

PMC-ND

(1.08.09.13)

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

**RECIPIENT:**Commonwealth Edison Company**STATE:** IL**PROJECT TITLE** : Microgrid-Integrated Solar-Storage Technology

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0001108	DE-EE0007166	GFO-0007166-001	

**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:**

- |   |  |
|---|--|
| <b>A9 Information gathering, analysis, and dissemination</b>                                | 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.)   |
| <b>B3.6 Small-scale research and development, laboratory operations, and pilot projects</b> | 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 the Commonwealth Edison Company (ComEd) to address availability and variability issues inherent in solar photovoltaic (PV) technology by utilizing smart inverters for solar PV/battery storage and working synergistically with other components within a microgrid community.

The proposed project would design, develop, deploy, and demonstrate the Microgrid-Integrated Solar-Storage Technology (MISST). The proposed solar photovoltaic (PV) and battery energy storage system would be integrated into the Bronzeville Community Microgrid (BCM), located in Chicago, Illinois. The PV system would be installed on existing roof tops at selected buildings at the BCM. The system would consist of ballasted roof top racking systems with solar PV modules. Details of the installation would consist of site survey, rigging services and electrical construction. The Illinois Institute of Technology (IIT) would develop the smart inverter technology and the microgrid master controller and complete testing of inverters at the existing IIT microgrid. Argonne National Laboratory (ANL) and the National Renewable Energy Laboratory (NREL) would be responsible for the economic analysis of the entire MISST solution. This NEPA review is limited to Budget Period (BP) 1 Tasks and Subtasks and associated activities only. These activities would consist of desktop research, computer modeling and analysis and laboratory testing. At this time, locations for the solar PV and energy storage system installations have not been identified; therefore, all BP 2 and BP 3 activities are prohibited until further NEPA review has been completed.

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 review of the project information and the above analysis, DOE has determined that BP 1 activities would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined BP 1 activities are 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 are categorically excluded from further NEPA review.

**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:

Budget Periods 2 and 3:

Subtask 2.3: The Smart Inverter Technology will be validated for medium-power applications

Subtask 2.4: The Smart Inverter Technology will be validated for high-power applications

Subtask 3.3: Implement Enhancements to Existing Microgrid Master Controller

Subtask 4.3: Acquisition of necessary permits.

Subtask 4.4: Procurement of major equipment for the high-power solar PV system

Subtask 4.5: Installation of the high-power solar PV system

Subtask 4.6: Test and commission the high-power solar PV system

Subtask 5.3: Procurement of major equipment for the BESS

Subtask 5.4: Installation of the BESS

Subtask 5.5: Test and commission the BESS

Subtask 6.3: Collect Operation Data.

Subtask 6.4: Analyze Operation Data and Report Results.

Subtask 6.5: Documentation and dissemination of lessons learned

Subtask 6.6: Documentation and dissemination of scaling up, interconnection review, and approval processes and methodologies

This restriction does not preclude you from:

Budget Period 1:

Task 1: Further Develop the MISST solution

Subtask 2.1: The Smart Inverter Technology will be validated for medium power applications

Subtask 2.2: The Smart Inverter Technology will be validated for high power applications

Subtask 3.1: Establish the Control Requirements of the MISST Solution

Subtask 3.2: Identify enhancements to the existing microgrid master controller

Subtask 4.1: Site Selection for PV installations

Subtask 4.2: Engineering and design for the installation of the high-power PV system

Subtask 5.1: Engineering and design for the installation of the Battery Energy Storage System

Subtask 5.2: Acquisition of necessary permits.

Subtask 6.1: Prepare Data Collection Plan

Subtask 6.2: Establish Performance Metrics Targets

Task 7: Project Management and Reporting

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.

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.

The recipient is required to submit a new EQ-1 for BP 2 and 3 activities prior to beginning work on those activities.

Note to Specialist :


Solar Energy Technologies Office

This NEPA determination requires a tailored NEPA provision. Please see above.

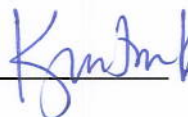
Review completed by Logan Sholar on 12/18/2015

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

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

 Electronically  
Signed By: Kristin Kerwin

NEPA Compliance Officer



Date: 12/22/2015

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