

PMC-ND

(1.08.09.13)

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



RECIPIENT: General Motors LLC

STATE: MI

PROJECT TITLE: Highly-Accessible Catalysts for Durable High-Power Performance

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001224	DE-EE0007271	GFO-0007271-001	GO7271

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:

General Motors LLC (GM) would utilize DOE and cost share funding to develop novel platinum based electrocatalysts for use in proton exchange membrane hydrogen fuel cell power plants with an aim to achieve a fuel cell catalyst with transport properties that meet or exceed the DOE 2020 Fuel Cell Technologies Office targets for performance, durability, and cost for automotive and stationary applications. The catalysts would be designed and optimized in collaboration with the project partners 3M Company (3M), Carnegie Mellon University (CMU), Drexel University (Drexel), and Cornell University (Cornell). The optimized catalysts would be applied to fuel cell membranes and tested in membrane electrode assemblies (MEAs) for performance and degradation data. Project partners would help with both fabrication of the catalysts, membranes, and testing of the fuel cells. Modeling and laboratory work would be performed in laboratories at GM, 3M, CMU, Drexel, and Cornell.

Work occurring at GM and 3M would involve the use and handling of various chemicals and the use of hydrogen gas. All such handling would occur in-lab. All hazardous materials would be managed in accordance with federal, state, and local environmental regulations and existing corporate health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments. Work occurring at the universities (Cornell, CMU, and Drexel) would follow all existing university health and safety policies and procedures including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments. The project would not require physical modification of existing facilities or construction of new facilities and there would be no change in the use, mission, or operation of any of the existing facilities in support of project work. No modifications to existing permits, or new permits, licenses or authorizations would be required to perform project activities. There would be no ground disturbing activities occurring as a result of project activities. Nanoscale materials would be used as part of the proposed project. The potential risks of these materials are inhalation and/or skin exposure. All necessary personal protective equipment, environmental, chemical, or other handling and hazard precautions would be followed at each facility. Health and safety procedures would be followed at each facility and all nanoscale materials would be disposed of in accordance with local, state and federal regulations.

Based on review of the project information, DOE has determined that the proposed project activities would not have a

significant individual or cumulative impact to human health and/or environment. DOE has determined that these activities are 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 are 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 :

Fuel Cell Technologies Office
This NEPA determination does not require a tailored NEPA provision.
Casey Strickland 12/22/15

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:



Electronically Signed By: Kristin Kerwin

Date: 12/22/2015

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