PMC-EF2a

(2.04.02)

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

RECIPIENT: Bayer MaterialScience LLC **STATE:** PA

PROJECT TITLE : Water - River Devices to Recover Energy with Advanced Materials

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000293	DE-EE0004571	GFO-0004571-001	0

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:

Bayer MaterialScience, LLC is proposing to use $240,000 in DOE funding to develop a mathematic model to validate performance of a prototype energy harvesting device suitable for deployment in a river environment. In this feasibility study, University of Pittsburgh will model conversion of energy contained in a river current to an oscillating motion. Bayer MaterialScience will separately use existing electroactive polymer technology to model its functionality as a generator. Jointly the organizations will then propose and build test devices and model their behavior in an effort to determine if such devices are economically viable. The proposed project consists of eight activities outlined below:

Task 1 - System Analysis
Task 2 - Hydrodynamic Testing
Task 3 - Galloping Device
Task 4 - Water tunnel device testing
Task 5 - Passive Shape Change Investigations
Task 6 - Dielectric Elastomer Generator (DEG) characterization and modeling
Task 7 - System modeling and integration
Task 8 - Reporting

All aspects of the proposed project will occur within existing buildings as described in the attached R&D questionnaire. There will be no new construction or expansion of existing buildings as a result of the proposed project. No new permits are required for the completion of the proposed project.

The proposed project consists of preliminary design, computer-based modeling and fabricating and in-lab testing of prototype devices consistent with activities outlined in A9 "information gathering" and B3.6 "small-scale research and development; therefore, it 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:

Note to Specialist :

EF2a completed by Logan Sholar

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 11/19/10

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