PMC-EF2a

(2.04.02)

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

RECIPIENT: Kirkwood Community College; a SEP ARRA sub-recipient of the Iowa Economic Development Authority **STATE:** IA

PROJECT TITLE: Retroactive-Linn Hall Renovation and Installation of a 700 ton open loop ground source heat pump and related high efficiency heating and cooling systems at Kirkwood Community College, Cedar Rapids, Iowa

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	EE0000162	GFO-0000162-019	EE162

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:

B5.19 Ground source heat pumps The installation, modification, operation, and removal of commercially available smallscale ground source heat pumps to support operations in single facilities (such as a school or community center) or contiguous facilities (such as an office complex) (1) only where (a) major associated activities (such as drilling and discharge) are regulated, and (b) appropriate leakage and contaminant control measures would be in place (including for cross-contamination between aquifers); (2) that would not have the potential to cause significant changes in subsurface temperature; and (3) would be located 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) provided funding to the State of Iowa under the American Recovery and Reinvestment Act (ARRA) of 2009 State Energy Program (SEP). Iowa selected Kirkwood Community College to receive $2,300,000 in SEP funding to install an open loop ground source heat pump (GSHP), which is administered under the Iowa Economic Development Authority ARRA Revolving Loan Program.

This NEPA review is for an individual project that is outside of the bounds of Iowa Template for Expedited NEPA review (the Template's size limitation is 5.5 tons). Kirkwood Community College installed a 700 ton open-loop GSHP, prior to receiving an individual NEPA review. The wells and directional boring are completed with the interior building retrofits for the HVAC system in progress and would be completed by October.

The building is located at 6301 Kirkwood Blvd. SW, Cedar Rapids, Iowa. The total area of disturbance for the well field is four, 16 inch diameter, wells at an average depth of 500 ft. and spaced approximately 250 ft. apart. The wells use potable water drawn from the Silurian Dolomite formation, no anti-freeze solution or chemicals are utilized. The two supply and two re-injection wells are identical and adhere to public drinking water supply standards. The 16 inch diameter wells had 10 inch diameter A-53 grade A well casing installed with a tremie pipe installed to the bottom annulus and pumped with neat cement grout. The wells are connected to Linn Hall and the building is retrofitting the HVAC with new mechanical equipment and plumbing to provide passive building heating and cooling for ~250,000 sq. ft. of classroom and administrative office space.

U.S. Environmental Protection Agency (EPA) determined in an email dated June 7, 2012, the project does not require an EPA Underground Injection Control permit but a state issued operating permit. The project received Well Water Use operating permit #9578 from the Iowa Department of Natural Resources (IDNR). The permit allows for withdrawals of water from the aquifer at a maximum rate of 700 gallons of water per minute throughout the year, and a total maximum quantity of 110 million gallons per year. Based on State requirements, the project is not required to have IDNR approval of a Well Water Pollution Prevention Plan (WWPPP).

All trenching required for the supply and return lines running from the wells to the geothermal heat exchange equipment inside Linn Hall has been backfilled and meets State of Iowa mandated specifications for site and soil restoration. The project utilized directional boring at a depth of 5 ft. below grade. Approximately 14,000 cubic feet of soil was excavated, including the horizontal trenching required to connect the well field to the building mechanical system. Erosion control and storm water management plans are implemented at the site and the project has been issued a NPDES General Permit No. 2 for storm water discharge associated with construction, permit #20794-20563. The site has been restored to its previous grade and condition following the completed drilling and directional boring.

Gingerich Well and Pump Service., Inc. is the contractor responsible for drilling and system installation.

The project is located on a community college campus with other existing buildings. The construction caused temporary disturbance to traffic patterns in the area, and the noise level increased from the temporary drilling activity. These were considered to be minor disruptions and did not have a significant impact on human health and environment.

Linn Hall was built in 1970 and the Iowa State Historic Preservation Office has reviewed the project and in a letter dated June 13, 2012, concluded that "no properties listed in or eligible for the National Register of Historic Places will be affected by this project." The U.S. Fish and Wildlife Service Endangered Species Program website identifies three species in Linn County, Iowa: Indiana bat, Prairie bush-clover and Western prairie fringed Orchid. DOE has determined that the ground source heat pump was installed in previously disturbed grass areas and is not likely to adversely affect the resources in the area. The proposed project is approximately 1000 ft. from any wetlands or surface water resources and would not have any impact on these resources.

Based on review of the project information and the above analysis, DOE has determined the installation of the 700 ton GSHP did not have a significant impact to human health and/or environment. DOE has determined the project is consistent with the actions contained in B5.19 "Ground source heat pumps", and is categorically excluded from further NEPA review.

Any further projects will require a separate NEPA determination 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 :

Diana Scott 8.28.2012

DOE Funds: $2,300,000
Leveraged Funds: $2,350,000
Total Project Cost: $4,650,000

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By Kristin Kerwin Date: 8/30/2012

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