



U.S. Department of Energy Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: SAFCell, Inc. -- Solid Acid Fuel Cell Stack for Distributed Generation Applications

Program or Field Office: Advanced Research Projects Agency-Energy

Location(s) (City/County/State): Pasadena, CA; Boston, MA; Danbury, CT; Evanston, IL

Proposed Action Description:

SAFCell, Inc. (SAFCell), in conjunction with California Institute of Technology (CalTech), Northwestern University, Northeastern University, and Fuel Cell Energy, proposes to conduct small-scale, laboratory-based research to develop a solid acid fuel cell (SAFC) stack that runs on reformed hydrocarbon fuels, with potential applications for distributed generation. Specifically, the project team members will: (1) develop a catalyst for use in SAFC electrodes; (2) develop enhanced large-area electrodes through an electrohydrodynamic deposition process; and (3) design, analyze, fabricate, and test an integrated SAFC stack on natural gas reformate.

All project tasks will be performed in dedicated industrial and university laboratory facilities at SAFCell (Pasadena, CA), CalTech (Pasadena, CA), Northwestern University (Evanston, IL), Northeastern University (Boston, MA), and Fuel Cell Energy (Danbury, CT).

**This Categorical Exclusion Determination amends an earlier Categorical Exclusion Determination issued on August 15, 2014 for the same Proposed Action. The only change to the Proposed Action is to add Northwestern University (Evanston, IL) to the project team. The tasks associated with the proposed effort remain the same, with the exception that some of the tasks that were to be performed at CalTech will now be performed at Northwestern.

Categorical Exclusion(s) Applied:

B3.6 - Small-scale research and development, laboratory operations, and pilot projects

For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, including the full text of each categorical exclusion, see Subpart D of 10 CFR Part 1021.

Regulatory Requirements in 10 CFR 1021.410(b): (See full text in regulation)

The proposal fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D.

To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal.

The proposal has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

Based on my review of the proposed action, as NEPA Compliance Officer (as authorized under DOE Order 451.1B), I have determined that the proposed action fits within the specified class(es) of action, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

NEPA Compliance Officer:

Date Determined: 10/21/2015



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NEPA Compliance Officer:

Date Determined: 08/15/2014