

## Proposed Action

### 1. Background

Rocky Mountain Natural Gas LLC, a subsidiary of Black Hills Energy, (the Applicant), has filed an application (Standard Form 299) to expand operation within the existing fenced Crystal Compressor Station (Station) facility located approximately 4 miles west of Carbondale in Garfield County, Colorado. The Station is located specifically at 3301 County Road 108, Carbondale, CO 81623 on 1.84 acres of authorized leased right-of-way on BLM-managed federal lands in Section 1, Township 8 South, Range 89 West, 6<sup>th</sup> P.M. Existing within the fenced facility, the Station has: three (3) compressor units (Units 818, 827, and 846) all housed within a 40'Wx80'Lx30'H metal building, one control building, one generator building, and other associated appurtenances, including but not limited to: above- and below-surface pipelines, two storage tanks, pig launcher, and storage sheds.

Two (2) of the three (3) compressor units were installed during the original construction of the Station in 1989/1990, with the third unit installed in 2004. The Station's primary function is to compress natural gas into transmission lines and inject the compressed gas into the Wolf Creek Natural Gas Storage Field (Field) during injection season (April to October). Another equally important function of the Station is to provide mainline pumping operations of delivering natural gas to down-valley end users in Aspen and other resort communities. Mainline operations is the compressing and pumping of pipeline gas received from 3<sup>rd</sup> party suppliers from the Piceance and Rifle pipelines directly to down-valley end users, with no injection into the Field. And finally, the third function of the Station is to withdraw gas from the Field and pump down-valley to end users.

Historically and currently, during the injection season, higher quantities of natural gas is injected into the Field from April to July, or early season, before Field pressures are high. During early season, the Station can inject approximately 12 mmcf (thousand thousand standard cubic feet per day). However, due to the age and functional limitations, such as engine horsepower of Units 818 and 827, the quantity of natural gas injected when Field pressure is high, is reduced to 7 mmcf during late season (August to October). Both Units 818 and 827 are dual purposed for mainline pumping and injection into the Field. Unit 846 has no Field injection capabilities and conducts only mainline operations. During peak season (November to March), particularly on peak design day (the coldest day in winter), all 3 units are necessary to be operational and running in order to make deliveries to down-valley end users. Therefore, if one unit goes down, the Station will lose the pressure needed to provide service delivery to down-valley customers. Thirty-one (31) mmcf is needed for peak day through Crystal station. See Section 4 (Operations) below for further description on each of the existing units.

Currently, the Station is manned with up to four (4) employees and is equipped with an emergency shutdown (ESD) system. The ESD would conduct automatic closing of valves and shutdown of equipment should an emergency arise, whereby preventing a fire or a large discharge of natural gas. The Station is also equipped with a lighting system of downcast lighting fixtures which are not illuminated except in an occurrence of a night-time emergency.

### 2. Purpose of Proposed Action

The purpose of the expansion of the Station, with the proposed building and additional fourth compressor unit, is to increase compression capabilities from 7 mmcf to 14 mmcf in early and late injection seasons, whereby by increasing the storage in the Field. The stored natural gas would be supplied to end users in the Roaring Fork and Eagle valleys during winter months of high demand. As

stated above, due to the age and functional limitations of all three units, individually and combined, past and current compression operation of the Station is limited. The new compressor unit (Unit 852) will have maximum compression capacity of 14 mmcf/d allowing the overall compression capacity into the Field to be increased to 14 mmcf/d. Unit 852 will also be able to conduct mainline operations. See Section 4 (Operations) below for further information on Unit 852 capabilities.

### **3. Proposed Action**

The Proposed Action by the Applicant is to: a) construct one additional metal building, approximately 23'Wx50'Lx30'H in size, b) install compressor Unit 852 with associated engine and cooler to be housed inside the proposed building, and c) install three (3) above- and below-surface pipelines to connect the proposed unit with the existing units and pipelines. To accommodate the placement of the new building and compressor unit, the Applicant will relocate within the fenced facility one (1) storage shed and one (1) underground potable water tank. The Applicant will also remove from the Station the fuel gas line heater, which is no longer needed.

The timeline to construct the proposed improvements is scheduled for spring 2017 to November of 2017, weather permitting. Construction phases would commence with the construction of the building pad/foundation, followed by the installation of Unit 852, then the construction of the metal building, extension of existing electrical services to the new building, installation of above- and below-surface connecting pipelines, and finally connecting the new building to the ESD systems. During construction, the Applicant anticipates having approximately the following construction personnel and equipment onsite:

- a) 20 construction personnel for the entire length of the construction timeframe;
- b) four (4) single axle crew vehicles for the entire length of the construction timeframe;
- c) four (4) concrete trucks for about four (4) weeks in May;
- d) four (4) tandem axle dump trucks for the entire length of the construction timeframe;
- e) two (2) 40' length tractor trailers; and,
- f) one (1) 110 ton crane. The two tractor trailers and crane would be onsite only one day for the delivery and installation of Unit 852, tentatively scheduled to occur in June 2017.

The proposed building is designed to have 2 roll-up doors, approximately 12'Hx12'W in size, as well as 3 regular access doors. Additionally, the building will be insulated for sound control and have fire and gas detection equipment. Housed inside the building and in addition to Unit 852 with associated gas-fired engine and cooler will be a hoist or crane system to be utilized for maintenance operations on the equipment. Once installed, the new building and above-surface connecting pipelines would be painted to match the Station's existing structures. Unit 852 will be a natural gas driven compressor unit having the following manufacture's specifications:

- a) Suction pressure: 400 psig;
- b) Suction gas temperature: 80°F;
- c) Discharge pressure: 1390 psig;
- d) Discharge Design MAOP: 1390 psig;
- e) Maximum discharge temperature: 120°F;
- f) Capacity: 14 MMSCFD; and,
- g) Gas Quality: Typical 0.65 specific gravity dry natural gas.

The noise level from the unit is anticipated to be 50 dBA at a distance of 350'. However, RMNG/BHE will have an independent noise survey conducted at the Station to determine noise levels under existing

operational and non-operational situations. Using the Colorado Oil and Gas Conservation Commission's (COGCC's) Rule 801 as guidance for data collection, the survey will collect baseline or background noise levels when the Station is completely non-operational, as well as noise levels during its operation. In addition to the proposed building's insulation for noise control, the Applicant will also install noise suppression devices on the unit, if needed.

#### **4. Operation**

Once the proposed building and fourth compressor are installed and online, no additional staffing would be needed, therefore current operational traffic to and from the Station would remain the same.

Unit 818 (capable of 7 mmcf/d) – This is an old unit with parts more difficult to find. Unit is capable of doing the job, however, unit has more interruptions in function due to down time and maintenance. As a result, it is not a reliable unit. Currently, Unit 818 also functions as backup to Unit 827 when 827 goes down for maintenance. If Unit 852 is not approved, Unit 818 will encounter more down time as it ages, resulting in less gas injected into the Field. With Unit 818's lack of reliability, the Station is at a risk when Unit 827 is down for maintenance.

Unit 827 (capable of 12 mmcf/d) – Due to the way the cylinders of this unit are configured, Unit 827 can inject high volumes into the Field when the Field has low pressure (ex. early season). However, this unit is unable to inject into the Field when the Field is at high pressures due to compressor rod load. This unit does not have the sustaining horsepower for high pressure situations.

Unit 846 (capable of pumping 13 mmcf/d) – As stated before, this unit has only mainline pumping operation functions, compressing gas from Piceance or Rifle pipelines coming into the Station and pumping gas directly down-valley to end users. This unit is not configured for high storage injection, therefore it provides no injection functions into the Field.

Proposed Unit 852 (capable of 14 mmcf/d) – This unit will have the injection capability of 14 mmcf/d for the entire injection season (early and late seasons), regardless of Field pressures. With this new unit, the Station's reliability will increase in the event other existing units go down for maintenance. During the anticipated 2-week maintenance period when this unit would be non-operational, the Station would revert back to the other units to maintain pipeline pressure and injection levels. Unit 852 will also be able to function in mainline pumping operations, so it will act as a back up to Units 818 and 827 in the event both units are down, individually or concurrently.

If Unit 852 is approved, installed, and online, the Applicant would convert the existing Unit 818 to stand-by mode, to be utilized only as a backup in the event one of the other units became temporarily inoperable. With Unit 852 being new, more energy efficient, and emissions compliant, the Applicant anticipates running it approximately 9 months in a calendar year. For 7 of those 9 months (during the summer) it would be the only unit running for injection into the Field (up to a 14 mmcf/d dependent on 3<sup>rd</sup> party suppliers), whereby reducing emissions. For the other 2 of the 9 months, Unit 852 would run concurrently with either Unit 827 or Unit 846 in order to provide mainline operations down-valley at 14 mmcf/d compression rate. For the remaining 3 months of the calendar year, it is anticipated only Units 827 and 846 would run concurrently and Unit 852 would be in stand-by mode in the event one or both units go down for maintenance.