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 AH

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	DE-EE0000133	GFO-0000133-061	

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 $9,070 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 following NEPA review is for the installation of a residential ground source heat pump (GSHP) at the Fielding residence located at 2116 Covell Lane, Edmond, Oklahoma 73034. The total tonnage of the GSHP system would be 9.07 tons.

The state certified and licensed driller would follow IGSHPA and NGWA regulations during installation. The system would use HDPE piping that is heat fused and would be fully grouted with a thermally enhanced bentonite grout. All piping would be pressure tested before and after installation. No heat exchange fluid would be used, only potable water.

The Fielding residence is located 2 miles northeast of Edmond, Oklahoma in a residential community. To the east of the home is a large open space. The proposed system would consist of one, 2.42-ton unit, one, 3.23-ton unit and one, 3.43-ton unit. No boreholes would be installed. The system would be a once through system using well water supplied by the Garber-Wellington aquifer. The system would use three gallons per minute per ton. After passing through the GSHP, the water would be discharged into two naturally occurring swales, or landscape features designed to manage runoff. An earthen dam would be constructed to hold the water and create a pond. A submersible pump would be placed in the pond to provide irrigation water for the home's landscape. Excess water would recharge the aquifer via subsurface absorption. Minimal land disturbance would occur at the project site. The proposed project would not impact surface water, as the nearest surface water body is Lake Arcadia (2.5 miles southeast of the site).

The proposed system would not impact groundwater. According to the USGS, the aquifer underlies 3,000 square miles in central Oklahoma. The aquifer is used for municipal, industrial, commercial, agricultural and domestic water supplies and for individual domestic water supply by over 20,000 property owners. The Oklahoma Water Resources Board prioritizes aquifers in the State to determine maximum yield based on stress of the aquifer. At this time, a maximum yield has not been determined, indicating minimal evidence of stress.

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 information, DOE has determined the proposed GSHP project would not have adverse impacts on these resources.

As required by the OK SEO, installation of GSHP cannot commence at any proposed OCP installation site until State Historical Preservation Office (SHPO) approval has been received. OMPA must submit information about all

prospective 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 pumps).

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

Cristina Tyler 4.9.2012

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 4/11/2012

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