

PMC-EF2a

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



RECIPIENT: TGP Development Company, LLC

STATE: NV

PROJECT TITLE : Recovery Act: New York Canyon Stimulation

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-PS36-GO99019/DE-FOA-0000092	DE-EE0003008	GFO-10-314	GO3008

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:
- 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.
- C12** Siting, construction, and operation of energy system prototypes including, but not limited to, wind resource, hydropower, geothermal, fossil fuel, biomass, and solar energy pilot projects.

Rational for determination:

TGP Development Company, LLC (TGP) would demonstrate the commercial application of Enhanced Geothermal System (EGS) techniques by drilling, stimulating, and testing up to two wells (injector-producer doublet) at the New York Canyon site primarily located in Pershing with some overlap into Churchill County, Nevada.

The project is divided into three phases with multiple tasks and subtasks. Details of tasks and subtasks can be found in the project's Statement of Project Objectives (SOPO).

Phase I – Pre-Stimulation

- 1.1 Site/Wellbore Readiness – subtasks include drilling of water well(s), analysis, drilling of initial exploration well (EGS-I-1), well tests, drilling of slim holes for microseismic monitoring, installation of microseismic array (surface and sub-surface), and completion of an Induced Seismicity and Seismic Hazards Report.
- 1.2 Development of Stimulation Plan
- 1.3 Planning and Permitting – securing permits for EGS Stimulation
- 1.4 Reporting and Publications

The Bureau of Land Management (BLM) has jurisdiction as the surface management agency for the project. A Notice of Intent was submitted to the BLM on May 12, 2010 and subsequently approved on July 15, 2010 for installation of the surface microseismic array.

The BLM completed an Environmental Assessment (DOI -BLM-NV-W010010-2010-0004-EA) dated October 2010 and a Decision Record/FONSI was signed on October 15, 2010. Tasks identified in Phase 1 of the SOPO submitted to the DOE were compared to what was analyzed in the EA completed by the BLM to determine if those tasks were adequately addressed in the EA. Potential surface disturbing activities identified in Phase I of the SOPO (drilling of water wells, exploration well EGS-I-1, and slim holes for microseismic monitoring) were specifically analyzed in the EA as part of the Proposed Action. The exploration well EGS-I-1 and slim hole wells identified in the SOPO were analyzed in the EA under the more inclusive term of geothermal observation wells. It is not unusual for the term observation well to be used to describe exploration wells or slim hole wells, and large diameter observation wells

could be used as production and/or injection wells. Based upon the comparison of the SOPO to the EA, it has been determined that the EA sufficiently analyzes the environmental impacts of the tasks identified in Phase 1 of the SOPO, therefore the DOE is in agreement with BLM's FONSI.

Phase II – Reservoir Creation and Characterization

2.1 Stimulation – subtasks include injection into EGS-I-1, pressure fall off tests, microseismic data monitoring, defining target location of and drilling EGS-P-1, and tests on EGS-P-1.

2.2 Post-stimulation Data Collection – EGS-P-1 could be stimulated by long-term injection if necessary.

2.3 Reporting and Publications

Phase III – Validation and Power Generation

3.1 Long-term Data Collection and Monitoring – subtasks include the continued injection into EGS-I-1 and flowing of EGS-P-1, various well tests, microseismic monitoring, geochemical sampling, reporting on the feasibility of electrical generation, and development of a strategy for integration of the doublet into a larger power plant.

3.2 Reporting and Publications

Phase II and III of this proposed project have the potential to impact surface and subsurface resources and therefore another EA is required (C12) for all tasks/subtasks in Phase II and Phase III. As the surface management agency for this project, BLM would be the lead agency for the EA. BLM and DOE must analyze the impacts associated with the well stimulation program according to the National Environmental Policy Act (NEPA). Existing and potential impacts are unknown at this time. Since this project includes Enhanced Geothermal Systems (EGS) activities, an induced seismicity study must also be completed for incorporation into the NEPA analysis. It is for these reasons that DOE (per the DOE NEPA implementing regulations found in Appendix C to Subpart D to 10 CFR Part 1021 - C12) will require the project's proposers to prepare an EA before further project implementation can occur and prior to allowing federal funds for tasks and Phases beyond what has been approved by this NEPA determination for this proposed project. Therefore Categorical Exclusion A9 "Information Gathering", B3.1 "onsite site characterization activities", B5.1 "actions to conserve energy", and EA Determination C12, "Siting, construction, and operation of energy system prototypes including, but not limited to, wind resource, hydropower, geothermal, fossil fuel, biomass, and solar energy pilot projects" apply for this proposed project.

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:

DOE funds are not authorized for Phase II (all tasks) and Phase III (all tasks) pending outcome of the required EA.

This restriction does not preclude you from:

Phase I (all tasks)

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.

Insert the following language in the award:

You are required to:

Mitigation measures and Conditions of Approval identified in the BLM New York Canyon Geothermal Exploration Project Environmental Assessment (DOI-BLM-NV-W010-2010-0004-EA) and associated Decision Record and FONSI are applicable to Phase I tasks of this proposal.

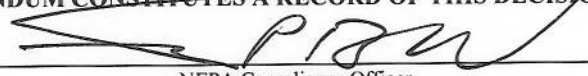
Note to Specialist :

This project involves tasks which are unallowable prior to completion of an EA (Phase II and Phase III). GO NEPA requests that this project be placed on ASAP Approval.

Since Phase II and Phase III of this project includes Enhanced Geothermal Systems (EGS) activities, an induced seismicity study must be completed for incorporation into the NEPA analysis.

EF2a prepared by Casey Strickland

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: 
NEPA Compliance Officer

Date: 10/20/10

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: _____