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(1.08.09.13)

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

RECIPIENT: Utah State Univeristy **STATE:** ID

PROJECT TITLE: PLAY FAIRWAY ANALYSIS OF THE SNAKE RIVER PLAIN, IDAHO

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000841	DE-EE0006733	GFO-0006733-001	GO6733

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.
B3.6 Small-scale research and development, laboratory operations, and pilot projects	Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

Rationale for determination:

DOE is proposing to authorize the use of federal funds by Utah State University (USU) to address the overarching theme of uncertainty quantification and reduction for geothermal exploration, specifically through the development of Geothermal Play Fairways. Phase/Budget Period 1 of the FOA was reviewed by GFO-FOA0000841-001 on July 31, 2014. USU was one of the initial awardees that have been selected to move into Budget Period 2 (BP2). This NEPA Determination is for BP2 activities only. Additional NEPA review will be required if DOE proposes to authorize funds for Budget Period 3.

BP2 includes evaluation of Phase/Budget Period 1 results, obtaining new field data, refining/improving modeling, and identification of sites for further exploration. USU has identified eight areas of interest within the Snake River Plain located in Idaho. After evaluation of existing Phase/Budget Period 1 data, two of the eight initial areas would be selected for further data acquisition. The exact field data to collect in each area and the density at which it would be collected would be determined at that time but could include geologic mapping, collection of rock samples, water sampling, magnetotelluric (MT) surveys, limited seismic imaging, and high resolution gravity/magnetic surveys. An area near Mountain Home Air Force Base would also be analyzed but this location has existing data available except for MT data so only MT surveys would be completed. Seismic surveys would be active utilizing a basic "weight drop" as the source. All seismic and gravity/magnetic surveys would be completed along existing roadways and would require no new surface disturbance to complete. MT survey locations would occur within approximately 100 feet of existing roadways and would consist of antennae, electrode, and data logger that would be installed at each site. The antennae and electrode would be buried so a small amount of surface disturbance would be required. Disturbance at each MT site would involve two trenches ~1.7 m long x 15 cm wide x 15-30 cm deep for the antennae and another small hole (10 cm x 10 cm x 20 cm deep) for the electrode with the electronic data logger remaining on the surface. All disturbance would be reclaimed within 24 hours. MT sites would be located to the extent possible in previously disturbed areas such as agricultural fields, right-of-ways, or other maintained areas. Wetlands and areas with known protected species (both plant and wildlife; candidate, threatened, and endangered) would be avoided. During the installation of an MT station, if cultural or archaeological artifacts are encountered, the recipient would stop the site installation immediately and inform the DOE Project Officer of the finding. The affected installation would be relocated to another nearby site.

Other field work such as geologic mapping, rock sample collection, and thermal water sample collection would not require any surface disturbance. Laboratory analyses is also planned and would include new Ar-Ar dating of volcanics, and thermal water sample chemistry with full spectrum elemental analyses, stable isotope analyses, and He-isotope analyses. Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

Although the two selected areas and exact locations within those areas have yet to be finalized, the proposed surveys would occur along or near existing roadways and all planned field work activities would require little or no new surface disturbance. Because of this and the above mentioned siting requirements for MT installations, impacts are not expected to any resources of concern regardless of location.

Based on review of the project information, DOE has determined that project activities 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," B3.1 "Site characterization and environmental monitoring," and B3.6 "Small-scale research and development, laboratory operations, and pilot projects," and are categorically excluded from further NEPA review.

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:
Budget Period 3
This restriction does not preclude you from:
Budget Period 1
Budget Period 2
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:

During the installation of an MT station, if cultural or archeological artifacts are encountered, the recipient will stop the site installation immediately and inform the DOE Project Officer of the finding. The affected installation will be relocated to another nearby site.

Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

Note to Specialist :

This NEPA Determination requires a tailored NEPA provision.
Geothermal Technologies Office
Casey Strickland 02/08/16

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By: Kristin Kerwin Date: 2/11/2016

NEPA Compliance Officer

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: _____ Date: _____

Field Office Manager