PMC-EF2a
(2.06.02)

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

RECIPIENT: Energent Corporation **STATE:** CA

PROJECT TITLE : Scale Resistant Heat Exchangers for Low Temperature Geothermal Binary Cycle Power Plant

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000318	DE-EE0004423	GFO-0004423-002	GO4423

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.)
B5.2 Modifications to pumps and piping	Modifications to existing pump and piping configurations (including, but not limited to, manifolds, metering systems, and other instrumentation on such configurations conveying materials such as air, brine, carbon dioxide, geothermal system fluids, hydrogen gas, natural gas, nitrogen gas, oil, produced water, steam, and water). Covered modifications would not have the potential to cause significant changes to design process flow rates or permitted air emissions.
B5.15 Small-scale renewable energy research and development and pilot projects	Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rational for determination:

Energent Corporation (EC) would use U.S. Department of Energy (DOE) grant funds to demonstrate a geothermal power plant (the Geo-SRX) using a scale-resistant heat exchanger design to allow increased utilization of low temperature resources. This project would also demonstrate a hermetic turbine-generator assembly to be submerged in the working fluid at the existing Coso geothermal field in California.

Phase I of this project was previously approved by GFO-0004423-001 on November 16, 2010. As part of the requirements of the Funding Opportunity Announcement that this project was selected under (DE-FOA-0000318), a down select process was completed and this project was selected to move forward with Phase II activities. This NEPA determination is specific to Phase II activities. Refer to the Statement of Project Objectives for details of each task/subtask in Phase II.

Phase II
4. Task 4 includes many subtasks for the construction, checkout, startup, operation, and inspection of the plant and the subsequent reporting associated with the operation.

The location of the plant would be at Coso Operating Company's existing BLM East facility, which is located on the China Lake Naval Air Weapons Station approximately 35 miles north and 11 miles east of Ridgecrest, California. The Geo-SRX is a 1 MW skid mounted power plant, designed to be more efficient than an Organic Rankine Cycle system, which would supplement the existing 24 MW power plant by utilizing the lower temperature resource associated with the current system prior to the resource being re-injected into the reservoir. The system power output would be maintained at an average level of 300 kilowatts. The advantage enabled by the Geo-SRX would be measured over two years of operation. Required consumables, optimum operation cycle/cleaning techniques, and re-injection characteristics of the brine would be determined for a period of continuous operation.

An Authority to Construct/Temporary Permit to Operate has been issued by the Great Basin Unified Air Pollution Control District for the project with specific Permit Conditions attached. The Bureau of Land Management has also issued an approved Geothermal Sundry Notice with Conditions of Approval for the project work.

Funds associated with this NEPA determination: $750,000 (DOE) 750,000 (cost share)

Remaining project activities are categorized as information gathering, data analysis, and document preparation; modifications to pumps and piping; and small-scale renewable energy research and development and pilot project; therefore the DOE has categorized this proposal into Categorical Exclusions A9, B5.2 and B5.15.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Insert the following language in the award:

You are required to:
EC must follow all Permit Conditions as outlined in the Authority to Construct/Temporary Permit to Operate No. 0379-01-11 issued by the Great Basin Unified Air Pollution Control District and all Conditions of Approval as outlined in the approved BLM Geothermal Sundry Notice for the project activities.

Note to Specialist :

EF2a prepared by Casey Strickland

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 5/31/2012
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