PMC-EF2a
(2.04.02)

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

RECIPIENT: Colorado School of Mines **STATE:** CO

PROJECT TITLE: Development and Validation of an Advanced Stimulation Prediction Model for Enhanced Geothermal Systems

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-PS36-09GO99018	DE-EE0002760	GFO-10-079	GO2760

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 (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.

B3.6 Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).

Rational for determination:

Colorado School of Mines (CSM) would develop a modeling system for Enhanced Geothermal Systems (EGS). The project would produce a computer model, which could be used in the planning and design of stimulation techniques to create engineered reservoirs for EGS. The lab work would take place at the CSM, Division of Engineering, Geotechnical Laboratories in Rooms 149 and 164 in Golden, Colorado. The project would be divided into seven tasks:

Task 1.0 Development of a true 3D hydro-thermal fracturing simulator
Task 2.0 Development of the proppant flow and transport simulator
Task 3.0 Validate the 3D hydro-thermal fracturing simulator using laboratory scale model tests
Task 4.0 Validate the proppant flow and transport simulator
Task 5.0 Validate the 3D hydro-thermal fracturing simulator using EGS case histories
Task 6.0 Develop strategies to disseminate and commercialize the 3D hydro-thermal fracturing and proppant flow/transport simulator
Task 7.0 Project Management and Reporting

CSM claims no additional permits are needed and there would be no generation of air emissions associated with this work. Vented gas cabinets and fumehoods are used with scrubbers to prevent release of air pollutants. The university claim that all hazardous waste is disposed of according to university, local, state, and federals regulations. According to the university, a Chemical Hygiene Plan, waste disposal, and safety protocols are in place monitored by the each university Environmental Health and Safety office.

This proposal comprises conventional laboratory operations, data analysis, and actions to promote the research and development of more efficient geothermal technologies; therefore this project is categorized as CX A9 and B3.6.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 1/26/2010
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