

PMC-EF2a

(20102)

**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 - Peasel

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FO-000052	EE0000131	GFO-0000131-034	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 Peasel household (Peasel) to receive \$12,500 in SEP funding (total project cost - \$25,000).

This NEPA Review is for an individual project that was originally proposed under MDNR's signed Template for Expedited NEPA Review. However, Peasel installed an 8-ton, closed-loop, pond geothermal system in a one and one half (1.5) acre lake adjacent to the single-family residence prior to receiving an individual NEPA review (the Template's size limitation is 5.5 tons).

MDNR is requesting that it be allowed to issue a rebate to Peasel for installation of the 8-ton system, which is located at 25271 S Lohman Dr., Wright City, MO 63390 (project).

The project is an 8-ton closed-loop, pond geothermal system that services Peasel's single-family residence. The residence was built in 2006. The geothermal system contains two 4-ton closed-loops containing an anti-freeze solution of 20% methanol and 80% water. The anti-freeze solution is contained in thermally fused PE3408 (Polyethylene) piping with socket fittings. The closed-loop system was connected to the residence via an approximately 100 ft. trench that was back-filled. Peasel will grade and re-seed the area of disturbance. The system was installed by Peters Heating and Air Conditioning which is a licensed contractor (MO-DNR Permit # 001890-H). Peasel stated this project followed IGSHPA and NGWA guidelines for GSHP installations. The local source for drinking water is well water.

DOE conducted a review of the USFWS National Wetlands Inventory Map and the lake is designated as a freshwater pond. DOE consulted with United States Army Corps of Engineers, St. Louis District, Regulatory Branch (ACOE) in regards to this project (see "Email - US-ACOE 2-2-2012.pdf"). The ACOE stated that this project did not need a Section 404 Clean Water Act Permit as the lake is outside of their jurisdiction and is not considered a water of the United States.

DOE reviewed the U.S. Fish and Wildlife Service's, Midwest Region, Section 7(a)(2) Technical Assistance Website. The project location does not contain critical habitat for endangered or threatened species in Warren County (the only listed species in the area are the Indiana Bat and Pallid Sturgeon). The project received a determination of "no historic properties affected" by the Missouri State Historic Preservation Officer (see "Peasel SHPO Approval Letter 1-5-2012.pdf" and the "Peasel SHPO Section 106 Review Request Form.pdf").

Based on a review of the file and the above analysis, DOE has determined the project had minimal ground disturbance; had no impact on a water of the U.S.; did not adversely impact threatened or endangered species in the

area; and received a determination of no adverse effect from the MO SHPO. 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 - \$12,500
EF2a prepared by Melissa Rossiter

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

Kyumbi Ke
NEPA Compliance Officer

Date: _____

3/19/2012

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: _____