TECHNICAL REVIEW DOCUMENT
for
OPERATING PERMIT 02OPWE252

to be issued to:

DCP Midstream, LP
Platteville Gas Processing Plant
Weld County
Source ID 123/0595
June 1, 2007

Prepared by Lisa Clarke
April – May 2007

PURPOSE

This document establishes the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Operating Permit proposed for this site. It is designed for reference during review of the proposed permit by the EPA and during Public Comment. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Conclusions in this document are based on information provided in the original application submittal of December 19, 2002, and supplemental Title V technical information.

Any revisions made to the underlying construction permits associated with this facility in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Colorado Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

SOURCE DESCRIPTION

This plant is classified as a natural gas processing plant and compressor station as set forth under Standard Industrial Classification code 1321. The plant is designed to extract natural gas liquids from field-produced natural gas, and recompress the processed gas prior to transmission to the sales pipeline. Field gas is first charged to a separator where liquids, such as water and condensate formed during transport to the plant, are separated from the gas stream. The condensate is stored in two 30,000-gallon pressurized tanks until transported from the plant by truck.

The gas stream discharged from the separator is compressed and sent to the processing skid. The gas stream fed to the processing skid is chilled by a propane refrigeration system to separate the natural gas liquids (NGL) from the gas stream. The NGL liquids are heated in a stabilizer vessel to remove the lighter hydrocarbons. The hydrocarbon vapors and the vapors from the inlet separator are compressed and sent to either the inlet or discharge gas lines. Moisture contained in the gas stream is absorbed by ethylene glycol. The moisture-laden glycol is regenerated in a reboiler. The absorbed water volatilizes and is discharged to the atmosphere. The glycol solution is recirculated to remove additional moisture from the gas stream. Natural gas liquids are stored in three 30,000-gallons pressurized NGL tanks, pending removal from the plant by pipeline. The compressed gas is

transported off-site by pipeline. Vapors from the equipment are sent to a flare during a plant turn-around or in case of emergency.

The process uses five (5) compressors powered by 1680 HP natural gas fired reciprocating internal combustion (IC) engines. Two (2) 1400 HP natural gas fired IC engines are used for compressing propane for the refrigerant for the processing skid. One (1) 1478 HP natural gas fired IC engine is used for compression of the stabilizer and inlet separator vapors.

The plant is located in rural Weld County near Platteville, Colorado. The area in which the plant operates is designated as attainment for all criteria pollutants. There is no affected state within 50 miles of the plant. Rocky Mountain National Park and the Rawah Wilderness Area are Federal Class I designated areas within 100 kilometers of the plant. This facility is located in the 8-hr Ozone Control Area as defined Regulation No. 7, Section II.A.16.

Facility-wide potential emissions developed from the data submitted with the Title V application and the actual emissions based on the APENs on file with the Division are as follows:

	POTENTIAL TO EMIT TONS PER YEAR			
	NOx	VOC	CO	HAPs
Five (5) 1680 HP Waukesha L-7044 GSI IC Engines	154.0	81.0	154.0	5.5
One (1) 1478 HP Waukesha L-7042 GSI IC Engine	27.1	14.3	27.1	1.0
Two (2) 1400 HP Waukesha L-7044 GSI IC Engines	51.4	27.0	51.4	1.8
Dehydrator		4.6		0.9
Fugitive Emissions		16.7		
15 MMBtu Hot Oil Heater(s)	4.2	0.2	3.5	
Flare	0.1	0.2	0.5	
Totals	238.9	127.5	236.3	9.37
FACILITY 2005 ACTUAL EMISSIONS, TPY	236.9	135.2	236.6	9.37

The potential to emit for the total facility emissions has been limited by the conditions in the construction permits to less than 250 tons per year for any pollutant. Thus the facility is classified as a synthetic minor with respect to the Prevention of Significant Deterioration (PSD) provisions.

Start-up notices on file indicated the plant was placed in service December 10, 2001. Self-certifications of compliance are on file for some of the sources and other sources had not yet been placed in service. No Final Approval of the any of the construction permits had been issued at the time the Title V application was received. The due date of the first semi-annual monitoring and deviation report required by this Operating Permit will be more than 180 days after the initial approval of the construction permits for these sources and/or the equipment commenced operation. Therefore, under the provisions of Colorado Regulation No. 3, Section V.A.2 the Division is allowing the initial approval construction permits to continue in full force and effect and will consider the Responsible Official certification submitted with that report to serve as the compliance demonstration required pursuant to Colorado Regulation No. 3, Part B, Section IV.H. and no final

approval construction permits will be issued. The appropriate provisions of the initial approval construction permits have been directly incorporated into this Operating Permit.

EMISSION SOURCES:
The following sources are specifically regulated by the terms and conditions of the Operating Permit for this plant:

Internal Combustion Engines Powering Compressors

C-168	Waukesha Model L-7044 GSI, 1680 HP	C-177	Waukesha Model L-7044 GSI, 1680 HP
C-169	Waukesha Model L-7044 GSI, 1680 HP	C-171	Waukesha Model L-7042 GSI, 1478 HP
C-170	Waukesha Model L-7044 GSI, 1680 HP	C-172	Waukesha Model L-7044 GSI, 1400 HP
C-175	Waukesha Model L-7044 GSI, 1680 HP	C-173	Waukesha Model L-7044 GSI, 1400 HP

1. Applicable Requirements: The applicable requirements for these engines were established by Construction Permits 01WE0422, 01WE0423, 01WE0424, 01WE0425, 01WE0426, 01EW0427, 01WE0428 and 01WE0429. The engine emission testing required by the construction permits has been completed for all the engines.

2. Emission Factors: Emissions from reciprocating engines are produced during the combustion process, and are dependent upon the fuel mixture, engine design specifications, and specific properties of the natural gas being burned. The pollutants of concern are Nitrogen Oxides (NOx), Carbon Monoxide (CO) and Volatile Organic Compounds (VOC). Small quantities of Hazardous Air Pollutants (HAPs) are also emitted when combustion is incomplete. Approval of the emission factors applicable to the engines is necessary to the extent that accurate actual emissions are required to verify the need to submit Revised APENs to update the Division emission inventory, and for compliance determination and certification.

3. Monitoring Plan: The Operating Permit establishes a procedure for the calculation of the emissions based on fuel consumption and a fuel based emission factor. The emissions are to be calculated monthly to determine compliance with the annual (12-month rolling total) limit. A Revised APEN must be submitted to the Division if criteria emissions increase by more than 50 tons per year or 5%, whichever is less, compared to the latest APEN on file with the Division.

A copy of a monitoring guidance grid developed by the Division is included at the end of this document. The grid and the Title V application monitoring proposals were used to define the monitoring requirements for the internal combustion engines. The monitoring grid requires more intensive and extensive monitoring of the emissions from internal combustion engines when the total plant emissions approach the threshold for emission increases to be subject to the Prevention of Significant Deterioration (PSD) provisions. The increased monitoring is needed to verify that the sources do not become subject to the PSD requirements.

The Division has determined, based on AP-42 emission factors and engineering judgment, that particulate emissions from these type of internal combustion engines will be insignificant if natural gas is exclusively used as the fuel. The use of natural gas will also satisfy the opacity monitoring requirement.

The air/fuel ratio (AFR) controllers are installed to control the fuel mixture to achieve a defined operation or performance level of the engine. The AFRs can be set to optimize the performance of the non-selective catalytic converters (NSCR) installed on the engines. It is the Division's position that the AFRs should be set and operated to ensure that the engine emissions remain within the control envelope of the NSCR. A properly functioning NSCR will demonstrate a heat rise across the unit as a result of the oxidation, destruction or conversion of the air pollutants. The media deteriorates with time and needs to be replaced or regenerated. Particulate matter from the engine can be trapped in the catalytic material and lead to an increase in the pressure drop across the control device. The accidental backfire of an engine can result in the loss or destruction of the media. The monitoring plan provides reasonable evidence of the presence and functioning of the catalytic media.

4. State Regulation 7 Compliance: All units (C-168, C-169, C-170, C-171, C-172, C-173, C-175, C-177) are in compliance with the state-only requirement that rich burn reciprocating internal combustion engines have a non-selective catalyst and air fuel control installed in the 8-Hour Ozone Control Area.

5. Compliance Status: The equipment at this site has been operating for an extended time. A current APEN reporting criteria emissions is on file with the Division. The Division accepts the compliance signature of the responsible official as evidence of compliance.

Ethylene Glycol Regeneration Unit

1. Applicable Requirements: Construction Permit 01WE0430 established the emission and throughput limits for this unit. The emission limits were established to classify the source as a synthetic minor for the provisions of the Maximum Achievable Control Technology (MACT) Subpart HH "Oil & Gas Production". The MACT HH, for area sources, the affected source includes each triethylene glycol (TEG) dehydration unit located at a facility that meets the criteria of the MACT HH. Therefore, the Platteville facility is not subject to the major or area source provisions of the MACT HH.

2. Emission Factors: Ethylene glycol is contacted with the natural gas stream to remove moisture. This mixture is heated in the still portion of the unit to drive off the water. Some volatile organic compounds and hazardous air pollutants are also released with the water vapor. Emissions from this process are typically measured with a glycol analysis (rich/lean analysis) or predicted using the Gas Research Institute's computer software model GLYCalc. The model uses the glycol recirculation rate, cubic feet of gas processed, desired moisture content (dew point) for the processed gas, and the amounts of various constituents in the natural gas all as input values for an algorithm to estimate volatile organic compound and hazardous air pollutant emissions.

The Division accepts the use of the GLYCalc model to estimate emissions in lieu of rich/lean testing. At least once a month the parametric inputs for the GLYCalc model will be recorded. The recording of the input parameters will provide a perspective on the range of the input values over time. The perspective developed will allow consideration of whether more frequent testing is needed for a better estimation of the results. An extended gas analysis will be performed at least once each calendar year. Each calendar year the GLYCalc model will be used to estimate the emissions based on the parametric inputs and extended gas analysis.

Combustion emissions from the heater are exhausted through a stack separate from the still vent. The emissions from the dehydrator are routed to a flash tank, separated, and recycle/recompressed back into the system. This heater falls under the insignificant activity category of Colorado Regulation No. 3, Part C, Section II.E.3.k. As an insignificant activity the boiler emissions do not need to be addressed directly by this Operating Permit.

3. Monitoring Plan: The monitoring requirements were established from Construction Permit 01WE0430, the Division guidance grid included at the end of this document, and the monitoring information provided in the Title V application.

Input parameters from the dehydrator for the GRI GLYCalc model will be recorded at least one day per month. Each calendar year the most current version of the GRI GLYCalc computer model will be used to estimate the emissions of volatile organic compounds and hazardous air pollutants. An annual extended wet gas analysis is also required to verify or adjust the computer model inputs as necessary. The record of the values of the model input parameters allows the variability in the parameters to be followed.

A Revised APEN is required if a significant increase in the emissions of volatile organic compounds or hazardous air pollutants occur as defined in Colorado Regulation No. 3, Part A, Section II.C.2. compared to the APEN currently on file with the Division.

4. Regulation 7 Compliance: This unit is not subject to the state-only requirements for dehydrators located in the 8-Hour Ozone Control Area because uncontrolled VOC emissions from this dehydrator, which is the only dehydrator located at this facility, are under 15 tons per year.

5. Compliance Status: The equipment at this site has been operating for an extended time. A current APEN reporting criteria emissions is on file with the Division. The Division accepts the compliance signature of the responsible official as evidence of compliance.

Fugitive Emissions of Volatile Organic Compounds from Equipment Leaks

1. Applicable Requirements: The Division has made the determination that fugitive volatile organic compound emissions from equipment leaks at gas compression or processing facilities must be calculated and evaluated for the appropriate permitting requirements. The applicable requirements for this source were established by Construction Permit 01WE0432. As stated in Condition 2 of Construction Permit 01WE0432 this source is subject to the New Source Performance Standards of 40 CFR Part 60, Subpart KKK “Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants”, and the requirements of Colorado Regulation No. 6, Part A, Subpart A “General Provisions”.

2. Emission Factors: The fugitive leak emissions are calculated based on emission factors from EPA's Protocol for Emission Leak Estimates. The EPA factors estimate the emissions of total organic compounds and need to be adjusted to represent the volatile organic compound emissions. Multiplication of the number of components of each type by the applicable emission factor (e.g. compressor seals, flanges, etc) and the volatile organic compounds weight percentage in the gas stream as determined in the most recent gas analysis. The fugitive VOC emissions equal the total sum of the emissions from all the components.

3. Monitoring Plan: The permittee must perform an initial count of the components within 90 days of the issuance of the Operating Permit. Since piping modifications are an on-going process the permittee is required to maintain a running tally of the component count in order to perform the fugitive leak emissions estimate. Sufficient time has lapsed since the Construction Permit component count was performed for modifications to have changed the component count. The count must be re-established in order to provide the correct base for the running tally. An actual physical count of the number of process valves, relief valves, pump seals, compressor seals and flanges/connections is to be performed once every five years to verify the tally has been correctly and currently maintained. A 50% or 5 ton per year increase in criteria pollutant emissions, whichever is less, will necessitate the need for submittal of a Revised APEN.

4. Compliance Status: The equipment at this site has been operating for an extended time. A current APEN reporting criteria emissions is on file with the Division. The Division accepts the compliance signature of the responsible official as evidence of compliance.

15 MMBtu/hour Hot Oil Heater

1. Applicable Requirements: The heater is subject to the provisions of the New Source Performance Standards (NSPS) Subpart Dc. The only applicable requirement from the NSPS provisions is from paragraph 60.48c (g) that requires the amount and type of each fuel combusted each day be recorded and maintained.

A modification was submitted for this source on March 21, 2007. The Operating Permit directly incorporates this modification, which increases the heating requirement from 10 MMBtu/hr to 15 MMBtu/hr, in accordance with the provisions of Section II, Conditions 4 – 4.7 of the Operating Permit.

2. Emission Factors: The emission factors are from AP-42, Section 1.4 (ver 3/98) and adjusted for the fuel heat content of 1040 Btu per standard cubic feet of gas. The source requested the nitrogen oxides emission factor to be doubled to account for engine variation and age. This request was subsequently granted by the Division and incorporated into Section II, Condition 4 of the Operating Permit.

3. Monitoring Plan: The amount of natural gas combusted is monitored. The amount of natural gas and the emission factors are used to calculate the emissions and monitor compliance.

The AP-42 particulate emission factor is 7.5 pounds per million standard cubic feet of natural gas combusted. An emission limit of 0.5 pounds per million Btu of heat input is set by Colorado Regulation No. 6, Part B, Section II. C.1. The calculation immediately below demonstrates that the combination of the emission factor and the design capacity of the heater precludes non-compliance with the emission standard.

$$\frac{\text{lb PM}}{\text{MMBtu}} = \frac{7.5 \text{ lb PM}}{\text{MMscf}} \text{ x } \frac{\text{MMscf}}{1040 \text{ MMBtu}} = \frac{0.0072 \text{ lb PM}}{\text{MMbtu}} < 0.5 \frac{\text{lb}}{\text{MMBtu}}$$

A file copy of the above calculations is sufficient for demonstrating this compliance in the absence of any other credible evidence.

The opacity standard of 20% will be monitored by the use of natural gas. The Division does not believe opacity is an issue when natural gas is combusted. However, inspectors may verify this with EPA Method 9 opacity readings if necessary.

4. Compliance Status: The equipment at this site has been operating for an extended time. A current APEN reporting criteria emissions is on file with the Division. The Division accepts the compliance signature of the responsible official as evidence of compliance.

INSIGNIFICANT ACTIVITES

DCP Midstream needs to periodically review the insignificant activities to determine if they are still insignificant, in compliance with all applicable requirements and to verify the contribution of the emissions from the insignificant sources does not result in the facility potential to emit exceeding the 250 tons per year emission threshold for PSD applicability. A record of the review, the compliance determination, and any additions, deletions or changes to the insignificant source inventory should be maintained. The record is needed to support the annual compliance certification for the insignificant sources.

ALTERNATIVE OPERATING SCENARIO

Alternative Operating Scenario language is provided in the permit to allow for "like-kind" replacement of the internal combustion engines without the need to modify the permit. The provision of any engine that does not satisfy the "like-kind" criteria requires the permit to be re-opened to properly incorporate the new equipment.

HAZARDOUS AIR POLLUTANTS

The applicable requirement is for the reporting of estimated emissions above the appropriate bin thresholds established in Appendix D of Colorado Regulation No. 3. Hazardous air pollutant emissions for each source are estimated from manufacturer's information, AP-42 and GRI technical reports. The emissions are monitored to verify that the synthetic minor status for MACT Subpart HH is maintained and identify if a Revised APEN must be submitted.

MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT)

This plant is not subject to the provisions of the 40 CFR Part 63, Subpart HH "Oil & Gas Production" or Subpart HHH "Oil & Gas Transmission," or to Subpart ZZZZ "Stationary Reciprocal Internal Combustion Engines" of the Federal Clean Air Act Amendments based on Division determination.

ACCIDENTAL RELEASE –112(r)

Section 112(r) of the Clean Air Act mandates a new federal focus on the prevention of chemical accidents. Sources subject to these provisions must develop and implement risk management programs that include hazard assessment, a prevention program, and an emergency response program. They must prepare and implement a Risk Management Plan (RMP) as specified in the Rule.

Based on the information provided by the applicant, this facility is subject to the provisions of the Accidental Release Prevention Program (Section 112(r) of the Federal Clean Air Act).

EMISSION FACTORS

From time to time published emission factors are changed based on new or improved data. A logical concern is what happens if the use of the new emission factor in a calculation results in a source being out of compliance with a permit limit. For this operating permit, the emission factors or emission factor equations included in the permit are fixed until changed by the permit. Obviously, factors dependent on the fuel sulfur content or heat content cannot be fixed and will vary with the test results. The formula for determining the emission factors is, however, fixed. It is the responsibility of the permittee to be aware of changes in the factors, and to notify the Division in writing of impacts on the permit requirements when there is a change in factors. Upon notification, the Division will work with the permittee to address the situation.

PERMIT SHIELD

The intent of the permit shield is to provide limited protection to the facility in the event of an error in the evaluation of whether a regulation, or portion of a regulation applies. The facility identifies a requirement that they believe is not applicable to a source and presents an opinion as to why the source is not subject to the requirement. The Division reviews the opinion. If the Division and the facility mutually agree on the position stated in the opinion, the non-applicable requirement and the justification for the non-applicability is recorded in the permit. If, at a later date, it is determined that an error was made in the mutual decision, the facility is protected from enforcement action until the permit can be reopened and the correct requirements and a compliance schedule inserted.

In this application, a list of non-applicable sections of the Federal and State regulations are identified for the sources, and the request for the shield justified.

COMPLIANCE ASSURANCE MONITORING (CAM) PLAN

The internal combustion engines at this facility use a control device to achieve compliance with an emission limitation or standard to which they are subject. While the pre-control emissions exceed or are equivalent to the major source threshold (100 tons per year), the post-control emissions are less than 100 tons per year. The engines will be subject to the provisions of the CAM program at the renewal of this Operating Permit in accordance with Section 64.5(b) of 40 CFR Part 64 as adopted by reference into Colorado Regulation No. 3, Part C, Section XIV.