

PMC-ND  
(1.08.09.13)

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

**RECIPIENT:** Power Integration Laboratory, LLC**STATE:** CA**PROJECT TITLE :** Ultra-Compact High Efficiency Multi-Level GaN-Based PV Inverter

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0001640	DE-EE0008138	GFO-0008138-002	GO8138

**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 federal funding to Power Integration Laboratory, LLC to develop a hardware prototype of a scalable 60-100 kW photovoltaic (PV) inverter.

Power Integration Laboratory received a final NEPA determination for this project in August of 2017 (GFO-0008138-001). DOE determined that activities proposed in the Statement of Project Objectives (SOPO) were consistent with CXs A9 "Information gathering, analysis, and dissemination" and B3.6 "Small-scale research and development, laboratory operations, and pilot projects."

Since that time, the Principal Investigator relocated from IL to CA. All remaining project activities formerly proposed to occur at the recipient's Urbana, IL location would now take place at an existing, dedicated research and development facility in Alameda, CA. Software models would continue to be developed at subrecipient Formlabs in Somerville, MA. The nature and scope of work associated with the project would remain the same.

Relocated activities would include the design, development, assembly, and laboratory testing of power converters. This work would involve soldering and electrical testing of components and hardware prototypes. Laboratory electrical upgrades may be performed in conjunction with the installation of new electrical equipment used for high power testing; however, overall project objectives would not be affected by the proposed location change or any minor modifications necessary to accommodate equipment. The industrial facility to which project work would relocate is purpose-built for the types of activities being proposed.

Proposed project activities would necessitate the use of high voltage (up to 1.5 kV) electricity during development and testing. Existing corporate health and safety policies and procedures would be followed including employee training, personal protective equipment, engineering controls, monitoring, and internal assessments. Non-hazardous wastes generated by the project would include packaging material, electronic components, and printed circuit boards. These materials would be collected on-site and recycled.

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.

Note to Specialist :

Solar Energy Technologies Office  
This NEPA determination does not require a tailored NEPA Provision.  
NEPA review completed by Whitney Doss, 9/20/2018

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

NEPA Compliance Officer Signature: \_\_\_\_\_

 Electronically Signed By: Kristin Kerwin  
NEPA Compliance Officer

Date: 9/20/2018

**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: \_\_\_\_\_