PMC-EF2a

(2.04.02)

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

RECIPIENT: FastCAP Systems Corporation **STATE:** MA

PROJECT TITLE : Extreme Temperature (300 C) P/MWD with Energy Storage and Generation, Enabling Substantial Cost and Risk Reduction in Geothermal Exploration

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000522	DE-EE0005503	GFO-0005503-001	

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, analysis, and dissemination	Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)
B3.6 Small-scale research and development, laboratory operations, and pilot projects	Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

Rational for determination:

FastCAP Systems Corporation (FastCAP) would utilize DOE and cost share funds to develop a geothermal downhole power supply suitable for enabling pressure, temperature and directional measurement, and telemetry system fully operable up to 250°C. Laboratory work would take place at FastCAP's laboratory facility located in a renovated industrial building in Boston's Seaport (Innovation) District.

This project consists of two tasks. See the Statement of Project Objectives for details of each task.

1. Development of the Downhole Vibrational Energy Generator and Power Interface
2. Development of the ultracapacitor-based energy storage system

There is no fieldwork associated with project activities.

According to the R&D laboratory questionnaire, no additional permits are needed for project activities beyond the permits already in place for normal laboratory operations. There would be no liquid effluents, air pollutants, or toxic wastes produced from this work during project activities. The laboratory is compliant with OSHA requirements and has a safety plan and a chemical management plan in place, and all employees have undergone safety training, with an annual safety refresher required each year. All chemicals are handled and stored in containers following guidelines provided by MSDS. Solvents and other chemicals are stored in fireproof metal, corrosives, and flammables cabinets. The laboratory has required safety equipment in place.

Project Budget: $ 2,183,540 (DOE) $ 720,103 (cost share)

This project is comprised of information gathering, analysis, and dissemination; and laboratory operations; therefore the DOE has categorized this into Categorical Exclusions 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 :

EF2a prepared by Casey Strickland

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 4/2/2012

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