

**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-0009064-002	GO9064

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 Pods (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.

This project would be completed over two phases and three Budget Periods (BPs). DOE previously completed one ND for this specific award. The ND for phase 1 of BP1 (GFO-0009064-001: CX A9 & B3.6, issued 6/25/2020) focused on the design, engineering, fabrication, and validation tasks of the two IMSP prototypes. This ND focuses on phase 2 of BP1, BP2, and BP3.

Phase 2 of BP1 includes development and advancing delivery methods developed in phase 1, software development, and design activities. Fabrication of iterative IMSPs and testing would occur in existing laboratory settings. Pre-retrofit monitoring instruments would be installed in two target demonstration buildings in anticipation for BP2.

Phase 2, BP2 activities would focus on deployment of the IMSP retrofits in the two demonstration buildings (Walden Square Apartments in Cambridge, MA and Elizabeth Court in Cudahy, CA). After installation, data would be collected for at least one year. Phase 2, BP3 activities would include validation of whole-building retrofits, monitoring and verification activities, and developing software framework for building owners to accelerate market adoption of IMSP solutions. Retrofits include physical modification of the existing demonstration buildings, both internally and externally, but no ground-disturbing activities would occur.

Minimal air emissions may result from the use of diesel powered vehicles and equipment during installation of IMSP retrofits. However, significant air impacts are not anticipated as emissions would be temporary and intermittent during installation activities only. Hazards associated with IMSP fabrication include use of power tools, machinery, and handling of toxic materials such as adhesives and solvents. Handling, storage, and disposal of toxic materials would occur within controlled laboratory settings and would follow existing corporate policies and procedures regarding these

materials. Hazards associated with IMSP installation include use of power tools, machinery, scaffolding and lifts, working with electricity, and potential exposure to lead-based paint and asbestos. Employee training, proper protective equipment, and internal safety reviews and assessments would be utilized to mitigate hazards. 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 Phase 2 activities of the project.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Building Technologies Office (BTO)
NEPA review completed by Amy Lukens, 7/25/2022.

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: Casey Strickland

NEPA Compliance Officer

Date: 7/26/2022

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: