

PMC-ND
(1.08.09.13)

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



RECIPIENT: Washington State Department of Natural Resources

STATE: WA

PROJECT TITLE : Geothermal Play-Fairway Analysis of Washington State Properties

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000841	DE-EE0006728	GFO-0006728-001	G06728

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:

Washington State Department of Natural Resources (WA DNR) would utilize DOE and cost share funds 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. WA DNR 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 the recipient is selected to move forward into Budget Period 3.

BP2 includes activities to acquire geologic and geophysical data through field work and geophysical surveys to enhance understanding of the geothermal favorability at three Washington State play-fairways: Mount St. Helens seismic zone (MSHSZ), Wind River valley (WRV), and Mount Baker (MB). The collection and interpretation of new data would then be incorporated into revised favorability and uncertainty models developed in BP1 to provide a more comprehensive picture of the geothermal potential in the Washington Cascade Range.

MSHSZ: All proposed work would occur on private timberlands owned and managed by Weyerhaeuser. Resistivity survey, gravity survey, and geologic mapping activities would require no surface disturbance. Standard MT survey equipment (antennae, electrodes, and data logger) would be installed at each MT site. The antennae and electrodes

would be buried so a small amount of surface disturbance would be required and would be dug by hand. See Figure 4 in the uploaded DEEE0006728_EQ-1_maps_figures.zip file for size and layout information at each MT station location. MT station locations were selected to have minimal disturbance to the ground by being placed in already disturbed areas (sides of roads, gravel pits, etc.) whenever possible. All disturbance would be reclaimed within 24 hours. A passive seismic survey array (approximately 28 locations) would be installed and left in place for three months. Seismic station locations were selected to have minimal disturbance to the ground by being placed in already disturbed areas (sides of roads) whenever possible and access to each site is by existing roads. Seismometers would be installed in two foot diameter holes approximately two to three feet deep. All holes would be reclaimed upon equipment removal. U.S. Fish and Wildlife Service lists five special status species (Marbled Murrelet, Northern Spotted Owl, Yellow-billed Cuckoo, Canada Lynx, and Gray Wolf) and 17 migratory bird species that could occur in the area but because of the minimal disturbance, short duration, and type of the proposed activities; there would be no effect to any of the listed species. All field work activities require little or no new surface disturbance and all access to the planned field work locations would either be by existing roadways or by foot. Activities that require minor surface disturbance were specifically selected to have minimal disturbance and would be placed in already disturbed areas when possible. During the installation of field work equipment, if cultural or archeological 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. Based on the proposed activities type, minimal disturbance, short duration, and siting requirements; DOE does not anticipate impacts to any resources of concern.

WRV: Proposed work would occur on private lands and federal lands managed by the U.S. Forest Service (USFS) in the Wind River valley. Access to study sites would be by existing roads and by hiking. No surface disturbance is required for either the gravity survey or geologic sample collection activities that are planned. None of the activities proposed would have impacts beyond those of hiking, therefore DOE does not anticipate impacts to any resources of concern.

MB: All proposed work would occur on federal lands managed by the USFS. Resistivity survey, gravity survey, magnetic survey and geologic mapping activities would require no surface disturbance. Standard MT survey equipment (antennae, electrodes, and data logger) would be installed at each MT site. The antennae and electrodes would be buried so a small amount of surface disturbance would be required and would be dug by hand. See Figure 4 in the uploaded DEEE0006728_EQ-1_maps_figures.zip file for size and layout information at each MT station location. MT station locations were selected to have minimal disturbance to the ground by being placed in already disturbed areas (sides of roads, gravel pits, etc.) whenever possible. All disturbance would be reclaimed within 24 hours. All of the proposed work has been reviewed by the USFS. The USFS found no extraordinary circumstances that would preclude categorically excluding the proposed activities from further NEPA review and permitting the activities with a Special Use Permit. DOE agrees with the USFS's assessment of the potential impacts associated with the proposed project activities and does not anticipate any impacts to resources of concern.

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," and B3.1 "Site characterization and environmental monitoring," 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 field work equipment, if cultural or archeological artifacts are encountered, the recipient must stop the site installation immediately and inform the DOE Project Officer of the finding. The affected installation must be relocated to another nearby site.

Note to Specialist :

This NEPA Determination requires a tailored NEPA provision.
Geothermal Technologies Office
Casey Strickland 03/03/16

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____
Casey Strickland
NEPA Compliance Officer

Date: 3/7/2016

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: _____