STATEMENT OF BASIS

To: Reviewers

Through: Lori Bocchino, Operating Permit Program Manager

From: April Desclos, Operating Permit Program

Subject: Draft Chapter 6, Section 3 Operating Permit 3-3-070
Colorado Interstate Gas Company, LLC, Laramie Compressor Station

Date: June 5, 2013

Introduction

Attached for your review is the draft renewal Wyoming Air Quality Standards and Regulations (WAQSR) Ch 6, Sec 3 operating permit for the Laramie Compressor Station. The Laramie Compressor Station gathers and compresses natural gas for transmission through Colorado Interstate Gas Company (CIG)'s pipeline to the Denver area. Permitted emission sources include four Dresser Clark TCVA-10 compressor engines (units CG-1 through CG-4), two Allison 501-KC-5 compressor turbines (units CG-7101 and CG-7201), one Solar Centaur 40-T4700S compressor turbine (unit JCG-7101), one Caterpillar G3412CTA130LE emergency generator engine (unit EG-1), one William & Davis steam boiler (unit SB-1), and one Simonds B-75 trash incinerator (unit X-7).

Permitting History

The following permits are listed to document the permitting history. The permits listed in this first paragraph have no remaining applicable requirements. EPA 8A-EE (8/14/74): authorized the construction of the trash incinerator (unit X-7). CT-124 (2/28/78) and OP-54 (9/5/79): allowed the addition of one Dresser Clark TCVA-10 compressor engine (unit CG-4) equipped with an oxidation catalyst. CT-124A (3/31/80) and CT-124A2 (9/9/80): authorized five additional compressor engines. These five additional engines were never constructed, and CT-124A and CT-124A2 expired. CT-1281 (3/3/97): authorized the installation of two Allison 501-KC-5 compressor turbines (units CG-7101 and CG-7201) and required unit CG-2 to be retrofitted to operate with a lean air/fuel ratio. Units CG-7101 and CG-7201 were constructed and tested, and unit CG-4 was tested, under this permit. MD-360 (5/27/98): authorized the installation of the Solar Centaur 40-T4700S compressor turbine (unit JCG-7101), which was constructed and tested as required under this permit. MD-360A (5/25/04): increased the NO_X and CO emission limits for unit JCG-7101 to reflect operation at ambient temperatures below 0°F. CT-1281A (10/5/04): was issued to reflect revisions to 40 CFR 60 Subpart GG as it pertains to units CG-7101 and CG-7201. The revisions to Subpart GG allow the permittee to demonstrate that fuel used in the turbines meets the definition of natural gas instead of monitoring fuel sulfur.

MD-360A2 (10/5/04): was issued to reflect revisions to 40 CFR 60 Subpart GG as it pertains to unit JCG-7101. The revisions to Subpart GG allow the permittee to demonstrate that fuel used in the turbine meets the definition of natural gas instead of monitoring fuel sulfur or sulfur emissions. Requirements for unit JCG-7101 under MD-360A2 include NO_X and CO emissions limits, monitoring and recording the number of hours each year the ambient temperature falls below 0°F, annual NO_X and CO testing, and following a preventative maintenance plan.

Waiver AP-5342 (1/11/07): authorized the replacement of a Solar Centaur T-130 turbine-driven emergency backup generator with the Caterpillar G3412CTA130LE emergency generator engine (unit EG-1). Limits were set for NO_X and CO emissions and for hours of operation. Additional requirements include following the manufacturer's or supplier's recommended maintenance and testing for NO_X and CO at least once every two years. The replacement unit EG-1 was constructed and tested as required under AP-5342.

CT-1281A2 (3/11/09): reduced the NO_X emission limits for unit CG-2. NO_X and CO limits were set for units CG-1 through CG-4 and for units CG-7101 and CG-7201. CT-1281A2 also includes 40 CFR 60 Subpart GG requirements for units CG-7101 and CG-7201.

MD-13112 (8/27/12): reduced the NO_X emission limits for unit CG-3. MD-13112 requires initial performance tests and annual testing for NO_X.

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 Ch 3, Sec 2. The steam boiler (unit SB-1) is limited to NO_X emissions of 0.23 pounds per million British thermal units (lb/MMBtu) heat input under WAQSR Ch 3, Sec 3. The trash incinerator (unit X-7) is limited to particulate emissions of 0.20 pounds per 100 pounds of refuse charged.

All three compressor turbines (units CG-7101, CG-7201 and JCG-7101) are subject to any applicable requirements from WAQSR Ch 5, Sec 2 New Source Performance Standards (NSPS) and 40 CFR 60 Subpart GG for *Stationary Gas Turbines* and from WAQSR Ch 5, Sec 3 National Emission Standards for Hazardous Air Pollutants (NESHAP) and 40 CFR 63 Subpart YYYY for *Stationary Combustion Turbines*.

Affected engines under WAQSR Ch 5, Sec 2 NSPS and 40 CFR 60 Subpart JJJJ for *Stationary Spark Ignition Internal Combustion Engines* are defined at §60.4230 of the subpart. On February 12, 2013, none of the engines at the facility, including units CG-1 through CG-4 and unit EG-1, were subject to Subpart JJJJ according to information submitted to the Division by the permittee.

All engines at the facility, including units CG-1 through CG-4 and unit EG-1, are subject to any applicable requirements from WAQSR Ch 5, Sec 3 NESHAP and 40 CFR 63 Subpart ZZZZ for *Stationary Reciprocating Internal Combustion Engines*.

Unit SB-1 is subject to any applicable requirements from WAQSR Ch 5, Sec 3 NESHAP and 40 CFR 63 Subpart DDDDD for *Industrial, Commercial, and Institutional Boilers and Process Heaters*.

Periodic Monitoring

For periodic monitoring of visible emissions from the compressor engines, emergency generator engine, compressor turbines, and steam boiler, the permittee shall monitor the type of fuel used to ensure natural gas is the sole fuel source for these units.

Quarterly NO_X monitoring is required for four compressor engines (units CG-1 through CG-4) and for two compressor turbines (units CG-7101 and CG-7201). Annual NO_X monitoring is required for one compressor turbine (unit JCG-7101). For the emergency generator engine (unit EG-1), NO_X monitoring is required at least every two years.

Annual CO monitoring is required for the compressor turbine (unit JCG-7101). CIG requested that the CO monitoring requirements for the compressor engines (units CG-2 and CG-4) be re-evaluated in accordance with the Division's October 4, 2010 Operating Permit Program Guidance for Periodic Monitoring (Guidance Document). Based on their compliance history, and in agreement with the Guidance Document, annual CO testing is required for engine CG-4, and CG-2 shall be tested once every five years. For the emergency generator engine (unit EG-1), CO monitoring is required at least every two years. CO monitoring from two of the compressor engines (units CG-1 and CG-3) is not required since these units do not have CO emission limits established by permit limits or any other applicable requirement. CO monitoring for two compressor turbines (units CG-7101 and CG-7201) is also not required under the Guidance Document since allowable emissions from these units is less than 30 tons per year, the units are not controlled, and monitoring is not mandated by any other applicable requirement.

The steam boiler (unit SB-1) is fuel burning equipment as defined in WAQSR Chapter 1. This uncontrolled unit emits NO_X in relatively small quantities (5.4 tons per year of NO_X). In the absence of more stringent permit limits, the NO_X emission limit for fuel burning equipment defaults to 0.23 lb/MMBtu for sources constructed before April 9, 1973. Generally, small fuel burning sources like this unit operate at a steady state; emission variations are not likely. AP-42 emission factors were developed by the EPA to help estimate the quantity of a pollutant from a given source type. In developing an AP-42 emission factor, emission data is averaged from sources of similar size and type, and the emission factor is then assigned a reliability rating based on quality and quantity of the data used. The rating scale runs from A to E with an A rating providing the highest quality. The AP-42 emission factor for small gaseous fuel burning sources (less than 100 MMBtu/hr) is 0.1 lb/MMBtu with a B rating. Considering the amount of data evaluated to develop the AP-42 emission factor and that the WAQSR Ch 3, Sec 3 emission limit is twice the AP-42 value, the Division feels it is extremely unlikely that this source will operate out of compliance and considers further testing of this source to be uneconomical.

Similarly, even if the trash incinerator (unit X-7) operated full time year round, it would result in particulate emissions of less than one ton. The unit has minimal use (approximately 24 hours per year), resulting in particulate emissions of a few pounds per year, thus the Division considers monitoring of this source uneconomical. Periodic monitoring of visible emissions from unit X-7 is not required since this source does not operate during normal operations of the facility.

Other periodic monitoring requirements include monitoring the dates and hours of operation for unit EG-1 and the hours each year unit JCG-7101 operates while the ambient temperature is less than or equal to 0 degrees Fahrenheit.

Compliance Assurance Monitoring (CAM) requirements do not apply to the regulated pollutants for any emission unit at this facility because potential pre-control device emissions do not exceed the CAM threshold.