

PMC-EF2a

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



(204.02)

RECIPIENT: Magma Energy (U.S.) Corp.

STATE: NV

PROJECT TITLE : A 3D-3C Reflection Seismic Survey and Data Integration to Identify the Seismic Response of Fractures and Permeable Zones over a Known Geothermal Resource: Soda Lake, Churchill Co., NV

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
0000109	DE-EE0002832	GFO-10-203	2832

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.
- B3.1** 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:

Magma Energy (U.S.) Corporation (Magma) would demonstrate the potential geothermal resource at the Soda Lake geothermal area in Churchill County, Nevada. In Phase I (exploration geophysics), Magma would collect and interpret resistivity data from both Magnetotelluric (MT) and Controlled-Source Audio-Magnetotelluric (CSAMT) electrical surveys, and conduct detailed geologic mapping. Once collected, data would be integrated into MEC's geographic information system (GIS). This data would be used by Magma to target the thermal gradient and production wells to be drilled in Phase II. This analysis is Phase I only. The project would be divided into Phase I, II, and III with multiple tasks:

Phase I—Resource Evaluation

Task 1.0: Seismic Acquisition

Subtask 1.1 Finalize 3D-3C Reflection Seismic Survey Parameters: MEC has been working with the Bureau of Land Management (BLM) Stillwater Field Office to obtain the geophysical permits around the Soda Lake geothermal area. The proposed footprint is about 34 sq. mi. in its current configuration with shot lines oriented NE-SW and receiver lines oriented perpendicular to the shot lines at a 770' interval.

Subtask 1.2 Line and Archeology Survey and Reporting: The shot and receiver lines would be laid out by a contracted surveyor. To conform to the guidelines of the BLM, Magma would have a certified archeologist inspect each shot line to identify culturally sensitive sites. Shot lines would be offset to not disturb these locations or others subsequently discovered.

Subtask 1.3 Acquire 3D-3C Reflection Seismic Survey: The data acquisition for the 3-D p-wave survey plus the shear-wave acquisition over the current geothermal production area is planned for 45 days.

Task 2.0 Seismic Data Processing and Analysis

Subtask 2.1 Conventional P-Wave, Converted-Wave and Shear-Wave Processing

Subtask 2.2 Data Integration/Analysis

Subtask 2.3 – Specialized Data Processing

Subtask 2.4 Data Integration

Subtask 2.5 Review meeting: Before proceeding to the next step, the stake holders in the project would meet to review the results from the previous work phase and the plan going forward.

Go/No Go Decision Point: A go/no-go decision would be made prior to Phase II activities based upon the data analyses and field activities in Phase I suggesting that a geothermal resource would likely be identified through the drilling of production-capable reservoir test wells.

Phase II is not Categorical Excludable since the geothermal well locations have not been identified and therefore

cannot be analyzed at this time.
Phase II – Drilling, Testing, and Assessment

Phase III - Technology Transfer; Project Management and Report- Data management, analysis and reporting.

At this time, the locations of drilling the geothermal wells have not been identified, and therefore cannot be analyzed. Therefore, Phase II is not authorized. Phase II would be analyzed once the locations of the geothermal wells are identified and submitted to the DOE.

Condition of Approval: Allowable: Phase I and III, contingent upon Bureau of Land Management Notice of Intent review and concurrence; Prohibited: Phase II. This proposal comprises research, data analysis, and onsite characterization actions to promote the research and development of geothermal resources; therefore this project is categorized as CX A9 and B3.1.

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:

Phase II

This restriction does not preclude you from:

Phase I and III, contingent upon Bureau of Land Management Notice of Intent review and concurrence

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 :

Phase I and III, contingent upon Bureau of Land Management Notice of Intent review and concurrence

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:


NEPA Compliance Officer

Date:

3/29/10

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:
