

**REGULATION 9
INORGANIC GASEOUS POLLUTANTS
RULE 10
NITROGEN OXIDES AND CARBON MONOXIDE FROM BOILERS, STEAM
GENERATORS AND PROCESS HEATERS IN PETROLEUM REFINERIES**

INDEX

9-10-100 GENERAL

- 9-10-101 Description
- 9-10-110 Exemptions
- 9-10-111 Limited Exemption, Small Units
- 9-10-112 Limited Exemption, Low Fuel Usage
- 9-10-113 Limited Exemption, Alternate NO_x Compliance Plan

9-10-200 DEFINITIONS

- 9-10-201 Deleted December 15, 2010
- 9-10-202 Boiler or Steam Generator
- 9-10-203 British Thermal Unit (BTU)
- 9-10-204 CO Boiler
- 9-10-205 Deleted December 15, 2010
- 9-10-206 Heat Input
- 9-10-207 Higher Heating Value (HHV)
- 9-10-208 Natural Gas
- 9-10-209 Nitrogen Oxides (NO_x)
- 9-10-210 Non-Gaseous Fuel
- 9-10-211 Operating Day
- 9-10-212 Out of Service
- 9-10-213 Petroleum Refinery
- 9-10-214 Process Heater
- 9-10-215 Rated Heat Input
- 9-10-216 Refinery-wide Emission Rate
- 9-10-217 Small Unit
- 9-10-218 Start-up or Shutdown
- 9-10-219 Therm
- 9-10-220 Deleted December 15, 2010
- 9-10-221 Best Available Control Technology (BACT)
- 9-10-222 Curtailed Operation

9-10-300 STANDARDS

- 9-10-301 Refinery-wide NO_x Emission Limit
- 9-10-302 Deleted July 17, 2002
- 9-10-303 Federal Refinery-wide and CO Boiler NO_x Emission Limits
- 9-10-304 Interim NO_x Emission Limit For CO Boilers
- 9-10-305 CO Emission Limit
- 9-10-306 Small Unit Requirements
- 9-10-307 Final NO_x Emission Limits For CO Boilers
- 9-10-308 Alternate NO_x Compliance Plan

9-10-400 ADMINISTRATIVE REQUIREMENTS

- 9-10-401 Deleted December 15, 2010

- 9-10-402 Deleted December 15, 2010
- 9-10-403 Deleted December 15, 2010
- 9-10-404 Final Control and Monitoring Plan
- 9-10-405 Application for Alternate NOx Compliance Plan
- 9-10-406 Determination of Compliance
- 9-10-407 Boiler, Steam Generator and Process Heater Status Report

9-10-500 MONITORING AND RECORDS

- 9-10-501 Deleted December 15, 2010
- 9-10-502 Monitoring
- 9-10-503 Modified Maximum Heat Input
- 9-10-504 Records
- 9-10-505 Reporting Requirements

9-10-600 MANUAL OF PROCEDURES

- 9-10-601 Determination of Nitrogen Oxides
- 9-10-602 Determination of Carbon Monoxide and Stack-Gas Oxygen
- 9-10-603 Compliance Determination
- 9-10-604 Determination of Higher Heating Value
- 9-10-605 Tune-Up Procedures

REGULATION 9
INORGANIC GASEOUS POLLUTANTS
RULE 10
NITROGEN OXIDES AND CARBON MONOXIDE FROM BOILERS, STEAM
GENERATORS AND PROCESS HEATERS IN PETROLEUM REFINERIES

(Adopted January 5, 1994)

9-10-100 GENERAL

9-10-101 Description: This rule limits the emissions of nitrogen oxides and carbon monoxide from boilers, steam generators, and process heaters, including CO boilers, in petroleum refineries.

(Amended December 15, 2010)

9-10-110 Exemptions: The requirements of this rule shall not apply to the following:

- 110.1 Boilers, steam generators and process heaters with a rated heat input less than 2 million BTU/hour, if fired exclusively with natural gas, liquefied petroleum gas, or any combination thereof.
- 110.2 Boilers, steam generators and process heaters with a rated heat input less than 1 million BTU/hour fired with any fuel.
- 110.3 Waste heat recovery boilers that are used to recover sensible heat from the exhaust of combustion turbines or reciprocating internal combustion engines.
- 110.4 Boilers, steam generators and process heaters processing hydrogen sulfide process flue gas in sulfur recovery plants and their tail-gas treating units, or sulfuric acid manufacturing plants.
- 110.5 Boilers, steam generators and process heaters fired on non-gaseous fuel when natural gas is unavailable for use.
- 110.6 Boilers, steam generators and process heaters, including CO boilers, that receive an Authority to Construct subject to BACT requirements for NO_x on or after January 5, 1994.

(Amended December 15, 2010)

9-10-111 Limited Exemption, Small Units: The requirements of Sections 9-10-301, 303, 305 and 308 shall not apply to the use of any small units, provided the requirements of Section 9-10-306 are satisfied.

(Amended 7/17/02; 12/15/10; 10/16/13)

9-10-112 Limited Exemption, Low Fuel Usage: The requirements of Sections 9-10-301, 303, 305 and 308 shall not apply to the use of any boiler, steam generator or process heater that has an annual heat input less than 90,000 therms during each consecutive 12-month period or that accepts a condition in its Permit to Operate limiting the annual heat input to less than 90,000 therms, provided the requirements for small units in Section 9-10-306 are satisfied and a fuel-flow meter as described in Section 9-10-502.2 is maintained and operated.

(Amended 7/17/02; 12/15/10; 10/16/13)

9-10-113 Limited Exemption, Alternate NO_x Compliance Plan: The requirements of Section 9-10-301 shall not apply to the use of any boiler, steam generator or process heater at a refinery subject to Section 9-10-308.

(Adopted October 16, 2013)

9-10-200 DEFINITIONS

9-10-201 Deleted December 15, 2010

9-10-202 Boiler or Steam Generator: Any combustion equipment used to produce steam or heat water.

9-10-203 British Thermal Unit (BTU): The amount of heat required to raise the temperature of one pound of water from 59° F to 60° F at one atmosphere.

9-10-204 CO Boiler: A CO boiler is any boiler or furnace that processes the off-gases from a catalytic cracking unit (CCU) regenerator or a coker burner. A partial-burn CO boiler

normally processes off-gases from a CCU regenerator that is operated in a partial-burn mode such that the off-gases normally have a CO concentration exceeding 2% by volume.

(Amended December 15, 2010)

- 9-10-205 Deleted December 15, 2010**
- 9-10-206 Heat-Input:** The heat of combustion released due to burning a fuel in a source, using higher heating value of the fuel. This does not include the sensible heat of incoming combustion air. In the case of carbon monoxide boilers, the heat input includes the sensible heat of regenerator off-gases and the heat of combustion of the incoming carbon monoxide and of the auxiliary fuel.
- 9-10-207 Higher Heating Value (HHV):** The total heat liberated per mass of fuel burned (BTU per pound) when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions per Section 9-10-604.
- 9-10-208 Natural Gas:** Any mixture of gaseous hydrocarbons containing at least 80 percent methane by volume, as determined according to Standard Method ASTM D1945-64.
- 9-10-209 Nitrogen Oxides (NOx):** The sum of nitric oxide (NO) and nitrogen dioxide (NO₂) in the flue gas, collectively expressed as nitrogen dioxide.
- 9-10-210 Non-Gaseous Fuel:** Any fuel that is not a gas at 68° F and one atmosphere.
(Amended December 15, 2010)
- 9-10-211 Operating Day:** 24 hours from midnight to midnight.
- 9-10-212 Out of Service:** The period of time during which a unit is in an inactive state following shutdown.
- 9-10-213 Petroleum Refinery:** Any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants or other products through distillation of petroleum or through redistillation, cracking, or reforming of unfinished petroleum derivatives.
- 9-10-214 Process Heater:** Any combustion equipment that transfers heat from combustion gases to water or process streams.
- 9-10-215 Rated Heat Input:** The heat input capacity specified on the nameplate of the combustion source. If the combustion source has been physically modified and/or operated in such a manner that its maximum heat input is different from the heat input capacity specified on the nameplate, then the modified maximum heat input per Section 9-10-503 shall be considered as the rated heat input.
- 9-10-216 Refinery-wide Emission Rate:** The ratio of the total mass of discharge into the atmosphere of nitrogen oxides, in pounds, to the sum of the actual heat input, in million BTU, calculated over a twenty-four (24) hour operating day.
(Amended December 15, 2010)
- 9-10-217 Small Unit:** Any refinery boiler, steam generator or process heater with a rated heat input less than 10 million BTU/hour.
(Amended December 15, 2010)
- 9-10-218 Startup or Shutdown:** Startup is that period of time, not to exceed twelve (12) hours unless specifically extended by a Permit to Operate, during which a unit is brought up to its normal operating temperature from a cold start, initially at zero fuel flow, by following a prescribed series of separate steps or operations. Shutdown is that period of time, not to exceed nine (9) hours unless specifically extended by a Permit to Operate, during which a unit is taken out of service from a normal operating mode to an inactive status following a prescribed series of separate steps or operations.
(Amended 12/15/10; 10/16/13)
- 9-10-219 Therm:** One hundred thousand (100,000) BTUs.
- 9-10-220 Deleted December 15, 2010**
- 9-10-221 Best Available Control Technology (BACT):** As defined in Regulation 2, Rule 2.
(Adopted December 15, 2010)
- 9-10-222 Curtailed Operation:** Operation of a boiler, steam generator or process heater at no more than 30% of its rated heat input.
(Adopted December 15, 2010)

9-10-300 STANDARDS

9-10-301 Refinery-wide NOx Emission Limit: A person shall not exceed a refinery-wide emission rate from boilers, steam generators and process heaters, excluding CO boilers, of 0.033 pounds NOx per million BTU of heat input, based on an operating day average. Boilers, steam generators and process heaters that are test-fired on non-gaseous fuel, that are undergoing startup or shutdown, that are temporarily out of service, or that are in curtailed operation shall be included in the refinery-wide emission rate as follows:

- 301.1 Deleted December 15, 2010
- 301.2 Deleted December 15, 2010
- 301.3 **Units Test-Fired On Non-Gaseous Fuel:** For the purposes of determining compliance with the emission limit of Section 9-10-301, the emission contribution of each boiler, steam generator or process heater that is fired on non-gaseous fuel for equipment testing shall be taken as the operating day average of NOx emissions at the average heat input over the previous thirty (30) day period. Equipment testing shall not exceed a total of forty-eight (48) hours during any calendar year for any one unit.
- 301.4 **Units in Start-up or Shutdown or in Curtailed Operation:** For the purposes of determining compliance with the emission limit of Section 9-10-301, the emission contribution of each boiler, steam generator or process heater that is undergoing startup or shutdown, or that is in Curtailed Operation shall be one of the following:
 - 4.1 The operating day average NOx emissions (either from a continuous emission monitoring system (CEMS) or from an equivalent parametric monitoring system developed in accordance with a Permit to Operate and Section 9-10-502.1), and the operating day heat input.
 - 4.2 The operating day average NOx emissions (either from a CEMS or from an equivalent parametric monitoring system developed in accordance with a Permit to Operate and Section 9-10-502.1), and the operating day heat input averaged over the previous thirty (30) day period or, subject to the approval of the APCO, an alternate 30-day period representative of normal operation.
- 301.5 **Units Temporarily Out of Service:** For the purposes of determining compliance with the emission limit of Section 9-10-301, the emission contribution of each boiler, steam generator or process heater that is temporarily out of service shall be the operating day average NOx emissions (either from a continuous emission monitoring system (CEMS) or from an equivalent parametric monitoring system developed in accordance with a Permit to Operate and Section 9-10-502.1), and the operating day heat input, averaged over the previous thirty (30) day period or, subject to the approval of the APCO, an alternate 30-day period representative of normal operation.

(Amended 12/15/10; 10/16/13)

9-10-302 Deleted July 17, 2002

9-10-303 Federal Refinery-wide and CO Boiler NOx Emission Limits: A person shall not exceed a refinery-wide emission rate from boilers, steam generators or process heaters, excluding CO boilers, of 0.20 pounds NOx per million BTU of heat input, based on an operating day average.

- 303.1 Except during startup and shutdown, a person shall not operate a CO boiler unless the emissions of nitrogen oxides (NOx) do not exceed 300 ppmv, dry at 3% oxygen, based on an operating day average.

(Amended 7/17/02; 12/15/10)

9-10-304 Interim NOx Emission Limit For CO Boilers: Until Section 9-10-307 is effective, and except during startup and shutdown, a person shall not operate a CO boiler unless at least one of the following is met:

- 304.1 Emissions of nitrogen oxides (NOx) do not exceed 150 ppmv, dry at 3% oxygen, based on an operating day average; or

304.2 Emissions of nitrogen oxides (NOx) are controlled by an emission control system with a NOx control efficiency of at least 50 percent by weight.

(Amended December 15, 2010)

9-10-305 CO Emission Limit: Except during start-up, shutdown or curtailed operation, a person shall not operate a boiler, steam generator or process heater, including CO boilers, unless carbon monoxide emissions of 400 ppmv, dry at 3% oxygen, based on an operating day average, are not exceeded.

(Amended December 15, 2010)

9-10-306 Small Unit Requirements: A person shall not operate a small unit unless at least one of the following is met:

306.1 Operate in a manner that maintains stack-gas oxygen concentrations at less than or equal to 3 percent by volume on a dry basis; or

306.2 Tune at least once every twelve (12) months, or within two weeks of unit startup if not operated in the last twelve (12) months, by a technician in accordance with the procedure specified in Section 9-10-605; or

306.3 Meet the applicable emission limits in Sections 9-10-301, 303 and 305.

(Amended December 15, 2010)

9-10-307 Final NOx Emission Limits For CO Boilers: Effective January 1, 2015, and except during start-up or shutdown, a person shall not operate a CO boiler unless it meets the applicable NOx emission limits in Sections 9-10-307.1 and 307.2.

307.1 A person shall not operate a non-partial-burn CO boiler, unless the following NOx limits are not exceeded:

Averaging Period	NOx (ppmv, dry at 3% O ₂)
1.1 Operating day	150
1.2 Calendar year (excluding periods when the CO boiler does not process CCU regenerator offgas)	45

307.2 A person shall not operate a partial-burn CO boiler, unless the following NOx limits are not exceeded:

Averaging Period	NOx (ppmv, dry at 3% O ₂)
2.1 Operating day	125
2.2 Calendar year	85

(Adopted 12/15/10; Amended 10/16/13)

9-10-308 Alternate NOx Compliance Plan: A person at a refinery with an Alternate NOx Compliance Plan that has been approved in accordance with Section 9-10-405, shall not exceed the refinery-wide daily NOx limit from boilers, steam generators and process heaters, excluding CO boilers, as specified in the Plan. The boilers, steam generators and process heaters that are covered by the Alternate NOx Compliance Plan shall be referred to as devices in this Section.

308.1 A daily NOx limit shall apply to all devices at a refinery with an approved Alternate NOx Compliance Plan. The limit shall be the sum of the baseline NOx daily emissions for each device, expressed in pounds of NOx. The baseline NOx daily emissions for each device shall be the average of the daily emissions on any ten (10) different days during the 3-year period immediately preceding the date of the application for an Alternate Compliance Plan, on which the refinery operator was in compliance with Section 9-10-301. The same 10 days shall be used for all devices at a refinery. The APCO may consider allowing 10 days within a different time period, if the APCO finds that a different period allows the selection of operating days that better represent maximum daily emission levels for these devices.

1.1 At any refinery that used Interchangeable Emission Reduction Credits (IERC) to comply with Section 9-10-301 on any of the 10 baseline days, the average difference between actual operating

emissions, in pounds NOx/day, and the emissions that would meet the 0.033 pounds NOx/million BTU NOx limit in Section 9-10-301 shall be calculated for the 10 days used to develop the daily NOx limit, and the daily NOx limit shall be reduced by this difference. NOx Emission Reduction Credits (ERC) generated in accordance with Regulation 2, Rule 2 may be surrendered on a one-time basis at a 1.15 to 1 ratio to make up all or part of the difference, and the daily NOx emissions limit will be adjusted accordingly.

- 1.2 At any refinery with an Authority to Construct application submitted before the date of approval of an Alternate Compliance Plan described in Section 9-10-405, if the actions permitted in the Authority to Construct would reduce the number of devices subject to Section 9-10-301 and require additional NOx emissions reductions to comply with Section 9-10-301, the daily NOx emissions limit shall be reduced by the amount of reductions required. NOx ERC generated in accordance with Regulation 2, Rule 2 may be surrendered on a one-time basis at a 1.15 to 1 ratio to offset all or part of the NOx emissions reductions required, and the daily NOx emissions limit will be adjusted accordingly.
- 308.2 A person operating under a daily NOx limit shall determine compliance with that limit on a daily basis.
- 308.3 For any device for which baseline NOx emissions have been permanently reduced, a permit application may be submitted to modify the baseline daily NOx emissions for that device.
- 308.4 The daily NOx limit shall be reduced when a device is no longer subject to this rule. The amount of reduction shall be equal to the baseline NOx daily emissions for that device.

(Adopted October 16, 2013)

9-10-400 ADMINISTRATIVE REQUIREMENTS

9-10-401 Deleted December 15, 2010

9-10-402 Deleted December 15, 2010

9-10-403 Deleted December 15, 2010

9-10-404 Final Control and Monitoring Plan: A person subject to Section 9-10-307 shall comply with the following increments of progress:

- 404.1 No later than twenty-four (24) months prior to the effective date of Section 9-10-307, submit to the APCO a control plan detailing the proposed measures, if any, to be taken in order to meet the requirements of Section 9-10-307, as well as proposed measures, if any, to be taken to continue to meet the requirements of Section 9-10-301.
- 404.2 No later than eighteen (18) months prior to the effective date of Section 9-10-307, submit applications for all Authorities to Construct required for compliance with Section 9-10-307.
- 404.3 No later than 30 days after the effective date of Section 9-10-307, perform testing for nitrogen oxide and carbon monoxide emissions at each CO boiler subject to Section 9-10-307 at the rated heat input or as near thereto as practicable. This requirement may be satisfied by monitoring nitrogen oxide and carbon monoxide emissions with a continuous emission monitoring system (CEMS).

(Adopted December 15, 2010)

9-10-405 Application for an Alternate NOx Compliance Plan: An application for an Alternate NOx Compliance Plan may be submitted by a person who operates a refinery where a boiler, steam generator or process heater is subject to Section 9-10-301. The Alternate NOx Compliance Plan shall apply to all boilers, steam generators and process heaters that are subject to the NOx limit in Section 9-10-301 at the time the Alternate NOx Compliance Plan is approved, and only to these boilers, steam generators and process heaters. The application shall be submitted and processed

in accordance with Regulation 2, Rule 1. The fees for the application shall be as specified in Regulation 3 for an alternate compliance plan. The application shall include the following information, which shall be included in the Permit to Operate for the boiler, steam generator or process heater:

- 405.1 The proposed effective date of the Alternate NOx Compliance Plan.
- 405.2 A list of the boilers, steam generators and process heaters that will be subject to a daily NOx limit, as specified in Section 9-10-308, and for each:
 - 2.1 The baseline NOx daily emissions determined in accordance with Section 9-10-308.1, including the data used to establish the baseline NOx daily emissions and the source(s) of the data. To the extent possible, the baseline NOx daily emissions shall be based on CEMS data.
 - 2.2 One or two substitute emission factors to be used in the absence of CEMS data and determined from representative source test data measured in accordance with District Manual of Procedures, Volume IV, ST-13A (nitrogen oxides) and ST-14 (oxygen), including the source test report.
 - 2.3 The amount of the required reductions to the daily NOx limit described in Sections 9-10-308.1.1 and 308.1.2 and any proposed mitigation to these reductions.
- 405.3 The amount of any ERC use allowed by Sections 9-10-308.1.1 and 308.1.2 shall be calculated as follows: (average difference between actual operating emissions, in pounds NOx/day, and the pounds NOx emissions/day that would meet the 0.033 pounds NOx/million BTU NOx limit in Section 9-10-301 for the 10 days used to develop the baseline NOx emissions)(365 days/year)(1.15) = NOx ERC surrendered. Any ERC use shall be surrendered before the application for the Alternate NOx Compliance Plan is considered complete. If an Authority to Construct that meets the conditions described in Section 9-10-308.1.2 is cancelled, any ERC surrendered shall be returned to the applicant.

(Adopted October 16, 2013)

9-10-406 Determination of Compliance: Compliance with the daily limit in Section 9-10-301 or 308 shall be determined by CEMS data and, for those boilers, steam generators and process heaters subject to parametric monitoring, the emission factor established according to Section 9-10-502.1.2 and the heat input rate as measured for each boiler, steam generator and process heater.

(Adopted October 16, 2013)

9-10-407 Boiler, Steam Generator and Process Heater Status Report: Any person who operates a boiler, steam generator or process heater that is subject to Section 9-10-301 or 308 shall, no later than April 16, 2014, submit information on the make, model and emission rates for all burners in each boiler, steam generator or process heater. Information shall be submitted in a format as specified by the APCO. The information shall be updated no later than 30 days after any non-identical burner change or replacement.

(Adopted October 16, 2013)

9-10-500 MONITORING AND RECORDS

9-10-501 Deleted December 15, 2010

9-10-502 Monitoring: A person subject to Sections 9-10-301, 303, 304, 305, 307 or 308 shall maintain in good working order, and operate the following equipment:

502.1 An in-stack nitrogen oxide (NOx), carbon monoxide (CO), and oxygen (O₂) continuous emission monitoring system (CEMS), or equivalent parametric monitoring system as specified in a Permit to Operate. The CEMS shall meet the requirements of the District Manual of Procedures, Volume V, Continuous Emission Monitoring, Policy and Procedures.

- 1.1 No later than April 16, 2014, a person who operates boilers, steam generators or process heaters that are subject to Section 9-10-301 or 308 shall submit a monitoring plan to the APCO for the installation

of NOx CEMS on these boilers, steam generators or process heaters such that no less than 95% of the NOx emissions, by weight, subject to either 9-10-301 or 308 is monitored with a NOx CEMS. The monitoring plan shall consider the actual NOx emission contribution from each boiler, steam generator or process heater subject to Section 9-10-301 or 308 during the most recent calendar year for which complete data are available at the time of the submittal of the monitoring plan. No later than October 16, 2014, the APCO shall approve each submitted monitoring plan, or else shall specify additional NOx CEMS that must be installed, and notify the affected refinery. The date of plan approval or notification shall serve as the "date of notification" specified in the District Manual of Procedures (MOP), Volume V, Continuous Emission Monitoring, Policy and Procedures. The installation of CEMS shall then be in accordance with the schedule and other provisions of MOP, Volume V, except that the completion of installation in Section 4.3 of Volume V shall be within 12 months of submittal of the Intent to Purchase.

1.2 Any person who operates a boiler, steam generator or process heater that uses a parametric monitoring system to monitor compliance with Section 9-10-301 or 308 shall estimate the NOx emission contribution of the boiler, steam generator or process heater based on one or two NOx emission factors (expressed as lb NOx / MM BTU) and on actual fuel input for all operating conditions, except as allowed by Section 9-10-301.3, 301.4 or 301.5. The emission factor shall be based on one or more District-approved source tests and included in a Permit to Operate. The operator shall conduct periodic monitoring of boilers, steam generators and process heaters that use a parametric monitoring system as follows:

2.1 Boilers, steam generators and process heaters rated less than 25 MM BTU/hr shall have one source test per consecutive 12 month period. The time interval between source tests shall not exceed 16 months. A boiler, steam generator or process heater that is out of service need not be placed into service for the purposes of conducting a source test. Notwithstanding the time limits specified above, a source test for a boiler, steam generator or process heater that is out of service may be delayed until it returns to service.

2.2 Boilers, steam generators and process heaters rated 25 MM BTU/hr or more shall have two source tests per consecutive 12 month period. The time interval between source tests shall be no less than 5 months and no more than 8 months. Notwithstanding the time limits specified above, a source test for a boiler, steam generator or process heater that is out of service may be delayed until it returns to service.

If a source test measures an emission factor higher than the emission factor in the Permit to Operate, then the higher emission factor shall become the new emission factor for determining compliance with Section 9-10-301 and 308. An operator may re-test at operating conditions substantially similar to those during the original test and appeal the change in emission factor to the APCO within 60 days. An operator may submit source test data with a permit application to establish a lower emission factor for a device that has been altered in a way that reduces the emission rate. The APCO may require that a source test be performed at a specific operating condition if the APCO determines that such a condition is a representative operating condition that has not been previously tested. Source test results shall be submitted to the APCO within 60 days of any test.

502.2 A fuel-flow meter in each fuel line for each boiler, steam generator and process heater, including each CO boiler.

(Amended 7/17/02; 12/15/10; 10/16/13)

9-10-503 Modified Maximum Heat Input: Any unit that has been physically modified such that its maximum heat input is different than the heat input specified on the nameplate shall demonstrate to the APCO the maximum heat input while operating the source at maximum capacity.

9-10-504 Records: The owner/operator of a source subject to this rule shall keep the following records, in a form suitable for inspection for a period of at least five (5) years. Such records shall be retained for a minimum of sixty (60) months from date of entry and made available to the APCO upon request. These records shall include, but are not limited to the following:

504.1 For all sources subject to the requirements of Sections 9-10-301, 303, 304, 305, 307, 308 or 404.3:

1.1 The continuous emission monitoring system (CEMS) measurements for NO_x and CO (ppmv corrected to 3% oxygen) and O₂ (percent by volume on a dry basis) or equivalent parametric monitoring system parameters; and hourly (lb/hour) and daily (lb/day) NO_x emissions for each source. Measurements shall be submitted in a digital format that can be readily imported into standard database tools as specified by the APCO. The APCO shall provide a reasonable amount of time to implement any required changes in data format.

1.2 The type, heat input (BTU/hr and BTU/day), and higher heating value of each fuel burned, and the injection rate for any reactant chemicals used by the emission control system(s) on a daily basis.

1.3 The date, time, and duration of any startup, shutdown or malfunction in the operation of any unit, emission control equipment or emission monitoring equipment.

1.4 The results of performance testing, evaluations, calibrations, checks, adjustments, and maintenance of any CEMS required by this rule.

1.5 A list of all sources subject to the NO_x refinery-wide emission rate limits in Sections 9-10-301 and 303.

1.6 Total NO_x emissions and total heat input for all sources listed in Section 9-10-504.1.5, on a daily basis.

1.7 The date, time and duration of all start-up and shutdown periods.

1.8 The results of source tests required by Section 9-10-404.3.

504.2 For all sources subject to Section 9-10-306.2, records of annual tune-ups.

(Amended 7/17/02; 12/15/10; 10/16/13)

9-10-505 Reporting Requirements: A person subject to the requirements of Sections 9-10-301, 303, 304, 305, 306, 307 or 308 shall meet the following reporting requirements:

505.1 Report to the APCO any violation of Section 9-10-301, 303, 304, 305, 306, 307 or 308 in accordance with the requirements of Regulation 1-522 for continuous emission monitoring systems (CEMS) and Regulation 1-523 for parametric monitoring systems.

505.2 Submit a written report for each calendar quarter to the APCO. The report shall be due on the 30th day following the end of the calendar quarter and shall include:

2.1 A summary of the data obtained from the CEMS or equivalent parametric monitoring system and the fuel meters installed pursuant to Section 9-10-502; and

2.2 The date, time, duration, and magnitude of emissions in excess of the appropriate standards; the nature and cause of the excess (if known); the corrective actions taken; and the preventive measure adopted.

505.3 A person subject to the requirements of Section 9-10-308 shall submit to the APCO a permit application to amend the Alternate NO_x Compliance Plan whenever Section 9-10-308.4 is triggered. The application shall be submitted within 30 days of the event that triggers Section 9-10-308.4.

(Amended 7/17/02; 12/15/10; 10/16/13)

9-10-600 MANUAL OF PROCEDURES

9-10-601 Determination of Nitrogen Oxides: Compliance with the nitrogen oxide emission requirements of Sections 9-10-301, 303, 304, 307 and 308 shall be determined by a continuous emission monitoring system (CEMS) that meets the requirements of Regulation 1-522, or by an equivalent parametric monitoring system that is authorized in a Permit to Operate and that meets the requirements of Regulation 1-523. CEMS operation and compliance with Section 9-10-404.3 shall be verified by source test as set forth in the District Manual of Procedures, Volume IV, ST-13A (nitrogen oxides) and ST-14 (oxygen).

(Amended 7/17/02; 12/15/10; 10/16/13)

9-10-602 Determination of Carbon Monoxide and Stack-Gas Oxygen: Compliance with the carbon monoxide emission requirements of Section 9-10-305 shall be determined by a continuous emission monitoring system (CEMS) that meets the requirements of Regulation 1-522, or by an equivalent parametric monitoring system that is authorized in a Permit to Operate and that meets the requirements of Regulation 1-523. CEMS operation and compliance with Section 9-10-404.3 shall be verified by source test as set forth in the District Manual of Procedures, Volume IV, ST-6 (carbon monoxide) and ST-14 (oxygen).

(Amended 12/15/10; 10/16/13)

9-10-603 Compliance Determination: All emission determinations shall be made in the as-found operating condition, except during periods of start-up or shutdown.

(Amended December 15, 2010)

9-10-604 Determination of Higher Heating Value: If certification of the higher heating value is not provided by the third-party fuel supplier, it shall be determined by one of the following test methods: (1) ASTM D2015-85 for solid fuels; (2) ASTM D240-87 or ASTM D2382-88 for liquid hydrocarbon fuels; or (3) ASTM D1826-88 or ASTM D1945-81 in conjunction with ASTM D3588-89 for gaseous fuels.

9-10-605 Tune-Up Procedures: The tuning procedure required by Section 9-10-306.2 shall be performed in accordance with the procedure set forth in the District Manual of Procedures, Volume I, Chapter 5.