



U.S. Department of Energy Categorical Exclusion Determination Form



Program or Field Office: Office of Energy Efficiency and Renewable Energy:
Phase III Xlerator Program

Funding Opportunity Number DE-FOA-0000397

Applicant Name: Giner Electrochemical Systems, LLC

Location: Newton, MA

Project Title Dimensionally Stable High Performance Membrane

Proposed Action or Project Description American Recovery and Reinvestment Act:

The use of fuel cells for automobiles, stationary power and grid stability is limited in part due to the expense and durability of the membrane at the heart of the fuel cell. Scale-up of a highly durable membrane for fuel cells is proposed. The focus of this program is to develop a method to generate Dimensionally Stable Membranes as a roll-good product. In Phase I Giner Electrochemical Systems, LLC (GES), demonstrated methods for incorporating the polymer electrolyte and the support structure. Membranes were shown to be dimensionally stable in the x-y plane, and they demonstrated that this stability led to freeze-thaw durability. In Phase II GES refined the dimensionally stable membranes and developed molding methods to generate the supports. In Phase III of the program, GES will take the molding methods that were generated in Phase II and apply them to a roll-good process. A number of different methods will be used to generate the molds. The Phase III tasks for scaling up the fabrication of patterned porous polymer membrane support structures using micro-molding technology is designed around six tasks: improve process parameters for Polydimethylsiloxane (PDMS) micromolding from the Phase II program; seek alternative molding methods; qualification of support substrates; micromolding process improvement; selection of scale-up method; and scale-up of bench process.

Conditions: None

Categorical Exclusion(s) Applied: B3.6, B5.1

*-For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, see Subpart D of 10 CFR 10.21

This action would not: threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including DOE and/or Executive Orders; require siting, construction, or major expansion of waste storage, disposal, recovery, or treatment facilities, but may include such categorically excluded facilities; disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; or adversely affect environmentally sensitive resources (including but not limited to those listed in paragraph B.(4) of Appendix B to Subpart D of 10 CFR 1021). Furthermore, there are no extraordinary circumstances related to this action that may affect the significance of the environmental effects of the action; this action is not "connected" to other actions with potentially significant impacts, is not related to other proposed actions with cumulatively significant impacts, and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211.

Based on my review of information conveyed to me and in my possession (or attached) concerning 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.

ORO NEPA Compliance Officer

James L. Elmore

Date Determined:

9/14/2010