

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 : Teutopolis C.U.S.D.#50; Geothermal HVAC Project

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	EE0000119	GFO-10-466	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 Illinois Department of Commerce & Economic Opportunity is providing \$176,000 in Recovery Act funds to Teutopolis School to cover the cost associated with the installation of a geothermal HVAC system. Teutopolis Grade School is located at 309 E. Main St, Teutopolis, IL.

The vertical, closed loop ground source heat pump system has a heating and cooling capacity of 178-tons. The system required 135 boreholes. The drilling was performed by an Illinois-licensed company following IGSHIP Association guidelines. All boreholes were grouted with a thermally enhanced bentonite grout designed to withstand cracking from temperature changes. The system was constructed with a high density polyethylene pipe that was heat fused at the joints to minimize the risk of leaks in the system. The system is using a non-toxic refrigerant that is a 10% mixture of propylene glycol and potable water. The well field contractor had erosion control measures in place, which included silt fencing during construction and straw and grass after construction. The ground was restored to its natural condition after the well field was installed. The field contractor disposed of the waste materials generated during installation. No hazardous waste was encountered.

Using Illinois State Geological Survey aquifer maps, it was determined that there are no sensitive aquifers underlying the area where the ground source heat pump well field was installed. The site location for the geothermal well field is a grass lawn at the rear of an existing school building. The area surrounding the site location is all residential and light commercial. Analyzing the National Wetland Inventory on the EPA's NEPAAssist, the reviewer has concluded that there are no floodplains or coastal zones in proximity to the proposed site location. The proposed site location is 0.25 miles from the nearest wetland providing an ample buffer against any adverse effects.

DOE is aware that the installation of the geothermal system is complete. A post construction site visit was conducted on June 15th, 2010 by personnel from the DOE Golden Field Office to inspect the project and assess potential environmental impacts from the project construction. Through an inspection of the installed geothermal system, it is concluded that there were no adverse impacts to the site or the surrounding area. The geothermal system was installed as described by the information above.

After a thorough review of the submitted information and a post-construction site visit, it has been determined that the project has not had a significant impact to human health and/or environment. Based on the information obtained from the site visit, 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 \$176,000. As the work is now complete and the State is paying in arrears, payment based on invoice may be warranted.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____
NEPA Compliance Officer

Date: 6/24/10

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: _____