PMC-EF2a

(2.04.02)

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

RECIPIENT: Terra-Gen Sierra Holdings, LLC on behalf of Terra-Gen Dixie Valley, LLC **STATE:** NV

PROJECT TITLE: Dixie Valley Bottoming Binary Project

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000109	DE-EE0002860	GFO-10-263	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.

B5.1 Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

B5.2 Modifications to oil, gas, and geothermal facility pump and piping configurations, manifolds, metering systems, and other instrumentation that would not change design process flow rates or affect permitted air emissions.

Rational for determination:

Terra-Gen Sierra Holdings, LLC on behalf of Terra-Gen Dixie Valley, LLC (Terra-Gen) would engineer, procure, construct, test, and commission a 4.2-megawatt electric (MWe) binary plant that would be installed at the existing 60-MWe Dixie Valley Geothermal Power Plant as part of a "bottoming" cycle to utilize tail-water from the existing power generation process to produce electricity prior to re-injection of geothermal fluids back into the geothermal reservoir. There would be no additional use of geothermal resource fluid from the reservoir beyond current levels and further reduction of fluid temperatures prior to re-injection would not harm the geothermal reservoir.

The project is divided into three phases with multiple tasks and subtasks.

Phase 1 – Feasibility Study and Engineering Design
1. Feasibility Study
2. Permitting
2.1. Construction and Operating Permits
2.2. Water Rights
2.3. Test New Water Well
3. Engineering Work for Balance of Plant (BOP)
3.1. Mechanical Interface Design
3.2. Civil Work Design
3.3. Electrical Interface Design
3.4. Instrumentation and Controls Interface Design

Phase 2 – Procurement, Installation, and Commissioning of Equipment
4. Award Binary Plant Contract
4.1. Evaluate Bids
4.2. Negotiate Award
5. Binary Plant Contract Administration
5.1. Review Supplier Document Submittals
5.2. Supplier Engineering and Procurement
5.3. Equipment and Materials Delivery to Jobsite
5.4. Installation of supplier-furnished Equipment
5.5. Installation of BOP Equipment and Materials
6. Commissioning
6.1. Complete Installation and Checkout of all Systems

6.2. Complete O&M Staff Training
6.3. Complete Performance Testing
6.4. Initiate Commercial Operation
Phase 3 – Operation & Maintenance (O&M)
7. Collect and Report Non-Proprietary Operating Data
8. Perform Maintenance in Accordance with Supplier Recommendations
9. Collect and Report Non-Proprietary Maintenance Records
10. Project Management and Reporting – Reports and other deliverables will be provided in accordance with the Federal Assistance Reporting checklist following the instructions included therein.

An Environmental Assessment, Record of Decision, and FONSI were completed by the Bureau of Land Management (BLM) for the existing Terra-Gen Dixie Valley power plant in 1986. All of the proposed project work would occur on previously disturbed land within the existing plant boundary. Terra-Gen submitted a Sundry Notice to add a Binary Bottoming Cycle at the Terra-Gen Dixie Valley, LLC facility that was received by the BLM May 19, 2010 and subsequently approved by the BLM on June 3, 2010. The BLM also completed a Determination of NEPA Adequacy (DOI-BLM-NV-C010-2010-0009-DNA) for the proposal signed June 3, 2010. Based on that review, it was concluded that the proposal conforms to the applicable land use plan and that the existing NEPA documentation fully covers the proposed action.

According to the R&D Laboratory Questionnaire, no lab work would be needed for the project. Environmental Health and Safety (EH&S) standards are in place at the plant and there are four full-time EH&S professionals supporting operations: an EH&S Director, Senior Environmental Coordinator, Safety Coordinator, and an Environmental Coordinator. No toxic waste or air pollutants would be associated with the project.

This project is comprised of information gathering, data analysis, document preparation, actions to conserve energy through small-scale renewable energy research and development, and modification to piping at an existing geothermal facility; therefore the DOE has categorized this proposal into Categorical Exclusions A9, B5.1 and B5.2.

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: 6/3/10
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