

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** Gas Technology Institute**STATE:** CA**PROJECT TITLE:** Transformative Efficiency and Automation in Modular Homes (TEAMH)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002099	DE-EE0009069	GFO-0009069-001	

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 funding to Gas Technology Institute (GTI) to develop a production process for the construction of energy efficient, modular homes. Both process automation and the incorporation of emerging envelope technologies would be investigated. A pilot home would be constructed and commissioned for performance testing. It would then be installed at a cold climate site in California and monitored for one (1) heating season. A data acquisition system and sensor package would be used to monitor energy usage, indoor air quality, and other relevant variables.

The project would be completed over three Budget Periods (BPs), with a Go/No-Go Decision Point in between each BP. This NEPA Determination will only be applicable to BP1 activities, which focus on planning and design work. BP2 and BP3 activities will not be reviewed, as the activities associated with these BPs are dependent on installation of the modular home for pilot demonstration testing. Testing would likely occur in the Lake Tahoe region of CA. However, an exact location would only be determined after the project has commenced and the planning work has been initiated. Because installation would include ground disturbance with the potential to have environmental impacts, demonstration testing can only be reviewed once this information is available. Accordingly, all BP2 and BP3 task are restricted. DOE will review this task work at a later date, once the relevant information has been submitted.

Proposed project activities for BP1 would include construction design development, field test planning, process development, software development (e.g. automation software), component assessments/testing, and stakeholder engagement (e.g. meetings, presentations, etc.). All project activities would be coordinated by GTI. GTI would also lead development of the data acquisition system and sensor package at its facility in Davis, CA. Modular home design development would be performed by project partner Dvele Inc. at its manufacturing facility in Linda, California. Oak Ridge National Laboratory (ORNL) would research energy efficiency technologies and perform bench-scale testing of insulation systems at its laboratory facilities in Oak Ridge, TN. No facility modifications, construction of new facilities, ground disturbing activities or changes, to the use, mission, or operation of existing facilities would be required for BP1 project activities. Likewise, no additional permits or authorizations would be required.

Research and development tasks performed during BP1 would involve minimal health and safety hazards, as this work would only involve design development and performance testing of equipment. Performance testing of equipment would be in controlled laboratory environments. GTI and its project partners regularly perform testing similar in nature to that included in the scope of this project. GTI, Dvele, and ORNL would each adhere to their

institutions' established health and safety policies and procedures. Each entity would also observe all applicable Federal, state, and local health, safety, and environmental regulations.

Any work proposed to be conducted at a federal facility may be subject to additional NEPA review by the cognizant federal official and must meet the applicable health and safety requirements of the facility.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

[All Budget Period 1 Tasks and Sub-tasks](#)

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

[All Budget Period 2 Tasks and Sub-Tasks](#)

[All Budget Period 3 Tasks and Sub-Tasks](#)

Notes:

[Building Technologies Office](#)

[This NEPA determination requires a tailored NEPA provision.](#)

[Review completed by Jonathan Hartman on 06/03/2020](#)

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: _____


NEPA Compliance Officer

Date: 6/3/2020

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: _____