

PMC-ND

(1.08.09.13)

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



RECIPIENT: Flex Power Control

STATE: CA

PROJECT TITLE : Solar Power Electronics Modular Integrated Node Platform

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001740	DE-EE0008352	GFO-0008352-001	G08352

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.)

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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to Flex Power Control (Flex Power) to design, develop, fabricate and test a novel power electronics platform capable of integration and synchronization with associated technologies, including stationary energy storage, electric vehicle (EV) charging, and site load management. Advanced power electronics and cloud-based analytics would be incorporated into the platform in order to optimize operations and extend the operating life of the system.

The proposed project would encompass data analysis, computer modelling, technical assistance, preliminary engineering and design, and laboratory scale research and development. Proposed project activities would include hardware and software specifications development, component design and development (e.g. hardware platform, power module, converter, switching network), software development (e.g. forecasting and optimization modeling, analytics for EV battery, Graphical User Interface), computer modelling and simulation, component integration, functional performance testing, and economic modelling/analysis.

A six-month demonstration of the pilot system would also be conducted at Oak Ridge National Laboratory's (ORNL) National Transportation Research Center (NTRC). The demonstration would consist of performance verification testing undertaken indoors in a laboratory environment. Simulated consumer, utility, and aggregator use cases would be run on a single test unit. Panel integration would be performed. However, the test unit would not be installed outside, as most work would be performed with a simulated array to support scenario testing. Vehicle charging would be integrated into the test unit, as would a residential energy storage system.

Flex Power would oversee all project activities. Laboratory work would be conducted at existing, purpose-built facilities operated by Flex Power and its project partners. No change in the use, mission, or operation of existing facilities would result from any of the proposed project activities. Neither Flex Power nor any of its project partners would need to obtain any additional permits in order to realize the work activities proposed as part of this award. System/component design and analysis would be conducted at Flex Power's offices in Woodland Hills, CA. Test setup, fabrication, and testing activities would be undertaken at ORNL's NTRC in Knoxville, TN. Computer modelling and analysis would be performed by the University of Kentucky's Department of Electrical and Computer Engineering (Lexington, KY).

Laboratory work would involve the use and handling of high voltage components. All such handling would occur in-lab.

Risks associated with these activities would be mitigated through adherence to established health and safety protocols, including employee health and safety training, the use of proper protective equipment, engineering controls, monitoring, and internal assessments. All project activities would be conducted in accordance with local, state, and Federal health, safety and environmental regulations. Project materials would all be disposed of in accordance with local waste management regulations.

Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

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.

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:

Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

Note to Specialist :

Solar Energy Technologies Office
This NEPA determination requires a tailored NEPA Provision.
NEPA review completed by Jonathan Hartman, 07/23/2018

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____


NEPA Compliance Officer

Date: 7/25/2018

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: _____