

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



RECIPIENT:Utah State University

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-0006733-002	G06733

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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to 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 Geothermal Play Fairway Analysis FOA was reviewed by GFO-FOA0000841-001 on July 31, 2014. A subsequent NEPA Determination (GFO-0006733-001; CX A9, B3.1; February 11, 2016) reviewed Budget Period 2 (BP2) activities. This NEPA Determination is for Budget Period 3 (BP3) activities.

Budget Period 1 and 2 activities of this award have led to the anticipated drilling of temperature gradient wells that will be funded separately from this award. These drilling activities are part of the projects selected under the Geothermal Play Fairway Analysis FOA. To minimize drilling risks, establish operational consistency across awards, and ensure recipients have a qualified drilling contractor, the drilling activities will be conducted by the United States Geological Survey (USGS). Funding for the drilling activities will be paid directly to USGS by DOE; however, those costs are still considered part of the project and therefore subject to NEPA. These drilling activities would not occur without the project activities proposed under this award. While this award does not include funding for drilling of the temperature gradient wells, the locations for where drilling would occur, activities necessary to permit the wells, analysis of well data, and site reclamation after drilling is completed are all under the control of, and are the responsibility of, Utah

State University. Because of the above, temperature gradient well drilling is a connected action to the proposed project activities being funded under this award and, therefore, the drilling and its associated impacts will be reviewed as part of this award. Initial project work planned in Budget Period 3 (Tasks 9 and 12) will define drill locations and required drilling activities, so there is insufficient data available at this time to complete a thorough review of the anticipated drilling activities (Tasks 10-11) and any potential associated impacts. These activities (Tasks 10-11) will be reviewed once drilling is fully defined.

Activities associated with BP3 Tasks 9 and 12 would include project management, data integration and analysis, computer modeling and GIS programming, obtaining supplemental field data, site selection for drilling, cultural and biological surveys, and permitting activities. Field work would include obtaining geophysical data, more detailed field mapping, and site evaluation including identification of faults, springs, surface topography, and access. USU has identified two areas of interest within the Snake River Plain in Idaho where field work would occur: 1) the Camas Prairie-Mt. Bennett Hills region, and 2) an area in the Western Snake River Plain near Mountain Home Air Force Base. Both areas were surveyed during BP2 of the project, and the proposed BP3 field work would target locations in between previously surveyed sites to fill in data gaps.

Geophysical surveys comprised of seismic, high-resolution gravity and magnetic sampling would occur in both areas of interest. Seismic surveys would be active utilizing a basic "weight drop" as the source. Although the exact locations within the two selected areas have yet to be finalized, all seismic and gravity/magnetic surveys would occur along existing roadways and would require no new surface disturbance to complete. Because of the noninvasive nature of the proposed surveys in addition to their siting on previously disturbed land, impacts are not expected to any resources of concern regardless of location.

Work near Mountain Home Air Force Base would also include infill resistivity stations (magnetotelluric "MT" surveys). The exact locations of data acquisition in each area and the density at which it would be collected have yet to be determined. For any work occurring on Bureau of Land Management or Department of Defense lands, the recipient would submit project information to the appropriate federal agency for review and approval prior to initiating field activities on those lands.

MT survey locations and access to them would be along or adjacent to existing county or farm roads. MT sites would consist of antennae, electrode, and data logger that would be installed at each location. 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. Survey 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 would be avoided. There are no critical habitats for federally listed plant or wildlife species within the proposed survey areas. Some sampling would occur near slickspot peppergrass habitat (bare rock "slickspots" are present, but it is not known if the threatened plant species is present). However, probes would be on the soil surface and therefore not affect habitat. Due to the aforementioned siting requirements, lack of critical habitat, and the isolated and short-term nature of the MT sampling technique, DOE has determined the proposed activities would have no effect on threatened and endangered species believed to occur near the project areas. 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 field mapping and site evaluation would not require surface disturbance. 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.

Based on the review of the proposal, DOE has determined Tasks 9 and 12 in Budget Period 3 fit within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410(2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. Tasks 9 and 12 in Budget Period 3 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:

Task 10: Drilling, Logging and Reservoir Testing

Task 11: Post-Drilling Synthesis and Analyses

This restriction does not preclude you from:

Task 9: Permitting and Site Selection

Task 12: Project Management and Data Archiving

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:

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.

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

For any work occurring on Bureau of Land Management or Department of Defense lands, the recipient must submit project information to the appropriate federal agency for review and approval prior to initiating field activities on those lands.

Note to Specialist :

Geothermal Technologies Office

This NEPA determination requires a tailored NEPA Provision.

NEPA review completed by Whitney Doss, 08/23/2017

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Casey Strickland Date: 8/24/2017
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