

PMC-ND
(1.08.09.13)

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

**RECIPIENT:** [New Ecology, Inc.](#)**STATE:** [MA](#)**PROJECT TITLE:** [Optimizing Hydronic Heating for Comfort and Performance](#)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001825	DE-EE0008696	GFO-0008696-001	GO8696

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 provide funding to [New Ecology](#) to develop a software tool to automate optimization analysis and fault detection processes for multi-family boiler-system optimization. The project would seek to reduce energy consumption and maintenance costs through the software. The project would be completed over two Budget Periods (BPs), with a Go/No-Go Decision Point in between each BP.

BP1 activities would focus on development of an Alpha version of the software. Proposed activities for this period would include algorithm development to identify energy conservation measures (ECMs), building data analysis

(using data from New Ecology's existing field installations), software development, field deployment of remote monitoring systems, and Alpha software validation. BP2 activities would focus on development and validation of a Beta version of the software. Proposed activities would include software optimization, field deployment/testing, assessment of energy savings and cost effectiveness, and development of a commercialization plan.

All project activities would be performed by New Ecology and its project partner, the Fraunhofer Center for Manufacturing Innovation (Fraunhofer CMI). Data analysis and computer programming would be performed at existing facilities in Boston, MA operated by each entity. Field testing would be performed in and around the Greater Boston Area. Twenty (20) existing residential buildings would be selected at a later date for field testing. Remote monitoring sensors would be installed in each building, with sensors being installed primarily in the boiler room of each location, on existing mechanical equipment. No change in the use, mission, or operation of existing facilities would be required as part of this project. Similarly, no additional permits would be required in order to conduct any of the work activities

Because the sensors would be installed indoors, on existing machinery, the installations would not result in any significant alterations to the buildings in question. Considering the above, DOE has determined that the project activities would have no potential to cause effects to historic properties, assuming they were present, and therefore DOE has no further obligations under section 106 of the National Historic Preservation Act.

While performing system installation at the selected residential building sites, New Ecology would adhere to established health and safety policies and procedures, in order to mitigate against any potential risks or safety hazards (e.g. asbestos, mold, high CO levels). New Ecology staff performing installation work would undergo health and safety training and would receive relevant Occupational Safety and Health Administration (OSHA) certification. New Ecology and Fraunhofer CMI would observe all applicable Federal, state, and local health, safety and environmental laws and regulations.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

[Building Technologies Office](#)

[This NEPA determination does not require a tailored NEPA provision.](#)

[Review completed by Jonathan Hartman on 4/3/2019](#)

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: _____



Signed By: Casey Strickland

NEPA Compliance Officer

Date: 4/3/2019

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: _____