Colorado Department of Public Health and Environment

OPERATING PERMIT

DUKE ENERGY FIELD SERVICES, LP

Ladder Creek Helium Plant

Issued: October 16, 2000

Last Revised: May 23, 2002

AIR POLLUTION CONTROL DIVISION
COLORADO OPERATING PERMIT

FACILITY NAME:	Ladder Creek Helium Plant	OPERATING PERMIT NUMBER
FACILITY ID:	0170209	**99OPCY216**
ISSUE DATE:	October 16, 2000	
EXPIRATION DATE:	October 16, 2005	
MODIFICATIONS:	See Appendix F of Permit	

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

ISSUED TO:	PLANT SITE LOCATION:
Duke Energy Field Services, LP	**41707 County Road P**
370 17th Street Suite 900	**Cheyenne Wells, Colorado 80810**
Denver CO 80202	Cheyenne County

INFORMATION RELIED UPON

Operating Permit Application Received: October 1, 1999

And Additional Information Received: November 4, 1999; February 1, 2001; January 21, 2002

Nature of Business: Natural gas processing and helium recovery

Primary SIC: 1321

RESPONSIBLE OFFICIALS			FACILITY CONTACT PERSON	
Name:	Kent Christopherson	Paul Brewer	Name:	Ashley Campsie
Title:	Vice President, Operations Northern Division	General Manager, West Mid-Con Region	Title:	Environmental Engineer
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SUBMITTAL DEADLINES

Semi-Annual Monitoring Period:	July 1 - December 31, January 1 - June 30
Semi-Annual Monitoring Report:	February 1, 2001 & August 1, 2001 and subsequent years
Annual Compliance Period:	July 1 to June 30
Annual Compliance Certification:	August 1, 2001 and subsequent years

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SECTION I - General Activities and Summary

1. Permitted Activities

1.1 The Ladder Creek Helium Plant is designed to recover helium and natural gas liquid (NGL) products from field natural gas. Inlet gas from the local fields enters the plant and is routed through an inlet gas separator. Entrained liquids consisting of condensate and water are removed from the inlet gas stream and are routed to storage tanks. The inlet gas is then routed through an amine sweetening unit to remove carbon dioxide. The carbon dioxide and some volatile organic compounds are vented to the atmosphere through the amine regeneration still vent. The gas -fired amine regeneration reboiler heater emits flue gas to the atmosphere.

The sweetened gas from the amine unit is routed through a molecular sieve dehydration unit to remove moisture. The sieve beds are periodically regenerated by passing a small stream of hot residue gas (regen gas) through the bed. The regen gas is heated in the regen gas heater and routed back to the inlet gas stream after regenerating the sieve beds. The only emissions to the atmosphere from this dehydration process are the flue gas emissions from the gas-fired regen heater.

The gas stream from the molecular sieve is cooled using a closed loop propane refrigeration system. The refrigeration compressors are electrically driven. There are no emissions to the atmosphere associated with the refrigeration system. The cooled gas is routed to the cold box. A series of heat exchangers in the cold box further cool the gas to remove NGL product, nitrogen, and crude helium. The NGL product is routed to pipeline sales. A portion of the nitrogen removed is routed to storage and used for the process heat transfer. The remaining nitrogen is vented to the atmosphere. The crude helium is purified on-site. After removal of the NGL product, nitrogen and crude helium, the remaining residue gas has a high methane content. The residue gas is recompressed using two gas-fired internal combustion engine driven compressors. The engines emit exhaust gas to the atmosphere. A small portion of the compressed residue gas is used as the regen gas for the molecular sieve as described above. The remaining gas is routed to pipeline sales.

Three gas-fired turbines are used to generate electrical power for the plant. These three turbines emit exhaust gas to the atmosphere. Fugitive VOC emissions from leaking equipment components are also emitted from the plant.

The facility is located at 41707 County Road P. It is about three (3) miles west of Cheyenne Wells, in Cheyenne County, Colorado. The area in which the plant operates is designated as attainment for all criteria pollutants.

Kansas is an affected state within 50 miles of the plant. There are no Federal Class I designated areas within 100 kilometers of the plant.

1.2 Until such time as this permit expires or is modified or revoked, the permittee is allowed to discharge air pollutants from this facility in accordance with the requirements, limitations, and conditions of this permit.

1.3 This Operating Permit incorporates the applicable requirements contained in the underlying construction permits, and does not affect those applicable requirements, except as modified during review of the application or as modified subsequent to permit issuance using the modification procedures found in Regulation No. 3, Part C. These Part C procedures meet all applicable substantive New Source Review requirements of Part B. Any revisions made using the provisions of Regulation No. 3, Part C shall become new applicable requirements for purposes of this Operating Permit and shall survive reissuance. This Operating Permit incorporates the applicable requirements (except as noted in Section II) from Colorado Construction Permit 97CY0207.

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:**

Section IV - Condition 13 (Odor)
Condition 17 (Ozone Depleting Compounds as noted)

1.5 All information gathered pursuant to the requirements of this permit is subject to the Record keeping and Reporting requirements listed under Condition 21 of the General Conditions in Section IV of this permit.

2. Alternative Operating Scenarios

2.1 The following physical or operational changes to the turbines in this permit are not considered a modification for purposes of NSPS GG, NSR/PSD, or Regulation No. 3:

1) Replacement of stator blades, turbine nozzles, turbine buckets, fuel nozzles, combustion chambers, seals, and shaft packings, provided that they are of the same design as the original.

2) Changes in the type or grade of fuel used, if the original gas turbine installation, fuel nozzles, etc. were designed for its use.

3) An increase in the hours of operation (unless limited by a permit condition)

4) Variations in operating loads within the engine design specification.

Turbines undergoing any of the above changes 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**. If replacement of any of the components listed in Condition 2.1(1) above results in a change in serial number for the turbine, a letter explaining the action as well as a revised APEN and appropriate filing fee shall be submitted to the Division within 30 days of the replacement.

Note that the repair or replacement must be genuinely the same design. The Division does not consider that this allows for the entire replacement (or reconstruction) of an existing turbine with an identical new one or one similar in design or function. Rather, the Division considers the

repair or replacements to encompass the repair or replacement of components at a turbine with the same (or functionally similar) components. Note that the new components cannot increase the power output capacity of the turbine and still meet the requirements of this exemption.

2.2 TURBINES

The following Alternative Operating Scenario (AOS) for either temporary or permanent combustion turbine replacement has been reviewed in accordance with the requirements of Regulation No. 3., Part A, Section IV.A, Operational Flexibility-Alternative Operating Scenarios, and Regulation No. 3, Part B, Construction Permits, and has been found to meet all applicable substantive and procedural requirements. This permit incorporates and shall be considered a construction permit for any combustion turbine replacement performed in accordance with this AOS, and the permittee shall be allowed to perform such turbine replacement without applying for a revision to this permit or obtaining a new Construction Permit.

For purposes of Regulation No. 3, Part B, Section IV.G.4.a., any turbine replacement authorized under this AOS shall commence operation upon notation of same in the contemporaneous log as required below. Results of any testing required below shall be normalized for comparison to the applicable permitted emission limits.

2.2.1 Temporary Turbine Replacement

The following alternative operating scenario is incorporated into this permit in order to deal with a turbine breakdown or periodic routine maintenance and repair which requires the temporary replacement of the entire turbine. “Temporary” is defined as in the same service for 90 operating days or less in any 12 month period. The 90 days is the total number of days that the turbine is in operation. If the turbine operates only part of a day, that day counts towards the 90 day total. Note that the compliance demonstrations made as part of this AOS are in addition to any compliance demonstrations required by the permit.

a) The permittee may temporarily replace an existing turbine provided such replacement turbines are Solar Centaur Model 40-T4700 2550 HP combustion turbines without modifying this permit.

The permittee shall measure nitrogen oxide (NOx) and carbon monoxide (CO) emissions in the exhaust from the temporary replacement turbine using a portable flue gas analyzer within seven (7) operating days of commencing operation of the temporary replacement turbine. Calibration of the analyzer shall be conducted according to manufacturer=s instructions.

In the absence of credible evidence to the contrary, results of the portable flue gas analyzer test shall be evidence of enforceable compliance or noncompliance of the temporary replacement turbine with the emission

limitations of the original turbine.

An exceedance of either the NO_x or CO emission limitation during the initial portable flue gas analyzer test shall require a subsequent portable flue gas analyzer test indicating compliance with both the NO_x and CO emission limitations within 14 operating days of commencing operation of the replacement turbine. Calibration gases shall be used to calibrate the portable analyzer for all tests conducted subsequent to the initial test.

If portable flue gas analyzer results indicate compliance with both the NO_x and CO emission limitations within the 14 day period, the temporary replacement turbine will be considered to be in compliance for purposes of this AOS from the time that the replacement turbine commenced operation until the replacement turbine is taken off line.

If portable flue gas analyzer results fail to indicate the compliance with either the NO_x or CO emission limitations within the 14 day period, the source will notify the Division in writing within 10 calendar days of the end of the 14 day period. In the absence of credible evidence to the contrary, the temporary replacement turbine will be considered to be out of compliance from the time that the temporary replacement turbine commenced operation until the turbine is taken off line. Results of all testing that indicates noncompliance shall be submitted to the Division within 10 calendar days of the end of the 14 day period.

b) The permittee may temporarily replace a grandfathered or permit exempt turbine or a turbine that is not subject to emission limits without modifying this permit. Potential emissions from the temporary replacement turbine must be less than or equal to the potential emissions from the original grandfathered or permit exempt turbine or for the turbine that is not subject to emission limits, as determined by applying appropriate emission factors.

c) Temporary replacement turbines, whether of the same manufacturer, model, and horsepower, or of a different manufacturer, model, or horsepower, 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**.

d) The permittee shall maintain a log on-site to contemporaneously record the start and stop date of any temporary turbine replacement, the manufacturer, model number, horsepower, and serial number of the turbine(s) that are temporarily replaced during the term of this permit, and the manufacturer, model number, horsepower, and serial number of the replacement turbine.

2.2.2 Permanent Turbine Replacement

The following AOS is incorporated into this permit in order to deal with a turbine breakdown or periodic routine maintenance and repair which requires the permanent replacement of the entire turbine. "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 turbine is in operation. If the turbine operates only part of a day, that day counts towards the 90 day total. The compliance demonstrations made as part of this AOS are in addition to any compliance demonstrations required by the permit.

a) The permittee may permanently replace the existing combustion turbine provided such replacement turbines are Solar Centaur Model 40-T4700 2550 HP without modifying this permit.

The permittee shall measure nitrogen oxide (NO_x) and carbon monoxide (CO) emissions in the exhaust from the permanent replacement turbine using a portable flue gas analyzer within seven (7) operating days of commencing operation of the permanent replacement turbine. Calibration of the analyzer shall be conducted according to manufacturer's instructions.

In the absence of credible evidence to the contrary, results of the portable flue gas analyzer test shall be evidence of enforceable compliance or noncompliance of the permanent replacement turbine with the emission limitations of the original turbine.

An exceedance of either the NO_x or CO emission limitation during the initial portable flue gas analyzer test shall require a subsequent portable analyzer test indicating compliance with both the NO_x and CO emission limitations within 14 operating days of commencing operation of the replacement turbine. Calibration gases shall be used to calibrate the portable analyzer for all tests conducted subsequent to the initial test.

If portable flue gas analyzer results indicate compliance with both the NO_x and CO emission limitations within the 14 day period, the permanent replacement turbine will be considered to be in compliance for the purposes of this AOS.

If portable flue gas analyzer results fail to indicate the compliance of the permanent replacement turbine with either the NO_x or CO emission limitations within the 14 day period, the source will notify the Division in writing within 10 calendar days of the end of the 14 day period. Results of all testing that indicates noncompliance shall be submitted to the Division within 10 calendar days of the end of the 14 day period. The source will be required to conduct EPA Reference Test Methods (identified as

Reference Method 7E and Reference Method 10, or Reference Method 19 (40C.F.R. Part 60 Appendix A), hereinafter "EPA Reference Test Methods") or other test methods or procedures acceptable to the Division within 45 calendar days of the end of the 14 day period allowed for the additional portable flue gas analyzer testing. The Division shall receive a copy of the testing protocol for review and approval and be notified of the scheduled test date at least 30 calendar days prior to the test date. The Division may, at its discretion, choose to witness any or all of the testing. If the EPA Reference Tests indicate compliance with both the NO_x and CO emission limitations, the permanent replacement turbine will be considered to be in compliance for the purposes of this AOS.

If the EPA Reference Tests fail to demonstrate compliance with either the NO_x or CO emission limitations and in the absence of credible evidence to the contrary, the permanent replacement turbine will be considered to be out of compliance for the purposes of this AOS from the date the replacement turbine commenced operation until the turbine is taken off line. Results of all testing that indicates noncompliance shall be submitted to the Division within 14 calendar days after receipt of the test results.

b) Permanent replacement turbines 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**.

c) The permittee shall maintain a log on-site to contemporaneously record the date of any permanent turbine replacement, the manufacturer, model number, horsepower, and serial number of the turbine(s) that are permanently replaced during the term of this permit, and the manufacturer, model number, horsepower, and serial number of the replacement turbine.

d) An Air Pollutant Emissions Notice (APEN) that includes the specific manufacturer, model and serial number and horsepower of the permanent replacement turbine shall be filed with the Division for the permanent replacement turbine within 14 calendar days of commencing operation of the replacement turbine. The APEN shall be accompanied by the appropriate APEN filing fee and a cover letter explaining that the permittee is exercising an alternative operating scenario and is installing a permanent replacement turbine.

e) This procedure cannot be used for permanent turbine replacement of a grandfathered or permit exempt turbine or an turbine that is not subject to emission limits.

f) 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 turbine replacement.

g) Results of all tests conducted pursuant to this AOS shall be kept on site for five (5) years and made available to the Division upon request.

h) For comparison with an annual or short term emissions limit, the results of any testing required by this AOS 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 shall be multiplied by the maximum number of hours in the month or year (8760), whichever applies.

2.3 Additional Sources

Current State Air Quality Regulations do not allow for advanced New Source Review in the absence of discrete and verifiable information concerning future installations. Therefore, any additional operational changes requiring new equipment at this facility not addressed by these Alternative Operating Scenarios will need to undergo appropriate Regulation No. 3 review procedures.

2.4 INTERNAL COMBUSTION ENGINES

The following Alternative Operating Scenario (AOS) for temporary and permanent engine replacement has been reviewed in accordance with the requirements of Regulation No. 3., Part A, Section IV.A, Operational Flexibility-Alternative Operating Scenarios, and Regulation No. 3, Part B, Construction Permits, and 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.

For purposes of Regulation No. 3, Part B, Section IV.G.4.a., any engine replacement authorized under this AOS shall commence operation upon notation of same in the contemporaneous log as required below. Results of any testing required below shall be normalized for comparison to the applicable permitted emission limits.

2.4.1 Temporary Engine Replacement

The following AOS is incorporated into a permittee's operating or construction permit in order to deal with a compressor engine breakdown or periodic routine maintenance and repair which requires the use of a temporary replacement engine (defined as in the same service for 90 days or less in any 12 month period). The compliance demonstrations made as part of this AOS are in addition to any compliance demonstrations required by the permit.

2.4.2 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.

The permittee shall measure nitrogen oxide (NO_x) and carbon monoxide (CO) emissions in the exhaust from the temporary replacement engine using a portable flue gas analyzer within seven (7) calendar days of commencing operation of the temporary replacement engine. Calibration of the analyzer shall be conducted according to manufacturer's instructions.

In the absence of evidence to the contrary, results of the portable flue gas analyzer test shall be evidence of enforceable compliance or noncompliance of the temporary replacement engine with the emission limitations of the original engine.

An exceedance of either the NOx or CO emission limitation during the initial portable flue gas analyzer test shall require a subsequent portable flue gas analyzer test indicating compliance with both the NOx and CO emission limitations within 14 calendar days of commencing operation of the replacement engine. Calibration gases shall be used to calibrate the portable analyzer for all tests conducted subsequent to the initial test.

If portable flue gas analyzer results indicate compliance with both the NOx and CO emission limitations within the 14 day period, the temporary replacement engine will be considered to be in compliance for purposes of this AOS from the time that the replacement engine commenced operation until the replacement engine is taken off line.

If portable flue gas analyzer results fail to indicate the compliance with either the NOx or CO emission limitations within the 14 day period, the source will notify the Division in writing within 10 calendar days of the end of the 14 day period. In the absence of evidence to the contrary, the temporary replacement engine will be considered to be out of compliance from the time that the temporary replacement engine commenced operation until the engine is taken off line. Results of all testing that indicates noncompliance shall be submitted to the Division within 10 calendar days of the end of the 14 day period.

2.4.3 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. Potential emissions from the temporary replacement engine must be less than or equal to the potential emissions 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.

2.4.4 Temporary replacement engines, whether of the same manufacturer, model, and horsepower, or of a different manufacturer, model, or horsepower, 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.

2.4.5 The permittee shall maintain a log on-site to contemporaneously record the start and stop date of any temporary engine replacement, the manufacturer, model number, horsepower, and serial number of the engine(s) that are temporarily replaced during the term of this permit, and the manufacturer, model number, horsepower, and serial number of the replacement engine.

2.5 Permanent Engine Replacement

The following AOS is incorporated into a permittee's operating or construction permit in order to deal with a compressor engine breakdown or periodic routine maintenance and repair which requires the use of a permanent replacement engine (defined as in the same service for more than 90 days in any 12 month period). The compliance demonstrations made as part of this AOS are in addition to any compliance demonstrations required by the permit.

2.5.1 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. The periodic monitoring specified for the replacement engine shall be required.

The permittee shall measure nitrogen oxide (NO_x) and carbon monoxide (CO) emissions in the exhaust from the permanent replacement engine using a portable flue gas analyzer within seven (7) calendar days of commencing operation of the permanent replacement engine. Calibration of the analyzer shall be conducted according to manufacturer's instructions.

In the absence of evidence to the contrary, results of the portable flue gas analyzer test shall be evidence of enforceable compliance or noncompliance of the permanent replacement engine with the emission limitations of the original engine.

An exceedance of either the NO_x or CO emission limitation during the initial portable flue gas analyzer test shall require a subsequent portable analyzer test indicating compliance with both the NO_x and CO emission limitations within 14 calendar days of commencing operation of the replacement engine. Calibration gases shall be used to calibrate the portable analyzer for all tests conducted subsequent to the initial test.

If portable flue gas analyzer results indicate compliance with both the NO_x and CO emission limitations within the 14 day period, the permanent replacement engine will be considered to be in compliance for purposes of this AOS.

If portable flue gas analyzer results fail to indicate the compliance of the permanent replacement engine with either the NO_x or CO emission limitations within the 14 day period, the source will notify the Division in writing within 10 calendar days of the end of the 14 day period. Results of all testing that indicates noncompliance shall be submitted to the Division within 10 calendar days of the end of the 14 day period. If the portable flue gas testing fails to demonstrate compliance, the source will be required to conduct EPA Reference Test Methods (identified as Reference Method 7E and Reference Method 10, or Reference Method 19 (40 C.F.R. Part 60 Appendix A), hereinafter "EPA Reference Test Methods") or other test methods or procedures acceptable to the Division within 45 calendar days of the end of the 14 day period allowed for the portable flue gas analyzer testing. The Division shall be notified at least 30 calendar days prior to the EPA Reference Test date, so that it may choose whether to observe the testing.

If the EPA Reference Tests indicate compliance with both the NO_x and CO emission limitations, the permanent replacement engine will be considered to be in compliance for the purposes of this AOS.

If the EPA Reference Tests fail to demonstrate compliance with either the NO_x or CO emission limitations and in the absence of evidence to the contrary, the permanent replacement engine will be considered to be out of compliance for the purposes of this AOS from the date the replacement engine commenced operation until the engine is taken off line. Results of all EPA Reference testing that indicates noncompliance shall be submitted to the Division within 14 calendar days after receipt of the test results.

2.5.2 Permanent 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.

2.5.3 The permittee shall maintain a log on-site to contemporaneously record the date of any permanent engine replacement, the manufacturer, model number, horsepower, and serial number of the engine(s) that are permanently replaced during the term of this permit, and the manufacturer, model number, horsepower, and serial number of the replacement engine.

2.5.4 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 and a cover letter explaining that the permittee is exercising an alternative operating scenario and is installing a permanent replacement engine.

2.5.5 This procedure cannot be used for permanent engine replacement in the following situations:

a) Replacement of a grandfathered or permit exempt engine or an engine that is not subject to emission limits.

2.5.6 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.

2.5.7 Results of all tests conducted pursuant to this AOS shall be kept on site for five (5) years and made available to the Division upon request.

2.5.8 For comparison with an annual or short term emissions limit, the results of any testing required by this AOS 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 shall be multiplied by the maximum number of hours in the month or year (8760), whichever applies.

2.6 Additional Sources

Current State Air Quality Regulations do not allow for advanced New Source Review in the absence of discrete and verifiable information concerning future installations. Therefore, any additional operational changes requiring new equipment at this facility not addressed by these Alternative Operating Scenarios will need to undergo appropriate Regulation No. 3 review procedures.

Table 1

Internal Combustion Engine Information for the AOS

Emission Point	Replacement Engine	Periodic Monitoring	Stack Test?
C001	Caterpillar Model 3608-RIC, natural gas fired, SN 4WF00061	Quarterly	No
C002	Caterpillar Model 3608-RIC, natural gas fired, SN 4WF00062	Quarterly	No

Table 2

Turbine Information for the AOS

Emission Point	Replacement Engine	Periodic Monitoring	Stack Test?
TB001	Solar Centaur Model 40-T4700, natural gas fired, 2550 HP SN DCG0100	Quarterly	No
TB002	Solar Centaur Model 40-T4700, natural gas fired, 2550 HP SN DCG0101	Quarterly	No
TB003	Solar Centaur Model 40-T4700, natural gas fired, 2550 HP SN DCG0102	Quarterly	No

3. Prevention of Significant Deterioration

3.1 This facility is located in an area designated as attainment for all criteria pollutants. The emission limits of the Construction Permit categorize the facility as a synthetic minor stationary source (no single criteria pollutant emissions with a Potential to Emit greater than 250 tons per year) as of the issue date of this permit. As a synthetic minor source the facility is not subject to the Prevention of Significant Deterioration (PSD) review requirements of 40 CFR 52.21 (Colorado Regulation No. 3, Part B, Section IV.D.3).

Future modifications to this facility may result in an exceedance of the major source threshold. Once that threshold is exceeded, future modifications at this facility resulting in a significant net emissions increase (see Regulation No. 3, Part A, Section I.B.37 and 58) for any pollutant as listed in Regulation No. 3, Part A, Section I.B.58 or a modification which is major by itself will 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 This facility is subject to the provisions of the Accidental Release Prevention Program (Section 112(r) of the Federal Clean Air Act).

4.2 The Risk Management Plan required by the Act was submitted to EPA by June 20, 1999.

The source shall certify to the Division in writing that the source is in compliance with all requirements of 112(r) and that the Risk Management Plan has been submitted to the appropriate authority and/or a designated central location. Such certification shall be signed by the Responsible Official.

5. Summary of Emission Units

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

AIRS Stack Number	Plant Identifier	Description	Size*	Pollution Control Device	Construction Permit
001	TB001	Solar Centaur Model 40-T4700 natural gas fired turbine, Serial Number DCG0100 powering an electric generator, turbine has a generation rating of 2851 kW	2550 HP	None	97CY0207
	TB002	Solar Centaur Model 40-T4700 natural gas fired turbine, Serial Number DCG0101 powering an electric generator, turbine has a generation rating of 2851 kW	2550 HP	None	
	TB003	Solar Centaur Model 40-T4700 natural gas fired turbine, Serial Number DCG0102 powering an electric generator, turbine has a generation rating of 2851 kW	2550 HP	None	
002	C001	Caterpillar Model 3608-RIC, natural gas fired, internal combustion engine, Serial Number 4WF00061	2400 HP	Low NOx engine design	
	C002	Caterpillar Model 3608-RIC, natural gas fired, internal combustion engine, Serial Number 4WF00062	2400 HP	Low NOx engine design	
003	H001	Amine Regenerator Heater, natural gas fired, Heat Recovery Corp Serial Number 4HE-18-4H-4-16-E	5.56 MMBtu/hr	None	
	H002	Process heater, natural gas fired, Heat Recovery Corp Serial Number 4HE-20-4H-8-12-E	7.56 MMBtu/hr	None	
004	AM001	Amine Unit for removal of carbon dioxide from inlet gas stream	NA	None	
005	FUG001	Fugitive VOC emissions from plumbing leaks	NA	LDAR	
008	I001	Elastec, Inc. Smart Ash Incinerator, Model 100, SN 97001588	NA	None	01CY0193

* All horsepower (HP) values are site rated values as reported in the Title V application
LDAR = Leak Detection And Repair

SECTION II - Specific Permit Terms

1. Two Caterpillar Natural Gas Fired 2400 HP Engines

C001 - Compressor Engine SN 4WF00061
C002 - Compressor Engine SN 4WF00062

NOTE: The following terms and conditions apply to each engine individually

Parameter	Permit Condition Number	Compliance Limits	Compliance Emission Factor lb/MMBtu	Monitoring	
				Method	Interval
NOx	1.1	20.8 tons/year	0.26	Record keeping and Calculation 12 month rolling total	Monthly
CO		64.9 tons/year	0.82		
VOC		11.8 tons/year	0.15		
PM		4.73 tons per year	0.06		
PM_{10}					
Fuel Use		175.2 million scf/year		Plant Fuel Meter12 month rolling total	
Btu Heat Content	1.2			ASTM, EPA or other Division Approved Methods	Semi-Annually
Opacity	1.3			Fuel Restriction - Natural Gas	Annually
Portable Monitoring	1.4			Portable Monitoring	Quarterly

1.1 The emission and fuel consumption limits were established by Attachment A to Construction Permit 97CY0207. The plant fuel meter reading shall be recorded on the first day of each new calendar month. The fuel use and the emissions of each pollutant for each engine for the previous calendar month shall be calculated by the end of each new calendar month using the procedure detailed in Condition 10. A new twelve month total shall be calculated for the previous twelve (12) calendar months, and compliance determined and recorded. All calculations and compliance determinations shall be made available for Division review upon request.

1.2 The Btu content of the natural gas used to fuel these engines shall be verified semi-annually in accordance with ASTM Analysis Method D1826-77 or Division approved equivalent method. The Btu content of the natural gas shall be based on the lowest gross heating value of the fuel. Calculations of monthly emissions shall be made using the heat content derived from the most recent required analysis. For the permit limit determination the Division accepted the use of the natural gas heat content as 900 Btu per standard cubic foot.

1.3 The opacity of the emissions from the engine shall not exceed 20%. In the absence of credible evidence to the contrary, compliance with the 20% opacity limit shall be presumed whenever natural gas is used as fuel for the engine.

1.4 Emission measurements of nitrogen oxides (NO_x) and carbon monoxide (CO) from each engine shall be conducted for each calendar year quarter using a portable flue gas analyzer. At least one (1) calendar month shall separate consecutive quarterly tests. For each test, records shall be maintained of the engine exhaust concentrations of carbon monoxide, nitrogen oxide, percent oxygen, ambient temperature, engine rpm, the compressor inlet pressure, and the compressor outlet pressure.

Calibration of the analyzer shall be conducted according to manufacturer's instructions. Results of the portable flue gas analyzer tests shall be used to monitor the compliance status of each engine. For comparison with an annual or short term emissions 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.

An exceedance of either the NO_x or CO emission limitation during the initial portable flue gas analyzer test shall require a subsequent portable analyzer test indicating compliance with both the NO_x and CO emission limitations within 14 calendar days of the initial test. Calibration gases shall be used to calibrate the portable analyzer for all tests conducted subsequent to the initial test.

If portable flue gas analyzer results indicate compliance with both the NO_x and CO emission limitations within the 14 day period, the source may certify that the engine is in compliance with both the NO_x and CO emission limitations for the relevant time period.

If portable flue gas analyzer results fail to indicate the compliance of the engine with either the NO_x or CO emission limitations within the 14 day period, the source will notify the Division in writing within 10 calendar days of the end of the 14 day period. Results of all testing that indicates noncompliance shall be submitted to the Division within 10 calendar days of the end of the 14 day period. If the portable analyzer testing fails to demonstrate compliance, the source will be required to conduct EPA Reference Test Methods (identified as Reference Method 7E and Reference Method 10, or Reference Method 19 (40C.F.R. Part 60 Appendix A), hereinafter "EPA Reference Test Methods") or other test methods or procedures acceptable to the Division within 45 calendar days of the end of the 14 day period allowed for the portable flue gas analyzer testing. The Division shall be notified at least 30 calendar days prior to the EPA Reference Test date, so that it may choose whether to observe the testing.

If the EPA Reference Test results indicate compliance with both the NO_x and CO emission limitations, the source may certify that the engine is in compliance with both the NO_x and CO emission limitations for the relevant time period.

If the EPA Reference Tests fail to demonstrate compliance with either the NO_x or CO emission limitations and in the absence of evidence to the contrary, the engine will be considered to be out of compliance from the date of the initial portable flue gas analyzer test until the engine is taken off line. Results of all testing that indicates noncompliance shall be submitted to the Division within 14 calendar days after receipt of the test results.

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

Monitoring Exemption

Some engines at this site are not normally operated continuously. Portable analyzer testing is not required for this type of engine which runs less than than 100 hours per quarter. The permittee shall conduct portable analyzer testing for such an engine as soon as practicable if the engine runs a minimum of 100 hours in any quarter. The operating hours for such engines shall be recorded each month and maintained for Division review upon request.

2. Three Solar Centaur Model 40-T4700 Natural Gas Fired 2550 HP Turbines

TB001 - Generator Turbine SN DCG0100
TB002 - Generator Turbine SN DCG0101
TB003 - Generator Turbine SN DCG0102

NOTE: The following terms and conditions apply to the three turbines collectively

Parameter	Permit Condition Number	Compliance Limits	Compliance Emission Factor, lb/MMBtu	Monitoring	
				Method	Interval
NOx	2.1 2.2	160 ppmv*and169.9 tons per year	0.52	Record keeping and calculation 12 month rolling total	Monthly
CO		36.9 tons per year	0.11		
VOC		36.9 tons per year	0.11		
PM		16.3 tons per year	0.05		
PM_{10}					
Fuel Use	2.5	722.2 million scf per year			
		Power generation shall not exceed 5,800 kW from the three turbine/generator sets			
SO_2	2.6	0.8 lb/MMBtu		Record keeping and calculation	Monthly
Btu Heat Content	2.7			EPA, ASTM or other Division approved methods	Semi-annually
Portable Monitoring	2.3 2.4			Portable monitoring using a flue gas analyzer	Quarterly
Operating Hours	2.5			Record keeping and calculation	Monthly
Opacity	2.8			Fuel Restriction - Natural Gas	Annually
Stack test	2.10			EPA or other Division Approved Methods	As required

* At 15% oxygen and ISO conditions for each individual turbine exhaust

2.1 Nitrogen Oxide (NO_x), Carbon Monoxide (CO), Volatile Organic Compound (VOC) and Particulate Matter (PM) emissions shall not exceed the limitations stated above (Construction Permits 97CY0207 and Colorado Regulation No. 6). The particulate matter emission limits set

by Attachment A to Construction Permit 97CY0207 are being modified directly in this permit in accordance with Section I, Condition 1.3 of this Operating Permit.

2.2 The emissions for the previous calendar month shall be determined by the end of each new calendar month. A twelve month running total shall be maintained to determine compliance with annual limitations. By the end of each new calendar month a new twelve month total shall be calculated using the previous twelve months data and compliance determined. Records of the compliance determinations shall be maintained on-site and made available to the Division for review upon request.

2.3 Emission measurements of nitrogen oxides (NO_x) and carbon monoxide (CO) from each turbine shall be conducted for each calendar year quarter using a portable flue gas analyzer. At least one (1) calendar month shall separate consecutive quarterly tests. For each test, records shall be maintained of the turbine exhaust concentrations of carbon monoxide, nitrogen oxide, percent oxygen, ambient temperature, turbine rpm, and the electrical output of the generator.

Calibration of the analyzer shall be conducted according to manufacturer's instructions. Results of the portable flue gas analyzer tests shall be used to monitor the compliance status of each turbine. For comparison with an annual or short term emissions 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.

An exceedance of either the NO_x or CO emission limitation during the initial portable flue gas analyzer test shall require a subsequent portable analyzer test indicating compliance with both the NO_x and CO emission limitations within 14 calendar days of the initial test. Calibration gases shall be used to calibrate the portable analyzer for all tests conducted subsequent to the initial test.

If portable flue gas analyzer results indicate compliance with both the NO_x and CO emission limitations within the 14 day period, the source may certify that the turbine is in compliance with both the NO_x and CO emission limitations for the relevant time period.

If portable flue gas analyzer results fail to indicate the compliance of the turbine with either the NO_x or CO emission limitations within the 14 day period, the source will notify the Division in writing within 10 calendar days of the end of the 14 day period. Results of all testing that indicates noncompliance shall be submitted to the Division within 10 calendar days of the end of the 14 day period. If the portable analyzer testing fails to demonstrate compliance, the source will be required to conduct EPA Reference Test Methods (identified as Reference Method 7E and Reference Method 10, or Reference Method 19 (40C.F.R. Part 60 Appendix A), hereinafter "EPA Reference Test Methods") or other test methods or procedures acceptable to the Division within 45 calendar days of the end of the 14 day period allowed for the portable flue gas analyzer testing. The Division shall be notified at least 30 calendar days prior to the EPA Reference Test date, so that it may choose whether to observe the testing.

If the EPA Reference Test results indicate compliance with both the NO_x and CO emission limitations, the source may certify that the engine is in compliance with both the NO_x and CO emission limitations for the relevant time period.

If the EPA Reference Tests fail to demonstrate compliance with either the NO_x or CO emission limitations and in the absence of evidence to the contrary, the engine will be considered to be out of compliance from the date of the initial portable flue gas analyzer test until the engine is taken off line. Results of all testing that indicates noncompliance shall be submitted to the Division within 14 calendar days after receipt of the test results.

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

Monitoring Exemption

Some turbines at this site are not normally operated continuously. Portable analyzer testing is not required for this type of turbine which runs less than 100 hours per quarter. The permittee shall conduct portable analyzer testing for such a turbine as soon as practicable if the turbine runs a minimum of 100 hours in any quarter.

2.4 At least thirty (30) days prior to the initial portable analyzer test required under this condition, a testing protocol shall be submitted to the Division for review and approval. The initial test shall not be conducted without prior approval from the Division. The Division shall be notified of any changes in the testing protocol. In general, portable analyzers shall be operated at all times in accordance with manufacturer's recommendations.

2.5 Fuel consumption shall not exceed the limitations stated above (Attachment A of Construction Permit 97CY0207). The monthly fuel consumption for each turbine shall be prorated from the monthly fuel usage and the operating hours of each turbine. The operating hours for each turbine shall be recorded for each calendar month.

Compliance with the power generation limit shall be calculated from the fuel consumption of the turbines and the fuel heat content determined as required by Condition 2.7. For the compliance determination, the Division accepted the use of the relationship that 2851 kiloWatts (kW) equals 36.47 million Btu per hour.

2.6 Emissions of Sulfur Dioxide (SO_2) shall not exceed the limitation shown. (Colorado Regulation No. 6, Part B, Section II.D.3.a). The following requirements of 40 CFR Part 60, New Source Performance Standards (NSPS), Subpart GG, "Standards of Performance for Stationary Gas Turbines" apply to each turbine.

2.6.1 Fuel combusted in the turbine shall not contain sulfur in excess of 0.8 percent by weight (§60.333(b)).

2.6.2 The natural gas sulfur content shall be monitored as follows:

2.6.2.1 A Length of Stain (LOS) test [Test for Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes (Gas Processors Association Standard 2377-86)] for gaseous fuels shall be conducted twice per month for six (6) calendar months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with Condition 2.6.1, then LOS testing shall be conducted once per calendar quarter for six (6) calendar quarters. If this monitoring shows little variability in the natural gas sulfur content, and indicates consistent compliance with Condition 2.6.1, a LOS test shall be conducted twice per calendar year, with the testing performed in the first and third calendar quarters of a year. The results of all tests conducted shall be kept on-site and made available to the Division for review upon request.

2.6.2.2 The facility shall notify the Division of any test under Condition 2.6.2.1 demonstrating non-compliance with the standard. Non-compliance may be considered cause to re-open this permit and re-examine the monitoring schedule. A LOS test shall be performed for each calendar week after the date of the non-compliance until a modified permit has been re-issued, or the Division provides written notification of a revised monitoring schedule to be conducted.

2.6.3 The facility shall notify the Division should there be any change in the fuel supply. A change in fuel sulfur content or fuel makeup shall be considered as a change in fuel supply. Subtle changes or variations in fuel quality such as specific heating values and gas composition are expected and are not considered changes in fuel quality or makeup. A fuel supply change may be considered cause to re-open this permit and re-examine the monitoring schedule. A LOS test shall be performed for each calendar week after the date of the fuel supply change until a modified permit has been re-issued, or the Division provides written notification of a revised monitoring schedule to be conducted.

2.6.4 Excess emissions to be reported as required by §60.7(c) are defined as any daily period during which the sulfur content of the fuel being fired exceeds 0.8 percent sulfur (§60.334(c)).

2.6.5 The fuel analysis may be performed by the owner, operator, a service contractor, fuel vendor or any other qualified agency (§60.335(e)).

2.6.6 Within six (6) calendar months of the issuance of this permit a Division approved plan for demonstrating compliance with the fuel sulfur limit, detailing a fuel sampling plan, identifying how a change in the fuel supply requiring Division notification will be identified, and a fuel use record keeping system shall be in operation.

2.7 The Btu content of the natural gas used to fuel the turbines shall be verified semi-annually in accordance with GPA 2261 or other Division approved methods. The Btu content of

the natural gas shall be based on the lowest gross heating value of the fuel. Calculations of emissions or compliance for Conditions 2.1, 2.5 and 2.6 shall be made using the heat content derived from the most recent required analysis. For the permit limit determination the Division accepted the use of the gas heat content as 900 Btu per standard cubic foot.

2.8 Opacity of emissions from a turbine shall not exceed 20%. In the absence of credible evidence to the contrary, compliance with the 20% opacity limit shall be presumed whenever natural gas is used as fuel. Use of any other fuel may be cause for re-opening of this permit.

2.9 This source is subject to the provisions of 40 CFR Part 60, Subpart A (Regulation No. 6, Part A) General Provisions as follows:

a) No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. (40 CFR Part 60 §60.12)

b) Written notification of construction and initial startup dates shall be submitted to the Division as required under 40 CFR Part 60 §60.7.

c) Records of startups, shutdowns, and malfunctions shall be maintained, as required under 40 CFR Part 60 §60.7.

d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. (40 CFR Part 60 §60.11 (d))

2.10 A stack test for demonstrating compliance with the permit limits shall be performed for each turbine within twelve (12) calendar months of the issuance date of this permit. A stack test for demonstrating compliance with the permit limits shall be performed within twelve (12) calendar months of the expiration of this permit. Stack tests for each turbine shall be conducted to measure the emission rate(s) for the oxides of nitrogen, carbon monoxide and oxygen using EPA approved methods or other methods approved by the Division.

The test protocol must be in accordance with the requirements of the Air Pollution Control Division Compliance Test Manual and shall be submitted to the Division for review and approval at least thirty (30) days prior to testing. No test shall be conducted without prior approval from the Division. The results of the testing shall be compiled and submitted to the Division within 45 calendar days of the completion of the test.

3. H001 - 5.56 MMBtu/Hr Amine Regenerator Heater

H002 - 7.56 MMBtu/Hr Process Heater

Natural Gas Fired

Parameter	Permit Condition Number	Limitations	Compliance Factors	Monitoring	
				Method	Interval
Fuel Usage	3.1 3.2	Amine Reg = 54.5 million cubic feet per year		Record keeping and calculation 12 month rolling total	Monthly
		Process Htr = 73.6 million cubic feet per year			
NOx		Amine Reg = 2.4 tons per year	88.24 lb/MMscf		
		Process Htr = 3.3 tons per year			
CO		Amine Reg = 2.0 tons per year	74.12 lb/MMscf		
		Process Htr = 2.7 tons per year			
SO_2			0.53 lb/MMscf	Record keeping and calculation	Annually
VOC			4.85 lb/MMscf		
PM	3.4	Amine Reg = 0.32 lb/million Btu	6.71 lb/MMscf		One time demonstration by calculation
	3.5	Process Htr = 0.30 lb/million Btu			
Opacity	3.3	Not to exceed20 %		Fuel Restriction - Natural Gas	Annually

3.1 The terms and conditions of this permit are based on the heaters burning natural gas. The use of any other fuel may require the permit to be re-opened prior to any use of the fuel. The fuel use limits set by Attachment A to Construction Permit 97CY0207 are being modified directly in this permit in accordance with Section I, Condition 1.3 of this Operating Permit.

3.2 The emission limits set by Attachment A to Construction Permit 97CY0207 are being modified directly in this permit in accordance with the Section I, Condition 1.3 of this Operating Permit. Compliance with the emission limits and fuel use shall be determined for each calendar month. By the end of each new calendar month the emissions and fuel use for the previous twelve (12) calendar months shall be calculated and compliance determined. A record of the calculations and the compliance determinations shall be kept on-site and made available for Division review upon request.

3.3 Opacity of emissions from the heaters shall not exceed 20%. This requirement is being established directly in this permit in accordance with the Section I, Condition 1.3 of this Operating Permit. In the absence of credible evidence to the contrary, compliance with the 20% opacity limit shall be presumed whenever natural gas is used as fuel.

3.4 The compliance standard for particulate emissions is set by the equation in Regulation No. 6, Part B, Section II, §C.2 as $0.5\ (5.56)^{-0.26}$.

3.5 The compliance standard for particulate emissions is set by the equation in Regulation No. 6, Part B, Section II, §C.2 as $0.5\ (7.56)^{-0.26}$.

4. AM001 - Amine Regeneration Still Vent

Parameter	Permit Condition Number	Compliance Limits	Compliance Emission Factor	Monitoring	
				Method	Interval
Natural Gas Processing	4.1 4.2	18,250 million cubic feet per year		Record keeping and calculation 12 month rolling total	Semi-annually
VOC	4.2	45.0 tons per year	4.93 pounds per million cubic feet		
Opacity	4.3	Not to exceed 20%		Material restriction - natural gas	Annually
Gas Analysis	4.4			ASTM, EPA, or other Division approved methods	Quarterly

4.1 The terms and conditions of this permit are based on the regenerator processing natural gas. The processing of any other material may require the permit to be re-opened prior to any use of the material.

4.2 The emission and natural gas processing limits were set by Attachment A to Construction Permit 97CY0207. The volatile organic compound emission limit is being modified directly in this permit in accordance with the Section I, Condition 1.3 of this Operating Permit. Compliance shall be determined for each calendar month. By the end of each new calendar month the emissions and natural gas processed for the previous twelve (12) calendar months shall be calculated and compliance determined. A record of the calculations and the compliance determinations shall be kept on-site and made available for Division review upon request.

4.3 Opacity of emissions from the still vent shall not exceed 20%. This requirement is being established directly in this permit in accordance with the Section I, Condition 1.3 of this Operating Permit. In the absence of credible evidence to the contrary, compliance with the 20% opacity limit shall be presumed whenever natural gas is being processed.

4.4 An analysis of the inlet gas to the amine unit shall be performed according to appropriate ASTM, EPA or Division approved methods at least once each calendar quarter. The analyses shall consist of an extended analysis at least once per calendar year (one quarter), and general analyses for three of the four calendar quarters. The dates of the gas analyses shall be separated by at least 30 calendar days. The dates of the extended analyses shall be separated by at least eleven calendar months. An extended analysis may be substituted for a general analysis at any time. Copies of the gas analyses shall be kept on-site and available for Division review upon request.

5. FUG001 - Fugitive VOC Emissions from Equipment Leaks

Parameter	Permit Condition Number	Compliance Limits	Compliance Emission Factor	Monitoring	
				Method	Interval
VOC	5.1 5.2	6.22 tons per year	By Component-EPA Protocol for Equipment Leak Estimates	EPA Method 21, Record keeping and calculation	Semi-annual
Extended Gas Analysis	5.7			ASTM, EPA, or other Division approved methods	Quarterly or Annually
Leak Detection and Repair	5.3 5.4			As defined by approved plan per Subpart KKK	

5.1 VOC emissions shall not exceed the limitations stated. Emissions shall be calculated using the emission factors and equations listed below. Emission Factors for individual types of components in lbs/component-hr are from the reference *Protocol for Equipment Leak Emission Estimates, EPA, November 1995, EPA-453/R-95-017*. These emission factors are fixed until changed by established permit modification procedures.

Valves	0.00992	Connectors	0.00044
Relief Valves	0.01940	Open-ended Lines	0.00441
Compressor Seals	0.01940	Pump Seals	0.00529
Flanges/connectors	0.00086		

Calculation of annual emissions of VOC per component:

(Component count) X (8760 hrs/year) X (%VOC in organic portion of gas stream) X (Emission factor for component being evaluated) X (Control Factor)

The total fugitive VOC emissions shall be the sum of the emissions for each component.

The most recent gas analysis as required under Condition 5.7 of this Permit shall be used to determine the appropriate %VOC to use in the above equation.

For determining compliance the Division accepted the use of a 68 percent (%) control factor for all components.

5.2 An initial component count shall be performed and recorded within ninety (90) calendar days of the receipt of this permit. A running total shall then be kept of all additions and subtractions to the component count. A manual component count shall be performed at least once each five (5) calendar years as a check against the running total. The most recent running total shall be used for emission calculation purposes. The annual compliance certification shall include a statement that the running total of the component count is being maintained. The records shall be kept at the site and made available for Division review upon request.

5.3 This source is subject to 40 CFR Part 60 New Source Performance Standards (NSPS) Section 60.630, Subpart KKK, (Adopted into Colorado Regulation No. 6, Subpart KKK): "Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants". The following items apply:

5.3.1 Inspection and maintenance requirements as stated in Federal NSPS 40 CFR Part 60 §60.632, §60.633, and §60.634.

5.3.2 Record keeping requirements as stated in Federal NSPS 40 CFR Part 60 §60.635.

5.3.3 Reporting requirements as stated in Federal NSPS 40 CFR Part 60 §60.636. Reporting under this section is to be fulfilled concurrently with Appendix B compliance monitoring reporting and shall be submitted to the Division.

5.4 40 CFR Part 60, Subpart A (Regulation No. 6, Part A) General Provisions applies as follows:

5.4.1 No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentrations of a pollutant in the gasses discharged to the atmosphere (40 CFR Part 60 §60.12)

5.4.2 Records of startups, shutdowns, and malfunctions shall be maintained, as required under 40 CFR Part 60 §60.7.

5.4.3 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. (40 CFR Part 60 §60.11 (d))

5.5 The source shall submit a document detailing the specific applicable and non-applicable sections of NSPS Subpart KKK to the Division within six (6) months of the permit issue date. The document shall follow the format in Appendix F. The requirements of Subpart KKK include a number of options and alternatives. As a minimum the document shall detail all the applicable requirements, alternatives and options to be followed, the procedures and equipment used for the testing, the instrumentation calibration and performance requirements, action levels, actions to be taken, time frames for performing the actions, reporting requirements, and provide any additional information as might be needed to fully and completely demonstrate compliance with the Subpart KKK and Subpart A, General Provisions. The document shall be submitted for Division

approval and be implemented upon approval. A copy of the approved document shall be kept on-site and available for Division review upon request. The document may be used in a compliance evaluation and determination.

5.6 The following component count was used by the Division to determine the VOC emission limit.

Component	Gas Processing	Amine System	Heat Medium
Valves	764	222	45
Relief Valves	52	8	2
Pump Seals	7	3	2
Compressor Seals	5	0	0
Connectors	0	0	0
Open-Ended Lines	0	0	0
Flange Joints	329	120	27

5.7 An inlet gas analysis of the natural gas being processed shall be performed according to appropriate ASTM, EPA or Division approved methods at least once each calendar quarter. The dates of the gas analyses shall be separated by at least 30 calendar days. Copies of the gas analysis shall be kept on-site and available for Division review upon request.

6. Good Operating Practices

At all times, including periods of start-up, shutdown, and malfunction, the facility and control equipment shall, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether or not acceptable operating and maintenance procedures are being used will be based on information available to the Division, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. (Construction Permit 97CY0207, Condition 8)

7. Method 9 Opacity Observations

7.1 The opacity of the emissions from any plant source shall not exceed 20% during normal operation. In the absence of evidence to the contrary, compliance with the 20% opacity limit shall be presumed.

7.2 If any opacity observations performed exceed the applicable standard, additional observations must be performed. Consecutive observations shall be performed until two consecutive observations are in compliance with the standard

All opacity observations shall be performed by an observer with a current and valid certification. A clear and readable copy of the observer's certificate shall be retained with the copies of the observations and made available to the Division upon request. Copies of any opacity

observations made in accordance with the requirements of this permit that exceed the applicable standard shall be included with the next required report.

8. Insignificant Activities

The permittee shall at least annually review and determine whether the categorically insignificant activities are in compliance with all applicable requirements. The permittee shall maintain a record of the compliance determination, and any additions, deletions or changes to the insignificant source inventory made during the reporting period. The inventory of insignificant sources provided in the permit application is included in Appendix A of this permit as a starting reference.

9. Reporting

All required reports shall be postmarked by the end of the calendar month immediately following the end of the reporting period, unless a different response time is identified elsewhere in this permit. Semi-annual required reports are defined as required to be submitted every six (6) months. The semi-annual report shall be in the format identified in Appendix B of this permit.

10. Calculations

The following procedure shall be followed for calculation of the emissions.

REQUIRED METHOD FOR FUEL CONSUMPTION ALLOCATION AND CALCULATION OF FUEL BASED EMISSION FACTOR

The methods outlined will be used to calculate fuel use and criteria pollutant emissions from internal combustion engines and combustion turbines.

A) FUEL BASED EMISSION FACTOR

$$\text{Emission Factor } \left(\frac{\text{lbs}}{\text{MMBtu}}\right) = \frac{\text{Emission Factor X (pounds to grams conversion) X 1 million}}{\text{Design Heat Rate}}$$

$$\text{Emission Factor } \left(\frac{\text{lbs}}{\text{MMBtu}}\right) = \frac{\text{grams}}{\text{hp} - \text{hr}} \text{ X } \frac{\text{hp} - \text{hr}}{\text{Btu}} \text{ X } \frac{\text{pounds}}{\text{453.6 grams}} \text{ X } \frac{10^6}{\text{MM}}$$

Unit Number	Serial Number	Site Rated Horse Power	Emission Factors in Grams/hp-hr			Design Heat Rate Btu/hp-hr	Design Rate, MMBtu/hr
			NOx	CO	VOC		
C001	4WF00061	2400	0.9	2.8	0.5	7500	18.00
C002	4WF00062						
TB001	DCG0100	2550	2.3	0.5	0.5	9699.2	24.7
TB002	DCG0101						
TB003	DCG0102						

B) FUEL ALLOCATION TO INDIVIDUAL FUEL BURNING EQUIPMENT

Individual Equipment Fuel Consumption =

$$\frac{(Design\ Heat\ Rate\ X\ Hours\ of\ Operation)\ for\ each natural gas fired unit}{\sum_{i=1}^{N}(Design\ Heat\ Rate\ X\ Hours\ of\ Operation)\ for\ all\ natural gas fired units}\ X\ Total\ Monthly\ Fuel\ Use$$

C) EMISSIONS CALCULATION

$$\text{Emissions}\ (\frac{\text{Tons}}{\text{Month}}) = (\frac{\text{Fuel Use}}{\text{month}})\ \text{X (Fuel Heat Content) X (Emission Factor) X}\ (\frac{\text{Ton}}{2000\ \text{lbs}})$$

$$\text{Emissions}\ (\frac{\text{Tons}}{\text{Month}}) = \frac{\text{MMscf}}{\text{month}}\ \text{X}\ \frac{\text{Btu}}{\text{scf}}\ \text{X}\ \frac{\text{pounds}}{\text{MMBtu}}\ \text{X}\ \frac{\text{Ton}}{2000\ \text{pounds}}$$

CALCULATIONS OF EMISSIONS FROM FLUE GAS PORTABLE MONITOR MEASUREMENTS

The methods outlined will be used to calculate the nitrogen oxide and carbon monoxide criteria pollutant emissions from internal combustion engines from the values measured by the portable flue gas monitors.

Stack flow data will be based on EPA Method 19 “F” factors for natural gas combustion. The portable monitor values are presented as ppmv dry. From Method 19, Table 19-1 F_d for natural gas equals 8710 dry standard cubic feet per million Btu (8710 scf/MMBtu)

$$\text{Exhaust Flow Rate}\ (\frac{\text{scf}}{\text{hour}}) = 8710\ (\frac{\text{scf}}{\text{MMBtu}})\ \text{X Fuel consumption}\ (\frac{\text{MMBtu}}{\text{hour}})\ \text{X}\ \frac{20.95\%}{20.95\% - O_2\%}$$

O_2 = Oxygen measured in stack at time of testing.

Fuel consumption will be from the measured total fuel use data collected for the plant and apportioned to each compressor engine as described in the previous section. The standard cubic feet per hour (scf/hour) will be converted to million Btu per hour (MMBtu/hour) utilizing the following equation:

$$\text{Fuel Consumpton } \left(\frac{\text{MMBtu}}{\text{Hour}}\right) = \text{Fuel Consumption } \left(\frac{\text{scf}}{\text{hour}}\right) \text{ X } \frac{\text{Btu}}{\text{scf}} \text{ X } \frac{\text{MM}}{1{,}000{,}000}$$

The heat content of the fuel (Btu/scf) will be from the most recent fuel analysis.

The measured pollutant concentration in ppm by volume (ppmv) must first be converted to pounds per standard cubic foot of exhaust gas and then to pounds per hour.

$$\frac{\text{Pounds}}{\text{scf}} = \frac{\text{measured ppmv}}{1{,}000{,}000} \text{ X mol weight } \left(\frac{\text{pound}}{\text{pound} - \text{mol}}\right) \text{ X } \frac{\text{pound} - \text{mol}}{385.33\,\text{scf}}$$

From Ideal Gas law with adjustment for altitude = 385.33 standard cubic foot per pound-mol

Mol weight of CO = 28.00
Mol weight of NOx = 46.07

$$\frac{\text{Pounds}}{\text{hour}} = \frac{\text{scf}}{\text{hour}} \text{ X } \frac{\text{pound}}{\text{scf}}$$

11. I001 - Elastec Inc., Smart Ash Model 100 Incinerator

SN: 97001588

Parameter	Permit Condition Number	Limitation	Compliance Emission Factor	Monitoring	
				Method	Interval
PM & PM_{10}	11.4	0.10 grains/dscf corrected to 12% carbon dioxide		Demonstrated Compliance with Conditions 11.2, 11.3, 11.5, 11.6 and 11.8	See Condition 11.4
Charge Limit	11.2	3,900 pounds per year		Record keeping and Calculation 12 month rolling total	Monthly
Hours of Operation	11.10			Record keeping and calculation	Per Charge
Charge composition	11.3			Material Restriction	Per Charge
Waste Burning Restrictions	11.3 11.5 11.6 11.7			Self Certification	Annually
Opacity	11.7	Not to exceed 20%		EPA Reference Method 9	As necessary
Personnel Requirements	11.8			Record keeping	Per Charge
Odor Control **State-only**	11.10			Record keeping	Complaint Response

11.1 The terms and conditions for this incinerator were established by Construction Permit 01CY0193. Operation of the equipment shall comply with the provisions of Colorado Regulation No. 6, Part B, Subpart VII, "New Source Performance Standards (NSPS) for Incinerators".

11.2 The charge weight of the material incinerated shall not exceed the limit shown in the table above. Compliance with the limit shall be demonstrated by monitoring and recording the weight of each charge into the incinerator. A twelve month rolling total shall be used to demonstrate compliance with the annual limit. By the end of each new calendar month the weight of material charged into this unit shall be calculated for the previous calendar month and a twelve month rolling total computed to demonstrate compliance. The calculations and the compliance demonstrations shall be kept on file and available for Division review upon request.

11.3 There shall be no radioactive or hazardous waste materials of any type burned in this unit. The charge material shall consist of a dry mixture of waste such as paper, cardboard, oily absorbent material and oil-contaminated filters. The flash point of materials being burned shall be higher than 100 degrees Fahrenheit. Absorbent materials that contain volatile liquids, such as gasoline or paint thinner, shall not be burned in this unit. Liquid fuel shall not be used as start-up fuel. No other type of waste shall be burned in this unit without prior written approval from the Division. Compliance with the types of material being incinerated shall be demonstrated by

monitoring and recording the materials being burned in each charge. The records shall be made available for Division review upon request.

11.4 Particulate emissions shall not exceed 0.1 grains per dry standard cubic feet, corrected to 12% CO_2 .(Regulation No. 6, Part B, Section VII.2.) Demonstrated compliance with Conditions 11.3, 11.5, 11.6 and 11.7 of this section of this Operating Permit shall be adequate to ensure compliance with this particulate emission limit. Records of any particulate emissions measurements shall be maintained and made available to the Division for review upon request.

11.5 Opacity of emission shall not exceed 20%. Compliance with this requirement shall be monitored by conducting a non-Method 9 visual observation of the incinerator stack emissions during each burn. The non-Method 9 visual observation of the emissions shall be conducted for at least six (6) minutes and a record of the results maintained. If visible emissions are observed, the equipment performance shall be investigated and any adjustments necessary performed. If visible emissions persist after maintenance has been performed, an EPA Reference Method 9 opacity observation shall be performed to monitor compliance with the opacity standard. The result(s) of the non-Method 9 visual observations and the Method 9 observations shall be kept on file and made available for Division review upon request.

The EPA Reference Method 9 opacity observations shall be performed by an observer with a current and valid Method 9 certification. A clear and readable copy of the observer's certificate and any opacity observations shall be kept on file and made available to the Division for review upon request.

Subject to the provisions of §25-7-123.1, C.R.S., and in the absence of credible evidence to the contrary, exceedance of the opacity limit shall be considered to exist from the time a Method 9 reading is taken that shows an exceedance of the opacity limit until a Method 9 reading is taken that shows the opacity is less than the opacity limit.

11.6 The incinerator must be operated by trained personnel. Compliance with this requirement will be demonstrated by maintaining records of personnel trained to operate the incinerator. The name of the personnel operating the incinerator shall be recorded for each charge of waste fed to the incinerator. These records shall be made available to the Division upon request.

11.7 The combustion chamber shall not be overloaded with waste materials. There shall be ample headspace above the load of charged materials to provide good start-up and efficient burning.

11.8 The incinerator shall be operated and maintained in accordance with manufacturer's recommendations and in accordance with good operating practices at all times, including periods of start-up, shutdown and malfunction. Daily records of the hours of operation shall be maintained and made available for Division review upon request.

11.9 In addition, the following requirements of Regulation No. 6, Part A, Subpart A, General Provisions, apply.

11.9.1 At all times, including periods of start-up, shutdown, and malfunction, the facility and control equipment shall, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether or not acceptable operating and maintenance procedures are being used will be based on information available to the Division, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. (Reference: Regulation 6, Part A. General Provisions from 40 CFR §60.11)

11.9.2 No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. (§ 60.12)

11.9.3 Written notification of construction and initial startup dates shall be submitted to the Division as required under § 60.7.

11.9.4 Records of startups, shutdowns, and malfunctions shall be maintained, as required under § 60.7.

11.10 **State-only** - This incinerator is subject to the odor requirements of Colorado Regulation No. 2. Records shall be maintained of any odor complaints. The records shall include the follow-up actions and any corrections, changes, repairs or other actions taken in response to the complaint.

SECTION III - Permit Shield

Regulation No. 3, 5 CCR 1001-5, Part A, § I.B.43; Part C, §§ V.C.1.b. & D., XIII; §§ 25-7-111(2)(I), 25-7-114.4(3)(a), C.R.S.

1. Specific Non-Applicable Requirements

Based upon 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.

Emission Unit Description &Number	Applicable Requirement	Justification
TB001, TB002, TB003, C001, C002	Regulation No. 1, Section III.A.1.b – Particulate Emissions from Fuel-Burning Equipment	Internal combustion engines are not considered fuel-burning equipment for the applicable requirements.
Plant-wide	Regulation No. 3, Section B.IV.D.2 - Non-attainment area requirements	The plant is located in an attainment area. These provisions are for New Source Review in non-attainment areas.
	Regulation No. 3, Section B.XI – Visibility Requirements	The plant has not been identified as a source that may impact the visibility in a Federal Class I area.
	Regulation No. 4 - Wood Burning Stoves	The plant does not include any wood burning stove or wood burning applicances, or advertise, or sell such devices.
	Regulation No. 6 - Part A - Adoption of Federal NSPS Requirements with the exception of Subpart A, Subpart GG and Subpart KKK	With the exception of the applicable requirements of Regulation No. 6, Part A , Subpart A which was adopted by Regulation No. 6, Part B as applicable to all new sources subject to Regulation No. 6, Part B, Subpart GG for the three turbines(TB001, TB002, TB003) , and Regulation No. 6, Part A, Subpart KKK for fugitive VOC emissions (FUG001), none of the provisions apply to any of the sources at the plant.
	Regulation No. 6 - Part B - State Only NSPS Requirements except for Subpart A of the Federal NSPS requirements, and Section II.D.3.a, the sulfur dioxide limit for the three turbines (TB001, TB002, TB003).	The provisions of Regulation No. 6, Part B - State Only NSPS Requirements do not apply with the exception of the applicable requirements of Regulation No. 6, Part B, Section II.D.3.a which sets a 0.8 lb/MMBtu sulfur dioxide emission limit for each of the turbines, and Subpart A of the Federal NSPS which is adopted by reference in Regulation No.6, and applicable to all new sources subject to any of the provisions of Regulation No. 6 Part B.
	Regulation No. 7, Part VI.C	The plant is not a gasoline terminal, bulk gasoline plant or the type of gasoline dispensing plant subject to the provisions.

Emission Unit Description &Number	Applicable Requirement	Justification
Plant-wide	Regulation No. 7, Section VI.B.1 and Section VI.B.2 - Storage of Petroleum Distillates	These provisions apply to the storage of petroleum liquids in tanks with greater than 40,000 gallons capacity.
	Regulation No. 7, Section VII.C – Crude Oil Storage	These provisions apply to the storage of crude oil in tanks with greater than 40,000 gallons capacity.
	Regulation 10 - SIP Rules	These provisions require the conformity of federal actions to SIP and FIPs. The conformity is not a responsibility of the source.

2. General Conditions

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

2.1 The provisions of §§ 25-7-112 and 25-7-113, C.R.S., or § 303 of the federal act, concerning enforcement in cases of emergency;

2.2 The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

2.3 The applicable requirements of the federal Acid Rain Program, consistent with § 408(a) of the federal act;

2.4 The ability of the Air Pollution Control Division to obtain information from a source pursuant to § 25-7-111(2)(I), C.R.S., or the ability of the Administrator to obtain information pursuant to § 114 of the federal act;

2.5 The ability of the Air Pollution Control Division to reopen the Operating Permit for cause pursuant to Regulation No. 3, Part C, § XIII.

2.6 Sources are not shielded from terms and conditions that become applicable to the source subsequent to permit issuance.

3. Streamlined Conditions

The following applicable requirements have been subsumed within this operating permit using the pertinent streamlining procedures approved by the U.S. EPA. For purposes of the permit shield, compliance with the listed permit conditions will also serve as a compliance demonstration for purposes of the associated subsumed requirements.

Permit Condition	Streamlined (Subsumed) Requirements
	DOES NOT APPLY

SECTION IV - General Permit Conditions (Ver 10/3/01)

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.36.a. 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) the 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. Compliance Requirements

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

a. The permittee must comply with all conditions of the Operating Permit. Any permit noncompliance relating to federally-enforceable terms or conditions constitutes a violation of the federal act, as well as the state act and Regulation No. 3. Any permit noncompliance relating to state-only terms or conditions constitutes a violation of the state act and Regulation No. 3, shall be enforceable pursuant to state law, and shall not be enforceable by citizens under § 304 of the federal act. Any such violation of the federal act, the state act or regulations implementing either statute is grounds for enforcement action, for permit termination, revocation and reissuance or modification or for denial of a permit renewal application.

b. It shall not be a defense for a permittee in an enforcement action or a consideration in favor of a permittee in a permit termination, revocation or modification action or action denying a permit renewal application that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

c. The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of any request by the permittee for a permit modification, revocation and reissuance, or termination, or any notification of planned changes or anticipated noncompliance does not stay any permit condition, except as provided in § X and §XI. of Regulation No. 3, Part C.

d. The permittee shall furnish to the Air Pollution Control Division, within a reasonable time as specified by the Division, any information that the Division may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Division copies of records required to be kept by the permittee, including information claimed to be confidential. Any information subject to a claim of confidentiality shall be specifically identified and submitted separately from information not subject to the claim.

e. Any schedule for compliance for applicable requirements with which the source is not in compliance at the time of permit issuance shall be supplemental, and shall not sanction noncompliance with, the applicable requirements on which it is based.

f. For any compliance schedule for applicable requirements with which the source is not in compliance at the time of permit issuance, the permittee shall submit, at least every 6 months unless a more frequent period is specified in the applicable requirement or by the Air Pollution Control Division, progress reports which contain the following:

(i) dates for achieving the activities, milestones, or compliance required in the schedule for compliance, and dates when such activities, milestones, or compliance were achieved; and

(ii) an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

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

4. Emergency Provisions

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

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

a. an emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. the permitted facility was at the time being properly operated;

c. during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

d. the permittee submitted oral notice of the emergency to the Air Pollution Control Division no later than noon of the next working day following the emergency, and followed by written notice within one month of the time when emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

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

This emergency provision is also in addition to the Upset Conditions and Breakdowns provision set forth in the Common Provisions, Section II.E, which states that upset conditions shall not be deemed to be in violation of the Colorado regulations, provided the Division is notified as soon as possible, but not later than two (2) hours after the start of the next working day, followed by a written notice explaining the cause of the occurrence and that proper action has been or is being taken to correct the conditions causing the violation and to prevent such excess emission in the future.

5. Emission Standards 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, "emission standards for asbestos."

6. 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.

7. Fee Payment

CRS 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 CRS 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 CRS 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 CRS 25-7-114.1(6) for each APEN or revised APEN filed.

8. 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.

9. 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.

10. 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.

11. 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.

12. 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.

13. 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.

14. 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.

15. 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.

16. Open Burning

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

The permittee shall obtain a permit from the Division for any regulated open burning activities in accordance with provisions of Regulation No. 1, §II.C.1.

17. 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.

18. 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.

19. 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.

20. 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 upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Unless required by a permit term or condition to report deviations on a more frequent basis, "prompt" reporting shall entail submission of reports of deviations from permit requirements every six (6) months in accordance with paragraph 21.d. below. "Prompt reporting" does not constitute an exception to the requirements of "Emergency Provisions" for the purpose of avoiding enforcement actions.

21. 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 enhanced 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.

22. 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.

23. 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.

24. 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.

25. 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.

26. 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.

27. 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.

28. Volatile Organic Compounds

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

a. For sources located in an ozone non-attainment area or the Denver Metro Attainment Maintenance Area, 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.

   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.

b. The permittee shall not dispose of volatile organic compounds by evaporation or spillage unless Reasonably Available Control Technology (RACT) is utilized.

c. No owner or operator of a bulk gasoline terminal, bulk gasoline plant, or gasoline dispensing facility 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.

29. 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.Common Provisions (Ver 2-8-02)

SECTION V - Common Provisions (Ver 2-8-02)

1.1 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 1973, 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).

(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. Upset Conditions and Breakdowns

Upset conditions, as defined, shall not be deemed to be in violation of the Colorado regulations, provided that the Division is notified as soon as possible, but no later than two (2) hours after the start of the next working day, followed by a written notice to the Division explaining the cause of the occurrence and that proper action has been or is being taken to correct the conditions causing the violation and to prevent such excess emission in the future.

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.

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 (NSPS) or national emissions standards for hazardous air pollutants (NESHAPS), 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

END OF PERMIT REQUIREMENTS

OPERATING PERMIT APPENDICES

*DISCLAIMER:

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

APPENDIX A - Inspection Information

Directions to Plant:

The plant is located at 41707 County Road P. It about 3 miles west of Cheyenne Wells, Colorado. The land coordinates are SE 1/4 of Section 25, T14S, R45W.

Safety Equipment Required:

Eye protection Hard hat Safety shoes Hearing protection

Facility Plot Plan:

Figure 1 (following page) shows the plot plan as submitted on October 1, 1999 with the source's Title V Operating Permit Application.

List of Insignificant Activities:

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

Insignificant activities and/or sources of emissions as submitted in the application are as follows:

Chemical storage tanks or containers that hold less than 500 gallons, and which have a daily throughput less than 25 gallons.

Storage tanks of capacity < 40,000 gallons of lubricating oils.

Crude oil or condensate storage tanks with a capacity of 40,000 gallons or less.

Air pollution emission units, operations or activities with emissions less than the appropriate de minimis reporting level.

Specific units are identified as follows:

One emergency flare

One 2000 gallon lube oil storage tank

One 2000 gallon waste oil storage tank

One 1000 gallon wastewater storage tank

One 2000 gallon amine storage tank

One 8820 gallon slop oil tank

One 8820 gallon condensate tank

One 3000 gallon demineralized water storage tank

One 10,500 gallon ethylene glycol storage tank

One 2000 gallon triethlyene glycol storage tank

APPENDIX B
Monitoring and Permit Deviation Reporting

with codes ver 2/1/01

Reporting Requirements and Definitions

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 record keeping 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 upset conditions and 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, "upset" shall refer to both emergency conditions and upsets. 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 every six months unless otherwise noted in the permit. 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 record keeping
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;
- The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each permit term and condition during the certification period and whether such methods or other means provide continuous or intermittent data. 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 40CFR 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. Further, periods of excess emissions during startup, shutdown and malfunction may not be found to be a violation of an emission limitation or standard where the source adequately shows that any potential deviations as a result of these infrequent periods were minimized to the extent practicable and could not have been prevented through careful planning, design, or were unavoidable to prevent loss of life, personal injury, or severe property damage.

Startup, Shutdown, Malfunctions, Emergencies, and Upsets

Understanding the application of Startup, Shutdown, Malfunctions, Emergency provisions, and the Upset 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.

Emergencies and Upsets

Under the Emergency provisions of Part 70 and the Upset provisions of the State regulations, 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.

Upset means an unpredictable failure of air pollution control or process equipment which results in the violation of emission control regulations and which is not due to poor maintenance, improper or careless operations, or is otherwise preventable through exercise of reasonable care.

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 on a semi-annual basis unless otherwise noted in the permit. 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 upset 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 Upsets) may be referenced and the form need not be filled out in its entirety.

FACILITY NAME: Duke Energy Field Services, LP – Ladder Creek Helium Plant
OPERATING PERMIT NO: 99OPCY216
REPORTING PERIOD: _____ (see first page of the permit for specific reporting period and dates)

Operating Permit Unit ID	Unit Description	Deviations noted During Period?[1]		Deviation Code [2]	Upset/Emergency Condition Reported During Period?	
		YES	NO		YES	NO
TB001	Solar Centaur Model 40-T4700, 2550 HP, natural gas fired turbine, Serial number DCG0100					
TB002	Solar Centaur Model 40-T4700, 2550 HP, natural gas fired turbine, Serial number DCG0101					
TB003	Solar Centaur Model 40-T4700, 2550 HP, natural gas fired turbine, Serial number DCG0102					
C001	Caterpillar Model 3608-RIC,2400 HP, natural gas fired internal combustion engine, low NOx design					
C002	Caterpillar Model 3608-RIC,2400 HP, natural gas fired internal combustion engine, low NOx design					
H001	5.56 MMBtu/hr Heat Recovery Corp natural gas fired heater for amine regeneration, Serial number 4HE-18-4H-4-16-E					
H002	7.56 MMBtu/hr Heat Recovery Corp natural gas fired process heater, Serial number 4HE-20-4H-8-12-E					
AM001	Amine unit still vent					
FUG001	Fugitive VOC emissions from leaks					
I001	Elastec Inc., Smart Ash Model 100 Incinerator SN: 97001588					
General Conditions						

Operating Permit Unit ID	Unit Description	Deviations noted During Period?[1]		Deviation Code [2]	Upset/Emergency Condition Reported During Period?	
		YES	NO		YES	NO
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 record keeping
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: [Company Name] - [Facility Name]
OPERATING PERMIT NO: [Permit #
REPORTING PERIOD:

Is the deviation being claimed as an: Emergency _____ Upset _____ 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 Upsets/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: 1/1/96 - 6/30/96

Is the deviation being claimed as an: Emergency _____ Upset _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 4/10/96
END- 1800 4/10/96

Action Taken to Correct the Problem

Line Blown Out

Measures Taken to Prevent Reoccurrence of the Problem

Replaced Line Filter

Dates of Upsets/Emergencies Reported (if applicable)

4/10/96 to S. Busch, APCD

Deviation Code _____ Division Code QA: _____

Monitoring and Permit Deviation Report - Part III

REPORT CERTIFICATION

SOURCE NAME: Duke Energy Field Services, LP – Ladder Creek Helium Plant

FACILITY IDENTIFICATION NUMBER: 0170209

PERMIT NUMBER: 99OPCY216

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.54. 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: Duke Energy Field Services, LP – Ladder Creek Helium Plant
OPERATING PERMIT NO: 99OPCY216
REPORTING PERIOD: _____

I. Facility Status

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

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

Operating Permit Unit ID	Unit Description	Deviations Reported [1]		Monitoring Method per Permit?[2]		Was compliance continuous or intermittent?[3]		Was Data Continuous?[4]	
		Previous	Current	Yes	No	Continuous	Intermittent	Yes	No
TB001	Solar Centaur Model 40-T4700, 2550 HP, natural gas fired turbine, Serial number DCG0100								
TB002	Solar Centaur Model 40-T4700, 2550 HP, natural gas fired turbine, Serial number DCG0101								
TB003	Solar Centaur Model 40-T4700, 2550 HP, natural gas fired turbine, Serial number DCG0102								
C001	Caterpillar Model 3608-RIC,2400 HP, natural gas fired internal combustion engine, low NOx design								

Operating Permit Unit ID	Unit Description	Deviations Reported [1]		Monitoring Method per Permit?[2]		Was compliance continuous or intermittent?[3]		Was Data Continuous?[4]	
		Previous	Current	Yes	No	Continuous	Intermittent	Yes	No
C002	Caterpillar Model 3608-RIC,2400 HP, natural gas fired internal combustion engine, low NOx design								
H001	5.56 MMBtu/hr Heat Recovery Corp natural gas fired heater for amine regeneration, Serial number 4HE-18-4H-4-16-E								
H002	7.56 MMBtu/hr Heat Recovery Corp natural gas fired process heater, Serial number 4HE-20-4H-8-12-E								
AM001	Amine unit still vent								
FUG001	Fugitive VOC emissions from leaks								
I001	Elastec Inc., Smart Ash Model 100 Incinerator SN: 97001588								
General Conditions[5]									
Insignificant Activities [5]									

[1] If deviations were noted in the previous deviation report (i.e. for the first six months of the annual reporting period), put an AX@ under Aprevious@. If deviations were noted in the current deviation report (i.e. for the last six months of the annual reporting period), put an AX@ under Acurrent@. 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 Ano@ and attach additional information/explanation.

[3] Note whether the compliance status with of each term and condition provided was continuous or intermittent. AIntermittent 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 record keeping required in its permit, even if such activities are done periodically and not continuously, and if 2) such monitoring and record keeping 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] Note whether the method(s) used to determine the compliance status with each term and condition provided continuous or intermittent data.

[5] 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

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: Jim King

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
999 18th Street, Suite 300
Denver, CO 80202-2466

Permit Modifications, Off Permit Changes:

Office of Pollution Prevention, State and Tribal Programs
Air Program, 8P2-A
U.S. Environmental Protection Agency, Region VIII
999 18th Street, Suite 300
Denver, CO 80202-2466

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 Lbs/mmBtu
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	TYPE OF REVISION	SECTION NUMBER, CONDITION NUMBER	DESCRIPTION OF REVISION
April 2, 2001	Administrative Amendment	Throughout Permit	Change Name of Company to Duke Energy Field Services, LP
	Administrative Amendment	Section II, Condition 1.1	Revise PM, PM_{10}, and VOC emission limits to reflect correct calculations using emission factors
	Administrative Amendment	Section II, Condition 1.2	Revise to indicate that the stated Btu content was used to calculate emission limits
	Minor Modification	Section II, Condition 1.4	Revise to indicate monitoring is not required if engine operates less than 100 hours/quarter. Add requirement to record hours of operation. – The Division does not consider this to be a significant change in monitoring method
	Administrative Amendment	Section II, Condition 2.1	Correct PM and PM_{10} emission limits
	Minor Modification	Section II, Condition 2.3	Revise to indicate monitoring is not required if turbine operates less than 100 hours/quarter. – The Division does not consider this to be a significant change in monitoring method
	Administrative Amendment	Section II, Condition 2.5 (previous)	This condition contained period monitoring language already contained in Condition 2.3
	Administrative Amendment	Section II, Condition 2.8 (now 2.7)	Revise to indicate that the stated Btu content was used to calculate emission limits
	Administrative Amendment	Section II, Condition 3.4 (Previous)	Remove requirement to submit revised APEN – Emissions do not exceed 5 tons/year (Note: Section IV, Condition 11 requirements still apply to all sources, as applicable – i.e, a revised APEN must be submitted prior to the expiration date)
	Minor Modification	Section II, Condition 4.4	Revised to allow use of general gas analysis for three out of four quarters – The Division does not consider this to be a significant change in monitoring method
	Administrative Amendment	Section II, Condition 5.6	Revise to indicate that the indicated component count was used to determine the VOC emission limit
	Minor Modification	Section II, Condition 5.7	Revise to allow use of a general, instead of an extended, gas analysis – The Division does not consider this to be a significant change in monitoring method
	Minor Modification	Section II, Condition 6 (Previous)	This condition set facility wide emission limits for the facility, as requested by the permittee in their Construction Permit. The facility wide emission limits were less stringent than the sum of the individual emission limits. Facility wide emission limits are removed per the permittee's request.

DATE OF REVISION	TYPE OF REVISION	SECTION NUMBER, CONDITION NUMBER	DESCRIPTION OF REVISION
April 2, 2001	Administrative Amendment	Section II, Condition 8 (Previous 9)	The requirement that the compliance certification include a statement regarding additions, deletions, etc. of insignificant activities is deleted. Appendices B and C require certification for insignificant activities.
	Administrative Amendment	Section II, Condition 10 (Previous 11)	Correct fuel apportionment calculation to include fuel use at heaters.
May 23, 2002	Administrative Amendment	Cover Page	Correct Company name, add additional responsible official, change company contact
		Section I, Condition 2, AOS Tables 1 & 2	Correct portable monitoring frequency to quarterly and change engine stack testing from yes to no.
		Section II, Condition 2.5	Correct typographical error in conversion factor to change MMBtu to MMBtu/hour
		Section II, Condition 2.7	Change Btu fuel content test method from ASTM D1826-77 to Division approved GPA 2261.
		Section II, Condition 4.4	Remove last two paragraphs allowing only an annual analysis if gas quality consistent.
		Section II, Section 5	The compliance schedule has been completed and is no longer relevant.
		Section III, Item 1	Update language to current version
		Section IV	Update to current standard version
		Appendix B, C, D & E	Update to current standard versions
	Minor Modification	Section II, Table 11 & associated conditions	Incorporate Construction Permit 01CY0193 for the incinerator

APPENDIX G
NSPS KKK Example Report Format

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

NSPS SUBPART KKK
STANDARDS OF PERFORMANCE FOR EQUIPMENT LEAKS OF VOC FROM ONSHORE NATURAL GAS PROCESSING PLANTS

Acme Gas Processing
FID: 9991234
Permit #: 93OPXX999
September 1, 1996

Determination of reporting requirements for 93OPXX999 under Subpart KKK Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants. **Note that any non-applicability determinations under the provisions of 60.630 must be accompanied by a detailed explanation including copies of any relevant test results or any other supporting documentation.**

Determination of NSPS KKK requirements:

60.630

(a)(1) Applies to Acme plant since it is an onshore natural gas processing plant.

(2) Applies to Acme plant since compressors are in VOC service and wet gas service.

(3) Applies to Acme Plant since the group of equipment, excluding compressors, is in wet gas service.

(b) Applies to Acme since the plant was placed into operation after January 20, 1984.

(e) Applies to the compressor station and glycol dehydration units since they are located at the plant.

60.632

(a) Subject to the provisions of this subpart and shall comply as soon as practical, but no later than 180 days after initial startup.

60.482-1 Subject to parts (a) and (b) requiring that compliance be demonstrated within 180 days of equipment initial startup. This compliance shall be determined by a review of records and reports,

	performance test results, and inspection methods and procedures of 60.485. Part (d) applies but ACME has no equipment in vacuum service.
60.482-2	Exempt under 60.633 (d).
60.482-3	Exempt under 60.633(f).
60.482-4	Applies but superseded by 60.633 (b).
60.482-5	Exempt under 60.633(c).
60.482-6	Does Not Apply. ACME does not have any open-ended lines.
60.582-7	Applies to this facility. Valves shall be monitored monthly by methods in 485(b)-(e). An instrument reading of 10,000 ppm or greater indicates a leak. Any valve for which a leak hasn't been detected for 2 successive months will be monitored the first month of every quarter until a leak is detected. After detection of a leak, the valve shall be monitored monthly until a leak is not detected for 2 successive months. When a leak is detected, it shall be repaired as soon as practical but no later than 15 calendar days after detection. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
60.482-8	Does Not Apply. ACME has no equipment in heavy liquid service or pressure relief devices in light liquid service.
60.482-9	Applies to this facility. Delays of equipment repair allowed as specified under this subpart.
60.482-10	Does Not Apply. ACME has no closed vent systems or control devices.

60.483 Alternative Standards

Acme has elected not to use the provisions of 60.483-1 which allows alternative standards for valves by complying with an allowable percentage of leaking valves of equal to or less than 2.0 percent.

Acme has elected not to use the provisions of 60.483-2 which allows alternative standards for valves by skipping period(s) of leak detection and repair.

60.633 Exceptions

(b)(1) Each pressure relief device shall be monitored quarterly and within 5 days after each pressure relief to detect leaks as per 60.485(b).

(2) An instrument reading of 10,000 ppm or greater is a leak.

(3)(I) When a leak is detected, it shall be repaired as soon as practical, but no later than 15 calendar days after detection.

(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(4) Does Not Apply. Facility is staffed full-time.

(c) Applies to this facility. As previously stated, ACME is exempt from the requirements of 60.482-5.

(d) Applies, ACME has a design capacity to process 5 million standard cubic feet per day of field gas (less than the 10 mmscf/day limit). As such, ACME is exempt from the routine monitoring requirements of 60.482-2(a)(1) and 60.482-7(a), and paragraph (b)(1) of this section.
(e) Does Not Apply. Facility not in the Alaskan North Slope.
(f) Applies to this facility. All compressors are in wet gas service and are therefore exempt from the requirements of 60.482-3.
(g) Does Not Apply. ACME has no flaring equipment.
(h) Does Not Apply. ACME has no equipment in heavy liquid service.

60.634 Alternative Means of Emission Limitation

Acme has not elected to use the provisions of 60.634 which allows an alternative means of emission limitation if approved by the Administrator and published in the Federal Register.

60.635 Record keeping requirements

(a) Applies to this facility. Subject to the requirements of 60.486.

60.486 Record keeping requirements

60.482-7 -	When each leak is detected as specified this provisions, the requirements of 60.486(b) and 60.486(c) apply.
60.482-1 to 60.482-10 -	All equipment subject to these provisions are subject to the provisions of 60.486(e).
60.482-7(g), (h)-	All valves subject to these provisions are subject to the requirements of 60.486(f).
60.486(j)-	Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

60.635(b)(1) When a leak has been detected a weatherproof marker shall be placed on the pressure relief device.

(b)(2) When each leak is detected, the following information shall be kept for at least 2 years in the operational log

(i) the identification number of the instrument used to identify the leak the operator identification number and the identification number of the equipment responsible for the leak.
ii) the date the leak was detected and the dates of repair
(iii) the repair methods used to repair the leak
(iv) if the leak was above 10,000 ppm
(v) if the repair was delayed and how many days
(vi) signature of the owner or operator identifying and repairing the leak

(vii) was the leak repaired in less than 15 days after the discovery of the leak and if it was not the reason for the delay.
(viii) the dates of process unit shutdown that occurred to repair the leak
(ix) the date of successful repair of the leak
(x) the list of equipment identification numbers for no detectable emissions

60.636 Reporting requirements

(a) Applies to this facility. Subject to the reporting requirements of 60.487.
(b) Operator shall include the following information on a tri annual report:
(1)-(4) Number of pressure relief devices subject to the requirements of 60.636(b)
(e)(1) Number of pressure relief devices for which leaks were detected
(c)(2) Number of pressure relief devices for which leaks were not repaired

60.487 Reporting requirements

(a) Each owner or operator subject to the provisions of Subpart VV shall submit tri-annual reports beginning 6 months after the initial startup date.
(b) The initial report to the administrator shall include the process unit identification and the number of equipment subject to 60.482-7, 60.482-2, 60.482-3.
(c) All tri-annual reports shall include the following information:
(1) Process unit identification
(2) For each month:
(I) Number of valves for which leaks were detected under 60.482-7.
(ii) Number of valves for which leaks were not repaired as required under 60.482-7.
(iii - vi) Exempt under various provisions above
(vii) The facts that explain each delay and repair and, where appropriate, why a process unit shutdown was technically infeasible.
(3) Dates of process unit shutdowns within the tri-annual reporting period.
(4) Any new items not included in the initial list of subject equipment.
(d) If electing to comply with alternative monitoring, the administrator shall be notified of the standard selected 90 days prior to implementation.
(e) All performance tests shall be reported. The administrator shall be notified of any initial performance tests 30 days prior to testing.

CONCLUSION OF FINDINGS

In general, ACME is subject to the general monitoring for valves in gas/vapor service and pressure relief devices. Valves will be monitored monthly for leaks (readings above 10,000 ppm) except that 2 successive months without leaks shall allow the monitoring to be quarterly.

Pressure relief devices will be monitored quarterly for leaks (readings above 10,000 ppm) and within 5 days after each pressure release. All leaking equipment will be marked with a weatherproof tag. All leaks will be repaired no later than 15 days after detection. A first attempt at repair shall be made no later than 5 calendar days after leak detection. Any changes in equipment which triggers additional requirements will be reported no later than the tri-annual report. Records shall be maintained on site with the information as described under 60.635 and 60.486, above. Reports shall contain the information described under 60.636 and 60.487, above.

Therefore the following forms shall be submitted on a tri annual basis beginning September 1, 1997 for compliance under NSPS KKK. The form shall also report an estimated volume of VOC emissions which were associated with the leak, or failure of any pressure relief device reported on the log books, or in the reporting form as attached. Acme does keep records of the testing and replacement of all pressure relief valves and a copy of these records is attached for review.