

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



RECIPIENT: The University of Central Florida Board of Trustees

STATE: FL

PROJECT TITLE : PV-GEMS: Photovoltaic Powered, Grid Enhanced Mechanical Solution. A pre-packaged approach providing high efficiency and resilient space conditioning, and water heating.

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002099	DE-EE0009065	GFO-0009065-002	G09065

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 federal funding to the University of Central Florida Board of Trustees (UCF) for the design and evaluation of a retrofit solution for existing homes that would integrate photovoltaics (PV) to power a mini-split heat pump and heat pump water heater using a new micro-inverter that stabilizes power supply with assistance from the electrical grid. Project work would take place at the Florida Solar Energy Center at UCF in Cocoa, Florida and the National Association of State Energy Officials in Arlington, Virginia.

This project would be completed over four Budget Periods (BPs). DOE previously completed one ND for this specific award. The ND for BP1 (GFO-0009065-001: CX A9 and B3.6 issued 5/7/2020) focused on BP1 activities including designing and demonstrating prototype retrofit solutions within controlled laboratory and office settings, and the down-selection process to move forward to BP2. Since the down-selection process, BP2, BP3, and BP4 have been added to the Statement of Project Objectives (SOP). This ND covers activities in BP2. Information obtained from activities in BP2 of the approved SOP being reviewed in this NEPA determination would inform the details and design of the remaining project activities. Currently there is not enough information to complete a review of task listed under BP3 or BP4. Once additional assessment and design activities are completed, another NEPA review will be required to assess potential impacts associated with the remaining project activities.

Budget period 2 activities include further development of the intellectual property management plan started in BP1, expanded testing and demonstration activities within a controlled laboratory, identifying and securing demonstration sites, modeling, conducting American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) Level 3 site audits of selected demonstration sites, installation of baseline monitoring equipment, design of the commercialization system, development of a technology-to-market plan, and reporting.

All project work would adhere to local, State, and Federal regulations. DOE does not anticipate any impacts to resources of concern due to the activities in BP2.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

[BP2 \(all tasks\)](#)

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

[BP3 \(all tasks\)](#)

[BP4 \(all tasks\)](#)

Notes:

[Building Technologies Office \(BTO\)](#)

[NEPA review completed by Amy Lukens, 9/13/2022](#)

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:

 Electronically Signed By: [Casey Strickland](#)

NEPA Compliance Officer

Date: 9/14/2022

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: