

PMC-EF2a

(2.0+02)

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



RECIPIENT: KY Dept for Energy Development & Independence

STATE: KY

PROJECT TITLE : EECBG Small Cities and Counties Initiative (subgrant): Rowan Co. Fiscal Court Office HVAC Upgrade

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000013	DE-EE0000730.001		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:

This NEPA determination is for the proposed project to install a new geothermal HVAC system which will provide heating and cooling for the newly constructed 14,000 square foot Rowan County Fiscal Courthouse. The proposed ground source heat pump system will be a closed loop, vertical system and have a capacity of 56 tons. The site location for the proposed project is a vacant lot in a residential area of the city of Morehead, KY. The GSHP system will require the drilling of 45 boreholes to a depth of 300ft. At no point during operation will any interaction take place with the groundwater. All drilling will be done by an installer with current IGSHPA certification following all IGSHPA guidelines as well as local and state laws, ordinances, and regulations as they pertain to buried pipe systems. The proposed project will comply with the National Pollutant Discharge Elimination System regulations. All boreholes will be grouted with thermally enhanced bentonite grout that is designed to withstand cracking from the changes in temperature between the ground and the heat exchange pipe. This ensures that the area around the borehole is sealed to keep any surface runoff from contaminating soil or groundwater. The system will employ high density polyethylene pipe that is heat fused at the joints which greatly minimizes the risk of leaks in the system preventing possible contamination of soil and groundwater sources. The refrigerant being used is a non-toxic mixture equivalent to a 28% Environol 1000 solution. Erosion and sediment controls that have been put in place for construction of the new building will be sufficient for the installation of the geothermal well field. The recipient states that all site conditions will be returned to original conditions. This will include backfilling, soil compaction, seeding, and general restorations to previous conditions. All waste materials will be disposed of in accordance to all applicable regulations. According to the EDR Geocheck Report, no public or private water supply (drinking water) wells were located within one quarter of a mile of the site location. Analyzing the National Wetland Inventory on the EPA's NEPAAssist, the reviewer has concluded that there are no floodplains or coastal zones in proximity to the proposed site location. The proposed site location is .27 miles from the nearest wetland. Due to the setting of the project location in an urban area there will be no adverse impacts to wetlands, floodplains, coastal zones, or threatened and endangered species.

After a thorough review of the submitted information, it has been determined that the proposed project will not have a significant impact to human health and/or environment. Therefore, all activities in the proposed project are categorically excluded under CX B5.1 "actions to conserve energy" from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: 
NEPA Compliance Officer

Date: 4/15/10

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: _____

The NEPA determination is for the proposed project to install a new Geothermal HVAC system which will provide heating and cooling for the newly constructed 14,000 square foot Rosen County Fiscal Courthouse. The proposed ground source heat pump system will be a closed loop, vertical system and have a capacity of 50 tons. The site location for the proposed project is a vacant lot in a residential area of the city of Newark, KY. The GSHP system will require the drilling of 42 boreholes to a depth of 300 ft. An air heat exchanger will be installed in the space with the ground. All drilling will be done by an operator with current ISO-9001 certification following all ISO-9001 as well as local and state laws, ordinances, and regulations as they pertain to buried gas systems. The proposed project will comply with the National Pollution Discharge Elimination System regulations. All boreholes will be grouted with specially reinforced concrete. The system is designed to withstand loading from the changes in temperature between the ground and the heat exchange pipe. The reason for the new ground loop boreholes is needed to keep any stress away from contaminating soil or groundwater. The system will employ high density polyethylene pipe that is installed at the level of the borehole which greatly minimizes the risk of leaks in the system preventing possible contamination of soil and groundwater sources. The refrigerant being used is a non-toxic, non-flammable, non-ozone depleting, and non-polluting. The refrigerant being used has been put in place for construction of the 14,000 square foot Rosen County Fiscal Courthouse. The refrigerant being used is a non-toxic, non-flammable, non-ozone depleting, and non-polluting. The refrigerant being used has been put in place for construction of the new building will be sufficient for the installation of the geothermal well. The geothermal well will be installed in a location that will be suitable for general conditions. The well will be installed in a location that will be suitable for general conditions. All waste materials will be disposed of in accordance to all applicable regulations. According to the EPA Groundwater Report, no public or private water supply (including wells) were located within one quarter of a mile of the site location. Analyzing the National Wetlands Inventory in the EPA's NEPA, the reviewer has concluded that there are no wetlands or critical zones in proximity to the proposed site location. The proposed site location is 1/2 mile from the nearest wetland. Due to the nature of the project location in an urban area there will be no adverse impacts to wetlands, riparian zones, or designated and endangered species.

After a thorough review of the submitted information, it has been determined that the proposed project will not have a significant impact in human health or environment. Therefore, all activities in the proposed project are categorically excluded under CE 25.1 which is to conserve energy from further NEPA review.