PMC-EF2a
(2.04.02)

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

RECIPIENT: Northeastern University

STATE: MA

PROJECT TITLE : Development of Novel Non Pt Group Metal Electrocatalysts for PEM Fuel Cell Applications

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-PS36-08GO98009	DE-EE0000459	GFO-10-398	EE459

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:

Northeastern University proposes to use federal funding to work in association with Michigan State University, University of Tennessee, Nissan Motor, BASF, & the Los Alamos National Laboratory. The goal of their project is to research and develop new alternatives to the currently used platinum and platinum group metal based electrocatalysts for low and medium temperature hydrogen polymer electrolyte fuel cells.

This project will include, for budget period 1, materials preparation to include development of MNC catalyst synthesis process, development of catalyst structure using enzyme mimics; development of novel reaction layer formulations and design of gas diffusion medium for enhanced mass transport and fabrication of membrane electrode assemblies; RDE/fuel cell testing and initial durability measurements; mechanistic studies to include ex situ and in situ spectroscopy and modeling.
Budget period 2 will consist of materials preparation to include development of poly-nuclear reaction centers, ORR catalysts based on copper mixed oxides; development of novel reaction layer formulations and design of gas diffusion medium for enhanced mass transport and fabrication of membrane electrode assemblies; RDE/fuel cell testing and initial durability modeling; mechanistic studies to include ex situ and in situ spectroscopy and modeling; and project management and reporting.

This project will take place indoors in the confines of the laboratory grounds at 6 facilities. Each facility has submitted an R & D questionnaire which thoroughly addresses chemical and safety handling protocols.

This project involves conventional research and development with existing facilities; therefore a CX B3.6 will apply.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

Eugene Brown 5/25/2010

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 5/28/10
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