

## STATEMENT OF BASIS

To: Reviewers  
Through: Lori Bocchino, Operating Permit Program Manager  
From: Brian Fehr, Operating Permit Program  
Subject: Draft Chapter 6, Section 3 Operating Permit 3-3-072  
Colorado Interstate Gas Company, L.L.C., Rawlins NGL Plant and Compressor Station  
Date: March 13, 2015 *Addendum May 5, 2015*

### Introduction

Attached for your review is the draft renewal Wyoming Air Quality Standards and Regulations (WAQSR) Ch 6, Sec 3 operating permit for the Rawlins NGL Plant and Compressor Station. The Rawlins NGL Plant produces natural gas liquids (NGL) from approximately 230 million standard cubic feet per day (MMSCFD) of natural gas it receives via pipeline. The facility uses reciprocating compressor engines to provide propane refrigeration and natural gas recompression. Extracted NGLs are fractionated into propane, i-butane, n-butane, and natural gasoline (C<sub>5+</sub>) liquid products. Residue gas is recompressed and sent to the pipeline while NGL product streams are transported off-site by trucks and an underground pipeline. The facility also compresses natural gas received from two other incoming pipelines for further transmission. Permitted emission sources at the facility include: five Dresser Clark engines, six White Superior compressor engines, three emergency engines, a fire pump engine, two Allison turbine compressor engines, multiple process heaters, a glycol regenerator, a refuse incinerator, and a plant flare.

### Permitting History

The facility began construction in 1960 with eight compressor engines predating WAQSR Ch 6, Sec 2 permitting requirements. All permits are listed to document the permitting history. The permits and waivers listed below have no remaining applicable requirements.

EPA Permit 8A-EE (8/14/74): was issued for installation of the refuse incinerator (unit X-33).

CT-126 (3/16/78): allowed the construction of one Dresser Clark TLA engine (unit CG-5) and required the permittee to establish an ambient NO<sub>2</sub> monitoring site. The permittee was allowed to discontinue monitoring in 1982 after monitoring data showed compliance with the annual NO<sub>2</sub> standard.

CT-126A (3/31/80): amended to allow the construction of two additional engines at the facility. These engines were never built.

CT-126A2 (9/9/80): amended to have the permittee submit quarterly reports for the NO<sub>x</sub> ambient monitoring program.

CT-126A3 (6/2/82): amended to allow the installation of a turbine engine at the facility. The turbine engine was never built.

OP-155 (2/21/86): allowed the operation of the facility as defined in CT-126, but removed the requirement to conduct ambient NO<sub>2</sub> monitoring.

AP-GQ2 (11/29/01): authorized the temporary operation of a diesel engine to operate a temporary air starting system for the Dresser-Clark engines (units CG-1, CG-2, CG-3, CG-4, and CG-5) through June 1, 2002.

AP-2112 (7/23/04): authorized the replacement the 2.9 MMBtu/hr Kewanee heating boiler with a 5.0 MMBtu/hr Parker heating boiler (unit SB-3).

AP-2798 (1/20/05): authorized the replacement of the 12.5 MMBtu/hr Wheco process furnace with a 15.3 MMBtu/hr Heatec process furnace (unit H-1).

AP-6402 (8/10/07): allowed temporary operation of Caterpillar diesel engine through August 31, 2007 to supply electrical power during the installation of a new emergency generator.

The permits and waivers listed below have applicable requirements included in the operating permit.

Waiver (9/7/01): allowed the installation of a 124 hp firewater pump engine (unit 28-17) and a 1.7 MMBtu/hr salt bath heater (unit 20-2). The engine is limited to 500 hours of annual operation.

AP-1431 (1/6/04): authorized the replacement of one International 8KR-4XR8/13G back-up generator with one Cummins GTA-8.3GS2 back-up generator (unit 21.1) equipped with non-selective catalytic reduction (NSCR) and an air/fuel ratio controller (AFRC). Applicable requirements for the generator include an annual operating hours limit, documented maintenance of the NSCR and AFRC, as well as NO<sub>x</sub> and CO emissions testing every two years. NO<sub>x</sub> and CO emission limits for this generator were administratively set as part of the issuance process for operating permit 3-2-072.

CT-1287 (3/6/97) and CT-1287A (11/22/04): issued for the installation of two Allison 501KC-5 turbines (units CG-7101 and CG-7201), two White Superior 2406 compressor engines (units JCG-7101 and JBC-7201), one Waukesha emergency generator (unit EG-6101), one heater for comfort heat (unit H-6204), and one storage tank. The permit also required modification of five existing compressor engines to reduce NO<sub>x</sub> emissions. This permit was later amended to reflect changes made to 40 CFR 60, Subpart GG; allowing the permittee to demonstrate natural gas as fuel in the turbines as an alternative to fuel sulfur monitoring. Permits CT-126 and OP-155 are superseded by this permit. Applicable requirements include NO<sub>x</sub> and CO emission limits for all compressor engines and turbines; NO<sub>x</sub> and CO emission limits and annual operating hours limit for the emergency generator; compliance with 40 CFR 60, Subpart GG and associated reporting for the turbines.

AP-5792 (2/8/07): authorized the replacement of an existing Waukesha 145-GBZ emergency back-up generator with the Caterpillar G3408C LE emergency back-up generator engine (unit EG-1). Applicable requirements for the generator include an annual operating hours limit, NO<sub>x</sub> and CO emission limits and associated emissions testing once every two years, as well as documented engine maintenance.

### **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 refuse incinerator (unit X-33) is subject to a particulate emission limit from Ch 3, Sec 2, as well. The Heatec process furnace (unit

H-1), the Byron boiler (unit H-4), the Parker heating boiler (unit SB-3), the comfort heater (unit H-6204), and the Sivalls salt bath heater (unit 20-2) are limited to NO<sub>x</sub> emissions of 0.20 lb/MMBtu heat input under Ch 3, Sec 3. The EconoTherm process furnace (unit 20-1) is limited to NO<sub>x</sub> emissions of 0.23 lb/MMBtu heat input also from Ch 3, Sec 3.

The permittee must comply with any applicable requirements from the following Ch 5, Sec 2 New Source Performance Standards, and 40 CFR 60:

Subpart GG - *Stationary Gas Turbines*. The Allison KC-5 gas turbines (units CG-7101 and CG-7201) are subject to any applicable requirements from Subpart GG.

Subpart JJJJ - *Stationary Spark Ignition Internal Combustion Engines*. Affected engines are defined at §60.4230 of the subpart.

The permittee must also comply with any applicable requirements from the following Ch 5, Sec 3 National Emission Standards for Hazardous Air Pollutants, and 40 CFR 63:

Subpart HH - *Oil and Natural Gas Production Facilities*. The glycol dehydration unit (unit 25-10) and the process flare (unit X-27A) are subject to any applicable requirements from Subpart HH.

Subpart YYYY - *Hazardous Air Pollutants for Stationary Combustion Turbines*. The Allison KC-5 gas turbines (units CG-7101 and CG-7201) are subject but have no applicable requirements, as specified in §63.6090(b)(4) of the subpart.

Subpart ZZZZ - *Stationary Reciprocating Internal Combustion Engines*. All engines are subject to any applicable requirements from Subpart ZZZZ.

Subpart DDDDD - *Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*. The Heatec process furnace (unit H-1), the Byron boiler (unit H-4), the Parker heating boiler (unit SB-3), the comfort heater (unit H-6204), the Sivalls salt bath heater (unit 20-2), and the EconoTherm process furnace (unit 20-1) are subject to any applicable requirements from Subpart DDDDD.

### **Periodic Monitoring**

For periodic monitoring of visible emissions from the compressor engines and other fuel burning equipment, the permittee shall monitor the type of fuel used to ensure natural gas is the sole fuel source for these units. For the process flare (unit X-27A), the permittee shall monitor and note the date, time and duration of any event when the unit exhibits visible emissions for more than 5 minutes.

The Dresser-Clark engines (units CG-1 thru CG-4) shall be tested quarterly for NO<sub>x</sub> emissions. The monitoring of NO<sub>x</sub> emissions for the two Allison turbines (units CG-7101 and CG-7201) shall consist of quarterly testing; CO emissions from these turbine shall be tested once every five years. The White-Superior engines (units 11-1A thru 11-1D) and the Dresser-Clark engine (unit CG-5) shall be tested semiannually for NO<sub>x</sub> and CO emissions. Monitoring NO<sub>x</sub> and CO emissions from the White-Superior engines (units JCG-7101 and JCG-7201) shall consist of biennial testing with the option of testing every four years if the biannual testing results show emissions are less than 75% of the permitted emissions limits. The Cummins emergency generator (unit 21.1) and the Caterpillar emergency generator (unit EG-1) shall be tested biennially for NO<sub>x</sub> and CO emissions.

The annual hours of operation shall be monitored for each of the three emergency generator engines (units EG-1, 21.1, and EG-6101) and the firewater pump engine (unit 28-17).

The NO<sub>x</sub> emissions from EconoTherm process furnace (unit 20-1) shall be tested annually. The Heatec process furnace (unit H-1) shall be tested biennially with the option of testing every four years if the biennial testing results show emissions are less than 75% of the NO<sub>x</sub> emission limit.

The other process heaters (units H-4, SB-3, H-6204, and 20-2) are fuel burning equipment as defined in WAQSR Ch 1. These uncontrolled units emit oxides of nitrogen (NO<sub>x</sub>) in relatively small quantities (each less than 4.4 tons per year). In the absence of more stringent permit limits, the NO<sub>x</sub> 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.

The refuse incinerator (unit X-33) is used minimally at the facility. Even if it was operated full time year round, it would result in particulate emissions of less than 50 lbs. Thus the Division considers emissions testing of this source uneconomical. Monitoring of visible emissions from this unit is not required since this source does not operate during normal operations of the facility.

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.

Addendum (May 5, 2015)

*During the public notice period, the Division was notified of a personnel change for the Plant Manager/Contact. The proposed permit was updated to reflect the new Plant Manager/Contact. As this change is administrative in nature, no additional public notice is warranted.*