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PMC-ND

(1.08.09.13)

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

**RECIPIENT:** University of Florida **STATE:** FL

**PROJECT TITLE :** A Combined Water Heater, Dehumidifier, and Evaporative Cooler (WHDC)

| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
|---|---|---|---|
| DE-FOA-0001027 | DE-EE0006718 | GFO-0006718-001 | GO6718 |

**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. |

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the University of Florida to develop a technology for combined water heating, dehumidification, and space cooling (WHDC) with a technical primary energy saving potential of 652 trillion British thermal units per year.

The University of Florida proposes to study the absorption/desorption rates of three ionic liquids in a membrane-based system; fabricate the absorption cycle of a WHDC system in the plate-and-frame heat exchanger configuration, an evaporative cooler, a custom-made gas burner, airflow arrangements and system packaging in an environmental chamber; and analyze the performance and assess the energy saving capabilities of the WHDC system. Fabrication and testing of the WHDC system would take place at the University of Florida's Nanostructured Energy Systems Labs located at 355 Tigert Hall, Gainesville, FL 32611. Additional testing of the WHDC system would be conducted at Oak Ridge National Lab located at 1 Bethel Valley Rd, Oak Ridge, TN 37830. All research and development activities would take place in existing facilities designed for this type of research; therefore, no modifications or new permits, additional licenses and/or authorizations would be necessary. For all work conducted at DOE laboratories, project activities may be subject to additional NEPA review by the cognizant NEPA Compliance Officer for the lab and will be required to meet the labs health and safety requirements.

Less than 10 kilograms of Lithium Bromide would be used during the course of this project and would be collected by staff from the Environmental Health and Safety Department's Hazardous Material Management Division and transferred to the University's EPA permitted storage facility when the project is completed. The material would then be shipped by licensed carrier to an EPA licensed facility for treatment and disposal. Each facility where proposed project activities would occur has existing health and safety policies in place.

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 that this project is consistent with actions outlined in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination" and B3.6 "Small-scale research and development, laboratory operations, and pilot projects" and is therefore 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.
Review completed by Rebecca McCord 08/05/2014.

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

NEPA Compliance Officer Signature: Electronically Signed By: Lori Gray Date: 8/5/2014
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