

PMC-EF2a

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



RECIPIENT:University of Louisville Research Foundaton

STATE: KY

PROJECT TITLE : University of Louisville--Sustainable Buildings

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-F636-05G085034	GFO-05GO85034-001	GO85034

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:

B1.15 Support buildings Siting, construction or modification, and operation of support buildings and support structures (including, but not limited to, trailers and prefabricated and modular buildings) within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible). Covered support buildings and structures include, but are not limited to, those for office purposes; parking; cafeteria services; education and training; visitor reception; computer and data processing services; health services or recreation activities; routine maintenance activities; storage of supplies and equipment for administrative services and routine maintenance activities; security (such as security posts); fire protection; small-scale fabrication (such as machine shop activities), assembly, and testing of non-nuclear equipment or components; and similar support purposes, but exclude facilities for nuclear weapons activities and waste storage activities, such as activities covered in B1.10, B1.29, B1.35, B2.6, B6.2, B6.4, B6.5, B6.6, and B6.10 of this appendix.

B5.16 Solar photovoltaic systems The installation, modification, operation, and removal of commercially available solar photovoltaic systems located on a building or other structure (such as rooftop, parking lot or facility, and mounted to signage, lighting, gates, or fences), or if located on land, generally comprising less than 10 acres within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

B5.17 Solar thermal systems The installation, modification, operation, and removal of commercially available smallscale solar thermal systems (including, but not limited to, solar hot water systems) located on or contiguous to a building, and if located on land, generally comprising less than 10 acres within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rational for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the University of Louisville (University) to support a final phase of its research and demonstration projects. DOE categorically excluded the original project scope (GFO-05-209; CX B5.1). A second NEPA determination (GFO-06-163, CX A9, B3.6, and B5.1) was the result of the recipient expanding the scope of work. A third NEPA determination (GFO-06-163a) was the result of the recipient adding tasks to the scope of work. The fourth NEPA determination was completed to address a change in location of a project CXed via GFO-06-163a. This NEPA determination analyzes the recipient's expansion of one task and the addition of three new tasks. As part of the expansion and additional tasks, present funding would be used to develop a passive solar research facility, install solar thermal and photovoltaic panels on the roofs of demonstration homes, and install solar hot water panels and associated equipment at the University's existing Natatorium and the Student Recreation Center that is presently being built.

Passive Solar Research Facility

Current funding is for construction of a bench scale system for further analysis of the efficiency and feasibility of solar heat pipes. This bench scale system consists of a small passive solar test facility built on campus to evaluate the effectiveness of the solar heat pipe technology. The test facility is located on the lawn near Ernst Hall on the University's campus. The facility is a small (12 by 24 foot) temporary structure with no utility connections (water, gas sewer, or electric) and would be heated and cooled through the technology being tested. As a result, no trenching or ground disturbance is required for its construction.

Solar Demonstration Homes

This activity involves installation of solar photovoltaics (PV) and solar thermal arrays on five zero-energy homes in Emlyn, Whitley County, KY. The homes are located on Red Witt Rd. and Bob Carter Rd., Emlyn, KY 40769. The homes were constructed in September 2012, and no historic districts are in the area. A site specific environmental

review was completed by the US Department of Housing and Urban Development (HUD) prior to construction of the homes that indicated no adverse effects of the project to the environment. The scope of work being performed under this grant includes only the solar PV and thermal systems. The solar PV arrays would consist of 12 panels for a total of 3.76 kW at each home, and they would connect to the grid via 80 ft trenches to the nearby drop poles. The trenches would vary from 18" to 24" in depth, and were part of the environmental review performed by HUD. The solar thermal systems would be tied only to the homes, and would consist of two panels supporting 80 gallon General Electric heat pump water tanks at each home. Portions of the 30 acre tract of land on which the solar demonstration homes were built is located within the flood plain of the Clear Fork in the Cumberland River watershed, however the demonstration homes are all located outside the floodplain.

Natorium Solar Hot Water

The University would install a solar hot water system on the Ralph Wright Natatorium, constructed in 2005, which is located on campus at 2276 S. Floyd St, Louisville, KY 40292. The system would consist of 18 roof mounted panels that would be tied only to the building, so no trenching or ground disturbances would be required.

Student Recreation Center Solar Hot Water

The University would install a solar hot water system on the Student Recreation Center (currently under construction). The building is located on the University campus surrounded by 2 new residence halls (built in the last 10 years), a railroad, and an industrial park. The system would consist of 15 roof mounted panels that would be tied only to the building, so no trenching or ground disturbances would be required. The Old Louisville Historic District is located two blocks north of the Student Recreation Center but the installation of a roof mounted solar hot water system would have no potential to affect the historic district beyond any effect the construction of the Student Recreation Center itself would have upon the district.

Based on review of the project information and the above analysis, DOE has determined that the proposed project activities 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 exclusions B1.15 "Support buildings," B5.16 "Solar photovoltaic systems," and B5.17 "Solar thermal systems," 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:

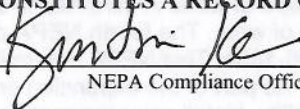
If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

Casey Strickland 3/20/13

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____



NEPA Compliance Officer

Date: _____

3/20/2013

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: _____