

## **FINDING OF NO SIGNIFICANT IMPACT**

### **Brady Hot Springs Well 15-12 Hydro-Stimulation Environmental Assessment DOI-BLM-NV-W010-2012-0057-EA**

Based on the interdisciplinary analysis conducted in the Brady Hot Springs Well 15-12 Hydro-Stimulation Environmental Assessment (EA) DOI-BLM-NV-W010-2012-0057-EA, dated January 2013, for the proposed action, a review of the proposed action and my consideration of the Council of Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), both with regard to the context and the intensity of impacts, and with the continued use of the established Conditions of Approval for well 15-12 (refer to Appendix A of the EA) and implementation of the monitoring programs presented in the proposed action (refer to Sections 2.1 and 3.2.1 of the EA), I have determined that there are no significant impacts associated with the proposed action. Therefore, preparation of an Environmental Impact Statement (EIS) pursuant to Section 102(C) of the National Environmental Policy Act (NEPA) is not required.

The proposed action is in conformance with the approved Sonoma-Gerlach Management Framework Plan (July 1982) and is consistent with other Federal Agency, state, and local plans to the maximum extent consistent with Federal law and the Federal Land Policy Management Act provisions.

#### **Context**

Brady Power Partners, a subsidiary of Ormat Nevada, Inc. (Ormat), proposes to develop and test a geothermal reservoir using enhanced geothermal system (EGS) technologies. Ormat's well 15-12 was installed in April 2007 to serve as a production well; however, further testing revealed that the well does not have sufficient hydraulic connections with the geothermal reservoir and it has since remained inactive. Ormat proposes to implement a hydro-stimulation program (EGS) to increase energy production by enhancing natural hydraulic connections within the existing hydrothermal system. Hydro-stimulation involves creating better hydraulic connections by injecting cool geothermal water (temperatures ranging from 90-140°F) to further open the existing network of minute cracks in the rocks deep underground, where natural fractures already occur. During the process, geothermal water produced from the geothermal production wells and processed at the geothermal plant would be injected at wellhead pressures less than 1,400 pounds per square inch at depths ranging from approximately 4,245 to 5,096 feet below ground surface. The proposed action outlines environmental monitoring programs that include the injection of tracer compounds to identify movement of geothermal fluid, a water quality and quantity monitoring plan, and a seismic monitoring plan.

The project is located north of the Hot Springs Mountains, approximately 50 miles northeast of Reno, in Churchill County, Nevada; T. 22 N., R. 26 E., sec. 12. The project would be located on an existing production well and drill pad (Well 15-12) located on federal geothermal lease NVN 065558 held by Ormat. No new surface disturbance would be created. Ormat estimates that the project would be completed by approximately June 2013.

The Bureau of Land Management (BLM) is the lead agency for this project because the project activity would occur on leases issued and administered by the BLM. The U.S. Department of Energy (DOE) is proposing to authorize the expenditure of federal funding for a portion of the project; therefore, the DOE was a cooperating agency in the development of the EA.

## **Intensity**

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

The EA considered possible beneficial and adverse impacts of the proposed hydro-stimulation project. Under the proposed action, including the environmental monitoring programs outlined in the proposed action, there are not expected to be adverse impacts to any of the affected environments. Although unlikely, there exists a potential for an induced seismicity event(s) above the established threshold levels. However, a seismic event recorded above the established thresholds during the hydro-stimulation monitoring process would result in immediate suspension of injection activities. Ultimately, the project would result in beneficial economic and energy resource effects and continued research, development, demonstration, and commercial application for enhanced geothermal systems.

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

The proposed action would not adversely affect public health or safety.

### **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.***

The project would be located on an existing production well and drill pad (Well 15-12) and no new surface disturbance would be created. As a result, the project would not affect historical or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

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

No anticipated effects have been identified for this specific project that are scientifically controversial.

A comment letter was received from the U.S. Environmental Protection Agency in reference to the Preliminary EA indicating their continued support of the project purpose and further development of renewable energy. In addition, Native American Consultation has been continuous throughout the evaluation of this project. The tribal governments did not indicate concerns with the proposed action.

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

The EGS technologies and associated monitoring protocols included in the proposed action are common methods employed in the geothermal industry. Although these technologies are common, it is imperative that potential resultant impacts be analyzed and disclosed. Based on the analysis provided in the EA, the proposed action is not expected to produce uncertain or unique risks.

### **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.***

Implementation of the proposed action would not establish a precedent for future actions with significant effects and does not represent a decision in principle about a future consideration. All future proposed actions will be subject to NEPA evaluation and independent decision making.

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

Based on the EA, no significant cumulative impacts are expected. The proposed action, when evaluated together with other past, present, or reasonable foreseeable activities in the area, would not result in cumulatively significant impacts at the local or watershed scale.

**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.***

The proposed action would not adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the NRHP, nor would it cause loss or destruction of significant scientific, cultural, or historical resources.

**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 (ESA) of 1973.***

No species listed as endangered or threatened under the ESA occur within the project area, nor would any be impacted by the proposed action. As previously stated, the project would be located on an existing production well and drill pad (Well 15-12) and no new surface disturbance would be created.

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

The proposed action does not violate or threaten any known Federal, State, or local law or requirement imposed for the protection of the environment.



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Edward Seum  
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1-11-2013

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Date