

PMC-EF2a

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



RECIPIENT: Colorado Northwestern Community College

STATE: CO

PROJECT TITLE : Recovery Act: CNCC Craig Campus Geothermal Program

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000116	DE-EE0002810	GFO-10-267	GO2810

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:

- A9** 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), but not including site characterization or environmental monitoring.
- 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:

Colorado's Northwestern Community College proposes to install a demonstration ground source heat pump on their campus located in Craig, CO. The proposed heat pump will service the newly constructed "Academic and Student Services Building" (70,000 ft²) and the "Career Technical Center" (14,000ft²). The 270 ton system is composed of 90 boreholes @ 400 ft. The Area of the well field is 36,000 ft² yet trenching of the field is restricted to a 1500 ft² section ranging from a depth of 6 to 10 ft at any location within this section. The trenching is needed in order for the proper installation of system tie-ins and various geo-exchange components. The proposer has noted that all appropriate steps will be taken to mitigate the risk of erosion during the excavation of the trench including "silt fences, burms, trench channels, and dry out pits".

According to the proposer, all required permits have been obtained as of (1/7/2010)- 2004 Geothermal Rules and Regulations set forth and issued by the State Engineer's Water Resource Office. The system will utilize both High Density Polyethylene and Thermally Enhanced Bentonite Grout, these materials will minimize, if not eliminate any risk of fluid leakage into the existing aquifer. The entire well will be cased with Bentonite Grout; this will seal the well off from any possible subsurface contamination introduced by surface run-off. These surface contaminations would otherwise have a direct line into the aquifer. Because the grout is thermally enhanced the expansion and contraction that normally occurs during the operation of a GSHP will not lead to cracking or fracturing which may also cause introduction of fluids either from the system itself and/or contaminants in surface run-off. The HDPE joints in the U-configuration will be heat fused; this will drastically reduce the risk of leakage due to poor jointing.

The project proposer has stated, "(an) IGSHA Certified Contractor will be used for (system) installation". The proposed system will use a blend of 30% Propylene Glycol and 70% potable water, Propylene Glycol is a non-toxic/non-corrosive antifreeze solution and is the preferred choice of the National Ground Water Association. From the GIS study conducted on the proposed project location using 'NEPAssist'; no wetlands and/or floodplains are present at the proposed project location. The land disturbance mapped using National Land Cover 2001 data is consistent with an already heavily developed area. The environmental questionnaire also assures the DOE that the view and integrity of all historic structures in the immediate area will not be affected. The project will service structures that are neither on nor eligible for historical building status.

It is with the steps outlined above and the review of the system's layout, system components, and project location. It is determined that this proposed project would not have a significant impact to human health and/or environment. Therefore the proposed project is hereby Categorically Excluded under A9 "Information Gathering" and 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: _____

3/19/10

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: _____