

PMC-ND  
(1.08.09.13)

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



RECIPIENT: GE Global Research

STATE: NY

**PROJECT TITLE :** Novel Membranes and Systems for Industrial and Municipal Water Purification and Reuse

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0000560	DE-EE0005771	GFO-0005771-001	GO5771

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:

<b>A9 Information gathering, analysis, and dissemination</b>	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.)
<b>B3.6 Small-scale research and development, laboratory operations, and pilot projects</b>	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.
<b>B3.15 Small-scale indoor research and development projects using nanoscale materials</b>	Siting, construction, modification, operation, and decommissioning of facilities for indoor small-scale research and development projects and small-scale pilot projects using nanoscale materials in accordance with applicable requirements (such as engineering, worker safety, procedural, and administrative regulations) necessary to ensure the containment of any hazardous materials. Construction and modification activities would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible).

## Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to GE Global Research (GE) for the development of membrane materials and manufacturing processes. Project work includes the measurement and validation of energy savings associated with the membrane research. These activities would occur at the research laboratories at GE Global Research in Niskayuna, NY and the University of Colorado in Boulder, CO. In addition, National Institute of Standards and Technology would perform advanced characterization of the membrane materials in their laboratory. All project activities would occur within these existing laboratories. No physical modifications are needed at any of the laboratories and no new permits, licenses or authorizations would be required to complete the proposed activities. All laboratory facilities have active safety plans, systems, and processes comply with required standards. All hazardous materials and non-hazardous waste would be managed in accordance with federal, state, and local environmental regulations.

This project does include the use of nanoscale materials to grow thin films for use in desalination membranes. GE has considered the potential environmental, health, and safety risks of working with nanoscale materials in this project. Because the thin films would adhere very strongly to the underlying membranes, the use of nanoscale materials in the project is not anticipated to pose any risk.

Based on review of the project information and the above analysis, DOE has determined the proposed project would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination," B3.6 "Small-scale research and development, laboratory operations, and pilot projects," and B3.15 "Small-scale indoor research and development projects using nanoscale materials " and 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:

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 :

Advanced Manufacturing Office  
This NEPA Determination does not require a tailored NEPA provision.  
Casey Strickland 12/01/14

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

NEPA Compliance Officer Signature:   
NEPA Compliance Officer

Date: 12/2/2014

**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: \_\_\_\_\_  
Field Office Manager

Date: \_\_\_\_\_