

PMC-EF2a

(20402)

**U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION**



RECIPIENT: University of Hawaii

STATE: HI

PROJECT TITLE : Development and Demonstration of Smart Grid Inverters for High-Penetration PV Applications

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000479	DE-EE00005338	GFO-0005338-001	0

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.

Rational for determination:

DOE is proposing to provide federal funding to the University of Hawaii to conduct research and development activities that advance solar photovoltaic (PV) technology. DOE funding would be used to integrate grid management functionality Software (SW) and standards-based communications Hardware and Software (HW/SW) into a Fronius inverter to create a Smart Grid Inverter.

The proposed project would be conducted in two Phases. This NEPA determination applies only to Phase 1. Phase 2 will require additional NEPA review.

Phase 1 activities would include design, fabrication, laboratory level testing and assessment of the Smart Grid Inverter. All work for Phase 1 would be conducted in a laboratory environment at the following facilities: 1) Silver Spring Networks (SSN), 2) Oklahoma Gas & Electric (OGE) and 3) the Fronius facility. Each facility has completed an R&D questionnaire addressing the protocols in place for laboratory safety, risk management, chemical handling and waste disposal.

Software design, code and testing would occur at SSN located at 575 Broadway, Redwood City, CA 94062. SSN adheres to all the safety protocols included in IIPP Regulations (California Title 8 Section 3203) and OSHA HAZ-COM Regulation (29 CFR 1910.1200).

Fabrication and testing would occur at the OGE inverter laboratory located at 220 East Wilshire Boulevard, Oklahoma City, Oklahoma 73105. Safety protocols at the solar lab were implemented by OGE's internal safety department. The protocols are monitored by the solar research crew, which consists of three electrical engineers and a manager. The individuals of this crew are the only OGE employees certified to work at the lab.

The laboratory at OGE consists of exposed electrical wires and voltage above 350V. The purpose of these exposed wires is to allow for the lab crew to hook up measuring clamps to record currents and voltages. When not in use, the crew installs Plexiglas and metal covers over the wire boxes. The boxes are closed any time the wires are live. The OGE facility does not handle gases, chemicals or liquid effluent.

The team at the Fronius facility (Günter Fronius Straße 1, 4600 Thalheim bei Wels, Austria) would develop and execute an acceptance test plan for the software to verify compliance with the functional requirements. Fronius adheres to all the safety protocols included in the Austrian law about Health and safety at work. Employee Protection

Act – AschG § 14. (1) and § 14. (2). The Fronius facility does not handle gases, chemicals or liquid effluent.

Based on this information, DOE has determined the work outlined is consistent with activities identified in categorical exclusion A9 (information gathering) and B3.6 (small-scale research and development activities, laboratory operations and pilot projects).

NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

Phase 2

This restriction does not preclude you from:

Phase 1

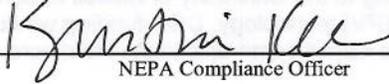
If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

Cristina Tyler 12.9.2011

DOE Funding: \$1,500,000
Cost Share: \$992,234
Total Project Cost: \$2,492,234

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Date: 12/14/2011
NEPA Compliance Officer

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: _____ Date: _____
Field Office Manager