

PMC-ND
(1.08 09.13)

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



RECIPIENT: Greenway Energy, LLC

STATE: SC

PROJECT TITLE : Hybrid Electrochemical Hydrogen/Metal Hydride Compressor

Funding Opportunity Announcement Number **Procurement Instrument Number** **NEPA Control Number** **CID Number**
 DE-FOA-0001412 DE-EE0007648 GFO-0007648-001

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:

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 Greenway Energy, LLC (GWE) to develop a new electrochemical/metal hydride hybrid solid-state hydrogen compressor system and evaluate the system for hydrogen fueling and other potential commercial hydrogen applications. Development of the electrochemical compression stage would be performed by Sustainable Innovations (SI) in East Hartford, CT; development and modeling of the metal hydride compressor would occur at Savannah River National Laboratory (SRNL); and development of the metal hydride compression stage and integration of an overall system would be performed by GWE in Aiken, SC.

The project activities include techno-economic modeling, design, development, and testing of the proposed hybrid compressor system. All research and development activities would take place in existing facilities designed for this type of research; therefore no modifications, new permits, additional licenses and/or authorizations would be necessary. No ground disturbing activities, no changes in operation of existing facilities, and no installation of equipment outdoors would occur at either of the facilities involved in the project. Facilities where project activities would occur have environmental health and safety policies and procedures in place. These policies and procedures include employee training, design and procedure reviews, and proper protective equipment. The project would involve the handling of hydrogen at high pressures. All handling of hydrogen would occur in laboratories designed for working with hydrogen following NFPA 45 with once-through ventilation and with hydrogen sensors set to 25% of the lower flammable limit. All pressure vessels and process piping complies with the ASME and other consensus codes. Reviews of project equipment with subject matter experts would occur during design and inspection of project equipment and properly sized and installed pressure relief valves would be used at all applicable locations. Disposal of all waste (hazardous and non-hazardous) would be managed in accordance with federal, state, and local environmental regulations. DOE does not anticipate any impacts to resources of concern due to the proposed activities of the project.

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.

Based on the review of the proposal, DOE has determined the proposal fits within the class of action(s) and the

integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410 (2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. This proposal 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 the Recipient intends to make changes to the scope or objective of this project, the Recipient is required to contact the Project Officer, identified in Block 15 of the Assistance Agreement before proceeding. The Recipient must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved. If the Recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of a final NEPA decision, the Recipient is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share.

Insert the following language in the award:

You are required to:

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.

Note to Specialist :

Fuel Cell Technologies Office

This NEPA determination does not require a tailored NEPA provision.

NEPA review submitted by Casey Strickland 08/23/16

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

Electronically
Signed By Lori Gray
NEPA Compliance Officer

Date: 8/23/2016

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: _____