

PMC-EF2a

(20402)

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



RECIPIENT: University of Utah

STATE: ID

PROJECT TITLE : Enhanced Geothermal Systems – Concept Testing and Development at the Raft River Geothermal Field, Idaho (non-ARRA)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-PS36-08GO98008	DE-EE000215		GO215

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:

- B3.1** Onsite and offsite site characterization and environmental monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) 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. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to:
- B5.1** Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.
- C12** Siting, construction, and operation of energy system prototypes including, but not limited to, wind resource, hydropower, geothermal, fossil fuel, biomass, and solar energy pilot projects.

Rational for determination:

University of Utah (U of U) proposes to use DOE and cost share funding to develop and demonstrate the techniques required to form and sustain EGS reservoirs at U.S. Geothermal's (USG) Raft River geothermal field in Cassia County, Idaho, and employ a staged stimulation program. Phase I of this project was previously approved by GFO-09-122 on August 5, 2009 with a CX A9, B3.1, and B3.6. The project was modified and a task was added into Phase I (Task 1.3.1 Well Readiness), so another NEPA Determination (C12) was made on May 11, 2010. Originally that task included the Pipeline Installation which was thought to be a connected action to the stimulation activities planned for Phase II. Additional information was submitted by USG, showing that the pipeline has independent utility separate from any stimulation activities and would be installed regardless of stimulation of the well. Subsequently, other tasks (1.3.1 Pipeline Installation, 1.3.2 Collect and Analyze Microseismic Data, and 1.3.3 Well Readiness) were added into Phase I separating out into three separate tasks what was initially in one task, therefore another NEPA review was needed. This review is specific to Phase I (Tasks 1.3.1 through 1.3.3), Phase II and Phase III.

Phase I (Task 1.3.1) Pipeline Installation – a 1.16 mile 12-inch pipeline would be run from the plant to the well location aboveground along an existing road/right-of-way, therefore no new surface disturbance would be expected to occur. The U.S. Fish and Wildlife Service lists two endangered species for Cassia County, Idaho. Both species are snails that are found in the mainstem Snake River and associated tributary stream habitats. Neither species is known to be present at this site. The pipeline would be routed aboveground along an existing footbridge across the Raft River therefore no disturbance or impacts would be expected to occur.

Phase I (Task 1.3.2) Collect and Analyze Microseismic Data – installation of 50 surface stations and a series of six geophones in a nearby existing monitoring well.

The following task and Phases are not Categorical Excludable but require an EA (C12) since impacts due to well stimulation have not been identified therefore Phases II and III cannot be analyzed at this time. Phase I (Task 1.3.3 Well Readiness) is a "connected action" (40 CFR 1508.25(a)(1)(iii)) to subsequent Phases of the project.

Phase I (Task 1.3.3) Well Readiness – installation of casing to total depth, integrity surveys, remedial cementing, and a perforation program would be completed to prepare the well for stimulation.

Phase II – Well Stimulation

Phase III – Long Term Monitoring

This proposed project has the potential to impact surface and subsurface resources and therefore an Environmental

Assessment (EA) is required (C12) for all tasks/subtasks beyond subtask 1.3.2 (except 1.4.1 – Reporting, which is covered by CX A9). DOE must analyze the impacts associated with the well stimulation program according to the National Environmental Policy Act (NEPA). Existing and potential impacts are unknown at this time. Since this project includes Enhanced Geothermal Systems (EGS) activities, an induced seismicity study must also be completed for incorporation into the NEPA analysis. It is for these reasons that DOE (per the DOE NEPA implementing regulations found in Appendix C to Subpart D to 10 CFR Part 1021 - C12) will require the project's proposers to prepare an EA before further project implementation can occur and prior to allowing federal funds for tasks and Phases beyond what has been approved by this NEPA determination for this proposed project. Therefore Categorical Exclusion A9 "Information Gathering", B3.1 "onsite site characterization activities", B5.1 "actions to conserve energy", and EA Determination C12, "Siting, construction, and operation of energy system prototypes including, but not limited to, wind resource, hydropower, geothermal, fossil fuel, biomass, and solar energy pilot projects" apply for this proposed project.

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:

DOE funds are not authorized for task 1.3.3 - Well Readiness and beyond (except 1.4.1 - Reporting) pending outcome of the environmental assessment.

This restriction does not preclude you from:

All tasks up to and including task 1.3.2 - Collect and Analyze Microseismic Data as well as task 1.4.1 - Reporting.

The U of U project proposers are authorized to initiate the preparation of an EA by a third-party contractor, consistent with DOE NEPA implementing regulations. DOE, U of U project proposers and third-party contractor shall enter into a Memorandum of Agreement (MOA) defining the scope of services to be completed by the third-party contractor on behalf of DOE.

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.

Note to Specialist :

This project involves tasks which are unallowable under NEPA prior to an EA determination by the GO Manager (Task 1.3.3 and all tasks in Phase II and Phase III). NEPA requests that this project be placed on ASAP Approval. Since this project includes Enhanced Geothermal Systems (EGS) activities, an induced seismicity study must be completed for incorporation into the NEPA analysis.
EF2a prepared by Casey Strickland

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

NEPA Compliance Officer

Date: _____

7/2/10

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: _____

7/7/10