

Introduction / Purpose and Need

1.1 Introduction

Geothermal resources are underground reservoirs of hot water or steam created by heat from the earth. Geothermal steam and hot water can reach the surface of the earth in the form of hot springs, geysers, mud post, or steam vents. These resources also can be accessed by wells, and the heat energy can be used for generating electricity or for other direct uses, such as heating greenhouses and aquaculture operations or for dehydrating vegetables.

It is the policy of the Department of the Interior, consistent with Section 2 of the Mining and Mineral Policy Act of 1970 and Sections 102(a)(7), (8), and (12) of the Federal Land Policy and Management Act of 1976, to encourage the development of mineral resources, including geothermal resources, on federal lands. The Geothermal Steam Act of 1970 (43 Code of Federal Regulations [CFR] Part 3200, et seq., as amended) provides regulatory guidance for geothermal leasing by the Bureau of Land Management (BLM).

There are four stages of geothermal resource development within a lease: (1) exploration, (2) development, (3) production, and (4) closeout. Each of the four stages under the lease requires separate BLM authorization and compliance with the National Environmental Policy Act (NEPA) of 1969 when ground-disturbing activities are proposed. As described in Chapter 2, this environmental assessment (EA) addresses the proposed development of geothermal resources in the Dixie Valley area. Figure 1-1 (all figures are provided at the end of their respective sections) provides the locations of the Proposed Action at Coyote Canyon.

The Coyote Canyon and Dixie Meadows Geothermal Exploration Environmental Assessment (BLM, 2010), Finding of No Significant Impact and Decision Record was signed June 7, 2010. This document evaluated potential impacts associated with geothermal exploration. Geothermal exploration activities authorized by BLM are current and ongoing. Currently at Coyote Canyon, four of the leases shown below are committed to the existing Dixie Valley Geothermal Unit, serial number NVN-43282X: NVN-61705, NVN-61707, NVN-17282, and NVN-17283A (Figure 1-2).

Leases held and the date they were obtained by TGP Dixie Development Company, LLC, (TGP) and its subsidiaries for the Proposed Action at Coyote Canyon are shown in Table 1-1 and Figure 1-3.

TABLE 1-1
Coyote Canyon Geothermal Leases

Lease Number	Section Number	Township, Range	Date of Lease Purchase/Acquisition
N-86892	Section 21	T24N, R36E	September 2009
N-17283A	Section 22	T24N, R36E	December 2008
N-17282	Sections 14-15 and 23	T24N, R36E	December 2008
N-61705	Section 24	T24N, R36E	December 2008
N-61707	Sections 12 and 13	T24N, R36E	December 2007 and 2008

TGP submitted to the BLM, Stillwater Field Office, a Utilization Plan for the development and production of the Coyote Canyon (CC) and Dixie Meadows project areas. The projects were split out for separate analysis. This EA analyzes the potential impacts for the Proposed Action at CC that are associated with the proposed construction and operation of a geothermal power plant; drilling, testing, and operation of geothermal production and injection wells; conversion of exploration wells to production or injection wells; construction and operation of pipelines to carry geothermal fluid between well fields and the power plant; and a 230-kilovolt (kV) transmission tie line (referred to as a gen-tie) and associated structures interconnecting the geothermal power plant to the existing 230-kV transmission line in Dixie Valley, Churchill County, Nevada.

1.2 Purpose and Need

The purpose of the Proposed Action is to develop and utilize geothermal resources at CC. The need for the action is established by BLM's responsibility under the Geothermal Steam Act of 1970; the regulations under 43 CFR 3270; the Minerals Leasing Act of 1920, as amended; and Secretarial Order No. 3285 A1 of February 22, 2010.

1.3 Land Use Plan Conformance Statement

The Proposed Action is consistent with the BLM Carson City Field Office Consolidated Resource Management Plan (CRMP), May 2001, as amended, and with other federal state, and local laws, regulations. The CRMP states that the desired outcome for minerals and energy management is to "encourage development of energy and mineral resources in a timely manner to meet national, regional, and local needs consistent with the objectives for other public land uses (MIN-1)."

The Proposed Action is consistent with the Churchill County Master Plan, Update 2010. This Master Plan Update established policies for minerals on federal lands and recognizes that the development of Nevada's mineral resources is desirable and necessary to the nation, state, and Churchill County. The Master Plan also identifies that the expansion and development of geothermal resources should be promoted on lands under federal land management.

1.4 Relationship to Laws, Regulations, Policies, and Other Plans

The EA has been prepared in accordance with the following statutes and implementing regulations, policies, and procedures:

- NEPA of 1969, as amended (Public Law 91-190, 42 United States Code [USC] 4321 et seq.)
 - 40 CFR 1500 et seq. Regulations for Implementing the Procedural Provisions of NEPA
 - Considering Cumulative Effects under NEPA (Council on Environmental Quality [CEQ], 1997)
 - 43 CFR Part 46, Implementation of NEPA of 1969; Final Rule, effective November 14, 2008
 - U.S. Department of the Interior (USDI) requirements (Departmental Manual 516, Environmental Quality (USDI, 2008)
 - BLM NEPA Handbook (H-1790 1), as updated (BLM, 2008b)
- The Geothermal Steam Act of 1970 (30 USC 1001-1025)
- 43 CFR 3200, Geothermal Resources Leasing and Operations; Final Rule, May 2, 2007
- The 2005 Energy Policy Act; The National Energy Policy, Executive Order 13212, and best management practices (BMPs) as defined in *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, Fourth Edition (Gold Book)* (BLM, 2007a)
- Federal Land Policy and Management Act of 1976, as amended.
- Churchill County Master Plan (2010 Update)

1.5 Authorizing Actions

The Proposed Action would be subject to other applicable state and local permits listed in Table 1-2 prior to beginning construction.

TABLE 1-2
List of Federal, State, and County Permits

Regulatory Agency	Authorizing Action
BLM	Geothermal Drilling Permit
BLM	Facility Construction Permit
BLM	Site License
Nevada Division of Minerals	State Drilling Permit
Nevada Division of Environmental Protection –Bureau of Water Pollution Control	Construction Stormwater Permit
Nevada Division of Environmental Protection –Bureau of Water Pollution Control	Industrial Stormwater Permit
Nevada Division of Environmental Protection –Bureau of Water Pollution Control	Temporary Working in Water Ways Permit
Nevada Division of Environmental Protection –Bureau of Water Pollution Control	Groundwater Discharge Permit
Nevada Division of Environmental Protection –Bureau of Water Pollution Control	Commercial Septic Systems Permit
Nevada Division of Environmental Protection –Bureau of Water Pollution Control	Underground Injection Control Permit
Nevada Division of Environmental Protection –Bureau of Air Quality Planning	Chemical Accident Prevention Program
Nevada Department of Conservation and Natural Resources, Division of Water Resources	Temporary Consumptive Water Use Permit
Nevada Department of Conservation and Natural Resources, Division of Environmental Protection, Bureau of Air Pollution Control	Surface Area Disturbance Permit
Nevada Department of Conservation and Natural Resources, Division of Environmental Protection, Bureau of Air Pollution Control	Class I Operating Permit
Churchill County	Special Use Permit
Public Utilities Commission of Nevada	Utility Environmental Protection Act Permit

Insert Section 1 figures (3 total)