

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** Stone Mountain Technologies, Inc.**STATE:** TN

**PROJECT TITLE:** Improving Reliability, Weight and Cost of Gas-Fired Absorption Heat Pumps

| <b>Funding Opportunity Announcement Number</b> | <b>Procurement Instrument Number</b> | <b>NEPA Control Number</b> | <b>CID Number</b> |
|--|--------------------------------------|----------------------------|-------------------|
| DE-FOA-0001825                                 | DE-EE0008687                         | GFO-0008687-001            | GO8687            |

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), 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 funding to Stone Mountain Technologies, Inc. (SMTI) to develop methods and materials to reduce the weight and cost of thermally driven absorption heat pumps for space and water heating applications. To achieve this goal, SMTI and its project partners would assess the viability of using aluminum tubing in the evaporator of an ammonia-water absorption heat pump appliance. The project would be completed over two Budget Periods (BPs), with a Go/No-Go Decision Point in between each BP.

Proposed project activities for BP1 would include completion of a literature review and baseline materials analysis, assessment of different methodologies for aluminum corrosion testing, design of bench-top reactors for materials testing, and fabrication of bench-top test reactors. BP2 activities would consist of test reactor optimization, bench-scale material testing, down selection of materials (e.g. corrosion resistant aluminum alloys), and materials testing in existing prototype gas absorption heat pump (GAHP) units.

All project activities would be completed by SMTI and its project partners, Gas Technology Institute and Ohio State University, at existing, purpose-built laboratory facilities. No changes in the use, mission, or operation of existing facilities would be required. Neither SMTI nor any of its project partners would need to obtain any additional permits in order to perform the work activities proposed as part of this award.

The project would involve the use and handling of metal alloys and industrial chemicals. Established health and safety procedures would be adhered to in order to mitigate against any risks associated with the completion of project activities. SMTI and its project partners would comply with all applicable Federal, state, and local health, safety, and environmental regulations.

**NEPA PROVISION**

DOE has made a final NEPA determination.

Notes:

Building Technologies Office

This NEPA determination does not require a tailored NEPA Provision.

NEPA review completed by Jonathan Hartman, 3/28/2019

#### FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

The proposed action is categorically excluded from further NEPA review.

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

NEPA Compliance Officer Signature: \_\_\_\_\_



Casey Strickland

NEPA Compliance Officer

Date: 3/28/2019

#### FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required  
 Field Office Manager review required

#### BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: \_\_\_\_\_

Field Office Manager

Date: \_\_\_\_\_