

U. S. DEPARTMENT OF ENERGY  
OFFICE OF SCIENCE -- CHICAGO OFFICE

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)  
ENVIRONMENTAL EVALUATION NOTIFICATION FORM

To be completed by "Applicant," i.e., organization receiving funds and/or implementing Federal Actions as defined by 40 CFR § 1508.18. For assistance, refer to "Instructions for Preparing SC-CH F-560, Environmental Evaluation Notification Form."

Solicitation/Award No. (if applicable): DE-FOA-0001019 / DE-SC0009709  
Organization Name: GroundMetrics, Inc.  
Title of Proposed Project/Research: Borehole-Deployed Electric Field Sources and Sensors for Permanent Monitoring of CO2 Sequestration..  
Total DOE Funding/Total Project Funding: \$1,093,585

I. Project Description (use explanation page if additional space is required):

A. Proposed Project/Action (if applicable, delineate Federally funded/Non-Federally funded portions)

GroundMetrics proposes to conduct two electromagnetic surveys at Denbury Resources Hastings Field, one before and one after planned CO2 injection. The CO2 injection is a separate commercial activity not being conducted under this project. The purpose of this project is to demonstrate that electromagnetic measurements can be used to image the propagation of a CO2 plume underground.

The project surveys involve the laying of passive electromagnetic receivers on top of the ground and the injection of a small amount of electric current into the ground by shallow insertion of commercial copper grounding stakes commonly used in construction hooked up to a commercial geophysical transmitter, or placing a commercial source down a well using a commercial wireline service.

B. Would the project proceed without Federal funding?

Yes      No  
     

*If "yes," use explanation page.*

II. Description of Affected Environment:

The field is in South Texas and is somewhat residential. GroundMetrics has done a previous survey in this area and is familiar with the terrain/environment.

## III. Preliminary Questions:

- |   |                          |                                     |
|---|--------------------------|-------------------------------------|
|   | Yes                      | No                                  |
| A. <u>Is the DOE-funded work routinely administrative or <i>entirely</i> advisory or a "paper study?"</u> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

*If "Yes", ensure that the description in Section I reflects this and go directly to Section V.*

- B. Is there any potential whatsoever for:

*Provide an explanation for each "Yes" response.*

- |  | Yes                                 | No                                  |
|--|-------------------------------------|-------------------------------------|
| 1. Work to be performed outdoors?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2. Major modification of a building interior?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 3. Threat of violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health?        | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 4. Siting, construction or major expansion of waste treatment, storage, or disposal facilities?                                | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 5. Disturbance to hazardous substances, pollutants, or contaminants preexisting in the environment?                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 6. The presence of any environmentally-sensitive resources?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 7. Potential for high consequence impacts to human health or the environment?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 8. The work being connected to another existing/proposed activity that could potentially create a significant impact?          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 9. Nearby past, present, and/or reasonably foreseeable future actions such that collectively significant impacts could result? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 10. Scientific or public controversy over whether impacts could be significant?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

*If "No" to ALL Section III.B. questions, go directly to Section V.*

## IV. Potential Environmental Effects:

*Provide an explanation for each "Yes" response.*

- A. Sensitive Resources: Could the proposed action potentially result in changes and/or disturbances to any of the following resources?

- |  | Yes                      | No                                  |
|--|--------------------------|-------------------------------------|
| 1. Threatened/Endangered Species and/or Critical Habitats                          | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Other Protected Species (e.g., Burros, Migratory Birds)                         | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Sensitive Environments (e.g., Tundra/Coral Reefs/Rain Forests)                  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Cultural or Historic Resources  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Important Farmland  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Non-Attainment Areas for Ambient Air Quality Standards                          | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Class I Air Quality Control Region  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. Special Sources of Groundwater (e.g. Sole Source Aquifer)                       | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9. Navigable Air Space   | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10. Coastal Zones  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11. Areas with Special National Designation (e.g. National Forests, Parks, Trails) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 12. Floodplains and/or Wetlands  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

B. Regulated Substances/Activities: Would the proposed action involve any of the following regulated Items or activities?

	Yes	No
13. Natural Resource Damage Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14. Invasive Species or Exotic Organisms	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15. Noxious Weeds	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16. Clearing or Excavation (indicate if greater than one acre)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17. Dredge or Fill (under Clean Water Act, Section 404, greater than one acre)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18. Noise (in excess of regulations)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19. Asbestos Removal	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20. Polychlorinated biphenyls (PCBs)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21. Import, Manufacture, or Processing of Toxic Substances	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22. Chemical Storage/Use	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23. Pesticide Use	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24. Hazardous, Toxic, or Criteria Pollutant Air Emissions	<input type="checkbox"/>	<input checked="" type="checkbox"/>
25. Liquid Effluents	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26. Spill Prevention/Surface Water Protection	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27. Underground Injection	<input type="checkbox"/>	<input checked="" type="checkbox"/>
28. Hazardous Waste	<input type="checkbox"/>	<input checked="" type="checkbox"/>
29. Underground Storage Tanks	<input type="checkbox"/>	<input checked="" type="checkbox"/>
30. Radioactive or Radioactive Mixed Waste	<input type="checkbox"/>	<input checked="" type="checkbox"/>
31. Radiation Exposure	<input type="checkbox"/>	<input checked="" type="checkbox"/>
32. Nanoscale Materials	<input type="checkbox"/>	<input checked="" type="checkbox"/>
33. Genetically Engineered Microorganisms/Plants or Synthetic Biology?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
34. Ozone Depleting Substances	<input type="checkbox"/>	<input checked="" type="checkbox"/>
35. Greenhouse Gas Generation/Sustainability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
36. Off-Road Vehicles	<input type="checkbox"/>	<input checked="" type="checkbox"/>
37. Biosafety Level 3-4 Laboratory	<input type="checkbox"/>	<input checked="" type="checkbox"/>

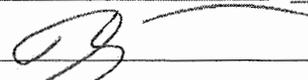
C. Other Relevant Information: Would the proposed action involve the following?

	Yes	No
38. Existing, Modified, or New Federal/State Permits	<input type="checkbox"/>	<input checked="" type="checkbox"/>
39. Disproportionate Nearby Presence of Minority and/or Low Income Populations	<input type="checkbox"/>	<input checked="" type="checkbox"/>
40. Action/Involvement of Another Federal Agency (e.g. license/permit, funding, approval)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
41. Action of a State Agency in a State with NEPA-type law	<input type="checkbox"/>	<input checked="" type="checkbox"/>
42. Public Utilities/Services	<input type="checkbox"/>	<input checked="" type="checkbox"/>
43. Depletion of a Non-Renewable Resource	<input type="checkbox"/>	<input checked="" type="checkbox"/>
44. Other Pertinent Information Which Could Impact Human Health or the Environment	<input type="checkbox"/>	<input checked="" type="checkbox"/>

V. Applicant Certification that to the best of their knowledge all information provided on this form is accurate:

Does this disclosure contain classified, confidential, or other exempt information that DOE would not be obligated to disclose pursuant to the Freedom of Information Act? Yes  No

A. Organization Official (Name and Title): Jeffrey W. Symington, CFO

Signature:  Date: 9/29/2015  
 e-mail: jsymington@groundmetrics.com Phone: 858-381-4143

B. Optional Secondary Approval (Name and Title): \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 e-mail: \_\_\_\_\_ Phone: \_\_\_\_\_

MOM

Chicago Office NEPA Tracking Number

Remainder to be completed by DOE

Contract Specialist answered this question, confirming that an existing Generic Categorical Exclusion would not apply and that a NEPA Compliance Officer review was prudent due to the recipient's answer to III.B.1.

VI. DOE Concurrence/Recommendation/Determination:

A. DOE Project Director/Program Manager or Contract/Grant Management Specialist:

Has the Applicant completed the Form correctly?  
Does an existing Generic Categorical Exclusion apply?  
If yes, indicate:

Yes  No

Name and Title: Douglas Archer, Program Manager, Office of Carbon Capture & Storage Research

Signature: Douglas B. Archer

Digitally signed by Douglas B. Archer  
DN: cn=us, o=us, ou=department of energy, ou=Energy IT Services, ou=DOE Common Operating Environment, cn=Douglas B. Archer  
Date: 2015.10.01 15:31:45 -0400

B. DOE NEPA Team Review:

Is the class of action identified in the DOE NEPA Regulations (Appendices A-D to Subpart D (10 CFR § 1021))?  
If yes, specify the class(es) of action:

Yes  No

33.1

Name and Title:

Signature: Date:

C. DOE Counsel (if requested):

Name and Title:

Signature: Date:

D. DOE NEPA Compliance Officer:

The preceding pages are a record of documentation required under DOE Final NEPA Regulation, 10 CFR § 1021.400.

- Action may be categorically excluded from further NEPA review. I have determined that the proposed action meets the requirements for Categorical Exclusion referenced above.
- Action requires approval by Head of the Field Organization. Recommend preparation of an Environmental Assessment.
- Action requires approval by Head of the Field Organization or a Secretarial Officer. Recommend preparation of an Environmental Impact Statement.

Comments/limitations if any:

NEPA Compliance Officer:

Name: Peter R. Siebach

Signature:

John R. Schubert

Date:

10/20/2015