



Colorado Department
of Public Health
and Environment

OPERATING PERMIT

Plains End Generating Station

First Issued: April 1, 2010
Renewed: February 1, 2015

AIR POLLUTION CONTROL DIVISION

COLORADO OPERATING PERMIT

FACILITY NAME:	Plains End Generating Station	OPERATING PERMIT NUMBER
FACILITY ID:	0590864	04OPJE272
RENEWED:	February 1, 2015	
EXPIRATION DATE:	February 1, 2020	
MODIFICATIONS:	See Appendix F of Permit	

Issued in accordance with the provisions of Colorado Air Pollution Prevention and Control Act, 25-7-101 et seq. and applicable rules and regulations.

ISSUED TO:

Plains End, LLC and
Plains End II, LLC
P. O. Box 1227
Arvada, CO 80001

PLANT SITE LOCATION:

Plains End, LLC and Plains End II, LLC
Plains End Generating Station
8950 Highway 93
Arvada, CO 80007
Jefferson County

INFORMATION RELIED UPON

Operating Permit Renewal Application Received: March 31, 2014
And Additional Information Received: May 10, 2013; March 31, May 6 & 7, June 27, August 28 and September 3, 17 & 25, 2014

Nature of Business: Electrical Power Generation
Primary SIC: 4911

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SUBMITTAL DEADLINES

First Semi-Annual Monitoring Period: February 1 – March 31
Subsequent Semi-Annual Monitoring Periods: April 1 – September 30, October 1 – March 31
Semi-Annual Monitoring Reports: Due on May 1, 2015 & November 1, 2015 & subsequent years
First Annual Compliance Period: February 1 – March 31
Subsequent Annual Compliance Period: April 1 – March 31
Annual Compliance Certification: Due on May 1, 2015 & subsequent years

Note that the Semi-Annual Monitoring Reports and Annual Compliance Certifications must be received at the Division office by 5:00 p.m. on the due date. Postmarked dates will not be accepted for the purposes of determining the timely receipt of those reports/certifications.

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SECTION I - General Activities and Summary

1. Permitted Activities

- 1.1 The Plains End Generating Station consists of thirty four (34) natural gas fired internal combustion engines used to generate electricity. The engines are equipped with selective catalytic reduction (SCR) to reduce NO_x emissions and oxidation catalysts to reduce CO, VOC and HAP emissions. The facility was initially constructed with twenty (20) engines, each rated at 5,650 kW, for a total capacity of 113 MW (referred to as Plains End I). A second phase to the facility was added later with fourteen (14) engines, each rated at 8,257 kW, for a capacity of 116 MW (referred to as Plains End II). In addition, there are two diesel fuel-fired internal combustion engines that drive an emergency generator and a fire pump located at the facility that are included as significant emission units in Section II of this permit.

The facility is located at 8950 Highway 93 (~ one mile south of the intersection of Highways 93 and 72), in Arvada, which is in Jefferson County, Colorado. The area in which the plant operates is designated as attainment/maintenance for particulate matter less than 10 microns in diameter (PM₁₀). Under that classification, all SIP-approved requirements for PM₁₀ will continue to apply in order to prevent backsliding under the provisions of Section 110(l) of the Federal Clean Air Act. The area is classified as non-attainment for ozone and is part of the 8-hour Ozone Control Area as defined in Colorado Regulation No. 7, Section II.A.1.

There are no affected states within 50 miles of the facility. Rocky Mountain National Park and Eagles Nest and Rawah National Wilderness Areas, all Federal Class I designated areas, are within 100 km of the facility.

- 1.2 Until such time as this permit expires or is modified or revoked, the permittee is allowed to discharge air pollutants from this facility in accordance with the requirements, limitations, and conditions of this permit.
- 1.3 This Operating Permit incorporates the applicable requirements contained in the underlying construction permits, and does not affect those applicable requirements, except as modified during review of the application or as modified subsequent to permit issuance using the modification procedures found in Regulation No. 3, Part C. These Part C procedures meet all applicable substantive New Source Review Requirements of Part B. Any revisions made using the provisions of Regulation No. 3, Part C shall become new applicable requirements for purposes of this operating permit and shall survive reissuance. This permit incorporates the applicable requirements (except as noted in Section II) from the following construction permits: 01JE0057, 04JE1140 and 07JE1120.
- 1.4 All conditions in this permit are enforceable by US Environmental Protection Agency, Colorado Air Pollution Control Division (hereinafter Division) and its agents, and citizens unless otherwise specified. **State-only enforceable conditions are:** Permit Condition Number(s): Section IV - Conditions 3.g (last paragraph), 14 and 18 (as noted)

- 1.5 All information gathered pursuant to the requirements of this permit is subject to the Recordkeeping and Reporting requirements listed under Condition 22 of the General Conditions in Section IV of this permit. Either electronic or hard copy records are acceptable.

2. Alternative Operating Scenarios

- 2.1 The permittee shall be allowed to make the following changes to its method of operation without applying for a revision of this permit.

2.1.1 No separate operating scenarios have been specified.

3. Nonattainment Area New Source Review (NANSR) and Prevention of Significant Deterioration (PSD)

- 3.1 This source is categorized as a PSD major stationary source (Potential to Emit of ≥ 250 tons/year of CO). Future modifications at this facility resulting in a significant net emissions increase (see Reg 3, Part D, Sections II.A.27 and 44) or a modification which is major by itself (Potential to Emit of ≥ 250 TPY) for any pollutant listed in Regulation No. 3, Part D, Section II.A.44 for which the area is in attainment or attainment/maintenance may result in the application of the PSD review requirements

- 3.2 This source is categorized as a NANSR major stationary source (Potential to Emit of VOC and $\text{NO}_x \geq 100$ tons/year). Future modifications at this facility resulting in a significant net emissions increase (see Regulation No. 3, Part D, Sections II.A.27 and 44) for VOC or NO_x or a modification which is major by itself (Potential to Emit ≥ 100 tons/year or either VOC or NO_x) may result in the application of the NANSR review requirements.

- 3.3 There are no other Operating Permits associated with this facility for purposes of determining the applicability of NANSR or PSD review regulations.

4. Accidental Release Prevention Program (112(r))

- 4.1 Based on the information provided by the applicant, this facility is not subject to the provisions of the Accidental Release Prevention Program (section 112(r)) of the Federal Clean Air Act.

5. Compliance Assurance Monitoring (CAM)

- 5.1 The following emission points at this facility use a control device to achieve compliance with an emission limitation or standard to which they are subject and have pre-control emissions that exceed or are equivalent to the major source threshold. They are therefore subject to the provisions of the CAM program as set forth in 40 CFR Part 64, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV:

Engines E01 – E20 – PEI Engines

Engines E21 – E34 – PEII Engines

See Section II, Condition 9 for compliance assurance monitoring requirements.

6. Summary of Emission Units

6.1 The emissions units regulated by this permit are the following:

Stack ID/ Emission Unit No.	AIRS Point No.	Description	Startup Date	Pollution Control Device
S01 – S020/ E01 – E20	001	Twenty (20) Wartsila, Model No. 18VG34SG, Natural Gas Fired Internal Combustion Engines Driving Electric Generators, Each Engine Rated at 54.2 MMBtu/hr and 7,900 HP, Serial Nos. 21350 through 21369. Each Generator Rated at 5,650 kW.	March 2002	Selective Catalytic Reduction (SCR) for NO _x and Oxidizing Catalyst for CO, VOC and HAPS.
S021 – S034/ E21 – E34	002	Fourteen (14) Wartsila, Model No. 20V34SG, Natural Gas Fired Internal Combustion Engines Driving Electric Generators, Each Engine Rated at 73.6 MMBtu/hr and 11,352 hp, Serial Nos, PAAE063701, 063703 – 063705, 063707 – 063712, 063717, 063721, 063722 & 063726. Each Generator Rated at 8,257 kW.	April 2008	SCR for NO _x and Oxidizing Catalyst for CO, VOC and HAPS.
S035/ E35	005	Cummins, Model No. QSX15-G9, Internal Combustion Engine, Serial No. 79274049 Driving a Cummins 350DFEG Electric Generator (350 kW). The Engine is Diesel Fuel-Fired and Rated at 755 hp and 3.3 MMBtu/hr. This unit is used to start the Wartsila engines when power at the facility is lost.	April 2008	Uncontrolled
S036/E36	N/A*	John Deere, Model No. 6068TF220, Diesel Fuel-Fired Emergency Fire Pump Engine, Rated at 149 hp (9.5 gal/hr), Serial No. P6068T696483	March 2008	Uncontrolled

*In the past an APEN was required for the emergency fire pump engine and this engine was assigned AIRS pt 006. The “catch-all” was removed from Colorado Regulation No. 3 (effective April 14, 2014) and thus an APEN is not required for an emission unit solely because it is subject to requirements in Colorado Regulation No. 6, Part A and/or Colorado Regulation No. 8, Parts A, C, D and E. Since an APEN was required for the emergency fire pump engine solely because it was subject to requirements in Colorado Regulation No. 6, Part A the owner/operator submitted a request to cancel this APEN on May 7, 2014.

SECTION II - Specific Permit Terms

1. Units E01 – E20 – Twenty (20) Natural Gas Fired Internal Combustion Engines, Each Equipped with SCR and Oxidation Catalyst (Plains End I)

Unless Otherwise Specified Limits are for All Engines Together

Parameter	Permit Condition Number	Limitations		Compliance Emission Factor	Monitoring	
		Short Term	Long Term		Method	Interval
RACT Requirements	1.1	See Condition 1.1.		N/A	See Condition 1.1.	
PM	1.2.	N/A	98.7 tons/yr	0.0303 lb/MMBtu	Recordkeeping and Calculation	Monthly
PM ₁₀		For Each Engine: 0.031 lb/MMBtu	98.7 tons/yr	0.0303 lb/MMBtu	Performance Tests	PM ₁₀ – Every Five Years VOC – Annually
VOC		For Each Engine: 0.030 lb/MMBtu	97.2 tons/yr	0.030 lb/MMBtu		
SO ₂	1.3	N/A	2.1 tons/yr	5.88 x 10 ⁻⁴ lb/MMBtu	Recordkeeping and Calculation	Monthly
NO _x	1.4	For Each Engine: 0.030 lb/MMBtu	97.2 tons/yr	0.030 lb/MMBtu	Recordkeeping and Calculation Portable Monitoring Performance Tests	Monthly Semi-Annually Annually
CO		N/A	227 tons/yr	0.0698 lb/MMBtu		
HAP Emissions	1.5	Facility Wide Requirement: Emissions of Any Individual HAP Shall Not Exceed 9 tons/yr		See Condition 1.5	Recordkeeping and Calculation Portable Monitoring Performance Tests (for Formaldehyde)	Monthly Semi-Annually Annually

Parameter	Permit Condition Number	Limitations		Compliance Emission Factor	Monitoring	
		Short Term	Long Term		Method	Interval
Natural Gas Consumption	1.6	N/A	6,912 MMscf/yr	N/A	Recordkeeping	Monthly
Btu Content of Natural Gas	1.7	N/A	N/A	N/A	ASTM Methods	Semi-Annually
Control Device Requirements	1.8	N/A	N/A	N/A	See Condition 1.8.	
Performance Tests	1.9	N/A	N/A	N/A	EPA Reference Methods	PM ₁₀ – Every Five Years Other Pollutants - Annually
Portable Monitoring	1.10	N/A	N/A	N/A	Portable Analyzer	Semi-Annually
Oxygen Concentration in Engine Exhaust	1.11	N/A	N/A	N/A	Portable Analyzer	Semi-Annually
Acid Rain New Unit Exemption	1.12	N/A	N/A	N/A	See Condition 1.12.	
Opacity	1.13	Not to Exceed 20% Except as Provided for Below		N/A	Fuel Restriction	Only Natural Gas is Used as Fuel
		For Startup – Not to Exceed 30%, for a Period or Periods Aggregating More than Six (6) Minutes in any 60 Consecutive Minutes				
MACT Subpart ZZZZ Requirements	1.14	Operate Oxidation Catalyst		N/A	Annual Compliance Tests to Show the Average Reduction of CO Emissions is 93% or Greater OR the Average CO Concentration is Less Than or Equal To 47 ppmvd at 15% at O ₂ AND Immediately Shut Down Engine if Catalyst Inlet Temperature Exceeds 1350 °F	
Restrictions on Relaxing Emission Limitations	1.15	See Condition 1.15		N/A	See Condition 1.15	

Parameter	Permit Condition Number	Limitations		Compliance Emission Factor	Monitoring	
		Short Term	Long Term		Method	Interval
Insignificant Activities	1.16	Emissions Not to Exceed the Following: CO - 23 tons/year VOC – 2.8 tons/year NO _x – 2.8 tons/year		N/A	Recordkeeping and Calculation	One-Time
Compliance Assurance Monitoring Requirements	1.17	See Condition 1.17		N/A	See Condition 1.17	

1.1 The engines are subject to the Reasonably Available Control Technology Requirements (RACT) for NO_x, PM₁₀ and VOC emissions (Colorado Regulation No. 3, Part B, Section III.D.2.a (PM₁₀) and b (NO_x) and Colorado Regulation No. 7, Section II.C.2 (VOC)). RACT has been determined as follows:

1.1.1 RACT for NO_x has been determined to be the use of selective catalytic reduction (SCR) systems on the engines (operated in accordance with the requirements in Condition 1.8) with the emission limits identified in Condition 1.4.2 (Colorado Construction Permit 01JE0057, as modified under the provisions of Section I, Condition 1.3 to replace the control device percent efficiency requirement with an outlet emission limit).

1.1.2 RACT for PM₁₀ has been determined to be the use of natural gas as fuel, good combustion practices and use of coalescing filters on the fuel inlet with the emission limitations identified in Condition 1.2.2 (Colorado Construction Permit 01JE0057, as modified under the provisions of Section I, Condition 1.3 to restore the RACT limit specified in the March 4, 2002 version of the construction permit).

1.1.3 RACT for VOC has been determined to be the use of oxidation catalysts (operated in accordance with the requirements in Condition 1.8) on the engines with the emission limitations identified in Condition 1.2.3 (Colorado Regulation No. 7, Section II.C.2).

1.2 PM, PM₁₀ and VOC emissions are subject to the following requirements:

1.2.1 **Total** Annual emissions of PM, PM₁₀ and VOC **from all engines together** shall not exceed the above limitations (Colorado Construction Permit 01JE0057). Monthly emissions from all engines together shall be calculated by the end of the subsequent month using the above emission factors (manufacturer’s guarantees, VOC emission factor assumes a control efficiency of 69.8%), the monthly natural gas consumption (as required by Condition 1.6) and the Btu content of the fuel (as required by Condition 1.7) in the following equation:

$$\text{tons/mo} = \frac{\text{EF (lbs/MMBtu)} \times \text{natural gas use (MMscf/mo)} \times \text{Btu content of gas (MMBtu/MMscf)}}{2000 \text{ lbs/ton}}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the previous twelve months data.

1.2.2 For purposes of RACT, Particulate Matter less than 10 microns (PM₁₀) emissions (including condensables) **from each engine** shall not exceed 0.031 lbs/MMBtu, based on the average of three (3) test runs (Colorado Construction Permit 01JE0057, as modified under the provisions of Section I, Condition 1.3 to specify the averaging time). Compliance with the PM₁₀ RACT limits shall be monitored as follows:

1.2.2.1 In the absence of credible evidence to the contrary, compliance with the PM₁₀ emission limitation is presumed since only natural gas is permitted to be used as fuel in the engines.

1.2.2.2 Performance tests shall be conducted every five years as specified in Condition 1.9.

1.2.3 For purposes of RACT, VOC emissions from each engine shall not exceed 0.030 lbs/MMBtu, based on the average of three (3) test runs (Colorado Regulation No. 7, Section II.C.2). Compliance with the VOC RACT limits shall be monitored as follows:

1.2.3.1 In the absence of credible evidence to the contrary, compliance with the VOC emission limitation is presumed provided the oxidation catalyst is operated and maintained in accordance with the requirements in Condition 1.8.

1.2.3.2 Performance tests shall be conducted annually as specified in Condition 1.9.

1.3 **Total Annual emissions of SO₂ from all engines together** shall not exceed the above limitations (Colorado Construction Permit 01JE0057). Monthly emissions from all engines together shall be calculated by the end of the subsequent month using the above emission factors (AP-42, Section 3.2 (dated 7/00), Table 3.2-2), the monthly natural gas consumption (as required by Condition 1.6) and the Btu content of the fuel (as required by Condition 1.7) in the following equation:

$$\text{tons/mo} = \frac{\text{EF (lbs/MMBtu)} \times \text{natural gas use (MMscf/mo)} \times \text{Btu content of gas (MMBtu/MMscf)}}{2000 \text{ lbs/ton}}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the previous twelve months data.

1.4 Carbon Monoxide and Nitrogen Oxide (NO_x) emissions shall not exceed the following limitations:

- 1.4.1 **Total** Annual CO and NO_x emissions **from all engines together** shall not exceed the above limitations (Colorado Construction Permit 01JE0057, as modified under the provisions of Section I, Condition 1.3 and Colorado Regulation No. 3, Part C, Sections I.A.7 and III.B.7, to increase CO emissions as requested on the APEN submitted on May 7, 2014).
- 1.4.2 For purposes of RACT, NO_x emissions **from each engine** shall not exceed the following limitations:
- 1.4.2.1 Except as provided for below, emissions of NO_x shall not exceed 0.030 lb/MMBtu, on an hourly average (Colorado Construction Permit 01JE0057, as modified under the provisions of Section I, Condition 1.3 to replace the control efficiency limitation with an outlet emission limitation and to clarify that the limit does not apply during periods of startup and shutdown).
 - 1.4.2.2 The NO_x emission limitation in Condition 1.4.2.1 does not apply during periods of startup and shutdown; however emissions during startup and shutdown shall be included in monitoring compliance with the annual limitation in Condition 1.4.1.
 - 1.4.2.3 “Startup” means the setting in operation of any air pollution source for any purpose. Setting in operation for these engines begins when fuel is first combusted in the engine and ends when output of the engine reaches 3,390 kw (60% of rated capacity) and the inlet temperature of the catalyst reaches 572 ° F.
 - 1.4.2.4 “Shutdown” means the cessation of operation of any air pollution source for any purpose. The cessation of operation for these engines begins when the command signal is initiated to shutdown the unit and ends when fuel is no longer being fired in the engine.

Compliance with the NO_x and CO emission limitations shall be monitored as follows:

- 1.4.3 Except as provided below, the emission factors listed above (manufacturer’s guarantees, assumes control efficiencies of 81.4% for NO_x and 90.9% for CO) have been approved by the Division and shall be used to calculate emissions from these engines.

Monthly emissions from all engines together shall be calculated by the end of the subsequent month using the above emission factors, the natural gas consumption (as required by Condition 1.6) and the Btu content of the fuel (as required by Condition 1.7) in the following equation:

$$\text{tons/mo} = \frac{\text{EF (lbs/MMBtu)} \times \text{fuel use (MMscf/mo)} \times \text{Btu content of gas (MMBtu/mo)}}{2000 \text{ lbs/ton}}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the previous twelve months data.

If the results of the portable analyzer testing conducted under the provisions of Condition 1.4.5 show that either the NO_x or CO emission rates/factors are greater than the emission rates/factors listed above, and in the absence of subsequent testing results to the contrary (as approved by the Division), the permittee shall apply for a modification to this permit to reflect, at a minimum, the higher emission rates/factors within 60 days of the completion of the test.

1.4.4 Performance tests shall be conducted annually as specified in Condition 1.9.

1.4.5 Portable monitoring shall be conducted semi-annually as specified in Condition 1.10.

Note that an annual performance test conducted under the provisions of Conditions 1.4.4 and 1.9 or an annual compliance demonstration conducted under the provisions of Condition 1.14.10.1 (40 CFR Part 63 Subpart ZZZZ testing) may substitute for one semi-annual portable monitoring test for an engine during the annual period provided that both NO_x and CO emission limitations and rates/factors from that engine are assessed during the test.

1.5 Facility wide emissions of any single HAP shall not exceed 9 tons/yr (as provided for in Section I, Condition 1.3 and Colorado Regulation No. 3, Part C, Sections I.A.7 and III.B.7, to include facility wide HAP limits). Compliance with the facility wide single HAP emission limitation shall be monitored as follows:

1.5.1 Monthly emissions of individual HAPs from all engines together shall be calculated using the emission factors in the table below, the natural gas consumption (as required by Condition 1.6) and the Btu content of the fuel (as required by Condition 1.7) in the following equation:

$$\text{tons/mo} = \frac{\text{EF (lbs/MMBtu)} \times \text{fuel use (MMscf/mo)} \times \text{Btu content of gas (MMBtu/mo)}}{2000 \text{ lbs/ton}}$$

Pollutant	Emission Factor (lb/MMBtu)	Source of Emission Factor
1,3 - butadiene	7.61×10^{-6}	Calculated in Accordance with Appendix G
Acetaldehyde	2.38×10^{-4}	
Acrolein	1.47×10^{-4}	
Benzene	1.25×10^{-5}	
Formaldehyde	1.51×10^{-3}	Performance test – maximum test result multiplied by 1.2

Monthly emissions of individual HAPs shall be used in twelve month rolling totals of facility wide emissions as specified in Condition 7.1

If the results of the performance testing conducted under the provisions of Condition 1.5.2 indicate that formaldehyde emissions from any engine exceeds 0.0816 lbs/hr, the permittee shall apply for a modification to this permit to reflect, at a minimum, the higher HAP emission rates/factors within 60 days of the completion of the test. Revised HAP emission factors shall be calculated as specified in Appendix G of this permit.

- 1.5.2 Performance Tests shall be conducted annually as required by Condition 1.9.
- 1.5.3 The portable monitoring conducted semi-annually to verify the CO emission factor (required by Conditions 1.4.5 and 1.10) shall be used as a surrogate for HAP monitoring.
- 1.6 **Total** natural gas consumption **for all engines together** shall not exceed the above limitations (Colorado Construction Permit 01JE0057). The natural gas consumption for all engines together shall be monitored and recorded monthly using the common fuel flow meter. Monthly natural gas consumption shall be summed used in a rolling twelve month total to monitor compliance with the annual limitation. Each month a new twelve month rolling total shall be calculated using the previous twelve months data.
- 1.7 The Btu content of the natural gas used to fuel these engines shall be verified semi-annually using the appropriate ASTM Methods or equivalent, if approved in advance by the Division. The Btu content of the natural gas shall be based on the lower heating value of the fuel. Calculation of monthly emissions shall be made using the heat content derived from the most recent required analysis.
- 1.8 Emissions of NO_x, CO, VOC and HAP emissions from each engine shall be controlled by SCR systems and oxidation catalysts. The engines, oxidation catalysts and SCR systems are subject to the following requirements:
 - 1.8.1 Each engine shall be operated and maintained in accordance with manufacturer's recommendations and good engineering practices. A copy of the operation and maintenance procedures, schedules for maintenance and/or inspection activities and the records related to operation and maintenance of the engines and good engineering practices, such as records of routine maintenance and/or inspections shall be made available to the Division upon request.
 - 1.8.2 The oxidation catalysts and SCR systems shall be operated and maintained as follows:
 - 1.8.2.1 Except as provided for below, urea shall be injected into the SCR systems at all times the engines are operated:
 - a. Urea is not injected during periods of startup (as defined in Condition 1.4.2.3) and shutdown (as defined in Condition 1.4.2.4).

The permittee shall retain record of the date, time and duration of periods of startup and shutdown for each engine.

- b. If at any time, excluding periods of startup and shutdown, urea injection fails, the permittee shall conduct an investigation of the SCR system. If urea injection cannot be restored within ten (10) minutes, the engine shall be shutdown. Failure to shutdown the engine after ten (10) minutes without urea injection shall be considered a deviation to this Condition 1.8.2.1. Records shall be kept of any event, excluding those that occur during periods of startup and shutdown, in which urea injection fails for more than two (2) minutes while the unit is in operation.

1.8.2.2 The oxidation catalysts, SCR systems and NO_x monitoring systems shall be operated and maintained in accordance with manufacturer's recommendations and good engineering practices. Good engineering practices include the following:

- a. The source shall clean, recondition and replace the catalyst in accordance with the manufacturer's and/or packager's recommendations. Records of the catalyst cleaning, reconditioning or replacement shall be documented and made available to the Division upon request.
- b. Maintenance and/or inspections shall be conducted in accordance with the manufacturer's and/or packager's recommendations and records of routine maintenance and/or inspections shall be retained. A copy of the operation and maintenance procedures, schedules for maintenance and/or inspection activities and the records of routine maintenance and/or inspections shall be made available to the Division upon request.
- c. If maintenance activities or actions are dependent upon hours of operation, then engine operating hours shall be recorded and made available to the Division upon request.

1.8.3 Parameters associated with the oxidation catalysts and SCR systems shall be monitored as follows:

1.8.3.1 The pressure drop across the oxidation catalysts shall be monitored and recorded monthly.

1.8.3.2 The urea injection rate to each SCR system shall be monitored and recorded daily.

If the engine is not operated during a day (or calendar month), recording of the above parameters is not necessary. When portable monitoring and/or performance testing is scheduled, the above parameters shall be recorded during the portable monitoring and/or performance test event.

1.9 Performance tests shall be conducted as follows:

1.9.1 Performance tests shall be conducted annually, in accordance with the schedule below, to monitor compliance with the VOC, NO_x, CO and formaldehyde emission limitations. Performance tests shall be conducted using the appropriate EPA Test Methods.

Engine Group	Test Date
1, 6, 15, 17	September/October 2017, 2022, 2027
2, 7, 14, 18	September/October 2018, 2023, 2028
3, 8, 13, 19	September/October 2014, 2019, 2024
4, 9, 12, 20	September/October 2015, 2020, 2025
5, 10, 11, 16	September/October 2016, 2021, 2026

1.9.2 Performance tests shall be conducted every five (5) years on one (1) representative engine to monitor compliance with the PM₁₀ (including condensables) emission limitation. A different engine shall be tested during each five year test event. Performance tests shall be conducted using the appropriate EPA Test Methods.

Note that Engine E03 (stack S03, PEI Engine 3) was tested for PM/PM₁₀ (including condensables) in September 2014.

The test protocol, test, and test report must be in accordance with the requirements of the APCD Compliance Test Manual (<https://www.colorado.gov/pacific/cdphe/inspections-and-enforcement>). A stack testing protocol shall be submitted for Division approval at least forty-five (45) calendar days prior to any performance of the test required under this condition. No stack test required herein shall be performed without prior approval of the protocol by the Division. The Division reserves the right to witness the test. In order to facilitate the Division's ability to make plans to witness the test, notice of the date (s) for the stack test shall be submitted to the Division at least thirty (30) calendar days prior to the test. The Division may for good cause shown, waive this thirty (30) day notice requirement. In instances when a scheduling conflict is presented, the Division shall immediately contact the permittee in order to explore the possibility of making modifications to the stack test schedule. The compliance test results shall be submitted to the Division within forty-five (45) calendar days of the completion of the test unless a longer period is approved by the Division. The 'completion of the compliance test' means the date of the conclusion of the field sampling of the final emission point as specified in the Division approved protocol.

1.10 Portable Monitoring (6/26/14 version)

Emission measurements of nitrogen oxides (NO_x) and carbon monoxide (CO) shall be conducted semi-annually using a portable flue gas analyzer. At least three calendar months shall separate the semi-annual tests. Note that if an engine is operated for less than 250 hrs in any semi-annual period, then the portable monitoring requirements do not apply to that engine. If portable monitoring is not conducted for a given engine for four consecutive semi-annual periods, portable monitoring will be required in the next semi-annual period for that engine.

All portable analyzer testing required by this permit shall be conducted using the Division's Portable Analyzer Monitoring Protocol (ver March 2006 or newer) as found on the Division's website at: <https://www.colorado.gov/pacific/cdphe/portable-analyzer-monitoring-protocol>

Results of the portable analyzer tests shall be used to monitor the compliance status of this unit. For comparison with the hourly emission limitations, the results of the tests shall be converted to lb/MMBtu and either g/hp-hr or corrected to 15% O₂ in order to monitor compliance with the hourly emission limitations. For comparison with an annual or short term (monthly) emission limit, the results of the tests shall be converted to a lb/hr basis and multiplied by the allowable operating hours in the month or year (whichever applies) in order to monitor compliance. If a source is not limited in its hours of operation the test results will be multiplied by the maximum number of hours in the month or year (8760), whichever applies. For these engines, compliance with the annual NO_x and CO emissions limitations shall be monitored in accordance with the procedure included in Appendix H of this permit.

If the portable analyzer results indicate compliance with both the NO_x and CO emission limitations, in the absence of credible evidence to the contrary, the source may certify that the engine is in compliance with both the NO_x and CO emission limitations for the relevant time period.

Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, if the portable analyzer results fail to demonstrate compliance with either the NO_x or CO emission limitations, the engine will be considered to be out of compliance from the date of the portable analyzer test until a portable analyzer test indicates compliance with both the NO_x and CO emission limitations or until the engine is taken offline.

For comparison with the emission rates/factors, the emission rates/factors determined by the portable analyzer tests and approved by the Division shall be converted to the same units as the emission rates/factors in the permit. If the portable analyzer tests shows that either the NO_x or CO emission rates/factors are greater than the relevant ones set forth in the permit, and in the absence of subsequent testing results to the contrary (as approved by the Division), the permittee shall apply for a modification to this permit to reflect, at a minimum, the higher emission rate/factor within 60 days of the completion of the test.

Results of all tests conducted shall be kept on site and made available to the Division upon request.

- 1.11 The oxygen concentration in the engine exhaust gas shall be measured and recorded **for each engine** during each portable monitoring event required by Condition 1.10 and each performance test event required by Condition 1.9.
- 1.12 These engines are exempt new units under the Acid Rain Program and as such shall meet the requirements in Condition 8 of this permit.
- 1.13 The engines are subject to the following opacity requirements:

- 1.13.1 Except as provided for in Condition 1.13.2 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity (Colorado Construction Permit 01JE0057 and Colorado Regulation No. 1, Section II.A.1). This opacity standard applies to **each engine**.
- 1.13.2 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from start-up which is in excess of 30% opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes (Colorado Construction Permit 01JE0057 and Colorado Regulation No. 1, Section II.A.4). This opacity standard applies to **each engine**.

In the absence of credible evidence to the contrary, each engine shall be presumed to be in compliance with the above opacity requirements since only natural gas is permitted to be used as fuel in these engines.

- 1.14 These engines are subject to the requirements in 40 CFR Part 63 Subpart ZZZZ, "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines", as follows:

The requirements below reflect the current rule language as of the revisions to 40 CFR Part 63 Subpart ZZZZ published in the Federal Register on January 30, 2013 (including the corrections published March 6, 2013). However, if revisions to this Subpart are promulgated at a later date, the owner or operator is subject to the requirements contained in the revised version of 40 CFR Part 63 Subpart ZZZZ.

As of the date of this permit issuance [February 1, 2015], the requirements in 40 CFR Part 63 Subpart ZZZZ promulgated after July 1, 2007 have not been adopted into Colorado Regulation No. 8, Part E and are therefore not state-enforceable. In the event that these requirements are adopted into Colorado Regulations, they will become state-enforceable.

When do I have to comply with this subpart? (§ 63.6595)

- 1.14.1 If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013. (§ 63.6595(a)(1))

What emission limitations, operating limitations and other requirements must I meet if I own or operate an existing Stationary RICE located at an area source of HAP emissions (§ 63.6603)

- 1.14.2 If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you. (§ 63.6603(a)) Note that these engines are not subject to any operating limits in Table 2b. The requirements in Tables 2d of Subpart ZZZZ that apply to these engines are as follows:

- 1.14.2.1 Install an oxidation catalyst to reduce HAP emissions from the stationary RICE. (Subpart ZZZZ, Table 2d, item 9)

What are my general requirements for complying with this subpart? (§ 63.6605)

- 1.14.3 You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times. (§ 63.6605(a))
- 1.14.4 At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. (§ 63.6605(b))

By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions? (§ 63.6612)

- 1.14.5 You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 (Condition 1.14.1) and according to the provisions in §63.7(a)(2). (§ 63.6612(a)) These engines are not subject to the performance test requirements in Table 4. The relevant requirements from Table 5 are as follows:
- 1.14.5.1 You have conducted an initial compliance demonstration as specified in §63.6630(e) (Condition 1.14.9) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O₂ (Table 5, Item 13.a.i); and
- 1.14.5.2 You have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1350 °F. (Table 5, Item 13.a.ii) Note that the source has indicated they will comply with the automatic shut down option, so only that option has been included in the permit.

Monitoring and operating and maintenance requirements (§ 63.6625)

- 1.14.6 If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30

minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply. (§ 63.6625(h))

How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements? (§ 63.6630)

- 1.14.7 You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart. (§ 63.6630(a)) The relevant requirements from Table 5 are included in Condition 1.14.5.
- 1.14.8 You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645. (§ 63.6630(c))
- 1.14.9 The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements (§ 63.6630(e)): Note that paragraph (e)(4) were not included because it does not apply to these engines.
- 1.14.9.1 The compliance demonstration must consist of at least three test runs. (§ 63.6630(e)(1))
- 1.14.9.2 Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement. (§ 63.6630(e)(2))
- 1.14.9.3 If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart. (§ 63.6630(e)(3))
- 1.14.9.4 You must measure O₂ using one of the O₂ measurement methods specified in Table 4 of this subpart. Measurements to determine O₂ concentration must be made at the same time as the measurements for CO or THC concentration. (§ 63.6630(e)(5))
- 1.14.9.5 If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O₂ emissions simultaneously at the inlet and outlet of the control device. (§ 63.6630(e)(6))

How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements? (§ 63.6640)

- 1.14.10 You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart (Condition 1.14.2) that apply to you according to methods specified in Table 6 to this subpart. (§ 63.6640(a)) The methods specified in Table 6 for these engines are as follows (Subpart ZZZZ, Table 6, Item 14):
- 1.14.10.1 Conducting annual compliance demonstrations as specified in §63.6640(c) (Condition 1.14.12) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O₂ (Item 14.a.i); and
 - 1.14.10.2 Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F. (Item 14.a.iii) Note that the source has indicated they will comply with the automatic shut down option, so only that option has been included in the permit (Item 14.a.ii was not included).
- 1.14.11 You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. (§ 63.6640(b)) Note that the requirement to re-establish operating parameter and conduct a performance test to demonstrate compliance with the emission limitations was not included since they do not apply to these engines.
- 1.14.12 The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements (§ 63.6640(c)): Note that paragraph (c)(4) was not included because it does not apply to these engines.
- 1.14.12.1 The compliance demonstration must consist of at least one test run. (§ 63.6640(c)(1))
 - 1.14.12.2 Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement. (§ 63.6640(c)(2))
 - 1.14.12.3 If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart. (§ 63.6640(c)(3))
 - 1.14.12.4 You must measure O₂ using one of the O₂ measurement methods specified in Table 4 of this subpart. Measurements to determine O₂ concentration must be made at the same time as the measurements for CO or THC concentration. (§ 63.6640(c)(5))

- 1.14.12.5 If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O₂ emissions simultaneously at the inlet and outlet of the control device. (§ 63.6640(c)(6))
- 1.14.12.6 If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart (Condition 1.14.10.1), the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart (Condition 1.14.10.1). If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart (Condition 1.14.10.1). (§ 63.6640(c)(6))
- 1.14.13 You must also report each instance in which you did not meet the requirements in Table 8 to this subpart (Condition 1.14.23) that apply to you. (§ 63.6640(e))

What notifications must I submit and when? (§ 63.6645)

- 1.14.14 You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate an existing stationary RICE located at an area source of HAP emissions. (§ 63.6645(a)(2))
- 1.14.15 If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart (Condition 1.14.5), you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). (§ 63.6645(h))
- 1.14.15.1 For each initial compliance demonstration required in Table 5 to this subpart (Condition 1.14.5) that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration. (§ 63.6645(h)(1))

What reports must I submit and when? (§ 63.6650)

- 1.14.16 You must submit each report in Table 7 of this subpart that applies to you. (§ 63.6650(a)) Item 3 of Table 7 indicates that reporting shall be submitted semi-annually according to the requirements in § 63.6650(b)(1) through (5) and that the reports shall include the results of the annual compliance demonstration, if conducted during the reporting period.

- 1.14.17 Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 7 of this subpart (Condition 1.14.16) and according to the requirements in § 63.6650(b)(1) through (b)(9). (§ 63.6650(b)) Compliance reports for these engines are required to be submitted semi-annually, therefore only the requirements in § 63.6650(b)(1) through (b)(5) apply.
- 1.14.18 The Compliance report must contain the information in § 63.6650(c)(1) through (6) and § 63.6650(d). (§ 63.6650(c) and (d))
- 1.14.19 Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority. (§ 63.6650(f))

What records must I keep? (§ 63.6655)

- 1.14.20 If you must comply with the emission and operating limitations, you must keep the records described in § 63.6655(a)(1) through (a)(5). (§ 63.6655(a)).
- 1.14.21 You must keep the records required in Table 6 of this subpart (Condition 1.14.10) to show continuous compliance with each emission or operating limitation that applies to you. (§ 63.6655(d))

In what form and how long must I keep my records? (§ 63.6660)

- 1.14.22 Records shall be kept in the form and for the duration specified in § 63.6660.

General Provisions (§ 63.6665)

- 1.14.23 Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. (§ 63.6665) The requirements in Table 8 include but are not limited to the following:
- 1.14.23.1 Prohibited activities and circumvention in § 63.4.
- 1.14.23.2 Notification requirements in § 63.9.
- 1.14.23.3 Recordkeeping requirements in § 63.10.

- 1.15 The requirements of Colorado Regulation No. 3, Part D shall apply to these engines at such time that any stationary source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation that was established after August 7, 1980, on the capacity of the source or modification to otherwise emit a pollutant such as a restriction on hours of operation (Colorado Construction Permit 01JE0057 and Colorado Regulation No. 3, Part D, Sections VI.B.4 and V.A.7.B).

With respect to this Condition 1.15, Colorado Regulation No. 3, Part D requirements may apply to future modifications if the emission limitations are modified to equal or exceed the following thresholds:

Pollutant	Program	Emissions (tons/yr)		Comment/ Explanation
		Threshold	Current Permit Limit	
NO _x	NANSR	100	97.2	
VOC	NANSR	100	97.2	
CO	PSD	250	227	

- 1.16 Emissions of CO, NO_x and VOC emissions from insignificant activities (included in Appendix A of this permit) related to the PEI project (construction and operation of the twenty (20) PEI engines), shall not exceed the limits listed in the summary table. (Colorado Construction Permit 01JE0057, as modified under the provisions of Section I, Condition 1.3 and Colorado Regulation No. 3, Colorado Regulation No. 3, Part C, Sections I.A.7 and III.B.7, to address change in CO emissions and insignificant activity tracking) Compliance with the limitation shall be demonstrated by conducting a potential to emit (PTE) analysis of CO, NO_x and VOC emissions from insignificant activities related to the PEI project that demonstrates that CO emissions do not exceed 23 tons/yr and the NO_x and VOC emissions do not exceed 2.8 tons/yr. The analysis, as well as the calculations and any supporting documentation, shall be retained on site and made available to the Division upon request.

Based on the information available as of permit issuance [February 1, 2015], the insignificant activities related to the PEI project to be included in the above analysis are as follows: one (1) fuel gas heater rated at 1.9 MMBtu/hr, (12) space heaters (each rated at 0.252 MMBtu/hr) and three (3) lube oil storage tanks. The above analysis shall be updated if any new insignificant activities that can potentially emit CO, NO_x and/or VOC are added to the facility.

- 1.17 **These engines** are subject to the Compliance Assurance Monitoring (CAM) requirements with respect to the CO emission limitations in Condition 1.4.1. Compliance with the CAM requirements shall be monitored in accordance with the requirements in Condition 9 and the CAM Plan in Appendix I.

2. Units E21 – E34 – Fourteen (14) Natural Gas Fired Internal Combustion Engines, Each Equipped with SCR and Oxidation Catalyst (Plains End II)

Unless Otherwise Specified Limits are for All Engines Together

Parameter	Permit Condition Number	Limitations		Compliance Emission Factor	Monitoring	
		Short Term	Long Term		Method	Interval
RACT Requirements	2.1	See Condition 2.1.		N/A	See Condition 2.1.	
PM	2.2.	N/A	145.9 tons/yr	0.0355 lb/MMBtu	Recordkeeping and Calculation	Monthly
PM ₁₀		For Each Engine: 0.0355 lb/MMBtu	145.9 tons/yr	0.0355 lb/MMBtu	Performance Tests	PM ₁₀ – Every Five Years VOC – Annually
VOC		N/A	174.9 tons/yr	0.0424 lb/MMBtu		
SO ₂	2.3	N/A	2.4 tons/yr	5.88 x 10 ⁻⁴ lb/MMBtu	Recordkeeping and Calculation	Monthly
NO _x	2.4	For Each Engine: 0.0203 lb/MMBtu	83.3 tons/yr	0.0203 lb/MMBtu	Recordkeeping and Calculation Portable Monitoring Performance Tests	Monthly Semi-Annually Annually
CO		N/A	247.2 tons/yr	0.0599 lb/MMBtu		
HAP Emissions	2.5	Facility Wide Requirement: Emissions of Any Individual HAP Shall Not Exceed 9 tons/yr		See Condition 2.5	Recordkeeping and Calculation Portable Monitoring Performance Tests (for Formaldehyde)	Monthly Semi-Annually Annually
Natural Gas Consumption	2.6	N/A	8,765 MMscf/yr	N/A	Recordkeeping	Monthly

Parameter	Permit Condition Number	Limitations		Compliance Emission Factor	Monitoring	
		Short Term	Long Term		Method	Interval
Btu Content of Natural Gas	2.7	N/A	N/A	N/A	ASTM Methods	Semi-Annually
Control Device Requirements	2.8	N/A	N/A	N/A	See Condition 2.8.	
Performance Tests	2.9	N/A	N/A	N/A	EPA Reference Methods	PM ₁₀ - Every Five Years Other Pollutants - Annually
Portable Monitoring	2.10	N/A	N/A	N/A	Portable Analyzer	Semi-Annually
Oxygen Concentration in Engine Exhaust	2.11	N/A	N/A	N/A	Portable Analyzer	Semi-Annually
Acid Rain New Unit Exemption	2.12	N/A	N/A	N/A	See Condition 2.12.	
NSPS Subpart JJJJ Requirements	2.13	For Each Engine: NO _x - 2.0 g/hp-hr or 160 ppmvd @ 15% O ₂ CO - 4.0 g/hp-hr or 540 ppmvd @ 15% O ₂ VOC - 1.0 g/hp-hr or 86 ppmvd @ 15% O ₂		N/A	Performance Tests	Every 8,760 hours of operation or 3 years, whichever comes first
MACT Subpart ZZZZ Requirements	2.14	Compliance with MACT met by complying with NSPS Subpart JJJJ		N/A	See Condition 2.14	
Opacity	2.15	Not to Exceed 20% Except as Provided for Below		N/A	Fuel Restriction	Only Natural Gas is Used as Fuel
		For Startup – Not to Exceed 30%, for a Period or Periods Aggregating More than Six (6) Minutes in any 60 Consecutive Minutes				
Restrictions on Relaxing Emission Limitations	2.16	See Condition 2.16		N/A	See Condition 2.16	
Diesel Engines and Insignificant Activities	2.17	CO Emissions Shall Not Exceed 2.8 tons/yr		N/A	Recordkeeping and Calculation	Annual or One-Time

Parameter	Permit Condition Number	Limitations		Compliance Emission Factor	Monitoring	
		Short Term	Long Term		Method	Interval
Compliance Assurance Monitoring Requirements	2.18	See Condition 2.18		N/A	See Condition 1.18	

2.1 The engines are subject to the Reasonably Available Control Technology Requirements (RACT) for NO_x, PM₁₀ and VOC emissions (Colorado Regulation No. 3, Part B, Section III.D.2.a (PM₁₀) and b (NO_x) and Colorado Regulation No. 7, Section II.C.2 (VOC)). RACT has been determined as follows:

2.1.1 RACT for NO_x has been determined to be the use of SCR systems on the engines (operated in accordance with the requirements in Condition 2.8) with the emission limits identified in Condition 2.4.2 (Colorado Construction Permit 04JE1140, as modified under the provisions of Section I, Condition 1.3 to replace the control device percent efficiency requirement with an outlet emission limit and specify that the control requirements meet RACT).

2.1.2 RACT for PM₁₀ has been determined to be the use of natural gas as fuel, good combustion practices and use of coalescing filters on the fuel inlet with the emission limitations identified in Condition 2.2.2 (Colorado Regulation No. 3, part B, Section III.D.2.a).

2.1.3 RACT for VOC has been determined to be the use of oxidation catalysts (operated in accordance with the requirements in Condition 2.8) on the engines (Colorado Construction Permit 04JE1140, as modified under the provisions of Section I, Condition 1.3 to specify that the control requirements meet RACT).

2.2 PM, PM₁₀ and VOC emissions are subject to the following requirements:

2.2.1 **Total** Annual emissions of PM, PM₁₀ and VOC **from all engines together** shall not exceed the above limitations (Colorado Construction Permit 04JE1140, as modified under the provisions of Section I, Condition 1.3 and Colorado Regulation No. 3, Part C, Sections I.A.7 and III.B.7, to increase VOC emissions as requested on the APEN submitted on May 7, 2014). Monthly emissions from all engines together shall be calculated by the end of the subsequent month using the above emission factors (manufacturer's guarantees, VOC emission factor assumes a control efficiency of 69.8%), the monthly natural gas consumption (as required by Condition 2.6) and the Btu content of the fuel (as required by Condition 2.7) in the following equation:

$$\text{tons/mo} = \frac{\text{EF (lbs/MMBtu)} \times \text{natural gas use (MMscf/mo)} \times \text{Btu content of gas (MMBtu/MMscf)}}{2000 \text{ lbs/ton}}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the previous twelve months data.

2.2.2 For purposes of RACT, Particulate Matter less than 10 microns (PM₁₀) emissions (including condensables) **from each engine** shall not exceed 0.0355 lbs/MMBtu, based on the average of three (3) test runs (Colorado Regulation No. 3, Part B, Section III.D.2.a). Compliance with the PM₁₀ RACT limits shall be monitored as follows:

2.2.2.1 In the absence of credible evidence to the contrary, compliance with the PM₁₀ emission limitation is presumed since only natural gas is permitted to be used as fuel in the engines.

2.2.2.2 Performance tests shall be conducted every five years as specified in Condition 2.9.

2.3 **Total** Annual emissions of SO₂ **from all engines together** shall not exceed the above limitations (Colorado Construction Permit 04JE1140). Monthly emissions from all engines together shall be calculated by the end of the subsequent month using the above emission factors (AP-42, Section 3.2 (dated 7/00), Table 3.2-2), the monthly natural gas consumption (as required by Condition 2.6) and the Btu content of the fuel (as required by Condition 2.7) in the following equation:

$$\text{tons/mo} = \frac{\text{EF (lbs/MMBtu)} \times \text{natural gas use (MMscf/mo)} \times \text{Btu content of gas (MMBtu/MMscf)}}{2000 \text{ lbs/ton}}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the previous twelve months data.

2.4 Carbon Monoxide and Nitrogen Oxide (NO_x) emissions shall not exceed the following limitations:

2.4.1 **Total** Annual CO and NO_x emissions **from all engines together** shall not exceed the above limitations (Colorado Construction Permit 04JE1140, as modified under the provisions of Section I, Condition 1.3 and Colorado Regulation No. 3, Part C, Sections I.A.7 and III.B.7, to increase CO emissions as requested on the APEN submitted on May 7, 2014).

2.4.2 For purposes of RACT, NO_x emissions **from each engine** shall not exceed the following limitations:

2.4.2.1 Except as provided for below, emissions of NO_x shall not exceed 0.0203 lb/MMBtu, on an hourly average (Colorado Construction Permit 04JE1140, as modified under the provisions of Section I, Condition 1.3 to replace the control efficiency limitation with an outlet emission limitation

and specify that the control requirements meet RACT and to clarify that the limit does not apply during periods of startup and shutdown).

- 2.4.2.2 The NO_x emission limitation in Condition 2.4.2.1 does not apply during periods of startup and shutdown; however emissions during startup and shutdown shall be included in monitoring compliance with the annual limitation in Condition 2.4.1.
- 2.4.2.3 “Startup” means the setting in operation of any air pollution source for any purpose. Setting in operation for these engines begins when fuel is first combusted in the engine and ends when output of the engine reaches 4,129 kw (50% of net-rated capacity (8,257 kW) and the inlet temperature of the catalyst reaches 572 ° F.
- 2.4.2.4 “Shutdown” means the cessation of operation of any air pollution source for any purpose. The cessation of operation for these engines begins when the command signal is initiated to shutdown the unit and ends when fuel is no longer being fired in the engine.

Compliance with the NO_x and CO emission limitations shall be monitored as follows:

- 2.4.3 Except as provided below, the emission factors listed above (manufacturer’s guarantees, assumes control efficiencies of 81.4% for NO_x and 93% for CO) have been approved by the Division and shall be used to calculate emissions from these engines.

Monthly emissions from all engines together shall be calculated by the end of the subsequent month using the above emission factors, the natural gas consumption (as required by Condition 2.6) and the Btu content of the fuel (as required by Condition 2.7) in the following equation:

$$\text{tons/mo} = \frac{\text{EF (lbs/MMBtu)} \times \text{fuel use (MMscf/mo)} \times \text{Btu content of gas (MMBtu/mo)}}{2000 \text{ lbs/ton}}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the previous twelve months data.

If the results of the portable analyzer testing conducted under the provisions of Condition 2.4.5 show that either the NO_x or CO emission rates/factors are greater than the emission rates/factors listed above, and in the absence of subsequent testing results to the contrary (as approved by the Division), the permittee shall apply for a modification to this permit to reflect, at a minimum, the higher emission rates/factors within 60 days of the completion of the test.

- 2.4.4 Performance tests shall be conducted annually as specified in Condition 2.9.
- 2.4.5 Portable monitoring shall be conducted semi-annually as specified in Condition 2.10.

Note that an annual performance test conducted under the provisions of Conditions 2.4.4 and 2.9 or under the provisions of Condition 2.13.3.1.a (40 CFR Part 60 Subpart JJJJ testing) may substitute for one semi-annual portable monitoring test for an engine during the annual period provided that both NO_x and CO emission limitations and rates/factors for that engine are assessed during the test.

2.5 Facility wide emissions of any single HAP shall not exceed 9 tons/yr (as provided for in Section I, Condition 1.3 and Colorado Regulation No. 3, Part C, Sections I.A.7 and III.B.7, to include facility wide HAP limits). Compliance with the facility wide single HAP emission limitation shall be monitored as follows:

2.5.1 Monthly emissions of individual HAPS from all engines together shall be calculated using the emission factors in the table below, the natural gas consumption (as required by Condition 2.6) and the Btu content of the fuel (as required by Condition 2.7) in the following equation:

$$\text{tons/mo} = \frac{\text{EF (lbs/MMBtu)} \times \text{fuel use (MMscf/mo)} \times \text{Btu content of gas (MMBtu/mo)}}{2000 \text{ lbs/ton}}$$

Pollutant	Emission Factor (lb/MMBtu)	Source of Emission Factor
1,3 – butadiene	4.95×10^{-6}	Calculated in Accordance with Appendix G
Acetaldehyde	1.55×10^{-4}	
Acrolein	9.52×10^{-5}	
Benzene	8.15×10^{-6}	
Formaldehyde	9.78×10^{-4}	Performance test – average test result multiplied by 5

Monthly emissions of individual HAPs shall be used in a twelve month rolling total of facility wide emissions as specified in Condition 7.1

If the results of the performance testing conducted under the provisions of Condition 2.5.2 indicate that formaldehyde emissions from any engine exceed 0.072 lbs/hr, the permittee shall apply for a modification to this permit to reflect, at a minimum, the higher HAP emission rates/factors within 60 days of the completion of the test. Revised HAP emission factors shall be calculated as specified in Appendix G of this permit.

2.5.2 Performance Tests shall be conducted annually as required by Condition 2.9.

2.5.3 The portable monitoring conducted semi-annually to verify the CO emission factor (required by Conditions 2.4.4 and 2.10) shall be used as a surrogate for HAP monitoring.

2.6 **Total** natural gas consumption **for all engines together** shall not exceed the above limitations (Colorado Construction Permit 04JE1140). The natural gas consumption for all engines together shall be monitored and recorded monthly using the common fuel flow meter. Monthly natural

gas consumption shall be used in a rolling twelve month total to monitor compliance with the annual limitation. Each month a new twelve month rolling total shall be calculated using the previous twelve months data.

- 2.7 The Btu content of the natural gas used to fuel these engines shall be verified semi-annually using the appropriate ASTM Methods or equivalent, if approved in advance by the Division. The Btu content of the natural gas shall be based on the lower heating value of the fuel. Calculation of monthly emissions shall be made using the heat content derived from the most recent required analysis.
- 2.8 Emissions of NO_x, CO, VOC and HAP emissions from each engine shall be controlled by SCR systems and oxidation catalysts. The engines, oxidation catalysts and SCR systems are subject to the following requirements:
 - 2.8.1 Each engine shall be operated and maintained in accordance with manufacturer's recommendations and good engineering practices. A copy of the operation and maintenance procedures, schedules for maintenance and/or inspection activities and the records related to operation and maintenance of the engines and good engineering practices, such as records of routine maintenance and/or inspections shall be made available to the Division upon request.
 - 2.8.2 The oxidation catalysts and SCR systems shall be operated and maintained as follows:
 - 2.8.2.1 Except as provided for below, urea shall be injected into the SCR systems at all times the engines are operated:
 - a. Urea is not injected during periods of startup (as defined in Condition 2.4.2.3) and shutdown (as defined in Condition 2.4.2.4). The permittee shall retain record of the date, time and duration of periods of startup and shutdown for each engine.
 - b. If at any time, excluding periods of startup and shutdown, urea injection fails, the permittee shall conduct an investigation of the SCR system. If urea injection cannot be restored within ten (10) minutes, the engine shall be shutdown. Failure to shutdown the engine after ten (10) minutes without urea injection shall be considered a deviation to this Condition 2.8.2.1. Records shall be kept of any event, excluding those that occur during periods of startup and shutdown, in which urea injection fails for more than two (2) minutes.
 - 2.8.2.2 The oxidation catalysts, SCR systems and NO_x monitoring systems shall be operated and maintained in accordance with manufacturer's recommendations and good engineering practices. Good engineering practices include the following:

- a. The source shall clean, recondition and replace the catalyst in accordance with the manufacturer's and/or packager's recommendations. Records of the catalyst cleaning, reconditioning or replacement shall be documented and made available to the Division upon request.
- b. Maintenance and/or inspections shall be conducted in accordance with the manufacturer's and/or packager's recommendations and records of routine maintenance and/or inspections shall be retained. A copy of the operation and maintenance procedures, schedules for maintenance and/or inspection activities and the records of routine maintenance and/or inspections shall be made available to the Division upon request.
- c. If maintenance activities or actions are dependent upon hours of operation, then engine operating hours shall be recorded and made available to the Division upon request.

2.8.3 Parameters associated with the oxidation catalysts and SCR systems shall be monitored as follows:

2.8.3.1 The pressure drop across the oxidation catalysts shall be monitored and recorded monthly.

2.8.3.2 The urea injection rate to each SCR system shall be monitored and recorded daily.

If the engine is not operated during a day (or calendar month), recording of the above parameters is not necessary. When portable monitoring and/or performance testing is scheduled, the above parameters shall be recorded during the portable monitoring and/or performance test event.

2.9 Performance tests shall be conducted as follows:

2.9.1 Performance tests shall be conducted annually, in accordance with the schedule below, to monitor compliance with the VOC, NO_x, CO and formaldehyde emission limitations. Performance tests shall be conducted using the appropriate EPA Test Methods.

Engine Group	Test Date
1, 4, 7, 10	April/May 2015, 2018, 2021
2, 5, 8, 11, 13	April/May 2016, 2019, 2022
3, 6, 9, 12, 14	April/May 2017, 2020, 2023

2.9.2 Performance test shall be conducted every five years on one (1) representative engine to monitor compliance with the PM₁₀ (including condensables) emission limitation. A different engine shall be tested during each five year test event. Performance tests shall be conducted using the appropriate EPA Test Methods.

Note that Engine E23 (Stack S23, PEII Engine 3) was tested for PM/PM₁₀ (including condensables) in April 2014.

The test protocol, test, and test report must be in accordance with the requirements of the APCD Compliance Test Manual (<https://www.colorado.gov/pacific/cdphe/inspections-and-enforcement>). A stack testing protocol shall be submitted for Division approval at least forty-five (45) calendar days prior to any performance of the test required under this condition. No stack test required herein shall be performed without prior approval of the protocol by the Division. The Division reserves the right to witness the test. In order to facilitate the Division's ability to make plans to witness the test, notice of the date (s) for the stack test shall be submitted to the Division at least thirty (30) calendar days prior to the test. The Division may for good cause shown, waive this thirty (30) day notice requirement. In instances when a scheduling conflict is presented, the Division shall immediately contact the permittee in order to explore the possibility of making modifications to the stack test schedule. The compliance test results shall be submitted to the Division within forty-five (45) calendar days of the completion of the test unless a longer period is approved by the Division. The 'completion of the compliance test' means the date of the conclusion of the field sampling of the final emission point as specified in the Division approved protocol.

2.10 Portable Monitoring (6/26/14 version)

Emission measurements of nitrogen oxides (NO_x) and carbon monoxide (CO) shall be conducted semi-annually using a portable flue gas analyzer. At least three calendar months shall separate the semi-annual tests. Note that if an engine is operated for less than 250 hrs in any semi-annual period, then the portable monitoring requirements do not apply to that engine. If portable monitoring is not conducted for a given engine for four consecutive semi-annual periods, portable monitoring will be required in the next semi-annual period for that engine.

All portable analyzer testing required by this permit shall be conducted using the Division's Portable Analyzer Monitoring Protocol (ver March 2006 or newer) as found on the Division's website at: <https://www.colorado.gov/pacific/cdphe/portable-analyzer-monitoring-protocol>

Results of the portable analyzer tests shall be used to monitor the compliance status of this unit. For comparison with the hourly emission limitations, the results of the tests shall be converted to lb/MMBtu and either g/hp-hr or corrected to 15% O₂ in order to monitor compliance with the hourly emission limitations. For comparison with an annual or short term (monthly) emission limit, the results of the tests shall be converted to a lb/hr basis and multiplied by the allowable operating hours in the month or year (whichever applies) in order to monitor compliance. If a source is not limited in its hours of operation the test results will be multiplied by the maximum number of hours in the month or year (8760), whichever applies. For these engines, compliance with the annual NO_x and CO emissions limitations shall be monitored in accordance with the procedure included in Appendix H of this permit.

If the portable analyzer results indicate compliance with both the NO_x and CO emission limitations, in the absence of credible evidence to the contrary, the source may certify that the

engine is in compliance with both the NO_x and CO emission limitations for the relevant time period.

Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, if the portable analyzer results fail to demonstrate compliance with either the NO_x or CO emission limitations, the engine will be considered to be out of compliance from the date of the portable analyzer test until a portable analyzer test indicates compliance with both the NO_x and CO emission limitations or until the engine is taken offline.

For comparison with the emission rates/factors, the emission rates/factors determined by the portable analyzer tests and approved by the Division shall be converted to the same units as the emission rates/factors in the permit. If the portable analyzer tests shows that either the NO_x or CO emission rates/factors are greater than the relevant ones set forth in the permit, and in the absence of subsequent testing results to the contrary (as approved by the Division), the permittee shall apply for a modification to this permit to reflect, at a minimum, the higher emission rate/factor within 60 days of the completion of the test.

Results of all tests conducted shall be kept on site and made available to the Division upon request.

- 2.11 The oxygen concentration in the engine exhaust gas shall be measured and recorded **for each engine** during each portable monitoring event required by Condition 2.10 and each performance test event required by Condition 2.9.
- 2.12 These engines are exempt new units under the Acid Rain Program and as such shall meet the requirements in Condition 8 of this permit.
- 2.13 These engines are subject to the requirements in 40 CFR Part 60 Subpart JJJJ, "Standards of Performance for Stationary Spark Ignition Internal Combustion Engines", including but not limited to the following requirements:

The requirements below reflect the current rule language as of the revisions to 40 CFR Part 60 Subpart JJJJ published in the Federal Register on 1/30/2013. However, if revisions to this Subpart are published at a later date, the owner or operator is subject to the requirements contained in the revised version of 40 CFR Part 60 Subpart JJJJ.

As of the date of this permit issuance [February 1, 2015], the requirements in 40 CFR Part 60 Subpart JJJJ have not been adopted into Colorado Regulation No. 6, Part A and are therefore not state-enforceable. In the event that these requirements are adopted into Colorado Regulations, they will become state-enforceable.

What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine? (§ 60.4233)

- 2.13.1 Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use

LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to this subpart, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified. (§ 60.4233(e))

The specific emission limitations in Table 1 that apply to these engines are shown in the table below:

Engine Type and Fuel: Non-Emergency SI Natural Gas and Non-Emergency SI Lean Burn LPG (except lean burn 500 ≥ hp < 1,350)					
Maximum Engine Power: ≥ 500 hp					
Manufacturer Date: July 1, 2007					
Emission Standards (g/hp-hr)			Emission Standards (ppmvd at 15% O ₂)		
NO _x	CO	VOC	NO _x	CO	VOC
2.0	4.0	1.0	160	540	86

How long must I meet the emission standards if I am an owner or operator of a stationary SI internal combustion engine? (§ 60.4234)

2.13.2 Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine.

What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine? (§ 60.4243)

2.13.3 If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e) (Condition 2.13.1), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section. (§ 63.4243(b))

2.13.3.1 Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) (Condition 2.13.1) and according to the requirements specified in §60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of this section. (§ 63.4243(b)(2))

a. If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial

performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance. (§ 60.4243(b)(2)(ii))

The performance testing required by Conditions 2.4.4 and 2.10 may be used to fulfill the above performance testing requirements provided the tests are conducted in accordance with the requirements in 40 CFR Part 60 Subpart A § 60.8 and Subpart JJJJ § 60.4244 and the engine has not been operated for 8,760 hours or more in the three year period.

In addition to the above performance tests, the compliance with the NO_x and CO emission limitations shall be monitored by conducting portable monitoring semi-annually in accordance with the requirements in Conditions 2.4.5 and 2.10.

What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine? (§ 60.4244)

Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in § 63.6244(a) through (f).

- 2.13.4 Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 to this subpart. (§ 60.4244(a))
- 2.13.5 You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine. (§ 60.4244(b))
- 2.13.6 You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour. (§ 60.4244(c))
- 2.13.7 To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 1 in § 60.4244(d).
- 2.13.8 To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 in § 60.4244(e).
- 2.13.9 For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass

per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 in § 60.4244(e).

- 2.13.10 If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 in § 60.4244(g).

What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine? (§ 60.4245)

- 2.13.11 Owners and operators of all stationary SI ICE must keep records of the following information:
- 2.13.11.1 All notifications submitted to comply with this subpart and all documentation supporting any notification. (§ 60.4245(a)(1))
 - 2.13.11.2 Maintenance conducted on the engine. (§ 60.4245(a)(2))
 - 2.13.11.3 If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards. (§ 60.4245(a)(4))
- 2.13.12 Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in §60.4231 must submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section. (§ 60.4245(c))
- 2.13.13 Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed. (§ 60.4245(d))

What parts of the General Provisions apply to me? (§ 60.4246)

Table 3 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you. (§ 60.4246)

The relevant general provisions are included in Conditions 6.1 and 6.2 of this permit.

- 2.14 These engines are subject to the requirements in 40 CFR Part 63 Subpart ZZZZ, “National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines”, as follows:

The requirements below reflect the current rule language as of the revisions to 40 CFR Part 63 Subpart ZZZZ published in the Federal Register on January 30, 2013 (including the corrections published March 6, 2013). However, if revisions to this Subpart are promulgated at a later date, the owner or operator is subject to the requirements contained in the revised version of 40 CFR Part 63 Subpart ZZZZ.

As of the date of this permit issuance [February 1, 2015], the requirements in 40 CFR Part 63 Subpart ZZZZ promulgated after July 1, 2007 have not been adopted into Colorado Regulation No. 8, Part E and are therefore not state-enforceable. In the event that these requirements are adopted into Colorado Regulations, they will become state-enforceable.

An affected source that is a new or reconstructed stationary RICE located at an area source must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part. (§ 63.6590(c)(1))

2.15 The engines are subject to the following opacity requirements:

- 2.15.1 Except as provided for in Condition 2.15.2 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity (Colorado Construction Permit 04JE1140 and Colorado Regulation No. 1, Section II.A.1). This opacity standard applies to **each engine**.
- 2.15.2 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from start-up which is in excess of 30% opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes (Colorado Construction Permit 04JE1140 and Colorado Regulation No. 1, Section II.A.4). This opacity standard applies to **each engine**.

In the absence of credible evidence to the contrary, each engine shall be presumed to be in compliance with the above opacity requirements since only natural gas is permitted to be used as fuel in these engines.

2.16 The requirements of Colorado Regulation No. 3, Part D shall apply to these engines at such time that any stationary source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation that was established after August 7, 1980, on the capacity of the source or modification to otherwise emit a pollutant such as a restriction on hours of operation (Colorado Construction Permit 04JE1140 and Colorado Regulation No. 3, Part D, Sections VI.B.4 and V.A.7.B).

With respect to this Condition 2.16, Colorado Regulation No. 3, Part D requirements may apply to future modifications if the emission limitations are modified to equal or exceed the following thresholds:

Pollutant	Program	Emissions (tons/yr)		Comment/ Explanation
		Threshold	Current Permit Limit	
VOC	NANSR	175.4	174.9	The threshold is based on the permitted VOC emissions in the initial construction permit (04JE1140, issued 12/21/04) plus 40 tons/yr.
CO	PSD	250	247.2	

2.17 Emissions of CO emissions from the emergency generator (included Section II.3 of this permit), the emergency fire pump engine (included in Section II.4 of this permit) and insignificant activities (included in Appendix A of this permit) related to the PEII project (construction and operation of the fourteen (14) PEII engines), shall not exceed the limits listed in the summary table. (Colorado Construction Permit 04JE1140, as modified under the provisions of Section I, Condition 1.3 and Colorado Regulation No. 3, Colorado Regulation No. 3, Part C, Sections I.A.7 and III.B.7, to address change in CO emissions and insignificant activity tracking)

Compliance with the limitation shall be monitored by calculating actual emissions from insignificant activities on an annual basis to demonstrate that CO emissions do not exceed 2.8 tons/yr. The annual emission calculations, as well as the methodology and supporting information, shall be made available to the Division upon request.

In lieu of assessing actual emissions on an annual basis, compliance with the CO emission limitation can be demonstrated by conducting a PTE analysis of CO emissions from insignificant activities related to the PEII project that demonstrates that CO emissions do not exceed 2.8 tons/yr. The analysis, as well as the calculations and any supporting documentation, shall be retained on site and made available to the Division upon request.

Based on the information available as of permit issuance [February 1, 2015], the insignificant activities related to the PEII project to be included in the above analysis are as follows: one (1) fuel gas heater rated at 1.9 MMBtu/hr and nine (9) space heaters (each rated at 0.252 MMBtu/hr). The above analysis shall be updated if any new insignificant activities that can potentially emit CO are added to the facility.

2.18 **These engines** are subject to the Compliance Assurance Monitoring (CAM) requirements with respect to the CO emission limitations in Condition 2.4.1. Compliance with the CAM requirements shall be monitored in accordance with the requirements in Condition 9 and the CAM Plan in Appendix I.

3. E35 – Emergency Generator Rated at 755 hp

Parameter	Permit Condition Number	Limitations		Compliance Emission Factor	Monitoring	
		Short Term	Long Term		Method	Interval
NO _x	3.1	N/A	3.62 tons/yr	0.298 lbs/gal	Recordkeeping and Calculation	Monthly
CO			0.50 tons/yr	0.0411 lb/gal		
Diesel Fuel Consumption	3.2	N/A	24,300 gal/yr	N/A	Calculation	Monthly
Hours of Operation	3.2	N/A	N/A	N/A	Recordkeeping	Monthly
Opacity	3.4	Not to Exceed 20% Except as Provided for Below		N/A	EPA Method 9	Annually
		For Startup – Not to Exceed 30%, for a Period or Periods Aggregating More than Six (6) Minutes in any 60 Consecutive Minutes		N/A		
NSPS Subpart III Requirements	3.5	NO _x + NMHC – 4.8 g/hp-hr CO – 2.6 g/hp-hr PM – 0.15 g/hp-hr		N/A	See Condition 3.5.	
MACT Subpart ZZZZ Requirements	3.6	Compliance with MACT met by complying with NSPS Subpart III		N/A	See Condition 3.6	

3.1 Nitrogen Oxide (NO_x) and Carbon Monoxide (CO) emissions from this engine shall not exceed the above limitations (Colorado Construction Permit 07JE1120, as modified under the provisions of Section I, Condition 1.3, to include CO emission limitations and to revise NO_x emission limit based on requested emissions indicated on the APEN submitted October 7, 2008 with the Title V permit application). Compliance with the emission limitations shall be monitored by calculating emissions monthly using the emission factors listed above (NO_x from manufacturer, CO NSPS limit both converted to lb/gal by multiplying g/hp-hr rate by maximum hp (755) and dividing by max fuel rate (24.3 gal/hr)).

Monthly emissions shall be calculated by the end of the subsequent month, using the above emissions factor and the monthly diesel fuel consumption (as required by Condition 3.3) in the following equation.

$$\text{tons/mo} = \frac{\text{EF (lbs/10}^3 \text{ gal)} \times \text{diesel fuel consumption (gal/mo)}}{2000 \text{ lbs/ton}}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the previous twelve months data.

CO emissions from this engine shall be used to assess compliance with the CO emission limitation in Condition 2.17 (tracking of CO emissions from diesel engines and insignificant activities). As specified in Condition 2.17, the permittee may either rely on actual emissions from the engine or a one-time PTE analysis for this engine.

- 3.2 Consumption of Diesel Fuel shall not exceed the above limitation (Colorado Construction Permit 07JE1120). Compliance with the limitation shall be monitored by determining monthly fuel consumption from the engine by the end of the subsequent month. Monthly fuel consumption shall be determined by multiplying the maximum hourly fuel consumption rate of the engine (24.3 gallons/hr) by the hours the engine was operated in the month.

Monthly fuel consumption shall be used in a twelve month rolling total to monitor compliance with the annual limitation. Each month a new twelve month total shall be calculated using the previous twelve months data.

- 3.3 Hours of operation shall be recorded monthly and used to calculate the monthly fuel consumption as required by Condition 3.2.

- 3.4 Opacity of emissions shall not exceed the following:

3.4.1 Except as provided for in Condition 3.4.2 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity (Colorado Construction Permit 07JE1120 and Colorado Regulation No. 1, Section II.A.1).

3.4.2 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from startup which is in excess of 30% opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes (Colorado Regulation No. 1, Section II.A.4).

Compliance with these limitations shall be monitored by conducting visual emission observations in accordance with EPA Reference Method 9 as follows:

3.4.3 Engine startup shall not exceed 30 minutes. An engine startup period of less than 30 minutes shall not require an opacity observation to monitor compliance with the opacity limit in Condition 3.4.2. A record shall be kept of the date and time the engine started and when it was shutdown.

3.4.4 An opacity observation shall be conducted annually (calendar year period) to monitor compliance with the opacity limit in Condition 3.4.1. If the engine is operated more than 250 hours in any calendar year period, a second opacity observation shall be conducted. If two opacity readings are conducted in the annual (calendar year) period, such readings shall be conducted at least thirty days apart.

3.4.5 If the engine is not operated during the annual (calendar year) period, then no opacity observations are required.

- 3.4.6 Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, exceedance of the opacity limit shall be considered to exist from the time a Method 9 reading is taken that shows an exceedance of the opacity limit until a Method 9 reading is taken that shows the opacity is less than the opacity limit.
- 3.4.7 All Method 9 opacity observations shall be performed by an observer with current and valid Method 9 certification. Results of Method 9 readings and a copy of the certified Method 9 reader's certificate shall be kept on site and made available to the Division upon request.
- 3.5 This engine is subject to the requirements in 40 CF Part 60 Subpart IIII, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines", as adopted by reference in Colorado Regulation No. 6, Part A. The specific applicable requirements are included in Section II, Condition 5 of this permit.
- 3.6 This engine is subject to the requirements in 40 CFR Part 63 Subpart ZZZZ, "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines", as follows:

The requirements below reflect the current rule language as of the revisions to 40 CFR Part 63 Subpart ZZZZ published in the Federal Register on January 30, 2013 (including the corrections published March 6, 2013). However, if revisions to this Subpart are promulgated at a later date, the owner or operator is subject to the requirements contained in the revised version of 40 CFR Part 63 Subpart ZZZZ.

As of the date of this permit issuance [February 1, 2015], the requirements in 40 CFR Part 63 Subpart ZZZZ promulgated after July 1, 2007 have not been adopted into Colorado Regulation No. 8, Part E and are therefore not state-enforceable. In the event that these requirements are adopted into Colorado Regulations, they will become state-enforceable.

An affected source that is a new or reconstructed stationary RICE located at an area source must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines. No further requirements apply for such engines under this part. (§ 63.6590(c)(1))

4. E36 – Emergency Fire-Pump, 149 hp

Parameter	Permit Condition Number	Limitations		Compliance Emission Factor	Monitoring	
		Short Term	Long Term		Method	Interval
NSPS Subpart III Requirements	4.1	NO _x + NMHC – 7.8 g/hp-hr CO – 3.7 g/hp-hr PM – 0.6 g/hp-hr		N/A	See Condition 4.1.	
CO Emissions	4.2	See Condition 4.2		N/A	Recordkeeping and Calculation	Annually or One-Time
Opacity	4.3	Not to Exceed 20% Except as Provided for Below		N/A	EPA Method 9	Annually
		For Startup – Not to Exceed 30%, for a Period or Periods Aggregating More than Six (6) Minutes in any 60 Consecutive Minutes		N/A		
MACT Subpart ZZZZ Requirements	4.4	Compliance with MACT met by complying with NSPS Subpart III		N/A	See Condition 4.5	

Note that this emission unit is exempt from the APEN reporting requirements in Regulation No. 3, Part A and the construction permit requirements in Regulation No. 3, Part B provided actual, uncontrolled emissions are below the APEN de minimis level. Emissions from this unit are below the 1 ton/yr APEN de minimis level for NO_x as long as hours of operation are below 1,220 hours per year.

- 4.1 This engine is subject to the requirements in 40 CFR Part 60 Subpart III, “Standards of Performance for Stationary Compression Ignition Internal Combustion Engines”, as adopted by reference in Colorado Regulation No. 6, Part A. The specific applicable requirements are included in Section II, Condition 5 of this permit.
- 4.2 CO emissions from this engine shall be used to assess compliance with the CO emission limitation in Condition 2.17 (tracking of CO emissions from diesel engines and insignificant activities). As specified in Condition 2.17, the permittee may either rely on actual emissions from the engine (calculated annually) or a one-time PTE analysis for this engine. The emission calculations or PTE analysis, as well as the methodology and supporting documentation shall be made available to the Division upon request.
- 4.3 Opacity of emissions shall not exceed the following:
 - 4.3.1 Except as provided for in Condition 4.3.2 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity (Colorado Regulation No. 1, Section II.A.1).
 - 4.3.2 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from startup which is in excess of 30% opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes (Colorado Regulation No. 1, Section II.A.4).

Compliance with these limitations shall be monitored by conducting visual emission observations in accordance with EPA Reference Method 9 as follows:

- 4.3.3 Engine startup shall not exceed 30 minutes. An engine startup period of less than 30 minutes shall not require an opacity observation to monitor compliance with the opacity limit in Condition 4.3.2. A record shall be kept of the date and time the engine started and when it was shutdown.
- 4.3.4 An opacity observation shall be conducted annually (calendar year period) to monitor compliance with the opacity limit in Condition 4.3.1. If the engine is operated more than 250 hours in any calendar year period, a second opacity observation shall be conducted. If two opacity readings are conducted in the annual (calendar year) period, such readings shall be conducted at least thirty days apart.
- 4.3.5 If the engine is not operated during the annual (calendar year) period, then no opacity observations are required.
- 4.3.6 Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, exceedance of the opacity limit shall be considered to exist from the time a Method 9 reading is taken that shows an exceedance of the opacity limit until a Method 9 reading is taken that shows the opacity is less than the opacity limit.
- 4.3.7 All Method 9 opacity observations shall be performed by an observer with current and valid Method 9 certification. Results of Method 9 readings and a copy of the certified Method 9 reader's certificate shall be kept on site and made available to the Division upon request.
- 4.4 This engine is subject to the requirements in 40 CFR Part 63 Subpart ZZZZ, "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines", as follows:

The requirements below reflect the current rule language as of the revisions to 40 CFR Part 63 Subpart ZZZZ published in the Federal Register on January 30, 2013 (including the corrections published March 6, 2013). However, if revisions to this Subpart are promulgated at a later date, the owner or operator is subject to the requirements contained in the revised version of 40 CFR Part 63 Subpart ZZZZ.

As of the date of this permit issuance [February 1, 2015], the requirements in 40 CFR Part 63 Subpart ZZZZ promulgated after July 1, 2007 have not been adopted into Colorado Regulation No. 8, Part E and are therefore not state-enforceable. In the event that these requirements are adopted into Colorado Regulations, they will become state-enforceable.

An affected source that is a new or reconstructed stationary RICE located at an area source must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines. No further requirements apply for such engines under this part. (§ 63.6590(c)(1))

5. Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR Part 60 Subpart IIII)

5.1 Engines E35 (generator) and E36 (emergency fire pump) are subject to the requirements in 40 CFR Part 60 Subpart IIII, “Standards of Performance for Stationary Compression Ignition Internal Combustion Engines”, as adopted by reference in Colorado Regulation No. 6, Part A, including but not limited to the following requirements:

The requirements below reflect the rule language in 40 CFR Part 60 Subpart IIII as of the latest revisions to 40 CFR Part 60 Subpart IIII published in the Federal Register on January 30, 2013. However, if revisions to this Subpart are promulgated at a later date, the owner or operator is subject to the requirements contained in the revised version of 40 CFR Part 60 Subpart IIII.

What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine? (§ 60.4205)

5.1.1 **Generator:** Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. (§ 60.4205(b))

Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section. (§ 60.4202(a))

For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007. (§ 60.4202(a)(2))

The specific emission limitations in 40 CFR 89.112 that apply to this unit are as follows:

Tier II requirements for Model Engines Greater than 560 kW					
Emission Standards (g/kW-hr)			Emission Standards (g/hp-hr)		
NMHC + NOX	CO	PM	NMHC + NOX	CO	PM
6.4	3.5	0.2	4.77	2.61	0.15

Note that the smoke standards in 40 CFR 89.113 do not apply because the engine is a constant speed engine (89.113(c)(3))

5.1.2 **Fire Pump:** Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants. (§ 60.4205(c))

The specific emission limitations in table 4 that apply to this engine are as follows:

Maximum Engine Power $100 \leq \text{hp} < 175$					
Model Year 2009 and earlier					
Emission Standards (g/hp-hr)			Emission Standards (g/kw-hr)		
NMHC + NOX	CO	PM	NMHC + NOX	CO	PM
7.8	3.7	0.6	10.5	5.0	0.80

How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine? (§ 60.4206)

5.1.3 Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 over the entire life of the engine.

What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart? (§ 60.4207)

5.1.4 Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. ((§ 60.4207(b))

The fuel limitations in 80.510(b) are: sulfur content of 15 ppm maximum for NR diesel fuel and 500 ppm maximum for LM diesel fuel and a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

Compliance with the fuel limitations shall be monitored by sampling and analyzing each shipment of diesel fuel to determine the sulfur and cetane and/or aromatic content using appropriate ASTM methods, or equivalent if approved in advance by the Division. In lieu of sampling, vendor data may be used to verify that the diesel fuel delivered meets the sulfur and cetane and/or aromatic requirements.

What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine? (§ 60.4209)

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

- 5.1.5 If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine. (§ 60.4209(a)).
- 5.1.6 If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. (§ 60.4209(b))

What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine? (§ 60.4211)

- 5.1.7 If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under § 63.4211(g) (Condition 5.1.11): (§ 60.4211(a))
- 5.1.7.1 Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;
 - 5.1.7.2 Change only those emission-related settings that are permitted by the manufacturer; and
 - 5.1.7.3 Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you. (§ 60.4211(a)(1) – (3))
- 5.1.8 **Fire Pump only:** If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section. (§ 60.4211(b)) Note that the fire pump engine is certified engine, therefore, only 60.4211(b)(1) (purchase certified engine) is included in this permit.
- 5.1.8.1 Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications. (§ 60.4211(b)(1))
- 5.1.9 **Generator only:** If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must

comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in § 60.4211(g) (Condition 5.1.11). (§ 60.4211(c))

5.1.10 If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) (Conditions 5.1.10.1 through 5.1.10.3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in § 60.4211(f)(1) through (3) (Conditions 5.1.10.1 through 5.1.10.3), is prohibited. If you do not operate the engine according to the requirements in § 60.4211(f)(1) through (3) (Conditions 5.1.10.1 through 5.1.10.3), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. (§ 60.4211(f))

5.1.10.1 There is no time limit on the use of emergency stationary ICE in emergency situations. (§ 60.4211(f)(1))

5.1.10.2 You may operate your emergency stationary ICE for any combination of the purposes specified in § 60.4211(f)(2)(i) through (iii) (below) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by § 60.4211(f)(3) (Condition 5.1.10.3) counts as part of the 100 hours per calendar year allowed by this Condition 5.1.10.2. (§ 60.4211(f)(2))

- a. Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. (§ 60.4211(f)(2)(i))
- b. Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy

Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3. (§ 60.4211(f)(2)(ii))

- c. Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. (§ 60.4211(f)(2)(iii))

5.1.10.3 Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in § 60.4211(f)(2) (Condition 5.1.10.2). Except as provided in § 60.4211(f)(3)(i) (below), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. (§ 60.4211(f)(3))

- a. The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the requirements in § 60.4211(f)(3)(i)(A) through (E) are met. (§ 60.4211(f)(3)(i))

5.1.11 If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as specified in § 60.4211(g)(1) through (3), as applicable. (§ 60.4211(g))

What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine? (§ 60.4214)

5.1.12 If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time. (§ 60.4214(b))

5.1.13 If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached. (§ 60.4214(c))

- 5.1.14 If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in § 60.4211(f)(3)(i), you must submit an annual report according to the requirements in 60.4214(d)(1) through (3). (60.4214(d))

What parts of the general provisions apply to me? (§ 60.4218)

- 5.1.15 Table 8 of this subpart shows which parts of the General Provisions in §§ 60.1 through 60.19 apply to you. (§ 60.4218)

Note that the relevant general provisions are included in Condition 6.1 of this permit.

6. NSPS General Provisions

- 6.1 No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gasses discharged to the atmosphere. (40 CFR 60 Subpart A § 60.12, as adopted by reference in Colorado Regulation No. 6, Part A).
- 6.2 Performance tests shall be conducted in accordance with the requirements in 40 CFR Part 60 Subpart A § 60.8.

7. Facility Wide Requirements

Parameter	Permit Condition Number	Limitations		Compliance Emission Factor	Monitoring	
		Short Term	Long Term		Method	Interval
Each Individual HAP	7.1	N/A	9 tons/year	See below	Recordkeeping and Calculation	Monthly
Total Facility Wide HAPs		N/A	20 tons/year	See below		
Diesel Engines and Insignificant Activities	7.2.	Tracking of PM and PM ₁₀ Emissions (See Condition 7.2) Single HAP (formaldehyde) Emissions Not to Exceed 1 ton/yr		See Condition 7.2.	Recordkeeping and Calculation	One-Time
Restrictions on Relaxing Emission Limitations	7.3	See Condition 7.3		N/A	See Condition 7.3	

7.1 Emissions of HAPs shall not exceed the limitations stated above (as provided for in Section I, Condition 1.3 and Colorado Regulation No. 3, Part C, Sections I.A.7 and III.B.7, to include facility wide HAP limits). Monthly individual HAP emissions from the Plains End I and Plains End II engines shall be calculated as specified in Conditions 1.5 and 2.5 of this permit. Monthly emissions of individual HAPs from the Plains End I and Plains End II engines

Monthly emissions of individual HAPS from the Plains End I engines shall be summed to determine monthly emissions of combined HAPS from the Plains End I engines.

Monthly emissions of individual HAPS from the Plains End II engines shall be summed to determine monthly emissions of combined HAPS from the Plains End II engines.

Monthly emissions of each individual HAP from the Plains End I engines shall be summed with the monthly individual HAP emissions from the Plains End II engines and a twelve-month rolling total of facility wide individual HAP emissions will be maintained to monitor compliance with the annual individual HAP emission limit. Each month, a new twelve month total shall be calculated using the previous twelve months data.

Monthly emissions of combined HAPs from the Plains End I engines shall be summed with the monthly combined HAPS emissions from the Plains End II engines and a twelve-month rolling total of facility wide combined HAPS emissions will be maintained to monitor compliance with the annual individual HAP emission limit. Each month, a new twelve month total shall be calculated using the previous twelve months data.

7.2 Emissions from insignificant activities are subject to the following requirements:

- 7.2.1 A potential to emit (PTE) analysis of PM and PM₁₀ emissions from the emergency generator (included in Section II.3 of this permit), the emergency fire pump engine (included in Section II.4 of this permit) and insignificant activities (included in Appendix A of this permit) shall be conducted and retained on site. The PM and PM₁₀ PTE from the emergency generator, emergency fire pump and insignificant activities shall be summed together with the PM and PM₁₀ PTE from the significant emission units (PEI and PEII engines, in Section II.1 and II.2 of this permit) to determine the facility wide PTE and retained on site to be made available to the Division upon request.

Based on the information available as of revised permit issuance [February 1, 2015], the insignificant activities to be included in the above analysis are as follows: two fuel gas heaters (each at 1.9 MMBtu/hr) and twenty-one space heaters (each at 0.252 MMBtu/hr).

The above analysis shall be updated if any new insignificant activities that can potentially emit PM and PM₁₀ emissions are added to the facility. In the event that the revised analysis indicates that the facility wide PTE of PM and PM₁₀ equals or exceeds 250 tons per year, the permittee shall submit, within thirty (30) days, an application to modify this permit to revise Section I, Condition 3.1 to appropriately categorize this source as a major stationary source for purposes of PSD review requirements.

- 7.2.2 Emissions of any single HAP (formaldehyde) from the emergency generator (included in Section II.3 of this permit), the emergency fire pump engine (included in Section II.4 of this permit) and insignificant activities (included in Appendix A of this permit) shall not exceed 1 ton/yr (as provided for in Section I, Condition 1.3 and Colorado Regulation No. 3, Part C, Sections I.A.7 and III.B.7, to include facility wide HAP limits). A PTE analysis of formaldehyde emissions from the emergency generator, emergency fire pump and insignificant activities shall be conducted and retained on site to demonstrate emissions of any single HAP from insignificant activities do not exceed 1 ton/yr. The calculations and any supporting documentation shall be made available to the Division upon request.

Based on the information available as of revised permit issuance [February 1, 2015], the insignificant activities to be included in the above analysis are as follows: two fuel gas heaters (each at 1.9 MMBtu/hr) and twenty-one space heaters (each at 0.252 MMBtu/hr).

The above analysis shall be updated if any new insignificant activities that can potentially emit formaldehyde emissions are added to the facility.

- 7.3 The requirements of Colorado Regulation No. 3, Part D shall apply to these engines at such time that any stationary source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation that was established

after August 7, 1980, on the capacity of the source or modification to otherwise emit a pollutant such as a restriction on hours of operation (Colorado Regulation No. 3, Part D, Section VI.B.4).

With respect to this Condition 7.3, Colorado Regulation No. 3, Part D requirements may apply to future modifications if the emission limitations are modified to equal or exceed the following thresholds:

Emission Unit/AIRS Point	Equipment Description	Pollutant	Program	Emissions (tons/yr)		Comment/ Explanation
				Threshold	Current Permit Limit	
E01 – E20/001	PEI Engines – Twenty (20) Engines, Each Rated at 7,900 hp	CO	PSD	475.3	474.2	Threshold is based on permitted CO emissions from the latest construction permits (PEI - 01JE0057, issued 12/26/06 and PEII - 04JE1140, issued 12/21/04) plus 250 tons/yr.
E21 – E34/002	PEII Engine – Fourteen (14) Engines, Each Rated at 11,352 hp					

8. Acid Rain Program New Unit Exemption Requirements

8.1 The engines at this facility qualify for **new unit exemptions** under the Acid Rain Program pursuant to 40 CFR Part 72 § 72.7, as adopted by reference in Colorado Regulation No. 18 as follows:

8.1.1 This new unit exemption applies to any new utility unit that has not previously lost an exemption under the provisions of § 72.7(a)(4) (Condition 8.1.4.4) and that, in each year starting with the first year for which the unit is to be exempt under § 72.7. (§ 72.7(a)):

8.1.1.1 Serves during the entire year (except for any period before the unit commenced commercial operation) one or more generators with total name-plate capacity of 25MWe or less (§ 72.7(a)(1));

8.1.1.2 Burns fuel that does not include any coal or coal-derived fuel (except coal-derived gaseous fuel with a total sulfur content no greater than natural gas) (§ 72.7(a)(2)); and

8.1.1.3 Burns gaseous fuel with an annual average sulfur content of 0.05 percent or less by weight (as determined under § 72.7(d) (Condition 8.1.3)), and non-gaseous fuel with an annual average sulfur content of 0.05 percent or less by weight (as determined under § 72.7(d) (Condition 8.1.3)). (§ 72.7(a)(3))

8.1.2 Any new utility unit that meets the requirements of § 72.7(a) (Condition 8.1.1) and that is not allocated any allowances under Subpart B of 40 CFR Part 73 shall be

exempt from the Acid Rain Program except for the provisions of 40 CFR Part 72 §§ 72.2 through 72.6 and 72.10 through 72.13 (§ 72.7(b)(1)).

- 8.1.3 Compliance with the requirement that fuel burned during the year have an annual average sulfur content of 0.05 percent by weight or less shall be determined using a method of determining sulfur content that provides information with reasonable precision, reliability, accessibility, and timeliness (§ 72.7(d)).

For gaseous fuel burned during the year, if natural gas is the only gaseous fuel burned, the requirement is assumed to be met (§ 72.7(d)(1)).

8.1.4 Special Provisions for New Unit Exemptions

8.1.4.1 The owners and operators and, to the extent applicable, the designated representative of a unit exempt under § 72.7 shall (§ 72.7(f)(1)):

- a. Comply with the requirements of § 72.7(a) (Condition 8.1.1) for all periods for which the unit is exempt under this section (§ 72.7(f)(1)(i)); and
- b. Comply with the requirements of the Acid Rain Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect. (§ 72.7(f)(1)(i))

8.1.4.2 For any period for which a unit is exempt under § 72.7 (§ 72.7(f)(2)):

- a. For purposes of applying 40 CFR Parts 70 and 71, the unit shall not be treated as an affected unit under the Acid Rain Program and shall continue to be subject to any other applicable requirements under 40 CFR Parts 70 and 71. (§ 72.7(f)(2)(i))
- b. The unit shall not be eligible to be an opt-in source under 40 CFR Part 74. (§ 72.7(f)(2)(ii))

8.1.4.3 For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under § 72.7 shall retain at the source that includes the unit records demonstrating that the requirements of § 72.7(a) (Condition 8.1.1) are met. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the Administrator or the permitting authority. (§ 72.7(f)(3))

- a. Such records shall include, for each delivery of fuel to the unit or for fuel delivered to the unit continuously by pipeline, the type of fuel, the sulfur content, and the sulfur content of each sample taken. (§ 72.7(f)(3)(i))
- b. The owners and operators bear the burden of proof that the requirements of § 72.7(a) (Condition 8.1.1) are met. (§ 72.7(f)(3)(ii))

- 8.1.4.4 **Loss of Exemption (§ 72.7(f)(4))** On the earliest of the following dates, a unit exempt under § 72.7 (b), (c), or (e) shall lose its exemption and for purposes of applying 40 CFR Parts 70 and 71, shall be treated as an affected unit under the Acid Rain Program (§ 72.7(f)(4)(i)):
- a. The date on which the unit first serves one or more generators with total nameplate capacity in excess of 25 MWe (§ 72.7(f)(4)(i)(A));
 - b. The date on which the unit burns any coal or coal-derived fuel except for coal-derived gaseous fuel with a total sulfur content no greater than natural gas (§ 72.7(f)(4)(i)(B)); or
 - c. January 1 of the year following the year in which the annual average sulfur content for gaseous fuel burned at the unit exceeds 0.05 percent by weight (as determined under § 72.7(d) (Condition 8.1.3) or for nongaseous fuel burned at the unit exceeds 0.05 percent by weight (as determined under § 72.7(d) (Condition 8.1.3)). (§ 72.7(f)(4)(i)(C))
- 8.1.4.5 Notwithstanding § 72.30(b) and (c), the designated representative for a unit that loses its exemption under this section shall submit a complete Acid Rain permit application on the later of January 1, 1998 or 60 days after the first date on which the unit is no longer exempt. (§ 72.7(f)(4)(ii))
- 8.1.4.6 For the purpose of applying monitoring requirements under 40 CFR Part 75, a unit that loses its exemption under § 72.7 shall be treated as a new unit that commenced commercial operation on the first date on which the unit is no longer exempt (§ 72.7(f)(3)(iii)).

9. Compliance Assurance Monitoring (CAM) Requirements

The Compliance Assurance Monitoring (CAM) requirements in 40 CFR Part 64, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV, apply to Engines E01 – E20 (PEI engine) as indicated in Condition 1.17 and Engine E21 – E34 (PEII engines) as indicated in Condition 2.18 as follows:

- 9.1 The permittee shall follow the CAM Plan provided in Appendix I of this permit. Excursions, for purposes of reporting are as follows:
- 9.1.1 Any daily catalyst inlet temperature reading that is less than 450 °F or greater than 1350 °F; or
 - 9.1.2 Failure to record the catalyst inlet temperature on a day that the engine was operated; or
 - 9.1.3 Any instance in which an engine shuts down because the catalyst inlet temperature exceeds 1350 °F

Excursions shall be reported as required by Section IV, Conditions 21 and 22.d of this permit.

9.2 Operation of Approved Monitoring

- 9.2.1 At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment (40 CFR Part 64 § 64.7(b), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.2.2 Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of these CAM requirements, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions (40 CFR Part 64 § 64.7(c), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.2.3 Response to excursions or exceedances

- 9.2.3.1 Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable (40 CFR Part 64 § 64.7(d)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.2.3.2 Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process (40 CFR Part 64 § 64.7(d)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.2.4 After approval of the monitoring required under the CAM requirements, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the Division and, if necessary submit a proposed modification for this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters (40 CFR Part 64 § 64.7(e), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.3 Quality Improvement Plan (QIP) Requirements
- 9.3.1 Based on the results of a determination made under the provisions of Condition 9.2.3.2, the Division may require the owner or operator to develop and implement a QIP (40 CFR Part 64 § 64.8(a), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).

- 9.3.2 The owner or operator shall maintain a written QIP, if required, and have it available for inspection (40 CFR Part 64 § 64.8(b)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.3.3 The QIP initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:
- 9.3.3.1 Improved preventative maintenance practices (40 CFR Part 64 § 64.8(b)(2)(i), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
 - 9.3.3.2 Process operation changes (40 CFR Part 64 § 64.8(b)(2)(ii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
 - 9.3.3.3 Appropriate improvements to control methods (40 CFR Part 64 § 64.8(b)(2)(iii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
 - 9.3.3.4 Other steps appropriate to correct control performance (40 CFR Part 64 § 64.8(b)(2)(iv), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
 - 9.3.3.5 More frequent or improved monitoring (only in conjunction with one or more steps under Conditions 9.3.3.1 through 4 above) (40 CFR Part 64 § 64.8(b)(2)(v), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.3.4 If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the Division if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined (40 CFR Part 64 § 64.8(c), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.3.5 Following implementation of a QIP, upon any subsequent determination pursuant to Condition 9.2.3.2, the Division or the U.S. EPA may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:
- 9.3.5.1 Failed to address the cause of the control device performance problems (40 CFR Part 64 § 64.8(d)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV); or
 - 9.3.5.2 Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions (40 CFR Part 64 § 64.8(d)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).

9.3.6 Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the federal clean air act (40 CFR Part 64 § 64.8(e), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).

9.4 Reporting and Recordkeeping Requirements

9.4.1 Reporting Requirements: The reports required by Section IV, Condition 22.d, shall contain the information specified in Appendix B of the permit and the following information, as applicable:

9.4.1.1 Summary information on the number, duration and cause (including unknown cause, if applicable), for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable) ((40 CFR Part 64 § 64.9(a)(2)(ii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV); and

9.4.1.2 The owner or operator shall submit, if necessary, a description of the actions taken to implement a QIP during the reporting period as specified in Condition 9.3 of this permit. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring (40 CFR Part 64 § 64.9(a)(2)(iii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).

9.4.2 General Recordkeeping Requirements: In addition to the recordkeeping requirements in Section IV, Condition 22.a through c.

9.4.2.1 The owner or operator shall maintain records of any written QIP required pursuant to Condition 9.3 and any activities undertaken to implement a QIP, and any supporting information required to be maintained under these CAM requirements (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions) (40 CFR Part 64 § 64.9(b)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).

9.4.2.2 Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements (40 CFR Part 64 § 64.9(b)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).

9.5 Savings Provisions

- 9.5.1 Nothing in these CAM requirements shall excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the federal clean air act. These CAM requirements shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purposes of determining the monitoring to be imposed under separate authority under the federal clean air act, including monitoring in permits issued pursuant to title I of the federal clean air act. The purpose of the CAM requirements is to require, as part of the issuance of this Title V operating permit, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of CAM (40 CFR Part 64 § 64.10(a)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.5.2 Nothing in these CAM requirements shall restrict or abrogate the authority of the U.S. EPA or the Division to impose additional or more stringent monitoring, recordkeeping, testing or reporting requirements on any owner or operator of a source under any provision of the federal clean air act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable (40 CFR Part 64 § 64.10(a)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.5.3 Nothing in these CAM requirements shall restrict or abrogate the authority of the U.S. EPA or the Division to take any enforcement action under the federal clean air act for any violation of an applicable requirement or of any person to take action under section 304 of the federal clean air act (40 CFR Part 64 § 64.10(a)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).

SECTION III - Permit Shield

Regulation No. 3, 5 CCR 1001-5, Part C, §§ I.A.4, V.D., & XIII.B and § 25-7-114.4(3)(a), C.R.S.

1. Specific Non-Applicable Requirements

Based on the information available to the Division and supplied by the applicant, the following parameters and requirements have been specifically identified as non-applicable to the facility to which this permit has been issued. This shield does not protect the source from any violations that occurred prior to or at the time of permit issuance. In addition, this shield does not protect the source from any violations that occur as a result of any modifications or reconstruction on which construction commenced prior to permit issuance.

The source did not specifically identify and justify any non-applicable requirements to be included in the permit shield.

2. General Conditions

Compliance with this Operating Permit shall be deemed compliance with all applicable requirements specifically identified in the permit and other requirements specifically identified in the permit as not applicable to the source. This permit shield shall not alter or affect the following:

- 2.1 The provisions of §§ 25-7-112 and 25-7-113, C.R.S., or § 303 of the federal act, concerning enforcement in cases of emergency;
- 2.2 The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- 2.3 The applicable requirements of the federal Acid Rain Program, consistent with § 408(a) of the federal act;
- 2.4 The ability of the Air Pollution Control Division to obtain information from a source pursuant to § 25-7-111(2)(I), C.R.S., or the ability of the Administrator to obtain information pursuant to § 114 of the federal act;
- 2.5 The ability of the Air Pollution Control Division to reopen the Operating Permit for cause pursuant to Regulation No. 3, Part C, § XIII.
- 2.6 Sources are not shielded from terms and conditions that become applicable to the source subsequent to permit issuance.

3. Streamlined Conditions

The following applicable requirements have been subsumed within this operating permit using the pertinent streamlining procedures approved by the U.S. EPA. For purposes of the permit shield, compliance with the

listed permit conditions will also serve as a compliance demonstration for purposes of the associated subsumed requirements.

Permit Condition	Streamlined (Subsumed) Requirements
Plains End I	
Section II, Conditions 1.1.3 and 1.8	Colorado Regulation No. 7, Section XVI [lean burn engines > 500 hp shall be equipped with oxidation catalysts]
Section II, Conditions 1.1.3 and 1.8	Colorado Regulation No. 7, Section XVII.E.3.b.(i) [lean burn engines > 500 hp shall be equipped with oxidation catalysts] – State-only Requirement
Section II, Conditions 1.8 and 1.14.4	Colorado Regulation No. 7, Sections XVII.B.1.b (good operating practices) and XVII.B.2.a (operate control device consistent with manufacturer’s recommendations).
Plains End II	
Section II, Conditions 2.1.3 and 2.8	Colorado Regulation No. 7, Section XVI [lean burn engines > 500 hp shall be equipped with oxidation catalysts]
Diesel Engines - E35 and E36	
Section II, Condition 5.1.4	Regulation No. 1, Section VI.B.4.b.(i) [SO ₂ emissions not to exceed 0.8 lb/MMBtu]

SECTION IV - General Permit Conditions

5/22.12 version

1. Administrative Changes

Regulation No. 3, 5 CCR 1001-5, Part A, § III.

The permittee shall submit an application for an administrative permit amendment to the Division for those permit changes that are described in Regulation No. 3, Part A, § I.B.1. The permittee may immediately make the change upon submission of the application to the Division.

2. Certification Requirements

Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.B.9., V.C.16.a.& e. and V.C.17.

- a. Any application, report, document and compliance certification submitted to the Air Pollution Control Division pursuant to Regulation No. 3 or the Operating Permit shall contain a certification by a responsible official of the truth, accuracy and completeness of such form, report or certification stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
- b. All compliance certifications for terms and conditions in the Operating Permit shall be submitted to the Air Pollution Control Division at least annually unless a more frequent period is specified in the applicable requirement or by the Division in the Operating Permit.
- c. Compliance certifications shall contain:
 - (i) the identification of each permit term and condition that is the basis of the certification;
 - (ii) the compliance status of the source;
 - (iii) whether compliance was continuous or intermittent;
 - (iv) method(s) used for determining the compliance status of the source, currently and over the reporting period; and
 - (v) such other facts as the Air Pollution Control Division may require to determine the compliance status of the source.
- d. All compliance certifications shall be submitted to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit.
- e. If the permittee is required to develop and register a risk management plan pursuant to § 112(r) of the federal act, the permittee shall certify its compliance with that requirement; the Operating Permit shall not incorporate the contents of the risk management plan as a permit term or condition.

3. Common Provisions

Common Provisions Regulation, 5 CCR 1001-2 §§ II.A., II.B., II.C., II.E., II.F., II.I, and II.J

- a. To Control Emissions Leaving Colorado

When emissions generated from sources in Colorado cross the State boundary line, such emissions shall not cause the air quality standards of the receiving State to be exceeded, provided reciprocal action is taken by the receiving State.

b. Emission Monitoring Requirements

The Division may require owners or operators of stationary air pollution sources to install, maintain, and use instrumentation to monitor and record emission data as a basis for periodic reports to the Division.

c. Performance Testing

The owner or operator of any air pollution source shall, upon request of the Division, conduct performance test(s) and furnish the Division a written report of the results of such test(s) in order to determine compliance with applicable emission control regulations.

Performance test(s) shall be conducted and the data reduced in accordance with the applicable reference test methods unless the Division:

- (i) specifies or approves, in specific cases, the use of a test method with minor changes in methodology;
- (ii) approves the use of an equivalent method;
- (iii) approves the use of an alternative method the results of which the Division has determined to be adequate for indicating where a specific source is in compliance; or
- (iv) waives the requirement for performance test(s) because the owner or operator of a source has demonstrated by other means to the Division's satisfaction that the affected facility is in compliance with the standard. Nothing in this paragraph shall be construed to abrogate the Commission's or Division's authority to require testing under the Colorado Revised Statutes, Title 25, Article 7, and pursuant to regulations promulgated by the Commission.

Compliance test(s) shall be conducted under such conditions as the Division shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Division such records as may be necessary to determine the conditions of the performance test(s). Operations during period of startup, shutdown, and malfunction shall not constitute representative conditions of performance test(s) unless otherwise specified in the applicable standard.

The owner or operator of an affected facility shall provide the Division thirty days prior notice of the performance test to afford the Division the opportunity to have an observer present. The Division may waive the thirty day notice requirement provided that arrangements satisfactory to the Division are made for earlier testing.

The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

- (i) Sampling ports adequate for test methods applicable to such facility;
- (ii) Safe sampling platform(s);
- (iii) Safe access to sampling platform(s); and
- (iv) Utilities for sampling and testing equipment.

Each performance test shall consist of at least three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of results of at least three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Division's approval, be determined using the arithmetic mean of the results of the two other runs.

Nothing in this section shall abrogate the Division's authority to conduct its own performance test(s) if so warranted.

d. Affirmative Defense Provision for Excess Emissions during Malfunctions

An affirmative defense to a claim of violation under these regulations is provided to owners and operators for civil penalty actions for excess emissions during periods of malfunction. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce an applicable requirement, the owner or operator of the facility must meet the notification requirements below in a timely manner and prove by a preponderance of evidence that:

- (i) The excess emissions were caused by a sudden, unavoidable breakdown of equipment, or a sudden, unavoidable failure of a process to operate in the normal or usual manner, beyond the reasonable control of the owner or operator;
- (ii) The excess emissions did not stem from any activity or event that could have reasonably been foreseen and avoided, or planned for, and could not have been avoided by better operation and maintenance practices;
- (iii) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded;
- (iv) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;
- (v) All reasonably possible steps were taken to minimize the impact of the excess emissions on ambient air quality;
- (vi) All emissions monitoring systems were kept in operation (if at all possible);
- (vii) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence;
- (viii) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- (ix) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions. This section is intended solely to be a factor in determining whether an affirmative defense is available to an owner or operator, and shall not constitute an additional applicable requirement; and
- (x) During the period of excess emissions, there were no exceedances of the relevant ambient air quality standards established in the Commissions' Regulations that could be attributed to the emitting source.

The owner or operator of the facility experiencing excess emissions during a malfunction shall notify the division verbally as soon as possible, but no later than noon of the Division's next working day, and shall submit written notification following the initial occurrence of the excess emissions by the end of the source's next reporting period. The notification shall address the criteria set forth above.

The Affirmative Defense Provision contained in this section shall not be available to claims for injunctive relief.

The Affirmative Defense Provision does not apply to failures to meet federally promulgated performance standards or emission limits, including, but not limited to, new source performance standards and national emission standards for hazardous air pollutants. The affirmative defense provision does not apply to state implementation plan (sip) limits or permit limits that have been set taking into account potential emissions during malfunctions, including, but not necessarily limited to, certain limits with 30-day or longer averaging times, limits that indicate they apply during malfunctions, and limits that indicate they apply at all times or without exception.

e. Circumvention Clause

A person shall not build, erect, install, or use any article, machine, equipment, condition, or any contrivance, the use of which, without resulting in a reduction in the total release of air pollutants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of this regulation. No person shall circumvent this regulation by using more openings than is considered normal practice by the industry or activity in question.

f. Compliance Certifications

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in the Colorado State Implementation Plan, nothing in the Colorado State Implementation Plan shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. Evidence that has the effect of making any relevant standard or permit term more stringent shall not be credible for proving a violation of the standard or permit term.

When compliance or non-compliance is demonstrated by a test or procedure provided by permit or other applicable requirement, the owner or operator shall be presumed to be in compliance or non-compliance unless other relevant credible evidence overcomes that presumption.

g. Affirmative Defense Provision for Excess Emissions During Startup and Shutdown

An affirmative defense is provided to owners and operators for civil penalty actions for excess emissions during periods of startup and shutdown. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce an applicable requirement, the owner or operator of the facility must meet the notification requirements below in a timely manner and prove by a preponderance of the evidence that:

- (i) The periods of excess emissions that occurred during startup and shutdown were short and infrequent and could not have been prevented through careful planning and design;
- (ii) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation or maintenance;
- (iii) If the excess emissions were caused by a bypass (an intentional diversion of control equipment), then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- (iv) The frequency and duration of operation in startup and shutdown periods were minimized to the maximum extent practicable;
- (v) All possible steps were taken to minimize the impact of excess emissions on ambient air quality;
- (vi) All emissions monitoring systems were kept in operation (if at all possible);
- (vii) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence; and,
- (viii) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions. This subparagraph is intended solely to be a factor in determining whether an affirmative defense is available to an owner or operator, and shall not constitute an additional applicable requirement.

The owner or operator of the facility experiencing excess emissions during startup and shutdown shall notify the Division verbally as soon as possible, but no later than two (2) hours after the start of the next working day, and shall submit written quarterly notification following the initial occurrence of the excess emissions. The notification shall address the criteria set forth above.

The Affirmative Defense Provision contained in this section shall not be available to claims for injunctive relief.

The Affirmative Defense Provision does not apply to State Implementation Plan provisions or other requirements that derive from new source performance standards or national emissions standards for hazardous air pollutants, or any other federally enforceable performance standard or emission limit with an averaging time greater than twenty-four hours. In addition, an affirmative defense cannot be used by a single source or small group of sources where the excess emissions have the potential to cause an exceedance of the ambient air quality standards or Prevention of Significant Deterioration (PSD) increments.

In making any determination whether a source established an affirmative defense, the Division shall consider the information within the notification required above and any other information the Division deems necessary, which may include, but is not limited to, physical inspection of the facility and review of documentation pertaining to the maintenance and operation of process and air pollution control equipment

4. Compliance Requirements

Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.C.9., V.C.11. & 16.d., § 25-7-122.1(2), C.R.S.

- a. The permittee must comply with all conditions of the Operating Permit. Any permit noncompliance relating to federally-enforceable terms or conditions constitutes a violation of the federal act, as well as the state act and Regulation No. 3. Any permit noncompliance relating to state-only terms or conditions constitutes a violation of the state act and Regulation No. 3, shall be enforceable pursuant to state law, and shall not be enforceable by citizens under § 304 of the federal act. Any such violation of the federal act, the state act or regulations implementing either statute is grounds for enforcement action, for permit termination, revocation and reissuance or modification or for denial of a permit renewal application.
- b. It shall not be a defense for a permittee in an enforcement action or a consideration in favor of a permittee in a permit termination, revocation or modification action or action denying a permit renewal application that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- c. The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of any request by the permittee for a permit modification, revocation and reissuance, or termination, or any notification of planned changes or anticipated noncompliance does not stay any permit condition, except as provided in §§ X. and XI. of Regulation No. 3, Part C.
- d. The permittee shall furnish to the Air Pollution Control Division, within a reasonable time as specified by the Division, any information that the Division may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Division copies of records required to be kept by the permittee, including information claimed to be confidential. Any information subject to a claim of confidentiality shall be specifically identified and submitted separately from information not subject to the claim.
- e. Any schedule for compliance for applicable requirements with which the source is not in compliance at the time of permit issuance shall be supplemental, and shall not sanction noncompliance with, the applicable requirements on which it is based.
- f. For any compliance schedule for applicable requirements with which the source is not in compliance at the time of permit issuance, the permittee shall submit, at least every 6 months unless a more frequent period is specified in the applicable requirement or by the Air Pollution Control Division, progress reports which contain the following:
 - (i) dates for achieving the activities, milestones, or compliance required in the schedule for compliance, and dates when such activities, milestones, or compliance were achieved; and
 - (ii) an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

- g. The permittee shall not knowingly falsify, tamper with, or render inaccurate any monitoring device or method required to be maintained or followed under the terms and conditions of the Operating Permit.

5. Emergency Provisions

Regulation No. 3, 5 CCR 1001-5, Part C, § VII.

An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed the technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. "Emergency" does not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. An emergency constitutes an affirmative defense to an enforcement action brought for noncompliance with a technology-based emission limitation if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. an emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. the permitted facility was at the time being properly operated;
- c. during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- d. the permittee submitted oral notice of the emergency to the Air Pollution Control Division no later than noon of the next working day following the emergency, and followed by written notice within one month of the time when emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

This emergency provision is in addition to any emergency or malfunction provision contained in any applicable requirement.

6. Emission Controls for Asbestos

Regulation No. 8, 5 CCR 1001-10, Part B

The permittee shall not conduct any asbestos abatement activities except in accordance with the provisions of Regulation No. 8, Part B, "asbestos control."

7. Emissions Trading, Marketable Permits, Economic Incentives

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.13.

No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are specifically provided for in the permit.

8. Fee Payment

C.R.S. §§ 25-7-114.1(6) and 25-7-114.7

- a. The permittee shall pay an annual emissions fee in accordance with the provisions of § 25-7-114.7. A 1% per month late payment fee shall be assessed against any invoice amounts not paid in full on the 91st day after the date of invoice, unless a permittee has filed a timely protest to the invoice amount.
- b. The permittee shall pay a permit processing fee in accordance with the provisions of § 25-7-114.7. If the Division estimates that processing of the permit will take more than 30 hours, it will notify the permittee of its estimate of what the actual charges may be prior to commencing any work exceeding the 30 hour limit.
- c. The permittee shall pay an APEN fee in accordance with the provisions of § 25-7-114.1(6) for each APEN or revised APEN filed.

9. Fugitive Particulate Emissions

Regulation No. 1, 5 CCR 1001-3, § III.D.1.

The permittee shall employ such control measures and operating procedures as are necessary to minimize fugitive particulate emissions into the atmosphere, in accordance with the provisions of Regulation No. 1, § III.D.1.

10. Inspection and Entry

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.16.b.

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Air Pollution Control Division, or any authorized representative, to perform the following:

- a. enter upon the permittee's premises where an Operating Permit source is located, or emissions-related activity is conducted, or where records must be kept under the terms of the permit;
- b. have access to, and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- c. inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the Operating Permit;
- d. sample or monitor at reasonable times, for the purposes of assuring compliance with the Operating Permit or applicable requirements, any substances or parameters.

11. Minor Permit Modifications

Regulation No. 3, 5 CCR 1001-5, Part C, §§ X. & XI.

The permittee shall submit an application for a minor permit modification before making the change requested in the application. The permit shield shall not extend to minor permit modifications.

12. New Source Review

Regulation No. 3, 5 CCR 1001-5, Part B

The permittee shall not commence construction or modification of a source required to be reviewed under the New Source Review provisions of Regulation No. 3, Part B, without first receiving a construction permit.

13. No Property Rights Conveyed

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.11.d.

This permit does not convey any property rights of any sort, or any exclusive privilege.

14. Odor

Regulation No. 2, 5 CCR 1001-4, Part A

As a matter of state law only, the permittee shall comply with the provisions of Regulation No. 2 concerning odorous emissions.

15. Off-Permit Changes to the Source

Regulation No. 3, 5 CCR 1001-5, Part C, § XII.B.

The permittee shall record any off-permit change to the source that causes the emissions of a regulated pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from the change, including any other data necessary to show compliance with applicable ambient air quality standards. The permittee shall provide contemporaneous notification to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit. The permit shield shall not apply to any off-permit change.

16. Opacity

Regulation No. 1, 5 CCR 1001-3, §§ I., II.

The permittee shall comply with the opacity emissions limitation set forth in Regulation No. 1, §§ I.-II.

17. Open Burning

Regulation No. 9, 5 CCR 1001-11

The permittee shall obtain a permit from the Division for any regulated open burning activities in accordance with provisions of Regulation No. 9.

18. Ozone Depleting Compounds

Regulation No. 15, 5 CCR 1001-17

The permittee shall comply with the provisions of Regulation No. 15 concerning emissions of ozone depleting compounds. Sections I., II.C., II.D., III. IV., and V. of Regulation No. 15 shall be enforced as a matter of state law only.

19. Permit Expiration and Renewal

Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.B.6., IV.C., V.C.2.

- a. The permit term shall be five (5) years. The permit shall expire at the end of its term. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted.
- b. Applications for renewal shall be submitted at least twelve months, but not more than 18 months, prior to the expiration of the Operating Permit. An application for permit renewal may address only those portions of the permit that require revision, supplementing, or deletion, incorporating the remaining permit terms by reference from the previous permit. A copy of any materials incorporated by reference must be included with the application.

20. Portable Sources

Regulation No. 3, 5 CCR 1001-5, Part C, § II.D.

Portable Source permittees shall notify the Air Pollution Control Division at least 10 days in advance of each change in location.

21. Prompt Deviation Reporting

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.7.b.

The permittee shall promptly report any deviation from permit requirements, including those attributable to malfunction conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken.

“Prompt” is defined as follows:

- a. Any definition of “prompt” or a specific timeframe for reporting deviations provided in an underlying applicable requirement as identified in this permit; or
- b. Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations will be submitted based on the following schedule:
 - (i) For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in the applicable regulation) that continue for more than an hour in excess of permit requirements, the report shall be made within 24 hours of the occurrence;
 - (ii) For emissions of any regulated air pollutant, excluding a hazardous air pollutant or a toxic air pollutant that continue for more than two hours in excess of permit requirements, the report shall be made within 48 hours; and
 - (iii) For all other deviations from permit requirements, the report shall be submitted every six (6) months, except as otherwise specified by the Division in the permit in accordance with paragraph 22.d. below.
- c. If any of the conditions in paragraphs b.i or b.ii above are met, the source shall notify the Division by telephone (303-692-3155) or facsimile (303-782-0278) based on the timetables listed above. *[Explanatory note: Notification by telephone or facsimile must specify that this notification is a deviation report for an Operating Permit.]* A written notice, certified consistent with General Condition 2.a. above (Certification Requirements), shall be submitted within 10 working days of the occurrence. All deviations reported under this section shall also be identified in the 6-month report required above.

“Prompt reporting” does not constitute an exception to the requirements of “Emergency Provisions” for the purpose of avoiding enforcement actions.

22. Record Keeping and Reporting Requirements

Regulation No. 3, 5 CCR 1001-5, Part A, § II.; Part C, §§ V.C.6., V.C.7.

- a. Unless otherwise provided in the source specific conditions of this Operating Permit, the permittee shall maintain compliance monitoring records that include the following information:
 - (i) date, place as defined in the Operating Permit, and time of sampling or measurements;
 - (ii) date(s) on which analyses were performed;

- (iii) the company or entity that performed the analysis;
 - (iv) the analytical techniques or methods used;
 - (v) the results of such analysis; and
 - (vi) the operating conditions at the time of sampling or measurement.
- b. The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report or application. Support information, for this purpose, includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the Operating Permit. With prior approval of the Air Pollution Control Division, the permittee may maintain any of the above records in a computerized form.
- c. Permittees must retain records of all required monitoring data and support information for the most recent twelve (12) month period, as well as compliance certifications for the past five (5) years on-site at all times. A permittee shall make available for the Air Pollution Control Division's review all other records of required monitoring data and support information required to be retained by the permittee upon 48 hours advance notice by the Division.
- d. The permittee shall submit to the Air Pollution Control Division all reports of any required monitoring at least every six (6) months, unless an applicable requirement, the compliance assurance monitoring rule, or the Division requires submission on a more frequent basis. All instances of deviations from any permit requirements must be clearly identified in such reports.
- e. The permittee shall file an Air Pollutant Emissions Notice ("APEN") prior to constructing, modifying, or altering any facility, process, activity which constitutes a stationary source from which air pollutants are or are to be emitted, unless such source is exempt from the APEN filing requirements of Regulation No. 3, Part A, § II.D. A revised APEN shall be filed annually whenever a significant change in emissions, as defined in Regulation No. 3, Part A, § II.C.2., occurs; whenever there is a change in owner or operator of any facility, process, or activity; whenever new control equipment is installed; whenever a different type of control equipment replaces an existing type of control equipment; whenever a permit limitation must be modified; or before the APEN expires. An APEN is valid for a period of five years. The five-year period recommences when a revised APEN is received by the Air Pollution Control Division. Revised APENs shall be submitted no later than 30 days before the five-year term expires. Permittees submitting revised APENs to inform the Division of a change in actual emission rates must do so by April 30 of the following year. Where a permit revision is required, the revised APEN must be filed along with a request for permit revision. APENs for changes in control equipment must be submitted before the change occurs. Annual fees are based on the most recent APEN on file with the Division.

23. Reopenings for Cause

Regulation No. 3, 5 CCR 1001-5, Part C, § XIII.

- a. The Air Pollution Control Division shall reopen, revise, and reissue Operating Permits; permit reopenings and reissuance shall be processed using the procedures set forth in Regulation No. 3, Part C, § III., except that proceedings to reopen and reissue permits affect only those parts of the permit for which cause to reopen exists.
- b. The Division shall reopen a permit whenever additional applicable requirements become applicable to a major source with a remaining permit term of three or more years, unless the effective date of the requirements is later than the date on which the permit expires, or unless a general permit is obtained to address the new requirements; whenever additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program; whenever the Division determines the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or whenever the Division determines that the permit must be revised or revoked to assure compliance with an applicable requirement.

- c. The Division shall provide 30 days' advance notice to the permittee of its intent to reopen the permit, except that a shorter notice may be provided in the case of an emergency.
- d. The permit shield shall extend to those parts of the permit that have been changed pursuant to the reopening and reissuance procedure.

24. Section 502(b)(10) Changes

Regulation No. 3, 5 CCR 1001-5, Part C, § XII.A.

The permittee shall provide a minimum 7-day advance notification to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit. The permittee shall attach a copy of each such notice given to its Operating Permit.

25. Severability Clause

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.10.

In the event of a challenge to any portion of the permit, all emissions limits, specific and general conditions, monitoring, record keeping and reporting requirements of the permit, except those being challenged, remain valid and enforceable.

26. Significant Permit Modifications

Regulation No. 3, 5 CCR 1001-5, Part C, § III.B.2.

The permittee shall not make a significant modification required to be reviewed under Regulation No. 3, Part B ("Construction Permit" requirements) without first receiving a construction permit. The permittee shall submit a complete Operating Permit application or application for an Operating Permit revision for any new or modified source within twelve months of commencing operation, to the address listed in Item 1 in Appendix D of this permit. If the permittee chooses to use the "Combined Construction/Operating Permit" application procedures of Regulation No. 3, Part C, then the Operating Permit must be received prior to commencing construction of the new or modified source.

27. Special Provisions Concerning the Acid Rain Program

Regulation No. 3, 5 CCR 1001-5, Part C, §§ V.C.1.b. & 8

- a. Where an applicable requirement of the federal act is more stringent than an applicable requirement of regulations promulgated under Title IV of the federal act, 40 Code of Federal Regulations (CFR) Part 72, both provisions shall be incorporated into the permit and shall be federally enforceable.
- b. Emissions exceeding any allowances that the source lawfully holds under Title IV of the federal act or the regulations promulgated thereunder, 40 CFR Part 72, are expressly prohibited.

28. Transfer or Assignment of Ownership

Regulation No. 3, 5 CCR 1001-5, Part C, § II.C.

No transfer or assignment of ownership of the Operating Permit source will be effective unless the prospective owner or operator applies to the Air Pollution Control Division on Division-supplied Administrative Permit Amendment forms, for reissuance of the existing Operating Permit. No administrative permit shall be complete until a written agreement containing a specific date for transfer of permit, responsibility, coverage, and liability between the permittee and the prospective owner or operator has been submitted to the Division.

29. Volatile Organic Compounds

Regulation No. 7, 5 CCR 1001-9, §§ III & V.

The requirements in paragraphs a, b and e apply to sources located in an ozone non-attainment area or the Denver 1-hour ozone attainment/maintenance area. The requirements in paragraphs c and d apply statewide.

- a. All storage tank gauging devices, anti-rotation devices, accesses, seals, hatches, roof drainage systems, support structures, and pressure relief valves shall be maintained and operated to prevent detectable vapor loss except when opened, actuated, or used for necessary and proper activities (e.g. maintenance). Such opening, actuation, or use shall be limited so as to minimize vapor loss.

Detectable vapor loss shall be determined visually, by touch, by presence of odor, or using a portable hydrocarbon analyzer. When an analyzer is used, detectable vapor loss means a VOC concentration exceeding 10,000 ppm. Testing shall be conducted as in Regulation No. 7, Section VIII.C.3.
- b. Except when otherwise provided by Regulation No. 7, all volatile organic compounds, excluding petroleum liquids, transferred to any tank, container, or vehicle compartment with a capacity exceeding 212 liters (56 gallons), shall be transferred using submerged or bottom filling equipment. For top loading, the fill tube shall reach within six inches of the bottom of the tank compartment. For bottom-fill operations, the inlet shall be flush with the tank bottom.
- c. The permittee shall not dispose of volatile organic compounds by evaporation or spillage unless Reasonably Available Control Technology (RACT) is utilized.
- d. No owner or operator of a bulk gasoline terminal, bulk gasoline plant, or gasoline dispensing facility as defined in Colorado Regulation No. 7, Section VI, shall permit gasoline to be intentionally spilled, discarded in sewers, stored in open containers, or disposed of in any other manner that would result in evaporation.
- e. Beer production and associated beer container storage and transfer operations involving volatile organic compounds with a true vapor pressure of less than 1.5 PSIA actual conditions are exempt from the provisions of paragraph b, above.

30. Wood Stoves and Wood burning Appliances

Regulation No. 4, 5 CCR 1001-6

The permittee shall comply with the provisions of Regulation No. 4 concerning the advertisement, sale, installation, and use of wood stoves and wood burning appliances.

OPERATING PERMIT APPENDICES

- A - INSPECTION INFORMATION
- B - MONITORING AND PERMIT DEVIATION REPORT
- C - COMPLIANCE CERTIFICATION REPORT
- D - NOTIFICATION ADDRESSES
- E - PERMIT ACRONYMS
- F - PERMIT MODIFICATIONS
- G - WARTSILA ENGINE HAP EMISSION FACTORS
- H - PORTABLE MONITORING ANNUAL EMISSIONS
LIMITATIONS MONITORING METHOD
- I - COMPLIANCE ASSURANCE MONITORING PLAN

***DISCLAIMER:**

None of the information found in these Appendices shall be considered to be State or Federally enforceable, except as otherwise provided in the permit, and is presented to assist the source, permitting authority, inspectors, and citizens.

APPENDIX A - Inspection Information

Directions to Plant

The facility is located at 8950 Highway 93 (~ 1 mile south of the intersection of Highway 72 and 93), in Arvada, CO.

Safety Equipment Required

Eye Protection, Hard Hat, Safety Shoes and Hearing Protection

Facility Plot Plan

Figures 1 and 2 (following pages) show the plot plans as submitted on October 7, 2008 with the source's revised Title V Operating Permit Application.

List of Insignificant Activities

The following list of insignificant activities was provided by the source to assist in the understanding of the facility layout. Since there is no requirement to update such a list, activities may have changed since the last filing.

The asterisk (*) denotes an insignificant activity source category based on the size of the activity, emissions levels from the activity or the production rate of the activity. The owner or operator of individual emission points in insignificant activity source categories marked with an asterisk (*) must maintain sufficient record keeping verifying that the exemption applies. Such records shall be made available for Division review upon request. (Colorado Regulation No. 3, Part C, Section II.E)

Fuel (gaseous) burning equipment < 5 MMBtu/hr (Reg 3, Part C.II.E.3.k)*

Fuel gas heater 1.9 MMBtu/hr (H1) (PEI project equipment)

Fuel gas heater 1.9 MMBtu/hr (H2) (PEII project equipment)

Twenty-one (21) space heaters – each at 0.252 MMBtu/hr (twelve (12) heaters are PEI project equipment and nine (9) heaters are PEII project equipment)

Lube oil tanks < 40,000 gal (Reg 3, Part C.II.3.aaa)

Three (3) lube oil storage tanks (PEI project equipment)

Mar-08-04 02:35pm From-National Energy & Gas Transmission, Inc. +

T-160 P.007/008 F-599

4

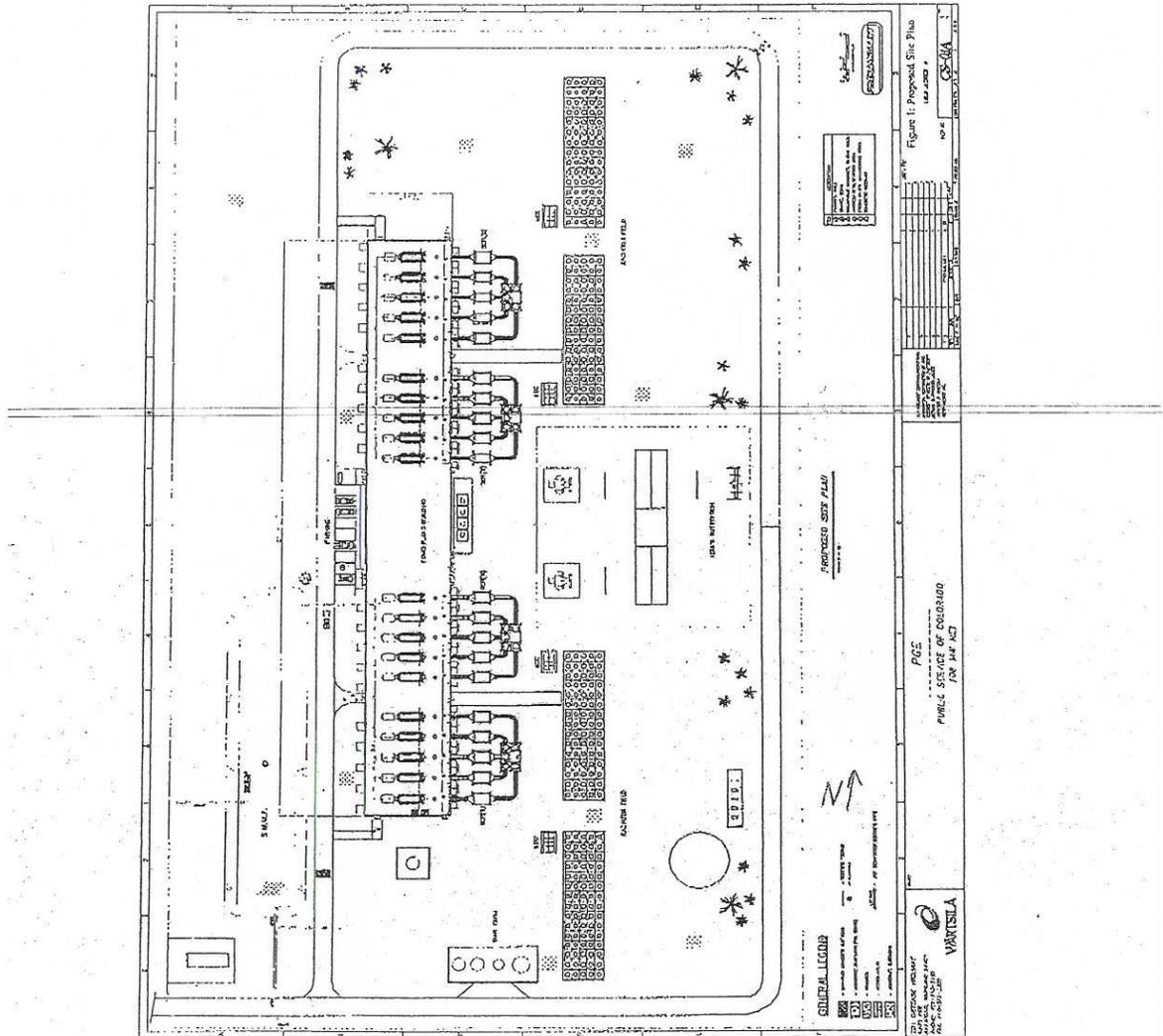
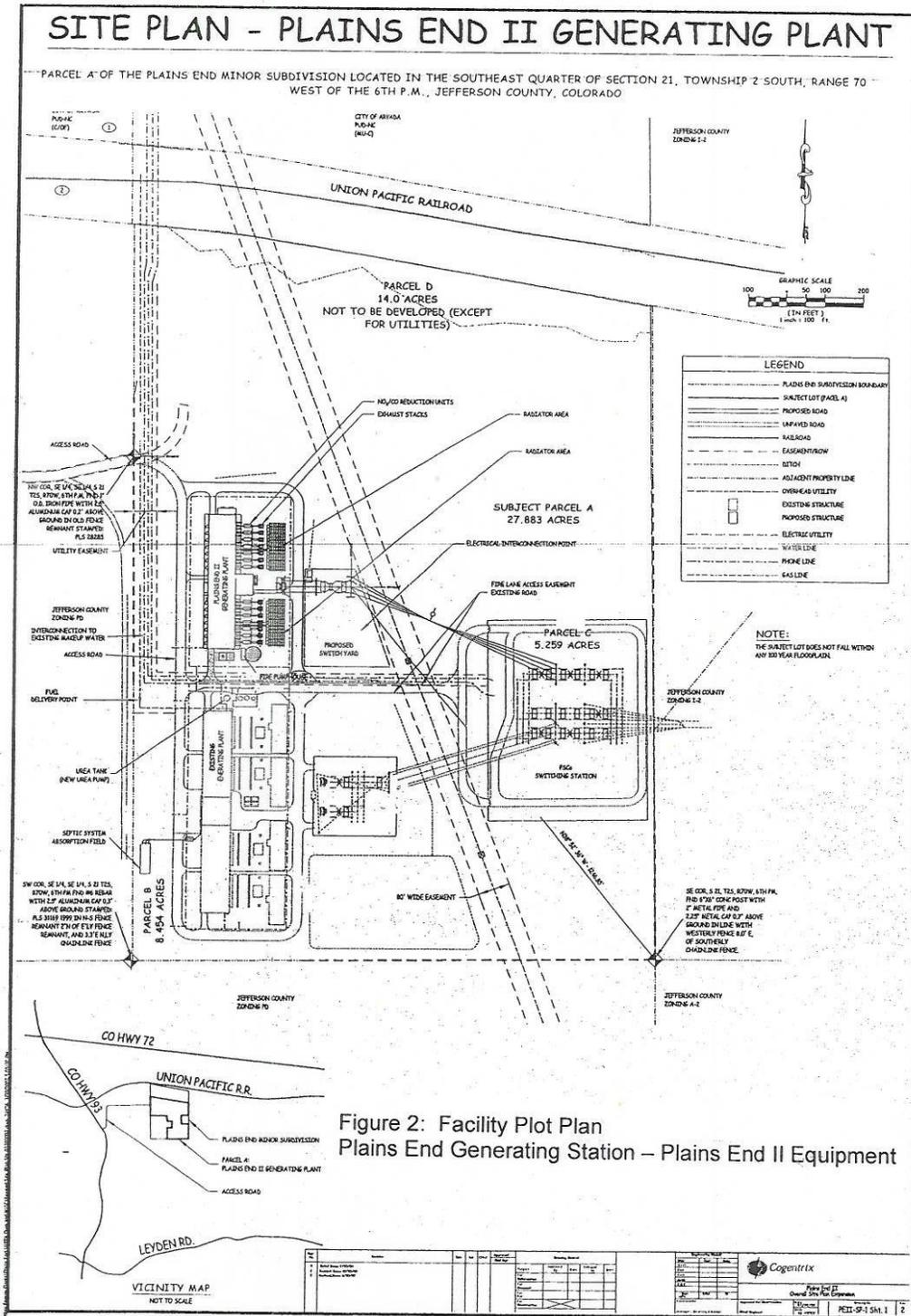


Figure 1: Facility Plot Plan
Plains End Generating Station – Plains End I Equipment



APPENDIX B

Reporting Requirements and Definitions

with codes ver 8/20/14

Please note that, pursuant to 113(c)(2) of the federal Clean Air Act, any person who knowingly:

- (A) makes any false material statement, representation, or certification in, or omits material information from, or knowingly alters, conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required pursuant to the Act to be either filed or maintained (whether with respect to the requirements imposed by the Administrator or by a State);
- (B) fails to notify or report as required under the Act; or
- (C) falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required to be maintained or followed under the Act shall, upon conviction, be punished by a fine pursuant to title 18 of the United States Code, or by imprisonment for not more than 2 years, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

The permittee must comply with all conditions of this operating permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

The Part 70 Operating Permit program requires three types of reports to be filed for all permits. All required reports must be certified by a responsible official.

Report #1: Monitoring Deviation Report (due at least every six months)

For purposes of this operating permit, the Division is requiring that the monitoring reports are due every six months unless otherwise noted in the permit. All instances of deviations from permit monitoring requirements must be clearly identified in such reports.

For purposes of this operating permit, monitoring means any condition determined by observation, by data from any monitoring protocol, or by any other monitoring which is required by the permit as well as the recordkeeping associated with that monitoring. This would include, for example, fuel use or process rate monitoring, fuel analyses, and operational or control device parameter monitoring.

Report #2: Permit Deviation Report (must be reported “promptly”)

In addition to the monitoring requirements set forth in the permits as discussed above, each and every requirement of the permit is subject to deviation reporting. The reports must address deviations from permit requirements, including those attributable to malfunctions as defined in this Appendix, the probable cause of

such deviations, and any corrective actions or preventive measures taken. All deviations from any term or condition of the permit are required to be summarized or referenced in the annual compliance certification.

For purposes of this operating permit, “malfunction” shall refer to both emergency conditions and malfunctions. Additional discussion on these conditions is provided later in this Appendix.

For purposes of this operating permit, the Division is requiring that the permit deviation reports are due as set forth in General Condition 21. Where the underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. For example, quarterly Excess Emission Reports required by an NSPS or Regulation No. 1, Section IV.

In addition to the monitoring deviations discussed above, included in the meaning of deviation for the purposes of this operating permit are any of the following:

- (1) A situation where emissions exceed an emission limitation or standard contained in the permit;
- (2) A situation where process or control device parameter values demonstrate that an emission limitation or standard contained in the permit has not been met;
- (3) A situation in which observations or data collected demonstrates noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit; or,
- (4) A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred. (only if the emission point is subject to CAM)

For reporting purposes, the Division has combined the Monitoring Deviation Report with the Permit Deviation Report. All deviations shall be reported using the following codes:

1 = Standard:	When the requirement is an emission limit or standard
2 = Process:	When the requirement is a production/process limit
3 = Monitor:	When the requirement is monitoring
4 = Test:	When the requirement is testing
5 = Maintenance:	When required maintenance is not performed
6 = Record:	When the requirement is recordkeeping
7 = Report:	When the requirement is reporting
8 = CAM:	A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred.
9 = Other:	When the deviation is not covered by any of the above categories

Report #3: Compliance Certification (annually, as defined in the permit)

Submission of compliance certifications with terms and conditions in the permit, including emission limitations, standards, or work practices, is required not less than annually.

Compliance Certifications are intended to state the compliance status of each requirement of the permit over the certification period. They must be based, at a minimum, on the testing and monitoring methods specified in the

permit that were conducted during the relevant time period. In addition, if the owner or operator knows of other material information (i.e. information beyond required monitoring that has been specifically assessed in relation to how the information potentially affects compliance status), that information must be identified and addressed in the compliance certification. The compliance certification must include the following:

- The identification of each term or condition of the permit that is the basis of the certification;
- Whether or not the method(s) used by the owner or operator for determining the compliance status with each permit term and condition during the certification period was the method(s) specified in the permit. Such methods and other means shall include, at a minimum, the methods and means required in the permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Clean Air Act, which prohibits knowingly making a false certification or omitting material information;
- The status of compliance with the terms and conditions of the permit, and whether compliance was continuous or intermittent. The certification shall identify each deviation and take it into account in the compliance certification. Note that not all deviations are considered violations.¹
- Such other facts as the Division may require, consistent with the applicable requirements to which the source is subject, to determine the compliance status of the source.

The Certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred. (only for emission points subject to CAM)

Note the requirement that the certification shall identify each deviation and take it into account in the compliance certification. Previously submitted deviation reports, including the deviation report submitted at the time of the annual certification, may be referenced in the compliance certification.

Startup, Shutdown, Malfunctions and Emergencies

Understanding the application of Startup, Shutdown, Malfunctions and Emergency Provisions, is very important in both the deviation reports and the annual compliance certifications.

Startup, Shutdown, and Malfunctions

Please note that exceedances of some New Source Performance Standards (NSPS) and Maximum Achievable Control Technology (MACT) standards that occur during Startup, Shutdown or Malfunctions may not be considered to be non-compliance since emission limits or standards often do not apply unless specifically stated in the NSPS. Such exceedances must, however, be reported as excess emissions per the NSPS/MACT rules and

¹ For example, given the various emissions limitations and monitoring requirements to which a source may be subject, a deviation from one requirement may not be a deviation under another requirement which recognizes an exception and/or special circumstances relating to that same event.

would still be noted in the deviation report. In regard to compliance certifications, the permittee should be confident of the information related to those deviations when making compliance determinations since they are subject to Division review. The concepts of Startup, Shutdown and Malfunctions also exist for Best Available Control Technology (BACT) sources, but are not applied in the same fashion as for NSPS and MACT sources.

Emergency Provisions

Under the Emergency provisions of Part 70 certain operational conditions may act as an affirmative defense against enforcement action if they are properly reported.

DEFINITIONS

Malfunction (NSPS) means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Malfunction (SIP) means any sudden and unavoidable failure of air pollution control equipment or process equipment or unintended failure of a process to operate in a normal or usual manner. Failures that are primarily caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

Emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

Monitoring and Permit Deviation Report - Part I

- Following is the **required** format for the Monitoring and Permit Deviation report to be submitted to the Division as set forth in General Condition 21. The Table below must be completed for all equipment or processes for which specific Operating Permit terms exist.
- Part II of this Appendix B shows the format and information the Division will require for describing periods of monitoring and permit deviations, or malfunction or emergency conditions as indicated in the Table below. One Part II Form must be completed for each Deviation. Previously submitted reports (e.g. EER's or malfunctions) may be referenced and the form need not be filled out in its entirety.

FACILITY NAME: Plains End LLC – Plains End Generating Station

OPERATING PERMIT NO: 04OPJE272

REPORTING PERIOD: _____ (see first page of the permit for specific reporting period and dates)

Operating Permit Unit ID	Unit Description	Deviations Noted During Period? ¹		Deviation Code ²	Malfunction/ Emergency Condition Reported During Period?	
		YES	NO		YES	NO
E01 - E20	Twenty (20) Wartsila, Model No. 18VG34SG, Natural Gas Fired Internal Combustion Engines Driving Electric Generators, Each Engine Rated at 54.2 MMBtu/hr and 7,900 HP, Serial Nos. 21350 through 21369. Each Generator Rated at 5,650 kW.					
E21 – E34	Fourteen (14) Wartsila, Model No. 20V34SG, Natural Gas Fired Internal Combustion Engines Driving Electric Generators, Each Engine Rated at 73.6 MMBtu/hr and 11,352 hp, Serial Nos, PAAE063701, 063703 – 063705, 063707 – 063712, 063717, 063721, 063722 & 063726. Each Generator Rated at 8,257 kW.					
E35	Cummins, Model No. QSX15-G9, Internal Combustion Engine, Serial No. 79274049 Driving a Cummins 350DFEG Electric Generator (350 kW). The Engine is Diesel Fuel-Fired and Rated at 755 hp and 3.3 MMBtu/hr. This unit is used to start the Wartsila engines when power at the facility is lost.					
E36	John Deere, Model No. 6068TF220, Diesel Fuel-Fired Emergency Fire Pump Engine, Rated at 149 hp (9.5 gal/hr), Serial No. PE6068T696483					
	Facility Wide Requirements					
	General Conditions					
	Insignificant Activities					

¹ See previous discussion regarding what is considered to be a deviation. Determination of whether or not a deviation has occurred shall be based on a reasonable inquiry using readily available information.

² Use the following entries, as appropriate:

- 1 = Standard:** When the requirement is an emission limit or standard
- 2 = Process:** When the requirement is a production/process limit
- 3 = Monitor:** When the requirement is monitoring
- 4 = Test:** When the requirement is testing
- 5 = Maintenance:** When required maintenance is not performed
- 6 = Record:** When the requirement is recordkeeping
- 7 = Report:** When the requirement is reporting
- 8 = CAM:** A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred.
- 9 = Other:** When the deviation is not covered by any of the above categories

Monitoring and Permit Deviation Report - Part II

FACILITY NAME: Plains End LLC – Plains End Generating Station
OPERATING PERMIT NO: 04OPJE272
REPORTING PERIOD:

Is the deviation being claimed as an: Emergency _____ Malfunction _____ N/A
(For NSPS/MACT) Did the deviation occur during: Startup _____ Shutdown _____ Malfunction _____
Normal Operation _____

OPERATING PERMIT UNIT IDENTIFICATION:

Operating Permit Condition Number Citation

Explanation of Period of Deviation

Duration (start/stop date & time)

Action Taken to Correct the Problem

Measures Taken to Prevent a Reoccurrence of the Problem

Dates of Malfunctions/Emergencies Reported (if applicable)

Deviation Code _____ Division Code QA: _____

SEE EXAMPLE ON THE NEXT PAGE

EXAMPLE

FACILITY NAME: Acme Corp.
OPERATING PERMIT NO: 96OPZZXXX
REPORTING PERIOD: 1/1/04 - 6/30/06

Is the deviation being claimed as an: Emergency _____ Malfunction XX N/A

(For NSPS/MACT) Did the deviation occur during: Startup _____ Shutdown _____ Malfunction
Normal Operation _____

OPERATING PERMIT UNIT IDENTIFICATION:

Asphalt Plant with a Scrubber for Particulate Control - Unit XXX

Operating Permit Condition Number Citation

Section II, Condition 3.1 - Opacity Limitation

Explanation of Period of Deviation

Slurry Line Feed Plugged

Duration

START- 1730 4/10/06
END- 1800 4/10/06

Action Taken to Correct the Problem

Line Blown Out

Measures Taken to Prevent Reoccurrence of the Problem

Replaced Line Filter

Dates of Malfunction/Emergencies Reported (if applicable)

5/30/06 to A. Einstein, APCD

Deviation Code _____

Division Code QA: _____

Monitoring and Permit Deviation Report - Part III

REPORT CERTIFICATION

SOURCE NAME: Plains End LLC – Plains End Generating Station

FACILITY IDENTIFICATION NUMBER: 0590864

PERMIT NUMBER: 04OPJE272

REPORTING PERIOD: _____ (see first page of the permit for specific reporting period and dates)

All information for the Title V Semi-Annual Deviation Reports must be certified by a responsible official as defined in Colorado Regulation No. 3, Part A, Section I.B. This signed certification document must be packaged with the documents being submitted.

STATEMENT OF COMPLETENESS

I have reviewed the information being submitted in its entirety and, based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this submittal are true, accurate and complete.

Please note that the Colorado Statutes state that any person who knowingly, as defined in Sub-Section 18-1-501(6), C.R.S., makes any false material statement, representation, or certification in this document is guilty of a misdemeanor and may be punished in accordance with the provisions of Sub-Section 25-7 122.1, C.R.S.

Printed or Typed Name

Title

Signature of Responsible Official

Date Signed

Note: Deviation reports shall be submitted to the Division at the address given in Appendix D of this permit. No copies need be sent to the U.S. EPA.

APPENDIX C

Required Format for Annual Compliance Certification Report

with codes ver 8/20/14

Following is the format for the Compliance Certification report to be submitted to the Division and the U.S. EPA annually based on the effective date of the permit. The Table below must be completed for all equipment or processes for which specific Operating Permit terms exist.

FACILITY NAME: Plains End LLC – Plains End Generating Station

OPERATING PERMIT NO: 04OPJE272

REPORTING PERIOD:

I. Facility Status

___ During the entire reporting period, this source was in compliance with **ALL** terms and conditions contained in the Permit, each term and condition of which is identified and included by this reference. The method(s) used to determine compliance is/are the method(s) specified in the Permit.

___ With the possible exception of the deviations identified in the table below, this source was in compliance with all terms and conditions contained in the Permit, each term and condition of which is identified and included by this reference, during the entire reporting period. The method used to determine compliance for each term and condition is the method specified in the Permit, unless otherwise indicated and described in the deviation report(s). Note that not all deviations are considered violations.

Operating Permit Unit ID	Unit Description	Deviations Reported ¹		Monitoring Method per Permit? ²		Was Compliance Continuous or Intermittent? ³	
		Previous	Current	YES	NO	Continuous	Intermittent
E01 - E20	Twenty (20) Wartsila, Model No. 18VG34SG, Natural Gas Fired Internal Combustion Engines Driving Electric Generators, Each Engine Rated at 54.2 MMBtu/hr and 7,900 HP, Serial Nos. 21350 through 21369. Each Generator Rated at 5,650 kW.						
E21 – E34	Fourteen (14) Wartsila, Model No. 20V34SG, Natural Gas Fired Internal Combustion Engines Driving Electric Generators, Each Engine Rated at 73.6 MMBtu/hr and 11,352 hp, Serial Nos, PAAE063701, 063703 – 063705, 063707 – 063712, 063717, 063721, 063722 & 063726. Each Generator Rated at 8,257 kW.						

Operating Permit Unit ID	Unit Description	Deviations Reported ¹		Monitoring Method per Permit? ²		Was Compliance Continuous or Intermittent? ³	
		Previous	Current	YES	NO	Continuous	Intermittent
E35	Cummins, Model No. QSX15-G9, Internal Combustion Engine, Serial No. 79274049 Driving a Cummins 350DFEG Electric Generator (350 kW). The Engine is Diesel Fuel-Fired and Rated at 755 hp and 3.3 MMBtu/hr. This unit is used to start the Wartsila engines when power at the facility is lost.						
E36	John Deere, Model No. 6068TF220, Diesel Fuel-Fired Emergency Fire Pump Engine, Rated at 149 hp (9.5 gal/hr), Serial No. PE6068T696483						
	Facility Wide Requirements						
	General Conditions						
	Insignificant Activities ⁴						

¹ If deviations were noted in a previous deviation report, put an “X” under “previous”. If deviations were noted in the current deviation report (i.e. for the last six months of the annual reporting period), put an “X” under “current”. Mark both columns if both apply.

² Note whether the method(s) used to determine the compliance status with each term and condition was the method(s) specified in the permit. If it was not, mark “no” and attach additional information/explanation.

³ Note whether the compliance status with of each term and condition provided was continuous or intermittent. “Intermittent Compliance” can mean either that noncompliance has occurred or that the owner or operator has data sufficient to certify compliance only on an intermittent basis. Certification of intermittent compliance therefore does not necessarily mean that any noncompliance has occurred.

NOTE:

The Periodic Monitoring requirements of the Operating Permit program rule are intended to provide assurance that even in the absence of a continuous system of monitoring the Title V source can demonstrate whether it has operated in continuous compliance for the duration of the reporting period. Therefore, if a source 1) conducts all of the monitoring and recordkeeping required in its permit, even if such activities are done periodically and not continuously, and if 2) such monitoring and recordkeeping does not indicate non-compliance, and if 3) the Responsible Official is not aware of any credible evidence that indicates non-compliance, then the Responsible Official can certify that the emission point(s) in question were in continuous compliance during the applicable time period.

⁴ Compliance status for these sources shall be based on a reasonable inquiry using readily available information.

II. Status for Accidental Release Prevention Program:

- A. This facility _____ is subject _____ is not subject to the provisions of the Accidental Release Prevention Program (Section 112(r) of the Federal Clean Air Act)
- B. If subject: The facility _____ is _____ is not in compliance with all the requirements of section 112(r).
1. A Risk Management Plan _____ will be _____ has been submitted to the appropriate authority and/or the designated central location by the required date.

III. Certification

All information for the Annual Compliance Certification must be certified by a responsible official as defined in Colorado Regulation No. 3, Part A, Section I.B. This signed certification document must be packaged with the documents being submitted.

I have reviewed this certification in its entirety and, based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this certification are true, accurate and complete.

Please note that the Colorado Statutes state that any person who knowingly, as defined in § 18-1-501(6), C.R.S., makes any false material statement, representation, or certification in this document is guilty of a misdemeanor and may be punished in accordance with the provisions of § 25-7 122.1, C.R.S.

Printed or Typed Name

Title

Signature

Date Signed

NOTE: All compliance certifications shall be submitted to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit.

APPENDIX D

Notification Addresses

1. **Air Pollution Control Division**

Colorado Department of Public Health and Environment
Air Pollution Control Division
Operating Permits Unit
APCD-SS-B1
4300 Cherry Creek Drive S.
Denver, CO 80246-1530

ATTN: Matt Burgett

2. **United States Environmental Protection Agency**

Compliance Notifications:

Office of Enforcement, Compliance and Environmental Justice
Mail Code 8ENF-AT
U.S. Environmental Protection Agency, Region VIII
1595 Wynkoop Street
Denver, CO 80202-1129

502(b)(10) Changes, Off Permit Changes:

Office of Partnerships and Regulatory Assistance
Air and Radiation Programs, 8P-AR
U.S. Environmental Protection Agency, Region VIII
1595 Wynkoop Street
Denver, CO 80202-1129

APPENDIX E

Permit Acronyms

Listed Alphabetically:

AIRS -	Aerometric Information Retrieval System
AP-42-	EPA Document Compiling Air Pollutant Emission Factors
APEN -	Air Pollution Emission Notice (State of Colorado)
APCD -	Air Pollution Control Division (State of Colorado)
ASTM -	American Society for Testing and Materials
BACT -	Best Available Control Technology
BTU -	British Thermal Unit
CAA -	Clean Air Act (CAAA = Clean Air Act Amendments)
CCR -	Colorado Code of Regulations
CEM -	Continuous Emissions Monitor
CF -	Cubic Feet (SCF = Standard Cubic Feet)
CFR -	Code of Federal Regulations
CO -	Carbon Monoxide
COM -	Continuous Opacity Monitor
CRS -	Colorado Revised Statute
EF -	Emission Factor
EPA -	Environmental Protection Agency
FI -	Fuel Input Rate in MMBtu/hr
FR -	Federal Register
G -	Grams
Gal -	Gallon
GPM -	Gallons per Minute
HAPs -	Hazardous Air Pollutants
HP -	Horsepower
HP-HR -	Horsepower Hour (G/HP-HR = Grams per Horsepower Hour)
LAER -	Lowest Achievable Emission Rate
LBS -	Pounds
M -	Thousand
MM -	Million
MMscf -	Million Standard Cubic Feet
MMscfd -	Million Standard Cubic Feet per Day
N -	Normal Operation, as referenced in permit limitation table in Section II.1
N/A or NA -	Not Applicable
NO _x -	Nitrogen Oxides
NESHAP -	National Emission Standards for Hazardous Air Pollutants
NSPS -	New Source Performance Standards
P -	Process Weight Rate in Tons/Hr
PE -	Particulate Emissions
PM -	Particulate Matter

PM ₁₀ -	Particulate Matter Under 10 Microns
PPM -	Parts Per Million
PPMV -	Parts Per Million, by Volume
PPMVD -	Parts per Million, by Volume, Dry
PSD -	Prevention of Significant Deterioration
PTE -	Potential To Emit
RACT -	Reasonably Available Control Technology
SCC -	Source Classification Code
SCF -	Standard Cubic Feet
SD -	Shutdown, as referenced in permit limitation table in Section II.1
SIC -	Standard Industrial Classification
SO ₂ -	Sulfur Dioxide
SU -	Start-Up, as referenced in permit limitation table in Section II.1
TPY -	Tons Per Year
TSP -	Total Suspended Particulate
VOC -	Volatile Organic Compounds

APPENDIX F

Permit Modifications

DATE OF REVISION	MODIFICATION TYPE	SECTION NUMBER, CONDITION NUMBER	DESCRIPTION OF REVISION

APPENDIX G

Wartsila Engine HAP Emission Factors

Pollutant	AP-42 Ratio (fraction of total HAPS)	Plains End 1 Emission Factor (lb/MMBtu)	Plains End 2 Emission Factor (lb/MMBtu)
1,1,2,2 - tetrachloroethane	5.54E-04	1.14E-06	7.41E-07
1,1,2 – trichloroethane	4.40E-04	9.07E-07	5.89E-07
1,3 – butadiene	3.70E-03	7.61E-06	4.95E-06
1,3 – dichloropropene	3.66E-04	7.53E-07	4.89E-07
2 – methylnaphthalene	4.60E-04	9.47E-07	6.15E-07
2,2,4 - trimethylpentane	3.46E-03	7.13E-06	4.63E-06
Acenaphthene	1.73E-05	3.56E-08	2.32E-08
Acenaphthylene	7.66E-05	1.58E-07	1.02E-07
Acetaldehyde	1.16E-01	2.38E-04	1.55E-04
Acrolein	7.12E-02	1.47E-04	9.52E-05
Benzene	6.09E-03	1.25E-05	8.15E-06
benzo(b)fluoranthene	2.30E-06	4.73E-09	3.08E-09
benzo(e)pyrene	5.75E-06	1.18E-08	7.69E-09
benzo(g,h,l)perlyene	5.73E-06	1.18E-08	7.67E-09
Biphenyl	2.94E-03	6.04E-06	3.93E-06
carbon tetrachloride	5.08E-04	1.05E-06	6.80E-07
Chlorobenzene	4.21E-04	8.67E-07	5.63E-07
Chloroform	3.95E-04	8.13E-07	5.28E-07
Chrysene	9.60E-06	1.98E-08	1.28E-08
Ethylbenzene	5.50E-04	1.13E-06	7.36E-07
ethylene dibromide	6.14E-04	1.26E-06	8.21E-07
Fluoranthene	1.54E-05	3.17E-08	2.06E-08
Fluorine	7.85E-05	1.62E-07	1.05E-07
Formaldehyde	7.31E-01	1.51E-03	9.78E-04
Methanol	3.46E-02	7.13E-05	4.63E-05
methylene chloride	2.77E-04	5.70E-07	3.71E-07
n-hexane	1.54E-02	3.17E-05	2.06E-05
Naphthalene	1.03E-03	2.12E-06	1.38E-06
PAH	3.73E-04	7.67E-07	4.98E-07
Phenanthrene	1.44E-04	2.97E-07	1.93E-07
Phenol	3.32E-04	6.84E-07	4.45E-07
Pyrene	1.88E-05	3.88E-08	2.52E-08
Styrene	3.27E-04	6.73E-07	4.37E-07
Tetrachloroethane	3.44E-05	7.07E-08	4.59E-08
Toluene	5.65E-03	1.16E-05	7.56E-06
vinyl chloride	2.06E-04	4.25E-07	2.76E-07
Xylene	2.55E-03	5.25E-06	3.41E-06

The above emission factors are based on the following formaldehyde emission rates: Plains End I – 0.0816 lbs/hr (maximum test result multiplied by 1.2) and Plains End II – 0.072 lbs/hr (average test result multiplied by 5). The above emission factors shall be recalculated if a performance test on any engine indicates that formaldehyde emissions exceeds these emission rates. New emission factors shall be calculated as follows:

A total HAP emission rate (in lbs/hr) shall be calculated by dividing the formaldehyde test result by the appropriate AP-42 ratio. Individual HAP emission rates (in lbs/hr) will then be calculated by multiplying the total HAP emission rate (in lbs/hr) by its respective AP-42 ratio. Individual HAP emission rates (in lbs/hr) will be divided by the design heat input rate (MMBtu/hr) of the engine to get the individual HAP emission factor (in units of lb/MMBtu).

APPENDIX H

Portable Monitoring Annual Emissions Limitations Monitoring Method

The results of the portable monitoring tests conducted on the Plains End I and Plains End II (required by Section II, Condition 1.10 and 2.10 of this permit) shall be used in the following manner to monitor compliance with the annual NO_x and CO emissions limitations:

- A. The portable monitoring results from each engine shall be converted to units of lb/MMBtu.
- B. Hours of operation from each engine for the semi-annual period shall be determined.
- C. An operating hours ratio shall be determined for each engine by dividing the hours a given engine operated over the semi-annual period by the total hours of operation for all engines in that operating group (i.e., either the Plains End I or Plains End II engines). An example calculation is shown below:

$$\text{Operating hours ratio (OHR)} = \frac{\text{E01 operating hours}}{\text{Sum of operating hours for E01 through E20}}$$

- D. Estimated annual emissions for a given engine shall be calculated by multiplying the portable monitoring results (in lb/MMBtu) by the operating hours ratio, the permitted fuel consumption rate for the engines in that operating group and the heat content of the fuel and dividing by 2000 (to convert from lbs/yr to tons/yr). An example calculation is shown below.

$$\text{E01 (tons/yr)} = \frac{\text{monitoring results (lb/MMBtu)} \times \text{OHR} \times 6912 \text{ MMscf/yr} \times \text{heat content of natural gas (MMBtu/MMscf)}}{2000 \text{ lbs/ton}}$$

- E. Total estimated annual emissions for a given operating group shall be determined by summing the estimated annual emissions for all engines in that operating group.

APPENDIX I

Compliance Assurance Monitoring Plan

I. Background

a. Emission Units Description:

PE I Engines: Twenty (20) Wartsila, Model No. 18VG34SG, Natural Gas Fired Internal Combustion Engines Driving Electric Generators, Each Engine Rated at 54.2 MMBtu/hr and 7,900 HP, Serial Nos. 21350 through 21369. Each Generator Rated at 5,650 kW.

PE II Engines: Fourteen (14) Wartsila, Model No. 20V34SG, Natural Gas Fired Internal Combustion Engines Driving Electric Generators, Each Engine Rated at 73.6 MMBtu/hr and 11,352 hp, Serial Nos, PAAE063701, 063703 – 063705, 063707 – 063712, 063717, 063721, 063722 & 063726. Each Generator Rated at 8,439 kW.

b. Applicable Regulation/Requirement, Emission Limit, Monitoring Requirements:

Regulations/Requirements: Title V Operating Permit Section II, Conditions 1.4.1 (underlying Construction Permit 01JE0057) and 2.4.1 (underlying Construction Permit 04JE1140)

Emission Limitations: PE I, CO: 227 tons/yr for all engines combined
 PE II, CO: 247.2 tons/yr for all engines combined

Monitoring Requirements: Catalyst Inlet Temperature

Control Technology:

PE I Engines: Each engine is equipped with an Oxidation Catalyst to Control CO Emissions

PEII Engines: Each engine is equipped with an Oxidation Catalyst to Control CO Emissions

II. Monitoring Approach

	Indicator
I. Indicator Measurement Approach	Catalyst Inlet Temperature
	Catalyst inlet gas temperature is monitored continuously using inline thermocouples Equipment has been installed on the engines to automatically shut down each engine when the catalyst inlet temperature exceeds 1,350 ° F

	Indicator
II. Indicator Range	<p>An excursion is defined as any daily inlet catalyst temperature that is less than 450 °F or greater than 1350 °F OR any instance in which an engine shuts down because the catalyst inlet temperature exceeds 1350 °F</p> <p>Excursions trigger the permittee to investigate engine and catalyst performance and to make any necessary repairs or adjustments. Records shall be maintained of the repairs or adjustments made as the result of an investigation and shall be made available to the Division upon request.</p>
III. Performance Criteria	
a. Data Representativeness	<p>Catalyst inlet temperature is measured upstream of the catalyst. In the event that the inlet temperature monitoring device is inoperable, the permittee shall monitor and record the exit temperature from the oxidation catalyst. The permittee shall keep records of the time periods when the inlet temperature is not recorded due to inlet temperature monitoring device inoperability and shall make such records available to the Division upon request. The inlet temperature monitoring device shall be repaired as soon as practicable.</p>
b. QA/QC Practices and Criteria	<p>Thermocouples shall be operated and maintained in accordance with manufactures recommendations.</p>
c. Monitoring Frequency	<p>Catalyst inlet temperature is monitored continuously and recorded daily. Records of daily temperatures shall be recorded in a log to be made available to the Division upon request. Either an electronic or hard copy log is acceptable.</p> <p>Failure to record the catalyst inlet temperature for any day in which the engine operated shall be reported as an excursion.</p> <p>Recording of the catalyst inlet temperature is not required in any day during which the engine did not operate.</p>

III. Justification

a. Background:

The monitoring approach outlined below applies to the oxidation catalyst systems used on the 34 natural gas-fired engines, E01 – E34. The catalyst system is a passive unit and does not have mechanical components. The oxidation reaction does not take place properly if the temperature of the engine exhaust gas into the catalyst system is too low or too high.

b. Rationale for Selection of Performance Indicators:

Temperature into the catalyst unit is measured because temperature excursions can indicate problems with engine operation that can prevent the chemical reaction from taking place in the catalyst bed. Too low of an exhaust gas temperature reduces the activity of the intended chemical/catalyst reaction. Too high of an exhaust gas temperature can indicate engine problems which can damage the catalyst unit. Daily monitoring of the inlet gas temperature to the catalyst will help assure proper operation of the catalyst.

c. Rationale for Selection of Indicator Ranges:

An exhaust gas temperature range of 450 °F to 1,350 °F has been selected based upon the catalyst manufacturer's suggested operating parameters for optimal chemical reaction. This is also the temperature range that is a required operating limitation for lean burn, catalytically controlled engines subject to requirements in 40 CFR Part 63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines).