

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-cost wireless voltage & current monitoring of the distribution grid

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001640	DE-EE0008139	GFO-0008139-001	

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 Incorporated to develop a working prototype of the surface acoustic wave (SAW) sensor-tag-based wireless voltage and current distribution grid power line monitoring system developed in-lab through the SunShot initiative.

Proposed project activities would include the computer-aided design and simulation of the system, sensor system design and prototyping, and electrical characterization and testing of system components and modules. Computer-aided design and simulations, sensor system assembly and testing, and medium voltage testing would be conducted at SenSanna's facilities in Arnold, MD and Hanover, MD. Wafer fabrication and dicing of preliminary devices would be completed at the University of Maryland, College Park FabLab clean room facility. Electronic printed circuit board fabrication and assembly, antenna production, packaging/enclosure production, and ingress protection testing would be completed by commercial vendors. The facilities in which this 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.

Activities at the Hanover site would necessitate the installation of a set of medium voltage test rigs for testing the sensor systems being developed. This would involve fencing in an area approximately 25 feet by 40 feet immediately adjacent to the laboratory, and installation of up to three power distribution poles with conductors and the safety and control mechanisms needed for safe exposure of the sensor systems to three phase AC power at up to 25kV line-to-line. Minor, temporary disturbance of less than 20 square feet would be required for installation of the poles. Permits would be needed to complete these installations and would be obtained before this work begins.

The proposed project would involve the use of various hazardous chemicals including industrial solvents as well as electrical components and equipment including medium-voltage AC electrical sources (up to 25 kV line-to-line or 14.4 kV line to ground or more). All such handling and use would occur in dedicated laboratory facilities equipped with industry standard safety equipment and using proper safety, material handling, and disposal practices. Existing corporate health and safety policies and procedures will be followed including employee training, use of personal protective equipment, engineering controls, monitoring, and internal assessments. Non-hazardous wastes typical of labwork such as gloves, booties, paper towels, wood/metal shavings, etc. are expected to be generated as a result of this proposed project and would be disposed of through normal municipal waste streams. Potentially hazardous wastes such as unused epoxies and/or resins would be disposed of in accordance with local, state, and federal

environmental regulation.

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.

Review completed by Rebecca McCord 08/10/2017.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____



Signed By: Kristin Kerwin
NEPA Compliance Officer

Date: 8/14/2017

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: _____