PMC-EF2a
(2.04.02)

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

RECIPIENT: Missouri Department of Natural Resources, Division of Energy **STATE:** MO

PROJECT TITLE: Energize Missouri HUG Finch

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-000052	EE0000131	GFO-0000131-036	EE131

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 Missouri Department of Natural Resources - Division of Energy (MDNR) under the DOE's American Recovery and Reinvestment Act of 2009 State Energy Program (SEP). MDNR selected the Finch household (Finch) to receive $17,500 in SEP funding (total project cost - $62,410).

This NEPA Review is for an individual project that was originally proposed under MDNR's signed Template for Expedited NEPA Review. However, Finch installed an 8-ton Ground Source Heat Pump System (GSHP) prior to receiving an individual NEPA review (the Template's size limitation is 5.5 tons).

MDNR is requesting it be allowed to issue a rebate to Finch for installation of the 8-ton GSHP system, which is located at 24211 E. Strode Road, Blue Springs (Independence), MO 64015 (project).

The project is 8-ton vertical closed-loop GSHP system to service the Finch's 6,900 sq. ft. single-family residence. The residence was built in 1990. Finch's 8-ton GSHP is two independent closed–loop systems – one 5-ton system and one 3-ton system, serving different areas of the residence. The borefield, trenching, and ground disturbance occurred on the property adjacent to the home. The borefield is ~300 sq. ft. and contains 8 boreholes/wells spaced 10 ft apart and drilled to a depth of ~184 feet. A 2 ft wide by 5 ft deep trench was excavated to connect the borefield to the residence. The exchange fluid is an antifreeze solution of potable water (90%) and methanol (10%). All piping (High Density Polyethene-HDPE) was pressure tested and the boreholes were grouted with a Quick Grout mixture of bentonite and silica. There are no known water wells or aquifers in the area. The driller (Jim Wright, Green Co. Technologies) is IGSHPA certified and followed all Missouri DNR National Ground Water Association rules and guidelines for geothermal well installation. (See "1.Finch_GSHP Questionnaire.docx"). The ground disturbance has been restored to the previous grade and re-seeded.

Based on a review of the file and the above analysis, DOE has determined the increase in size is negligible. Therefore, DOE has determined the project did not significantly impact the human environment and it is categorically excluded from further NEPA review under CX B5.19 (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 :

DOE Funding - $17,500
EF2a prepared by Melissa Rossiter

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By Kristin Kerwin Date: 3/23/2012

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