

PMC-EF2a

(20402)

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



RECIPIENT: TIAX LLC

STATE: MA

**PROJECT TITLE :** Waste Heat-to-Power in Small-Scale Industry using Scroll Expander for Organic Rankine Bottoming Cycle

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0000560	DE-EE0005767	GFO-0005767-001	GO5767

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 U.S. Department of Energy (DOE) is proposing to provide federal funding to TIAX LLC to research and develop a scalable scroll expander for Organic Rankine Cycle (ORC) waste heat recovery systems that can be used to convert medium-grade waste heat to electric power. DOE funding would be used for fabrication, testing and deployment of a pilot scale prototype and associated information gathering and data analysis.

This NEPA determination applies to research and development activities and tasks in Budget Periods 1, 2 and 3 associated with the fabrication and testing of a pilot scale prototype in a laboratory and information gathering and analysis.

This NEPA determination does not apply to any prototype deployment or field testing activities in Budget Periods 2 and 3 as they are not defined to the extent DOE can make a NEPA determination.

All laboratory work would be completed at TIAX located at 35 Hartwell Avenue, Lexington, MA 02421. TIAX completed an R&D questionnaire addressing the protocols for laboratory and facility safety, risk management and waste disposal. The laboratory complies with standard safety procedures and all processes and procedures are monitored by appropriate staff. The laboratory has all applicable permits in place, and would not need additional permits for the proposed activities. All handling and disposal of gases, chemicals, wastes and liquid effluents comply with appropriate regulations.

Based on review of the project information and the above analysis, DOE has determined the proposed research and development activities 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 exclusion A9 "information gathering, analysis and dissemination," and B3.6 "small-scale research and development projects" and is categorically excluded from further NEPA review.

**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:

All prototype deployment or field testing activities in Budget Periods 2 and 3.

This restriction does not preclude you from:

Laboratory research and development activities and information gathering and data analysis activities in Budget Periods 1, 2 and 3.

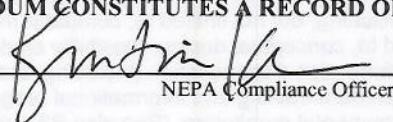
If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

Kelly Daigle 7/3/2013

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

NEPA Compliance Officer Signature:

  
NEPA Compliance Officer

Date:

7/3/2013

**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: