

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** United Technologies Research Center**STATE:** CT**PROJECT TITLE:** High-efficiency Low Global-Warming Potential (GWP) Compressor

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DOE-FOA-0001166	DE-EE0007039	GFO-0007039-001	GO7039

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.)
- B2.3 Personnel safety and health equipment** Installation of, or improvements to, equipment for personnel safety and health (including, but not limited to, eye washes, safety showers, radiation monitoring devices, fumehoods, and associated collection and exhaust systems), provided that the covered actions would not have the potential to cause a significant increase in emissions.
- 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.

Rationale for determination:

United Technologies Research Center (UTRC) would utilize DOE and cost share funding to develop a centrifugal compressor that uses a low Global Warming Potential, efficient, and nonflammable refrigerant. UTRC would demonstrate prototypes on a calorimeter in a laboratory setting, advancing the compressor TRL from 2 to 5.

Design and analysis work would occur in Budget Period 1 with compressor assembly and testing planned for Budget Period 2. Project activities are defined but the exact UTRC laboratory location for the prototype testing has not yet been determined. UTRC has several laboratories that have heat and cooling sources available which would be considered for testing the prototypes. Regardless of the exact laboratory location, all of the proposed activities would occur within existing facilities designed for that type of laboratory testing. Minor changes to the chosen facility may be required to add refrigerant safety sensors, and run new low-voltage wires for controls and instrumentation. Any laboratory facility chosen would have active safety plans, systems, and processes in place with hazardous waste removal procedures that comply with government standards and testing activities would comply with applicable laboratory safety and environmental standards. All project activities would be consistent with existing permits.

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 activities are consistent with actions contained in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination," B2.3 "Personnel safety and health equipment," and B3.6 "Small-scale research and development, laboratory operations, and pilot projects," and are 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:

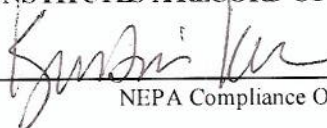
If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

This NEPA Determination does NOT require a tailored NEPA provision.
Building Technologies Office
Casey Strickland 05/05/15

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:



NEPA Compliance Officer

Date: 5/18/2015

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: _____