

PMC-EF2a

(2.04.02)

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



RECIPIENT: Array Information Technology

STATE: CA

PROJECT TITLE : Towards the Understanding of Induced Seismicity in Enhanced Geothermal Systems

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-PS36-09GO99018	DE-EE0002756	GFO-10-258	GO2756

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:

Array Information Technology is proposing a project to address the need to understand the causal mechanisms of induced seismicity, and demonstrates the advantage of imaging the physical properties and temporal changes of the reservoir. The work will help to model the relationship between injection and production and larger magnitude events that have jeopardized, and in some cases suspended, the generation of energy from EGS systems worldwide. The outcome will be a suite of techniques applicable to assess hazard associated with EGS activities world-wide.

Project tasks include the following:

- * Imaging Reservoir Heterogeneity through 3-D Joint Inversion for Hypocenter Locations and Velocity Structure
- * Full Waveform Moment Tensor Analysis of Induced Seismicity, M>3
- * Geometry and Boundary Conditions for Geomechanical Model of The Geysers
- * Sensitivity Analysis of Earthquake Source Mechanisms, M > 3 (Year 2-3)
- * Temporal Changes of Physical Parameters in the Reservoir
- * Simulation of Stress Evolution of The Geysers Reservoir
- * Spatial and Temporal Correlation Between Large-Scale Earthquakes (M>3), Changes in Reservoir Parameters and Numerical Fluid Injection Results
- * Geomechanical Parameter Study and Model Result Analysis
- * Hazard Analysis
- * Project Management (Year 1-3)

This project involves information gathering only; therefore a CX A9 will apply.

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: _____
NEPA Compliance Officer

Date: 4/16/10

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: _____