

PMC-ND

(1.08.09.13)

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



RECIPIENT: Fraunhofer USA Inc., Center for Sustainable Energy Systems

STATE: MA

PROJECT TITLE: SunDial - An Integrated SHINES System to Enable High Penetration Feeder-Level PV

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-EE0007164	GFO-0007164-001	GO7164

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:

- 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.)
- 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 Fraunhofer USA Inc.'s Center for Sustainable Energy Systems to develop and demonstrate a scalable, high-performance solution to simplifying the integration of photovoltaic (PV) systems into the power distribution system.

Activities associated with the proposed project would include design, development, deployment and demonstration of a fully functional, integrated, PV battery energy storage and facility load management system, SunDial, in a National Grid research area in Massachusetts. Project management, design and development of system models and oversight of deployment and demonstration would be completed by Fraunhofer USA from their offices in Boston, MA. Battery system design and oversight of deployment and demonstration would be undertaken by National Grid from their facility in Waltham, MA. Development of the FLAME platform (load management), programming of site servers and oversight of deployment and demonstration would be completed by EnerNOC, Inc. from their offices in Boston, MA. Deployment of the battery system and controls and the building energy management site servers and field testing would be undertaken by National Grid in Shirley, MA.

Deployment would involve installation and integration of a battery energy storage system and its control system at a pre-existing 1MW-scale PV field. Local building and electrical permits would be required for the installation of the battery system. These permits would be obtained by the licensed contractors during construction of the battery system. Planning Board approval has been obtained. In addition, because the project location is near habitat for a state-listed endangered species (Blanding's Turtles and Wood Turtles), the Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife has issued a conditional approval of the PV and battery storage project as documented in the project management center. This conditional approval requires preparation of a "Turtle Protection Plan" to be prepared by a qualified biologist and approved by the NHESP prior to beginning any construction. This plan is currently being prepared and would also be recorded in the project management center upon completion. The U.S. Fish and Wildlife Service Endangered Species Program website (IPaC) identifies 1 endangered or threatened species that is known to, or is believed to occur near the project site. However, due to the lack of habitat for federally listed species at the site, DOE has determined the proposed project would have no effect on threatened and endangered species in the area. Additionally, there are 17 Migratory Birds that are listed as Birds of Conservation Concern in this area. However, due to the small footprint of the proposed battery installation and lack of suitable habitat for these birds, impacts to individuals or populations of the species of



conservation concern are not expected as result of the proposed project.

Field testing activities would be completed indoors at 5-20 as of yet undetermined locations within National Grid's research area in Shirley, MA and neighboring towns. These activities would necessitate the installation of monitoring and control hardware (i.e. a computer and electrical relays), and communication hardware (i.e. a cellular modem). These devices would measure and control electrical systems within the existing buildings. The electrical systems being monitored would include heating, ventilation & air conditioning units, lighting, and/or other electrical loads. Although exact locations have not yet been determined, all field testing locations would fall under rural zoning and would be pre-existing commercial/industrial buildings. The proposed project would not involve any construction or alterations to the chosen buildings. None of these measurement and control systems would generate pollutants or greenhouse gases and the equipment utilized would not create noise pollution nor present any unappealing sights. No adverse impacts to sensitive resources are expected as a result of the proposed project. No change in the use, mission or operation of existing facilities would arise out of this effort. The facility has all applicable permits in place, and would not need additional permits for the proposed activities. No siting, construction or major expansion of waste storage, disposal, recovery, or treatment actions/facilities would be required.

Based on review of the project information and the above analysis, DOE has determined the proposed project would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined that this project is consistent with actions outlined in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination" and B5.16 "Solar photovoltaic systems" and is therefore categorically excluded from further NEPA review.

#### NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Insert the following language in the award:

You are required to:

The recipient is restricted from carrying out modifications or installations on or within buildings of historic, archaeological, or architectural significance designated by federal, state or local governments, property located within or immediately adjacent to a historic district, property 50 years or older, or property eligible for listing on the National Register of Historic Places without first providing additional property details to the DOE Project Officer and awaiting approval from DOE to move ahead with those modifications and installations.

Note to Specialist :

Solar Energy Technology Office

This NEPA determination requires a tailored NEPA provision.

Review completed by Rebecca McCord 12/7/2015

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

NEPA Compliance Officer Signature:



Kristin Kerwin

NEPA Compliance Officer

Date: 12/14/2015

#### 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.