PMC-EF2a

(2.06.02)

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

RECIPIENT: AltaRock Energy, Inc. **STATE:** NV

PROJECT TITLE : Development of Exploration Methods for Engineered Geothermal Systems through Integrated Geologic, Geophysical, and Geochemical Interpretation

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000075	DE-EE0002778	GFO-10-266	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:

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:

AltaRock Energy, Inc. (AltaRock) would test the hypothesis that the potential for Engineered Geothermal Systems (EGS) can be characterized, and drilling targets can be identified, through integration of existing and new geosciences data. The project includes both field work and limited laboratory work. Field work would take place in a 5 km X 5 km area in Dixie Valley Nevada. Laboratory work would take place at participating University sub-recipients (University of Nevada Reno, Lawrence Berkeley National Laboratory, and University of Utah).

The project is divided into multiple tasks and sub-tasks:

1. Compilation of existing public-domain data relevant for the project covering the areas of geology and stress; geophysics such as seismic, magnetotellurics, gravity and magnetics, thermal; and geochemistry.
2. Prepare guidelines for data from Task 1 and design, construct, and populate a Geographic Information System (GIS) database with the data.
3. Statistically assess public-domain geoscience data for data consistency, variability and gaps.

Since site locations for the geophysical field data collection have not been determined, Tasks 4 and 5 activities cannot be analyzed at this time. A Notice of Intent (NOI) needs to be submitted to the Bureau of Land Management for their review and concurrence prior to a NEPA determination for these Tasks. A NEPA determination for Tasks 4 and 5 of the project need to be made prior to AltaRock beginning field data collection.

4. Collection of field data to improve the model resolution at Dixie Valley. If additional geology and stress data is needed, detailed fault and fracture mapping would be performed and the installed seismic network would provide enough data to allow inversion for stress data. New seismic data would be collected by deploying an array of broadband seismometers. New magnetotelluric surveys would be conducted. Additional geochemistry sampling would be conducted for chemical and isotopic surveys.
5. Develop a conceptual EGS model for Dixie Valley by integrating all the various geoscience data components in a relational database and calibrating the model against known subsurface conditions.
6. Project Management and Reporting – Quarterly Progress Reports and a Final Report would be submitted and technical papers or posters would be presented at scientific meetings and conferences.

According to the R&D Laboratory Questionnaire, no additional permits are needed for laboratory work. No hazardous waste or liquid effluent would be produced. Gas samples would be processed in high vacuum lines for isotope analysis, no storage or disposal would be necessary. Safety protocols are in place for each of the participating laboratories.

**Note: Prior to this NEPA determination, a Limited Release of Funds was authorized via STRIPES req 10EE003441 to authorize DOE funds in the amount of $170,900 for expenditure by AltaRock. The following tasks were covered in

the blanket CX for the Limited release of Funds modification:

Task 1.0 Collect and Assess Existing Public Domain Geoscience
Task 1.1 Geology and Stress Subtask

Condition of Approval – Allowable: Tasks 1 (all remaining sub-tasks) through 3, and 6; Prohibited: Task 4 and 5. This project is comprised of information gathering, data analysis, and document preparation. The DOE has categorized this proposal into Categorical Exclusions A9.

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:
Task 4 and 5
This restriction does not preclude you from:
Tasks 1 through 3, and 6
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 :

A Notice of Intent (NOI) needs to be submitted to the Bureau of Land Management for their review and concurrence prior to a NEPA determination for Tasks 4 and 5.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 4/27/10
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