STATEMENT OF BASIS

To:	Reviewers
Through:	Lori Bocchino, Operating Permit Program Manager
From:	Kyle Pollock, Operating Permit Program Engineer
Subject:	Draft Chapter 6, Section 3 Operating Permit 3-0-264 WGR Asset Holding Company LLC, Augusta-Pebble Beach Compressor Station
Date:	June 8, 2015

Introduction

Attached for your review is the draft Wyoming Air Quality Standards and Regulations (WAQSR) Ch 6, Sec 3 operating permit 3-0-264 for the WGR Asset Holding Company LLC, Augusta-Pebble Beach Compressor Station. The facility compresses coal bed methane gas; gas enters the facility, is compressed, and is then sent to a pipeline for further transmission. Permitted and installed emission sources at the facility include: four 840 hp Waukesha compressor engines (E5, E6, E7, and E8), two 1680 hp Waukesha compressor engines (E1 and E2), one triethylene glycol (TEG) dehydration unit equipped with a reboiler heater (D1a/D1b), and one produced water storage tank (PWT1). Permitted, but not yet installed on April 27, 2015, emission sources at the facility include: two of any combination of either 1680 hp Waukesha or 1775 hp Caterpillar compressor engines (E3 and E4), either one 840 hp Waukesha or one 915 hp Caterpillar compressor engine (E9), one TEG dehydration unit equipped with a reboiler heater (D2a/D2b), and one produced water storage tank (PWT2). The compressor station is a major source for CO emissions and an area source for HAP emissions.

Permitting History

CT-8045 (12/9/08): was issued for construction of nine compressor engines, one generator engine, two dehydration units with reboiler heaters and two water storage tanks. No equipment was installed under this permit and it has expired.

CT-11766 (7/6/11): was issued for construction of four of any combination of 1775 hp Caterpillar or 1680 hp Waukesha engines, five of any combination of 915 hp Caterpillar or 840 hp Waukesha engines, two TEG dehydration units with reboiler heaters and two produced water storage tanks. Each Caterpillar engine is required to be equipped with an oxidation catalyst and each Waukesha engine is required to be equipped with an air fuel ratio controller (AFRC) and a non-selective catalytic reduction (NSCR) catalyst. E1, E2, E5-E8, D1a/D1b, and PWT1 have been constructed under this permit. This permit further allows for E3, E4, and E9 to be constructed as either Waukesha or Caterpillar engines and for D2a/D2b and PWT2 to be constructed. Initial performance testing was completed as required for E1, E2, and E5-E8. Applicable requirements include: NO_X, CO, and VOC limits for all rich burn (Waukesha) engines; NO_X, CO, VOC, and formaldehyde limits for all lean burn (Caterpillar) engines; annual testing of each engine for the pollutants mentioned above; catalyst monitoring and maintenance and stack height requirements for each engine; startup notifications for E3, E4, E9, D2a/D2b, and PWT2, if installed; initial performance tests for E3, E4, and E9, if installed; a facility maximum of nine engines; and compliance with all applicable requirements of the subparts listed below.

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 dehydration unit reboiler heaters (D1b and D2b) are limited to NO_X emissions of 0.20 pounds per million BTUs (lb/MMBtu) heat input under Ch 3, Sec 3.

All of the engines at the facility are subject to the requirements of *40 CFR 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.* Each engine at the facility is classified as a new unit at an area source and must meet the requirements of Subpart ZZZZ by meeting the requirements of *40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.* E5 is not subject to Subpart JJJJ because it does not meet the definition of a new or reconstructed engine based on its date of construction. E6 and E7 are subject to Subpart JJJJ but have no applicable requirements based on their dates of manufacture. E1, E2, and E8 are subject to all applicable requirements under Subpart JJJJ. Applicability of Subpart JJJJ for E3, E4, and E9 shall be determined upon construction of each engine.

The facility is subject to the area source requirements of *40 CFR 63 Subpart HH – National Emissions Standards for Hazardous Air Pollutants from Oil and Gas Production Facilities* since there are TEG dehydration units at the facility.

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

Periodic Monitoring

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

In accordance with permit CT-11766, all Waukesha and Caterpillar engines shall be tested at least once every 12 calendar months to verify compliance with NO_X, CO, and VOC emission limits. Additionally, all Caterpillar engines shall be tested at least once every 12 calendar months to verify compliance with formaldehyde emission limits. Catalyst monitoring, for which the inlet catalyst temperature and the pressure drop across the catalyst shall be measured at least monthly, is also required for each engine equipped with an oxidation catalyst or a NSCR catalyst.

The dehydration unit reboiler heaters (D1b and D2b) are fuel-burning equipment as defined in WAQSR Ch 1. These uncontrolled units emit oxides of nitrogen (NO_X) in relatively small quantities (each less than 1 ton per year). In the absence of more stringent permit limits, the NO_X emission limit for fuel burning equipment defaults to 0.20 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.

Compliance assurance monitoring (CAM) requirements for the engines shall be addressed upon permit renewal, as required by WAQSR Ch 7, Sec 3(e).