

PMC-EF2a

(2.04.02)

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



RECIPIENT: Illinois Department of Commerce & Economic Opportunity

STATE: IL

PROJECT TITLE : Southern Illinois University Carbondale; Stone Center Geothermal

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	EE0000119	GFO-10-392	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 State of Illinois will provide \$30,000 in Recovery Act funds to Southern Illinois University at Carbondale to install a ground source heat pump system for the W. Clement and Jessie V. Stone University Center. The Center is currently being renovated. Recovery Act funds will be used to help complete the proposed geothermal HVAC system.

The proposed ground source heat pump (GSHP) system will be a 30-ton, vertical closed loop system. The geothermal borefield will consist of 25 vertical wells of 300 ft depth and will be installed in the lawn area immediately to the south of the building. The GSHP contractor will be required to have an active accreditation with the IGSHPA or Vertical Closed Loop Driller Certification with the NGWA. In addition, contractors will be required to follow the Illinois Water Well Construction Code, Section 920.180 Closed-Loop Wells and with the IGSHPA guidelines. The boreholes will be encased in a thermally enhanced bentonite grout that is designed to withstand cracking from temperature changes and will employ a high density polyethylene pipe that is heat fused at the joints to minimize the risk of leaks. The refrigerant is an environmentally friendly mixture of potable water and propylene glycol. The contractor is required to restore the site to pre-construction conditions. Where possible, construction and demolition waste will be recycled; otherwise, the material will be landfilled. The site for the proposed bore holes is on school grounds that have been previously disturbed. The project is not likely to impact threatened or endangered species. A review of the National Wetland Inventory on EPA's NEPAassist indicates no floodplains or coastal zones in proximity to the proposed site location.

Based on the 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:

Note to Specialist :

According to the project officer, funding for this project is \$30,000. Unless the scope of this effort changes significantly, a change in funding will not affect my determination.

