

PMC-ND

(1.08.09.13)

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



RECIPIENT: Various

STATE: DC

PROJECT TITLE: The American-Made Challenges Geothermal Manufacturing Prize

Funding Opportunity Announcement Number **Procurement Instrument Number** **NEPA Control Number** **CID Number**
 GFO-GTOPrize2020-001

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.)

A11 Technical advice and assistance to organizations Technical advice and planning assistance to international, national, state, and local organizations.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to authorize the administration of a prize competition (The American-Made Geothermal Manufacturing Prize, or "Prize") designed to catalyze manufacturing innovation in the American geothermal industry by harnessing the rapid advances additive manufacturing can provide in improving design, fabrication and functionality. The Prize would be administered by the Geothermal Technologies Office (GTO) and the Advanced Manufacturing Office (AMO) in partnership with the National Renewable Energy Lab (NREL) and Oak Ridge National Laboratory (ORNL). Through the proposed Prize, DOE would progressively award federal funding in the form of cash prizes to competitors and collaborating organizations. Additional funding may be provided to two grand prize winners for field testing their tools.

The Prize would include a set of four escalating contests: Ready! Set! Make! and Geo! (hereinafter "READY" "SET" "MAKE" and "GEO"). In addition to receiving a monetary award, the winners of each contest would then be eligible to compete in the subsequent contest. A competitor would first submit an idea/concept in the READY contest, after which they would propose a design of their concept for the SET contest. Competitors would prototype and test their proof of concept at geothermal conditions (i.e., mimicking the geothermal environment) in the MAKE and GEO contests.

As part of the Prize program, administrators would facilitate collaboration between competitors and participating organizations known as American-Made Network "Connectors." These organizations range from American energy incubators, investors, universities, DOE national laboratories, and others who would contribute their own respective expertise and resources (e.g., tools, equipment, and facilities) in support of Prize competitors. Connectors would be eligible for receiving recognition awards in the form of cash from the prizes if they help competitors advance through the competition, or build partnerships with testing facilities for the eventual needs of GEO contest activities.

READY and SET contest submission packages would be limited to a brief video clip, power point slides, and other documents describing the idea/concept and its design. No prototype or component manufacturing is required, supported, or anticipated to be performed for the purposes of these first two contests. The preparation of READY and SET contest submissions would consist exclusively of intellectual, academic and/or analytical activities conducted out of existing offices or research facilities. No materials beyond basic office supplies, software, and computer hardware would be required to participate the in READY and SET contests.

Oak Ridge National Laboratory (ORNL; Oak Ridge, TN) would collaborate as a design consultant with successful READY contest competitors by providing on-paper or in-person assistance. Consultation is anticipated to occur at the ORNL Manufacturing Demonstration Facility (MDF), but would not involve any manufacturing activities at this stage.

Activities at the MDF would consist of in-person presentations, workshops, and design consultations with up to 20 teams who won READY contest prizes.

Based on a review of the Prize Official Rules, DOE has determined that no adverse impacts to sensitive resources are to be expected as a result of the READY and SET contests. Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

MAKE and GEO contests would involve eligible competitors using 3D printers to manufacture working prototypes then testing the prototypes at geothermal conditions in a laboratory setting. Until such time as SET contest winners and related technologies have been identified, the exact locations for manufacturing and testing activities remain unknown. Grand prize field testing has not yet been defined. Consequently, there is insufficient information available at this time to complete a meaningful review of Prize activities subsequent to the SET contest submission deadline. At that time (estimated date of January 26, 2021), and before the MAKE contest opens (estimated date of March 26, 2021), the responsible Technology Office Prize Manager will be required to submit additional information for NEPA review. MAKE and GEO contests are restricted until further NEPA review is completed.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

[Ready! contest](#)
[Set! contest](#)

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

[Make! contest](#)
[Geo! contest](#)

Notes:

[Geothermal Technologies Office](#)
This NEPA determination requires a tailored NEPA Provision.
NEPA review completed by Whitney Doss Donoghue, 6/25/2020

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: 6/26/2020

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: _____