PMC-EF2a

(2.04.02)

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

**RECIPIENT:** W.R. Grace and Co **STATE:** MD

**PROJECT TITLE :** New Reactor technology for Hydroprocessing Bio-oils to Produce Gasoline, Diesel and Jet Fuel

| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
|---|---|---|---|
| DE-FOA-0000342 | DE-EE0004392 | GFO-0004392-001 | EE4392 |

**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 (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.

**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:

W.R. Grace & Co. proposes to use federal funding to aid in on-going research to demonstrate and evaluate a new catalytic approach for upgrading bio-oil to hydrocarbon fuels. These new catalytic approaches are aimed at reducing production costs of biofuels.

This project will include Ebullated-bed catalyst development for bio-oil upgrading to include the evaluation of existing formulations, new formulation development, & validation of catalyst formulations in the Ebullated-bed reactor. The next phase of the project will be to optimize the Ebullated-bed reactor for hydroprocessing of bio-oils. This project will also include optimizing time operations, process determination for product transfer to petro refinery operations, technoeconomic analysis and life cycle analysis, as well as project management and reporting.

This project will have work taking place at multiple W. R. Grace & Co. facilities. Laboratory work will take place at 3 facilities, Columbia, MD, Chicago, IL, & Baltimore, MD. The applicant has submitted and R & D Questionnaire for these facilities which thoroughly addresses the chemical and safety protocols associated with this project. W.R. Grace has an Environmental Health and Safety Management System which also adhere to state and federal occupation safety standards.

This project is comprised of information gathering and research and development activities associated with laboratory development of catalysts for biofuel upgrading; therefore a CX A9 & 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 4/29/2011

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

NEPA Compliance Officer Signature: _____ Date: 5/2/2011
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