

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



RECIPIENT: 3M Company

STATE: MN

PROJECT TITLE : New Fuel Cell Membranes with Improved Durability and Performance

Funding Opportunity Announcement Number DE-FOA-0000360	Procurement Instrument Number DE-EE0006362	NEPA Control Number GFO-0006362-001	CID Number
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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 3M Company (3M) to develop specialty membranes that have improved mechanical properties, low area specific resistance, and excellent chemical stability compared to current state of the art membranes. The membranes would be assembled into membrane electrode assemblies (MEAs) and then tested in single fuel cells and fuel cell stacks for performance and degradation data. Project partners would help with both fabrication of the membranes and testing of the fuel cells.

All project activities would occur within existing laboratory facilities at 3M in St. Paul Minnesota, General Motors in Lansing Michigan, and Vanderbilt University in Nashville Tennessee. All laboratory facilities have active safety plans, systems, and processes with hazardous waste removal procedures that comply with government standards. Facilities comply with applicable laboratory safety and environmental standards. All project activities are consistent with existing permits. Minimal amounts of hazardous and solid waste could be generated in the fabrication of test materials but that waste would be disposed of in government approved methods. 3M has considered the potential environmental, health, and safety risks of working with fibers of nanometer scale diameters and has conducted a hazard review of their laboratory and has also completed an assessment as part of their life cycle management system. The fibers that would be developed typically have diameters of about 400 nanometers and are continuously spun from solution. No danger to the environment is anticipated beyond what would normally be expected in a polymeric material synthesized from the same starting components.

Based on review of the project information and the above analysis, 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

Contracting Officer prior to commencing with work beyond that currently approved.

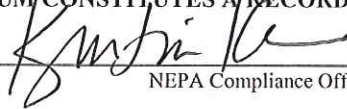
Note to Specialist :

This NEPA Determination does not require a tailored NEPA provision.

Casey Strickland 9/17/2013

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____



NEPA Compliance Officer

Date: _____

7/18/2013

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: _____

Field Office Manager

Date: _____