



The State
of Wyoming

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Dudley & Associates LLC



Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

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June 19, 2002

Ms. Kate Fay
Environmental & Regulatory Specialist
Dudley & Associates LLC
1776 Lincoln St, Ste 904
Denver, CO 80203

Permit No. CT-2833

Dear Ms. Fay:

The Division of Air Quality of the Wyoming Department of Environmental Quality has completed final review of Dudley & Associates LLC's application to construct the Seminole Compressor Station which is to consist of two (2) 1340 hp Caterpillar 3516LE engines and one (1) 20 MMSCFD glycol dehydration unit located in the NW¼ of Section 10, T23N, R85W approximately seventeen (17) miles northeast of Rawlins, in Carbon County, Wyoming.

Following this agency's proposed approval of the request as published April 23, 2002 and in accordance with Chapter 6, Section 2(m) of the Wyoming Air Quality Standards and Regulations, the public was afforded a 30-day period in which to submit comments concerning the proposed new source, and an opportunity for a public hearing. No comments have been received. Therefore, on the basis of the information provided to us, approval to construct the Seminole Compressor Station as described in the application is hereby granted pursuant to Chapter 6, Section 2 of the regulations with the following conditions:

1. That authorized representatives of the Division of Air Quality be given permission to enter and inspect any property, premise or place on or at which an air pollution source is located or is being constructed or installed for the purpose of investigating actual or potential sources of air pollution and for determining compliance or non-compliance with any rules, standards, permits or orders.
2. That all substantive commitments and descriptions set forth in the application for this permit, unless superseded by a specific condition of this permit, are incorporated herein by this reference and are enforceable as conditions of this permit.
3. That a permit to operate, in accordance with Chapter 6, Section 2(a)(iii) of the WAQSR, is required after a 120 day start-up period, in order to operate this facility.
4. That all notifications, reports and correspondences associated with this permit shall be submitted to the Stationary Source Compliance Program Manager, Air Quality Division, 122 West 25th Street, Cheyenne, WY 82002 and a copy shall be submitted to the District Engineer, Air Quality Division, 3030 Energy Lane, Suite 200, Casper, WY 82604.

5. That written notification of the actual date of initial start-up for the engines is required 15 days after start-up in accordance with Chapter 6, Section 2(i)(ii) of the WAQSR.
6. That the date of commencement of construction shall be reported to the Administrator within 30 days of commencement. The construction or modification must commence within 24 months of the date of permit issuance, in accordance with Chapter 6, Section 2(h) of the WAQSR, or the permit becomes invalid. The Administrator may extend the period based on satisfactory justification of the requested extension. If the construction is discontinued for a period of 24 months or more, then the permit will also become invalid.
7. That performance tests be conducted, in accordance with Chapter 6, Section 2(j) of the WAQSR, within 30 days of achieving a maximum design rate but not later than 90 days following initial start-up, and a written report of the results be submitted. The operator shall provide 15 days prior notice of the test date. If a maximum design rate is not achieved within 90 days of start-up, the Administrator may require testing be done at the rate achieved and again when a maximum rate is achieved.
8. Initial performance tests, as required by Condition #7 of this permit, shall be conducted on the following source:
 - i. Caterpillar 3516LE engines: Compliance tests for NO_x and CO emissions. Compliance tests for the first engine in operation shall consist of 3-1-hour tests following EPA Reference Methods 1-4, 7E and 10. Compliance testing for the remaining engine shall consist of one (1)-twenty-one (21) minute test following EPA Reference Methods 3, 7E, 10, and 19.
 - ii. Caterpillar 3516LE (ID #s 1-2): The first engine in operation shall be tested to determine the formaldehyde emission rate. Testing shall follow Reference Methods 1-4 and SW846 Method 0011. An alternate formaldehyde test may be used with approval for this Division

A test protocol shall be submitted to this office for review and approval prior to testing. Engine horsepower and operating conditions shall be recorded during each test run and submitted with the test report. Notification of the test date shall be provided to the Division fifteen (15) days prior to testing. Results shall be submitted to this Division within 30 days of completion.

9. That emissions from each source shall be limited as follows:

Engine	NO _x			CO		
	g/hp-hr	lb/hr	TPY	g/hp-hr	lb/hr	TPY
Caterpillar 3516LE	1.5	4.4	19.3	0.5	1.5	6.6

10. That the engine configuration at the Seminole Compressor Station shall be limited to two (2) 1340 hp Caterpillar 3516LE engines equipped with an oxidation catalyst.

11. That Dudley and Associates, LLC shall follow the preventative maintenance program (PM), attached as Appendix A, for the Caterpillar 3516LE engines to ensure the engine operates within the NO_x and CO allowable emission limits on a continuous basis. Annually, the engine shall be tested to verify compliance with the NO_x and CO limits set forth in this permit. Testing for NO_x and CO shall be conducted in accordance with EPA reference methods or the State of Wyoming's Portable Analyzer Protocol. Notification of the test date shall be provided to the Division fifteen (15) days prior to testing. Results of tests shall be submitted to this Division within 30 days of completing the tests.
12. That the 20 MMSCFD Dehydration unit shall be limited to coal bed methane service as represented in the application.

It must be noted that this approval does not relieve you of your obligation to comply with all applicable county, state, and federal standards, regulations or ordinances. Special attention must be given to Chapter 6, Section 2 of the Wyoming Air Quality Standards and Regulations, which details the requirements for compliance with conditions 3, 5, 6 and 7. Any appeal of this permit as a final action of the Department must be made to the Environmental Quality Council within sixty (60) days of permit issuance per Section 16, Chapter I, General Rules of Practice and Procedure, Department of Environmental Quality.

If we may be of further assistance to you, please feel free to contact this office.

Sincerely,



Dan Olson
Administrator
Air Quality Division



Dennis Hemmer
Director
Dept. of Environmental Quality

cc: Chris Hanify

DO/cs

Emission Summary

Table 1: Engine Emission Factors (g/hp-hr)						
Engine	hp	Controls	NO _x	CO	VOC	Formaldehyde
Caterpillar 3516LE	1340	Lean Burn w/ oxidation catalyst	1.5	0.5	1.0	0.07

Table 2: Estimated Emissions									
ID	Source	NO _x		CO		VOC		Formaldehyde ¹	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
1	Caterpillar 3516LE	4.4	19.3	1.5	6.6	3.0	13.1	0.2	0.9
2	Caterpillar 3516LE	4.4	19.3	1.5	6.6	3.0	13.1	0.2	0.9
3	Dehy Unit	0.1	0.4	0.1	0.4	Insignificant due to CBM			
Total Emissions		8.9	39.0	3.1	13.6	6.0	26.2	0.4	1.8

¹ Formaldehyde only significant HAP.

Appendix A

Preventative Maintenance Plan Caterpillar 3516LE Dudley & Associates, LLC

This preventative maintenance plan addresses which operators will routinely conduct on Caterpillar 3516LE engines to ensure that units will operate within emission limits set forth by the issued construction permit.

Routine Engine Operations: Operators will observe engines routinely. Records of suction and discharge pressures will be recorded. Engine operations will be adjusted as needed if the operator observes an engine to be mis-firing or otherwise operating in a substandard manner

Standard preventative maintenance on each engine will be conducted on a monthly basis. This effort will include changing oil filters, running valves, setting fuel gas pressures and setting the timing as needed. The operating characteristics of the air/fuel ratio controller will be monitored by the operations control panel and quarterly sampling of the exhaust O₂ concentrations using a portable analyzer.

Scheduled Overhaul: Engine overhauls will be conducted on each engine at least every 80,000 hours of operation.

Catalyst Preventative Maintenance: The engines will be equipped with oxidation catalyst. The catalyst bed for each subject engine which is installed with oxidation catalyst will be equipped with pre-bed temperature indicators. Catalyst bed inlet temperatures will be checked once quarterly to ensure inlet temperature remains greater than 700°F. Catalyst will be cleaned and replaced in accordance with manufacturer recommendations.

Initial Performance Test: Emissions of NO_x and CO will be sampled from subject engines during the required initial performance test at locations downstream of the catalyst to assess catalyst effectiveness and compliance with emission limits. CO will also be sampled upstream of the catalyst for subject engines equipped with catalyst to assess control efficiency and to establish an approximate correlation between CO and formaldehyde control so that CO may be used as a surrogate indicator of formaldehyde control efficiency

Annual Emissions Assessment: TCGS, facility operators or a third-party testing crew will use a portable analyzer to conduct NO_x and CO emissions assessments on each engine on an annual basis per the State of Wyoming's Analyzer Protocol.