

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 System Request U

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	DE-EE0000133	GFO-0000133-046	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:

DOE is proposing to provide \$128,740 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.

The following NEPA review is for two vertical, closed loop ground source heat pump (GSHP) systems at two separate locations: 1) Fox Lake Lane at 135 Frontage Rd, Edmond, OK 73034 and 2) Tramel Home Project at 610 Tramel Circle, Walters, OK 73572. The total tonnage of each system would be 123 tons and 6 tons, respectively.

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 all wells would be fully grouted with a thermally enhanced bentonite grout. The refrigerant used in the system would be a non-toxic, food grade 15% propylene glycol and water mixture. All loops would be pressure tested before and after installation. Minimal land disturbance of less than 1,500 square feet would occur at each project site.

The Tramel Circle home is located in the south-west side of Walters, Oklahoma. The home is located in a densely populated neighborhood. Agricultural land surrounds the town of Walters. The proposed system would consist of two, 3-ton units. Each unit would be served by a single vertical loop of three boreholes. Each borehole would be situated at least ten feet apart, be six-inches in diameter and 200 feet deep. The holes would be drilled and grouted with bentonite. Loops made of HDPE pipes would be inserted into the boreholes. Manifolds would connect the loops to the heat pumps. Approximately one yard of uncontaminated sandstone spoils would be created during the drilling of the boreholes. The spoils would be properly disposed of at a sanitary landfill. The proposed project would not impact surface water, as none exists within 1.5 miles of the site.

Currently, the Fox Lake Lane location is an empty 1,500 acre parcel of land. There is no vegetation at this time. Fox Lake Investments, LLC will be constructing a 33,000 square-foot retail building. The proposed system would be installed at the same time as the construction of the facility. The system would consist of ten, 2-ton units, fifteen, 3-ton units, ten, 4-ton units and two, 5-ton units. All units would be served by a single, vertical loop of 51 boreholes. Each borehole would be situated at least ten feet apart, six inches in diameter and 410 feet deep. The holes would be drilled and grouted with bentonite. Loops made of HDPE pipes would be inserted into the boreholes. Manifolds would connect the loops to the heat pumps. Approximately eight yards of uncontaminated sandstone spoils would be created during the drilling of the boreholes. The spoils would be spread around the property. The proposed project is not located in a wetland or floodplain, but is located directly east of Fox Lake. Best management practices would be used during construction to prevent erosion into Fox Lake.

Neither of the proposed GSHP systems would impact groundwater. There are no aquifers within 400 feet of the

surface. If a system were to reach an aquifer, the aquifer would be protected because the system would be installed using techniques which 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 projects would not occur in proximity to those resources. Based on this, DOE has determined there would not be any adverse impacts to these resources as a result of the proposed GSHP projects.

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 must submit information about all prospective GHP 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 B5.1 (actions to conserve energy).

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 :

Cristina Tyler 11.09.2011

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

[Handwritten Signature]
NEPA Compliance Officer

Date: 11/9/2011

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: _____