

**U.S. DEPARTMENT OF ENERGY**  
**OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY**  
**NEPA DETERMINATION**



**RECIPIENT:** Geothermal Expandables, LLC

**STATE:** TX

**PROJECT TITLE :** Development and Demonstration of Self-Expanding Well Construction

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
	DE-EE0005506	GFO-0005506-002	GO5506

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:

- |   |  |
|---|--|
| <b>A9 Information gathering, analysis, and dissemination</b>                                | 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.)   |
| <b>B3.6 Small-scale research and development, laboratory operations, and pilot projects</b> | 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. |

**Rationale for determination:**

Geothermal Expandables, LLC would utilize DOE and cost share funds to develop geothermal-specific drilling technology for completion and recompletions of geothermal wells. Phase 1 of the project was previously approved by GFO-0005506-001 on November 30, 2011. Phase 1 was a Proof-of-Concept validation of the technology. Based on the results of the Phase 1 feasibility studies, DOE made a conditional "go" decision to proceed with this project. Prototype designs will now be fabricated and tested to advance the technology in Phase 2. Phase 2 consists of full scale laboratory testing and field demonstration of the well completion technology. This NEPA determination is for the full scale laboratory testing and associated activities. Full scale laboratory testing and associated activities would occur at the same Houston location as Phase 1 activities. Field testing (Task 8.4) would occur at an existing geothermal well but the exact location of this testing has not been determined or may not occur depending on the results from the full scale laboratory testing. If laboratory results indicate field testing is needed, additional NEPA review will be required for the field testing once a location has been selected.

Based on review of the project information, DOE has determined that the Phase 2 activities (excluding Task 8.4) would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined that these activities are consistent with actions contained in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination," and B3.6 "Small-scale research and development, laboratory operations, and pilot projects," and is categorically excluded from further NEPA review.

**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:

Field installation and testing (Task 8.4)



This restriction does not preclude you from:

All Phase 2 activities except for field installation and testing (Task 8.4)

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.

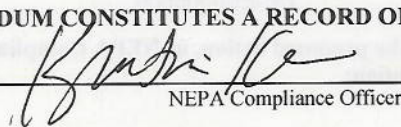
Note to Specialist :

This NEPA Determination requires a tailored NEPA provision.

Casey Strickland 11/05/2013

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature:

  
NEPA Compliance Officer

Date:

11/6/2013

**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: