

PMC-ND

(1.08.09.13)

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



RECIPIENT: Rocky Mountain Institute

STATE: CA

PROJECT
TITLE: Integrated Mechanical System Pods

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002099	DE-EE0009064	GFO-0009064-001	G09064

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 Rocky Mountain Institute (RMI) to develop an Integrated Mechanical System Pod (IMSP) for buildings with individual unit heating, ventilation, air-conditioning (HVAC), and domestic hot water (DHW) systems; and an IMSP for buildings with central HVAC and DHW systems. These IMSPs would be all-electric and assembled from readily available components to provide space heating and cooling, ventilation, domestic hot water, and controls for low, mid, and high-rise multifamily buildings. Control systems would be designed to be grid-interactive and to integrate with on-site photovoltaic (PV) systems and energy storage systems. A range of system sizes would also be investigated as proof of concept beyond pilot building requirements so that the pods could be deployed across all US climate zones. The project would be completed over two Budget Periods (BPs), with a Go/No-Go Decision Point in between each BP. RMI would only move into BP2 after this project has completed an application process at the end of BP1 and if DOE selects RMI's project through a down-selection process. BP2 activities would then be developed and structured. Because BP2 activities are not currently known, this NEPA review will only be applicable to BP1 activities. BP2 activities would be reviewed at a later date if and when RMI's project is selected to move into the subsequent BP.

BP1 would focus on the design, engineering, fabrication, and validation of the two IMSP prototypes. Both IMSPs would be designed to be integrated into a whole building retrofit solution. The project team would coordinate with building owners and their design teams during BP1 to ensure the IMSP prototypes could be easily integrated into any retrofit plans at potential BP2 pilot building sites. A fabrication plan for anticipated scale up based on current and projected market demand would be developed along with a commercialization plan. The project team would collaborate in the Advanced Building Construction (ABC) Initiative by participating with the ABC Collaborative.

Office-based work such as project management, document review and preparation, analysis, research, and computer modelling would occur within office facilities of RMI and Staengl Engineering as well as at Lawrence Berkeley National Laboratory. IMSPs and components would be assembled and tested at Syracuse University facilities. Any work proposed to be conducted at a federal facility may be subject to additional NEPA review by the cognizant federal official and must meet the applicable health and safety requirements of the facility.

BP1 activities would require no physical modifications or ground disturbing activities and no change in the use of facilities would result from project activities. No modifications to permits or new permits, additional licenses and/or authorizations would be necessary for proposed project activities. Hazards associated with fabrication work would be

from the use of power tools and machinery as well as the handling of toxic materials such as adhesives and solvents. Employee training, proper protective equipment, and internal safety reviews and assessments would be utilized to mitigate risks associated with the fabrication work. All project work would adhere to local, State, and Federal safety regulations. DOE does not anticipate any impacts to resources of concern due to the proposed BP1 activities of the project.

NEPA PROVISION

DOE has made a conditional NEPA determination.

The NEPA Determination applies to the following Topic Areas, Budget Periods, and/or tasks:

[All BP1 Tasks and Subtasks.](#)

The NEPA Determination does not apply to the following Topic Area, Budget Periods, and/or tasks:

[All BP2 Tasks and Subtasks.](#)

Notes:

[Building Technologies Office](#)

[This NEPA determination requires a tailored NEPA provision.](#)

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.

A portion of the proposed action is categorically excluded from further NEPA review. The NEPA Provision identifies Topic Areas, Budget Periods, tasks, and/or subtasks that are subject to additional NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____


NEPA Compliance Officer

Date: 6/25/2020

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: _____