

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



RECIPIENT: U.S. Department of Energy

STATE: Mult

PROJECT TITLE: DOE Buildings Upgrade Prize - Phase 3

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
		GFO-National Building Upgrade Prize- 003	

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:

- A11 Technical advice and assistance to organizations** Technical advice and planning assistance to international, national, state, and local organizations.

- B2.2 Building and equipment instrumentation** Installation of, or improvements to, building and equipment instrumentation (including, but not limited to, remote control panels, remote monitoring capability, alarm and surveillance systems, control systems to provide automatic shutdown, fire detection and protection systems, water consumption monitors and flow control systems, announcement and emergency warning systems, criticality and radiation monitors and alarms, and safeguards and security equipment).

- 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.

- B5.14 Combined heat and power or cogeneration systems** Conversion to, replacement of, or modification of combined heat and power or cogeneration systems (the sequential or simultaneous production of multiple forms of energy, such as thermal and electrical energy, in a single integrated system) at existing facilities, provided that the conversion, replacement, or modification would not have the potential to cause a significant increase in the quantity or rate of air emissions and would not have the potential to cause significant impacts to water resources.

- 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.)

- B5.16 Solar photovoltaic systems** The installation, modification, operation, and removal of commercially available solar photovoltaic systems located on a building or other structure (such as rooftop, parking lot or facility, and mounted to signage, lighting, gates, or fences), or if located on land, generally comprising less than 10 acres within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.
- B5.17 Solar thermal systems** The installation, modification, operation, and removal of commercially available smallscale solar thermal systems (including, but not limited to, solar hot water systems) located on or contiguous to a building, and if located on land, generally comprising less than 10 acres within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.
- B5.18 Wind turbines** The installation, modification, operation, and removal of a small number (generally not more than 2) of commercially available wind turbines, with a total height generally less than 200 feet (measured from the ground to the maximum height of blade rotation) that (1) are located within a previously disturbed or developed area; (2) are located more than 10 nautical miles (about 11.5 miles) from an airport or aviation navigation aid; (3) are located more than 1.5 nautical miles (about 1.7 miles) from National Weather Service or Federal Aviation Administration Doppler weather radar; (4) would not have the potential to cause significant impacts on bird or bat populations; and (5) are sited or designed such that the project would not have the potential to cause significant impacts to persons (such as from shadow flicker and other visual effects, and noise). Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices. Covered actions include only those related to wind turbines to be installed on land.
- B5.19 Ground source heat pumps** The installation, modification, operation, and removal of commercially available smallscale ground source heat pumps to support operations in single facilities (such as a school or community center) or contiguous facilities (such as an office complex) (1) only where (a) major associated activities (such as drilling and discharge) are regulated, and (b) appropriate leakage and contaminant control measures would be in place (including for cross-contamination between aquifers); (2) that would not have the potential to cause significant changes in subsurface temperature; and (3) would be located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.
- B5.20 Biomass power plants** The installation, modification, operation, and removal of small-scale biomass power plants (generally less than 10 megawatts), using commercially available technology (1) intended primarily to support operations in single facilities (such as a school and community center) or contiguous facilities (such as an office complex); (2) that would not affect the air quality attainment status of the area and would not have the potential to cause a significant increase in the quantity or rate of air emissions and would not have the potential to cause significant impacts to water resources; and (3) would be located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.
- B5.23 Electric vehicle charging stations** The installation, modification, operation, and removal of electric vehicle charging stations, using commercially available technology, within a previously disturbed or developed area. Covered actions are limited to areas where access and parking are in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to authorize the administration of a four-phase prize competition, known as the "National Building Upgrade Prize". The prize would provide cash and technical assistance toward the development of innovative program models to accelerate building upgrades. Additional funds may be awarded to select recipients focused on delivering scalable and replicable building upgrades to disadvantaged communities, low-and-moderate income (LMI) households, and disadvantaged businesses.

DOE previously completed two NEPA Determinations (ND) for this prize (GFO-National Building Upgrade Prize-001; A9; 11/23/2022, and GFO-National Building Upgrade Prize-002; A9; 06/12/2023). Those NDs covered the development of concept plans (phase 1s and 1) and further development of concept and implementation plans (phase 2) of the prize. This ND covers activities in phase 3. Future phases of the prize would be dependent on the outcome of phase 3 and would require additional NEPA review.

Phase 3 of the prize competition would support the implementation of technology demonstrations and pilot initiatives defined in phase 2. Implementation would include field work and installation of technologies in select structures. DOE has determined the following activities (#1 through #7) listed below are categorically excluded from further NEPA

review.

1. Administrative activities;
2. energy audits;
3. Development and implementation of programs, plans, and strategies to encourage energy efficiency and renewable energy such as policy development and stakeholder engagement;
4. Development and implementation of classroom or online training programs;
5. Development and implementation of building codes including inspection services, and associated activities to support code compliance and promote building energy efficiency;
6. New installation of non-hard wired devices including photo-controls, occupancy sensors, carbon dioxide, thermostats, humidity, light meters, and other building control sensors, provided the work conforms with applicable state and local permitting requirements;
7. Installation of electric vehicle supply equipment (EVSE), including testing measures to assess the safety and functionality of the EVSE, restricted to existing footprints and levels of previous ground disturbance, within an existing parking facility defined as any building, structure, land, right-of-way, facility, or area used for parking of motor vehicles. All activities must use reversible, non-permanent techniques for installation, where appropriate, use the lowest profile EVSE reasonably available that provides the necessary charging capacity; place the EVSE in a minimally visibly intrusive area; use colors complementary to surrounding environment, where possible, and are limited to the current electrical capacity. This applies to Level 1, Level 2, or Level 3 (also known as Direct Current (DC) Fast Charging) EVSE. (Not applicable to Tribal lands.)

Activities (#8 through #24) listed below, are categorically excluded from further NEPA review provided work does not affect character-defining features of the building and would not require structural reinforcement:

8. Replacement of existing lighting with energy efficient lighting, provided such work does not affect character-defining features of the building;
9. Installation of building insulation (not including spray insulation);
10. Installation of insulation on ducts, water heater tanks and heating pipes;
11. Duct sealing, insulation, repair, or replacement in unoccupied areas;
12. External weather sealing of the building shell, including caulking, weather-stripping, and other air infiltration control measures on windows and doors, and installing thresholds in a manner that does not harm or obscure historic windows, trim, or character-defining features of the building;
13. Interior weather sealing, including using weather stripping, door sweeps, and caulk and sealing major air leaks associated with bypasses, ducts, air conditioning units, etc.;
14. Purchase and installation of energy efficient or energy/water efficient home and commercial appliances and equipment (including, but not limited to, energy or water monitoring and control systems, thermostats, furnaces, and air conditioners);
15. Retrofit of energy efficient pumps and motors;
16. Plumbing work, including installation and replacement of water heaters;
17. Furnace or hot water tank replacement that does not require a visible new supply or venting;
18. Replacement and upgrades of existing HVAC equipment including pumps, motors, boilers, chillers, cooling towers, air handling units, package units, condensers, compressors, or heat exchangers that do not require a new location and are not visible from any public right of way, provided such work does not affect character-defining features of the building;
19. Clean, tune, repair or replace heating systems, including furnaces, boilers, heat pumps, vented space heaters, and wood stoves;
20. Clean, tune repair or replace cooling systems, including central air conditioners, window air conditioners, heat pumps, and evaporative coolers;
21. Conduct other efficiency improvements on heating and cooling systems, including replacing standing pilot lights with electronic ignition devices and installing vent dampers;
22. Modifying duct and pipe systems so heating and cooling systems operate efficiently and effectively, including adding return ducts, replace diffusers and registers, replace air filters, install thermostatic radiator controls on steam and hot water heating systems.
23. Installation of programmable thermostats, outdoor reset controls, UL listed energy management systems or building automation systems and other HVAC control systems.
24. Adding or replacing existing building controls systems, including HVAC control systems and the replacement of building-wide pneumatic controls, with digital controls, thermostats, dampers, and other individual sensors like smoke detectors and carbon monoxide detectors (wired or non-wired).

Activities (#25 through #33), are categorically excluded from further NEPA review provided the following conditions are met:

- Activities would not be located on Tribal lands or within Tribal properties, and
- would not be installed in a historic or potentially historic building (any building 45 years or older), and
- would not occur within a historic district, and

- would not require structural reinforcement, and
- would not require trees to be trimmed or removed, and
- any ground disturbing activities would be confined to the boundaries of an existing facility (defined as an already disturbed area due to regular ground maintenance), and are limited to:

25. Retrofit and replacement of windows and doors.

26. Installation of battery energy storage systems (not to exceed 1,000kWh capacity).

27. Installation of waste heat recovery devices, including desuperheater water heaters, condensing heat exchangers, heat pumps and water heating heat recovery systems, and other energy recovery equipment.

28. Installation of Combined Heat and Power Systems (systems sized appropriately for the buildings in which they are located, not to exceed peak electrical production at 300kW).

29. Installation of solar electricity/photovoltaic systems (not to exceed 60 kW).

30. Installation of a wind turbine (20 kW or smaller).

31. Installation of solar thermal systems (Including solar thermal hot water. Systems must be 200,000 BTU per hour or smaller).

32. Installation of ground source heat pumps (5.5 tons of capacity or smaller, horizontal/vertical, ground, closed-loop systems).

33. Installation of biomass thermal systems (3 MMBTUs per hour or smaller systems with appropriate Best Available Control Technologies (BACT) installed and operated, and required permits obtained).

If proposed activities are not identified within the lists above, and do not meet all conditions of applicability, the Team must complete an individual NEPA review. An individual NEPA review would require the submission of an Environmental Questionnaire 1 form (EQ1) (found at <https://www.eere-pmc.energy.gov/NEPA.aspx>). Refer to the Buildings Up NEPA Guide for step-by-step instructions to submit the form.

No new facilities would be constructed as a part of phase 3. Demonstration activities would target single and multi-family residential, commercial, and church structures. DOE will require the following as part of best management practices for the project: If during project activities the Team or their contractors encounter any cultural materials (i.e. historic or prehistoric), all activities must cease in the vicinity of the discovery immediately. The Team must inform the DOE of the discovery so an evaluation of the discovery can be completed prior to continuing work.

Minimal air emissions may result from the use of diesel-powered vehicles and equipment during the installation of demonstration technologies and pilot studies. However, significant air impacts are not anticipated as emissions would be temporary and intermittent. Technology demonstrations and pilot studies may expose installation crews to hazards such as 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. The Team would comply with all applicable federal, state, and local health, safety, and environmental regulations. DOE does not anticipate any impacts to resources of concern due to the proposed activities listed within this ND.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

Phase 3

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

Phase 4 and activities proposed in Phase 3 which do not meet the criteria outlined within the NEPA determination.

Notes:

Building Technologies Office (BTO)

This NEPA Determination requires legal review of the tailored NEPA provision.

NEPA review completed by Amy Lukens, 3/12/2024.

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:  _____ Date: 3/13/2024
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