

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** CompRex, LLC**STATE:** WI

PROJECT TITLE: 740H Diffusion bonded compact heat exchanger for high temperature and pressure applications

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001840	DE-EE0008535	GFO-0008535-002	GO8535

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 federal funding to CompRex, LLC for the design, development, fabrication, and testing of advanced heat exchange equipment for condensed solar power (CSP) applications.

A NEPA Determination was previously completed for this project on December 21, 2018 (GFO-0008535-001; CXs A9, B3.6), which reviewed all project activities except for Subtasks 3.2, 5.2, and Task 6. These tasks/subtasks were not reviewed as they involved diffusion bonding work which would be completed at a location that was undefined at the time of the review. Since then, a location has been selected for this task work.

The activities to be performed at the new location consists of the following tasks/subtasks:

Subtask 3.2: Conduct bonding trials – This task would consist of a series of three iterative rounds of bonding trials over an approximately 9 month period. Blocks of a sample alloy material would be bonded at varying temperatures, bonding times, and air exposure times.

Subtask 5.2: Qualification with thin etched shim – This task would consist of confirmation of the bonding procedure with a previously developed etching procedure.

Task 6.0: Produce test PCHE unit for ASME qualification – This task would consist of producing a pilot-scale bonded printed circuit heat exchanger (PCHE) and performing validation testing (e.g. burst-testing) on the unit.

All work associated with Subtasks 3.2, 5.2, and Task 6 would be performed at an existing, multi-use facility in La Crosse, WI that is equipped for the type of work included as part of this project. CompRex would purchase a vacuum diffusion bonding furnace and operate it within the facility space. Minor facility upgrades would be carried out to enable operation of the furnace, including modifications to the electrical connection, in order to supply the furnace

with electrical power. CompRex would adhere to established health and safety policies and procedures when performing work activities associated with the above tasks. Protocols would include the use of personal protective equipment, monitoring, and internal assessments.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Solar Energy Technologies Office

This NEPA determination does not require a tailored NEPA Provision.

NEPA review completed by Jonathan Hartman, 07/10/2019

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: _____

 Electronically Signed By: Kristin Kerwin

NEPA Compliance Officer

Date: 7/12/2019

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: _____