PMC-EF2a
(2.06.02)

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

RECIPIENT: Teledyne Scientific and Imaging **STATE:** CA

PROJECT TITLE: Sacrificial Protective Coating Materials that can be Regenerated In-Situ to Enable High Performance Membranes

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000560	DE-EE0005759	GFO-0005759-001	GO5759

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 Teledyne Scientific Company (TSC) to develop a chemically resistant and anti-fouling coating for low-cost Weak Black Liquor membranes for paper pulp manufacturing. Work would be performed at the following existing laboratory facility:

TSC, 1049 Camino Dos Rios, Thousand Oaks, CA

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

- Develop and update economic and engineering models that optimize the combination of membrane-based separation with multi-effect evaporation in pulp and paper processing
- Identify candidate commercial membrane separation materials based on lab tests
- Acquire hardwood and softwood black liquor samples and identify all potential fouling
- Develop coating materials for black liquor membrane separation using lab scale coupons.
- Characterize membranes with and without coating to understand the nature of fouling adhesion.
- Characterize black liquor and filtrate streams and determine levels of sulfur and sodium.

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

According to the completed TSC R&D laboratory questionnaire, TSC has applicable permits in place to conduct research on site (including hazardous waste permits, air pollution permit, fire permit, radiation permit, and waste water permit); any toxic waste or hazardous waste generated would be disposed of properly; odors from the laboratory work would be captured and vented by the laboratory's ventilation system; Health and Safety procedures are in place per OSHA industry standards and the lab is inspected by the county annually; alarms, spill response kits, ventilation, and personal protection equipment 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: $2,109.397; Total Cost Share: $527,349
Amount released for Budget 1: Federal Share: $772,685; Cost Share: $206,304

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