

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(Pursuant to NAC 445A.874)

Permittee Name: **Dixie Valley Power Partnership**

Type of Project: **Geothermal Power Production**

Project Name: **Dixie Valley PP Geothermal**

Address: **9590 Prototype Court, Ste 200**

Permit Action: **UIC Permit**

Reno, NV 89521

Permit Number: **UNEV93217**

Injection Wells (#): **Three (3)**

A. Description of Discharge

Location: Up to three (3) injection wells to be located in Sections 11, 14, 15 and/or 23, T.24N., R.36E., Dixie Valley Geothermal Unit, Churchill County, Nevada.

Characteristics: All injectate is geothermal fluid which has passed through a dual-flash geothermal power plant. The discharge fluids will have a TDS of approximately 1,919 mg/l. The primary constituents are sodium (437 mg/l), chloride (463 mg/l), silica (580 mg/l), calcium (6.63 mg/l) and lithium (2.48 mg/l). A fluoride level of 14.7 mg/l exceeds the maximum contaminant level for drinking water and a boron level of 11 mg/l is toxic to most plants.

B. Synopsis

The Dixie Valley geothermal unit is the highest temperature geothermal resource in the State. Bottom hole temperatures exceeding 500°F have been observed in exploration holes. Injection wells are planned to penetrate bedrock to depths of 5,500 to 10,500 feet or more into the geothermal resource. The proposed Dixie Geothermal Power Plant will be located approx. two miles southwest of the Terra-Gen Geothermal Power Plant which is located within the same geothermal unit and has been in operation since 1988.

The geothermal reservoir is mainly associated with faults and fractures or the contact between the alluvial material and bedrock. Drill hole information has shown that alluvial material beneath the project site may extend to a depth of 5,000 feet. There are no known confining layers.

Fluid injection will be at an average rate of 3,000 gpm. The average daily volume to be injected will be over 4 million gallons. Typical injection well construction will be production casing set and cemented from 1,600 ft. to surface and slotted liner hung to total depth. There are no public drinking water supply wells located within the area of review or that would be expected to be affected by injection at the project.

At this time (2016) the project is idle and a timeline to possible construction of a geothermal power plant is unknown.

C. Receiving Water Characteristics

The injection zone will be located at the base of the alluvial material in the upper part of the geothermal reservoir. Permittee must submit water quality chemistry to verify water that the chemistry of the receiving formations are similar to the injectate, which is expected since no confining zones are known to exist in the area. Both the production and injection wells will have multiple casings and cementing completions which should protect upper aquifers, provided integrity of the casing is maintained. TDS of the injection zone is 4,358 mg/l. Concentrations of arsenic (0.1-0.19 mg/l) and fluoride (5.7 mg/l) exceed drinking water standards.

D. Summary of Changes from Previous Permit

There are no changes requested in the renewal of this permit.

E. Procedures for Public Comment

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to the ground water of the State of Nevada subject to the conditions contained within the permit is being sent to the Reno Gazette-Journal and the Lahontan Valley News for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit reissuance can do so in writing for a period of 30 days following the date of the public notice.

A public hearing on the proposed determination can be requested by the applicant, any affected state any affected interstate agency, and the regional administrator of EPA or any interested agency, person or group of persons.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings will be conducted in accordance with NAC 445.274.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445.274.

F. Proposed Determination

The Division has made the tentative determination to reissue the proposed permit.

G. Proposed Effluent Limitations and Special Conditions

See Part I.A of the permit.

H. Rationale for Permit Requirements

Verification that the quality of fluid discharged to the injection well and surface discharge remains constant. Confirmation that fluids disposal does not adversely effect the existing hydrologic regime.

Revised by: Nicholas S. Brothers

Date: February 24, 2016