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**U.S. DEPARTMENT OF ENERGY**  
**OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY**  
**NEPA DETERMINATION**



RECIPIENT: Nevada Geothermal Power Company

STATE: OR

PROJECT TITLE : Recovery Act: Crump Geyser - High Precision Geophysics & Detailed Structural Exploration and Slim Well Drilling

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DOE-FOA_0000109	DE-EE0002835	GFO-0002835-004	GO2835

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

**CX, EA, EIS APPENDIX AND NUMBER:**

Description:

**B3.1 Site characterization and environmental monitoring** Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) of characterization and monitoring devices, and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. (This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.) Specific activities include, but are not limited to: (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and temperature gradient), geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing; (b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools); (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells; (d) Aquifer and underground reservoir response testing; (e) Installation and operation of ambient air monitoring equipment; (f) Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck- or mobile-scale equipment, and modification, use, and plugging of boreholes); (g) Sampling and characterization of water effluents, air emissions, or solid waste streams; (h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources); (i) Sampling of flora or fauna; and (j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.

**Rationale for determination:**

Nevada Geothermal Power Company (NGP) would analyze the energy potential of the Crump Geyser geothermal resource in Southern Oregon by gathering data on the geothermal system. Phase 1 (Tasks 1.0, 2.0, and 4.0) of this project was previously approved by GFO-10-164 on February 8, 2010 with a CX A9 and B3.1. Additional information was submitted in regards to Phase 1 (Task 3.0), with a resultant approval by GFO-10-164.001 on August 27, 2010 of Phase 1 (Task 3.0) and Phase 3 (Task 14.0) with a CX A9 and B3.1. NGP submitted additional information and a new Statement of Project Objectives (SOPO) which modified the tasks to be completed in Phase 2. A NEPA Determination (GFO-0002835-003) was completed for all remaining project activities on June 15, 2011. In the last SOPO NGP had planned to drill two slim wells at locations that had already been reviewed for permitting and therefore both locations were approved through the NEPA Determination but since then an additional task and subtask has been added to the SOPO and NGP has decided that they will drill the second slim well at a location to be determined. This NEPA Determination is only analyzing the additional task and subtask that have been added to the previous SOPO. Another NEPA Determination will be required to analyze the location of the second slim well once NGP determines where it would be drilled.

Subtask 6.2 –Geophysical survey. An Audio Magneto-Telluric (AMT) survey would be performed with additional geophysical surveys considered dependent on the results of the AMT survey. Previous geophysical surveys have been analyzed and completed in the same area as proposed for these surveys. There are no resources of concern that would be affected by performing geophysical surveys.

Task 13.0 – Plug and abandon slim wells and reclamation of drill pads. If results from the slim wells yield unfavorable results, the wells would be plugged and abandoned. Proper reclamation and abandonment of unneeded wells is an industry best management practice that is often required as part of Oregon State drilling permits and would have no additional effects beyond those due to the drilling work itself to any resources in the area.

A wetland determination was completed for the project area. Previous project work took place in the uplands portion of the project area where no jurisdictional wetlands were encountered requiring Army Corp of Engineers (ACOE) permitting actions. AMT survey work does not require an ACOE permit but if NGP decides to locate drilling of the second slim well in the lowlands area where wetlands occur, an ACOE permit may be needed.

A biological survey was completed for the project area to assess effects to federal and state listed threatened, endangered, or candidate species of plants and animals. Based on this survey, DOE determined that the project is not likely to affect endangered or threatened species. The proposed geophysical survey work fits within what was analyzed previously and does not change the not likely to affect determination.

A cultural survey based on an Area of Potential Effect (APE) map submitted to and approved by both DOE and Oregon SHPO was completed for the project area. In a letter dated December 27, 2010, Oregon SHPO concurred with DOE on a finding "that the project will have no effect on any known cultural resources as long as all sites can be avoided." NGP has committed to avoidance of all cultural sites by maintaining at least a 30 meter buffer, in which no project activities would take place, around all identified sites. If during development activities NGP encounters any cultural material (i.e. historic or prehistoric), all activities should cease in the vicinity of the discovery immediately. NGP must inform the DOE Project Officer of the discovery and an archaeologist should be contacted to evaluate the discovery. Geophysical survey work would not affect cultural sites but depending on the location selected for drilling of the second slim well, NGP may be required to complete further cultural surveys before drilling could occur.

Based on review of the project information, DOE has determined that the addition of subtask 6.2 and task 13 would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined that these activities are consistent with actions contained in DOE categorical exclusion B3.1 "Site characterization and environmental monitoring," and are categorically excluded from further NEPA review.

**NEPA PROVISION**

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

Drilling of the second slim well (Subtask 6.3)

This restriction does not preclude you from:

All tasks and subtasks other than 6.3

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

This NEPA Determination does require a tailored NEPA provision.

Casey Strickland 07/16/14

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature:

  
NEPA Compliance Officer

Date:

7/17/2014

**FIELD OFFICE MANAGER DETERMINATION**

Field Office Manager review required

**NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:**

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.