

PMC-EF2a

(2.04.02)

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



RECIPIENT: KY Dept for Energy Development & Independence

STATE: KY

PROJECT TITLE : EECBG Program: Warren County Public Schools Net-Zero Energy School - Richardsville Elementary

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000013	DE-EE0000730.003		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:

Warren County Public Schools, Kentucky is in the process of constructing a new Richardsville Elementary School, 1775 Richardsville Rd., Bowling Green, Kentucky to replace the former Richardsville Elementary that existed on the same site. The new school is intended to be the state and nation's first Net-Zero, and Leadership in Energy and Environmental Design (LEED)-certified public school facility. Warren County would utilize a sub grant of EECBG funds from the Kentucky Department of Energy to install solar panel photovoltaic (PV) arrays to provide the facility with a significant portion of its electrical need. The PV systems for Richardsville Elementary would consist of a 207kW roof applied amorphous thin-film system, and a 139 kW mono-crystalline system mounted as a shade structure in the planned parking area. The new school is being constructed on the same property as the former school and the two PV systems are not contributing to an expanded project footprint.

The roof applied system would cover approximately 35,900 sq ft of roof space with Uni-Solar Model PVL-144 amorphous silicon solar panels (film). The structural engineer of record for the school project has submitted a letter stating that the building's roof was "designed to support the weight" of the PV system, and that the design of the system was governed by the 2006 International Building Code (with Kentucky amendments) and ASCE/SEI 7-05, "Minimum Design Loads for Buildings and Other Structures."

The 138 kW mounted system would be installed atop an approximate 8,500 sq ft shade canopy in the school's primary parking lot. The canopy would cover approximately 18 of the 81 available parking spaces and be located along the southern boundary. The minimum setback from the southern property line is five feet, and the PV system would be installed 11.5 feet from the property line. Additionally, the system would be set back approximately 150' from Richardsville Road (Highway 263). The shade structure would be constructed utilizing structural steel frames and z purlins, and all exposed steel would be painted. The structural engineer of record for the school project has submitted a letter stating that the parking lot shade structure was "designed to support the Sunpower 315 solar panels" and that the design of the system was governed by the 2006 International Building Code (with Kentucky amendments) and ASCE/SEI 7-05, "Minimum Design Loads for Buildings and Other Structures." The canopy system would be connected to the school building with six underground 2-inch schedule 40 PVC conduits running 180-300 feet from each of the structural frame footings to inverters located in Mechanical Room 011.

In addition to being connected to the school, both PV systems would be connected to the local electrical grid. During periods of low demand, such as after school, weekends, and summer months when school is out, electrical power would be returned to the grid.

The overall project's Detailed Development Plan received local planning and zoning approval at a public hearing. Prior to the hearing the project was advertised in the Bowling Green Daily News for no less than 10 days. No objections

were made at the public hearing.

The project constitutes efforts to conserve energy and is categorically excluded under NEPA under B5.1.

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:  Date: 4/15/10
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