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PMC-EF2a

12.04.02

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



RECIPIENT: Board of Regents, NSHE, obo, University of Nevada, Reno

STATE: NV

PROJECT TITLE : A New Analytic-Adaptive Model for EGS Assessment, Development and Management Support

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-EE0000075	DE-EE0002759	GFO-10-073	GO2759

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.

Rational for determination:

Nevada Board of Regents for the Nevada System of Higher Education (NSHE) would design and develop an Enhanced Geothermal System model that would predict how fluid technologies would work in a reservoir. The model would use numerical modeling exercise used in planning, design and analysis. Rock mechanics laboratory testing would take place at the existing Laxalt Mineral Engineering building located at the University of Nevada campus in Reno, Nevada. The project is divided into three Phases.

Phase I: Multi-Scale Geologic Heat Exchanger Sub-Model Development

Task 1 Development of the Thermal, Hydrological, Mechanical and Chemical (THMC) sub-model for the discrete fracture system

Task 2 Sub-model development for thermal-hydrologic transport prediction in the rockmass around the discrete fracture network system

Task 3 Boundary coupler development between the sub-models of the discrete fracture network system and the rockmass

Phase II: Life-Cycle Sub-Model Development of the EGS

Task 4 Development of the fracture aperture THM model-element for the rockmass around the discrete fracture system

Task 5 Development of the fracture aperture THC model-element for the rockmass around the discrete fracture system

Phase III: Total system model studies and numerical model verification exercises

Task 6 Integrated THMC model validation completion

Task 7 Main hypothesis test with improved energy extraction for published EGS examples

Task 8 Integrated model study completion for a new EGS application with the cooperation of industrial partner

The University of Nevada, Reno claims no additional permits are needed and there would be no generation of air emissions, toxic waste or hazardous waste associated with this work. According to the University, environmental and safety protocols are in place monitored by the University Environmental Health and Safety office.

This project comprises information gathering, bench-scale research projects, and conventional laboratory operations to conserve energy; therefore the DOE has categorized this proposal into Categorical Exclusion A9

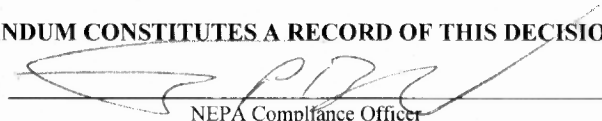
NEPA PROVISION

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:


NEPA Compliance Officer

Date:

12/28/09

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:
