STATEMENT OF BASIS

To: Reviewers

Through: Lori Bocchino, Operating Permit Program Manager

From: Nick Meeker, NSR Program

Subject: Draft Chapter 6, Section 3 Operating Permit 3-3-024, QEP Field Services Company, Emigrant Trail Gas Plant

Date: July 29, 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 Emigrant Trail Plant. The plant removes carbon dioxide from natural gas with an amine treatment system before discharging the gas to the pipeline. Emission sources at the facility include two Cooper Bessemer GMVH-10 compressor engines (01 and 02), two Solar Saturn turbine engines (03 and 04), a regeneration gas heater (05), an amine treatment system and still vent (11), two Smart Ash Model 100 incinerators, and various storage tanks with no applicable requirements.

Permitting History:

Permit CT-515 (11/8/83): was issued for the construction of a natural gas liquids extraction plant. Sources installed include the two Cooper Bessemer compressor engines, two Solar Saturn turbine engines, and a regeneration gas heater.

Division Letter (7/24/84): accepted manufacture's data for NO_X for turbine engines (03 and 04) and removed requirements from condition 3 of CT-515.

Division Letter (5/15/86): waived permitting requirements for a minor increase in NO_X emission limits for each turbine engine (03 and 04).

Permit OP-163 (6/6/86): revises NO_X emission limits for the turbine engines (03 and 04), and sets NO_X limits for the two compressor engines (01 and 02). The turbine engines (03 and 04) are subject to 40 CFR 60 Subpart GG.

Permit CT-858 (12/19/89): allowed construction of two additional compressor engines, which were not built.

Waiver (3/28/96): waived installation of a Smart Ash 100 incinerator. The unit shall burn only manufacturer's "reported fuels" at an average rate of 50 lb/hr, particulate matter emissions are limited to 0.20 pounds per 100 pounds of refuse charged or 0.10 lb/hr, and the operator must comply with all state and federal requirements for a used oil burner. Only used oil meeting the specification requirements of 40 CFR Part 279 shall be burned in the incinerators.

Division Letter (5/22/96): approved the monthly monitoring by gas chromatograph of fuel sulfur and nitrogen content for the turbine engines in lieu of the daily monitoring required by Subpart GG.

Waiver (9/4/96): allowed the installation of an additional Smart Ash Model 100 incinerator, with requirements identical to those applied in Waiver (3/28/96).

Permit MD-774 (7/11/02): acknowledged a regeneration vent on the amine unit and three 400 barrel condensate tanks (08, 09 and 10). Permit MD-774 authorized a 4.54 MMBtu/hr regeneration gas heater to replace the one constructed under CT-515.

Waivers AP-8486 (11/13/08) & AP-9394 (6/3/09) were issued for temporary portable diesel generators and have expired.

Applicable Requirements

In addition to the permit requirements listed above, the sources are subject to the visible emission limits set forth in WAQSR Ch 3, Sec 2. The regeneration gas heater (05) is limited to NO_X emissions of 0.20 lb/MMBtu heat input under Ch 3, Sec 3.

Both Solar Saturn turbines (03 and 04) 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*.

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 June 17, 2013, none of the engines (01 and 02) at the facility were subject to Subpart JJJJ according to information submitted to the Division by the permittee.

The facility may have applicable requirements under 40 CFR 60, Subpart OOOO for *Crude Oil and Natural Gas Production, Transmission and Distribution*, or may become subject to the standard during the term of the permit.

Both Cooper Bessemer compressor engines (01 and 02) at the facility 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*.

Periodic Monitoring

For periodic monitoring of visible emissions from the compressor engines (01 and 02), generators (03 and 04), and heater (05), the permittee shall monitor the type of fuel used to ensure natural gas is the sole fuel source for these units.

The permittee shall monitor NO_X quarterly for the compressor engines and biennially for the turbines, using the Division's portable analyzer monitoring protocol, or EPA reference methods.

The regeneration gas heater (05) is fuel burning equipment as defined in WAQSR Chapter 1. This uncontrolled unit emit oxides of nitrogen (NO_X) in relatively small quantities (total of less than 2.0 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 0.20 pounds per million BTUs (lb/MMBtu). Generally, small fuel burning sources like these units 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 these sources will operate out of compliance and considers further testing of these sources to be uneconomical.

Similarly, even if the Smart Ash Model 100 incinerators operated full time year round, it would result in particulate emissions of less than one ton. The units have 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.