PMC-EF2a

(2.04.02)

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

RECIPIENT: Flathead Electric Cooperative **STATE:** MT

PROJECT TITLE: Facility HVAC System Conversion to Ground Source Heat Pump (Phase 1 Modification)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-EE0000116	DE-EE0002816	GFO-10-162-001	GO2816

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:

B3.7 Siting, construction, and operation of new infill exploratory and experimental (test) oil, gas, and geothermal wells, which are to be drilled in a geological formation that has existing operating wells.

Rational for determination:

Flathead Electrical Cooperative (FEC) was issued their original NEPA determination for the feasibility and engineering associated with the installation of 4, 20 ton geothermal open-looped heat pumps. They were not allowed to drill a test well under their original Phase 1 NEPA determination.

In order for FEC to move forward with their engineering and permitting they are required by the state of Montana's Dept. of Natural Resources and Conservation (MDNRC) to obtain a Beneficial Water Use Permit (i.e Water Rights). To obtain the permit they are required to drill a test well to determine drawdown and aquifer conductivity as well as other parameters, all of which will be factored into MDNRC's issuance of the Beneficial Water Use permit. They will use the results obtained from the test well to determine project feasibility and to potentially engineer the system in accordance with the MDNRC's Beneficial Water Use permit. The test results will also be used to determine the amount of reinjection required by the system, the reinjection rate will be used in their Underground Injection Control application. Their UIC application will be filed with EPA's Region 8 office. EPA will be directly responsible for the review and issuance of FEC's UIC permit. The ability of FEC to obtain their UIC permit is directly dependent on the information gathered from the Phase 1 test well.

NEPA will require FEC to obtain both the MDNRC Beneficial Water Use permit and the EPA's UIC permit before conducting the final NEPA review for the 80 ton open-looped geothermal system i.e (Phase 2). The test wells will be drilled on the existing paved parking lot on FEC's property. The area has existing production wells on other sites within the same aquifer and geologic formation, this formation has an extensive amount of existing operating wells. There will be two test well drilled to a depth of 30 ft per well, these wells will be used to conducted 2 sets of 8-hour step tests to determine drawdown and pumping rates. DOE inquired to FEC about possibly using existing wells located in close proximity to the proposed geothermal location for MDNRC permitting. FEC sated they had made a previous inquire to MDNRC, to see if they would be able to use the test results from existing wells for their geothermal system application. MDNRC denied this request stating FEC is required to test at the exact location for the proposed geothermal system. The shallow Evergreen Aquifer will be utilized by the proposed system; it is currently used in the surrounding area for irrigation, and ground source heat pumps. The drinking water in the area is obtained from the Deep Confined Aquifer not the aquifer in question. The test wells will require about 180,000 gallons of water from the Evergreen Aquifer; this water will be pumped into a retention pond and allowed to slowly recharge into the shallow aquifer. The retention pond will be a result of the planned demolition of an onsite cement pad; the demolition is not a connected action of this geothermal system. This was Clarified via an email to Courtney Carrier the Project Officer for Flathead Electrical Coop on 5/10/2010 she replied, "There used to be a building there that was moved to another part of the site a few years ago. The (concrete) slab remains, which will be demoed as part of another separate project funded separately by Flathead Electric Coop. It was a parking garage used for the line trucks. There have been no soil samples taken. (However) The

slab contains a concrete trench drain that dumped into a sump (pump) that was regularly emptied and maintained. The garage was used only for parking. There were no activities that would have caused soil contamination within the building. No transformers, batteries or other potential sources of contamination were stored there." The retention pond will be 80' x 60' x 6' (deep), allowing for a maximum capacity of 215,440 gallons. FEC plans to discharge the small amount of water produced during testing into the already pitted area where the injection well is going to be drilled, on FEC property. The test water will contain only sand and sediment as drawn from the aquifer. No water shall be disposed of in streets or roads or in such a manner as to cause flooding of streets or properties. "Contractor shall furnish to the Owner written authorization(s) from the appropriate agency(s) and/or property owner(s) to discharge said water onto their properties and/or facilities" (FEC's Water Well Bid Documentation).
A state licensed driller will be used, and will be required to follow Title 37, Chapter 43, MCA and Title 36, Chapter 21, Administrative Rules of Montana (ARM), ("Water Well Contractor Rules"). The contractor will be required to clean and disinfect all equipment prior to drilling.. FEC will adhere to all guidelines outlined within the Water Well Contractor Rules (ARM). ARM has set procedures for well capping and abandonment in the case that the system is determined unfeasible (ARM 36.21.669A through ARM 36.21.677).
DOE has determined that the drilling of two test wells into the already breached evergreen aquifer does not have a significant impact to the human health and/or environment. This Phase (Phase 1) of the project is hereby Categorically Excluded under B3.7 "Siting, construction, and operation of new infill exploratory and experimental (test) oil, gas, and geothermal wells, which are to be drilled in a geological formation that has existing operating wells.

Due to permitting and engineering, the project is expected to be resubmitted for NEPA review on Phase 2 in 2-3 months.

NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:
Phase 2 "Installation and Commissioning of Equipment" (Including Final Design)

Any Demolition, Construction, and/or Installation related to the proposed project.

*- Excluding activates associated with the drilling of the test wells.

This restriction does not preclude you from:
Phase 1 "Feasibility Study and Engineering Design" (Applies to conceptual design only)

2 Test Wells

All other actions which involve information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs).

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

NEPA review conducted by John Jediny

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 5/12/10
NEPA Compliance Officer