

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



RECIPIENT: Colorado School of Mines

STATE: CO

PROJECT TITLE : Window Fan Energy Storage System (WiFESS) for Thermal Resilience

Notice of Funding Opportunity Number
DE-FOA-0003158

Procurement Instrument Number
DE-EE0011594

NEPA Control Number
GFO-0011594-001

CID Number
GO11594

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 Colorado School of Mines (Mines) to design, develop, prototype, and test a Window Fan Energy Storage System (WiFESS) for easy deployment in low-income homes in order to improve thermal resilience.

The project would be completed over three Budget Periods (BPs). The project field testing sites in the Denver Metro Area have not yet been determined. As such, this NEPA Determination only applies to BP1 and BP2. Proposed activities in BP1 and BP2 would include community engagement, surveying local residents, participant recruiting, working with local high school and college students, WiFESS design, fabrication, and prototyping, numerical analyses, modeling, ceiling tile design, building energy analyses, and laboratory-scale testing. At this time, there is insufficient information related to BP3 to perform a meaningful NEPA review as location information for activities in BP3 is currently undefined and is reliant on information gathered in BP1 and 2, such as participant recruiting.

Award activities including project management, designing, testing, and heat exchanger prototyping would take place at Mines (Golden, CO). Metropolitan State University of Denver (Denver, CO) would prototype the window fan, carry out 3D printing, and engage with the community. EcoSnap (Centennial, CO) would design the window fan. Latinas Connection Services, LLC (Aurora, CO) would plan community engagement and community recruitment activities.

Individuals working on this project could be exposed to physical hazards, such as polymers, steel, aluminum, wiring, and motors. All such handling would occur in-lab. All hazardous materials would be managed in accordance with federal, state, and local environmental regulations. Existing health and safety policies and procedures would be followed, including employee training, using proper protective equipment, engineering controls, monitoring, and internal assessments.

Laboratory modifications that would take place at Mines would be minimal. The laboratory would be divided into two mockup spaces roughly 14x10x2 feet squared made of wood studs, drywall, and fiber insulation to create simulated indoor vs outdoor environments.

DOE has considered the scale, duration, and nature of proposed activities to determine potential impacts on resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE does not anticipate impacts on these resources which would be considered significant or require DOE to consult with other agencies or

stakeholders.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

[Budget Periods 1 & 2](#)

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

[Budget Period 3](#)

Notes:

[Building Technologies Office \(BTO\)](#)

[Review completed by Alex Colling on 11/14/2024.](#)

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: _____



[Matthew Blevins](#)

NEPA Compliance Officer

Date: [11/18/2024](#)

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: _____