

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



RECIPIENT: Electric Power Research Institute, Inc. (EPRI)

STATE: CA

PROJECT TITLE: Breaking Barriers to Enable Solar Technology Circularity (BBEST Circularity)

Notice of Funding Opportunity Number
DE-FOA-0002985

Procurement Instrument Number
DE-EE0011478

NEPA Control Number
GFO-0011478-001

CID Number
GO11478

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.)

A11 Technical advice and assistance to organizations

Technical advice and planning assistance to international, national, state, and local organizations.

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.

B5.16 Solar photovoltaic systems

The installation, modification, operation, and removal of commercially available solar photovoltaic systems located on a building or other structure (such as rooftop, parking lot or facility, and mounted to signage, lighting, gates, or fences), or if located on land, generally comprising less than 10 acres within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Electric Power Research Institute, Incorporated (EPRI), to enhance solar photovoltaic (PV) circularity across the value chain; i.e., improve PV panel lifespans, monitor for defects, and improve the component recycling process. Project activities would consist of data analysis, technical advice, laboratory operations, and the operation of solar facilities, and would occur over three budget periods (BPs). This NEPA Determination (ND) applies to BP 1: all Tasks; BP 2: all Tasks; and BP 3: Tasks C.1-

C.8. This ND does not apply to BP 3: Task C.9.

Workshops would take place at the World Resources Institute in Washington, District of Columbia. A summer camp seminar and student webinars would occur at Tennessee State University in Nashville, Tennessee. Project management, data gathering and analysis, dissemination of information, and technical guidance would take place at the following locations:

- EPRI: Charlotte, North Carolina; Palo Alto, California; and Fresno, California
- Equitable Solar Solutions/Solar Reuse Test Lab, Walsenburg, Colorado
- San Jose State University, San Jose, California
- Eighth Generation Consulting, Chicago, Illinois
- Heliene, Mountain Iron, Minnesota
- The National Renewable Energy Laboratory (NREL), Golden, CO
- Decom Solar: Mount Pleasant, South Carolina, and Hermosa Beach, California
- Urban Mining Industries: Northlake, Texas, and New Rochelle, New York
- Alabama Power Corporate Headquarters, Birmingham, Alabama

Samples of glass and silicon would be supplied by BBB Industries, LLC, in Sparta, Tennessee, and Ontility in Houston, Texas. Laboratory operations, including sample preparation, testing, analysis, and computer modeling would take place in various forms at the following locations:

- EPRI
- NREL
- Vitro Flat Glass, LLC, Cheswick, Pennsylvania
- Battelle, Columbus, Ohio
- Arizona State University, Tempe, Arizona
- Heliene, Sault Ste Marie, Ontario, Canada
- RSG Inc, Sylacauga, Alabama
- Resource Materials Testing, Murphy, North Carolina
- Braun Intertec, Minneapolis, Minnesota

Development of a silicon purification process would take place at Battelle. Development and testing of a robot for solar PV facility inspections would take place at Onsite in Folsom, California. Mobile PV module backsheet refurbishment lines (MRL) would be developed, fabricated, and tested at Revive PV in Saint Petersburg, Florida, and Apex Solar Facility North in Las Vegas, Nevada.

Demonstrations of robot inspectors and MRLs would take place at the following locations:

- Garland Solar Facility, Southern Company, Rosamond, California
- Tranquility Solar Facility, Southern Company, Cantua Creek, California
- Apex Solar Facility, Southern Company, North Las Vegas, Nevada
- Adobe Solar Facility, Southern Company, Arvin, California
- Desert Stateline Solar Facility, Southern Company, Nipton, California

All project activities in BP 1, BP 2, and BP 3: Tasks C.1-C.8 would be completed in existing, purpose-built facilities. No new permits or licenses would be required. No ground disturbance or change in use, mission, or operation of facilities would be required. Potential hazards include exposure to chemicals and airborne particulates and working with electricity, heavy machinery, and hazardous substances. Award recipients would adhere to established health and safety policies and procedures when performing project work, and would observe all applicable federal, state, and local health, safety, and environmental regulations.

BP 3 Task C.9 activities would consist of the installation of solar PV equipment at sites that have not yet been

identified. Therefore, this ND does not apply to BP 3 Task C.9. DOE would complete an additional NEPA review for BP 3 Task C.9 when sufficient location information is available to conduct a meaningful review.

DOE has considered the scale, duration, and nature of proposed activities to determine potential impacts on resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE does not anticipate impacts on these resources which would be considered significant or require DOE to consult with other agencies or stakeholders.

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.

EERE is aware of the November 12, 2024, decision in *Marin Audubon Society v. FAA*, No. 23-1067 (D.C. Cir. Nov. 12, 2024). To the extent that a court may conclude that the Council on Environmental Quality (CEQ) regulations implementing NEPA are not judicially enforceable or binding on this agency action, EERE has nonetheless elected to follow those regulations at 40 C.F.R. Parts 1500-1508, in addition to DOE's procedures/regulations implementing NEPA at 10 C.F.R. Part 1021, to meet the agency's obligations under NEPA, 42 U.S.C. §§ 4321 et seq.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

Budget Period 1: all Tasks; Budget Period 2: all Tasks; and Budget Period 3: Tasks C.1-C.8

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

Budget Period 3: Task C.9

Notes:

Solar Energy Technologies Office
NEPA review completed by Andrew McClellan, 5 February 2025

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.

DOE has determined that work to be carried out outside of the United States, its territories and possessions is exempt from further review pursuant to Section 5.1.1 of the DOE Final Guidelines for Implementation of Executive Order 12114; "Environmental Effects Abroad of Major Federal Actions."

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: [Andrew Montano](#)

NEPA Compliance Officer

Date: 2/21/2025

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: _____