

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** Welltec Inc.**STATE:** TX

PROJECT TITLE: Zonal Isolation for Manmade Geothermal Reservoirs

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DOE-FOA-0001945	DE-EE0008484	GFO-0008484-001	

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), 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.)

B3.6 Small-scale research and development, laboratory operations, and pilot projects 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:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Welltec, Inc. to design, develop, manufacture, and test metal annular barriers for zonal isolation. An existing annular barrier, the Welltec Annual Barrier (WAB) would be modified with a metal seal design, so as to enable its use in geothermal application temperatures. The proposed project was selected under Funding Opportunity Announcement (FOA) DE-FOA-0001945 to support early-stage development of EGS zonal isolation tools and technologies. Projects selected from this FOA are structured into multiple Budget Periods (BP) separated by a Go/No-Go decision aimed at readying the proposed technology for potential field testing.

Proposed project activities for BP1 would include design and manufacture of high temperature seals, materials evaluation, performance testing on seals, and computer modeling (e.g. Finite Element Analysis). BP2 activities would include manufacture of a prototype annual barrier system and qualification test equipment, installation of the prototype into a test pipe for factory acceptance testing, and prototype qualification test. Activities under BP3 Task 5 would consist of a market assessment of targeted geothermal markets for field testing, engagement with potential geothermal operators, the manufacture of pilot series systems for field testing, and operational planning for field testing. Because a geothermal operator and well site have not yet been selected, there is not sufficient information available at this time to review proposed BP3 Task 6 (Field Test). Therefore this NEPA Determination only applies to BP1, BP2, and BP3 Task 5. BP3 Task 6 would require further NEPA review by DOE pending the submission of additional site information.

Design, manufacturing, and testing activities would all be performed indoors, at Welltec's headquarters and research facility in Katy, Texas. The locale in Katy is an existing, purpose-built facility which includes office, manufacturing and warehouse space. Welltec regularly conducts work similar in nature to that included as part of this project. No change in the use, mission or operation of existing facilities would be required. Likewise, no additional permits, licenses or authorizations would be needed.

Project work would involve parts manufacturing and pressure testing of equipment. All pressure testing would be performed in a designated testing chamber/area. Any risks associated with the performance of project activities would be mitigated through adherence to established health and safety policies and procedures. Protocols would include training of personnel, the use of proper protective equipment, engineering controls, monitoring, and internal assessments. All project activities would be performed in accordance with Federal, state, and local health, safety, and environmental regulations.

NEPA PROVISION

DOE has made a conditional NEPA determination.

The NEPA Determination applies to the following Topic Areas, Budget Periods, and/or tasks:

[Budget Period 1](#)

[Budget Period 2](#)

[Budget Period 3 -- Task 5: Market Evaluation and Manufacturing of field test pilot series](#)

The NEPA Determination does not apply to the following Topic Area, Budget Periods, and/or tasks:

[Budget Period 3 -- Task 6: Field Test](#)

Notes:

[Geothermal Technologies Office](#)

[This NEPA determination requires a tailored NEPA provision.](#)

[Review completed by Jonathan Hartman, 11/23/2018](#)

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

A portion of the proposed action is categorically excluded from further NEPA review. The NEPA Provision identifies Topic Areas, Budget Periods, tasks, and/or subtasks that are subject to additional NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____



[Casey Strickland](#)

NEPA Compliance Officer

Date: [11/26/2018](#)

FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required
 Field Office Manager review required

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____
Field Office Manager

Date: _____