

STATEMENT OF BASIS

To: Reviewers

Through: Lori Bocchino, Operating Permit Program Manager

From: William Tillman, Principal Engineer

Subject: Draft Operating Permit 3-1-077, Williston Basin Interstate Pipeline Company (WBIP),
Worland Compressor Station

Date: December 8, 2010

Attached is a draft renewal Wyoming Air Quality Standards and Regulations (WAQSR) Ch 6, Sec 3 operating permit for the Williston Basin Interstate Pipeline Company (WBIP), Worland Compressor Station. The WBIP Worland Compressor Station has eight (8) natural gas engines for compression, a standby generator engine, and several small heaters and boilers. The facility compresses natural gas for transmission.

Permitting History

The Worland Compressor Station was originally constructed in the 1950's which predates the Title V Operating Permit Program and New Source Review (NSR) Program. There was a Cooper-Bessemer engine that was constructed in 1979 that is addressed in NSR permit CT-4635.

Permit CT-4635 (6/15/10): retroactively permits the Cooper-Bessemer GMVH-6 engine (E8) originally constructed in 1979 and requires modification to the existing seven (7) Ingersoll-Rand 82KVG engines (E1-E7) at the facility. The permit requires the installation of air-fuel ratio control (AFRC) and non-selective catalytic reduction (NSCR) catalyst on each Ingersoll-Rand engine (E1-E7) and sets oxides of nitrogen (NO_x) and carbon monoxide (CO) emission limits for all engines at the facility. Upon installation of the required pollution control equipment, each engine (E1-E7) will be tested to demonstrate compliance with the emission limits for NO_x and CO. WBIP is also required to monitor and maintain the catalyst installed on the engines. The Ingersoll-Rand PKVG-6 standby generator engine (G1) is limited to 1000 hours of operation annually while the Ingersoll-Rand standby generator engine (G2) was to be removed from service with the issuance of permit CT-4635. There are also stack height requirements for all the engines at the Worland compressor station. The Cooper-Bessemer GMVH-6 engine (E8) has had its initial performance test required by this permit and has demonstrated compliance.

Applicable Requirements

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

The Weil-McLain boilers, Petro-Chem dehydration heater, and the two water heaters are subject to the NO_x emission limits set forth in Chapter 3, Section 3.

The compressor engines and the standby generator (E1-E8 and G1) are subject to the applicable requirements of 40 CFR 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The engines E1-E7 are also subject to the requirements of WAQSR Chapter 7, Section 3 Compliance Assurance Monitoring (CAM).

The storage tanks at the compressor station, based on their size, are not subject to the requirements of 40

CFR 60 Subpart K, Ka, or Kb Standards of Performance for Storage Vessels for Petroleum Liquids or Organic Liquids.

Periodic Monitoring and CAM

For periodic monitoring of visible emissions from all gas-fired units, the permittee shall verify that natural gas is the sole fuel source for these units.

The compressor engines E1-E8 will be monitored semiannually for NO_x and CO emissions. The uncontrolled standby generator engine (G1) is used for emergency situations only and is limited to 1000 hours operating time annually, therefore the Division has determined that the monitoring of NO_x and CO emissions from this engine are not economically justified. The Worland Compressor Station is required to monitor and record the hours of operation for the generator engine (G1).

The Ingersoll-Rand engines (E1-E7) are subject to CAM for NO_x emissions. The CAM plan for each engine consists of daily monitoring of the catalyst inlet temperature and monthly monitoring of the pressure drop across the catalyst. The CAM plan addresses the catalyst monitoring and maintenance required by permit CT-4635. The Cooper-Bessemer engine (E8) is not required to comply with CAM because it does not have an add-on emission control unit.

The two (2) Weil McLain Boilers, the two (2) BS&B Water Storage Heaters, and the Petro-Chem Dehydration Heater are all gas-fired. If these units ran all year, 24-hours per day, their total NO_x emissions would be less than five (5) tons per year. These units are seasonal or seldom used and their uncontrolled steady-state operation makes them extremely unlikely to operate out of compliance. Therefore the Division has determined that monitoring of these sources is not an economical use of resources.