PMC-EF2a
(2.04.02)

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

RECIPIENT: OKlahoma Municipal Power Authority **STATE:** OK

PROJECT TITLE : OKLAHOMA SEP ARRA - OMPA Large Systems Request AO

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	DE-EE0000133	GFO-0000133-067	

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:

DOE is proposing to provide $41,520 in SEP funding to the Oklahoma Department of Commerce, who is proposing to fund the Oklahoma Comfort Program through their sub-grantee the Oklahoma Municipal Power Authority (OMPA).

The proposed projects are vertical, closed-loop ground source heat pump (GSHP) systems that would be installed at the Stolhand residence (6719 Stolhand Road, Ponca City, Oklahoma 74604) and the Marlow City Hall (119 South 2nd Street, Marlow, Oklahoma 73055). Total tonnage of each system would be 5.52 tons and 36 tons, respectively.

The state certified and licensed driller would follow IGSHPA and NGWA regulations during installation. The systems would use HDPE piping that is heat fused and all wells would be fully grouted with bentonite. The systems would use a 20% solution of ethylene glycol in potable water. All loops would be pressure tested before and after installation.

The Stolhand residence is located six miles east of Ponca City in a lightly-populated, residential neighborhood. The nearest residence is 400 feet away. The proposed system would consist of a 5.52-ton unit, which would be served by a loop of four boreholes. Each borehole would be situated at least twenty feet apart, be six-inches in diameter and 300 feet deep. Loops made of HDPE pipes would be inserted into the boreholes. Manifolds would connect the loops to the heat pumps. Land disturbance of less than 2,500 square feet would occur at the proposed site. All sod removed during drilling would be replaced. Approximately one yard of uncontaminated sandstone spoils would be created during the drilling of the boreholes. The spoils would be spread across the landscape or properly disposed of at a sanitary landfill.

The proposed system would not impact surface water. The nearest significant surface water bodies include the Arkansas River located 1.25 miles south, Lake Ponca located 1 mile north and Lake Kaw located 3.5 miles east the of the proposed project. There are no aquifers within 350 feet of the surface. If a system were to reach the aquifer, the aquifer would be protected because the system would be installed using techniques that protect the groundwater and the loop fluids from contaminating one another. The formation underlying the property is 3 to 5 feet of clay above layers of sandstone.

The Marlow City Hall is centrally located in the town of Marlow. Directly adjacent to the City Hall is a real estate agency, the fire department and a restaurant. The proposed system would consist of two, 1.5-ton units, one, 2-ton unit, one, 3-ton unit, two, 4-ton units and four, 5-ton units, which would be served by a common loop consisting of thirty boreholes. Each borehole would be situated at least twenty feet apart, be six-inches in diameter and 340 feet deep. Loops made of HDPE pipes would be inserted into the boreholes. Manifolds would connect the loops to the heat pumps. Land disturbance of less than 10,000 square feet would occur at the proposed site. All sod removed during drilling would be replaced. Approximately six yards of uncontaminated sandstone spoils would be created during the

drilling of the boreholes. The spoils would be spread across the landscape or properly disposed of at a sanitary landfill.

The proposed system would not impact surface water. The nearest significant surface water body is Lake Lawtonka located 15 miles northwest of the proposed project. There are no major aquifers located under the property. The southern-most boundary of the Rush Springs aquifer is north of the proposed location. If a system were to reach the aquifer, the aquifer would be protected because the system would be installed using techniques that protect the groundwater and the loop fluids from contaminating one another. The formation underlying both properties is 3 to 5 feet of clay above layers of sandstone.

Areas containing karst topography and related federally listed species in Oklahoma have been identified, and the proposed project would not occur in proximity to those resources. Based on this, DOE has determined there would be no adverse impacts to these resources as a result of the proposed GSHP project.

As required by the OK SEO, installation of ground source heat pumps cannot commence at any proposed OCP installation site until State Historical Preservation Office (SHPO) approval has been received. OMPA has submitted information for the proposed GSHP installation sites to the Oklahoma State Energy Office (SEO) for review by SHPO. Under a Programmatic Agreement with SHPO, OK SEO can approve sites with buildings that are less than 45 years old. For buildings 45 years old or older, SEO must submit details to SHPO for review.

Based on this information, DOE has determined the work outlined is consistent with activities identified in categorical exclusion B5.19 (installation of ground source heat pump).

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

Cristina Tyler 7.24.2012

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 7/26/2012

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