

STATEMENT OF BASIS

To: Reviewers
Through: Lori Bocchino, Operating Permit Program Manager
From: Donovan Benton, Operating Permit Program
Subject: Draft Chapter 6, Section 3 Operating Permit 3-3-028
Southern Star Central Gas Pipeline, Riner Compressor Station
Date: June 9, 2014

Introduction

Attached for your review is the draft renewal Wyoming Air Quality Standards and Regulations (WAQSR) Ch 6, Sec 3 operating permit 3-3-028 for the Southern Star Central Gas Pipeline, Inc., Riner Compressor Station. Natural gas enters the facility via pipeline, where entrained liquids are removed. The balance of the natural gas is compressed to a higher pressure to allow for transmission via pipeline to the next station. Emission sources at the facility consist of two Cooper-Bessemer compressor engines (S1 and S2), one Waukesha emergency generator engine (S15), one ThermoPak boiler (S14), one Samsco wastewater evaporator (S12), and two wastewater tank heaters. There are nine various storage tanks ranging in size from 600 gal to 12,400 gal at the facility that do not have any applicable requirements based on their size.

Permitting History

All permits are listed to document permitting history. The permits and waiver listed in this first section have no applicable requirements:

CT-175 (10/25/78): was issued to Cities Service Gas Company, a previous owner, for construction of one 2,400-hp Cooper-Bessemer Model GMVH-12-M compressor engine (S1).

OP-75 (1/21/81): was issued for approval to operate the Riner Station.

Waiver (11/23/81): allowed Cities Service Gas Management to install a 115-hp Ajax compressor engine at the facility. This unit has since been removed.

CT-535 (3/30/84): was issued to Northwest Central Pipeline Corp., a previous owner, for construction of a CO₂ removal and gas dehydration plant. The units have since been removed because the facility no longer receives gas that requires treatment of NGL (natural gas liquids) or CO₂ removal.

The following permits and waiver have applicable requirements:

CT-175A (9/24/80): authorized construction of a second, identical Cooper engine (S2) with "jet cell" igniters. The permittee also proposed to fit the existing Cooper engine with "jet cell" igniters. The resulting NO_x emission rate from each Cooper engine was 14.01 lb/hr. Since approval to construct the second Cooper engine was granted based on the NO_x emission rate of 14.01 lb/hr, this emission rate was set by the Administrator through the issuance of the initial operating permit (30-028) as a NO_x limit for each Cooper engine.

OP-196 (9/25/89): was issued to Williams Natural Gas Company, a previous owner, to operate the CO₂ removal plant at the Riner facility. The only remaining requirement is for the permittee to operate and maintain gas fired units (S1, S2, and S15) in accordance with the manufacturer's recommendations.

Waiver AP-3254 (5/9/05): allowed Southern Star Central Gas Pipeline, Inc. to modify the Riner Compressor Station by installing a 0.1 MMBtu/hr wastewater evaporator (S12). The waiver requires the permittee to keep records of the produced water being sent to the evaporator.

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 Samsco wastewater evaporator (S12), ThermoPak boiler (S14), and two wastewater tank heaters are limited to NO_x emissions of 0.20 lb/MMBtu heat input under Ch 3, Sec 3.

The permittee must also comply with any applicable requirements from Ch 5, Sec 3 National Emission Standard for Hazardous Air Pollutants and 40 CFR 63, Subpart ZZZZ for *Stationary Reciprocating Internal Combustion Engines (RICE)*. The compressor engines (S1 and S2) and the emergency generator engine (S15) are subject to requirements at an area source.

Periodic Monitoring and CAM

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

The permittee shall test the compressor engines (S1 and S2) for NO_x emissions semiannually using the Division's portable analyzer monitoring protocol or EPA reference methods.

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

The wastewater evaporator (S12), ThermoPak boiler (S14), and two wastewater tank heaters are fuel burning equipment as defined in WAQSR Ch 1. These uncontrolled units emit oxides of nitrogen (NO_x) in relatively small quantities (less than 1.1 tons per year, combined). 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) for sources constructed after April 9, 1973. 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.