

PMC-EF2a

(20402)

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



RECIPIENT: Commonwealth Edison (ComEd)

STATE: IL

PROJECT TITLE : Smart Grid Photovoltaic Pilot

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0000085	DE-EE0002067	GFO-10-069	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:

**B5.1** Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

## Rational for determination:

Commonwealth Edison Company (Com Ed) is proposing to use ARRA funding through DOE to evaluate residential electricity consumption impacts of behind-the-meter photovoltaic (PV) energy systems and energy storage located within an Advance Metering Infrastructure (AMI) footprint.

Com Ed will conduct field studies that will involve 200 participants (i.e. control and test groups of residential home owners) comprised of four groups of 50. These are organized as follows:

- Group 1 (Control) Conventional analog electric meter
- Group 2 (Test) AMI meter with customer portal
- Group 3 (Test) AMI meter with customer portal and a grid-tied PV system
- Group 4 (Test) AMI meter with customer portal and a grid-tied PV system with battery storage.

Test groups #2-4 will involve installation of AMI meters, PV systems and battery storage systems on residential homes. They will be installed by licensed contractors with National Grid serving as the sub-recipient performing this work.

In order to mitigate any potential impacts from meter, PV, and battery storage system installations, Com Ed has agreed to the following:

1. The project will not involve any homes listed on the historical register. Homes that are listed on the historical register, or that are in the process of becoming listed, will be screened out from the potential pool.
2. All appropriate building permits will be secured prior to performing installation work of the PV systems and battery storage systems as appropriate.
3. Roofs will have inspection of an appropriate nature performed to ensure their suitability for a PV installation. The inspection will also include structural integrity.
4. Main electric service panel will be inspected to ensure that it is in compliance with all applicable code requirements.
5. Appropriately licensed contractors will be used for all work.
6. PV systems installed will nominally be 3kW in size, with a minimum size of 2kW and a maximum size of 3kW.

7. Nominal roof space occupied by PV system will be 230 sq. ft. with a minimum size of 160 sq. ft. and a maximum size of 250 sq. ft.

8. Systems with battery storage will use batteries of the follow type:

- UL listed Energys SBS145F pure lead batteries. These maintenance-free valve regulated batteries are impact resistant and flame retardant to UL94 V-0 standards. There will be a total of 8 batteries being used in a 2\*4 configuration (2 strings of 4 batteries at 48V nominal).
- Batteries will be housed in a metal NEC approved cabinet. This cabinet will have a footprint of approximately 33"(W) \* 22"(D) \* 30"(H) consisting of two selves and will sit approximately 4" off the ground. The cabinet will have sheet metal skins enclosing the batteries and wiring. These skins can only be removed from the shelf frame using a tool. These skins have slotted louvers on the top and bottom of the side panels allowing for passive venting and cooling.
- The battery shelf location would be in a conditioned space of the house close to the inverters, like a basement or garage.

This project comprises demonstrations of potential energy conservation and energy-efficiency activities; therefore a CX B5.1 applies.

**NEPA PROVISION**

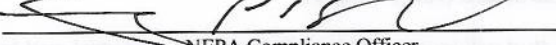
DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

None Given.

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

NEPA Compliance Officer Signature:   
NEPA Compliance Officer

Date: 2/24/10

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