

PMC-ND
(1.08.09.13)

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



RECIPIENT: FuelCell Energy, Inc.

STATE: CT

PROJECT TITLE : Modular Solid Oxide Electrolysis Cell (SOEC) System for Efficient Hydrogen Production at High Current Density

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001412	DE-EE0007646	GFO-0007646-001	

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 FuelCell Energy, Inc. (FCE) to demonstrate the potential of a solid oxide electrolysis cell (SOEC) system to produce hydrogen at low cost by improving stack endurance and subsystem robustness capable of handling intermittent renewable energy sources. Project work would occur at FCE's facility in Danbury, Connecticut and at the Versa Power Systems, Ltd (Versa) pilot facility in Calgary, Alberta, Canada.

Project activities include SOEC stack and materials design, development, fabrication, and testing; systems development and optimization; techno-economic analyses; and the design, testing, and demonstration of a SOEC system at FCE's facility. All research and development activities would take place in existing facilities designed for this type of research; therefore, no new permits, additional licenses and/or authorizations would be necessary. Minimal internal modifications at the FCE facility would be needed but there would be no physical modifications to the Versa facility. Facilities where project activities would occur have environmental health and safety policies and procedures in place. These policies and procedures include employee training, proper protective equipment, and engineering controls. 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. Project activities would require the handling of hazardous materials but all such handling would occur in-lab and would pose no risk to the public. The facilities have appropriate hazardous material handling and disposal practices in place and all hazardous materials and chemicals would be managed in accordance with federal, state, and local environmental regulations. Produced hydrogen gas would be oxidized into water prior to venting and oxygen would be diluted with air or nitrogen prior to venting. Other non-hazardous wastes would be disposed of in accordance with established guidelines at each facility. DOE does not anticipate any impacts to resources of concern due to the proposed activities of the project.

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. Additionally,

the proposed activities at the Versa facility located in Calgary, Alberta, Canada are exempt from further review under Executive Order 12114 "Environmental Effects Abroad of Major Federal Actions", per Section 5.1.1 (Actions not having a significant effect on the environment outside the US) of the DOE EO 12114 Implementing Guidelines.

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.

Note to Specialist :

Fuel Cell Technologies Office

This NEPA determination does not require a tailored NEPA provision.

NEPA review completed by Casey Strickland 08/18/16

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By: Lori Gray / Lori Gray Date: 8/18/2016
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