

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:** IL

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-0009069-002	G09069

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. Originally, the project had three Budget Periods (BPs) with BP1 being reviewed by GFO-0009069-001 (A9, B3.6; 06/03/20). Since that review the project has been modified to include only two BPs with some activities that were originally planned for BP2 being moved into the current BP1. Additionally, a pilot home was planned to be constructed and commissioned for performance testing but has since been eliminated from the proposed project. To avoid confusion with the original NEPA review, this review will consider all activities of the project (BP1 and BP2) as defined within the current modified Statement of Project Objectives.

Proposed project activities would include construction design development, process development, demonstration assembly design, software development (e.g. automation software), component assessments/testing, and stakeholder engagement (e.g. meetings, presentations, etc.). The project would also construct, commission, validate performance and economics, and evaluate a high-performance wall using the cost and performance optimized modular home measures and automated production process. All project activities would be coordinated by GTI with project management, administration, and coordination with Dvele, Inc. occurring at GTI facilities in Davis, CA and Des Plaines, IL. Modular home design development and high-performance wall construction would be performed by project partner Dvele at its manufacturing facility in southern 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. Existing manufacturing facilities at Dvele would be reallocated to make room for the project using current building square footage but 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 project activities. Likewise, no additional permits or authorizations would be required.

Research and development tasks 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. The development of sensors and data acquisition systems as well as testing of insulation materials at GTI and ORNL would follow each laboratory's respective safety programs. The project involves handling building insulation and construction materials as well as building construction operations at Dvele. Dvele would mitigate hazards by following applicable safety protocols and procedures, regular training, hazard assessment,

monitoring and use of engineering controls and proper personal protective equipment (PPE). GTI, Dvele, and ORNL would each adhere to their institutions' established health and safety policies and procedures. GTI and its project partners regularly perform activities similar in nature to that included in the scope of this project. 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 final NEPA determination.

Notes:

Building Technologies Office

This NEPA determination does not require a tailored NEPA provision.

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:

 Electronically Signed By: Casey Strickland

Date: 1/27/2021

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:

Field Office Manager

Date: