

PMC-ND

(1.08.09.13)

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



RECIPIENT: SenSanna Incorporated

STATE: MD

**PROJECT TITLE :** Low-cos wireless voltage & current monitoring of the distribution grid

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOE-0001225	DE-EE0007195	GFO-0007195-001	

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 SenSanna, Inc. to develop and demonstrate a functional, prototype, wireless, voltage and current measurement system for monitoring of the distribution grid. This system would consist of three current sensors, three voltage sensors, and a rack-mount form factor transceiver that queries the sensors, interprets the sensor signals, and plots voltage and current measurements for each sensor on a PC-based user interface.

Proposed project activities would include the design, prototyping, and laboratory testing of wireless voltage and current sensors. Computer-aided design would be conducted at SenSanna's Arnold, MD facility. Computer simulations of sensors and systems would be conducted at SenSanna facilities. Wafer fabrication and dicing would be completed in the University of Maryland, College Park FabLab clean room facility. Electronic printed circuit board fabrication and assembly would be completed in established facilities by sub-contractors. Sensor module assembly and preliminary lab testing would be completed in SenSanna's Arnold, MD facility. High-voltage testing would be conducted at a National Lab or third party test facility.

The proposed project would involve the use and handling of various hazardous materials, including industrial solvents, and the use of electrical components including high-voltage electrical sources up to 14 kV. All such handling and use would occur in dedicated laboratory facilities equipped with industry standard safety equipment and using proper material handling and disposal practices. All hazardous materials would be managed in accordance with applicable federal, state, and local environmental regulations. Existing corporate health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments.

The facilities in which lab work would occur are purpose-built for the type of activities being proposed; therefore, 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 facilities have all applicable permits in place, and would not need additional permits for the proposed activities.

For all work conducted at DOE laboratories, project activities may be subject to additional NEPA review by the cognizant NEPA Compliance Officer for the lab and would be required to meet the labs health and safety

requirements.

Based on review of the project information and the above analysis, DOE has determined that the proposed project would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusion A9 "information gathering, analysis and dissemination," and B3.6 "small-scale research and development, laboratory operations and pilot projects" and 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 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.

Note to Specialist :

Solar Energy Technologies Office

This NEPA determination does not require a tailored NEPA provision.

Review completed by Logan Sholar on 8/31/2015

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

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

 Electronically Signed By: Lori Gray / *Lori Gray*  
NEPA Compliance Officer

Date: 9/1/2015

#### 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.

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

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

Field Office Manager

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