

PMC-ND  
(1.08.09.13)

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



**RECIPIENT:**University of Utah

**STATE:** UT

**PROJECT TITLE :** INTEGRATING MAGNETOTELLURICS, SOIL GAS GEOCHEMISTRY AND STRUCTURAL ANALYSIS TO IDENTIFY HIDDEN, HIGH-ENTHALPY, EXTENSIONAL GEOTHERMAL SYSTEMS

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0000522	DE-EE0005514	GFO-0005514-002	GO5514

**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:

- |  |  |
|--|--|
| <b>A9 Information gathering, analysis, and dissemination</b>   | 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.)   |
| <b>B3.1 Site characterization and environmental monitoring</b> | 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:**

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

This project includes two Phases. Phase 1 of the project included field surveys over the McGinness Hills region in central Nevada and was previously approved by GFO-0005514-001 on February 29, 2012. DOE made a conditional "go" decision to proceed with Phase 2 of this project. This NEPA Determination is for Phase 2 activities. The same survey types completed in Phase 1 of the project would now be completed over the Black Rock-Kumiva region in northwest Nevada as part of Phase 2.

**Phase 2**

4. Magnetotelluric Survey – acquisition of 90-100 tensor MT stations over the Black Rock-Kumiva region in northwestern Nevada
5. 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.
6. Structural Geology Analysis – geologic mapping

Field work in Tasks 4 through 6 is planned for the Black Rock-Kumiva region in northwest Nevada. Project work would occur on Bureau of Land Management (BLM) managed lands. U of U will coordinate with the BLM to comply with any requirements needed for field activities.

Based on review of the project information, DOE has determined that the remaining project activities (Phase 2) 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 exclusions A9 "Information gathering, analysis, and dissemination," and B3.1 "Site characterization and environmental monitoring," and is categorically excluded from further NEPA review.

**NEPA PROVISION**

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

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 the BLM for Task 4 and 5 field activities occurring on BLM administered lands prior to the commencement of those activities.

Note to Specialist :

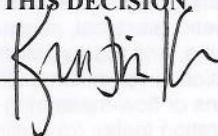
This NEPA Determination requires a tailored NEPA provision.

Casey Strickland 12/19/2013

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

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

Electronically Signed By: Kristin Kerwin  
NEPA Compliance Officer



Date: 12/19/2013

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