

PMC-ND

(1.08.09.13)

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



RECIPIENT: Giner Inc.

STATE: MA

PROJECT TITLE: Advanced Catalysts and MEAs for Reversible Alkaline Membrane Fuel Cells

Funding Opportunity Announcement Number
DE-FOA-0000966

Procurement Instrument Number
DE-EE0006960

NEPA Control Number
GFO-0006960-001

CID Number
G06960

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:

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 Giner, Inc. to design and develop advanced, bi-functional, oxygen reduction/evolution reaction (ORR/OER) catalysts and other components that will lower the costs of reversible alkaline membrane fuel cells (AMFCs) for stationary energy storage.

The proposed project activities include the design, development, fabrication and testing of advanced reversible alkaline membrane fuel cells. Catalyst development and fuel cell and electrolyzer construction and testing would occur at Giner's research and development facility in Newton, MA. Alkaline membrane and ionomer development would be performed at the National Renewable Energy Labs (NREL) in Golden, CO. Development, screening and characterization of catalysts would be conducted at State University of New York (SUNY) in Buffalo, NY. All research and development activities would take place in existing facilities designed for this type of research; therefore, no new construction, modifications or new permits, additional licenses and/or authorizations would be necessary.

The proposed project would involve the use and handling of some hazardous materials, including metals and industrial solvents. All such handling would occur in-lab. All hazardous materials would be managed in accordance with federal, state, and local environmental regulations. Giner's existing corporate health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments. For all work conducted at DOE laboratories, project activities may be subject to additional NEPA review by the cognizant NEPA Compliance Officer for the lab and would be required to meet the labs health and safety requirements.

Completion of this project would result in the production of hydrogen gas (H₂) and nano-sized spinel and perovskite. However, all H₂ produced would be stored in a standard high-pressure tank and all nanoparticles would be processed in a hood and stored in sealed glass vials until such time as these materials can be disposed of in accordance with organizational, local, state, and federal environmental regulations. No siting, construction or major expansion of waste storage, disposal, recovery, or treatment actions/facilities would be required.

Based on review of the project information and the above analysis, DOE has determined that the activities associated with the proposed project would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusions B3.6 "small-scale research and development, laboratory operations and pilot projects" and 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 you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

Fuel Cell Technologies Office

This NEPA determination does not require a tailored NEPA provision.

Review completed by Rebecca McCord, 04/08/2015

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:



Electronically Signed By: Kristin Kerwin

Date: 4/15/2015

NEPA Compliance Officer

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:

Date:

Field Office Manager