PMC-ND

(1.08.09.13)

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

RECIPIENT: Guardian Devices, LLC **STATE:** NM

PROJECT TITLE: Safety Connectors for Mitigating PV System Arc Faults and Fires

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002609	DE-EE0010469	GFO-0010469-001	

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.)
B1.7 Electronic equipment	Acquisition, installation, operation, modification, and removal of electricity transmission control and monitoring devices for grid demand and response, communication systems, data processing equipment, and similar electronic equipment.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to Guardian Devices, LLC for the design, development, assembly, and testing of photovoltaic (PV) connectors. Field testing would be carried out at existing solar facilities near Albuquerque, NM.

Proposed project activities would include stakeholder engagement, a pre-bankability study, design failure mode and effects analysis, cost model development, 3-D printing of polymers, metal part modeling and manufacturing, and assembly of prototype connectors. Testing would include arc-fault performance, evaluation and validation of connectors using the Highly Accelerated Lifecycle Test, and finally field testing. Field testing would involve the installation of PV connectors in outdoor field-testing arrays, using a 750 volt (V) residential grid and 1500 V utility grid.

Office work would take place at Guardian Devices (Albuquerque, NM). Manufacturing would take place at Vamco Manufacturing (Albuquerque, NM) and assembly would take place at Guardian Devices. In-lab testing would take place at Amphenol Industrial Operations (Endwell, NY). Field testing would take place at Public Utility Company of New Mexico (Albuquerque, NM), Sandia National Laboratory (Albuquerque, NM), and Emera Technologies (Albuquerque, NM). These sites are previously disturbed, and connectors would be installed in place of existing connectors, so no ground disturbance would take place.

Award activities involve the use and handling of various hazardous materials, including resin, waxes, heat, metals, and working with electricity. Proper hazardous material handling and disposal practices of the City of Albuquerque would be followed, as well as federal, state, and local environmental health and safety regulations. All hazardous activities would be handled by trained staff.

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:

Solar Energy Technologies Office (SETO)
NEPA review completed by Alex Colling on 4/19/2023.

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.

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: Andrew Montano Date: 4/25/2023

NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

- [x] 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: _____ Date: _____

Field Office Manager