new or existing catalytic reforming unit * * *	For this type of control device * * *	You must meet this operating limit during depressuring and purging operations * * *
1. Option 1: vent to flare	Flare that meets the requirements for control devices in § 63.11(b).	The flare pilot light must be present at all times and the flare must be operating at all times that emissions may be vented to it.
2. Option 2: percent reduction or concentration limit.	Thermal incinerator, boiler or process heater with a design heat input capacity under 44 MW, or boiler or process heater in which all vent streams are not introduced into the flame zone.	The daily average combustion zone temperature must not fall below the limit established during the performance test.

TABLE 17 TO SUBPART UUU OF PART 63.—CONTINUOUS MONITORING SYSTEMS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

[As stated in § 63.1566(b)(1), you must meet each requirement in the following table that applies to you]

For each new or exiting catalytic reforming unit * * *	If you use this type of control device * * *	You must install and operate this type of continuous monitoring system * * *
1. Option 1: vent to a flare	Flare that meets the requirements for control devices in § 63.11(b).	Monitoring device such as a thermocouple, an ultraviolet beam sensor, or infrared sensor to continuously detect the presence of a pilot flame.
2. Option 2: percent reduction or concentration limit.	Thermal incinerator, process heater or boiler with a design heat input capacity under 44 MW, or process heater or boiler in which all vent streams are not introduced into the flame zone.	Continuous parameter monitoring systems to measure and record the combustion zone temperature.

TABLE 18 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

[As stated in § 63.1566(b)(2) and (3), you must meet each requirement in the following table that applies to you]

For each new or exiting catalytic reforming unit * * *	You must * * *	Using * * *	According to these requirements * * *
1. Option 1: vent to a flare.	a. Conduct visible emission observations.	Method 22 (40 CFR 60, appendix A).	2-hour observation period. Record the presence of a flame at the pilot light over the full period of the test.
	b. Determine that the flare meets the requirements for net heating value of the gas being combusted and exit velocity.	Not applicable	40 CFR 60.11(b)(6) through (8).
2. Option 2: percent reduction or concentration limit.	a. Select sampling site	Method 1 or 1A (40 CFR part 60, appendix A). No traverse site selection method is needed for vents smaller than 0.10 meter in diameter.	Sampling sites must be located at the inlet (if you elect the emission reduction standard) and outlet of the control device and prior to any releases to the atmosphere.

TABLE 18 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS—Continued

[As stated in § 63.1566(b)(2) and (3), you must meet each requirement in the following table that applies to you]

For each new or exiting catalytic reforming unit * * *	You must * * *	Using * * *	According to these requirements * * *
	b. Measure gas volumetric flow rate.	Method 2, 2A, 2C, 2D, 2F, or 2G (40 CFR part 60, appendix A), as applicable.	
	c. Measure TOC concentration (for percent reduction standard).	Method 25 (40 CFR part 60, appendix A) to measure TOC concentration at the inlet and outlet of the control device. If the TOC outlet concentration is expected to be less than 50 ppm, you can use Method 25A to measure TOC concentration at the inlet and the outlet of the control device.	Take either an integrated sample or four grab samples during each run. If you use a grab sampling technique, take the samples at approximately equal intervals in time, such as 15-minute intervals during the run.
	d. Calculate TOC emission rate and mass emission reduction.	Calculate emission rate by Equation 1 of § 63.1566 (if you use Method 25) or Equation 2 of § 63.1566 (if you use Method 25A). Calculate mass emission reduction by Equation 3 of § 63.1566.	
	e. Measure TOC concentration (for concentration standard).	Method 25A (40 CFR part 60, appendix A) to measure TOC concentration at the outlet of the control device.	
	f. Determine oxygen content in the gas stream at the outlet of the control device.	Method 3A or 3B (40 CFR part 60, appendix A), as applicable.	
	g. Correct the measured TOC concentration for oxygen content.	Equation 4 of § 63.1566	
	h. Established each operating limit in Table 16 of this subpart that applies to you for a thermal incinerator, or process heater or boiler with a design heat input capacity under 44 MW, or process heater or boiler in which all vent streams are not introduced into the flame zone.	Data from the continuous parameter monitoring systems.	Collect the temperature monitoring data every 15 minutes during the entire period of the initial TOC performance test. Determine and record the minimum hourly average combustion zone temperature.

TABLE 19 TO SUBPART UUU OF PART 63—INITIAL COMPLIANCE WITH ORGANIC HAP EMISSION LIMITS FOR CATALYTIC REFORMING UNITS

[As stated in § 63.1566(b)(7), you must meet each requirement in the following table that applies to you.]

For . . .	For the following emission limit . . .	You have demonstrated initial compliance if . . .
1. Each new and existing catalytic reforming unit.	a. Visible emissions from a flare must not exceed a total of 5 minutes during any 2 consecutive hours.	Visible emissions, measured using Method 22 over the 2-hour observation period of the performance test do not exceed a total of 5 minutes.
	b. Reduce uncontrolled emissions of TOC from your process vent using a control device, by 98 percent by weight or to a concentration of 20 ppmv, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent.	The mass emission reduction measured using Method 25 over the period of the performance test, is at least 98 percent by weight. The mass emission reduction is calculated using Equations 1 (or 2) and 3 of § 63.1566 or the TOC concentration, measured by Method 25A over the period of the performance test, does not exceed 20 ppmv (dry basis), corrected to 3 percent oxygen using Equation 4 of § 63.1566.

TABLE 20 TO SUBPART UUU OF PART 63.—CONTINUOUS COMPLIANCE WITH ORGANIC HAP EMISSION LIMITS FOR CATALYTIC REFORMING UNITS

[As stated in § 63.1566(c)(1), you must meet each requirement in the following table that applies to you]

For * * *	For this emission limit * * *	You must demonstrate continuous compliance during depressuring and purging by * * *
1. Option 1: Each new or existing catalytic reforming unit.	Vent emissions from your process vent to a flare that meets the requirements in § 63.11(b).	Maintaining visible emissions from a flare below a total of 5 minutes during any 2 consecutive hours.
2. Option 2: Each new or existing catalytic reforming unit.	Using a control device, reduce uncontrolled emissions of TOC from your process vent by 98 percent by weight or to a concentration of 20 ppmv, (dry basis), corrected to 3 percent oxygen, whichever is less stringent.	Maintaining a 98 percent by weight TOC emission reduction; or maintaining a TOC concentration of not more than 20 ppmv (dry basis), corrected to 3 percent oxygen, whichever is less stringent.

TABLE 21 TO SUBPART UUU OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

[As stated in § 63.1566(c)(1), you must meet each requirement in the following table that applies to you]

For * * *	If you use * * *	For this operating limit * * *	You must demonstrate continuous compliance during depressuring and purging by * * *
1. Each new or existing catalytic reforming unit.	a. Flare that meets the requirements in § 63.11(b).	The flare pilot light must be present at all times and the flare must be operating at all times that emissions may be vented to it.	Collecting flare monitoring data according to § 63.1572; and recording for each 1-hour period whether the monitor was continuously operating and the pilot light was continuously present during each 1-hour period.
	b. Thermal incinerator, boiler or process heater with a design input capacity under 44 MW or boiler or process heater in which all vent streams are not introduced into the flame zone.	Maintain the daily average combustion zone temperature above the limit established during the performance test.	Collecting the hourly and daily temperature monitoring data according to § 63.1572; and maintaining the daily average combustion zone temperature above the limit established during the performance test.

TABLE 22 TO SUBPART UUU OF PART 63—INORGANIC HAP EMISSION LIMITS FOR CATALYTIC REFORMING UNITS

[As stated in § 63.1567(a)(1), you must meet each emission limitation in the following table that applies to you]

For * * *	You must meet this emission limit for your process vent during coke burn-off and catalyst rejuvenation * * *
1. Each existing semi-regenerative catalytic reforming unit.	Reduce uncontrolled emissions of hydrogen chloride (HC1) by 92 percent by weight using a control device or to a concentration of 30 ppmv (dry basis), corrected to 3 percent oxygen.
2. Each existing cyclic or continuous catalytic reforming unit.	Reduce uncontrolled emissions of HC1 by 97 percent by weight using a control device or to a concentration of 10 ppmv (dry basis), corrected to 3 percent oxygen.
3. Each new semi-regenerative, cyclic, or continuous catalytic reforming unit.	Reduce uncontrolled emissions of HC1 by 97 percent by weight using a control device or to a concentration of 10 ppmv (dry basis), corrected to 3 percent oxygen.

TABLE 23 TO SUBPART UUU OF PART 63.—OPERATING LIMITS FOR INORGANIC HAP EMISSION LIMITATIONS FOR CATALYTIC REFORMING UNITS

[As stated in § 63.1567(a)(2), you must meet each operating limit in the following table that applies to you]

For * * *	If you use this type of control device * * *	You must meet this operating limit during coke burn-off and catalytst rejuvenation . . .
1. Each new or existing catalytic reforming unit	a. Wet scrubber	The daily average pH of the water (or scrubbing liquid) exiting the scrubber must not fall below the limit established during the performance test; and the daily average liquid-to-gas ratio must not fall below the limit established during the performance test.
	b. Internal scrubbing system (i.e., no add-on control device).	The HCl concentration in the catalyst regenerator exhaust gas must not exceed the limit established during the performance test.

TABLE 24 TO SUBPART UUU OF PART 63.—CONTINUOUS MONITORING SYSTEMS FOR INORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

[As stated in § 63.1567(b)(1), you must meet each requirement in the following table that applies to you]

If you use this type of control device for your vent * * *	You must install and operate this type of continuous monitoring system * * *
1. Wet scrubber	Continuous parameter monitoring system to measure and record the pH of the water (or scrubbing liquid) exiting the scrubber during coke burn-off and catalyst rejuvenation. If applicable, you can use the alternative in § 63.1573 instead of a continuous parameter monitoring system for pH of the water (or scrubbing liquid); and continuous parameter monitoring systems to measure and record the gas flow rate to the scrubber and the total water (or scrubbing liquid) flow rate to the scrubber during coke burn-off and catalyst rejuvenation.
2. Internal scrubbing system (i.e., no add-on control device).	Colormetric tube sampling system to measure the HCl concentration in the catalyst regenerator exhaust gas during coke burn-off and catalyst rejuvenation.

TABLE 25 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS FOR INORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

[As stated in § 63.1567(b)(2) and (3), you must meet each requirement in the following table that applies to you]

If you use this type of control device or system * * *	You must * * *	Using * * *	According to these requirements * * *
1. Wet scrubber	a. Measure the HCl concentration at the outlet of the control device (for the concentration standard) or at the inlet and outlet of the control d4evice (for the percent reduction standard).	i. Method 26A (40 CFR part 60, appendix A).	(1) Sampling rate must be at least 0.014 dscm/min (0.5 dscf/min). You must do the test during the coke burn-off and catalyst rejuvenation cycle, but don't make any test runs during the first hour or the last 6 hours of the cycle. (2) Record the total amount (rate) of scrubbing liquid or solution and the amount (rate) of make-up liquid to the scrubber during each test run.
	b. Establish operating limit for pH level.		(1) Measure and record the pH of the water (or scrubbing liquid) exiting the scrubber every 15 minutes during the entire period of the performance test. Determine and record the hourly average pH level from the recorded values. (2) If you use the alternative method in § 63.1573, measure and record the pH of the water (or scrubbing liquid) exiting the scrubber during coke burn-off and catalyst rejuvenation using pH strips at least three times during each run. Determine and record the average pH level.
	c. Establish operating limit for liquid-to-gas ratio.	Data from the continuous parameter monitoring systems.	Measure and record the gas flow rate to the scrubber and the total water (or scrubbing liquid) flow rate to the scrubber every 15 minutes during the entire period of the performance test. Determine and record the hourly average gas flow rate and total water (or scrubbing liquid) flow rate. Determine and record the minimum liquid-to-gas ratio.
2. Internal scrubbing system (i.e., no add-on control device).	a. Measure the concentration of HCl in the catalyst regenerator exhaust gas.	Method 26 (40 CFR part 60, appendix A).	Sampling rate must be at least 0.014 dscm/min (0.5 dscf/min). You must do the test during the coke burn-off and catalyst rejuvenation cycle, but don't make any test runs during the first hour or the last 6 hours of the cycle.

TABLE 25 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS FOR INORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS—Continued

[As stated in § 63.1567(b)(2) and (3), you must meet each requirement in the following table that applies to you]

If you use this type of control device or system * * *	You must * * *	Using * * *	According to these requirements * * *
	b. Establish operating limit for HCl concentration.	Measure and record the HCl concentration in the catalyst regenerator exhaust gas using the colorimetric tube sampling system at least three times during each test run. Determine and record the average HCl concentration.	

TABLE 26 TO SUBPART UUU OF PART 63.—INITIAL COMPLIANCE WITH INORGANIC HAP EMISSION LIMITS FOR CATALYTIC REFORMING UNITS

[As stated in § 63.1567(b)(4), you must meet each requirement in the following table that applies to you]

For* * *	For the following emission limit * * *	You have demonstrated initial compliance if * * *
1. Each existing semi-regenerative catalytic reforming unit.	Reduce uncontrolled emissions of HCl by 92 percent by weight using a control device or to a concentration of 30 ppmv, (dry basis), corrected to 3 percent oxygen.	Average emissions of HCl measured using Method 26 or 26A, as applicable over the period of the performance test, are reduced by 92 percent or to a concentration less than or equal to 30 ppmv (dry basis) corrected to 3 percent oxygen.
2. Each existing cyclic or continuous catalytic reforming unit and each new semi-regenerative, cyclic, or continuous catalytic reforming unit.	Reduce uncontrolled emissions of HCl by 97 percent by weight using a control device, or to a concentration of 10 ppmv (dry basis), corrected to 3 percent oxygen.	Average emissions of HCl measured using Method 26 or 26A, as applicable over the period of the performance test, are reduced by 97 percent or to a concentration less than or equal to 10 ppmv (dry basis) corrected to 3 percent oxygen.

TABLE 27 TO SUBPART UUU OF PART 63.—CONTINUOUS COMPLIANCE WITH INORGANIC HAP EMISSION LIMITS FOR CATALYTIC REFORMING UNITS

[As stated in § 63.1567(c)(1), you must meet each requirement in the following table that applies to you]

For * * *	For this emission limit * * *	You must demonstrate continuous compliance during coke burn-off and catalyst rejuvenation by * * *
1. Each existing semi-regenerative catalytic reforming unit.	Reduce uncontrolled emissions of HCl by 92 percent by weight using a control device or to a concentration of 30 ppmv (dry basis), corrected to 3 percent oxygen.	Maintaining a 92 percent HCl emission reduction or an HCl concentration no more than 30 ppmv (dry basis), corrected to 3 percent oxygen.
2. Each existing cyclic or continuous catalytic reforming unit.	Reduce uncontrolled emissions of HCl by 97 percent by weight using a control device, or to a concentration of 10 ppmv (dry basis), corrected to 3 percent oxygen.	Maintaining a 97 percent HCl control efficiency or an HCl concentration no more than 10 ppmv (dry basis), corrected to 3 percent oxygen.
3. Each new semi-regenerative, cyclic, or continuous catalytic reforming unit.	Reduce uncontrolled emissions of HCl by 97 percent by weight using a control device, or to a concentration of 10 ppmv (dry basis), corrected to 3 percent oxygen.	Maintaining a 97 percent HCl control efficiency or an HCl concentration no more than 10 ppmv (dry basis), corrected to 3 percent oxygen.

TABLE 28 TO SUBPART UUU OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR INORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

[As stated in § 63.1567(c)(1), you must meet each requirement in the following table that applies to you]

For * * *	For this operating limit * * *	If you use this type of control device * * *	You must demonstrate continuous compliance during coke burn-off and catalyst rejuvenation by * * *
1. Each new or existing catalytic reforming unit.	a. The daily average pH of the water (or scrubbing and liquid) exiting the scrubber must not fall below the level established during the performance test.	i. Wet scrubber	(1) Collecting the hourly and daily average pH monitoring data according to § 63.1572; and maintaining the daily average the pH above the operating limit established during the performance test. (2) If you use the alternative in § 63.1573, measuring and recording the pH of the water (or scrubbing liquid) exiting the scrubber every hour according to § 63.1572; determining and recording the daily average pH; and maintaining the daily average pH above the operating limit established during the performance test.
	b. The daily average liquid-to-gas ratio must not fall below the level established during the performance test.	Wet scrubber	Collecting the hourly average gas flow rate and total water (or scrubbing liquid) flow rate monitoring data; determining and recording the hourly average liquid-to-gas ratio; determining and recording the daily average liquid-to-gas ratio; and maintaining the daily average liquid-to-gas ratio above the limit established during the performance test.
	c. The HCl concentration in the catalyst regenerator exhaust gas must not exceed the applicable operating limit established during the performance test.	Internal scrubbing system (e.g., no add-on control device).	Measuring and recording the concentration of HCl every 4 hours using a colormetric tube sampling system; and maintaining the HCl concentration below the applicable operating limit.

TABLE 29 TO SUBPART UUU OF PART 63.—HAP EMISSION LIMITS FOR SULFUR RECOVERY UNITS

[As stated in § 63.1568(a)(1), you must meet each emission limitation in the following table that applies to you]

For * * *	You must meet this emission limit for each process vent * * *
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	a. 250 ppmv (dry basis) of sulfur dioxide (SO_2) at zero percent excess air if you use an oxidation or reduction control system followed by incineration. b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.
2. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2): Option 1 (Elect NSPS).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air if you use an oxidation or reduction control system followed by incineration. b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.
3. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in paragraph (a)(2) of 40 CFR 60.104: Option 2 (TRS limit).	300 ppmv of total reduced sulfur (TRS) compounds, expressed as an equivalent SO_2 concentration (dry basis) at zero percent oxygen.

TABLE 30 TO SUBPART UUU OF PART 63.—OPERATING LIMITS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS

[As stated in § 63.1568(a)(2), you must meet each operating limit in the following table that applies to you]

For * * *	If use this type of control device	You must meet this operating limit* * *
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	Not applicable	Not applicable.
2. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2): Option 1 (Elect NSPS).	Not applicable	Not applicable.
3. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2): Option 2 (TRS limit).	Thermal incinerator	Maintain the daily average combustion zone temperature above the limit established during the performance test; and maintain the daily average oxygen concentration in the vent stream (percent, dry basis) above the limit established during the performance test.

TABLE 31 TO SUBPART UUU OF PART 63.—CONTINUOUS MONITORING SYSTEMS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS

[As stated in § 63.1568(b)(1), you must meet each requirement in the following table that applies to you]

For * * *	For this limit * * *	You must install and operate this continuous monitoring system * * *
1. Each new or existing Claus sulfur recovery unit part to a sulfur recovery plant of 20 long tons per day and subject to the NSPS for sulfur oxides in 40 CFR 60.104 (1) (2).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air if you use an oxidation or reduction control system followed by incineration.	Continuous emission monitoring system to measure and record the hourly average concentration of SO_2 (dry basis) at zero percent excess air for each exhaust stack. This system must include an oxygen monitor for correcting the data for excess air.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.	Continuous emission monitoring system to measure and record the hourly average concentration of reduced sulfur and oxygen (O_2) emissions. Calculate the reduced sulfur emissions as SO_2 (dry basis) at zero percent excess air. *Exception:* You can use an instrument having an air or SO_2 dilution and oxidation system to convert the reduced sulfur to SO_2 for continuously monitoring and recording the concentration (dry basis) at zero percent excess air of the resultant SO_2 instead of the reduced sulfur monitor. The monitor must include an oxygen monitor for correcting the data for excess oxygen.
2. Option 1: Elect NSPS. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in paragraph (a) (2) of 40 CFR 60.104.	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air if you use an oxidation or reduction control system followed by incineration.	Continuous emission monitoring system to measure and record the hourly average concentration of SO_2 (dry basis), at zero percent excess air for each exhaust stack. This system must include an oxygen monitor for correcting the data for excess air.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.	Continuous emission monitoring system to measure and record the hourly average concentration of reduced sulfur and O_2 emissions for each exhaust stack. Calculate the reduced sulfur emissions as SO_2 (dry basis), at zero percent excess air. *Exception:* You can use an instrument having an air or O_2 dilution and oxidation system to convert the reduced sulfur to SO_2 for continuously monitoring and recording the concentration (dry basis) at zero percent excess air of the resultant SO_2 instead of the reduced sulfur monitor. The monitor must include an oxygen monitor for correcting the data for excess oxygen.

TABLE 31 TO SUBPART UUU OF PART 63.—CONTINUOUS MONITORING SYSTEMS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS—Continued

[As stated in § 63.1568(b)(1), you must meet each requirement in the following table that applies to you]

For * * *	For this limit * * *	You must install and operate this continuous monitoring system * * *
3. Option 2: TRS limit Each new or existing sulfur recovery unit (Claus or Other type, regardless or size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104 (a) (2).	300 ppmv of total reduced sulfur (TRS) compounds, expressed as an equivalent SO_2 concentration (dry basis) at zero percent oxygen.	Continuous emission monitoring system to measure and record the hourly average concentration of TRS for each exhaust stack. This monitor must include an oxygen monitor for correcting the data for excess oxygen; or continuous parameter monitoring systems to measure and record the combustion zone temperature of each thermal incinerator and the oxygen content (percent, dry basis) in the vent stream of the incinerator.

TABLE 32 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS NOT SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARDS FOR SULFUR OXIDES

[As stated in § 63.1568(b)(2) and (3), you must meet each requirement in the following table that applies to you]

For * * *	You must * * *	Using * * *	According to these requirements * * *
1. Each new and existing sulfur recovery unit: Option 1 (Elect NSPS).	Measure SO_2 concentration (for an oxidation or reduction system followed by incineration) or the concentration of reduced sulfur (or SO_2 if you use an instrument to convert the reduced sulfur to SO_2) for a reduction control system without incineration.	Data from continuous emission monitoring system.	Collect SO_2 monitoring data every 15 minutes for 24 consecutive operating hours. Reduce the data to 1-hour averages computed from four or more data points equally spaced over each 1-hour period.
2. Each new and existing sulfur recovery unit: Option 2 (TRS limit).	a. Select sampling port's location and the number of traverse ports.	Method 1 or 1A appendix A to part 60 of this chapter.	Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.
	b. Determine velocity and volumetric flow rate.	Method 2, 2A, 2C, 2D, 2F, or 2G in appendix A to part 60 of this chapter, as applicable.	
	c. Conduct gas molecular weight analysis; obtain the oxygen concentration needed to correct the emission rate for excess air.	Method 3, 3A, or 3B in appendix A to part 60 of this chapter, as applicable.	Take the samples simultaneously with reduced sulfur or moisture samples.
	d. Measure moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.	Make your sampling time for each Method 4 sample equal to that for 4 Method 15 samples.
	e. Measure the concentration of TRS.	Method 15 or 15A in appendix A to part 60 of this chapter, as applicable.	If the cross-sectional area of the duct is less than 5 square meters (m^2) or 54 square feet, you must use the centroid of the cross section as the sampling point. If the cross-sectional area is 5 m^2 or more and the centroid is more than 1 meter (m) from the wall, your sampling point may be at a point no closer to the walls than 1 m or 39 inches. Your sampling rate must be at least 3 liters per minute or 0.10 cubic feet per minute to ensure minimum residence time for the sample inside the sample lines.
	f. Calculate the SO_2 equivalent for each run after correcting for moisture and oxygen.	The arithmetic average of the SO_2 equivalent for each sample during the run.	
	g. Correct the reduced sulfur samples to zero percent excess air.sa	Equation 1 of § 63.1568.	

TABLE 32 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS NOT SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARDS FOR SULFUR OXIDES—Continued

[As stated in § 63.1568(b)(2) and (3), you must meet each requirement in the following table that applies to you]

For * * *	You must * * *	Using * * *	According to these requirements * * *
	h. Establish each operating limit in Table 30 of this subpart that applies to you.	Data from the continuous parameter monitoring system.	
	i. Measure thermal incinerator: combustion zone temperature.	Data from the continuous parameter monitoring system.	Collect temperature monitoring data every 15 minutes during the entire period of the performance test; and determine and record the minimum hourly average temperature from all the readings.
	j. Measure thermal incinerator: oxygen concentration (percent, dry basis) in the vent stream.	Data from the continuous parameter monitoring system.	Collect oxygen concentration (percent, dry basis) data every 15 minutes during the entire period of the performance test; and determine and record the minimum hourly average percent excess oxygen concentration.
	k. If you use a continuous emission monitoring system, measure TRS concentration.	Data from continuous emission monitoring system.	Collect TRS data every 15 minutes for 24 consecutive operating hours. Reduce the data to 1-hour averages computed from four or more data points equally spaced over each 1-hour period.

TABLE 33 TO SUBPART UUU OF PART 63.—INITIAL COMPLIANCE WITH HAP EMISSION LIMITS FOR SULFUR RECOVERY UNITS

[As stated in § 63.1568(b)(5), you must meet each requirement in the following table that applies to you]

For * * *	For the following emission limit * * *	You have demonstrated initial compliance if * * *
1. Each new or existing Clause sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	a. 250 ppmv (dry basis) SO_2 at zero percent excess air if you use an oxidation or reduction control system followed by incineration.	You have already conducted a performance test to demonstrate initial compliance with the NSPS and the hourly average SO_2 emissions measured by the continuous emission monitoring system are less than or equal to 250 ppmv (dry basis) at zero percent excess air. As part of the Notification of Compliance Status, you must certify that your vent meets the SO_2 limit. You are not required to do another performance test to demonstrate initial compliance. You have already conducted a performance evaluation to demonstrate initial compliance with the applicable performance specification. As part of your Notification of Compliance Status, you must certify that your continuous emission monitoring system meets the applicable requirements in § 63.1572. You are not required to do another performance evaluation to demonstrate initial compliance.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.	You have already conducted a performance test to demonstrate initial compliance with the NSPS and the hourly average SO_2 emissions measured by your continuous emission monitoring system are less than or equal to 250 ppmv (dry basis) at zero percent excess air. As part of the Notification of Compliance Status, you must certify that your vent meets the SO_2 limit. You are not required to do another performance test do demonstrate initial compliance.

Table 33 to Subpart UUU of Part 63.—Initial Compliance With HAP Emission Limits for Sulfur Recovery Units—Continued

[As stated in § 63.1568(b)(5), you must meet each requirement in the following table that applies to you]

For * * *	For the following emission limit * * *	You have demonstrated initial compliance if * * *
		You have already conducted a performance evaluation to demonstrate initial compliance with the applicable performance specification. As part of your Notification of Compliance Status, you must certify that your continuous emission monitoring system meets the applicable requirements in § 63.1572. You are not required to do another performance evaluation to demonstrate initial compliance.
2. Option 1: Elect NSPS. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air if you use an oxidation control system followed by incineration.	The hourly average SO_2 emissions measured by the continuous emission monitoring system over the 24-hour period of the initial performance test are not more than 250 ppvm (dry basis) at zero percent excess air; and your performance evaluation shows the monitoring system meets the applicable requirements in § 63.1572.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.	The hourly average reduced sulfur emissions measured by the continuous emission monitoring system over the 24-hour period of the performance test no more than 300 ppmv, calculated as ppmv SO_2 (dry basis) at zero percent excess air; and your performance evaluation shows the continuous emission monitoring system meets the applicable requirements in § 63.1572.
3. Option 2: TRS limit. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	300 ppmv of TRS compounds expressed as an equivalent SO_2 concentration (dry basis) at zero percent oxygen.	If you do not use a continuous emission monitoring system, the average TRS emissions measured using Method 15 over the period of the initial performance test are less than or equal to 300 ppmv expressed as equivalent SO_2 concentration (dry basis) at zero percent oxygen. If you use a continuous emission monitoring system the hourly average TRS emissions measured by the continuous emission monitoring system over the 24-hour period of the performance test are no more than 300 ppmv expressed as an equivalent SO_2 concentration (dry basis) at zero percent oxygen; and your performance evaluation shows the continuous emission monitoring system meets the applicable requirements in § 63.1572.

Table 34 to Subpart UUU of Part 63.—Continuous Compliance With HAP Emission Limits for Sulfur Recovery Units

[As stated in § 63.1568(c)(1), you must meet each requirement in the following table that applies to you.]

For * * *	For this emission limit * * *	You must demonstrate continuous compliance by * * *
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per or more and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	a. 250 ppmv (dry basis) SO_2 at zero percent excess air if you use an oxidation or reduction control system followed by incineration.	Collecting the hourly average SO_2 monitoring data (dry basis, percent excess air) according to § 63.1572; maintaining the hourly average SO_2 concentration at or below the applicable limit; determining and recording each 12-hour average SO_2 day concentration; and reporting any 12-hour average SO_2 concentration greater than the applicable emission limitation in the compliance report required in § 63.1575.

TABLE 34 TO SUBPART UUU OF PART 63.—CONTINUOUS COMPLIANCE WITH HAP EMISSION LIMITS FOR SULFUR RECOVERY UNITS—Continued

[As stated in § 63.1568(c)(1), you must meet each requirement in the following table that applies to you.]

For * * *	For this emission limit * * *	You must demonstrate continuous compliance by * * *
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv (dry basis) SO_2 at zero percent excess air if you use a reduction control system without incineration.	Collecting the hourly average reduced sulfur and O_2 data according to § 63.1572; and maintaining the hourly average concentration of reduced sulfur at or below the applicable limit; and determining and recording each 12-hour average concentration of reduced sulfur; and reporting any 12-hour average concentration of reduced sulfur greater than the applicable emission limitation in the compliance report required in § 63.1575.
2. Option 1: Elect NSPS Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air (for oxidation or reduction system followed by incineration).	Collecting the hourly average SO_2 monitoring data (dry basis, percent excess air) according to § 63.1572; maintaining the hourly average SO_2 concentration at or below the applicable limit; determining and recording each 12-hour average SO_2 concentration; and reporting any 12-hour average SO_2 concentration greater than the applicable emission limitation in the compliance report required in § 63.1575.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air (for reduction control system without incineration).	Collecting the hourly average reduced sulfur (and air or O_2 dilution and oxidation data) according to § 63.1572; maintaining the hourly average SO_2 concentration at or below the applicable limit; reducing the monitoring data to 12-hour averages; and reporting any 12-hour average SO_2 concentration greater than the applicable limit in the compliance report required by § 63.1575.
3. Option 2: TRS limit Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	300 ppmv of TRS compounds, expressed as an SO_2 concentration (dry basis) at zero percent oxygen or reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air.	Collecting the hourly average TRS monitoring data according to § 63.1572, if you use a continuous emission monitoring system; maintaining the hourly average concentration of TRS at or below the applicable limit; reducing the TRS monitoring data to 12-hour averages; reporting any 12-hour average TRS greater than the applicable limit in the compliance report required by § 63.1575; and maintaining the hourly average concentration of TRS below the applicable limit if you use continuous parameter monitoring systems.

TABLE 35 TO SUBPART UUU OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS

[As stated in § 63.1568(c)(1), you must meet each requirement in the following table that applies to you]

For * * *	For this operating limit * * *	You must demonstrate continuous compliance by * * *
1. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant of 20 long tons per day or more and subject to the NSPS for sulfur oxides in paragraph 40 CFR 60.104(a)(2).	Not applicable	Meeting the requirements of Table 34 of this subpart.
2. Option 1: Elect NSPS Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2).	Not applicable	Meeting the requirements of Table 34 of this subpart.
3. Option 2: TRS limit Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2)	a. Maintain the daily average combustion zone temperature above the level established during the performance test.	Collecting the hourly and daily average temperature monitoring data according to § 63.1572; and maintaining the daily average combustion zone temperature at or above the limit established during the performance test.

Table 35 to Subpart UUU of Part 63.—Continuous Compliance With Operating Limits for HAP Emissions From Sulfur Recovery Units—Continued

[As stated in § 63.1568(c)(1), you must meet each requirement in the following table that applies to you]

For * * *	For this operating limit * * *	You must demonstrate continuous compliance by * * *
	b. The daily average oxygen concentration in the vent stream (percent, dry basis) must not fall below the level established during the performance test.	Collecting the hourly and daily average O_2 monitoring data according to § 63.1572; and maintaining the average O_2 concentration above the level established during the performance test.

Table 36 to Subpart UUU of Part 63.—Work Practice Standards for HAP Emissions From Bypass Lines

[As stated in § 63.1569(a)(1), you must meet each work practice standard in the following table that applies to you]

Option	You must meet one of these equipment standards * * *
1. Option 1	Install and operate a device (including a flow indicator, level recorder, or electronic valve position monitor) to continuously detect, at least every hour, whether flow is present in the bypass line. Install the device at or as near as practical to the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere.
2. Option 2	Install a car-seal or lock-and-key device placed on the mechanism by which the bypass device flow position is controlled (e.g., valve handle, damper level) when the bypass device is in the closed position such that the bypass line valve cannot be opened without breaking the seal or removing the device.
3. Option 3	Seal the bypass line by installing a solid blind between piping flanges.
4. Option 4	Vent the bypass line to a control device that meets the appropriate requirements in this subpart.

Table 37 to Subpart UUU of Part 63.—Requirements for Performance Tests for Bypass Lines

[As stated in § 63.1569(b)(1), you must meet each requirement in the following table that applies to you]

For this standard . . .	You must . . .
1. Option 1: Install and operate a flow indicator, level recorder, or electronic valve position monitor.	Record during the performance test for each type of control device whether the flow indicator, level recorder, or electronic valve position monitor was operating and whether flow was detected at any time during each hour of level the three runs comprising the performance test.

Table 38 to Subpart UUU of Part 63.—Initial Compliance With Work Practice Standards for HAP Emissions from Bypass Lines

[As stated in § 63.1569(b)(2), you must meet each requirement in the following table that applies to you]

For * * *	For this work practice standard * * *	You have demonstrated initial compliance if * * *
1. Each new or existing bypass line associated with a catalytic cracking unit, catalylic reforming unit, or sulfur recovery unit.	a. Option 1: Install and operate a device (including a flow indicator, level recorder, or electronic valve position monitor) to continuously detect, at least every hour, whether flow is present in the bypass line. Install the device at or as near as practical to the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere.	The installed equipment operates properly during each run of the performance test and no flow is present in the line during the test.
	b. Option 2: Install a car-seal or lock-and-key device placed on the mechanism by which the bypass device flow position is controlled (e.g., valve handle, damper level) when the bypass device is in the closed position such that the bypass line valve cannot be opened without breaking the seal or removing the device.	As part of the notification of compliance status, you certify that you installed the equipment, the equipment was operational by your compliance date, and you identify what equipment was installed.
	c. Option 3: Seal the bypass line by installing a solid blind between piping flanges.	See item 1.b. of this table.
	d. Option 4: Vent the bypass line to a control device that meets the appropriate requirements in this subpart.	See item 1.b. of this table.

TABLE 39 TO SUBPART UUU OF PART 63.—CONTINUOUS COMPLIANCE WITH WORK PRACTICE STANDARDS FOR HAP EMISSIONS FROM BYPASS LINES

[As stated in § 63.1569(c)(1), you must meet each requirement in the following table that applies to you]

If you elect this standard * * *	You must demonstrate continuous compliance by * * *
1. Option 1: Flow indicator, level recorder, or electronic valve position monitor.	Continuously monitoring and recording whether flow is present in the bypass line; visually inspecting the device at least once every hour if the device is not equipped with a recording system that provides a continuous record; and recording whether the device is operating properly and whether flow is present in the bypass line.
2. Option 2: Car-seal or lock-and-key device	Visually inspecting the seal or closure mechanism at least once every month; and recording whether the bypass line valve is maintained in the closed position and whether flow is present in the line.
3. Option 3: Solid blind flange	Visually inspecting the blind at least once a month; and recording whether the blind is maintained in the correct position such that the vent stream cannot be diverted through the bypass line.
4. Option 4: Vent to control device	Monitoring the control device according to appropriate subpart requirements.
5. Option 1, 2, 3, or 4	Recording and reporting the time and duration of any bypass.

TABLE 40 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR INSTALLATION, OPERATION, AND MAINTENANCE OF CONTINUOUS OPACITY MONITORING SYSTEMS AND CONTINUOUS EMISSION MONITORING SYSTEMS

[As stated in § 63.1572(a)(1) and (b)(1), you must meet each requirement in the following table that applies to you]

This type of continuous opacity or emission monitoring system * * *	Must meet these requirements * * *
1. Continuous opacity monitoring system	Performance specification 1 (40 CFR part 60, appendix B).
2. CO continuous emission monitoring system	Performance specification 4 (40 CFR part 60, appendix B); span value of 1,000 ppm; and procedure 1 (40 CFR part 60, appendix F) except relative accuracy test audits are required annually instead of quarterly.
3. CO continuous emission monitoring system used to demonstrate emissions average under 50 ppm (dry basis).	Performance specification 4 (40 CFR part 60, appendix B); and span value of 100 ppm.
4. SO_2 continuous emission monitoring for sulfur recovery unit with oxidation control system or reduction control system; this monitor must include an O_2 monitor for correcting the data for excess air.	Performance specification 2 (40 CFR part 60, appendix B); span values of 500 ppm SO_2 and 10 percent O_2; use Methods 6 or 6C and 3A or 3B (40 CFR part 60, appendix A) for certifying O_2 monitor; and procedure 1 (40 CFR part 60, appendix F) except relative accuracy test audits are required annually instead of quarterly.
5. Reduced sulfur and O_2 continuous emission monitoring system for sulfur recovery unit with reduction control system not followed by incineration; this monitor must include an O_2 monitor for correcting the data for excess air unless exempted.	Performance specification 5 (40 CFR part 60, appendix B), except calibration drift specification is 2.5 percent of the span value instead of 5 percent; 450 ppm reduced sulfur and 10 percent O_2; use Methods 15 or 15A and 3A or 3B (40 CFR part 60, appendix A) for certifying O_2 monitor; if Method 3A or 3B yields O_2 concentrations below 0.25 percent during the performance evaluation, the O_2 concentration can be assumed to be zero and the O_2 monitor is not required; and procedure 1 (40 CFR part 60, appendix F), except relative accuracy test audits, are required annually instead of quarterly.
6. Instrument with an air or O2 dilution and oxidation system to convert reduced sulfur to SO_2 for continuously monitoring the concentration of SO_2 instead of reduced sulfur monitor and O_2 monitor.	Performance specification 5 (40 CFR part 60, appendix B); span value of 375 ppm SO_2 and 10 percent O_2; use Methods 15 or 15A and 3A or 3B for certifying O_2 monitor; and procedure 1 (40 CFR part 60, appendix F), except relative accuracy test audits, are required annually instead of quarterly.
7. TRS continuous emission monitoring system for sulfur recovery unit; this monitor must include an O_2 monitor for correcting the data for excess air.	Performance specification 5 (40 CFR part 60, appendix B).
8. O_2 monitor for oxygen concentration	If necessary due to interferences, locate the oxygen sensor prior to the introduction of any outside gas stream; performance specification 3 (40 CFR part 60, appendix B; span value for O_2 sensor is 10 percent; and procedure 1 (40 CFR part 60, appendix F), except relative accuracy test audits, are required annually instead of quarterly.

TABLE 41 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR INSTALLATION, OPERATION, AND MAINTENANCE OF CONTINUOUS PARAMETER MONITORING SYSTEMS

[As stated in § 63.1572(c)(1), you must meet each requirement in the following table that applies to you]

If you use a continuous parameter monitoring system to measure and record * * *	You must * * *
1. Voltage and secondary current or total power input.	At least monthly, inspect all components of the continuous parameter monitoring system for integrity and all electrical connections for continuity; and record the results of each inspection.

TABLE 41 TO SUBPART UUU OF PART 63.—REQUIREMENTS FOR INSTALLATION, OPERATION, AND MAINTENANCE OF CONTINUOUS PARAMETER MONITORING SYSTEMS—Continued

[As stated in § 63.1572(c)(1), you must meet each requirement in the following table that applies to you]

If you use a continuous parameter monitoring system to measure and record * * *	You must * * *
2. Pressure drop[1]	Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure; minimize or eliminate pulsating pressure, vibration, and internal and external corrosion; use a gauge with an accuracy ± 2 percent over the operating range; check pressure tap for plugs at least once a week; using a manometer, check gauge calibration quarterly and transducer calibration monthly; for a semi-regenerative catalytic reforming unit, you can check the calibration quarterly and monthly or prior to regeneration, whichever is longer; record the results of each calibration; conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range, or install a new pressure sensor; at least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage; and record the results of each inspection.
3. Air flow rate, gas flow rate, or total water (or scrubbing liquid) flow rate.	Locate the flow sensor(s) and other necessary equipment such as straightening vanes in a position that provides representative flow; use a flow rate sensor with an accuracy within ±5 percent; reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances; conduct a flow sensor calibration check at least semiannually; for a semi-regenerative catalytic reforming unit, you can check the calibration at least semiannually or prior to regeneration, whichever is longer; record the results of each calibration; if you elect to comply with Option 3 (Ni lb/hr) or Option 4 (Ni lb/1,000 lbs of coke burn-off) for the HAP metal emission limitations in § 63.1564, install the continuous parameter monitoring system for gas flow rate as close as practical to the continuous opacity monitoring system; and if you don't use a continuous opacity monitoring system, install the continuous parameter monitoring system for gas flow rate as close as practical to the control device.
4. Combustion zone temperature	Install the temperature sensor in the combustion zone or in the ductwork immediately downstream of the combustion zone before any substantial heat exchange occurs; locate the temperature sensor in a position that provides a representative temperature; use a temperature sensor with an accuracy of ±1 percent of the temperature being measured, expressed in degrees Celsius (C) or ±0.5 degrees C, whichever is greater; shield the temperature sensor system from electromagnetic interference and chemical contaminants; if you use a chart recorder, it must have a sensitivity in the minor division of at least 20 degrees Fahrenheit; perform an electronic calibration at least semiannually according to the procedures in the manufacturer's owners manual; following the electronic calibration, conduct a temperature sensor validation check, in which a second or redundant temperature sensor placed nearby the process temperature sensor must yield a reading within 16.7 degrees C of the process temperature sensor's reading; record the results of each calibration and validation check; conduct calibration and validation checks any time the sensor exceeds the manufacturer's specified maximum operating temperature range, or install a new temperature sensor; and at least monthly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion.
5. pH	Locate the pH sensor in a position that provides a representative measurement of pH; ensure the sample is properly mixed and representative of the fluid to be measured; check the pH meter's calibration on at least two points every 8 hours of process operation; at least monthly, inspect all components for integrity and all electrical components for continuity; record the results of each inspection; and if you use pH strips to measure the pH of the water exiting a wet scrubber as an alternative to a continuous parameter monitoring system, you must use pH strips with an accuracy of ±10 percent.
6. HCl concentration	Use a colormetric tube sampling system with a printed numerical scale in ppmv, a standard measurement range of 1 to 10 ppmv (or 1 to 30 ppmv if applicable), and a standard deviation for measured values of no more than ±15 percent. System must include a gas detection pump and hot air probe if needed for the measurement range.

[1] Not applicable to non-venturi wet scrubbers of the jet-ejector design.

TABLE 42 TO SUBPART UUU OF PART 63.—ADDITIONAL INFORMATION FOR INITIAL NOTIFICATION OF COMPLIANCE STATUS

[As stated in § 63.1574(d), you must meet each requirement in the following table that applies to you]

For * * *	You must provide this additional information * * *
1. Identification of affected sources and emission points.	Nature, size, design, method of operation, operating design capacity of each affected source; identify each emission point for each HAP; identify any affected source or vent associated with an affected source not subject to the requirements of subpart UUU.

Table 42 to Subpart UUU of Part 63.—Additional Information for Initial Notification of Compliance Status—Continued

[As stated in § 63.1574(d), you must meet each requirement in the following table that applies to you]

For * * *	You must provide this additional information * * *
2. Initial compliance	Identification of each emission limitation you will meet for each affected source, including any option you select (i.e., NSPS, PM or Ni, flare, percent reduction, concentration, options for bypass lines); if applicable, certification that you have already conducted a performance test to demonstrate initial compliance with the NSPS for an affected source; certification that the vents meet the applicable emission limit and the continuous opacity or that the emission monitoring system meets the applicable performance specification; if applicable, certification that you have installed and verified the operational status of equipment by your compliance date for each bypass line that meets the requirements of Option 2, 3, or 4 in § 63.1569 and what equipment you installed; identification of the operating limit for each affected source, including supporting documentation; if your affected source is subject to the NSPS, certification of compliance with NSPS emission limitations and performance specifications; a brief description of performance test conditions (capacity, feed quality, catalyst, etc.); an engineering assessment (if applicable); and if applicable, the flare design (e.g., steam-assisted, air-assisted, or non-assisted), all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the Method 22 test.
3. Continuous compliance	Each monitoring option you elect; and identification of any unit or vent for which monitoring is not required; and the definition of ''operating day.'' (This definition, subject to approval by the applicable permitting authority, must specify the times at which a 24-hr operating day begins and ends.)

Table 43 to Subpart UUU of Part 63.—Requirements for Reports

[As stated in § 63.1575(a), you must meet each requirement in the following table that applies to you]

You must submit a(n) * * *	The report must contain * * *	You must submit the report * * *
1. Compliance report	If there are not deviations from any emission limitation or work practice standard that applies to you, a statement that there were no deviations from the standards during the reporting period and that no continuous opacity monitoring system or continuous emission monitoring system was inoperative, inactive, out-of-control, repaired, or adjusted; and if you have a deviation from any emission limitation or work practice standard during the reporting period, the report must contain the information in § 63.1575(d) or (e)	Semiannually according to the requirements in § 63.1575(b).

Table 44 to Subpart UUU of Part 63.—Applicability of NESHAP General Provisions to Subpart UUU

[As stated in § 63.1577, you must meet each requirement in the following table that applies to you]

Citation	Subject	Applies to subpart UUU	Explanation
§ 63.1	Applicability	Yes.	Except that subpart UUU specifies calendar or operating day.
§ 63.2	Definitions	Yes.	
§ 63.3	Units and Abbreviations	Yes.	
§ 63.4	Prohibited Activities	Yes.	
§ 63.5(a)–(c)	Construction and Reconstruction	Yes	In § 63.5(b)(4), replace the reference to § 63.9 with § 63.9(b)(4) and (5).
§ 63.5(d)(1)(i)	Application for Approval of Construction or Reconstruction—General Application Requirements.	Yes	Except, subpart UUU specifies the application is submitted as soon as practicable before startup but no later than 90 days (rather than 60) after the promulgation date where construction or reconstruction had commenced and initial startup had not occurred before promulgation.
§ 63.5(d)(1)(ii)		Yes	Except that emission estimates specified in § 63.5(d)(1)(ii)(H) are not required.
§ 63.5(d)(1)(iii)		No	Subpart UUU specifies submission of notification of compliance status.
§ 63.5(d)(2)		No.	
§ 63.5(d)(3)		Yes	Except that § 63.5(d)(3)(ii) does not apply.
§ 63.5(d)(4)		Yes.	
§ 63.5(e)	Approval of Construction or Reconstruction.		

TABLE 44 TO SUBPART UUU OF PART 63.—APPLICABILITY OF NESHAP GENERAL PROVISIONS TO SUBPART UUU—Continued

[As stated in § 63.1577, you must meet each requirement in the following table that applies to you]

Citation	Subject	Applies to subpart UUU	Explanation
§ 63.5(f)(1)	Approval of Construction or Reconstruction Based on State Review.	Yes.	
§ 63.5(f)(2)		Yes	Except that 60 days is changed to 90 days and cross-reference to § 63.9(b)(2) does not apply.
§ 63.6(a)	Compliance with Standards and Maintenance—Applicability.	Yes.	
§ 63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed Sources.	Yes.	
§ 63.6(b)(5)		Yes	Except that subpart UUU specifies different compliance dates for sources.
§ 63.6(b)(6)	[Reserved]	Not applicable.	
§ 63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major.	Yes.	
§ 63.6(c)(1)–(2)	Compliance Dates for Existing Sources.	Yes	Except that for subpart UUU specifies different compliance dates for sources subject to Tier II gasoline sulfur control requirements.
§ 63.6(c)(3)–(4)	[Reserved]	Not applicable.	
§ 63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major.	Yes.	
§ 63.6(d)	[Reserved]	Not applicable.	
§ 63.6(e)(1)–(2)	Operation and Maintenance Requirements.	Yes.	
§ 63.6(e)(3)(i)–(iii)	Startup, Shutdown, and Malfunction Plan.	Yes.	
§ 63.6(e)(3)(iv)		Yes	Except that reports of actions not consistent with plan are not required within 2 and 7 days of action but rather must be included in next periodic report.
§ 63.6(e)(3)(v)–(viii)		Yes	The owner or operator is only required to keep the latest version of the plan.
§ 63.6(f)(1)–(2)(iii)(C)	Compliance with Emission Standards	Yes.	
§ 63.6(f)(2)–(iii)(D)		No.	
§ 63.6(f)(2)(iv)–(v)		Yes.	
§ 63.6(f)(3)		Yes.	
§ 63.6(g)	Alternative Standard	Yes.	
§ 63.6(h)	Opacity/VE Standards	Yes.	
§ 63.6(h)(2)(i)	Determining Compliance with Opacity/VE Standards.	No	Subpart UUU specifies methods.
§ 63.6(h)(2)(ii)	[Reserved]	Not applicable.	
§ 63.6(h)(2)(iii)		Yes.	
§ 63.6(h)(3)	[Reserved]	Not applicable.	
§ 63.6(h)(4)	Notification of Opacity/VE Observation Date.	Yes	Applies to Method 22 tests.
§ 63.6(h)(5)	Conducting Opacity/VE Observations	No.	
§ 63.6(h)(6)	Records of Conditions During Opacity/VE Observations.	Yes	Applies to Method 22 observations.
§ 63.6(h)(7)(i)	Report COM Monitoring Data from Performance Test.	Yes.	
§ 63.6(h)(7)(ii)	Using COM Instead of Method 9	No.	
§ 63.6(h)(7)(iii)	Averaging Time for COM during Performance Test.	Yes.	
§ 63.6(h)(7)(iv)	COM Requirements	Yes.	
§ 63.6(h)(8)	Determining Compliance with Opacity/VE Standards.	Yes.	

TABLE 44 TO SUBPART UUU OF PART 63.—APPLICABILITY OF NESHAP GENERAL PROVISIONS TO SUBPART UUU—Continued

[As stated in § 63.1577, you must meet each requirement in the following table that applies to you]

Citation	Subject	Applies to subpart UUU	Explanation
§ 63.6(h)(9)	Adjusted Opacity Standard	Yes.	
§ 63.6(i)(1)–(14)	Extension of Compliance	Yes	Not applicable to an affected source with Tier II compliance date. May be applicable to an affected source exempt from Tier II rule.
§ 63.6(i)(15)	[Reserved]	Not applicable.	
§ 63.6(i)(16)		Yes.	

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