PMC-EF2a

(2.04.02)

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

RECIPIENT: Kansas State University **STATE:** KS

PROJECT TITLE : Development of a Water Based, Critical Flow, Non-Vapor-Compression Cooling Cycle

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000115	DE-EE0004173	GFO-0004173-001	

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:

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:

Kansas State University proposes to use $2,000,000 in DOE funding to research and develop the use of water as a refrigerant in a non-vapor compression cooling cycle.

The proposed project is divided into three phases. Phases I and II were completed by Caitin. NETL made two Categorical Exclusion determinations of B3.6 and B5.1 on January 19, 2011 for Phase I and II.

This NEPA determination applies to Phase III only. Phase III would be completed by Kansas State University (KSU) in existing laboratory facilities at the Institute for Environmental Research at KSU. The address is 61 Seaton Hall, Kansas State University, Manhattan, Kansas 66506.

Phase III would consist of nozzle development, development of a functional prototype, and field testing of the prototype in simulated conditions at the Institute for Environmental Research. All proposed laboratory tests do not involve chemicals or hazardous materials. Water would be used as the refrigerant and inert gases (air, nitrogen and argon) would be used to test for leaks in Phase III testing.

KSU completed an R&D questionnaire addressing the protocols for laboratory safety, risk management, chemical handling and waste disposal. KSU complies with standard laboratory safety procedures. Labs are inspected by university staff and safety personnel. KSU has all applicable permits in place to conduct research on site. No additional permits are needed for project activities. The laboratory general safety procedures would be followed. Safety goggles would be worn when necessary.

Caitin achieved the desired cooling outcome when R134 (Freon) was utilized during development in Phase I & II. Freon will not be used in any capacity during Phase III.

Based on review of project information and the above analysis, DOE has determined that the research would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with the actions contained in DOE categorical exclusion B3.6 "small-scale research and development," and is categorically excluded from further NEPA review under CX B3.6.

Any further projects will require a separate NEPA determination review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

Diana Scott 4.30.2012

DOE Funding: $2,000,000
Cost Share: $1,689,397
Total Project Cost: $3,689,397

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 4/30/2012
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