

(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 start-up, 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.

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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 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.
	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.

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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 . . .
4. Option 3: Ni lb/hr not subject to the NSPS for PM in 40 CFR 60.102.	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.
	a. Continuous opacity monitoring system.	Electrostatic precipitator	Maintain the daily average Ni operating value no higher than 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.	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.
	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.

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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—CONTINUOUS 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.	Continuous 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 ...	Continuous 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.	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent.
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 ...	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	(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.

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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 . . .
5. Option 4: Ni lb/1,000 lbs of coke burn-off not subject to the NSPS for PM in 40 CFR 60.102.	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.
	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.
	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.	<p>a. Select sampling port's location and the number of traverse ports.</p> <p>b. Determine velocity and volumetric flow rate.</p> <p>c. Conduct gas molecular weight analysis.</p> <p>d. Measure moisture content of the stack gas.</p> <p>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.</p>	<p>Method 1 or 1A in appendix A to part 60 of this chapter.</p> <p>Method 2, 2A, 2C, 2D, 2F, or 2G in appendix A to part 60 of this chapter, as applicable.</p> <p>Method 3, 3A, or 3B in appendix A to part 60 of this chapter, as applicable.</p> <p>Method 4 in appendix A to part 60 of this chapter.</p>	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.

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For each new or existing catalytic cracking unit catalyst regenerator vent	You must	Using	According to these requirements
2. Option 1: Elect NSPS	<p>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.</p> <p>a. Measure PM emissions</p> <p>b. Compute PM emission rate (lbs/1,000 lbs) of coke burn-off.</p> <p>c. Measure opacity of emissions..</p>	<p>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.</p> <p>Equations 1, 2, and 3 of §63.1564 (if applicable).</p> <p>Continuous opacity monitoring system.</p>	<p>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)).</p> <p>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.</p>
3. Option 2: PM limit	<p>a. Measure PM emissions</p> <p>b. Compute coke burn-off rate and PM emission rate.</p> <p>c. Establish your site-specific opacity operating limit if you use a continuous opacity monitoring system.</p>	<p>See item 2. of this table</p> <p>Equations 1 and 2 of §63.1564</p> <p>Data from the continuous opacity monitoring system.</p>	<p>See item 2. of this table.</p> <p>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.</p>
4. Option 3: Ni lb/hr	<p>a. Measure concentration of Ni and total metal HAP.</p> <p>b. Compute Ni emission rate (lb/hr).</p> <p>c. Determine the equilibrium catalyst Ni concentration.</p>	<p>Method 29 (40 CFR part 60, appendix A).</p> <p>Equation 5 of §63.1564</p> <p>EPA Method 6010B or 6020 or EPA Method 7520 or 7521 in SW-846¹; or, you can use an alternative method satisfactory to the Administrator.</p>	<p>You must maintain a sampling rate of at least 0.028 dscm/min (0.74 dscf/min).</p> <p>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.</p>

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For each new or existing catalytic cracking unit catalyst regenerator vent . . .	You must . . .	Using . . .	According to these requirements . . .
5. Option 4: Ni lbs/1,000 lbs of coke burn-off.	<p>d. If you use a continuous opacity monitoring system, establish your site-specific Ni operating limit.</p> <p>a. Measure concentration of Ni and total metal HAP.</p> <p>b. Compute Ni emission rate (lb/1,000 lbs of coke burn-off).</p> <p>c. Determine the equilibrium catalyst Ni concentration.</p>	<p>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.</p> <p>Method 29 (40 CFR part 60, appendix A).</p> <p>Equations 1 and 8 of §63.1564.</p> <p>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.</p>	<p>(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.</p> <p>(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.</p> <p>You must maintain a sampling rate of at least 0.028 dscm/min (0.74 dscf/min).</p>
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.	<p>d. If you use a continuous opacity monitoring system, establish your site-specific Ni operating limit.</p> <p>e. Record the catalyst addition rate for each test and schedule for the 10-day period prior to the test.</p> <p>a. Establish each operating limit in Table 2 of this subpart that applies to you.</p>	<p>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.</p> <p>Data from the continuous parameter monitoring systems and applicable performance test methods.</p>	<p>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.</p> <p>(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.</p> <p>(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.</p>

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For each new or existing catalytic cracking unit catalyst regenerator vent	You must	Using	According to these requirements
	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.
	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.

¹EPA 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 National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

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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 . . .
<p>1. Subject to the NSPS for PM in 40 CFR 60.102.</p>	<p>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.</p>	<p>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.</p>
<p>2. Option 1: Elect NSPS not subject to the NSPS for PM.</p>	<p>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.</p>	<p>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.</p>

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.

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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.	<p>i. The daily average gas flow rate to the control device must not exceed the operating limit established during the performance test.</p> <p>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.</p>	<p>Collecting the hourly and daily average gas flow rate monitoring data according to §63.1572¹; and maintaining the daily average gas flow rate at limit or below the established during the performance test.</p> <p>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.</p>

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For each new or existing catalytic cracking unit . . .	If you use . . .	For this operating limit . . .	You must demonstrate continuous compliance by . . .
4. Option 3: Ni lb/hr not subject to the NSPS for PM in 40 CFR 60.102.	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. ii. The daily average liquid-to-gas ratio 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 pressure drop above the 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.
	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; 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 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. ii. The daily average voltage and secondary current (or total power input) must not fall below the level established in the performance test. iii. The monthly rolling average of equilibrium catalyst Ni concentration must not exceed the level established during the performance test.	See item 3.b.i. of this table. See item 3.b.ii. of this table. Determining and 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.

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For each new or existing catalytic cracking unit . . .	If you use . . .	For this operating limit . . .	You must demonstrate continuous compliance by . . .
<p>5. Option 4: Ni lb/ton of coke burn-off not subject to the NSPS for PM in 40 CFR 60.102</p>	<p>a. Continuous opacity monitoring system.</p>	<p>ii. The daily average liquid-to-gas ratio must not fall below the operating limit established during the performance test.</p> <p>iii. The monthly rolling average equilibrium catalyst Ni concentration must not exceed the level established during the performance test.</p> <p>The daily average Ni operating value must not exceed the site-specific Ni operating limit established during the performance test.</p>	<p>See item 3.c.ii. of this table.</p> <p>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.</p> <p>Collecting the hourly average continuous opacity monitoring system data according to §63.1572; collecting the hourly average gas flow rate monitoring data according to §63.1572¹; 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.</p>
	<p>b. Continuous parameter monitoring systems—electrostatic precipitator.</p>	<p>i. The daily average gas flow rate to the control device must not exceed the level established in the performance test.</p> <p>ii. The daily average voltage and secondary current (or total power input) must not fall below the level established in the performance test.</p> <p>iii. The monthly rolling average equilibrium catalyst Ni concentration must not exceed the level established during the performance test.</p>	<p>See item 3.b.i. of this table.</p> <p>See item 3.b.ii. of this table.</p> <p>See item 4.b.iii. of this table.</p>
	<p>c. Continuous parameter monitoring systems—wet scrubber.</p>	<p>i. The daily average pressure drop must not fall below the operating limit established in the performance test.</p> <p>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.</p>	<p>See item 3.c.i. of this table.</p>

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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.	See item 4.c.iii. of this table.

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. b. Continuous parameter monitoring systems.	Not applicable i. Thermal incinerator 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. iii. Flare	Not applicable. 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. Maintain the daily average combustion zone temperature above the limit established in the performance test. 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.

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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.
	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.	

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For . . .	You must . . .	Using . . .	According to these require- ments . . .
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.	<p>a. Measure the CO concentration (dry basis) of emissions exiting the control device.</p> <p>b. Establish each operating limit in Table 9 of this subpart that applies to you.</p> <p>c. Thermal incinerator combustion zone temperature.</p> <p>d. Thermal incinerator: oxygen, content (percent, dry basis) in the incinerator vent stream.</p> <p>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.</p> <p>f. If you use a flare, conduct visible emission observations.</p> <p>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.</p>	<p>Method 10, 10A, or 10B in appendix A to part 60 of this chapter, as applicable.</p> <p>Data from the continuous parameter monitoring systems.</p> <p>Method 22 (40 CFR part 60, appendix A).</p> <p>40 CFR 60.11(b)(6)through(8).</p>	<p>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.</p> <p>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.</p> <p>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.</p> <p>Maintain a 2-hour observation period; and record the presence of a flame at the pilot light over the full period of the test.</p>

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.	<p>a. CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).</p> <p>b. If you use a flare, visible emissions must not exceed a total of 5 minutes during any 2 operating hours.</p>	<p>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).</p> <p>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.</p> <p>Visible emissions, measured by Method 22 during the 2-hour observation period during the initial performance test, are no higher than 5 minutes.</p>

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.

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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 . . .
	ii. CO emissions 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 existing 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.	<p>a. Conduct visible emission observations.</p> <p>b. Determine that the flare meets the requirements for net heating value of the gas being combusted and exit velocity.</p>	<p>Method 22 (40 CFR 60, appendix A).</p> <p>Not applicable</p>	<p>2-hour observation period. Record the presence of a flame at the pilot light over the full period of the test.</p> <p>40 CFR 60.11(b)(6) through (8).</p>
2. Option 2: percent reduction or concentration limit.	<p>a. Select sampling site</p> <p>b. Measure gas volumetric flow rate.</p> <p>c. Measure TOC concentration (for percent reduction standard).</p> <p>d. Calculate TOC emission rate and mass emission reduction.</p> <p>e. Measure TOC concentration (for concentration standard).</p> <p>f. Determine oxygen content in the gas stream at the outlet of the control device.</p> <p>g. Correct the measured TOC concentration for oxygen content.</p> <p>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.</p>	<p>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.</p> <p>Method 2, 2A, 2C, 2D, 2F, or 2G (40 CFR part 60, appendix A), as applicable.</p> <p>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.</p> <p>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.</p> <p>Method 25A (40 CFR part 60, appendix A) to measure TOC concentration at the outlet of the control device.</p> <p>Method 3A or 3B (40 CFR part 60, appendix A), as applicable.</p> <p>Equation 4 of §63.1566</p> <p>Data from the continuous parameter monitoring systems.</p>	<p>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.</p> <p>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.</p> <p>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.</p>

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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.	<p>a. Visible emissions from a flare must not exceed a total of 5 minutes during any 2 consecutive hours.</p> <p>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.</p>	<p>Visible emissions, measured using Method 22 over the 2-hour observation period of the performance test do not exceed a total of 5 minutes.</p> <p>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.</p>

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 (HCl) 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 HCl 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 HCl 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 catalyst 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).	Colorimetric tube sampling system to measure the HCl concentration in the catalyst regenerator exhaust gas during coke burn-off and catalyst rejuvenation.

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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	<p>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 device (for the percent reduction standard).</p> <p>b. Establish operating limit for pH level.</p> <p>c. Establish operating limit for liquid-to-gas ratio.</p>	<p>i. Method 26A (40 CFR part 60, appendix A).</p> <p>.....</p> <p>Data from the continuous parameter monitoring systems.</p>	<p>(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.</p> <p>(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.</p> <p>(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.</p> <p>(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.</p> <p>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.</p>
2. Internal scrubbing system (i.e., no add-on control device).	<p>a. Measure the concentration of HCl in the catalyst regenerator exhaust gas.</p> <p>b. Establish operating limit for HCl concentration.</p>	<p>Method 26 (40 CFR part 60, appendix A).</p> <p>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.</p>	<p>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.</p>

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.

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 . . .
	<p>b. The daily average liquid-to-gas ratio must not fall below the level established during the performance test.</p> <p>c. The HCl concentration in the catalyst regenerator exhaust gas must not exceed the applicable operating limit established during the performance test.</p>	<p>Wet scrubber</p> <p>Internal scrubbing system (e.g., no add-on control device).</p>	<p>(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.</p> <p>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.</p> <p>Measuring and recording the concentration of HCl every 4 hours using a colometric tube sampling system; and maintaining the HCl concentration below the applicable operating limit.</p>

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 . . .
<p>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).</p> <p>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).</p> <p>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).</p>	<p>a. 250 ppmv (dry basis) of sulfur dioxide (SO₂) at zero percent excess air if you use an oxidation or reduction control system followed by incineration.</p> <p>b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO₂ (dry basis) at zero percent excess air if you use a reduction control system without incineration.</p> <p>a. 250 ppmv (dry basis) of SO₂ at zero percent excess air if you use an oxidation or reduction control system followed by incineration.</p> <p>b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO₂ (dry basis) at zero percent excess air if you use a reduction control system without incineration.</p> <p>300 ppmv of total reduced sulfur (TRS) compounds, expressed as an equivalent SO₂ concentration (dry basis) at zero percent oxygen.</p>

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 of 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. <i>Exception:</i> 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.

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 of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104 (a) (2).	<p>b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO₂ (dry basis) at zero percent excess air if you use a reduction control system without incineration.</p> <p>300 ppmv of total reduced sulfur (TRS) compounds, expressed as an equivalent SO₂ concentration (dry basis) at zero percent oxygen.</p>	<p>Continuous emission monitoring system to measure and record the hourly average concentration of reduced sulfur and O₂ emissions for each exhaust stack. Calculate the reduced sulfur emissions as SO₂ (dry basis), at zero percent excess air. <i>Exception:</i> You can use an instrument having an air or O₂ dilution and oxidation system to convert the reduced sulfur to SO₂ for continuously monitoring and recording the concentration (dry basis) at zero percent excess air of the resultant SO₂ instead of the reduced sulfur monitor. The monitor must include an oxygen monitor for correcting the data for excess oxygen.</p> <p>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.</p>

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).	<p>a. Select sampling port's location and the number of traverse ports.</p> <p>b. Determine velocity and volumetric flow rate.</p> <p>c. Conduct gas molecular weight analysis; obtain the oxygen concentration needed to correct the emission rate for excess air.</p> <p>d. Measure moisture content of the stack gas.</p>	<p>Method 1 or 1A appendix A to part 60 of this chapter.</p> <p>Method 2, 2A, 2C, 2D, 2F, or 2G in appendix A to part 60 of this chapter, as applicable.</p> <p>Method 3, 3A, or 3B in appendix A to part 60 of this chapter, as applicable.</p> <p>Method 4 in appendix A to part 60 of this chapter.</p>	<p>Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.</p> <p>Take the samples simultaneously with reduced sulfur or moisture samples.</p> <p>Make your sampling time for each Method 4 sample equal to that for 4 Method 15 samples.</p>

For . . .	You must . . .	Using . . .	According to these requirements . . .
	<p>e. Measure the concentration of TRS.</p> <p>f. Calculate the SO₂ equivalent for each run after correcting for moisture and oxygen.</p> <p>g. Correct the reduced sulfur samples to zero percent excess air.^{sa}</p> <p>h. Establish each operating limit in Table 30 of this subpart that applies to you.</p> <p>i. Measure thermal incinerator: combustion zone temperature.</p> <p>j. Measure thermal incinerator: oxygen concentration (percent, dry basis) in the vent stream.</p> <p>k. If you use a continuous emission monitoring system, measure TRS concentration.</p>	<p>Method 15 or 15A in appendix A to part 60 of this chapter, as applicable.</p> <p>The arithmetic average of the SO₂ equivalent for each sample during the run.</p> <p>Equation 1 of §63.1568.</p> <p>Data from the continuous parameter monitoring system.</p> <p>Data from the continuous parameter monitoring system.</p> <p>Data from the continuous parameter monitoring system.</p> <p>Data from continuous emission monitoring system.</p>	<p>If the cross-sectional area of the duct is less than 5 square meters (m²) or 54 square feet, you must use the centroid of the cross section as the sampling point. If the cross-sectional area is 5 m² 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.</p> <p>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.</p> <p>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.</p> <p>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.</p>

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 . . .
<p>1. Each new or existing Claus 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).</p>	<p>a. 250 ppmv (dry basis) SO₂ at zero percent excess air if you use an oxidation or reduction control system followed by incineration.</p> <p>b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO₂ (dry basis) at zero percent excess air if you use a reduction control system without incineration.</p>	<p>You have already conducted a performance test to demonstrate initial compliance with the NSPS and the hourly average SO₂ 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 SO₂ 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.</p> <p>You have already conducted a performance test to demonstrate initial compliance with the NSPS and the hourly average SO₂ 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 SO₂ limit. You are not required to do another performance test to demonstrate initial compliance.</p> <p>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.</p>
<p>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).</p>	<p>a. 250 ppmv (dry basis) of SO₂ at zero percent excess air if you use an oxidation control system followed by incineration.</p>	<p>The hourly average SO₂ emissions measured by the continuous emission monitoring system over the 24-hour period of the initial performance test are not more than 250 ppmv (dry basis) at zero percent excess air; and your performance evaluation shows the monitoring system meets the applicable requirements in §63.1572.</p>

For . . .	For the following emission limit . . .	You have demonstrated initial compliance if . . .
<p>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).</p>	<p>b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO₂ (dry basis) at zero percent excess air if you use a reduction control system without incineration.</p> <p>300 ppmv of TRS compounds expressed as an equivalent SO₂ concentration (dry basis) at zero percent oxygen.</p>	<p>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 SO₂ (dry basis) at zero percent excess air; and your performance evaluation shows the continuous emission monitoring system meets the applicable requirements in §63.1572.</p> <p>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 SO₂ 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 SO₂ concentration (dry basis) at zero percent oxygen; and your performance evaluation shows the continuous emission monitoring system meets the applicable requirements in §63.1572.</p>

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 . . .
<p>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).</p>	<p>a. 250 ppmv (dry basis) SO₂ at zero percent excess air if you use an oxidation or reduction control system followed by incineration.</p> <p>b. 300 ppmv of reduced sulfur compounds calculated as ppmv (dry basis) SO₂ at zero percent excess air if you use a reduction control system without incineration.</p>	<p>Collecting the hourly average SO₂ monitoring data (dry basis, percent excess air) according to §63.1572; maintaining the hourly average SO₂ concentration at or below the applicable limit; determining and recording each 12-hour average SO₂ day concentration; and reporting any 12-hour average SO₂ concentration greater than the applicable emission limitation in the compliance report required in §63.1575.</p> <p>Collecting the hourly average reduced sulfur and O₂ 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.</p>

For . . .	For this emission limit . . .	You must demonstrate continuous compliance by . . .
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.
	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, catalytic reforming unit, or sulfur recovery unit.	<p>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.</p> <p>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.</p> <p>c. Option 3: Seal the bypass line by installing a solid blind between piping flanges.</p> <p>d. Option 4: Vent the bypass line to a control device that meets the appropriate requirements in this subpart.</p>	<p>The installed equipment operates properly during each run of the performance test and no flow is present in the line during the test.</p> <p>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.</p> <p>See item 1.b. of this table.</p> <p>See item 1.b. of this table.</p>

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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 O ₂ 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).

This type of continuous opacity or emission monitoring system . . .	Must meet these requirements . . .
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.
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;

If you use a continuous parameter monitoring system to measure and record . . .	You must . . .
6. HCl concentration	<p>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.</p> <p>Use a colorimetric 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.</p>

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.
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.		
§ 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.	

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§ 63.1581

Citation	Subject	Applies to subpart UUU	Explanation
§ 63.6(h)	Opacity/VE Standards	Yes.	Subpart UUU specifies methods.
§ 63.6(h)(2)(i)	Determining Compliance with Opacity/VE Standards. [Reserved]	No	
§ 63.6(h)(2)(ii)	[Reserved]	Not applicable.	Applies to Method 22 tests.
§ 63.6(h)(2)(iii)	[Reserved]	Yes.	
§ 63.6(h)(3)	[Reserved]	Not applicable.	
§ 63.6(h)(4)	Notification of Opacity/VE Observation Date.	Yes	
§ 63.6(h)(5)	Conducting Opacity/VE Observations.	No.	
§ 63.6(h)(6)	Records of Conditions During Opacity/VE Observations.	Yes	
§ 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.	Applies to Method 22 observations.
§ 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.	

Subpart VVV—National Emission Standards for Hazardous Air Pollutants: Publicly Owned Treatment Works

SOURCE: 64 FR 57579, Oct. 26, 1999, unless otherwise noted.

APPLICABILITY

§ 63.1580 Am I subject to this subpart?

(a) You are subject to this subpart if the following are all true:

(1) You own or operate a publicly owned treatment works (POTW) that includes an affected source (§ 63.1595);

(2) The affected source is located at a POTW which is a major source of HAP emissions, or at any industrial POTW regardless of whether or not it is a major source of HAP; and

(3) Your POTW is required to develop and implement a pretreatment program as defined by 40 CFR 403.8 (for a POTW owned or operated by a municipality, State, or intermunicipal or interstate agency), or your POTW would meet the general criteria for development and implementation of a pretreatment program (for a POTW owned or operated by a department,

agency, or instrumentality of the Federal government).

(b) If your existing POTW treatment plant is not located at a major source as of October 26, 1999, but thereafter becomes a major source for any reason other than reconstruction, then, for the purpose of this subpart, your POTW treatment plant would be considered an existing source. Note to Paragraph (b): See § 63.2 of the national emission standards for hazardous air pollutants (NESHAP) General Provisions in subpart A of this part for the definitions of major source and area source.

(c) If you reconstruct your POTW treatment plant, then the requirements for a new or reconstructed POTW treatment plant, as defined in § 63.1595, apply.

[67 FR 64745, Oct. 21, 2002]

§ 63.1581 Does the subpart distinguish between different types of POTW treatment plants?

Yes, POTW treatment plants are divided into two subcategories. A POTW treatment plant which does not meet the characteristics of an industrial POTW treatment plant belongs in the