PMC-EF2a

(2.06.02)

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

RECIPIENT: Alaska Center for Energy and Power, University of Alaska **STATE:** AK

PROJECT TITLE : Validation of Innovative Exploration Techniques, Pilgrim Hot Springs, Alaska

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-EE0002846	DE-EE0002846	GFO-0002846-002	0

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:

B3.7 Siting, construction, and operation of new infill exploratory and experimental (test) oil, gas, and geothermal wells, which are to be drilled in a geological formation that has existing operating wells.

A9 Information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.

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:

Rational for determination:

University of Alaska, Fairbanks (UAF) would demonstrate the potential geothermal resource at Pilgrim Hot Springs, Alaska. In Phase I (exploration; awarded by GFO-10-310 on 9/14/2010), UAF would survey and map the geology of the area to create a conceptual model of the geothermal reservoir. Task II (awarded by GFO-10-310 on 9/14/2010), UAF would repair six existing geothermal wells. Once the modeling is complete, the data would be used to locate two geothermal gradient holes. Two new geothermal gradient holes would be drilled to 500 feet deep (Task 3 and 3.1). This analysis is specific to Task 3 and 3.1which is Categorical Excludable since the tasks include drilling temperature gradient holes in an existing geothermal field. A land use agreement was reached between the surface owners Mary's Igloo Native Corporation and UAF. The project would be divided into two phases with multiple tasks.

PHASE 1 (Exploration Remote Sensing, Geophysics, and Conceptual Modeling)
Approved by GFO-10-310 on 9/14/2010
Task 1.1 Satellite-based Geothermal Anomaly Mapping.
Task 1.2 Airborne FLIR Surveys.
Task 2.1 Conduct a Shallow Temperature Survey
Task 2.2 Conduct a Resistivity Survey.

PHASE 2: Drilling
Task 2.3 Repair Existing Wellheads and Collect New Data. (Approved by GFO-10-310 on 9/14/2010).
Task 2.4 Synthesis of New and Old Datasets and Development of a Conceptual Model. (Approved by GFO-10-310 on 9/14/2010).

This analysis specific to Tasks 3 and 3.1
Task 3. New Drilling Program.
The drilling portion of this phase would be largely subcontracted out, including rig mobilization and demobilization by helicopter support, drilling, production logging, performing limited flow testing, casing and cementing, coring, and site remediation. It is divided into two subtasks as follows:

Task 3.1 Gradient Hole Drilling Program.
A minimum of two Temperature Gradient (TG) geothermal holes would be permitted and drilled to an estimated depth of 500 ft to test the conceptual model at Latitude 65.1123° N., Longitude 164.9055° W by truck mounted drilling rig. Drilling is planned for the 2011 field season (June 2011-September 2011). Low temperature Kuster gauges would be run inside the TG holes. Holes which encounter liquid water would be sampled for chemical analysis. A helicopter would be used to transport the drilling rig from the staging area to the drilling site. The Pilgrim River would be the water source for the drilling operation.

A small reserve pit (10' wide x 15' long x 3' deep) would be constructed the TG wells in order to accommodate drilling fluid, flow-back and cementing wastage. The reserve pits would be built into the ground to contain the drilled solids. The reserve pits would also be plastic-lined and surrounded by a barbed wire fence. The reserve pits would be constructed in a manner to prevent pollution of the surrounding surface and groundwater, and would include a berm surrounding the outer edges of the pit.

UAF claims that there would be a Safety Operating and Chemical Hygiene Plans (also incompliance with OSHA and industry standards) in place during the project. Small amount of air emissions would come from a small drilling rig and supporting vehicles.

The U.S. Army Corps of Engineers issued a Nation Wide Permit on February 9, 2001 for this proposed project.

The U.S. Fish and Wildlife Service issued a statement on 5/12/2010 that listed species or their designated critical habitats do not occur in the project area.

The Alaska State Historic Preservation Offices issued a No Historic Properties Affected statement on 7/13/2010 for the proposed project.

Condition of Approval: Continue Native Alaska Consultation with the Bering Straits Native Corporation and Mary's Igloo Native Corporation. Allowable: Phase I & II; Task 1 through 3.1; Prohibited: None. Tasks 3 and 3.1 comprises monitoring, site characterization, drilling in an existing geothermal field, and reporting to promote the research and development of geothermal resources; therefore this project is categorized as CX A9, B3.1, and B 3.7.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Insert the following language in the award:

You are required to:
Continue Alaska Native consultation with the Bearing Straits Native Corporation and Mary's Igloo Native Corporation

Note to Specialist :

This EF2A was written by Christopher Carusona

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 8/8/11
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