

PMC-EF2a

(2.04.02)

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



RECIPIENT: Pueblo of Jemez

STATE: NM

**PROJECT TITLE :** Innovative Exploration Techniques for Geothermal Assessment at Jemez Pueblo, New Mexico

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0000109	DE-EE0002841	GFO-10-163	0

**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** 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:

Jemez Pueblo would complete a Geothermal Energy study on the Jemez Pueblo reservation. The goal of this project is to research and develop possible geothermal energy sources on the Jemez Pueblo reservation. Field work would take place on the Jemez Pueblo reservation in New Mexico. The project is divided into five tasks.

Task 1 is Categorical Excludable since it consists of informational gathering and site characterization of geothermal resources.

## Phase 1: Exploration

## Task 1.0 Geologic Mapping

A detailed geologic map and cross sections will be prepared to estimate the depth to the Madera Formation limestone that is thought to be the host of geothermal water.

Tasks 2 through 4 are not Categorical Excludable since the geophysical survey lines and geothermal exploration wells have not been identified and therefore cannot be analyzed at this time.

## Task 2 Geophysical Surveys

Using the detailed geologic map, locate one N-S and two E-W seismic lines and run a seismic survey of 4 mi<sup>2</sup>; reduce and analyze seismic data using innovative high-resolution seismic migration imaging techniques developed by LANL, and integrate with 3-D audio-frequency MT data acquired at the same area for fault and subsurface structure imaging and resource assessment.

## Phase 2: Exploratory Drilling

## Task 3 Well Drilling

With the results of the tasks above, locate and drill two exploration wells up to 3000 feet deep to penetrate the deeper geothermal reservoir. At least three hundred feet of core would be collected from the target interval for each well.

## Phase 3: Well and Reservoir Testing

## Task 4 Well and Reservoir Testing

Conduct detailed well testing, including an innovative tracer test and a test of flowing electrical conductivity (FEC), to determine the fracture surface area, heat content and heat transfer, flow rates, and chemistry of the geothermal fluids encountered by the exploration wells.

## Task 5 Project Management and Reporting

Reports and other deliverables will be provided in accordance with the Federal Assistance Reporting Checklist following the instructions included therein.

At this time, the locations of the geophysical survey lines and geothermal wells have not been identified, therefore



cannot be analyzed. As a result, Tasks 2, 3, and 4 are not authorized. Tasks 2, 3, and 4 would be analyzed once the locations of the geophysical lines and geothermal wells are identified and submitted to the DOE.  
Condition of Approval: Allowable: Tasks 1 and 5; Prohibited: Tasks 2, 3, and 4. Task 1 comprises site characterization; therefore Task 1 is categorized into Categorical Exclusion 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 2, 3, and 4

This restriction does not preclude you from:

Allowable: Tasks 1 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: \_\_\_\_\_

*Kymberly K...*  
NEPA Compliance Officer

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

2/9/2010

**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: \_\_\_\_\_