

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** NREL**STATE:** CO

**PROJECT TITLE:** NWTC Sunfolding PV Array: NREL-18-019

| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
|---|-------------------------------|---------------------|------------|
|   | DE-AC36-08GO28308             | NREL-18-019         | GO28308    |

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

**CX, EA, EIS APPENDIX AND NUMBER:**

Description:

**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.

**DOE/EA 1914 (NREL NWTC)** Final Site-Wide Environmental Assessment of the Department of Energy's National Wind Technology Center at the National Renewable Energy Laboratory

Rationale for determination:

The U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL), in collaboration with Sunfolding, Inc., are proposing to install and conduct research on a 0.11 MW (110 kW DC) capacity research photovoltaic (PV) array. The objective of the research would be to characterize the effect extreme weather would have on the array.

The array would be installed at NREL's National Wind Technology Center (NWTC), located southeast of the intersection of Colorado Highway (CO) 93 and CO-128, in Jefferson County, Colorado. The NWTC is a federally-owned facility that consists of 305 acres and is primarily utilized for wind energy research, development, and testing.

The Sunfolding PV array would be installed in the south-west corner of the NWTC at sites 1.8 and 1.9, east of the Row 1 road and take up approximately 0.4 acres for both phases. Array components would include PV panels, a support structure, approximately 180 support pilings, air compressor with compressed air lines, inverters, wiring and data gathering equipment, such as a camera and accelerometer.

Sunfolding would install the tracking PV array by drilling piers and encasing the support piles in concrete. Once installed, the support structure would be connected above ground with the solar panels installed onto the support structure. Connections for electrical and data lines, grounding, and compressed air lines would be placed aboveground, with no trenching required. These would be connected to data loggers and controllers, which would be installed inside Site 1.9 data shed.

Each phase of the installation would take about two months to complete. Phase 1 is would start in October 2018 and Phase 2 would be expected to start in April 2019.

The array would be installed and monitored in a non-grid connected state. Should this plan change, NREL would be required to obtain prior approval from DOE Golden Field Office and Xcel Energy.

Total land disturbance would be less than the array footprint of 0.4 acres, estimated at a total 400 sq ft where the support piles were drilled. All ground disturbing activities would be conducted in accordance NREL requirements for construction stormwater requirements, using appropriate erosion control measures, and restoring any disturbed

areas using a site-specific seed mix following NREL specifications.

The PV array would be removed by Sunfolding in 3 – 5 years. Decommissioning would be in accordance with NREL requirements and procedures at that time, including restoration of disturbed areas using a site-specific seed mix.

Existing NREL health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments. Additional policies and procedures would be implemented as necessary as new health and safety risks are identified.

Based on the review of the proposal, DOE has determined the proposal fits within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410(2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. This proposal is categorically excluded from further NEPA review.

Further, the proposal is consistent with activities described and evaluated in DOE Site-wide EA-1914.

### NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If the Recipient intends to make changes to the scope or objective of this project, the Recipient is required to contact the Project Officer, identified in Block 15 of the Assistance Agreement before proceeding. The Recipient must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved. If the Recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of a final NEPA decision, the Recipient is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share.

Insert the following language in the award:

You are required to:

Sunfolding and NREL are proposing to install the PV and maintain and monitor it in a non-grid connected state. Should this plan change, NREL would be required to obtain prior approval from DOE Golden Field Office and Xcel Energy. NREL should submit a Memo to File to DOE NEPA Specialists to describe the nature of the change.

Note to Specialist :

Completed by Laura Margason on 9/26/2018

### SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:



Kristin Kerwin

NEPA Compliance Officer

Date: 9/27/2018

### FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required

### NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

**BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :**

Field Office Manager's Signature: \_\_\_\_\_  
Field Office Manager

Date: \_\_\_\_\_