

FINAL ENVIRONMENTAL ASSESSMENT**Ormat Technologies, Inc.
Steamboat Geothermal
Well(s) 16-32 Project****Finding of No Significant Impacts**

DOI-BLM-NV-C010-2014-0019-EA

September 2014

BACKGROUND

The Project is located in Washoe County, Nevada within federal geothermal lease N-12085, administered by the Bureau of Land Management (BLM) in Section 32, Township 18 North, Range 20 East, Mount Diablo Baseline and Meridian. The surface management of the project area is provided by the Carson Ranger District of the U.S. Forest Service (Forest Service). Memorandum of Understanding WO300-2006-08 between the BLM and Forest Service defines the BLM as the lead agency for permit review and National Environmental Policy Act (NEPA) compliance, and the Forest Service as a cooperating agency.

On January 7, 2013, Ormat submitted a proposal to conduct geothermal resource exploration operations to the Forest Service Carson Ranger District, along with a Geothermal Drilling Permit application in accordance with 43 CFR 3200, to the BLM Carson City District Office, Stillwater Field Office. The Forest Service submitted a letter of concurrence to the BLM for Ormat to commence operations as described in the proposal, and the BLM made the determination that an Environmental Assessment (EA) would be required.

The Forest Service identified two resource issues: habitat potential for Threatened or Endangered or sensitive plant species, and consultation with the Washoe Tribe. Upon completion of cultural resources surveys, the Forest Service determined that cultural resources would not be affected. The Forest Service also determined that the project area contained suitable habitat for the Steamboat monkeyflower (*Mimulus ovatus*), which is considered a Nevada Natural Heritage Watchlist species, and for Steamboat buckwheat (*Eriogonum ovalifolium* var. *williamsiae*), which is listed as a federally endangered species. Because of the minimal scope of the project, a combined Operations/Utilization Plan incorporating both exploration and utilization scenarios was submitted to the BLM as discussed during a meeting between Ormat and the BLM in December 2013. The combined Operations/Utilization Plan meets the requirements as defined in both 43 CFR Subpart 3262 – Conducting Drilling Operations and in 43 CFR Subpart 3272 – Utilization Plans.

The EA was scoped internally by BLM and Forest Service resource specialists in March 23, 2013. Resources specialists identified the supplemental authorities and other resources and uses to be addressed in the EA. The following specific issues related to the Proposed Action were identified as present/potentially affected by the Proposed Action: Air Quality, Vegetation, U.S. Forest Service Sensitive Plant Species, Threatened or Endangered Plant Species, Invasive, Nonnative Species, General Wildlife, Migratory Birds, Water Quality, Land Use Authorizations, Minerals, Socioeconomics, Soils and Visual Resources.

The purpose of the Proposed Action is to provide Ormat with the opportunity to explore for potential resources of geothermal fluids on federal lands managed by the Forest Service and the BLM that are leased to Ormat, within Washoe County, Nevada.. The potential environmental impacts from the Proposed Action and No Action Alternatives were evaluated in EA# DOI-BLM-NV-C010-2014-0019-EA.

FINDING OF NO SIGNIFICANT IMPACT DETERMINATION

This finding and conclusion is based on the consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), both with regard to the context and the intensity of impacts described in the EA.

Based on the analysis of the *Ormat Technologies, Inc. Steamboat Geothermal Well(s) 16-32 Project*, EA# DOI-BLM-NV-C010-2014-0019-EA, I have determined that the Proposed Action will not have a significant effect on the human environment and an Environmental Impact Statement will not be prepared. This finding is based on the context and intensity of the project as described:

CONTEXT:

The Project Area is located within the existing Steamboat Geothermal Unit in Washoe County, Nevada. The Proposed Action would be located within federal geothermal lease N-12085, administered by the BLM in Section 32, Township 18 North, Range 20 East, Mount Diablo Baseline and Meridian. The surface management of the project area is provided by the Carson Ranger District of the Forest Service.

Principal access to the project area is from the Mount Rose Highway to Wedge Parkway where County Road 52 provides direct access through the Steamboat geothermal field. There are a number of existing dirt roads within the Steamboat geothermal field that provide additional access; one of these existing dirt roads within federal lease N-12085 would be used to access the proposed well site.

INTENSITY:

The CEQ regulations include the following ten considerations for evaluating intensity:

1) *Impacts that may be both beneficial and adverse.*

None of the environmental effects discussed in detail in the EA (refer to Chapter 3 Affected Environment and Environmental Consequences) are considered significant, nor do the effects exceed any known threshold of significance, either beneficial or adverse. The Proposed Action is a geothermal resource exploration project that proposes construction of one well pad and the drilling and testing of up to three geothermal wells from the same pad (wells would include one or more of the following: temperature gradient well, observation/slim well, and full-size production/injection well, for a maximum of three wells drilled from one drill pad) in the Project Area. The Proposed Action also includes improvement and maintenance of an existing access road and if necessary, installation of an above ground pipeline to connect to an existing pipeline and power plant. The Proposed Action is further described in the EA (refer to Chapter 2, Section 2.1 Proposed Action).

Impacts that would result from implementation of the Proposed Action would include mostly short-term impacts (vehicle emissions, visibility of equipment, etc...). The Project Area is within the designated non-attainment area for PM₁₀ in Hydrographic Area 87. Vehicle and equipment traffic, as well as construction and utilization of the drill pad and access road, would result in a short-term, temporary increases in dust levels. Approximately 3.7 acres of vegetation

would be cleared for the well pad and site access. The well pad and access road have been disturbed in the past by grading activities, and by wildfire. The plant species that have grown back within the project area are common throughout the lease area and surrounding lands. Impacts to vegetation would be minimized by implementation of reclamation and reseeding activities following project activities. Increased levels of fugitive dust are anticipated to cause indirect short-term impacts to vegetation immediately adjacent to the project area through an unquantified loss of photosynthetic output. The spread and introduction of noxious and invasive nonnative weed species is a primary concern during construction activities. As described in Section 2.1.12 of the EA, to prevent the spread of invasive, nonnative species, all vehicles, heavy earthmoving construction equipment, mobile trailers, and RV campers brought to and used in the project area would go through high-pressure washing of the entire vehicle/unit at a commercial wash station prior to arriving and/or being used on the project area.

There would be a long-term loss of up to 3.7 acres of wildlife habitat (including migratory birds). Potential adverse impacts to wildlife in the project area include short-term disturbance during grading activities, and well drilling. Increased human presence during well drilling activities would result in increased noise and vibration which may stress or harass wildlife and temporarily displace them from the area. Increased mortality of smaller, less mobile wildlife species may result from crushing by construction activities and increased vehicle traffic. In addition, smaller, less mobile wildlife species in the project area would not be able to easily avoid increased vehicle traffic should the wells be developed for operation. Increased vehicle traffic on the access road during operation would result in increased risk of injury or mortality to smaller individual animals.

Under the Proposed Action, there would be a short-term increase in the number of workers on-site to accomplish the well drilling activities, up to 18 additional workers on-site. This would only last for the duration of the exploration activities (up to 45 days). This short-term increase in employment would contribute to an increased demand for local services (restaurants, grocery stores, gas stations, etc.). It would also result in increased local spending, which would benefit Reno area businesses. Because of the short-term nature of the work and the limited number of additional workers, this impact is expected to be minor.

Impacts resulting from the Proposed Action, as described in Section 2.1 of the EA, would be mitigated through Best Management Practices (BMPs) listed in Section 2.1.12 of the EA, the special lease stipulations attached to lease N-12085, and the Conditions of Approval (COA) attached to the permits. Additionally, following activities, the restoration and reclamation of native vegetation with implementation of BMPs, lease stipulations, and COA in combination with proposed reclamation activities of all disturbances, as described in the EA, would reduce adverse impacts to the human environment.

2) The degree to which the proposed action affects public health or safety.

The Proposed Action is to construct, operate and maintain the Steamboat Geothermal Well 16-32 Project within the existing Steamboat Geothermal Unit in Washoe County, Nevada as described and analyzed in EA DOI-BLM-NV-C010-2014-0019-EA.

Under the Proposed Action, there would be up to 18 additional workers on-site. This would only last for the duration of the exploration activities (up to 45 days). Measures are in place to ensure their health and safety during operations.

3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

A cultural resources inventory and report was prepared for the project and is maintained at the Carson Ranger District (Forest Service Report: R201304102286). No sites eligible for listing in the National Register of Historic Places are present, as determined during that inventory. Concurrence from the State Historic Preservation Office was received on June 7, 2013.

The Steamboat Hot Springs Area of Critical Environmental Concern is located in the vicinity; however it does not overlap with the project area and would not be impacted by the Proposed Action. There are no park lands, prime farm lands, or wild and scenic rivers in or near the proposed project activities.

4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

The EA was scoped internally by BLM resource specialists on March 23, 2013 and externally scoped to the public in July 2013. The Carson Ranger District Consulted directly with the Washoe Tribe of Nevada and California in face-to-face tribal consultation meetings with the Tribal Chair (Wanda Bachelor) on March 13, 2013. The Tribal Chair had no concerns with the project and did not identify any traditional cultural properties or sacred sites within the project area.

The EA was made available for a 30-day public review and comment period on July 10, 2014 until August 11, 2014. A press release was issued on July 10, 2014 to local media outlets and sent electronically to the Nevada State Clearinghouse. The EA was also made available by hard copy at the Carson City District Office and on the District webpage at: http://www.blm.gov/nv/st/en/fo/carson_city_field/blm_information/nepa.html. During the comment period, one comment was received from the Nevada Division of State Lands through the Nevada Clearinghouse. All comments received were reviewed, considered and responded to by the BLM Stillwater Field Office, Carson City District. These comments were not considered substantive in nature and no changes were made to the analysis in the EA.

5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

The Proposed Action is not unique or unusual. The action described in Chapter 2 of the EA is drilling for geothermal resources. There are no predicted effects on the human environment that are considered highly uncertain or involve unique or unknown risks. Public comment or concern has been minimal for this project.

6) *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*

As exploration advances and additional development of energy generation facilities is proposed on a geothermal lease, an environmental analysis may be warranted to assess impacts resulting from these types of projects. The progression of the project from leasing to exploration to development is customary and expected. This action will not establish a precedent for future actions within the area, and all future proposed actions within the project area will be analyzed under a site-specific environmental analysis and analyzed on its own merits.

7) *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*

Resource values, as identified in this EA, were evaluated for cumulative impacts (Refer to Chapter 4 of the EA) and determined that cumulative impacts would be negligible for the proposed project. Subsequent actions for geothermal resource exploration and/or development would be evaluated for cumulative impacts in associated environmental analysis that maybe warranted and would be addressed through mitigation of the proposed future action and conditions of approval.

8) *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) or may cause loss or destruction of significant scientific, cultural, or historical resources.*

As described in the EA (refer to Chapter 3 and 4 of the document), the project will not adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places, nor will it cause loss or destruction of significant scientific, cultural, or historical resources. No sites eligible for listing in the National Register of Historic Places are present in the Project Area, as determined during the cultural inventory. Concurrence from the State Historic Preservation Office was received on June 7, 2013.

9) *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*

As described in the EA (Refer to Chapter 3), a further review of threatened and endangered plant and animal species, combined with field surveys conducted on April 30, 2014 (SWCA Environmental Consultants [SWCA] 2014), indicates that no threatened and endangered plant or animal species occur in the project area. Portions of the Steamboat Hills area support sensitive plants such as Steamboat monkeyflower (*Mimulus ovatus*). However, the appropriate soils for this species are not present within the project area. Further review of U.S. Forest Service Sensitive plant species, combined with field surveys conducted on April 30, 2014 (SWCA 2014), indicates that no Forest Service sensitive plant species occur in the project area, evidenced by a lack of individual plants and suitable habitat.

Further review of watchlist plant species, including Slide Mountain buckwheat (*Eriogonum ovalifolium* var. *eximium*), Carson Valley monkeyflower (*Erythranthe carsonensis*), and

Steamboat monkeyflower (*Mimulus ovatus*), combined with field surveys conducted on April 30, 2014 (SWCA 2014), indicates that these species do not occur in the project area, evidenced by a lack of individual plants and suitable habitat. Any future exploration and development actions would be evaluated in a separate, site-specific environmental analysis on its own merits.

10) *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*

As described in the EA, the Proposed Action does not violate any known Federal, State, or local law or requirement imposed for protection of the environment.



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Date

