

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



RECIPIENT: Vermont Energy Investment Corporation (VEIC)

STATE: VT

PROJECT TITLE : Thermal Energy Storage to Support Renewable Energy Deployment

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
Congressionally Directed Projects under the Omnibus Appropriations Act, 2022	DE-EE0010169	GFO-0010169-002	GO10169

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.)

B5.1 Actions to conserve energy or water

(a) Actions to conserve energy or water, demonstrate potential energy or water conservation, and promote energy efficiency that would not have the potential to cause significant changes in the indoor or outdoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, manufacturers, and designers), organizations (such as utilities), and governments (such as state, local, and tribal). Covered actions include, but are not limited to weatherization (such as insulation and replacing windows and doors); programmed lowering of thermostat settings; placement of timers on hot water heaters; installation or replacement of energy efficient lighting, low-flow plumbing fixtures (such as faucets, toilets, and showerheads), heating, ventilation, and air conditioning systems, and appliances; installation of drip-irrigation systems; improvements in generator efficiency and appliance efficiency ratings; efficiency improvements for vehicles and transportation (such as fleet changeout); power storage (such as flywheels and batteries, generally less than 10 megawatt equivalent); transportation management systems (such as traffic signal control systems, car navigation, speed cameras, and automatic plate number recognition); development of energy-efficient manufacturing, industrial, or building practices; and small-scale energy efficiency and conservation research and development and small-scale pilot projects. Covered actions include building renovations or new structures, provided that they occur in a previously disturbed or developed area. Covered actions could involve commercial, residential, agricultural, academic, institutional, or industrial sectors. Covered actions do not include rulemakings, standard-settings, or proposed DOE legislation, except for those actions listed in B5.1(b) of this appendix. (b) Covered actions include rulemakings that establish energy conservation standards for consumer products and industrial equipment, provided that the actions would not: (1) have the potential to cause a significant change in manufacturing infrastructure (such as construction of new manufacturing plants with considerable associated ground disturbance); (2) involve significant unresolved conflicts concerning alternative uses of available resources (such as rare or limited raw materials); (3) have the potential to result in a significant increase in the disposal of materials posing significant risks to human health and the environment (such as RCRA hazardous wastes); or (4) have the potential to cause a significant increase in energy consumption in a state or region.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to administer congressionally directed spending to the Vermont Energy Investment Corporation (VEIC) to test the effectiveness of water to phase change materials (PCMs; salt hydrates or bio-based wax) as thermal energy storage (TES) materials. The award aims to achieve this by replacing the existing fossil fuel heating systems with electric heating systems at four separate locations in Vermont and monitoring the performance levels of each system.

This project (award number DE-EE0010169) received a conditional NEPA determination (ND) (GFO-0010169-001; CX A9) in August of 2023, which applied to Tasks 1 through 4 of the statement of project objectives (SOPO). The recipient has since submitted four total installation test sites: the Westminster Armory in Westminster, VT; the Berlin Armory in Berlin, VT; Holton Hall in Brattleboro, VT; and the City of Montpelier Recreation Building in Montpelier, VT.

This ND applies to Task 5 through Task 11 activities which include conducting retrofitting, development of a measurement and verification plan, system commissioning, system operation, data analysis, data collection, and drafting the final report. Installations at the four locations would include the following:

Berlin Armory

Installation of an air to water heat pump and thermal storage tanks.

Westminster Armory

Installation of an air to water heat pump, water storage tanks, potential modifications to an existing hydronic distribution system, upgrades from single phase power to three phase power.

Montpelier Recreation Center

Installation of a heat pump unit on the roof, or a secondary ground mounted location, water storage tanks. At the time of consultation, the roof structural assessment was not complete. If the recipient selects the roof for heat pump installation, the structural assessment and information would need to be submitted for further NEPA review and Section 106 consultation.

Holton Hall

Installation of a heat pump unit on the exterior of the building, installation of thermal storage tanks, and potential modifications to an existing hydronic distribution system.

The Berlin Armory is approximately 54 years of age, this location has previously been determined as eligible for the National Register of Historic Places. The Montpelier Recreation Center is within and contributing to the Montpelier Historic District. Winston Prouty-Holton Hall is approximately 110 years of age, this location has previously been determined as eligible for the National Register of Historic Places.

Pursuant to Section 106 of the National Historic Preservation Act, DOE submitted a Request for Review to the Vermont Division of Historical Resources, State Historic Preservation Officer (VT SHPO) and received concurrence with the determination that proposed project activities would have no adverse effect to historic properties. DOE also conducted a review of potential issues related to other resources of concern and found no effects that would be expected to result from the proposed project activities.

DOE has considered the scale, duration, and nature of the proposed activities to determine potential impacts on sensitive resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE found no effects would be expected as a result of the proposed project activities.

NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assistance agreement:

Section 106 consultation pursuant to the National Historic Preservation Act with the Vermont State Historic Preservation Office (SHPO) shall be required if the rooftop location is selected at the Montpelier Recreation Center for the installation of the heat pump unit. Construction at this particular location shall not begin until DOE has: (1) received the required information (2) performed NEPA review and (3) obtained SHPO concurrence, if applicable.

Notes:

Buildings Technologies Office

This NEPA determination requires legal review of the tailored NEPA provision
NEPA review completed by Dustin Hill, 6/21/2024.

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.

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  _____ Date: 6/21/2024
NEPA Compliance Officer

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: _____ Date: _____
Field Office Manager