

## **Riley Ridge to Natrona Project Project Description**

Denbury Green Pipeline–Riley Ridge, LLC (Denbury) seeks approval via a Bureau of Land Management (BLM)-administered right-of-way (ROW) grant for the Riley Ridge to Natrona Project (RRNP or Project). The Project is comprised of three primary components, broken into two BLM SF-299 applications. The two ROW applications are being filed under the Mineral Leasing Act of 1920 (30 USC 185).

The first component is comprised of approximately 31 miles of 16-inch pipeline beginning at the existing Riley Ridge Gas Plant, located about 18 miles southwest of Big Piney, Wyoming, and extending southeast to the proposed Sweetening Plant. The mixture of hydrogen sulfide (H<sub>2</sub>S) and carbon dioxide (CO<sub>2</sub>), which are naturally gases when extracted, would be transported from the existing Riley Ridge Gas Plant to the Sweetening Plant in a physically converted, non-gaseous state (fluid or supercritical state).

The second component of the Project is the proposed Sweetening Plant. This 4.2-acre facility would be constructed and operated to separate the non-gaseous phase CO<sub>2</sub> from the H<sub>2</sub>S; the non-gaseous phase H<sub>2</sub>S would be injected into a deep geologic formation via 2 on-site injection wells. The proposed location for the Sweetening Plant is within an approximately 80-acre area that has been leased by Denbury for oil and gas development. A new powerline would be needed to supply energy to the Sweetening Plant. Denbury would coordinate with Rocky Mountain Power for the utility to construct an approximately 0.9-mile 69-kilovolt (kV) line that would bring power from an existing Rocky Mountain Power 230-kV powerline. Rocky Mountain Power would submit its own BLM SF-299 application.

The third component of the Project is comprised of a 24-inch pipeline which would transport non-gaseous phase CO<sub>2</sub> from the Sweetening Plant eastward to Natrona County. The first part of the proposed pipeline route would extend 129 miles east through southern Sublette County, southeast through northern Sweetwater County, southeast across Bush Rim and the Red Desert, and then northeast until it reaches the Bairoil Interconnect about 50 miles northwest of Rawlins, Wyoming. The 31-mile non-gaseous phase CO<sub>2</sub>/H<sub>2</sub>S pipeline, CO<sub>2</sub> Sweetening Plant, and the 129-mile CO<sub>2</sub> pipeline segment between the Sweetening Plant and the Bairoil Interconnect constitute the first SF299 application.

From the Bairoil Interconnect, the pipeline route would extend northeast through Fremont County along a BLM-designated pipeline corridor, east into Natrona County and finally north for an additional 83 miles to connect to the Greencore CO<sub>2</sub> Pipeline transporting non-gaseous phase CO<sub>2</sub> at the Natrona Hub, which is just west of Natrona and about 30 miles west of Casper. This 83-mile pipeline section between the Bairoil Interconnect to the Natrona Hub constitutes the second SF299 application.

The total length of the 24-inch non-gaseous phase CO<sub>2</sub> pipeline route from the Sweetening Plant to the Natrona Hub would be 212 miles. When added to the approximately 31 miles of 16-inch non-gaseous phase CO<sub>2</sub>/H<sub>2</sub>S pipeline proposed between the Riley Ridge Treating Plant and the Sweetening Plant, the total proposed pipeline route from the existing Riley Ridge Treating Plant to the Natrona Hub would be 244 miles. The 16-inch diameter pipeline corridor would consist of a 50-foot permanent ROW with an additional 25 feet of temporary ROW width (75 feet total) during construction. The 24-inch diameter pipeline corridor would consist of a 50-foot permanent ROW with an additional 65 feet of temporary ROW width (115 feet total) during construction.

The route would be signed with inter-visible pipeline route markers and larger numbered aerial mileage markers placed at each mile of the route. Valve sites (approximately 0.20 acres each) would be located every 2 miles along the 31-mile non-gaseous phase CO<sub>2</sub>/H<sub>2</sub>S pipeline route, and every 20 miles along the 212-mile supercritical phase CO<sub>2</sub> pipeline route. No pumping stations are proposed for the Project.

Approximately 85% of the 31-mile and 76% of the 212-mile proposed ROW crosses Federal lands administered by five BLM Field Offices: Pinedale, Rock Springs, Lander, Rawlins, and Casper. The route includes parts of Sublette, Sweetwater, Fremont and Natrona counties, Wyoming.

Denbury would endeavor to locate the proposed ROW in existing disturbed areas or along utility corridors where possible, and would seek to avoid sensitive surface resources. Denbury will incorporate mitigation and avoidance into the RRNP Plan of Development. Pipeline construction would occur once wildlife stipulation timing windows have ended, beginning as early as July 15<sup>th</sup> or as late as August 1<sup>st</sup>, 2015.

### **Purpose**

The proposed pipeline would transport non-gaseous phase CO<sub>2</sub> to the Greencore Pipeline (completed in 2012 to transport non-gaseous phase CO<sub>2</sub> production from the Lost Cabin gas plant in Fremont County, Wyoming to the existing Bell Creek oil field in southeastern Montana). At Bell Creek, through the utilization of Enhanced Oil Recovery (EOR) techniques, non-gaseous phase CO<sub>2</sub> would be injected into subsurface oil-bearing formations to enhance oil production from existing and depleted oil wells. Once injected, the CO<sub>2</sub> remains sequestered underground unless it is produced with recovered oil.

Two sources of CO<sub>2</sub> would supply the proposed RRNP pipeline. One source is the existing Exxon Mobil Shute Creek Gas Plant in the Bairoil to Natrona ROW application. Non-gaseous phase CO<sub>2</sub> from Exxon could be taken into the proposed pipeline infrastructure at the Bairoil Interconnect and piped to Natrona. The second non-gaseous phase CO<sub>2</sub> source is the existing Denbury Onshore, LLC-operated Riley Ridge Unit and Gas Plant mentioned previously in the Riley Ridge to Bairoil ROW application. The pipeline would be oversized to permit additional non-gaseous phase CO<sub>2</sub> transport if additional sources are added in the future.