

Record of Categorical Exclusion for

Tuscarora Phase II Geothermal Observation Wells

Description of Categorically Excluded Action:

The US Department of Energy (DOE) proposed action is to provide a loan guarantee to OFC 2 LLC for Phase II of the ORNI 42 LLC (ORNI) Tuscarora Geothermal Power Plant in Elko County, Nevada. OFC 2 LLC is a subsidiary of Ormat Nevada Inc. (Ormat) and ORNI 42 LLC is a subsidiary of OFC 2 LLC. The initial stages of Phase II involve drilling, related preparation, and operation of three exploratory observation wells at the Tuscarora facility during a period from April through March 2014. The exploratory project consists of drilling three core holes in order to obtain information needed to determine if additional geothermal resources exist south of the existing Tuscarora power plant that could support expansion of the facility. The proposed exploratory drilling has been designed to minimize surface disturbance and other potential impacts. Site access requires crossing two small ephemeral drainages, and the Nevada Division of Environmental Protection has issued a Temporary Authorization to Discharge permit and a Section 401 Water Quality Certification waiver for the project. It has been determined that the project qualifies under the US Army Corps of Engineers Nationwide Permit 14 (NWP14), Linear Transportation Projects, and that a Pre-Construction Notification for NWP14 is not needed since the overall drainage impacts are less than 1/10 of an acre.

The Tuscarora Geothermal Facility is supported by a DOE loan guarantee issued in September 2011. It is located in northern Elko County in Independence Valley, approximately 70 miles north of Elko, Nevada. DOE prepared an Environmental Assessment (DOE/EA-1849) that was issued in August 2011, which described two development phases (Phase I and Phase II) for the Facility. Phase I, currently in operation, utilizes existing wells that have been constructed in the northern and central portions of the Hot Creek drainage to support a 19-net-megawatt binary power plant. Phase I construction was initiated in 2008, and the power plant began full-time operations in late 2011.

The EA stated that if the geothermal resource at Tuscarora was found to be sufficient the Facility could be expanded in the future to include a second Phase II, similar in size and configuration to Phase I. Because this area is largely unexplored and there is uncertainty as to additional geothermal resources, ORNI is proposing to test the area by drilling core observation holes south and west of the existing plant. These core holes would be smaller, less expensive, and have fewer impacts than full-sized production wells. A track- or truck-mounted core rig would be used at the drilling sites. This allows drill rig access and construction with much less disturbance than for a full-size rig; the smaller drill sites can also be quickly reclaimed. No new access roads would be constructed since the sites will be accessed by cross-country travel and existing gravel roads. The pad size for each site would be up to 150 feet x 150 feet. Pad sites would be cleared of vegetation that would be replaced afterwards as part of site reclamation. Only minor site

grading would be required, and if soft soil is present several inches of gravel may be added to minimize disturbance and avoid subsequent erosion in these areas.

Drilling would be conducted 24 hrs per day, 7 days per week for a period of 30-45 days per well. Each drilling rig is equipped with diesel engines, storage tanks, mud pumps and other typical auxiliary equipment. During drilling operations a minimum of 10,000 gallons of water and 12,000 pounds of inert, non-toxic, non-hazardous barite would be stored on site for use in maintaining well stability, and preventing uncontrolled well flow.

Field cultural surveys were previously completed for the project area and the drill sites have been selected to avoid identified cultural areas. ORNI will also create flagged buffer zones of approximately 30 meters around all eligible cultural sites in the drilling area, and project equipment and facilities will not encroach into these buffer zones. ORNI will avoid vegetation clearing during the avian breeding season (April 1 to August 15). If active nests are located, a protective buffer zone will be established and will remain in place until it is confirmed that the young have fledged. ORNI will abide by the Greater Sage Grouse Conservation Measures Implementation Plan prepared by Ormat, the Bureau of Land Management, Nevada Department of Wildlife and DOE as part of the approval process for the OFC 2 LLC loan guarantee in 2011, and will thereby comply with seasonal drilling restrictions, including lekking season (March 15 through May 15) restrictions, and other control measures.

DOE's loan guarantee was made pursuant to Title XVII of the Energy Policy Act of 2005 which authorized DOE to make loan guarantees for projects that "avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases; and employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued." The two principal goals of the Title XVII loan guarantee program are to encourage commercial use in the United States of new or significantly improved energy-related technologies and to achieve substantial environmental benefits.

Number and Title of Categorical Exclusion:

The actions that would be taken pursuant to the loan guarantee (three exploratory observation wells) are consistent with and are covered by DOE categorical exclusion 3.7 for siting/construction/operation of new infill exploratory, experimental oil/gas/geothermal wells. The full text of the categorical exclusion is as follows:

B3.7, as provided in 10 CFR § 1021, Appendix B to Subpart D, Siting, construction, and operation of new infill exploratory and experimental (test) oil, gas, and geothermal wells, which are to be drilled in a geological formation that has existing operating wells.

Regulatory Requirements defined in 10 CFR § 1021.410 (b):

The loan guarantee and related actions described above were subjected to an environmental due diligence review by DOE Loan Programs Office (LPO) staff to ensure

they are consistent with the specific category of actions (categorical exclusion) contained in Appendix B of 10 CFR Part 1021 and the conditions for applying categorical exclusions specified in Section 410 of Part 1021. To ensure that the requirements of Appendix B were met, LPO Environmental Compliance Division staff reviewed the "Project Description Tuscarora Phase II Geothermal Exploration Project" document prepared in January 2013 by Ormat, on behalf of ORNI, and information provided in email exchanges and telephone conversations between LPO staff and Ormat representatives. In addition to the environmental documentation reviewed, a site visit by LPO was conducted at the Tuscarora Facility August 14, 2012. The results of the environmental due diligence review produced the following findings:

- The project does not threaten a violation of applicable statutory, regulatory or permit requirements for environmental, safety and health, including DOE and /or Executive Orders;
- The project does not require siting, construction, or major expansion of waste storage, disposal, recovery, or treatment facilities;
- The action is not a connected action as set forth in 40 CFR § 1508.25(a)(2)); and
- The action is not part of a DOE proposal for which an EIS is being prepared and therefore a categorical exclusion is not precluded by 40 CFR § 1506.1 or 10 CFR § 1021.211.

The environmental due diligence review also determined that the actions associated with the loan guarantee do not adversely affect any environmentally sensitive resources, including the following:

- Property of historic, archaeological, or architectural significance designated by Federal, state, or local governments or property eligible for listing on the National Register of Historic Places;
- Federally-listed threatened or endangered species or their habitat (including critical habitat), Federally-proposed or candidate species or their habitat, or state-listed endangered species or their habitat;
- Wetlands regulated under the Clean Water Act (33 U.S.C. 1344) and floodplains; or
- Special sources of water (such as sole source aquifers, wellhead protection areas, and other water sources) that are vital in a region.

The Comment section below is provided for any necessary clarifications concerning the findings listed above. Signature by ORNI's designated representative in the Corporate Validation section is an indication of ORNI's concurrence with the findings and determinations presented above.

Comment: _____

Corporate Validation:

Name and Title (Print): Connie Stechman, Assistant Secretary

Signature: Connie Stechman Date: 2-20-13

Determination:

Based on my review of information conveyed to me and in my possession concerning the actions associated with the proposed loan guarantee described above, as NEPA Compliance Officer (as prescribed by DOE Order 451.1B), I have determined that the actions involve no extraordinary circumstances (10 CFR 1021.410(b)) and fit within the specified category of actions in Appendix B of 10 CFR 1021 described above, and are hereby categorically excluded from further review under the National Environmental Policy Act (42 USC 4321, as amended).

Matthew McMillen

Signature

Matthew McMillen
NEPA Compliance Officer
Loan Programs Office

2-22-13

Date