PMC-EF2a

(2/06/02)

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

RECIPIENT: RTI International **STATE:** NC

PROJECT TITLE: Advanced, Energy-Efficient Hybrid Membrane System for Industrial Water Reuse

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000560	DE-EE0005758	GFO-0005758-001	GO5758

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, analysis, and dissemination	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.)
B3.6 Small-scale research and development, laboratory operations, and pilot projects	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.

Rational for determination:

The Department of Energy (DOE) is proposing to provide federal funding to RTI International (RTI) to develop a cost-effective, hybrid membrane-based water treatment system that can improve the energy efficiency of industrial wastewater treatment. Work would be performed at the following existing laboratory facilities:

RTI, 3040 East Cornwallis Road, Research Triangle Park, NC
Duke University (Duke), Hudson Hall, 100 Science Drive, Durham, NC

Budget 1 activities would only be funded at this time, including:

- Hydrophobic Ceramic Membrane Distillation Membrane Development (Duke)
- Membrane Process Evaluation and Optimization (RTI)
- Preliminary Techno-economic and Environmental Evaluations (RTI)
- Define Model Framework and Specifications (RTI)
- Preliminary System Design (RTI)
- Project Management (RTI)

An R&D laboratory questionnaire addressing laboratory safety protocols, risk management, chemical handling and waste disposal was completed for each location.

According to the completed RTI R&D laboratory questionnaire, RTI has applicable permits in place to conduct research on site (including hazardous waste permits, and waste water permit); any toxic waste or hazardous materials generated would be disposed of properly; a mixture of methane and carbon dioxide from the lab-scale anaerobic-membrane-bioreactor unit would be captured and vented by the laboratory's ventilation system; non-hazardous liquid effluent is released to the sewer consistent with existing waste water permits; Occupational Health and Environment Management System procedures and the following programs are in place per OSHA, and industry standards: Biosafety, Chemical Safety, Emergency Preparedness and Response, Environmental Protection, General Safety, Occupational Health, Radiation Safety, and Transportation Safety; these programs have division representatives with state and federal auditors to ensure compliance with standards; fire extinguishers, first aid kids, alarms, emergency showers, eye wash stations, ventilation, personal protection equipment, and fire doors are present and available at the laboratory.

According to the Duke R&D laboratory questionnaire: no additional permits are needed; there would be no generation of air emissions associated with this work; liquid effluent would be stored in approved containers and discharged back into the sewer system according to local regulations; toxic and non-toxic waste generated would be disposed of properly; health and safety guidelines are in place specific to OSHA and Duke Occupational and Employee Health Safety Office (OEHSO) standards, as the Chemical Safety Coordinator and OESO Office monitors the lab facilities and guidelines with government audits; emergency showers, eye wash stations, ventilation hoods, and chemical storage cabinets are present and available at the laboratory.

Condition of Approval: Allowable Budget 1 Activities. Prohibited: Budget 2 and 3 Activities.

This project comprises information gathering, analysis, and laboratory operations; therefore the DOE has categorized this into Categorical Exclusions A9 and B3.6.

Total Federal Share: $4,800,000; Total Cost Share: $1,200,000
Amount released for Budget 1: Federal Share: $1,562,613; Cost Share: $390,653

NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:
Budget 2 and 3 Tasks
This restriction does not preclude you from:
Budget 1 Tasks
If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

EF2A by Christopher Carusona II

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By Lori Gray / Lori Gray Date: 8/27/2012
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