

PMC-EF2a

(2.04.02)

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



RECIPIENT: Ormat Nevada, Inc

STATE: HI

PROJECT TITLE : Recovery Act: Blind Geothermal System Exploration in Active Volcanic Environments

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-EE0002837	GFO-0002837-002	2837

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:

**C12** Siting, construction, and operation of energy system prototypes including, but not limited to, wind resource, hydropower, geothermal, fossil fuel, biomass, and solar energy pilot projects.

## Rational for determination:

DOE and recipient cost share funds would be used by Ormat Nevada Inc. (Ormat) to demonstrate an exploration that may lead to the commercial development of a geothermal resource in Maui, Hawaii. 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. Tasks 1, 2, and 5 comprises of document preparation, site characterization and development of geothermal energy, and were Categorical Excluded into A9 and B3.1 by GFO-10-138 on 2/8/2010. The project is divided into five tasks.

## 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.

>Stage gate decision after completion of task.

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. Additionally no geothermal resources have been developed to date and the State of Hawaii is requiring an Environmental Assessment for leasing prior to any drilling.

## 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.

At this time, the locations of the two future geothermal wells have not been identified and therefore cannot be analyzed. Additionally, the State of Hawaii is requiring an Environmental Assessment for leasing prior to any drilling. Therefore, Task 3 and 4 are not authorized. Task 3 and 4 would be analyzed in a DOE EA. Condition of Approval: Allowable: Tasks 1 through 2 and 5. Prohibited: Tasks 3, and 4. Tasks 1, 2, and 5 comprises of document preparation, site characterization and development of geothermal energy, and were categorized into Categorical Exclusion A9 and B3.1 as authorized by GFO-10-138 on 2/8/2010. Additionally, beyond Tasks 1, 2, and 5, this proposed project has the potential to impact surface and subsurface resources and therefore an Environmental Assessment is required (C12). DOE must analyze the construction and installation of up to two geothermal wells and associated roads in funding the completion of Exploration Data Analysis, and Drilling with Well Testing in Geothermal Resource Areas for Ormat according to the National Environmental Policy Act (NEPA). Existing and potential impacts are unknown at this time. Per the DOE NEPA implementing regulations (Appendix C to Subpart D to 10 CFR Part 1021 - C12, as noted above), preparation of an Environmental Assessment is required prior to allowing federal funds for this proposed project.

#### 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:

Tasks 3, and 4

This restriction does not preclude you from:

Tasks 1 through 2, and 5. ORMAT is authorized to conduct exploratory activities in support of Tasks 1 through 2, and 5 and to support the preparation of an EA, consistent with DOE NEPA implementing regulations.

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 project involves tasks which are unallowable prior to further environmental analysis. NEPA requests that this project be placed on ASAP Approval.

EF2A written by Christopher Carusona

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

NEPA Compliance Officer Signature: \_\_\_\_\_

NEPA Compliance Officer

Date: \_\_\_\_\_

#### 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: \_\_\_\_\_