PMC-EF2a

(2.06.02)

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

RECIPIENT: County of Lehigh **STATE:** PA

PROJECT TITLE : Lehigh County (PA), Geothermal at Trexler Enviromental Center --ARRA-EECBG

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-000013	DE-EE0000936/EECBG		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:

Lehigh County has installed a ground source heat pump system in a new environmental center at the Lehigh County nature preserve. Since the location of the proposed GSHP system is in a developing area of multi-use buildings there was minimal to no aesthetic impact from the installation process. The building for which the GSHP system provides heating and cooling is a newly constructed building. Land disturbance had occured prior to project implementation of the GSHP system.

The ground source heat pump system is a closed loop, vertical system with a capacity of 17.4 tons. There are six boreholes five of which are drilled to a depth of 550 feet and one of which is drilled to a depth of 400 feet. At no point during operation has any interaction take place with the groundwater. All boreholes are cased in a thermally enhanced bentonite grout that is designed to withstand cracking from the changes in temperature between the ground and the heat exchange pipe. This ensures that the area around the borehole is sealed to keep any surface runoff from contaminating ground water. The system employs high density polyethylene pipe that is heat fused at the joints which greatly minimizes the risk of leaks in the system preventing possible contamination of soil and ground water sources. The refrigerant is a non-toxic mixture of potable water and propylene glycol. The recipient states that all drilling and installation activities were held to industry standard best practices in order to mitigate any risk of fluid leakage as well as adherence to the National Pollutant Discharge Elimination System (NPDES) regulations. All non-hazardous waste has been properly disposed of by a municipal hauler at the municipal landfill. The recipient put an erosion and sediment control plan in place that was reviewed and approved by the Pennsylvania Department of Environmental Protection to ensure no adverse impacts to the surrounding area were caused during construction and installation of the project. In the attached environmental questionnaire the recipient states there were no adverse impacts to wetlands, floodplains, nearby bodies of water, threatened and endangered species, or cultural and historic resources due to the construction and installation of the ground source heat pump system.

After a thorough review of the information submitted for the project, it has been determined that the project did not have a significant impact to human health and/or environment. Therefore, all activities in the project are categorically excluded under CX B5.1 "actions to conserve energy" from further NEPA review.

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: 4/1/10

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