

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



RECIPIENT: LITESPEED ENERGY, INC.

STATE: CA

PROJECT TITLE : Integrated, non-metallic floating PV system for resiliency, corrosion resistance and safety

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002609	DE-EE0010475	GFO-0010475-001	

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 federal funding to LiteSpeed Energy, Inc. (LSE) to design, develop, fabricate, and field test non-metallic floating photovoltaic (FPV) systems that have been assessed for resiliency, corrosion resistance, and safety.

The proposed project would be comprised of two Budget Periods (BPs). BP1 tasks would include concept development, modeling, subscale model wind and wave testing, prototype manufacturing, outreach to stakeholders, and internship creation for those underrepresented in science, technology, engineering, and mathematics (STEM), minority or disadvantaged students. The search for a field test site would also begin in BP1. BP2 tasks would consist of advanced design, blow and injection molding, aging tests, and the assembly of a pilot FPV array on a small body of water.

As defined in the current Statement of Project Objectives, BP2 Subtask 2.4.4 would involve finalizing a test site for the pilot FPV array and BP2 Subtask 2.4.5 would involve the deployment and measurement of the system. Therefore, there is not enough information available at this time to complete an adequate NEPA review of the location and activities associated with Subtask 2.4.5. This NEPA Determination is applicable to all activities associated with BP1 and BP2 except for BP2 Subtask 2.4.5. Once the field test site is selected during preliminary project activities, further NEPA review will be required to assess potential impacts associated with the temporary operation of the pilot FPV array.

The types of activities associated with the proposed tasks under review would be limited to training, data analysis, computer modeling, technical assistance, preliminary engineering/design, and laboratory research. LSE (Livermore, CA) would carry out mechanical and electrical design, modeling, simulation, prototype fabrication and 3D printing. Additional mechanical design, prototyping and 3D printing, and finite element analysis would be carried out by Delve, Inc. (Philadelphia, PA). Electrical testing, material strength verification, and aging tests would be carried out at D2 Solar (San Jose, CA). CPP Wind Engineering Consultants (Windsor, CO) would carry out wind calculations and would provide recommendations for wind resilience. Wind and wave testing would take place in an indoor wave tank at the University of Miami (Miami, FL). Lastly, blow molding would be carried out by SPI Blow Molding (Coloma, MI) and injection molding would be carried out by SPI Industries (South Bend, IN).

No physical modifications to existing facilities, ground disturbing activities, or changes in the use, mission, or operation

of existing facilities would be required for the completion of the proposed project activities reviewed. The facilities in which the proposed work would occur have all applicable permits in place and would not need additional permits for the proposed activities. DOE does not anticipate any impacts to resources of concern due to the proposed activities of the project.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

BP1 (All Tasks and Subtasks)
BP2 Tasks 2.1, 2.2, 2.3
BP2 Subtasks 2.4.1, 2.4.2, 2.4.3, 2.4.4
BP2 Tasks 2.5, 2.6

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

BP2 Subtasks 2.4.5

Notes:

Solar Energy Technologies Office (SETO)
Review completed by Alex Colling on 5/3/2023.

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: 5/18/2023

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: _____