

PMC-EF2a

(2.04.02)

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



RECIPIENT: Clean Tech Innovations, LLC

STATE: OK

**PROJECT TITLE :** SPI Conformance Gel Applications in Geothermal Zonal Isolation

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0000522	DE-EE0005508	GFO-0005508-002	

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.
<b>B3.11 Outdoor tests and experiments on materials and equipment components</b>	Outdoor tests and experiments for the development, quality assurance, or reliability of materials and equipment (including, but not limited to, weapon system components) under controlled conditions. Covered actions include, but are not limited to, burn tests (such as tests of electric cable fire resistance or the combustion characteristics of fuels), impact tests (such as pneumatic ejector tests using earthen embankments or concrete slabs designated and routinely used for that purpose), or drop, puncture, water-immersion, or thermal tests. Covered actions would not involve source, special nuclear, or byproduct materials, except encapsulated sources manufactured to applicable standards that contain source, special nuclear, or byproduct materials may be used for nondestructive actions such as detector/sensor development and testing and first responder field training.

**Rational for determination:**

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Clean Tech Innovations, LLC to develop Silica Polymer Initiator (SPI) gel technology that is ready for continued pilot testing and possible deployment in the geothermal industry. Activities include bench scale and dynamic testing in the laboratory, and possible field testing should a commercial candidate material be identified.

DOE made a previous NEPA determination (GFO-0005508-001 CX A9, B3.6 12/21/2011) for Phase 1 activities which included research and development in a laboratory space. This NEPA determination applies to Phase II work including bench scale laboratory work and possible demonstration in an existing geothermal well.

Laboratory work would take place at the Clean Tech Innovations facility at 6105 SE Nowata Rd., Unit 3, Bartlesville, Oklahoma 74006. Clean Tech Innovations completed an R&D questionnaire addressing the protocols for laboratory and facility safety, risk management and waste disposal. The laboratory complies with standard safety procedures and all processes and procedures are monitored by appropriate staff. The laboratory has all applicable permits in place, and would not need additional permits for the proposed activities. All handling and disposal of gases, chemicals, wastes and liquid effluents comply with appropriate regulations.

Under Task 7.0, Dynamic/Field Testing and Candidate Verification, field testing of the SPI gel would take place if results of the bench scale testing were optimal. Field testing would occur in an existing geothermal well and would be regulated by Federal and State agencies. No ground breaking activities would occur.

Based on review of the project information and the above analysis, DOE has determined the proposed research, development and possible demonstration activities would not have a significant individual or cumulative impact to

human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusion A9 "information gathering, analysis and dissemination," B3.6 "small-scale research and development projects" and B3.11 "outdoor tests on materials and equipment components" and is categorically excluded from further NEPA review.

**NEPA PROVISION**

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Insert the following language in the award:


You are required to:

If field testing is required on an existing well, the recipient must submit all relevant permits to the Project Officer prior to commencement.

Note to Specialist :

Kelly Daigle 6/6/2013

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

NEPA Compliance Officer Signature:   
NEPA Compliance Officer

Date: 6/17/2013

**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: \_\_\_\_\_