

COMMONWEALTH OF PENNSYLVANIA  
Department of Environmental Protection  
November 6, 2002

SUBJECT: Review of Title V Operating Permit Application  
Peoples Natural Gas Company (Dominion Peoples)  
Rager Mountain/Laurel Ridge Station  
Jackson Township, Cambria County

TO: Air Quality Permit File OP-11-00356

THROUGH: Mark Wayner  
Acting Regional Manager  
Air Quality Control

*Mark Wayner*  
11/7/02

Tom Joseph, Acting Chief  
Title V Section  
Air Quality Control

*Tom Joseph* 11/8/02

FROM: Elizabeth M. J. Warner  
Title V Section  
Air Quality Control

*Elizabeth M. J. Warner* 11/8/02

**Background**

Dominion Peoples has submitted an application to renew their Title V Operating Permit at the Rager Mountain/Laurel Ridge Station in Jackson Township, Cambria County. While Dominion considers Rager Mountain (constructed in 1970) and Laurel Ridge (constructed in 1990) two separate facilities, since they are located adjacent to one another they are considered one facility for air quality permitting purposes. The facility is subject to Title V because the PTE for NO<sub>x</sub> is greater than 100 tpy.

The Rager Mountain Compressor Station is a natural gas storage facility designed to inject and withdraw natural gas from a nearby underground storage field. Compressor units pump gas into the underground storage pool during periods of low gas demand, typically the summer months. Gas is withdrawn during the winter heating season by regulating the storage pressure of the storage pool, therefore the engines are not operated. The Laurel Ridge Compressor Station boosts gas at lower pressures to the higher Rager Mountain intake pressure.

**Sources**

Rager #1, Rager #2, and Rager #3 (Sources 101, 102, and 103) are Dresser-Clark TLA-6 2-Cycle turbocharged reciprocating engine-compressor units rated at 2000 Bhp. These three units have a capacity of 20 MCF/hr. Rager #2's capacity was listed as 1MMCF/hr in the original Title V permit, but this has been corrected in the renewal. Laurel Ridge #1 and Laurel Ridge #2

(Sources 104 and 105) are Cooper-Superior 8GTLB 4-Cycle clean-burn reciprocating engine-compressor units rated at 1100 Bhp. These two units have a capacity of 10 MCF/hr. These five engines are the primary sources of NO<sub>x</sub> and other criteria pollutants at the facility. The remaining significant units at the facility are two 12 MMBtu/Hr gas-fueled indirect heaters. These heat natural gas withdrawn from storage.

The facility has the following smaller sources:

- Two dehydration units            0.5 MMBtu/hr (each)
- Heating boiler                    2.6 MMBtu/hr
- Hot water heater                0.04 MMBtu/hr
- Furnace                            0.06 MMBtu/hr
- Water Evaporation Unit        0.28 MMBtu/hr
- Standby Generator               415 bhp
- Standby Air Compressor        149 bhp
- Odorant Tank                    1800 gal
- Equipment Leaks
- Various Vent Lines

In the original Title V Permit these smaller sources were divided between Source 033 (Miscellaneous Combustion Equipment) and Source 106 (Dehydrators #1 & #2). However, the dehydrators are combustion units and should be included under Source 033. According to the review memo for the original Title V Permit Source 106 was supposed to be named "Miscellaneous Process Equipment" and the dehydration units were to be included as Miscellaneous Combustion Equipment. The following chart shows how the minor sources were categorized in the original review memo and how they will be categorized in the renewal permit. This information will also be included in the Miscellaneous Section of the permit.

**Miscellaneous Equipment Sources**

Source #033 Misc. Combustion Equipment	Source #106 Misc. Process Equipment
Two Dehydration Units	Standby Generator
Heating Boiler	Standby Air Compressor
Hot Water Heater	Odorant Tank
Furnace	Equipment Leaks
Water Evaporation Unit	Various Vent Lines

The 1999 and 2000 AIMS/Emission Summaries show that the facility is reporting emissions according to the above groupings. For example, emissions from the dehydrators are reported under Miscellaneous Combustion Equipment (Source 033) and emissions from the standby generator are reported under Miscellaneous Process Equipment (Source 106). Therefore these changes should have no effect on the emissions reporting or cause any discrepancies with past emission inventories.

## Regulatory Analysis

Since the original Title V Permit was issued there have been no changes at the facility that have impacted the permit. Nor were any applicable requirements promulgated during the term of the permit. The facility is not affected by 40 CFR Part 64 (CAM rule) since no control devices are used at the facility. The facility remains subject to RACT Operating Permit 11-000-356.

Under 40 CFR, Part 60, Subpart Dc, steam generating units with rated heat inputs equal to, or greater than 10 MMBtu/hr are subject to New Source Performance Standards (NSPS). However, the standards only apply to units constructed or installed after 1989. Since the 12 MMBtu/hr indirect heaters were installed in 1970 they are not an affected under this provision.

## Emissions

The emission limits in the Title V permit are in accordance with the limits in the RACT Operating Permit. NO<sub>x</sub>, VOC, and CO are limited on a pounds per hour basis and a tons per year basis. The hourly limit is per each compressor. The yearly limit is on the combined emissions from the three Rager Mountain compressors (Sources 101-103) and on the two Laurel Ridge compressors (Sources 104-105). The following tables show the emissions limits in pounds per hour and tons per year.

### Hourly Emission Rate Limits for Each Individual Compressor

Sources	NO <sub>x</sub> (lb/hr/unit)	CO (lb/hr/unit)	VOC (lb/hr/unit)
Sources 101-103	49.8	11.9	5.0
Sources 104-105	4.2	6.1	0.7

### Yearly Combined Emission Rate Limits for Each Group of Compressors

Sources	NO <sub>x</sub> (tons/yr)	CO (tons/yr)	VOC (tons/yr)
Sources 101-103	189.8	45.4	19.1
Sources 104-105	16.1	13.2	4.4

The hours of operation for the compressors are also limited. The combined hours from Rager #1, Rager #2, and Rager #3 are limited to 7625 operating hours per year. The combined hours from Laurel Ridge #1 and Laurel Ridge #2 are also limited to 7625 operating hours per year.

Several conditions related to emissions from the compressors have been modified. Since VOC emissions are restricted, references to NMVOC and hydrocarbons in testing and monitoring requirements have been changed to VOC. Three changes were made to the condition regarding stack testing. The permittee must submit a test plan 60 days prior to stack testing, instead of 30 days. In addition, now the permittee must notify the Department two weeks prior to the testing so that an observer may be present and the permittee must submit results of the stack test within

60 days. The remaining revisions clarified language. For example, yearly restrictions on operating hours and emission limits were changed to restrictions over a consecutive 12-month period.

### **Proposed Revisions**

Dominion Peoples requested the following changes and they were incorporated in the permit.

- I. Section A  
The owner and permit contact person have been changed.
- II. Section B, Condition #024  
The reporting date for the certification of compliance cannot be changed in Section B, but the date has been changed to the first of March every year in the Compliance Certification portion of Section C.
- III. Section C, Condition #007  
The language regarding the reporting of malfunctions has been clarified.
- IV. Section C, Condition #012  
The frequency of fuel sampling and analysis required to demonstrate compliance with particulate, opacity, and SO<sub>2</sub> limits has been changed from quarterly to annually.
- V. – X. Section D, Sources 101-105, Condition #007  
The frequency of monitoring by portable gas analyzer has been changed from quarterly to semi-annually. The calculation has been changed to the most recently PADEP approved calculation method. These changes are for all 5 engines at the facility. The changes do not conflict with any requirements in the RACT Operating Permit.

### **Recommendations**

I recommend issuing a renewal Title V operating permit to this facility. The facility has not changed any equipment or emissions since the submittal of the initial Title V permit application. However, I recommend incorporating the revisions proposed by Dominion Peoples and clarifying the breakdown of miscellaneous combustion equipment and miscellaneous process equipment.