



U.S. DEPARTMENT OF ENERGY

American-Made Geothermal Manufacturing Prize

GUIDELINES FOR FIELD TESTING

1. INTRODUCTION

The American-Made Geothermal Manufacturing Prize is administered under the authority of the America COMPETES Reauthorization Act of 2010.

Competitors in the Ready!, Set!, Make!, and Geo! Contests participate in four escalating challenges. The contests provide a total of \$4.65 million in incentives—\$3.25 million in cash prizes, \$1 million in vouchers, and \$400,000 in field-testing costs—to incentivize driving additively manufactured geothermal innovations from concept to prototype testing in two years through an accelerated schedule.

The Geo! Contest is the fourth and final contest in the Geothermal Manufacturing Prize, offering a total of \$1 million in cash prizes and up to \$400,000 in reimbursed field-testing costs, split between two winners. All competitors in the Geo! Contest must submit a field-testing plan as a part of the Technical Narrative in the Geo! submission package. If a competitor wins the Geo! Contest and elects to pursue reimbursement for field-testing costs, the competitor must submit additional information. Those requirements are outlined in this document.

Redeeming the field-testing reimbursement is optional for Geo! Contest winners. Geo! Contest winners may receive the \$500,000 cash payment without the \$200,000 field-testing reimbursement.

2. FIELD-TESTING PLAN

All competitors in the Geo! Contest must submit a field-testing plan as a part of the Technical Narrative. As outlined in the Official Rules document, field-testing plans should include:

- The entity(ies) you plan to engage with
- The type(s) of field tests you plan to conduct
- The proposed location(s)
- The characteristics of the field site that are relevant to your technology test, including planned test depth and associated temperature conditions
- The timing/duration of the field test(s)
- The type(s) of data planned for collection
- High-level budget.

Additionally, a letter of support from each entity engaged in the field-testing plan (except vendors) should be submitted identifying their support/commitment in participating in field testing and showing appropriate site permissions for the proposed location.

3. FIELD-TESTING REIMBURSEMENT ADDITIONAL REQUIREMENTS

If a competitor wins the Geo! Contest and would like to have up to \$200,000 of field-testing costs reimbursed, the following conditions must be met:

Field-Testing Site Requirements

A field test site must:

- a. Provide the opportunity to test the winner's advanced prototype in comparison to final performance improvement goals and metrics provided in the winner's Geo! application.
- b. The site must provide reasonable access to the site facilities and services for winners in order to support the advanced prototype testing. This includes services such as equipment receipt and storage, security, warehousing, cooperation with site personnel, demolition, trailers as required, etc.
- c. The site must have procedures in place for safety, including construction activities, safety training (as necessary), lock-out-tag-out, etc., as necessary to support the winners.
- d. The site must already have all required permits for all of the proposed activities or be able to show a clear path to getting a permit for all required testing activities prior to any field testing or deployment.

National Environmental Policy Act (NEPA) Compliance

The U.S. Department of Energy's (DOE's) administration of the American-Made Geothermal Manufacturing Prize is subject to NEPA (42 USC 4321, et seq.). NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the potential environmental impacts of their proposed actions. For additional background on NEPA, please see DOE's NEPA website, at <http://nepa.energy.gov/>.

While NEPA compliance is a federal agency responsibility and the ultimate decisions remain with the federal agency, all participants seeking field-testing cost reimbursement as part of winning the Geo! Contest will be required to assist in the timely and effective completion of the NEPA process in the manner most pertinent to their participation in the prize competition. To be eligible for field-testing cost reimbursements, Geo! winners are required to provide DOE with information on their planned field-testing activities such that DOE can conduct a meaningful evaluation of the potential environmental impacts. While declining to submit information in support of the timely and effective completion of the NEPA process disqualifies that winner from field-testing cost reimbursement consideration, the winner will still win the separate \$500,000 cash prize.

Competitors must submit an EQ-1 Questionnaire through this [website](#) and provide a copy of the completed questionnaire as a part of the field-testing documentation.

4. FIELD-TESTING REIMBURSEMENT PROCESS

1. **Confirm Intent to Redeem Reimbursement** – As a part of the Geo! Contest Prize Acceptance Form, which will be e-mailed to competitors who win the Geo! Contest, the competitor must indicate whether they will be seeking reimbursement for field-testing costs.

2. **Submit Field-Testing Documentation** – Submit all additional required information via e-mail to the Prize Administrator at geothermalprize@nrel.gov within 90 days of winning the Geo! Contest. This documentation must include, at a minimum:
 - Field-Testing Plan – Competitors can use the field-testing plan they submitted as a part of their Geo! Submission package as a starting point and add any missing or relevant information to it
 - NEPA EQ-1 Form – This form should be completed [online](#) and a copy of the online submission should be included
 - Budget and Partner Quotes – Provide a comprehensive budget for the full field-testing effort (the budget should be inclusive of the full effort and may exceed the \$200,000 of reimbursable costs). Include copies of the quotes from the field-testing partner and/or subcontract for the costs that you are seeking reimbursement, up to \$200,000.
3. **Field-Testing Requirements Approval** – The Department of Energy and the Prize Administrator will review the documentation. If the documentation meets all requirements, the Prize Administrator will confirm that work can commence. If the plan does not meet the voucher requirements, the Prize Administrator will inform the competitor, and the competitor may make appropriate changes and resubmit the documentation.
4. **Reimbursement Pre-Payment** – Once the field test-plan and documentation are approved, the Prize Administrator will award the competitor either \$100,000 (half of the maximum reimbursement funds available) or half of the proposed total costs provided in the approved field-test plan if the total submitted budget is less than \$200,000. The competitor is required to pay for all costs associated with field testing. This pre-payment helps the competitor cover those upfront costs.
5. **Commence Work** – Competitors work directly with their field-test site partners and complete the work. Competitors pay for all costs related to field testing. Competitors are requested to share a testing schedule with the Prize Administrator by e-mailing geothermalprize@nrel.gov. Representatives from the Prize Administrator or the Department of Energy may request to visit the site while field testing is being conducted.
6. **Submit Evidence of Completion** – Once the field testing is complete, competitors submit evidence that work has been completed by e-mailing the Field-Testing Work Completion Report to the Prize Administrator at geothermalprize@nrel.gov. A template for the Field-testing Work Completion Report can be found in Appendix A. The competitor also submits an itemized summary of the costs and copies of the paid invoices for which they are seeking reimbursement, up to \$200,000. Field testing must be completed and all documentation submitted to the Prize Administrator within one year of winning the Geo! Contest. If competitors exceed the one-year timeline, costs will not be reimbursed.
7. **Reimbursement Payment** – The Prize Administrator will review the Field-Testing Work Completion Report and invoices. If all documentation is complete, the Prize Administrator will award the competitor the remaining reimbursement of up to \$100,000 in field-test costs.

8. FIELD-TESTING POLICIES

Competitors are responsible for finding their field-testing site partners, identifying a field-testing site, negotiating all work agreements, and ensuring that testing is completed. If the Prize Administrator

does not receive complete information that proves that testing was done, the full reimbursement payment may not be provided.

To the fullest extent permissible under applicable law, DOE and the National Renewable Energy Laboratory (NREL) disclaim all warranties, express or implied, including but not limited to, warranties of performance, merchantability, fitness for a particular purpose, accuracy, omissions, completeness, current-ness and delays, DOE and NREL disclaim all responsibility for any loss, injury, claim, liability, or damage of any kind resulting from, arising out of, or in any way related to voucher work.

User agrees to defend, indemnify, and hold DOE, NREL, their affiliates, contractors, suppliers, directors, employees, and agents harmless from any and all claims, costs, damages, judgments, and liabilities (including but not limited to reasonable attorney's fees) made by any party and arising from any use of the content.

The following terms specify the field-testing reimbursement policy:

- **Field-Testing Reimbursement Recipients**—Only Geo! Contest winners will receive the option to have field-testing costs reimbursed.
- **Field-Testing Reimbursement Amount**—The competitor may only submit for reimbursement one time. If the field-testing costs are less than \$200,000, the competitor will only be awarded what is presented in the invoices.
- **Allowable Work**—All work conducted and funded through field-test reimbursement, must be exclusively dedicated to field testing the competitor's prototype that was developed during the American-Made Geothermal Manufacturing Prize. Costs of the work must be reasonable. No alcohol, food, travel, or other personal expenses will be allowed.
- **Best Value Due Diligence**—Competitors are solely responsible for engaging field tests and establishing scopes of work under the voucher system. The Prize Administrator staff will not intervene, mediate, or negotiate on behalf of competitors for the use of vouchers at any point in this program.
- **Responsibility**—It's the competitor's sole responsibility to ensure that a facility selected and that the field-testing plan is in accordance with the guidelines herein. The competitor shall pay any upfront costs required by the field-test site at its own risk. The competitor is also solely responsible for managing the process and the work products including any changes, delays, risks, conflicts, or disputes. The Prize Administrator will not be part of the contract or agreement between the competitor and a field-test site, nor will it be a guarantor of the technical outcomes, work products, or quality of the services offered by a field-test site. If, for whatever reason, the work is not completed, or a dispute arises between the competitor and a field-test site, resolution is entirely the responsibility of the competitor. The Prize Administrator will not intervene or mediate in such cases and will not bear any costs for dispute resolution among the parties.
- **Protecting Innovation Intellectual Property (IP)** —When a competitor is working with a field-test site, they are solely responsible for ensuring the protection of IP. The

competitor is also responsible for the payment associated with protecting IP, including any relevant legal services or patents.

- **Arms-Length Transactions**—The relationship between a competitor and a field-test site should avoid conflicts of interest or the appearance of conflicts of interest. A competitor and a field-test site should act independently and should not have any relationship to each other beyond providing services. All parties must be acting in their own self-interest and not be subject to any pressure or duress from the other party. The Prize Administrator may deem a field-test site not eligible as an approved site if there is a perceived conflict of interest between the field-test site and the competitor. The field-test site may not be officially part of the team, or affiliated with the team, requesting services.
- **Process Compliance**—All competitors agree to adhere to the requirements contained in this document. Failure to follow these requirements may limit competitors' ability to acquire voucher funds.
- **Use or Lose**—Competitors must submit their field-test plan within 90 days of winning the Geo! Contest, and submit final documentation within one year of winning the Geo! Contest. Field-test reimbursement cannot be redeemed as cash payments prior to work being done, may not be transferred to other parties, and will only be paid to the competitor once all documentation is completed. Extensive proof of prototype improvements must be submitted in accordance with the guidelines of this document.

APPENDIX A – FIELD-TESTING WORK COMPLETION REPORT TEMPLATE

Team Name:
Team Captain:
Email Contact:
Phone Contact:

Field-Test Site(s):
Field-Test Date(s):

Describe the tests completed and provide proof of completion (e.g., pictures, video links, link to a report). *Four pages maximum*. Suggested content can include:

- Summary of completed field test(s) including test description, duration, and subsurface characteristics (e.g., depth and temperature targets).
- Description of field-test parameter(s) measured with results compared to current industry state of the art of a similar tool/technology under the same field conditions.
- Discussion on status of prototype validation based on technical and/or economic assumptions.
- Is there something that you wanted to accomplish with this test that you were unable to? Please describe.

Please provide any additional details that will help DOE and the Prize Administrator better understand the work effort, accomplishments, and potential long-term benefits to the geothermal industry (e.g., patents submitted, patents received, commercialization plans). This information may also be used to inform future geothermal prize designs and other funding opportunities. Winners may designate the report as confidential according to Section VI.11 of the Geo! Contest Official Rules.