

PMC-EF2a

**U.S. DEPARTMENT OF ENERGY  
EERE PROJECT MANAGEMENT CENTER  
NEPA DETERMINATION**



(2.04.02)

RECIPIENT: E.I. DuPont de Nemours &amp; Co., Inc

STATE: DE

**PROJECT TITLE :** Analysis of the Durability of PEM FC Membrane Electrode Assemblies in Automotive Applications Through the Fundamental Understanding of Membrane and MEA Degradation Pathways

|  |                                      |                            |                   |
|--|--------------------------------------|----------------------------|-------------------|
| <b>Funding Opportunity Announcement Number</b> | <b>Procurement Instrument Number</b> | <b>NEPA Control Number</b> | <b>CID Number</b> |
| DE-PS36-08GO98009                              | DE-EE0003772                         | GFO-10-514                 | EE3772            |

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:

**B3.6** Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).

**Rational for determination:**

DOE is proposing to provide federal funding to E.I. DuPont de Nemours & Co. to research degradation mechanisms of proton exchange membrane (PEM) fuel cell materials under automotive conditions and develop membranes and membrane electrode assemblies (MEA) that meet DOE 2015 technical targets. The project will also look to understand the relationship of the stack operating conditions to MEA degradation and look to develop advanced fuel cell catalysts, increase fuel cell durability, and reduce MEA platinum costs. The project is comprised of experimental laboratory work at DuPont labs in Towanda, PA and Wilmington, DE as well as facility work taking place at subcontractors Nissan and Illinois Institute of Technology in Farmington Hills, Michigan and Chicago, Illinois respectively. The following tasks and subtasks were outlined in the SOPO:

- Task 1.0 Materials Synthesis
- Task 2.0 Accelerated Cell Aging Tests
- Task 3.0 Analysis and Modeling
- Task 4.0 Materials Characterization and Analysis
- Task 5.0 Project Management and Reporting
- Task 6.0 Stack Testing

All tasks will occur indoors at state-of the art laboratories and facilities operated by DuPont and associated subcontractors. The anticipated work will not create air pollutants and all discharged gases are filtered through the labs' fume hood and ventilation system. According to applicable environmental questionnaires, regulated wastes, both hazardous and non-hazardous, are actively managed and disposed of by project participants through approved and permitted in-house processes and/or vendors. All project participants adhere to rigorous safety protocols and procedures in the conduct of their work and for the storage and use of regulated substances. No impacts to natural environment resources are expected from implementation of the above tasks.

This project comprises bench-scale research and development activities in established indoor facilities; therefore a CX B3.6 applies.

**NEPA PROVISION**

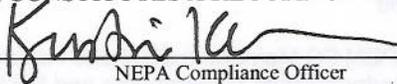
DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

None Given.

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature:  Date: 7/28/2010  
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