Colorado Department of Public Health and Environment

OPERATING PERMIT

Grand River Gathering, LLC
Pumba Compressor Station

Issued: April 1, 2013

AIR POLLUTION CONTROL DIVISION
COLORADO OPERATING PERMIT

FACILITY NAME:	Pumba Compressor Station	OPERATING PERMIT NUMBER
FACILITY ID:	0450368	**04OPGA277**
ISSUED:	April 1, 2013	
EXPIRATION DATE:	April 1, 2018	
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:	PLANT SITE LOCATION:
Grand River Gathering, LLC	Pumba Compressor Station
370 17th Street, Suite 1700 Denver, CO 80202	NENE Section 10, Township 7 South, Range 93 West Garfield County, Colorado

INFORMATION RELIED UPON

Operating Permit Application Received:	October 6, 2004
And Additional Information Received:	Various Dates

Nature of Business:	Natural Gas Compression
Primary SIC:	1311

RESPONSIBLE OFFICIAL		FACILITY CONTACT PERSON	
Name:	Mike Rose	Name:	Mike Rose
Title:	Director of Engineering, Construction & Operations	Title:	Director of Engineering, Construction & Operations
Phone:	(970) 440-1000	Phone:	(970) 440-1000

SUBMITTAL DEADLINES –

First Semi-Annual Monitoring Period:	April 1, 2013 – June 30, 2013
Subsequent Semi-Annual Monitoring Periods:	July 1 – December 31, January 1 – June 30
Semi-Annual Monitoring Reports:	Due August 1, 2013 & February 1, 2014 & subsequent years
First Annual Compliance Period:	April 1, 2013 – December 31, 2013
Subsequent Annual Compliance Periods:	January 1 – December 31
Annual Compliance Certification:	Due February 1, 2014 & subsequent years

Note that the Semi-Annual Monitoring Reports and Annual Compliance report 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.

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SECTION I - General Activities and Summary

1. Permitted Activities

1.1 The Pumba Compressor Station is a natural gas gathering and compression facility defined under Standard Industrial Classification 1311. The facility includes four gas compressors powered by internal combustion engines, a triethylene glycol dehydrator used to remove water from the natural gas and six atmospheric condensate storage tanks. Emissions from the internal combustion engines are controlled with oxidation catalysts. Emissions from the dehydrator still vent are routed to an air-cooled condenser and then to a Vapor Recovery Unit (VRU). Emissions from the dehydrator flash tank and from the condensate tank vents are also routed to the VRU. The facility has one blowdown stack which accepts natural gas from compressor and pipeline blowdown activities on site.

The facility is located in NENE Section 10, Township 7 South, Range 93 West, approximately 4.5 miles south of Rifle in Garfield County, Colorado. The area in which the facility operates is designated as attainment for all criteria pollutants. There are no affected states within 50 miles of the facility. The following are Federal Class I designated areas within 100 kilometers of the facility: Flat Tops Wilderness, Maroon-Bells-Snowmass Wilderness, West Elk Wilderness and Black Canyon of the Gunnison National Park.

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 The 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: 02GA0236, 02GA0557, 03GA0341, 03GA0342, 03GA0608 and 04GA0352.

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 & 18 (as noted). Section II – Conditions 1.7, 2.7, 4.4, and 5.3.

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 (ver 10/12/2012)

The following Alternative Operating Scenario (AOS) for the temporary and permanent replacement of natural gas fired reciprocating internal combustion engines has been reviewed in accordance with the

requirements of Regulation No. 3., Part A, Section IV.A, Operational Flexibility-Alternative Operating Scenarios, Regulation No. 3, Part B, Construction Permits, and Regulation No. 3, Part D, Major Stationary Source New Source Review and Prevention of Significant Deterioration, and it has been found to meet all applicable substantive and procedural requirements. This permit incorporates and shall be considered a Construction Permit for any engine replacement performed in accordance with this AOS, and the permittee shall be allowed to perform such engine replacement without applying for a revision to this permit or obtaining a new Construction Permit.

2.1 Engine Replacement

The following AOS is incorporated into this permit in order to deal with a compressor engine breakdown or periodic routine maintenance and repair of an existing onsite engine that requires the use of either a temporary or permanent replacement engine. "Temporary" is defined as in the same service for 90 operating days or less in any 12 month period. "Permanent" is defined as in the same service for more than 90 operating days in any 12 month period. The 90 days is the total number of days that the engine is in operation. If the engine operates only part of a day, that day shall count as a single day towards the 90-day total. The compliance demonstrations and any periodic monitoring required by this AOS are in addition to any compliance demonstrations or periodic monitoring required by this permit.

All replacement engines are subject to all federally applicable and state-only requirements set forth in this permit (including monitoring and record keeping), and shall be subject to any shield afforded by this permit.

The results of all tests and the associated calculations required by this AOS shall be submitted to the Division within 30 calendar days of the test or within 60 days of the test if such testing is required to demonstrate compliance with NSPS or MACT requirements. Results of all tests shall be kept on site for five (5) years and made available to the Division upon request.

The permittee shall maintain a log on-site and contemporaneously record the start and stop date of any engine replacement, the manufacturer, date of manufacture, model number, horsepower, and serial number of the engine(s) that are replaced during the term of this permit, and the manufacturer, model number, horsepower, and serial number of the replacement engine. In addition to the log, the permittee shall maintain a copy of all Applicability Reports required under section 2.1.2 and make them available to the Division upon request.

2.1.1 The permittee may **temporarily** replace an existing compressor engine that is subject to the emission limits set forth in this permit with an engine that is of the same manufacturer, model, and horsepower or a different manufacturer, model, or horsepower as the existing engine without modifying this permit, so long as the temporary replacement engine complies with all permit limitations and other requirements applicable to the existing engine. Measurement of emissions from the temporary replacement engine shall be made as set forth in section 2.2.

The permittee may **temporarily** replace a grandfathered or permit exempt engine or an engine that is not subject to emission limits without modifying this permit. In this circumstance, potential annual emissions of NOx and CO from the temporary replacement engine must be less

than or equal to the potential annual emissions of NOx and CO from the original grandfathered or permit exempt engine or for the engine that is not subject to emission limits, as determined by applying appropriate emission factors (e.g. AP-42 or manufacturer's emission factors)

2.1.2 The permittee may **permanently** replace the existing compressor engine for the emission points specified in Table 1 with the manufacturer, model, and horsepower engines listed in Table 1 without modifying this permit so long as the permanent replacement engine complies with all permit limitations and other requirements applicable to the existing engine as well as any new applicable requirements for the replacement engine. Measurement of emissions from the permanent replacement engine and compliance with the applicable emission limitations shall be made as set forth in section 2.2.

An Air Pollutant Emissions Notice (APEN) that includes the specific manufacturer, model and serial number and horsepower of the permanent replacement engine shall be filed with the Division for the permanent replacement engine within 14 calendar days of commencing operation of the replacement engine. The APEN shall be accompanied by the appropriate APEN filing fee, a cover letter explaining that the permittee is exercising an alternative operating scenario and is installing a permanent replacement engine, and a copy of the relevant Applicability Reports for the replacement engine. Example Applicability Reports can be found in Appendix A. This submittal shall be accompanied by a certification from the Responsible Official indicating that "based on the information and belief formed after reasonable inquiry, the statements and information included in the submittal are true, accurate and complete".

This AOS cannot be used for permanent engine replacement of a grandfathered or permit exempt engine or an engine that is not subject to emission limits.

The permittee shall agree to pay fees based on the normal permit processing rate for review of information submitted to the Division in regard to any permanent engine replacement.

2.2 Portable Analyzer Testing

Note: In some cases there may be conflicting and/or duplicative testing requirements due to overlapping Applicable Requirements. In those instances, please contact the Division Field Services Unit to discuss streamlining the testing requirements.

Note that the testing required by this Condition may be used to satisfy the periodic testing requirements specified by the permit for the relevant time period (i.e. if the permit requires quarterly portable analyzer testing, this test conducted under the AOS will serve as the quarterly test and an additional portable analyzer test is not required for another three months).

The permittee may conduct a reference method test, in lieu of the portable analyzer test required by this Condition, if approved in advance by the Division.

The permittee shall measure nitrogen oxide (NO_x) and carbon monoxide (CO) emissions in the exhaust from the replacement engine using a portable flue gas analyzer *within seven (7) calendar days of commencing operation of the replacement 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: http://www.colorado.gov/cs/Satellite/CDPHE-AP/CBON/1251596520270.

Results of the portable analyzer tests shall be used to monitor the compliance status of this unit.

For comparison with an annual (tons/year) or short term (lbs/unit of time) 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 comparison with a short-term limit that is either input based (lb/mmBtu), output based (g/hp-hr) or concentration based (ppmvd @ 15% O2) that the existing unit is currently subject to or the replacement engine will be subject to, the results of the test shall be converted to the appropriate units as described in the above-mentioned Portable Analyzer Monitoring Protocol document.

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.

2.3 Applicable Regulations for Permanent Engine Replacements

2.3.1 Reasonably Available Control Technology (RACT): Reg 3, Part B § II.D.2

All permanent replacement engines that are located in an area that is classified as attainment/maintenance or nonattainment must apply Reasonably Available Control Technology (RACT) for the pollutants for which the area is attainment/maintenance or nonattainment. Note that both VOC and NOX are precursors for ozone. RACT shall be applied for any level of emissions of the pollutant for which the area is in attainment/maintenance or nonattainment, except as follows:

In the Denver Metropolitan PM10 attainment/maintenance area, RACT applies to PM10 at any level of emissions and to NOX and SO2, as precursors to PM10, if the potential to emit of NOX or SO2 exceeds 40 tons/yr.

For purposes of this AOS, the following shall be considered RACT for natural-gas fired reciprocating internal combustion engines:

VOC: The emission limitations in NSPS JJJJ

CO: The emission limitations in NSPS JJJJ
NO_x: The emission limitations in NSPS JJJJ
SO_2: Use of natural gas as fuel
PM_{10}: Use of natural gas as fuel

As defined in 40 CFR Part 60 Subparts GG (§ 60.331) and 40 CFR Part 72 (§ 72.2), natural gas contains 20.0 grains or less of total sulfur per 100 standard cubic feet.

2.3.2 Control Requirements and Emission Standards: Regulation No. 7, Sections XVI. and XVII.E (State-Only conditions).

Control Requirements: Section XVI

Any permanent replacement engine located within the boundaries of an ozone nonattainment area is subject to the applicable control requirements specified in Regulation No. 7, section XVI, as specified below:

Rich burn engines with a manufacturer's design rate greater than 500 hp shall use a non-selective catalyst and air fuel controller to reduce emission.

Lean burn engines with a manufacturer's design rate greater than 500 hp shall use an oxidation catalyst to reduce emissions.

The above emission control equipment shall be appropriately sized for the engine and shall be operated and maintained according to manufacturer specifications.

The source shall submit copies of the relevant Applicability Reports required under Condition 2.1.2.

Emission Standards: Section XVII.E – State-only requirements

Any permanent engine that is either constructed or relocated to the state of Colorado from another state, after the date listed in the table below shall operate and maintain each engine according to the manufacturer's written instructions or procedures to the extent practicable and consistent with technological limitations and good engineering and maintenance practices over the entire life of the engine so that it achieves the emission standards required in the table below:

Max Engine HP	Construction or Relocation Date	Emission Standards in G/hp-hr		
		NO_X	CO	VOC
100<Hp<500	January 1, 2008	2.0	4.0	1.0
	January 1, 2011	1.0	2.0	0.7
500≤Hp	July 1, 2007	2.0	4.0	1.0
	July 1, 2010	1.0	2.0	0.7

The source shall submit copies of the relevant Applicability Reports required under Condition 2.1.2.

2.3.3 NSPS for spark ignition internal combustion engines: 40 CFR 60, Subpart JJJJ

A permanent replacement engine that is manufactured on or after 7/1/09 for emergency engines greater than 25 hp, 7/1/2008 for engines less than 500 hp, 7/1/2007 for engines greater than or equal to 500 hp except for lean burn engines greater than or equal to 500 hp and less than 1,350 hp, and 1/1/2008 for lean burn engines greater than or equal to 500 hp and less than 1,350 hp are subject to the requirements of 40 CFR Part 60, Subpart JJJJ. An analysis of applicable monitoring, recordkeeping, and reporting requirements for the permanent engine replacement shall be included in the Applicability Reports required under Condition 2.1.2. Any testing required by the NSPS is in addition to that required by this AOS. Note that the initial test required by NSPS Subpart JJJJ can serve as the testing required by this AOS under Condition 2.2, if approved in advance by the Division, provided that such test is conducted within the time frame specified in Condition 2.2.

Note that under the provisions of Regulation No. 6. Part B, section I.B. that Relocation of a source from outside of the State of Colorado into the State of Colorado is considered to be a new source, subject to the requirements of Regulation No. 6 (i.e., the date that the source is first relocated to Colorado becomes equivalent to the manufacture date for purposes of determining the applicability of NSPS JJJJ requirements).

However, as of October 1, 2011 the Division has not yet adopted NSPS JJJJ. Until such time as it does, any engine subject to NSPS will be subject only under Federal law. Once the Division adopts NSPS JJJJ, there will be an additional step added to the determination of the NSPS. Under the provisions of Regulation No. 6, Part B, § I.B (which is referenced in Part A), any engine relocated from outside of the State of Colorado into the State of Colorado is considered to be a new source, subject to the requirements of NSPS JJJJ.

2.3.4 Reciprocating internal combustion engine (RICE) MACT: 40 CFR Part 63, Subpart ZZZZ

A permanent replacement engine located at either an area or major source is subject to the requirements in 40 CFR Part 63, Subpart ZZZZ. An analysis of the applicable monitoring, recordkeeping, and reporting requirements for the permanent engine replacement shall be included in the Applicability Reports required under Condition 2.1.2. Any testing required by the MACT is in addition to that required by this AOS. Note that the initial test required by the MACT can serve as the testing required by this AOS under Condition 2.2, if approved in advance by the Division, provided that such test is conducted within the time frame specified in Condition 2.2.

2.3.5 Additional Sources

The replacement of an existing engine with a new engine is viewed by the Division as the installation of a new emissions unit, not “routine replacement” of an existing unit. The AOS is therefore essentially an advanced construction permit review. The AOS cannot be used for

additional new emission points for any site; an engine that is being installed as an entirely new emission point and not as part of an AOS-approved replacement of an existing onsite engine has to go through the appropriate Construction/Operating permitting process prior to installation.

Table 1
Internal Combustion Engine Information for the AOS

Facility ID	Replacement Engine	Periodic Monitoring?
CE-02	Caterpillar G3608 TALE (site rated at 2,225 HP) with Oxidizing Catalyst	Quarterly Portable Monitoring
CE-01	Caterpillar G3616 TALE (site rated at 4,521 HP) with Oxidizing Catalyst	Quarterly Portable Monitoring
CE-03	Caterpillar G3616 TALE (site rated at 4,521 HP) with Oxidizing Catalyst	Quarterly Portable Monitoring
CE-04	Caterpillar G3616 TALE (site rated at 4,521 HP) with Oxidizing Catalyst	Quarterly Portable Monitoring

3. Prevention of Significant Deterioration

3.1 Based on the information provided by the applicant, this source is categorized as a minor stationary source for PSD as of the issue date of this permit. Any future 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.42 for which the area is in attainment or attainment/maintenance may result in the application of the PSD review requirements

3.2 There are no other Operating Permits associated with this facility for purposes of determining applicability of Prevention of Significant Deterioration regulations.

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

4.1 Based upon 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 CE-01, CE-03 and CE-04 have pre-control emissions of CO that exceed major source thresholds. The engines are not large pollutant specific emission units (i.e. potential controlled

emissions, including limits, are less than major source thresholds), therefore the applicant is not required to submit a CAM plan until the permit is renewed (if applicable).

The following sources have pre-control emissions of VOC that exceed major source thresholds: Dehydrator DU02. These emissions are recovered by the Vapor Recovery Unit, which is not considered to be a control device subject to CAM; therefore CAM does not apply to the dehydrator.

6. Summary of Emission Units

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

Facility ID	AIRS ID	Description	Pollution Control
CE-02	001	Caterpillar G3608 TALE, 4-Cycle Lean Burn, Low NOx design, Spark-ignition Natural Gas Fired Internal Combustion Engine, site rated at 2,225 horsepower. SN 4WF00222	Oxidation Catalyst
CE-01	003	Caterpillar G3616 TALE, 4-Cycle Lean Burn, Low NOx design, Spark-ignition Natural Gas Fired Internal Combustion Engine, site rated at 4,521 horsepower. SN BLB00177	Oxidation Catalyst
CE-03	004	Caterpillar G3616 TALE, 4-Cycle Lean Burn, Low NOx design, Spark-ignition Natural Gas Fired Internal Combustion Engine, site rated at 4,521 horsepower. SN BLB00202	Oxidation Catalyst
CE-04	005	Caterpillar G3616 TALE, 4-Cycle Lean Burn, Low NOx design, Spark-ignition Natural Gas Fired Internal Combustion Engine, site rated at 4,521 horsepower. SN BLB00204	Oxidation Catalyst
DU-02	007	One (1) Wells Hall, Model 120 MMscfd, triethylene glycol (TEG) natural gas dehydration unit (with a design capacity of 120 MMScf per day. This emission unit is equipped with two (2) Union Pump electric pumps with a design capacity of 15 gallons per minute total. This unit is equipped with a flash tank, reboiler and still vent.	Emissions from the still vent are routed to an air-cooled condenser and then to a Vapor Recovery Unit (VRU). Emissions from the flash tank are routed to the VRU.
TK01-06	010	Four (4) 300 bbl fixed roof condensate storage tanks and two (2) 500 bbl fixed roof condensate storage tanks.	Vapor Recovery Unit (VRU)
FG01	009	Fugitive Emissions from Equipment Leaks	None
LO01	011	Condensate Truck Loadout	None
BD01	012	Compressor and Pipeline Blowdown Activities	None

SECTION II - Specific Permit Terms

1. CE-02: Caterpillar G3608 TALE Engine, site rated at 2,225 horsepower (AIRS ID #001)

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor (lb/MMBtu)	Monitoring	
				Method	Interval
NO_X	1.1	16.9 ton/yr	0.2393	Recordkeeping and Calculation	Monthly
CO		24.1 ton/yr	0.3418		
VOC	1.2	19.3 ton/yr	0.2735		
Natural Gas Consumption	1.3	125.4 MMscf/yr		Fuel Meter	Monthly
Opacity	1.4	Not to exceed 20%, except as provided for below		Fuel Restriction – only natural gas is used as fuel	
		For Certain Operational Activities – Not to Exceed 30%, for a Period or Periods Aggregating More than Six (6) Minutes in any 60 consecutive minutes			
Natural Gas Heat Content	1.5			ASTM Methods	Semi-annual
Oxidizing Catalyst Parameters	1.6	See Condition 1.6		Recordkeeping	Daily/Monthly
Statewide Controls for Oil and Gas Operations and Natural Gas-Fired Reciprocating Internal Combustion Engines	1.7			See Condition 1.7	

1.1 Emissions of Nitrogen Oxides (NO_x) and Carbon Monoxide (CO) shall not exceed the limitations stated above (Colorado Construction Permit 02GA0236, as modified under the provisions of Section I Condition 1.3, based on the gas engine site specific technical data sheet submitted on December 6, 2012). Compliance with the emission limitations shall be monitored as follows:

1.1.1 Except as provided for below, the emission factors listed above (manufacturer's emission factors, converted to lbs/MMBtu based on an applicable engine heat rate of 6,832 Btu/hp-hr, and converted to an HHV basis) have been approved by the Division and shall be used to calculate emissions from this engine.

Monthly emissions shall be calculated by the end of the subsequent month using the above emission factors, the natural gas consumption (as required by Condition 1.3) and the Btu content of the natural gas (as required by Condition 1.5) in the equation below:

$$\frac{\text{Tons}}{\text{Month}} = \frac{\text{EF}\left(\frac{\text{lb}}{\text{MMBtu}}\right) \times \text{Fuel Use}\left(\frac{\text{MMSCF}}{\text{month}}\right) \times \text{Heat Content of Fuel}\left(\frac{\text{MMBtu}}{\text{MMscf}}\right)}{2000\left(\frac{\text{lb}}{\text{Ton}}\right)}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual emission limitations. Each month, a new twelve month total shall be calculated using the previous twelve months data. Records of calculations shall be kept in a log to be made available to the Division upon request.

If the results of the portable analyzer testing conducted under the provisions of Condition 1.1.2 show that either the NO_x or CO emission rates/factors are greater than those 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.

1.1.2 Portable Monitoring shall be conducted quarterly in accordance with the requirements in Condition 9.

1.2 Emissions of Volatile Organic Compounds (VOC) shall not exceed the limitation stated in the table above (Colorado Construction Permit 02GA0236, as modified under the provisions of Section I Condition 1.3, based on the gas engine site specific technical data sheet submitted on December 6, 2012). Monthly emissions shall be calculated by the end of the subsequent month using the above emission factor (manufacturer's emission factor, converted to lb/MMBtu based on an applicable engine heat rate of 6,832 Btu/hp-hr, and converted to an HHV basis), the natural gas consumption (as required by Condition 1.3) and the Btu content of the natural gas (as required by Condition 1.5) in the equation below:

$$\frac{\text{Tons}}{\text{Month}} = \frac{\text{EF}\left(\frac{\text{lb}}{\text{MMBtu}}\right) \times \text{Fuel Use}\left(\frac{\text{MMSCF}}{\text{month}}\right) \times \text{Heat Content of Fuel}\left(\frac{\text{MMBtu}}{\text{MMscf}}\right)}{2000\left(\frac{\text{lb}}{\text{Ton}}\right)}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual emission limitation. Each month, a new twelve month total shall be calculated using the previous twelve months data. Records of calculations shall be kept in a log to be made available to the Division upon request.

1.3 Natural Gas Consumption for this engine shall not exceed the limitations stated above (Colorado Construction Permit 02GA0236, as modified under the provisions of Section I Condition 1.3, based on the requested value submitted on November 28, 2012). Natural gas use shall be recorded monthly using the engine's fuel meter. Monthly natural gas use 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 months data. Records of calculations shall be kept in a log to be made available to the Division upon request.

1.4 The following opacity requirements apply to this engine:

1.4.1 Except as provided for in Condition 1.4.2 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 Regulation No. 1, Section II.A.1).

1.4.2 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from the building of a new fire, cleaning of fire boxes, soot blowing, start-up, process modifications, or adjustment or occasional cleaning of control equipment which is 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).

In the absence of credible evidence to the contrary, compliance with the opacity requirements of Condition 1.4 shall be presumed since only natural gas is permitted to be used as fuel for this engine.

1.5 The Btu content of the natural gas used to fuel this engine 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 **higher** heating value of the fuel. Calculations of monthly emissions shall be made using the heat content derived from the most recent required analysis.

1.6 Parameters associated with the oxidizing catalyst shall be monitored as follows:

1.6.1 The inlet temperature to the catalyst shall be maintained within the range of 450ºF to 1350ºF. Catalyst inlet temperature shall be monitored and recorded on a daily basis.

If the temperature is outside of this range then appropriate maintenance activities shall be performed.

1.6.2 The pressure drop across the catalyst shall be monitored and recorded monthly. The pressure drop across the catalyst shall not exceed 2 inches of water column from the baseline value established by the source when the engine is operating at maximum achievable load. This baseline pressure drop shall be established by the source during each portable monitoring event required by Condition 9 or as noted below.

If the pressure is outside this range then the appropriate maintenance shall be performed to bring the pressure back into range. In lieu of maintenance the source may choose to perform a portable analyzer test of the engine to establish a new pressure drop value. If the test demonstrates that the engine is in compliance with its emission limits, the pressure drop value at which the engine is tested shall become the new baseline.

1.6.3 When portable monitoring is scheduled, the above parameters in Condition 1.6.1 and 1.6.2 shall be recorded during the portable monitoring event.

1.6.4 The engine exhaust oxygen content shall be monitored and recorded during the portable monitoring events required by Condition 9.

1.7 This engine is subject to the following requirements of Colorado Regulation No. 7, Section XVII, Statewide Controls for Oil and Gas Operations and Natural Gas-Fired Reciprocating Internal Combustion Engines **State only enforceable)**:

1.7.1 This engine is subject to the control requirements for natural gas-fired reciprocating internal combustion engines under Regulation No. 7, Section XVII.E.3. Except as provided in Section XVII.E.3.b.(ii), all lean burn reciprocating internal combustion engines with a manufacturer's nameplate design rate greater than 500 horsepower shall install and operate an oxidation catalyst by July 1, 2010. A lean burn reciprocating internal combustion engine is one with a normal exhaust oxygen concentration of 2% by volume, or greater (Colorado Regulation No. 7, Section XVII.E.3.b.(i)).

1.7.2 All air pollution control equipment required by Condition 1.7 shall be operated and maintained pursuant to manufacturer specifications or equivalent to the extent practicable, and consistent with technological limitations and good engineering and maintenance practices. The owner or operator shall keep manufacturer specifications or equivalent on file (Colorado Regulation No. 7, Section XVII.B.1.a). A copy of the operating and maintenance procedures, schedules for maintenance and/or inspection activities and records related to the operation and maintenance of the catalyst and good engineering practices, such as records of routine maintenance and/or inspections shall be maintained and made available to the Division upon request.

2. CE-01: Caterpillar G3616 TALE Engine, site rated at 4,521 horsepower (AIRS ID #003)

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor (lb/MMBtu)	Monitoring	
				Method	Interval
NO_X	2.1	36.8 ton/yr	0.2408	Recordkeeping and Calculation	Monthly
CO		52.6 ton/yr	0.3440		
VOC	2.2	42.1 ton/yr	0.2752		
Natural Gas Consumption	2.3	271.7 MMscf/yr			
Opacity	2.4	Not to exceed 20%, except as provided for below		Fuel Restriction – only natural gas is used as fuel	
		For Certain Operational Activities – Not to Exceed 30%, for a Period or Periods Aggregating More than Six (6) Minutes in any 60 consecutive minutes			
Natural Gas Heat Content	2.5			ASTM Methods	Semi-annual
Oxidizing Catalyst Parameters	2.6	See Condition 2.6		Recordkeeping	Daily/Monthly
Statewide Controls for Oil and Gas Operations and Natural Gas-Fired Reciprocating Internal Combustion Engines	2.7			See Condition 2.7	

2.1 Emissions of Nitrogen Oxides (NO_x) and Carbon Monoxide (CO) shall not exceed the limitations stated above (Colorado Construction Permit 02GA0557, as modified under the provisions of Section I Condition 1.3, based on the gas engine site specific technical data sheet submitted on December 6, 2012). Compliance with the emission limitations shall be monitored as follows:

2.1.1 Except as provided for below, the emission factors listed above (manufacturer's emission factors, converted to lbs/MMBtu based on an applicable engine heat rate of 6,789 Btu/hp-hr and converted to an HHV basis) have been approved by the Division and shall be used to calculate emissions from this engine.

Monthly emissions shall be calculated by the end of the subsequent month using the above emission factors, the natural gas consumption (as required by Condition 2.3) and the Btu content of the natural gas (as required by Condition 2.5) in the equation below:

$$\frac{\text{Tons}}{\text{Month}} = \frac{\text{EF}\left(\frac{\text{lb}}{\text{MMBtu}}\right) \times \text{Fuel Use}\left(\frac{\text{MMSCF}}{\text{month}}\right) \times \text{Heat Content of Fuel}\left(\frac{\text{MMBtu}}{\text{MMscf}}\right)}{2000\left(\frac{\text{lb}}{\text{Ton}}\right)}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual emission limitation. Each month, a new twelve month total shall be calculated using the previous twelve months data. Records of calculations shall be kept in a log to be made available to the Division upon request

If the results of the portable analyzer testing conducted under the provisions of Condition 2.1.2 show that either the NO_x or CO emission rates/factors are greater than those 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.

2.1.2 Portable Monitoring shall be conducted quarterly in accordance with the requirements in Condition 9.

2.2 Emissions of Volatile Organic Compounds (VOC) shall not exceed the limitation stated in the table above (Colorado Construction Permit 02GA0557, as modified under the provisions of Section I Condition 1.3, based on the gas engine site specific technical data sheet submitted on December 6, 2012). Monthly emissions shall be calculated by the end of the subsequent month using the above emission factor (manufacturer's emission factor, converted to lb/MMBtu based on an applicable engine heat rate of 6,789 Btu/hp-hr and converted to an HHV basis), the natural gas consumption (as required by Condition 2.3) and the Btu content of the natural gas (as required by Condition 2.5) in the equation below:

$$\frac{\text{Tons}}{\text{Month}} = \frac{\text{EF}\left(\frac{\text{lb}}{\text{MMBtu}}\right) \times \text{Fuel Use}\left(\frac{\text{MMSCF}}{\text{month}}\right) \times \text{Heat Content of Fuel}\left(\frac{\text{MMBtu}}{\text{MMscf}}\right)}{2000\left(\frac{\text{lb}}{\text{Ton}}\right)}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual emission limitation. Each month, a new twelve month total shall be calculated using the previous twelve months data. Records of calculations shall be kept in a log to be made available to the Division upon request.

2.3 Natural Gas Consumption for this engine shall not exceed the limitations stated above (Colorado Construction Permit 02GA0557, as modified under the provisions of Section I, Condition 1.3, based on the requested value submitted on November 28, 2012). Natural gas use shall be recorded monthly using the engine's fuel meter. Monthly natural gas use 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 months data. Records of calculations shall be kept in a log to be made available to the Division upon request.

2.4 The following opacity requirements apply to this engine:

2.4.1 Except as provided for in Condition 2.4.2 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 Regulation No. 1, Section II.A.1).

2.4.2 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from the building of a new fire, cleaning of fire boxes, soot blowing, start-up, process modifications, or adjustment or occasional cleaning of control equipment which is 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).

In the absence of credible evidence to the contrary, compliance with the opacity requirements of Condition 2.4 shall be presumed since only natural gas is permitted to be used as fuel for this engine.

2.5 The Btu content of the natural gas used to fuel this engine 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 **higher** heating value of the fuel. Calculations of monthly emissions shall be made using the heat content derived from the most recent required analysis.

2.6 Parameters associated with the oxidizing catalyst shall be monitored as s follows:

2.6.1 The inlet temperature to the catalyst shall be maintained within the range of 450ºF to 1350ºF. Catalyst inlet temperature shall be monitored and recorded on a daily basis.

If the temperature is outside of this range then appropriate maintenance activities shall be performed.

2.6.2 The pressure drop across the catalyst shall be monitored and recorded monthly. The pressure drop across the catalyst shall not exceed 2 inches of water column from the baseline value established by the source when the engine is operating at maximum achievable load. This baseline pressure drop shall be established by the source during each portable monitoring event required by Condition 9 or as noted below.

If the pressure is outside this range then the appropriate maintenance shall be performed to bring the pressure back into range. In lieu of maintenance the source may choose to perform a portable analyzer test of the engine to establish a new pressure drop value. If the test demonstrates that the engine is in compliance with its emission limits, the pressure drop value at which the engine is tested shall become the new baseline.

2.6.3 When portable monitoring is scheduled, the above parameters in Condition 2.6.1 and 2.6.2 shall be recorded during the portable monitoring event.

2.6.4 The engine exhaust oxygen content shall be monitored and recorded during the portable monitoring events required by Condition 9.

2.7 This engine is subject to the following requirements of Colorado Regulation No. 7, Section XVII, Statewide Controls for Oil and Gas Operations and Natural Gas-Fired Reciprocating Internal Combustion Engines (**State only enforceable)**:

2.7.1 This engine is subject to the control requirements for natural gas-fired reciprocating internal combustion engines under Regulation No. 7, Section XVII.E.3. Except as provided in Section

XVII.E.3.b.(ii), all lean burn reciprocating internal combustion engines with a manufacturer's nameplate design rate greater than 500 horsepower shall install and operate an oxidation catalyst by July 1, 2010. A lean burn reciprocating internal combustion engine is one with a normal exhaust oxygen concentration of 2% by volume, or greater (Colorado Regulation No. 7, Section XVII.E.3.b.(i)).

2.7.2 All air pollution control equipment required by Condition 2.7 shall be operated and maintained pursuant to manufacturer specifications or equivalent to the extent practicable, and consistent with technological limitations and good engineering and maintenance practices. The owner or operator shall keep manufacturer specifications or equivalent on file (Colorado Regulation No. 7, Section XVII.B.1.a). A copy of the operating and maintenance procedures, schedules for maintenance and/or inspection activities and records related to the operation and maintenance of the catalyst and good engineering practices, such as records of routine maintenance and/or inspections shall be maintained and made available to the Division upon request.

3. CE-03 & CE-04: Two (2) Caterpillar G3616 TALE Engines, site rated at 4,521 horsepower each (AIRS ID #004 & 005)

Limits Apply to Each Engine Individually

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor (lb/MMBtu)	Monitoring	
				Method	Interval
NO_X	3.1	36.8 ton/yr	0.2408	Recordkeeping and Calculation	Monthly
CO		9.2 ton/yr	0.0602		
VOC	3.2	42.1 ton/yr	0.2752		
Natural Gas Consumption	3.3	271.1 MMscf/yr		Fuel Meter	Monthly
Opacity	3.4	Not to exceed 20%, except as provided for below		Fuel Restriction – only natural gas is used as fuel	
		For Certain Operational Activities – Not to Exceed 30%, for a Period of Periods Aggregating More than Six (6) Minutes in any 60 consecutive minutes			
Natural Gas Heat Content	3.5			ASTM Methods	Semi-annual
Oxidizing Catalyst Parameters	3.6	See Condition 3.6		See Condition 3.6	
40 CFR 63 Subpart ZZZZ	3.7	Reduce CO emissions by 93%		See Condition 3.7	
40 CFR 63 Subpart A General Provisions	3.8			See Condition 3.8	

3.1 Emissions of Nitrogen Oxides (NO_x) and Carbon Monoxide (CO) shall not exceed the limitations stated above **for each engine** (Colorado Construction Permits 03GA0341 and 03GA0342, as modified under the provisions of Section I, Condition 1.3, based on the gas engine site specific technical data sheet submitted on December 6, 2012). Compliance with the emission limitations shall be monitored as follows:

3.1.1 Except as provided for below, the emission factors listed above (manufacturer's emission factors, converted to lbs/MMBtu based on an applicable engine heat rate of 6,789 Btu/hp-hr and converted to an HHV basis) have been approved by the Division and shall be used to calculate emissions from this engine.

Monthly emissions shall be calculated by the end of the subsequent month using the above emission factors, the natural gas consumption (as required by Condition 3.3) and the Btu content of the natural gas (as required by Condition 3.5) in the equation below:

$$\frac{\text{Tons}}{\text{Month}}=\frac{\text{EF}\left(\frac{\text{lb}}{\text{MMBtu}}\right)\times\text{Fuel Use}\left(\frac{\text{MMSCF}}{\text{month}}\right)\times\text{Heat Content of Fuel}\left(\frac{\text{MMBtu}}{\text{MMscf}}\right)}{2000\left(\frac{\text{lb}}{\text{Ton}}\right)}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual emission limitation. Each month, a new twelve month total shall be calculated using the previous twelve months data. Records of calculations shall be kept in a log to be made available to the Division upon request.

If the results of the portable analyzer testing conducted under the provisions of Condition 3.1.2 show that either the NO_x or CO emission rates/factors are greater than those 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.

3.1.2 Portable Monitoring shall be conducted quarterly in accordance with the requirements in Condition 9. Performance testing conducted to satisfy the requirements of Condition 3.7.5 (performance testing under 40 CFR 63 Subpart ZZZZ) shall also satisfy the requirement to conduct portable monitoring for the quarter in which the Subpart ZZZZ performance test occurs.

3.2 Emissions of Volatile Organic Compounds (VOC) shall not exceed the limitation stated in the table above (Colorado Construction Permits 03GA0341 and 03GA0342, as modified under the provisions of Section I, Condition 1.3, based on the gas engine site specific technical data sheet submitted on December 6, 2012). Monthly emissions shall be calculated by the end of the subsequent month using the above emission factor (manufacturer's emission factor, converted to lb/MMBtu based on an applicable engine heat rate of 6,789 Btu/hp-hr and converted to an HHV basis), the natural gas consumption (as required by Condition 3.3) and the Btu content of the natural gas (as required by Condition 3.5) in the equation below:

$$\frac{\text{Tons}}{\text{Month}}=\frac{\text{EF}\left(\frac{\text{lb}}{\text{MMBtu}}\right)\times\text{Fuel Use}\left(\frac{\text{MMSCF}}{\text{month}}\right)\times\text{Heat Content of Fuel}\left(\frac{\text{MMBtu}}{\text{MMscf}}\right)}{2000\left(\frac{\text{lb}}{\text{Ton}}\right)}$$

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual emission limitation. Each month, a new twelve month total shall be calculated using the previous twelve months data. Records of calculations shall be kept in a log to be made available to the Division upon request.

3.3 Natural Gas Consumption **for each engine** shall not exceed the limitations stated above (Colorado Construction Permits 03GA0341 & 03GA0342, as modified under the provisions of Section I, Condition 1.3, based on the requested value submitted on November 28, 2012). Natural gas use shall be recorded monthly using the engine's fuel meter. Monthly natural gas use 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 months data. Records of calculations shall be kept in a log to be made available to the Division upon request.

3.4 The following opacity requirements apply to this engine:

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 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 the building of a new fire, cleaning of fire boxes, soot blowing, start-up, process modifications, or adjustment or occasional cleaning of control equipment which is 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).

In the absence of credible evidence to the contrary, compliance with the opacity requirements of Condition 3.4 shall be presumed since only natural gas is permitted to be used as fuel for this engine.

3.5 The Btu content of the natural gas used to fuel this engine 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 **higher** heating value of the fuel. Calculations of monthly emissions shall be made using the heat content derived from the most recent required analysis.

3.6 Parameters associated with the oxidizing catalyst shall be monitored as specified in Condition 3.7 and as follows:

3.6.1 The engine exhaust oxygen content shall be monitored and recorded during the portable monitoring events required by Condition 9.

3.7 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 adopted by reference in Colorado Regulation No. 8, Part E, Section III, including, but not limited to the following:

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

3.7.1 If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004 (§ 63.65959(a)(2)).

What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions? (§ 63.6600)

3.7.2 If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, you must comply with the emission limitations in Table 2a to Subpart ZZZZ and the operating limitations in Table 2b to Subpart ZZZZ which apply to you (§ 63.6600(b)).

Applicable Emission Limitations:

3.7.2.1 Carbon Monoxide (CO) emissions from each engine must be reduced by 93% or more (Table 2a to Subpart ZZZZ, Item 1a).

Applicable Operating Limitations:

3.7.2.2 Maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the most recent performance test (Table 2b to Subpart ZZZZ, Item 1a); **and**

3.7.2.3 Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F (Table 2b to Subpart ZZZZ, Item 1b).

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

3.7.3 You must be in compliance with the emission limitations and operating limitations in Condition 3.7.2 at all times (§63.6605(a)).

3.7.4 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)).

When must I conduct subsequent performance tests (§ 63.6615)

3.7.5 Subsequent performance tests shall be conducted semi-annually. After compliance has been demonstrated for two consecutive tests, the frequency of semi-annual tests may be reduced to annually. If the results of any subsequent annual performance test indicates the stationary RICE is not in compliance with the CO emission limitations, or you deviate from any of your operating limitations, you must resume semi-annual performance tests (Table 3 to Subpart ZZZZ, item 1).

What performance tests and other procedures must I use? (§ 63.6620)

3.7.6 Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to Subpart ZZZZ. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again (§ 63.6620(b)).

What are my monitoring, installation, collection, operation, and maintenance requirements? (§ 63.6625)

3.7.7 You must install, maintain and operate a continuous parametric monitoring system (CPMS) to continuously monitor the catalyst inlet temperature in accordance with the requirements in §63.8 (Table 5 to Subpart ZZZZ, Item 1.a.ii). You must install, operate, and maintain each CPMS according to the requirements §§ 63.6625(b)(1) through (b)(5) (§ 63.6625(b)).

3.7.8 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 Condition 3.7.2.1 apply (§ 63.6625(h)).

How do I monitor and collect data to demonstrate continuous compliance? (§ 63.6635)

3.7.9 Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. 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. (§63.6635(b)).

3.7.10 You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods. (§63.6635(c)).

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

3.7.11 Continuous compliance with the limitations of Condition 3.7.2 is demonstrated by achieving the following:

3.7.11.1 Conducting semiannual performance tests as specified in Condition 3.7.5 to demonstrate that the required CO percent reduction is achieved (Table 6 to Subpart ZZZZ, Item 1.a.i); **and**

3.7.11.2 Collecting the catalyst inlet temperature data according to §63.6625(b) (Table 6 to Subpart ZZZZ, Item 1.a.ii); **and**

3.7.11.3 Reducing these data to 4-hour rolling averages (Table 6 to Subpart ZZZZ, Item 1.a.iii); **and**

3.7.11.4 Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature (Table 6 to Subpart ZZZZ, Item 1.a.iv); **and**

3.7.11.5 Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the most recent performance test (Table 6 to Subpart ZZZZ, Item 1.a.v).

3.7.12 You must report each instance in which you did not meet each emission limitation or operating limitation in Condition 3.7.2. These instances are deviations from the emission and operating limitations in Subpart ZZZZ. These deviations must be reported according to the requirements in Condition 3.7.17. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE (§ 63.6640(b)).

3.7.13 You must also report each instance in which you did not meet the requirements in Table 8 to Subpart ZZZZ that apply to you (§ 63.6640(e)).

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

3.7.14 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 (§ 63.6645(a)).

For engines CE-03 (Serial number BLB00202) and CE-04 (Serial number BLB00204), the initial notification required by §63.9(b) was submitted on December 10, 2004 and the notification of compliance status required by §63.9(h) was submitted on March 21, 2005.

3.7.15 If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1) (§ 63.6645(g)).

3.7.16 You must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). You must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2) (§§ 63.6645(h) and (h)(2)).

For engines CE-03 (Serial number BLB00202) and CE-04 (Serial number BLB00204), the notification of compliance status required by §63.9(h) was submitted on March 21, 2005.

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

3.7.17 Submit compliance reports semiannually according to the requirements in § 63.6650(b). The report must contain the following:

3.7.17.1 The information in §§ 63.6650(c)(1) through (c)(6) (§ 63.6650(c)).

3.7.17.2 If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period (Table 7 to Subpart ZZZZ, Item 1.a); **or**

3.7.17.3 If you had a deviation from any emission limitation or operating limitation during the

reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e) (Table 7 to Subpart ZZZZ, Item 1.b); **or**

3.7.17.4 If you had a malfunction during the reporting period, the information in §63.6650(c)(4) (Table 7 to Subpart ZZZZ, Item 1.c).

What records must I keep (§ 63.6655)

3.7.18 You must keep the following records (§ 63.6655(a)):

3.7.18.1 A copy of each notification and report that you submitted to comply with Subpart ZZZZ including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv) (§63.6655(a)(1)).

3.7.18.2 Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment (§ 63.6655(a)(2)).

3.7.18.3 Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii) (§63.6655(a)(3)).

3.7.18.4 Records of all required maintenance performed on the air pollution control and monitoring equipment (§ 63.6655(a)(4)).

3.7.18.5 Records of actions taken during periods of malfunction to minimize emissions in accordance with Condition 3.7.4, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation (§ 63.6655(a)(5)).

3.7.18.6 For each CPMS, you must keep the records listed in §63.6655(b).

3.7.18.7 You must keep the records required in Condition 3.7.11 to show continuous compliance with each emission or operating limit that applies to you (§ 63.6655(d)).

3.7.19 Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1) (§ 63.6660(a)).

3.7.20 As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record (§ 63.6660(b)).

3.7.21 You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1) (§ 63.6660(c)).

3.8 These engines are subject to the requirements in 40 CFR part 63 Subpart A “General Provisions”, as adopted by reference in Colorado Regulation No. 8, Part E, Section I as specified in 40 CFR Part 63 Subpart ZZZZ § 63.6665. These requirements include, but are not limited to the following:

3.8.1 Prohibited activities and circumvention in § 63.4.

3.8.2 Performance test requirements in § 63.7.

3.8.3 Monitoring requirements in § 63.8.

3.8.4 Notification requirements in § 63.9.

3.8.5 Recordkeeping and reporting requirements in § 63.10.

4. DU-02: Wells Hall Model 120 MMscfd Triethylene Glycol Natural Gas Dehydrator (AIRS #007)

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor	Monitoring	
				Method	Interval
VOC Emissions	4.1	24.2 ton/yr	GRI GlyCalc Model Version 4.0 or higher	Recordkeeping and Analysis	See Condition 4.1
Natural Gas Processed	4.2	43,800 MMscf/yr		Recordkeeping	Monthly
Hours of Operation	4.3			Recordkeeping	Monthly
Statewide Controls for Oil & Gas Operations	4.4			See Condition 4.4	
40 CFR 63, Subpart HH	4.5 4.6			See Conditions 4.5 & 4.6	
40 CFR 63, Subpart A	4.7			See Condition 4.7	

4.1 VOC emissions shall not exceed the limitation listed in the table above (Colorado Construction Permit 03GA0608, as modified under the provisions of Section I, Condition 1.3). Compliance with the emission limitations shall be monitored as follows:

4.1.1 VOC and HAP emissions from the dehydration unit shall be calculated monthly using the Gas Research Institute's GLYCalc Model, Version 4.0 or higher, the amount of monthly VRU downtime hours and the VRU capture efficiency.

Monthly averages of the following monitored values shall be determined for use as inputs to the GLYCalc Model. Values of parameters shall be representative of the unit's operation during the month.

Parameter	**Monitoring Frequency**
Flash Tank Temperature	Weekly
Flash Tank Pressure	Weekly
Wet Gas Inlet Temperature	Weekly
Wet Gas Inlet Pressure	Weekly
Triethylene Glycol Recirculation Rate	Daily

The GLYCalc model shall also use following inputs: the most recent extended gas analysis results as specified in Condition 4.1.3, the hours of operation for the dehydrator as specified in Condition 4.3, and the average daily gas throughput value calculated as specified in 4.2.

Emissions shall be calculated based on amount of monthly VRU downtime hours (recorded as specified in Condition 5.1.5) as follows:

$$\text{Monthly Emissions} = \frac{(\text{GLYCalc Uncontrolled Emissions})}{\text{Month}} \times \frac{\text{VRU Downtime Hours for the Month}}{\text{Dehy Hours of Operation for the Month}}$$

Monthly calculation of emissions shall be conducted by the end of the subsequent month. Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual emission limitation. Each month, a new twelve month total shall be calculated using the previous twelve months data. Records of calculations shall be kept in a log to be made available to the Division upon request.

4.1.2 DU-02 shall be configured such that the still vent vapors are routed to a condenser and then to the Vapor Recovery Unit, and the flash tank vapors are routed to the Vapor Recovery Unit.

4.1.3 Samples of inlet gas shall be collected and analyzed (extended gas analysis) annually to determine C1 to C6, n-hexane, benzene, toluene, ethyl benzene and total xylene (BTEX) composition. If any of the analyses indicates the HAP constituent concentrations exceed the values listed in the table below, frequency of extended gas analyses will become quarterly. The first quarterly sample shall be taken three months after the sample that indicated a HAP constituent exceeded the parameters in the table was taken. Frequency of sampling and analysis will move to semi-annually after four (4) subsequent analyses and to annually after two (2) subsequent semi-annual analyses indicate that the HAP constituents remain at or below the values in the table below.

Constituent	**Value**	**Criteria**
Benzene	190 ppm	At or Below
Toluene	350 ppm	At or Below
Ethyl Benzene	10 ppm	At or Below
Xylene	160 ppm	At or Below
n-Hexane	780 ppm	At or Below

4.2 Natural gas processed by the glycol dehydration unit shall not exceed the limitations listed above (Colorado Construction Permit 03GA0608). The gas throughput to the dehydration unit shall be recorded monthly using existing flow meters. A twelve month rolling total will be maintained to monitor compliance with annual limitations. An average daily gas throughput rate shall be determined as follows:

$$\text{Average Daily gas throughput} = \text{Gas Throughput}\ \frac{\text{MMscf}}{\text{Month}} \times \frac{\text{Month}}{\text{Hrs Operation}} \times \frac{\text{24hours}}{\text{day}}$$

This average daily gas throughput rate shall be used in the monthly GLYCalc runs and emission calculations required by Condition 4.1.1.

4.3 The hours of operation for the dehydrator shall be monitored and recorded monthly in a log that is to be made available to the Division upon request. Hours of operation shall be used to calculate an average daily gas throughput as specified in Condition 4.2. Hours of operation for the month shall be used in the GLYCalc runs and emission calculations required by Condition 4.1.

4.4 This dehydrator is subject to the Statewide Controls for Oil and Gas Operations and Natural Gas-Fired Reciprocating Internal Combustion Engines in Colorado Regulation No. 7, Section XVII as follows (**State-only enforceable)**:

4.4.1 Any still vent and flash separator or flash tank shall reduce uncontrolled actual emissions of VOCs by an average of at least 90 percent through the use of air pollution control equipment. (Colorado Regulation No. 7, Section XVII.D.)

Compliance with the 90% reduction requirement shall be monitored by demonstrating that the post-control monthly emissions of VOC (calculated as per Condition 4.1.1) are less than or equal to 10% of the pre-control monthly emissions of VOC (based on the GLYCalc run required by Condition 4.1.1) . This calculation shall be performed monthly. Records of calculations shall be kept in a log to be made available to the Division upon request.

4.4.2 General requirements for air pollution control equipment, prevention of leakage, and flares and combustion devices: All air pollution control equipment required by this Condition 4.4 shall be operated and maintained pursuant to manufacturer specifications or equivalent to the extent practicable, and consistent with technological limitations and good engineering and maintenance practices. The owner or operator shall keep manufacturer specifications or equivalent on file. In addition, all such air pollution control equipment shall be adequately designed and sized to achieve the control efficiency rates required by Condition 4.4 and to handle reasonably foreseeable fluctuations in emissions of volatile organic compounds during normal operations (Colorado Regulation No. 7, Section XVII.B.1.a.).

4.5 This dehydrator is subject to the requirements in 40 CFR Part 63 Subpart HH, "National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities", as adopted by reference in Colorado Regulation No. 8, Part E, Section III, including, but not limited to the following.

General Standards (§ 63.764)

4.5.1 The owner or operator is exempt from the requirements of Condition 4.6 if the criteria listed in Condition 4.5.2 are met, except that the records of the determination of these criteria must be maintained as required in Condition 4.5.5 (§ 63.764(e)(1)).

4.5.2 The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year, as determined by the procedures specified in Condition 4.5.4 (§ 63.764(e)(1)(ii)).

The owner or operator shall determine the actual annual benzene emissions on a monthly basis. Monthly calculations shall be conducted by the end of the subsequent month and shall be used in a twelve month rolling total to determine actual annual benzene emissions. If the twelve month rolling benzene emission total is greater than or equal to 0.90 megagrams, the owner or operator shall comply with the requirements of Condition 4.6, beginning on the first day of the month following the determination. The owner or operator shall continue to comply with the requirements of Condition 4.6 until actual annual benzene emissions are less than 0.90

megagrams per year, at which point the requirements of Condition 4.6 will no longer apply beginning on the first day of the month following the new determination.

4.5.3 At all times the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good engineering practices for minimizing emissions. 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 (§ 63.764(j)).

Test Methods, Compliance Procedures and Compliance Demonstrations (§ 63.772)

4.5.4 Determination of glycol dehydration unit benzene emissions. The procedures of this condition shall be used by an owner or operator to determine glycol dehydration unit benzene emissions to meet the criteria for an exemption from control requirements under Condition 4.5.1. The determination of actual average benzene emissions from a glycol dehydration unit shall be made using the procedures of Conditions 4.5.4.1 or 4.5.4.2. Emissions shall be determined either uncontrolled, or with federally enforceable controls in place (§ 63.772(b)(2)).

4.5.4.1 The owner or operator shall determine actual average benzene emissions using the model GRI-GLYCalcTM , Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalcTM Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled “Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions” (GRI–95/0368.1) (§ 63.772(b)(2)(i)); or

4.5.4.2 The owner or operator shall determine an average mass rate of benzene emissions in kilograms per hour through direct measurement using the methods in §63.772(a)(1)(i) or (ii), or an alternative method according to §63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year (§ 63.772(b)(2(ii)).

Recordkeeping Requirements (§ 63.774)

4.5.5 An owner or operator of a glycol dehydration unit that meets the exemption criteria in Condition 4.5.1 shall maintain the records of the actual average benzene emissions (in terms of benzene emissions per year) as determined in accordance with Condition 4.5.4 (§ 63.774(d)(1)(ii)).

4.5.6 The owner or operator of an affected source subject to Subpart HH shall maintain records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control equipment and monitoring equipment. The owner or operator shall maintain records of actions taken during periods of malfunctions to minimize emissions in accordance

with Condition 4.5.3, including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation (§ 63.774(g)).

4.6 Requirements for Dehydrators Subject to Optimal Glycol Circulation Rate Requirements (§ 63.764)

This condition applies as specified in Condition 4.5.2.

4.6.1 Each owner or operator of an area source not located in a UA plus offset and UC boundary (as defined in §63.761) shall comply with the following (§ 63.764(d)(2)):

4.6.1.1 Determine the optimum glycol circulation rate using the following equation (§ 63.764(d)(2)(i)):

$$L_{OPT} = 1.15 * 3.0 \frac{\text{gal TEG}}{\text{lb H}_2\text{O}} * \left(\frac{F * (I - O)}{24 hr / day} \right)$$

Where
L_{opt} = Optimal circulation rate, gal/hr.
F = Gas flowrate (MMSCF/D)
I = Inlet water content (lb/MMSCF)
O = Outlet water content (lb/MMSCF)
3.0 = The industry accepted rule of thumb for a TEG-to water ratio (gal TEG/lbH2O)
1.15 = Adjustment factor included for a margin of safety.

4.6.1.2 Operate the TEG dehydration unit such that the actual glycol circulation rate does not exceed the optimum glycol circulation rate determined in accordance with Condition 4.6.1.1. If the TEG dehydration unit is unable to meet the sales gas specification for moisture content using the glycol circulation rate determined in accordance with Condition 4.6.1.1, the owner or operator must calculate an alternate circulation rate using GRI–GLYCalcTM, Version 3.0 or higher. The owner or operator must document why the TEG dehydration unit must be operated using the alternate circulation rate and submit this documentation with the initial notification in accordance with §63.775(c)(7) (§ 63.764(d)(2)(ii)).

The owner or operator shall determine an average monthly actual lean glycol recirculation rate based on the daily values recorded in accordance with Condition 4.1 in order to determine compliance with the optimum glycol recirculation rate. Records of monthly average recirculation rates shall be made available to the Division for inspection upon request.

4.6.1.3 Maintain a record of the determination specified in Condition 4.6.1.2 in accordance with the requirements in Condition 4.6.1.4 and submit the Initial Notification in accordance with the requirements in §63.775(c)(7). If operating conditions change and a modification to the optimum glycol circulation rate is required, the owner or operator shall prepare a new determination in accordance with Conditions 4.6.1.1 or

4.6.1.2 of this section and submit the information specified under §63.775(c)(7)(ii) through (v) (§ 63.764(d)(2)(iii)).

4.6.1.4 The owner or operator of an area source not located within a UA plus offset and UC boundary must keep a record of the calculation used to determine the optimum glycol circulation rate in accordance with Conditions 4.6.1.1 or 4.6.1.2 as applicable (§ 63.774(f)).

4.7 This dehydration unit is subject to the requirements in 40 CFR part 63 Subpart A "General Provisions", as adopted by reference in Colorado Regulation No. 8, Part E, Section I as specified in 40 CFR Part 63 Subpart HH § 63.764. These requirements include, but are not limited to the following:

4.7.1 Prohibited activities and circumvention in § 63.4.

4.7.2 Recordkeeping requirements in § 63.10(b)

4.7.3 Operation and maintenance requirements in § 63.10(e)(1)(ii) & (iii)

5. TK01-04: Four (4) fixed roof storage tanks, 300 bbl each; TK05-06: Two (2) fixed roof storage tanks, 500 bbl each AIRS (#010)

Unless otherwise specified, limits apply to all six tanks combined

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor	Monitoring	
				Method	Interval
VOC Emissions	5.1	4.5 tons/year	API E&P Tanks Version 2.0 or Higher	Recordkeeping and Analysis	See Condition 5.1
Composition Analysis (low pressure oil)				Division-Approved Methods	Annually
Sales Condensate Analysis				Division-Approved Methods	Annually
Condensate Throughput	5.2	57,600 bbl/year		Recordkeeping	Monthly
Statewide Controls for Oil & Gas Operations	5.3	95% VOC Control		See Condition 5.3	
Control System Monitoring	5.4			See Condition 5.4	

5.1 VOC emissions shall not exceed the limitations listed above. (Colorado Construction Permit 03GA0608 as modified under the provisions of Section I Condition 1.3, based on a modification request received November 28, 2012). Compliance with the emission limitations shall be monitored as follows:

5.1.1 VOC and HAP emissions from the tank battery shall be calculated using API's E&P TANKS Version 2.0 or higher, the amount of monthly VRU downtime hours and the hours of operation for the tank battery.

Monthly averages of the following monitored values shall be determined for use as inputs to the Tanks model. Values of parameters shall be representative of the unit's operation during the month.

Parameter	**Monitoring Frequency**
Separator Temperature	Weekly
Separator Pressure	Weekly

E&P TANKS monthly emissions shall be estimated using the most recent compositional analysis results as specified in Condition 5.1.3, the most recent sales oil properties as specified in Condition 5.1.4 and the monthly quantity of condensate throughput as specified in Condition 5.2. Emissions shall be calculated based on amount of monthly VRU downtime hours (recorded as specified in Condition 5.1.5) as follows:

$$\text{Monthly Emissions} = \frac{(\text{E\&P Tanks Emissions})}{\text{month}} \times \frac{\text{VRU Downtime Hours for the Month}}{\text{Tank Battery Hours of Operation for the Month}}$$

The Tank Battery Hours of Operation for the Month in the equation above shall be presumed to be the total number of hours in that month (i.e., 24 hours multiplied by the number of days in that month).

Monthly calculation of emissions shall be conducted by the end of the subsequent month. Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual emission limitation. Each month, a new twelve month total shall be calculated using the previous twelve months data. Records of calculations shall be kept in a log to be made available to the Division upon request.

For purposes of calculating emissions using the E&P Tanks software, the permittee shall use the historical monthly mean temperature recorded at Grand Junction and an atmospheric pressure of 12.1 psia.

5.1.2 Condensate tank battery TK01-06 shall be configured such that vapors are routed to the Vapor Recovery Unit.

5.1.3 The permittee shall sample and analyze liquids annually for the compositional E&P Tanks input requirements. The 'low pressure oil' condensate sample must be collected and analyzed per Division approved methods as specified in Permit Section Memo 05-01 (http://www.cdphe.state.co.us/ap/down/ps05-01.pdf). This stream is located at the outlet of the separator, prior to flashing. Sampling must occur when the systems are operating such that any xylene and/or methanol injections that occur upstream of the facility are captured by the sampling. A copy of the procedures used to obtain and analyze the samples as well as records of the analyses shall be maintained and made available to the Division upon request.

5.1.4 The sales condensate shall be sampled and analyzed annually to determine the reid vapor pressure (RVP) and API Gravity using Division approved methods as specified in Permit Section Memo 05-01 (http://www.cdphe.state.co.us/ap/down/ps05-01.pdf). A copy of the procedures used to obtain and analyze samples shall be maintained and made available to the Division upon request.

5.1.5 The hours of VRU downtime shall be monitored daily and recorded and maintained to be made available to the Division upon request. The owner or operator shall maintain monthly totals of VRU downtime for use in calculating monthly emissions as required by Conditions 5.1.1 and 4.1.1.

5.2 The quantity of condensate processed through the tank battery shall not exceed the above limitations (Colorado Construction Permit 03GA0608). The quantity of condensate processed through the tank battery shall be monitored and recorded monthly and used to calculate emissions as required by Condition 5.1. The monthly quantity of condensate processed 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.

5.3 This tank battery is subject to the Statewide Controls for Oil and Gas Operations and Natural Gas-Fired Reciprocating Internal Combustion Engines in Colorado Regulation No. 7, Section XVII as follows (**State-only enforceable)**:

5.3.1 Owners or operators of all atmospheric condensate storage tanks with uncontrolled actual emissions of volatile organic compounds equal to or greater than 20 tons per year based on a rolling twelve-month total shall operate air pollution control equipment that has an average control efficiency of at least 95% for VOCs on such tanks (Colorado Regulation No. 7 Section XVII.C.1)

Compliance with the 95% reduction requirement shall be monitored by demonstrating that the post-control monthly emissions of VOC (calculated as per Condition 5.1.1) are less than or equal to 5% of the pre-control monthly emissions of VOC (based on the E&P Tanks run required by Condition 5.1.1). This calculation shall be performed monthly. Records of calculations shall be kept in a log to be made available to the Division upon request.

5.3.2 The owner or operator of any condensate storage tank that is required to control volatile organic compound emissions pursuant to this Section XVII.C. shall visually inspect or monitor the Air Pollution Control Equipment to ensure that it is operating at least as often as condensate is loaded out from the tank, unless a more frequent inspection or monitoring schedule is followed. (Colorado Regulation No. 7 Section XVII.C.3)

5.3.3 The owner or operator of each condensate storage tank shall maintain the following records for a period of five years:

5.3.3.1 Monthly condensate production from the tank (Colorado Regulation No. 7, Section XVII.C.4.a.)

5.3.3.2 For any condensate storage tank required to be controlled pursuant to this Condition 5.3, the date, time and duration of any period where the air pollution control equipment is not operating. The duration of a period of non-operation shall be from the time that the air pollution control equipment was last observed to be operating until the time the equipment recommences operation.

5.3.4 All air pollution control equipment required by Condition 5.3 shall be operated and maintained pursuant to manufacturer specifications or equivalent to the extent practicable, and consistent with technological limitations and good engineering and maintenance practices. The owner or operator shall keep manufacturer specifications or equivalent on file. In addition, all such air pollution control equipment shall be adequately designed and sized to achieve the control efficiency rates required by Condition 5.3 and to handle reasonably foreseeable fluctuations in emissions of volatile organic compounds during normal operations. Fluctuations in emissions that occur when the separator dumps into the tank are reasonably foreseeable (Colorado Regulation No. 7 Section XVII.B.1.a).

Any maintenance work performed shall be documented and maintained to be made available to the Division upon request.

5.3.5 All condensate collection, storage, processing and handling operations, regardless of size, shall be designed, operated and maintained so as to minimize leakage of volatile organic compounds to the atmosphere to the extent reasonably practicable (Colorado Regulation No. 7 Section XVII.B.1.b).

5.4 Emission Control or Recycling Equipment Monitoring Requirements

5.4.1 Thief hatch seals shall be inspected for integrity annually and replaced as necessary.

5.4.2 Thief hatch covers shall be weighted and properly seated.

5.4.3 Pressure relief valves (PRV) shall be inspected annually for proper operation and replaced as necessary.

5.4.4 PRVs shall be set to release at a pressure that will ensure flashing, working and breathing losses (as applicable) are routed to the vapor recovery unit under normal operating conditions

5.4.5 Annual inspections shall be documented with an indication of status, a description of any problems found, and their resolution. Records shall be kept in a log to be made available to the Division upon request.

6. FG01: Fugitive Emissions from Equipment Leaks (AIRS #009)

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor	Monitoring	
				Method	Interval
VOC Emissions	6.1	14.2 tons/yr	By Component Type - EPA Protocol for Equipment Leak Estimates	Recordkeeping and calculation	Annually

6.1 VOC emissions from equipment leaks shall not exceed the limitations stated above (Colorado Construction Permit 04GA0352, as modified under the provisions of Section I Condition 1.3 , based on a modification request received November 28, 2012). Emissions shall be calculated using the emission factors and equations listed below:

Emission Factors for individual types of components (Protocol for Equipment Leak Emission Estimates, EPA-453/R-95-017, Table 2-4, November 1995). The most appropriate emission factors from the EPA document shall be used:

	Emission Factor (lb/component-hr)	
Component Type	**Gas Service**	**Light Oil Service**
Valves	9.92×10^{-3}	5.51×10^{-3}
Pump Seals	5.29×10^{-3}	2.87×10^{-2}
Other*	1.94×10^{-2}	1.65×10^{-2}
Connectors	4.41×10^{-4}	4.63×10^{-4}
Flanges	8.60×10^{-4}	2.43×10^{-4}

* Other should be applied for any equipment type other than connectors, flanges, open-ended lines, pumps or valves

VOC emissions (lb) per Component Type (gas service):

$$\text{Emissions} = \#\text{ of Components} \times \text{EF}\,\frac{\text{lb}}{\text{component-hr}} \times 8760\frac{\text{hrs}}{\text{yr}} \times \text{VOC fraction}$$

VOC emissions (lb) per Component Type (light oil service):

$$\text{Emissions} = \#\text{ of Components} \times \text{EF}\,\frac{\text{lb}}{\text{component-hr}} \times 8760\frac{\text{hrs}}{\text{yr}}$$

Total Fugitive VOC emissions will be the sum of emissions for each type of component.

6.1.1 The most recent gas analysis as required under Condition 4.1.3 of this Permit shall be used to determine the appropriate VOC fraction to use in the above equation for gas components.

6.1.2 A component count shall be conducted within one year of the issuance of this permit and every five (5) years thereafter to verify existing components and inventory.

6.1.3 A running total shall be kept of all additions and subtractions to the component count. The most recent count shall be used for emission calculations and compliance purposes.

7. LO01 – Condensate Truck Loadout (AIRS #011)

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor	Monitoring	
				Method	Interval
VOC Emissions	7.1	3.5 tons per year	0.119 lb/bbl	Recordkeeping and Calculation	Monthly
Condensate Loaded	7.2	57,600 bbl/yr		Recordkeeping	For Each Truck Loading Activity

7.1 Volatile Organic Compound (VOC) emissions shall not exceed the limitations stated above (as provided for under the provisions of Section I, Condition 1.3 and Colorado Regulation No. 3, Part C, Section III.B.7, based on maximum condensate throughput rate of 57,600 bbl/year identified in an APEN filed by the source received October 14, 2009). Compliance with the emission limitations shall be monitored as follows:

7.1.1 The emission factors listed above (based on the AP-42 equation for loading loss emissions, Chapter 5.2, June 2008) have been approved by the Division and shall be used to calculate emissions from condensate loadout activities.

Monthly emissions shall be calculated by the end of the subsequent month using the above emission factor and the monthly volume of condensate loaded in the equation below:

$$\frac{\text{Tons}}{\text{Month}} = \frac{\text{EF}\left(\frac{\text{lb}}{\text{bbl}}\right) \times \text{Condensate Loaded}\left(\frac{\text{bbl}}{\text{month}}\right)}{2000\left(\frac{\text{lb}}{\text{Ton}}\right)}$$

The parameters used to determine the emission factor are as follows. The Division shall be notified should there be any change in these parameters that would result in a higher emission factor.

Truck Loadout Emissions (lb/1000 gallons loaded) = (12.46 x S x P x M) / (T)
<u>Where:</u>
S = Saturation Factor = 0.6 Submerged loading, dedicated normal service (AP-42 Table 7.1-2, November 2006)
P = True Vapor Pressure = 5.75 psia (AP-42 Table 7.1-2, November 2006)
M = Molecular Weight 35 lb/lb mole
T = Temperature of bulk liquid loaded = 530 ° R (70° F)

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

7.2 The quantity of condensate loaded into trucks shall not exceed the limitations stated above (as provided for under the provisions of Section I, Condition 1.3 and Colorado Regulation No. 3, Part C, Section

III.B.7, based throughputs identified on an APEN filed by the source received October 14, 2009). The quantity of condensate loaded into trucks shall be monitored and recorded for each truck loading event and used to calculate emissions as required by Condition 7.1. Monthly condensate loaded shall be the sum of all loading activities within that month. Monthly condensate loaded 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. Records of condensate throughput shall be kept in a log to be made available to the Division upon request.

8. HAP Emission Limits from Glycol Dehydration Units and Storage Vessels

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor	Monitoring	
				Method	Interval
HAP Emissions	8.1	Any Single HAP: 8.0 tons per year Total HAPs: 20.0 tons per year	See Condition 8.1	Recordkeeping and Calculation	Monthly

8.1 Hazardous Air Pollutant (HAP) emissions from dehydrator DU02 (AIRS ID #007) and Condensate Tanks TK01-06 (AIRS ID #010) **combined** shall not exceed the limitations stated above (Construction Permit 03GA0608 as modified under the provisions of Section I, Condition 1.3).

Monthly emissions of each HAP above de-minimis reporting levels from each dehydrator and storage vessel with the potential for flash emissions shall be calculated by the end of the subsequent month, in accordance with the requirements of Conditions 4.1 and 5.1. A twelve-month rolling total of emissions will be maintained in order to monitor compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months' data. Records of calculations shall be maintained and made available to the Division upon request.

9. Portable Monitoring (6/1/2006 version)

Emission measurements of nitrogen oxides (NO_x) and carbon monoxide (CO) shall be conducted quarterly using a portable flue gas analyzer. At least one calendar month shall separate the quarterly tests. Note that if the engine is operated for less than 100 hrs in any quarterly period, then the portable monitoring requirements do not apply.

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: http://www.cdphe.state.co.us/ap/down/portanalyzeproto.pdf

Results of the portable analyzer tests shall be used to monitor the compliance status of this unit. For comparison with an annual or short term 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.

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.

10. BD01 – Compressor and Pipeline Blowdown Activities (AIRS #012)

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor	Monitoring	
				Method	Interval
VOC	10.1	3.9 tons per year	See Condition 10.1	Recordkeeping and Calculation 12 month rolling	Monthly
Gas and Liquids Analysis				EPA Reference Methods	Monthly

10.1 Emissions of VOC from pipeline and compressor blowdown activities shall not exceed the limitation stated above (as provided for under the provisions of Section I, Condition 1.3 and Colorado Regulation No. 3, Part C, Section III.B.7, based on an APEN filed by the source received November 16, 2012) Compliance with the VOC emission limitation shall be calculated as follows:

$$\frac{\text{Tons}}{\text{Month}} = \sum_{\text{All VOC}} \left(\frac{\text{Vented Volume} \left(\frac{\text{scf}}{\text{yr}}\right) \times \text{Mol Fraction}_{\text{Compound}}}{385\left(\frac{\text{scf}}{\text{lb-mol}}\right) \times \text{Molecular Weight}_{\text{Compound}} \times 2000 \left(\frac{\text{lb}}{\text{ton}}\right)} \right)$$

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. The records shall be kept and made available for Division review upon request.

The mole fraction of each compound in the equation above shall be based on the most recent gas analysis required by Condition 4.1.3.

The occurrence of blowdown activities shall be recorded monthly and made available for Division review upon request. For each event, the owner or operator shall record a description of each event and the amount of gas released. Determinations of the amount of gas released for each type of event shall be based on the specifications of the equipment that is vented and any other relevant information, and the records of such determinations shall be maintained and made available for Division review upon request.

SECTION III - Permit Shield

Regulation No. 3, 5 CCR 1001-5, Part C, §§ I.A.4, V.D. & XIII.B; § 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.

None.

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. Stream-lined 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. **None.**

SECTION IV - General Permit Conditions (ver 05/22/2012)

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. and § 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.E

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 C.R.S. § 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 C.R.S. § 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 C.R.S. § 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 - ENGINE AOS APPLICABILITY REPORTS

*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

1. **Directions to Plant:**

From I-70, take exit 90; turn left on CO-13/Taugbenbaugh Blvd., travel ~0.10 miles
Turn left onto CR-346/Airport Rd. travel ~1.7 miles
Turn right on to W Mamm Creek Cr., travel ~0.7 miles
Turn right on to Country Rd 319, travel ~2.8 miles
Turn right on EnCana Grass Mesa access road, travel ~2.2 miles

1. **Safety Equipment Required:**

Eye Protection; Hard Hat; Safety Shoes; Hearing Protection; Fire Retardant Clothing

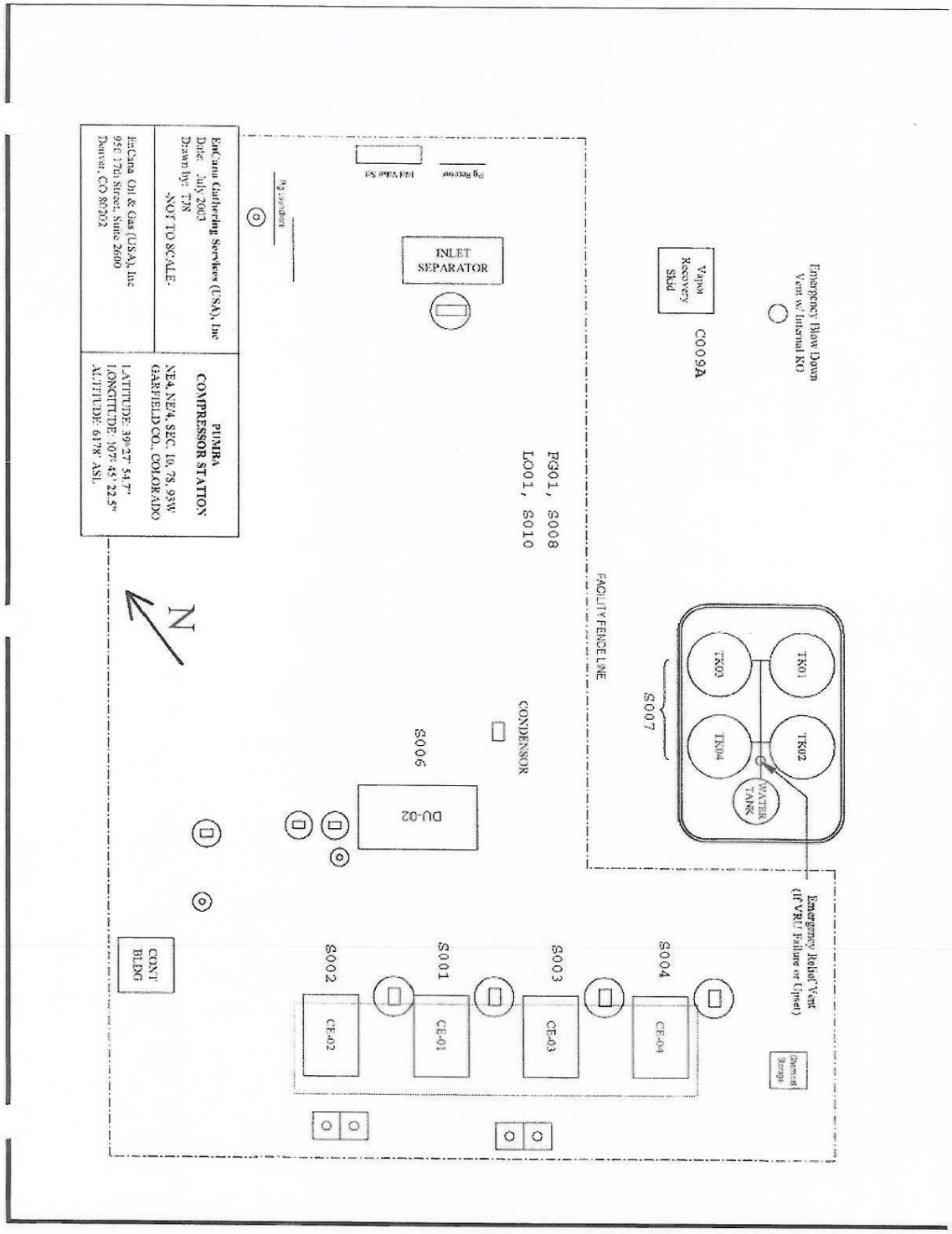
2. **Facility Plot Plan:**

The attached Figure (following page) shows the plot plan as submitted in the May 20, 2009 Title V Operating Permit Application.

3. **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.

Two (2) 1.00 MMBtu/hr natural gas-fired reboiler (DU02 glycol unit)
0.25 MMBtu/hr Enertek fuel gas scrubber
Engine lube oil tanks
100 bbl TEG tank
One (1) 210 bbl produced water tank
100 bbl drip tank
EG tanks (antifreeze)
Chemical Storage
Emergency Relief Vent (condensate tanks)


Emergency Blow Down Vent w/ Internal KO
Vapor Recovery Skid
C009A
INLET SEPARATOR
PG01, S008
LO01, S010
FACILITY FENCE LINE
TK01
TK02
TK03
TK04
WATER TANK
S007
CONDENSOR
S006
DU-02
Emergency Relief Vent (If VRU Failure or Upset)
Chemical Storage
S002
S001
S003
S004
CE-02
CE-01
CE-03
CE-04
CONT BLDG
N
EnCana Gathering Services (USA), Inc
Date: July 2003
Drawn by: TJS
-NOT TO SCALE-
EnCana Oil & Gas (USA), Inc
950 17th Street, Suite 2600
Denver, CO 80202
PUMRA
COMPRESSOR STATION
NE4, NE4, SEC. 16, T8, R93W
GARFIELD CO., COLORADO
LATITUDE: 39° 27' 54.7"
LONGITUDE: 107° 45' 22.5"
ALTITUDE: 6178' ASL

APPENDIX B

Reporting Requirements and Definitions

with codes ver 2/20/07

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.

[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.

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 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

1. 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.

2. 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: Grand River Gathering, LLC – Pumba Compressor Station
OPERATING PERMIT NO: 04OPGA277
REPORTING PERIOD:_____ (see first page of the permit for specific reporting period and dates)

Facility ID	Unit Description	Deviations noted During Period?[1]		Deviation Code[2]	Malfunction/Emergency Condition Reported During Period?	
		YES	NO		YES	NO
CE01	Caterpillar G3608 TALE, 4-Cycle Lean Burn, Low NOx design, Spark-ignition Natural Gas Fired Internal Combustion Engine, site rated at 2,225 horsepower. SN 4WF00222					
CE02	Caterpillar G3616 TALE, 4-Cycle Lean Burn, Low NOx design, Spark-ignition Natural Gas Fired Internal Combustion Engine, site rated at 4,521 horsepower. SN BLB00177					
CE03	Caterpillar G3616 TALE, 4-Cycle Lean Burn, Low NOx design, Spark-ignition Natural Gas Fired Internal Combustion Engine, site rated at 4,521 horsepower. SN BLB00202					
CE04	Caterpillar G3616 TALE, 4-Cycle Lean Burn, Low NOx design, Spark-ignition Natural Gas Fired Internal Combustion Engine, site rated at 4,521 horsepower. SN BLB00204					

Facility ID	Unit Description	Deviations noted During Period?[1]		Deviation Code[2]	Malfunction/Emergency Condition Reported During Period?	
		YES	NO		YES	NO
DU02	One (1) Wells Hall, Model 120 MMscfd, triethylene glycol (TEG) natural gas dehydration unit (with a design capacity of 120 MMScf per day. This emission unit is equipped with two (2) Union Pump electric pumps with a design capacity of 15 gallons per minute total. This unit is equipped with a flash tank, reboiler and still vent.					
TK01-06	Six (6) fixed roof storage condensate storage tanks					
FG01	Fugitive Emissions from Equipment Leaks					
LO01	Condensate Truck Loadout					
HAP Emission Limits from Glycol Dehydration Units and Vessels with Potential for Flash Emissions						
BD01	Blowdown Activities					
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: Grand River Gathering, LLC – Pumba Compressor Station
OPERATING PERMIT NO: 04OPGA277
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 D. Haze, APCD

Deviation Code _____ Division Code QA: _____

Monitoring and Permit Deviation Report - Part III

REPORT CERTIFICATION

SOURCE NAME: Grand River Gathering, LLC – Pumba Compressor Station

FACILITY IDENTIFICATION NUMBER: 0450368

PERMIT NUMBER: 04OPGA277

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.38. 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 Reports

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: Grand River Gathering, LLC – Pumba Compressor Station

OPERATING PERMIT NO: 04OPGA277
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.

Facility ID	Unit Description	Deviations Reported [1]		Monitoring Method per Permit?[2]		Was compliance continuous or intermittent?[3]	
		Previous	Current	YES	NO	Continuous	Intermittent
CE01	Caterpillar G3608 TALE, 4-Cycle Lean Burn, Low NOx design, Spark-ignition Natural Gas Fired Internal Combustion Engine, site rated at 2,225 horsepower. SN 4WF00222						
CE02	Caterpillar G3616 TALE, 4-Cycle Lean Burn, Low NOx design, Spark-ignition Natural Gas Fired Internal Combustion Engine, site rated at 4,521 horsepower. SN BLB00177						

Facility ID	Unit Description	Deviations Reported [1]		Monitoring Method per Permit?[2]		Was compliance continuous or intermittent?[3]	
		Previous	Current	YES	NO	Continuous	Intermittent
CE03	Caterpillar G3616 TALE, 4-Cycle Lean Burn, Low NOx design, Spark-ignition Natural Gas Fired Internal Combustion Engine, site rated at 4,521 horsepower. SN BLB00202						
CE04	Caterpillar G3616 TALE, 4-Cycle Lean Burn, Low NOx design, Spark-ignition Natural Gas Fired Internal Combustion Engine, site rated at 4,521 horsepower. SN BLB00204						
DU02	One (1) Wells Hall, Model 120 MMscfd, triethylene glycol (TEG) natural gas dehydration unit (with a design capacity of 120 MMScf per day. This emission unit is equipped with two (2) Union Pump electric pumps with a design capacity of 15 gallons per minute total. This unit is equipped with a flash tank, reboiler and still vent.						
TK01-06	Six (6) fixed roof storage condensate storage tanks						
FG01	Fugitive Emissions from Equipment Leaks						
LO01	Condensate Truck Loadout						
HAP Emission Limits from Glycol Dehydration Units and Vessels with Potential for Flash Emissions							
BD01	Blowdown Activities						

Facility ID	Unit Description	Deviations Reported [1]		Monitoring Method per Permit?[2]		Was compliance continuous or intermittent?[3]	
		Previous	Current	YES	NO	Continuous	Intermittent
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 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.38. 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-T
U.S. Environmental Protection Agency, Region VIII
1595 Wynkoop Street
Denver, Colorado 80202-1129

Permit Modifications, 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, Colorado 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/A or NA -	Not Applicable
NOx -	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

PSD -	Prevention of Significant Deterioration
PTE -	Potential To Emit
RACT -	Reasonably Available Control Technology
SCC -	Source Classification Code
SCF -	Standard Cubic Feet
SIC -	Standard Industrial Classification
SO_2 -	Sulfur Dioxide
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

Engine AOS Applicability Reports

ver 10/12/2012

Note: A MS Word version of this Appendix can be found at:

http://www.colorado.gov/cs/Satellite/CDPHE-AP/CBON/1251597655816

DISCLAIMER:

These are only example reports and do not cover all possible requirements.

Engine AOS Applicability Report Certification Language

All information for the Applicability Reports must be certified by either 1) for Operating Permits, a Responsible Official as defined in Colorado Regulation No. 3, Part A, Section I.B.38. or 2) for Construction and General Permits, the person legally authorized to act on behalf of the source. 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. Further, I agree that by signing and submitting these documents I agree that any new requirements identified in the Applicability Report(s) shall be considered to be Applicable Requirements as defined in Colorado Regulation No. 3, section I.B.9., and that such requirements shall be enforceable by the Division and its agents and shall be considered to be revisions to the underlying permit(s) referenced in the Report(s) until such time as the Permit is revised to reflect the new requirements.

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

Colorado Regulation No. 7
Sections XVI and XVII.E

DISCLAIMER: This is only an example report and does not cover all possible Reg 7 requirements.

Company: Acme Gas Processing
Source ID: 9991234
Permit #: 93OPXX999
Date: October 1, 2008

Determination of compliance and reporting requirements for a

Manufacturer: BestEngineCompany
Model: 777 LowNox
Nameplate HP: 1340
Construction date: July 1, 2007

Note: If the engine is exempt from a requirement due to construction date or was relocated from within Colorado, supporting documentation must be provided.

Determination of Regulation No. 7 requirements:

Regulation No. 7, § XVI

☐ Does not apply to this engine. Engine is not located in the ozone nonattainment area or does not have a manufacturer's design rate greater than 500 horsepower or did not commence operation on or after June 1, 2004.

☐ Does apply to this engine and applicable emissions controls have been installed.

Regulation No. 7, § XVII.E

☐ Does not apply to this engine. Engine does not have a maximum horsepower greater than 100 or the construction or relocation date precedes the applicability dates.

☐ Does apply to this engine. The following emission limits apply to the engine:

NO_X (g/hp-hr): 2.0
CO (g/hp-hr): 4.0
VOC (g/hp-hr): 1.0

Max Engine HP	Construction or Relocation Date	Emission Standards in g/hp-hr		
		NO_X	CO	VOC
100<Hp<500	January 1, 2008	2.0	4.0	1.0
	January 1, 2011	1.0	2.0	0.7
500≤Hp	July 1, 2007	2.0	4.0	1.0
	July 1, 2010	1.0	2.0	0.7

NSPS JJJJ Example Report Format

DISCLAIMER: This is only an example report and does not cover all possible JJJJ requirements.

Note that as of September 1, 2008 that the Division has not yet adopted NSPS JJJJ. Until such time as it does, any engine subject to NSPS will be subject only under Federal law. Once the Division adopts NSPS JJJJ, there will be an additional step added to the determination of the NSPS. Under the provisions of Regulation No. 6, Part B, § I.B (which is referenced in Part A), any engine relocated from outside of the State of Colorado into the State of Colorado is considered to be a new source, subject to the requirements of NSPS JJJJ.

NSPS Subpart JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Company: Acme Gas Processing
Source ID: 9991234
Permit #: 93OPXX999
Date: October 1, 2008

Manufacturer: BestEngineCompany
Model: 777 LowNox
Nameplate HP: 1340
Engine Type: 2 Stroke Rich Burn
Manufacture Date: July 1, 2007
Date Engine Ordered: April 1, 2007

Note: If the engine is exempt from a requirement due to construction/manufacture date, supporting documentation must be provided.

Upon adoption of NSPS Subpart JJJJ into Colorado Regulation No. 6, Part A, if the engine is exempt because the engine was relocated within the state of Colorado, supporting documentation must be provided.

☐ NSPS JJJJ **does not apply** to this engine.

☐ NSPS JJJJ **does apply** to this engine.

Note: Using the format below, the source must submit to the Division an analysis of all of the NSPS JJJJ applicable requirements that apply to this specific engine. **The analysis below is an example only**, based on a hypothetical engine that is a rich burn engine, greater than 500 HP, with a manufacture date after July 1, 2007.

Determination of NSPS JJJJ requirements:

60.4230 Applicability

(a)(4)(i) Applies to this engine since it is a rich burn engine, greater than 500 HP, with a manufacture date after July 1, 2007.

60.4233 Emission Standards for Owners and Operators

(e) Owners and operators of stationary SI ICE with a maximum engine power greater than 100 HP must comply with the standards in Table 1.

Non-Emergency SI, Natural Gas, HP≥500, Manufactured after 7/1/2007

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

Other Requirements for Owners and Operators

60.4234 Emission standards must be met for the lifetime of the engine.
60.4235 N/A - Sulfur content of gasoline.
60.4236 N/A (for now) - After July 1, 2009 owners and operators may not install engines with a power rating ≥ 500HP that do not meet the emissions standards in 60.4230.
60.4237 N/A - Emergency Engines.

60.4238 - 60.4242 Compliance Requirements for Manufacturers – (Not Applicable)

60.4243 Compliance Requirements for Owners and Operators

(b)(2)(ii) To maintain compliance with the emission limits in 60.4233, owners of SI ICE ≥ 500HP must:

- Keep a maintenance plan;
- Keep records of conducted maintenance;
- Maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions;
- Conduct an initial performance test; and
- Conduct subsequent performance tests every 8,760 hours or every three years, which ever comes first, in order to demonstrate compliance with the emission limits.

(g) Air to fuel ratio controllers (AFRCs) must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

60.4244 Testing Requirements for Owners and Operators

(a) Each performance test must be conducted within 10% of the highest achievable load and must comply with the testing requirements listed in 60.8 and Table 2 of NSPS JJJJ.

(b) Performance tests may not be conducted during periods of startup, shutdown, or malfunction, as specified in 60.8(c). If the engine is non-operational when a performance test is due, the engine does not need to be started up just to test it, but will need to be tested immediately upon startup.

(c) Three separate test runs must be conducted for each performance test as specified by 60.8(f). Each run must be within 10% of max load and be at least 1 hour in duration.

(d) To determine compliance with the NO_x, CO, and VOC mass per unit output emission limitations, the measured concentration must be converted using the equations outlined in this section of NSPS JJJJ.

60.4245 Notification, Reports, and Records for Owners and Operators

(a) Owners of all stationary SI ICE must keep records of the following:
(1) All notifications submitted to comply with this subpart;
(2) Maintenance conducted on the engine;
(3) N/A - Manufacturer information for certified engines, and
(4) Documentation that shows non-certified engines are in compliance with the emission standards.

(b) N/A – For emergency engines only.

(c) Owners of non-certified engines ≥ 500HP must submit an initial notification as required in 60.7(a)(1) which includes the following information:
(1) Name and address of the owner or operator;
(2) The address of the affected source;
(3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
(4) Emission control equipment; and
(5) Fuel used.

CONCLUSION OF FINDINGS (EXAMPLE ONLY)

In general, Acme's 1,235HP, Waukesha 7042 GSI engine is subject to the emissions limitations summarized in Table 1 of NSPS JJJJ. ACME will meet these emission limitations using an AFRC and a non-selective catalytic converter (NSCR). These emission rates will be met throughout the life of the engine. A maintenance plan will be kept and all maintenance activities will be recorded. Compliance with the emission limits will be confirmed by the initial performance tests, which shall be conducted following the procedures outlined in 60.4244. Copies of performance test results will be submitted within 60 days of the completion of each test. Since this is an uncertified engine, an initial notification will be submitted including all of the requested information in 40.4245 within 30 days of startup. ACME will keep records of all compliance related materials.

MACT ZZZZ Example Report Format

DISCLAIMER: This is only an example report and does not cover all possible ZZZZ requirements.

MACT Subpart ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Company: Acme Gas Processing
Source ID: 9991234
Permit #: 93OPXX999
Date: October 1, 2008

Manufacturer: BestEngineCompany
Model: 777 LowNox
Nameplate HP: 1340
Engine Type: 2 Stroke Rich Burn
Manufacture Date: July 1, 2007
Date Engine Ordered: April 1, 2007

Note: If the engine is exempt from a requirement due to construction/reconstruction date, supporting documentation must be provided.

☐ MACT ZZZZ **does not apply** to this engine.

☐ MACT ZZZZ **does apply** to this engine.

Note: Using the format below, the source must submit to the Division an analysis of all of the major source MACT ZZZZ applicable requirements that apply to this specific engine. **The analysis below is an example only**, based on a hypothetical new engine located at a major source of HAP emissions.

Determination of MACT ZZZZ requirements:

63.6585 Applicability

This subpart is applicable to Acme's engine since they are going to be operating a new stationary reciprocating internal combustion engine (RICE) at a major source of HAP emissions.

63.6590 What Parts of My Plant Does This Subpart Cover?

This subpart covers Acme's new stationary reciprocating internal combustion engine.

63.6595 When do I have to comply with this Subpart?

(a)(5) The engine must comply with the applicable emission limitations and operating limitations upon startup.

63.6600 Emission and operating limitations for RICE site rated at more than 500 hp

(a) The engine is subject to the emission limits in table 1a and the operating limits in table 1b. ACME will meet the emission limitations by reducing formaldehyde emissions by 76 percent and will maintain the catalyst such that the pressure drop does not change by more than 2 inches of H_2O at 100 % load plus or minus 10 percent from the pressure drop measured during the initial performance test and will maintain the temperature of the engine exhaust so that the catalyst inlet temperature is greater than or equal to 750 º F and less than or equal to 1250 º F.

The engine will be equipped with non-selective catalytic reduction and an air fuel controller to meet the emission limitations.

63.6601 & 63.6611 Requirements for 4SLB engines between 250 and 200 hp

These requirements do not apply.

63.6605 General Requirements

(a) The engine will comply with the emission and operating limitations at all times, except during periods of startup, shutdown and malfunction (SSM)

(b) The engine, including air pollution control and monitoring equipment shall be operating in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during SSM.

63.6610 Initial performance test

(a) the performance tests specified in Table 4 (select sampling port and measure O_2, moisture and formaldehyde at inlet and outlet of the control device) shall be conducted within 180 days of startup.

(b) & (c) not applicable construction did not commence between 12/19/02 and 6/15/04.

(d) previous performance tests have not been conducted on this unit within two years, therefore, this provision does not apply.

63.6615 Subsequent performance tests

Subsequent tests will be conducted as specified in Table 3. No additional testing is required for 4SRB engines meeting the formaldehyde percent reduction requirements.

63.6620 Performance test procedures

(b) tests must be conducted at 100 % load plus or minus 10%

(c) tests may not be conducted during periods of SSM.

(d) must conduct three 1-hr test runs

(e) equation (e)(1) shall be used to determine compliance with the percent reduction requirement.

(f), (g) & (h) Not applicable

(i) engine load during test shall be determined as specified in this paragraph.

63.6625 Monitoring, installation, operation and maintenance requirements

(a), (c) & (d) Not applicable

(b) a continuous parameter monitoring system (CPMS) shall be installed to measure the catalyst inlet temperature. The CPMS will meet the requirements in § 63.8

63.6630 Demonstrating initial compliance

(a) initial compliance shall be determined in accordance with table 5 (initial performance test must indicate formaldehyde reduction of 76 percent or more, a CPMS must be installed to measure inlet temperature of the catalyst and the pressure drop and catalyst inlet temperature must be recorded during the initial performance test).

(b) pressure differential will be established during the initial performance test.

(c) Notification of compliance status will be submitted and will contain the results of the initial compliance demonstration.

63.6635 Monitoring to demonstrate continuous compliance

(b) except for monitor malfunctions, associated repairs, and required QA/QC activities monitoring must be continuous at all time the engine is operating.

(c) data recorded during monitoring malfunctions, associated repairs and required QA/QC activities must not be used in data averages and calculations to report operating levels, however, all the valid data collected during other periods shall be used.

63.6640 Demonstrating continuous compliance

(a) continuous compliance will be demonstrated as specified in table 6 (collect catalyst inlet temperature data, reduce that data to 4-hr rolling average and maintain the 4-hr rolling averages to within the operating limitation and measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop meets the operating limitation.

(b) deviations from the emission and operating limitations must be reported per § 63.6550.
If catalyst is changed the operating parameters established during the initial performance test must be re-established.
When operating parameters re-established a performance test must also be conducted.

63.6645 Notifications

(a) Submit notifications in §§ 63.7(b) & (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) thru (e) & (g) & (h) that apply by dates specified.

(b) Not applicable. Acme unit started after effective dated for Subpart ZZZZ.

(c) Submit initial notification within 120 days after becoming subject to Subpart ZZZZ.

(d) thru (f) Not applicable. Acme engine greater than 500 hp and subject to requirements in Subpart ZZZZ.

(g) & (h) Submit notification of intent to conduct performance test and notification of compliance status.

63.6650 Reports

(a) Submit reports required by table 7 (compliance report and SSM reports (if actions inconsistent with SSM plan)

(b) Not applicable, an alternate schedule for report submittal has been approved. Reports will be submitted with title v reports

(c) Compliance reports to contain the following information: company name and address, statement by responsible official certifying accuracy, date of report and beginning and end of reporting period, if SSM the information in 63.10(d)(5)(i), if no deviations a statement saying that, if no periods when CPMS out of control a statement saying that.

(d) Not applicable, using CPMS

(e) For each deviation the information in (e)(1) thru (e)(12) shall be provided.

(f) Applicable. Compliance reports are submitted with title v reports. Compliance reports under Subpart ZZZZ include all necessary info for title v deviation report with respect to Subpart ZZZZ requirements.

(g) Not applicable. Acme engine not firing landfill or digester gas.

63.6655 Recordkeeping

(a) Retain records as follows: copy of each notification and report (including all documentation supporting any initial notification or notification of compliance status), records in 63.6(e)(iii) thru (v) related to SSM, and records of performance tests and evaluations.

(b) CPMS records including records in 63.10(b)(2)(vi) thru (xi), previous versions of the performance evaluation plan required by 63.8(d)(3) and requests for alternatives to the relative accuracy test for CPMS as required by 63.8(f)(6)(i).

(c) Not applicable. Acme engine not firing landfill or digester gas.

(d) Will keep records required in Table 6 (monthly pressure drop readings, 4-hr averages of catalyst inlet temperature) to show continuous compliance with emission and operating limits.

63.6660 Form and length of records

(a) records must be in a form suitable and readily available for expeditions review

(b) records must be retained for five years

(c) records must be retained on-site for first 2 years, may be retained off-site for the remaining 3 years

63.6665 General Provisions

This engine must comply with the general provisions as indicated in Table 8.

CONCLUSION OF FINDINGS (EXAMPLE ONLY)

Since this engine is subject to the requirements of MACT Subpart ZZZZ. The engine will be installed with a non-selective catalyst to meet the formaldehyde reduction requirement of 76% or more. An initial performance test will be conducted within 180 days of startup to demonstrate compliance with the formaldehyde percent reduction requirement. During the initial performance test, the pressure drop across the catalyst will be measured. A CPMS will be installed to measure the catalyst inlet temperature. Continuous compliance will be demonstrated by keeping the 4-hr rolling averages of catalyst inlet temperature within the operating limitations and recording the pressure drop across the catalyst monthly and demonstrating that the pressure drop is within the operating limitation.

Records, notifications and reports will be submitted as required. To that end required reports and notifications include initial notification, notice of intent to conduct performance test, notification of compliance status, SSM reports (if required) and semi-annual compliance reports