



PMC-EF2a

(2.04.02)

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

RECIPIENT: Board of Trustees of the University of Illinois

STATE: IL

PROJECT
TITLE : Large Consumer Energy Efficiency Program

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA0000052	EE0000119	GFO-10-380	EE119

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:

The Board of Trustees of the University of Illinois will provide \$1,065,320 in Recovery Act funds to the University of Illinois to purchase and install energy wheels in several renovated and new buildings; thermal pipe insulation at multiple buildings; VAV hoods and controls for Chemical Life Sciences Building A; HVAC controls in the Krannert Center for Performing Center's mezzanine; exhaust controls in the Levis Faculty Center; and geothermal systems for several buildings at the Allerton Park and Retreat Center. The collective activities involve the installation of new, energy efficient equipment as replacement for old equipment in existing buildings.

The four ground source heat pump systems will be closed loop, horizontal systems with a total capacity of 23 tons. The trenching for the systems will not exceed a distance of 50ft from each building to be serviced. The current system at the Evergreen Lodge will be replaced with a 2-stage, 6 ton ground source heat pump with electric heat strips for emergency heat. The Evergreen Lodge will have six trenches 8ft deep and 156ft long. The current system at the Gate House will be replaced with a 2-stage, 5 ton ground source heat pump with electric heat strips for emergency heat. The Gate House will have five trenches 7ft deep and 317ft long. The current system at the House in the Woods will be replaced with a 2-stage 5 ton ground source heat pump with electric heat strips for emergency heat. The House in the Woods will have five trenches 7ft deep and 237ft long. The current system at the Visitors Center will be replaced with one 2-stage 4 ton ground source heat pump and one 2-stage 3 ton ground source heat pump, both with electric heat strips for emergency heat. The Visitors Center will have seven trenches 7ft deep and 224ft long. Installation of the geothermal systems will follow the guidelines from IGSHPA Design and Installation of Residential and Light Commercial GSHP systems. The systems will employ high density polyethylene pipe that is heat fused at the joints and refrigerant that will use a non-toxic mixture of potable water and propylene glycol. The contractor is required to restore the site to pre-construction conditions using soil from the excavation of the trenches as fill. The closest aquifer is greater than 50 feet below the surface in Piatt County. Mahomet aquifer, the source of water to Allerton Park, is about 197 feet below the surface. The horizontal closed loop systems will be placed at a depth not to exceed eight feet, which poses no significant risk to the aquifers. The only know endangered species of wildlife that exists in the area is the Massasauga Rattlesnake (*Sistrurus catenatus*). Its habitat is wet prairies, flood plains, marshes and bogs. None of the four sites has this eco-type in its surrounding environment.

In view of information provided by the State and recipient, the work outlined is consistent with activities identified in Categorical Exclusion B5.1.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Insert the following language in the award:

You are required to:
Consult with and obtain written concurrence from the local State Historical Preservation Office (SHPO) before initiating any work that might impact the historical significance of the affected buildings and surrounding area. A copy of the SHPO letter is to be provided to the DOE Project Officer.

Note to Specialist :

According to the project officer, funding for this project is \$1,065,367. Unless there is a significant change in scope, a change in funding will not affect my determination.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Date: 5/19/10
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