

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



RECIPIENT: [NREL](#)

STATE: [CO](#)

PROJECT TITLE : [NREL-25-018 Agrivoltaics Demonstration in California](#)

Notice of Funding Opportunity Number

Procurement Instrument Number
[DE-AC36-08GO28308](#)

NEPA Control Number
[GFO-NREL-25-018](#)

CID Number
[GO28308](#)

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:

[B3.1 Site characterization and environmental monitoring](#)

Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) of characterization and monitoring devices, and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. (This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.) Specific activities include, but are not limited to: (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and temperature gradient), geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing; (b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools); (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells; (d) Aquifer and underground reservoir response testing; (e) Installation and operation of ambient air monitoring equipment; (f) Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck- or mobile-scale equipment, and modification, use, and plugging of boreholes); (g) Sampling and characterization of water effluents, air emissions, or solid waste streams; (h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources); (i) Sampling of flora or fauna; and (j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.

Rationale for determination:

The U.S. Department of Energy's (DOE) is proposing to provide funding to the University of California, Merced (UC Merced) and the National Renewable Energy Laboratory (NREL) to conduct agrivoltaics field research on a demonstration plot at the UC Merced Experimental Smart Farm.

The purpose of this project is to produce and disseminate analysis created from experiment-based results of crop performance, solar configurations, and system costs of solar and agricultural co-locations.

The proposed project would occur on previously disturbed land primarily used for research farming and experimentation at the university. The location contains existing solar arrays that would be used and configured to test crop production. To establish an agrivoltaics research plot, UC Merced staff would prepare soil with shallow soil tilling in preparation for seed planting. Crops would be planted either directly underneath the solar array system or circling around it. The total land used needed would be approximately 0.5 acres.

Monitoring equipment would be installed to monitor the soil and weather conditions. The weather would be observed with a weather station. The monitoring equipment would be placed above ground and within the crop area and would not exceed 10 feet by 10 feet. Infrastructure for irrigation is already in place and would be used to irrigate the crops. Monitoring equipment is temporary and would be removed at the conclusion of the research. Desktop analysis would be performed afterwards with the completion of the project's fieldwork.

The above project activities would occur during the late summer months of 2024 through 2028. Harvesting of the crops would occur in the fall months during each year.

Impacts

U.S. Fish and Wildlife Service has identified three threatened, three endangered, and three proposed threatened candidate species for the project area using the Information for Planning and Consultation (IPaC) tool. There are no critical habitats designated for this location. IPaC identified the Bald Eagle, Golden Eagle, and fifteen other birds of conservation concern with the possibility of being present in the proposed project area. Because the proposed work would occur under or around existing solar arrays, the activities would preserve natural ecological conditions of the area, and protective measures would be implemented, the proposed project would have no effect to threatened or endangered species. Nesting bird surveys would be conducted prior to any ground disturbing activities. If nesting birds are spotted during site prep or sowing, activities would be halted for that specific location and project activities would be re-located to another location within the farm.

All waste generated during the project would be reused, recycled, or disposed of in accordance with applicable regulations and NREL's policies and procedures. Local travel for research activities would result in de minimis air emissions.

Water use would be necessary for crop growth. No herbicides, pesticides, or fertilizers would be used. Nutrients added to the soil would be organic.

Erosion and stormwater impacts would occur because of ground disturbance. Erosion control measures would be required and maintained throughout the project lifecycle. Workers would follow NREL's stormwater construction requirements and any additional EPA Construction General Permit requirements. All ground disturbances would occur in areas that have been previously disturbed. Ground disturbing activities would be conducted in accordance with existing NREL policies and procedures.

Individuals working on this project could be exposed to various hazards. Existing corporate health and safety policies and procedures would be followed including employee training, work/worker authorization, proper protective equipment, engineering controls, and monitoring, as well as obtaining a Safe Work Permit. Additional policies and procedures would be implemented as necessary if new health and safety risks are identified.

FOR CATEGORICAL EXCLUSION DETERMINATIONS:

1. The proposal fits within a class of actions that is listed in Appendix B to 10 CFR Part 1021 or Appendix B and C of DOE's NEPA Implementing Procedures (June 30, 2025). To fit within the classes of actions listed in Appendix B to 10 CFR Part 1021, or Appendix B of DOE's NEPA Implementing Procedures, a proposal must satisfy the conditions that are integral elements of the classes of actions in Appendix B of both 10 CFR Part 1021 and DOE's NEPA Implementing Procedures.
2. There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.
3. The proposed action has not been segmented to meet the definition of a categorical exclusion.
4. The proposed action is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assistance agreement:

A migratory bird nesting survey shall be completed if project activities involving ground disturbance occur between March 15 and September 15.

All required permits, procedures and permissions shall be obtained as required prior to commencing project activities.

Notes:

NREL
Brandon Bammel, 08/14/2025

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

 Electronically
Signed By: **Nicole Serio**

NEPA Compliance Officer

Date: **8/14/2025**

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: _____