

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 :** Integrated Fuel Flexible Hybrid Reformer Electrolyte Purifier (REP) for Distributed Production of Low-Cost, Low Greenhouse Gas Hydrogen

**Funding Opportunity Announcement Number**    **Procurement Instrument Number**    **NEPA Control Number**    **CID Number**  
DE-FOA-0000826    DE-EE0006669    GFO-0006669-001

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:

FuelCell Energy (FCE) would utilize DOE and cost share funding to build and demonstrate a Reformer-Electrolyzer-Purifier which would reform and purify natural gas in one step. Project work would take place within an existing FCE laboratory already designed for this type of research located in Danbury Connecticut. The University of California Irvine's National Fuel Cell Research Center would support the performance analysis and the economic and business research to develop a clear commercialization plan for the technology.

The use and operation of FCE's laboratory facility would be unchanged from its normal research. Quantities of materials used and waste generated would be similar in quality and quantity to that which is already handled by the facility. All waste would be disposed of pursuant to state and federal regulations, as is currently done. The only solid waste generated by the project would be from the disassembly and recycling of the molten carbonate fuel cell materials used during the testing. This material would be recycled using one of the commercial materials reclamation companies normally used by FCE for disposal of its commercial fuel cell material. No additional permits are required for the laboratory as a result of the proposed project activities. The system would employ commercially available components from FCE's fuel cell production line. Tasks in this project include small scale stack construction and testing, parameter optimization, process optimization, commercial scale stack construction and testing, performance and economic analysis, a commercialization plan, and reporting. This is a laboratory based research project only, there is no field demonstration proposed.

Based on review of the project information, DOE has determined 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 A9 "Information gathering, analysis, and dissemination," and 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

