PMC-EF2n

(2.01.02)

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

**RECIPIENT:** University of Hawaii, School **STATE:** HI

**PROJECT TITLE :** Spectral SP: A New Approach to Mapping Reservoir Flow and Permeability

| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
|---|---|---|---|
| DE-FOA-0000522 | DE-EE0005517 | GFO-0005517-001 | 5517 |

**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:

University of Hawaii (UH) would utilize DOE and cost share funds to supplement prior data with new geophysical surveys at known geothermal resource areas, and process the data using innovative modeling and analysis methods. The project would include development of data processing and visualization tools to promote commercialization of the exploration technology. 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.

Project Management and Reporting
PHASE 1: REPROCESSING KILAUEA SUMMIT DATA
1. Logistics and Planning – this includes acquisition of equipment; securing permissions and/or permits needed from land owners and land managers for planned field studies; design, selection, and layout of the field sites for data acquisition in the Kilauea summit and Puna Geothermal Field; and finalizing the field schedule and support requirements for the field surveys
2. Field Surveys at Kilauea Summit and Lower Puna – geophysical magnetotelluric (MT) surveys at known geothermal areas
3. Data Reduction and Analysis
4. Development of Data Visualization Tools
5. Logistics and Planning for Phase 2 of Study

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

MT survey stations would occur on private, state-owned, and federal lands. Some stations would be sited in locations that have previously been studied or where slim-holes have previously been drilled. Existing roads would be used for site access with any needed cross-country access by foot. Minimal ground disturbance is needed for installation of the MT station equipment and any disturbance would be restored to original conditions. The duration of the field deployment of the MT equipment at each location is minimal and temporary (approximately 72 hours). All permits and/or permissions needed for the field work would be obtained prior to field deployment of the survey equipment.

Phase 1 Budget: $492,619 (DOE) $11,760 (cost share)

Phase 1 of this project is composed of information gathering, data analysis, and dissemination; and site characterization and environmental monitoring activities; 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:
UH must provide DOE copies of any permissions, permits, or approvals required for field survey activities from land owners and/or land managers 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: _____ Date: 1/19/2012
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