

PMC-EF2a

(2.04.02)

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



**RECIPIENT:** University of Utah, Energy & Geoscience Institute

**STATE:** UT

**PROJECT TITLE :** Identification of Hidden, High-Enthalpy Geothermal Systems in Extensional Regimes Through an Exploration Technology Paradigm Incorporating Magnetotellurics, Soil Gas Geochemistry and Structural Analysis

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DOE-FOA-0000522	DE-EE0005514	GFO-0005514-001	5514

**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, analysis, and dissemination**

Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)

**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.

Rational for determination:

The University of Utah (U of U) would utilize DOE and cost share funds to explore the innovative combination of geophysical, geochemical, and geological data collection and analysis as an early stage geothermal exploration tool.

This project includes two Phases but this NEPA review is for Phase 1 only. Prior to initiating Phase 2 activities, there would be a go/no-go decision point after which DOE would determine whether or not to fund Phase 2 activities. Additional NEPA review will be required if this project is selected to continue with Phase 2 activities.

**Phase 1**

1. Magnetotelluric Survey – acquisition of 60-70 tensor MT stations over the McGinness Hills system in central Nevada
2. Soil Gas Geochemistry Survey – the survey would be conducted on foot utilizing a backpack mounted analyzer. Samples would be collected from anomalously high analyzer readings by driving a 1/4cm steel probe into the ground to ≤1 m depth and pumping the soil gas into a pre-evacuated glass bottle. Holes created in the soil by the probe would be filled in before moving to the next sample location.
3. Structural Geology Analysis – geologic mapping

**Phase 2**

Task 4 through 6 will require additional NEPA review if the project is selected to continue with Phase 2 activities.

Field work in Tasks 1 through 3 is planned for the McGinness Hills area in central Nevada. Project work would occur on BLM and USFS managed lands. U of U will coordinate with both federal land management agencies to comply with

any requirements needed for field activities.

Phase 1 Budget: \$418,214 (DOE) \$42,016 (cost share)

Phase 1 of this project is composed of information gathering, analysis, and dissemination; and site characterization and environmental monitoring; therefore the DOE has categorized this into Categorical Exclusions 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:

Phase 2 (all tasks)

This restriction does not preclude you from:

Phase 1 (all tasks)

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.

Insert the following language in the award:

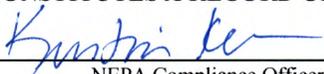
You are required to:

U of U must provide DOE with copies of any permits/approvals or "casual use" determinations from both BLM and USFS for field activities occurring on BLM and USFS administered lands prior to the commencement of those activities.

Note to Specialist :

EF2a prepared by Casey Strickland

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

NEPA Compliance Officer Signature:   
NEPA Compliance Officer

Date: 2/29/2012

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