

## STATEMENT OF BASIS

To: Reviewers

Through: Lori Bocchino, Operating Permit Program Manager

From: Scott Faber, Air Quality Engineer / Melissa Meares, Air Quality Engineer

Subject: Draft Operating Permit 3-2-175, Wyoming Interstate Company,  
Baxter Compressor Station

Date: August 6, 2012

Attached is the draft Wyoming Air Quality Standards and Regulations (WAQSR) Chapter 6, Section 3 operating permit for the Wyoming Interstate Company, Baxter Compressor Station. The compressor station, owned and operated by Wyoming Interstate Company, a subsidiary of Colorado Interstate Gas, is used to boost natural gas pipeline pressure for transmission to the Denver, CO area. This facility has six sources with emission limits set by construction permit conditions: four 1176 horsepower (hp) Superior 2406G compressor engines (CG-7101, CG-7201, CG-7301, and CG-7401), one 275 hp Caterpillar G3406TA emergency generator engine (EG-6101), and one 2.5 million British thermal units per hour (MMBtu/hr) boiler (H-6204). The boiler was previously identified as a line heater, but the annual inspection conducted in 2008 revealed the unit is a boiler used for building heat. The design capacity of the unit was verified and remains as previously stated. Additional emission sources include a 4200 gallon condensate storage tank (T-5306), several small storage tanks, and piping components with associated fugitive emissions.

The facility is a major source of carbon monoxide (CO) emissions and a major source of hazardous air pollutants (HAPs) due to formaldehyde emissions.

### Permitting History:

CT-1267 (11/26/96): allowed for the original construction of the station, which commenced March 5, 1997, and consisted of two compressor engines, an emergency generator engine, a boiler, and a 4200 gallon condensate storage tank. The permit limits the generator engine operating hours, and requires the boiler to meet the WAQSR Chapter 3, Section 3 NO<sub>x</sub> emission limit of 0.20 lb/MMBtu.

CT-1301 (6/5/97): allowed for the construction of two additional compressor engines at the facility. This permit sets NO<sub>x</sub> and CO emission limits for the five engines and the 2.5 MMBtu/hr boiler at the facility.

Permit CT-1301 also requires adherence to the preventative maintenance plan and annual periodic monitoring for NO<sub>x</sub> and CO emissions for the compressor engines considered in the analysis for permit CT-1301. The first page of the Division's analysis for permit CT-1301 specifically states that all equipment already permitted under CT-1267 was considered in the analysis for permit CT-1301. Therefore, all four compressor engines are required to adhere to the preventative maintenance plan and conduct annual periodic monitoring for NO<sub>x</sub> and CO.

### **Applicable Requirements:**

In addition to the permit requirements listed above, the sources at the facility are subject to the visible emission limits set forth in WAQSR Chapter 3, Section 2.

All of the engines at the facility are affected sources under 40 CFR 63 Subpart ZZZZ – *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*.

The operating permit application indicates the facility is engaged in the transmission and/or storage of natural gas for sale. Additionally, the facility has potential formaldehyde emissions of 13.7 tons per year (TPY), which makes it a major source of HAPs. Since the facility does not have a glycol dehydration unit, it is not subject to the requirements of 40 CFR 63 Subpart HHH – *National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities*.

Due to their size, the storage tanks at the facility are not subject to the requirements of 40 CFR 60 Subpart Kb – *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984*.

The small boiler (H-6204) at the facility has a design capacity of 4.6 MMBtu/hr and is site rated at 2.5 MMBtu/hr. Therefore, due to its size, the boiler is not subject to 40 CFR 60 Subpart Dc – *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*. However, the permittee shall meet all applicable requirements of 40 CFR 63 Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*, as the boiler is an affected source.

### **Periodic Monitoring:**

Periodic monitoring of visible emissions from the engines and boiler shall consist of monitoring the type of fuel used to ensure natural gas is the sole fuel source for these sources. The permittee shall conduct annual NO<sub>x</sub> and CO emissions tests on each compressor engine in order to verify compliance with the limits specified in the operating permit.

The Caterpillar emergency generator operates on an as needed basis and has limited annual operating hours. Estimated emissions from this unit are less than 5 TPY of NO<sub>x</sub> and CO. Given the low emissions generated from this engine's limited use, the Division has concluded that monitoring of operating hours is sufficient and further monitoring of this source is uneconomical.

The 2.5 MMBtu/hr boiler is fuel burning equipment as defined in WAQSR Chapter 1. The boiler is gas-fired with potential NO<sub>x</sub> and CO emissions that are relatively small (approximately 1 TPY of NO<sub>x</sub> and less than 1 TPY of CO). Generally, small fuel burning sources like the boiler are uncontrolled and operate at a steady state; emission variations are not likely. The Division feels it is extremely unlikely this source will operate out of compliance and considers further periodic monitoring uneconomical.