

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



RECIPIENT: RE2

STATE: PA

PROJECT TITLE : Outdoor Autonomous Manipulation of Photovoltaic Panels (O-AMPP)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002243	DE-EE0009327	GFO-0009327-002	NT9327

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. |
| B3.11 Outdoor tests and experiments on materials and equipment components | Outdoor tests and experiments for the development, quality assurance, or reliability of materials and equipment (including, but not limited to, weapon system components) under controlled conditions. Covered actions include, but are not limited to, burn tests (such as tests of electric cable fire resistance or the combustion characteristics of fuels), impact tests (such as pneumatic ejector tests using earthen embankments or concrete slabs designated and routinely used for that purpose), or drop, puncture, water-immersion, or thermal tests. Covered actions would not involve source, special nuclear, or byproduct materials, except encapsulated sources manufactured to applicable standards that contain source, special nuclear, or byproduct materials may be used for nondestructive actions such as detector/sensor development and testing and first responder field training. |

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to RE2, Inc. to develop an autonomous robotic system for efficiently transporting and mounting solar photovoltaic (PV) modules. Once all the necessary prototype components are developed and integrated, the complete system would be validated first within a laboratory environment and then within an operationally relevant environment.

Activities associated with the proposed project include the design, development, fabrication, testing, and field validation of an autonomous robotic system and its various components. Design, development, fabrication, and testing activities would occur at the RE2 research and development (R&D) facility in Pittsburgh, PA. Fabrication activities would require the machining of some metals.

A previous NEPA Determination was completed for all project activities (GFO-0009327-001; CX A9, B3.6, B3.11; 01/26/21). This NEPA Determination covers proposed changes in project location. A portion of solar racking equipment would be installed in RE2's outdoor test space for the purposes of prototype testing. The M.A. Mortenson site in Mojave, CA would replace the Guy, TX site for cost analyses and test data collection using perception sensors. The M.A. Mortenson site in O'Brien, FL would replace the M.A. Mortenson site in North Minneapolis, MN for the final validation of the photovoltaic system. Array Technologies in Tempe, AZ would be a new location, and would be an optional location for the photovoltaic system validation.

The facilities at which project work would occur were designed for the type of activities being proposed ; therefore, no adverse impacts to sensitive resources are expected as a result of project activities at any location. No change in the

use, mission or operation of existing facilities would arise out of this effort. No modifications or new permits, additional licenses and/or authorizations would be required.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Solar Energy Technologies Office (SETO)
NEPA review completed by Alex Colling on 09/19/2022.

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.

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
NEPA Compliance Officer

Date: 9/21/2022

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: _____