

PMC-EF2a

(304.02)

U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION



RECIPIENT:Ormat Nevada, Inc

STATE: HI

PROJECT TITLE : Maui - Blind Geothermal System Exploration in Active Volcanic Environments

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000109	DE-EE0002837	GFO-10-138	GO2837

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:

- A9** Information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.
- B3.1** Onsite and offsite site characterization and environmental monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) 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. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to:

Rational for determination:

Ormat Nevada Inc. (Ormat) would complete a Geothermal Energy study in and around Puna, Hawai'i and Maui, Hawai'i. The goal of this project is to research and develop possible geothermal energy sources in Puna, Hawai'i and Maui, Hawai'i. Laboratory work would take place at the Center for Isotope Geochemistry (CIG), Lawrence Berkeley National Laboratory (LBNL) at the University of California in Berkeley, California. The project is divided into five tasks. Tasks 1-2 are Categorical Excludable since they include informational gathering and site characterization of geothermal resources.

Phase 1: Resource Evaluation

Task 1.0 Geophysical Surveys at Ulupalakua Ranch Project, Maui

New, high resolution gravity and aeromagnetic surveys would be acquired over Ormat's Ulupalakua Ranch Project within the HSWRZ of Maui.

Task 2 Geochemical Surveys; Puna, Hawai'i and Ulupalakua Ranch, Maui

Compile and analyze historic chemical and hydrologic data from regional surface features, shallow wells and the Puna Geothermal Field. Analyze the archival airborne hyperspectral data for mineral and vegetation anomalies indicative of geothermal activity. Conduct integrated soil CO₂ gas flux, temperature and isotopic surveys at Puna, Hawai'i and Ulupalakua Ranch, Maui.

>Stage gate decision after completion of task.

A stage gate would be performed prior to Phase II activities based upon Phase-I data analyses and field activities suggesting the probability of geothermal reservoir potential. Should Phase II not be initiated, the Phase I Report and all review presentation materials would serve as the final technical report for DOE purposes.

Tasks 3-4 are not Categorical Excludable since the geothermal slim hole and production well locations have not been identified and therefore cannot be analyzed at this time.

Phase 2: Completion of Exploration Data Analysis and Drilling

Task 3 Synthesize Phase 1 data into a working exploration model for well-siting

Site, permit and drill one slim hole based on the information analyzed. Site, permit and drill one full-sized production hole with the information gathered from the slim hole.

Phase 3: Well Testing

Task 4 Assess potential for geothermal reservoir post-drilling

Test the slim and production holes for viability of potential reservoir with additional supporting fluid sampling during well-testing. Evaluate the geophysical/geochemical survey synthesis; required versus desired pre-drilling exploration techniques assessment.

Task 5 Project Management and Reporting

Project PI's would have the responsibility for scientific and technical decisions after consultation with the team. Team meetings would provide progress, updates, assessment of outcomes against expectations and go/no-go criteria. Reports and other deliverables would be provided in accordance with the Federal Assistance Reporting Checklist following the instructions included therein and non-proprietary data from the project would be provided to the National Geothermal Data System.

ORMAT and LBNL claim no additional permits are needed and there would be no generation of air emissions associated with this work. Vented gas cabinets and fumehoods are used with scrubbers to prevent release of air pollutants. The university claim that all toxic/hazardous waste is disposed of according to university, local, state, and federal regulations as appropriate. According to LBNL, a Chemical Hygiene Plan, waste disposal, and safety protocols are in place monitored by the each university Environmental Health and Safety office.

At this time, the locations of the geothermal wells have not been identified, and therefore cannot be analyzed. Therefore, Tasks 4 and 5 are not authorized. Tasks 3 and 4 would be analyzed once the locations of the geothermal wells are identified and submitted to the DOE.

Condition of Approval: Allowable: Tasks 1 through 2 and 5; Prohibited: Tasks 3 and 4
Tasks 1 through 3 comprises of document preparation, site characterization and development geothermal energy, therefore Tasks 1-3 are categorized into Categorical Exclusion A9 and B3.1.

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:

Prohibited: Tasks 3 and 4

This restriction does not preclude you from:

Allowable: Tasks 1, 2, and 5

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 :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

NEPA Compliance Officer

Date: 2/08/2010

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.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____

Field Office Manager

Date: _____