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 Jura

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-000052	EE0000131	GFO-0000131-040	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 Jura household (Jura) to receive $13,565 in SEP funding (total project cost - $74,793).

This NEPA determination is for an individual project that was originally proposed under MDNR's signed Template for Expedited NEPA Review. However, Jura installed an 11-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 Jura for installation of the 6-ton GSHP system, which is located at 2903 Ashland Ave., St. Joseph, MO 64506 (project).

The sub-recipient installed an 11-ton GSHP that includes three closed–loop systems: a 5-ton system, and two 3-ton systems, which serve different areas/floors of Jura's ~6000 square foot single-family residential home. The home was built in 1950 and is located in a residential neighborhood area. The borefield, trenching, and ground disturbance occurred on the Jura's property. The borefield is located in back yard adjacent to the home. The borefield is ~5625 square foot and contains 11 boreholes/wells spaced 10 feet apart at an average depth of 200 feet. An excavated trench ~5 feet deep and 2 feet wide was used to connect the boreholes and the borefield to the residence. The GSHP exchange fluid was a 20% antifreeze solution. All piping was fusion welded and pressure tested and the boreholes were grouted with bentonite. The water table on the property was not penetrated during drilling. Drinking water is supplied from the municipal water utility. The GSHP installation followed all Missouri DNR National Ground Water Association rules and guidelines as well as IGSHPA guidelines for geothermal well installation. All ground disturbances have been restored to the previous grade and re-seeded. (See "1.Jura_GSHP Questionnaire.pdf," "Jura - Aerial Images.pdf," "3.Jura_Geo Location.pdf," and "Jura - Bundle of Installation Photos.pdf".)

This project received a Cultural Resource Assessment Section 106 Review and Determination of "no historic properties affected" from the Missouri Department of Natural Resources –State Historical Preservation Office (SHPO). Although the sub-recipient installed a larger system than originally planned (5-ton to 11-ton), the project is still within the original project area and DOE has determined the project does not adversely affect historic properties. (See "5.Jura_SHPO Letter.pdf" and "3.Jura_Geo Location.pdf".)

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 - $13,565
EF2a prepared by Melissa Rossiter

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 5/23/2012
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