

PMC-EF2a

(204.02)

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



RECIPIENT: Missouri Department of Natural Resources

STATE: MO

PROJECT TITLE : Energize Missouri Homes - Wilson & Troiani

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-000052	EE0000131	GFO-0000131-011	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:

B5.1 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:

The Missouri Department of Natural Resources (DNR) proposes to provide up to \$20,000 of SEP funds for the installation of two residential ground source heat pumps. This determination is for the following projects:

1. Dale Wilson – 1803 E Highway MM, Ashland, MO 65101

The Missouri DNR is proposing to provide Mr. Wilson up to \$10,000 to install a 6-ton vertical, closed-loop ground source heat pump (GSHP) system to service the existing residence. The total area of the borefield is 2,700 square feet and ground disturbance would include 6 boreholes spaced 2.5 feet apart at an average depth of 200 feet. The boreholes would be cased with five-feet of bentonite plugs every 40 feet from the bottom of the hole.

2. Maureen Troiani – 32611 E. State Route 58, Pleasant Hill, MO 64080

The Missouri DNR is proposing to provide Ms. Troiani up to \$10,000 to install a 6-ton vertical, closed-loop ground source heat pump (GSHP) pond system to service the existing residence. For the pond loop system, a trench would be dug 5-6 feet deep and 2-3 feet wide between the house and pond to bury supply and return lines. A slim jim heat exchange would be sunk in the deepest section of the pond. The total trench distance is less than 200 feet. HDPE piping would be fused at the connections. The pond is located on the Troiani property and is rain, run-off and natural spring fed. The pond is used for recreational fishing and non-motorized boating.

The exchange fluid for these projects is a mixture of potable water and methanol. The area of disturbance is less than one acre for each individual project. The contractors installing the GSHPs would be certified and follow IGSHPA guidelines.

All waste generated by these projects would be disposed of in accordance with all applicable regulations. Non-hazardous waste would be recycled or disposed of at an authorized land fill.

The US Fish and Wildlife Service – Ecological Service Office in Columbia, MO has reviewed both projects and determined there is no suitable habitat for threatened and endangered species and no impacts are expected.

The Missouri SHPO has determined that no historic properties would be adversely affected by either of the proposed projects.

The US Fish and Wildlife's on-line mapping tool was used to determine that neither of the properties is located in a wetland or floodplain. Erosion would be controlled on both projects and the area of disturbance returned to its original condition.

There are five typical geologic and hydrologic characteristics associated with the sensitive karst environment in Missouri: sink areas, sink holes, caves, springs and losing or gaining streams. The Missouri DNR on-line GIS mapping tool was used to determine whether either of the projects are located in a karst region.

According to the DNR map, the Wilson property is located in an area of moderate cave density, however, the homeowner has stated there are no caves on the property and the nearest caves are approximately 5 miles away. The homeowner has specified that if any voids are hit during installation, the location of the system would be moved or the configuration changed.

DOE has reviewed the information for the proposed projects and determined that these projects do not pose a significant impact to human health and/or environment. Therefore these projects are Categoricaly Excluded under 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:

Note to Specialist :

Prepared by Chris Paulsen

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:


NEPA Compliance Officer

Date:

5/26/11

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:
