

PMC-EF2a

(20402)

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



RECIPIENT: Cleary University

STATE: MI

PROJECT TITLE : Cleary University Geothermal Energy Retrofit

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
CDP No. 54.09	DE-EE0000321	GFO-10-413	321

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.
- B2.1** Modifications of an existing structure to enhance workplace habitability (including, but not limited to: improvements to lighting, radiation shielding, or heating/ventilating/ air conditioning and its instrumentation; and noise reduction).

Rational for determination:

Cleary University proposes to install a demonstration ground source heat pump (GSHP) on their campus located in Genoa Township, MI. The proposed GSHP would service a 30,000+ square foot pre-fabricated steel, industrial building that originally housed manufacturing equipment but currently houses the campus bookstore and administrative offices. The GSHP is designed to accommodate future plans for renovation to a fitness center and would replace the current conventional HVAC system of the building with a zoned geothermal system that would also supply domestic hot water for the building. The 80 ton system is composed of 48 boreholes drilled to a depth of 300 feet with 20 foot spacing. The well field would be located on the existing parking lot of the building. The proposer has noted that all appropriate steps would be taken to mitigate the risk of erosion during excavation and drilling. The State of Michigan does not require permitting of vertical closed loop installations but there is guidance from the state for best practices for geothermal vertical closed loop installations that would be followed. 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 project proposer has stated, "installation will be performed by IGSHPA certified installers". The proposed system will use a blend of 23% Propylene Glycol and 77% 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 developed area. Tasks within the project also include improvements to the building's thermal envelope by the installation of windows, the closing and sealing of wall openings, the removal of freight doors, and the addition of appropriate insulation.

Due to 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", B2.1 "Modifications of an existing structure to enhance workplace habitability", and B5.1 "actions to conserve energy", from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

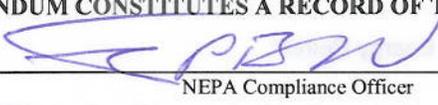
Insert the following language in the award:

Note to Specialist :

EF2a prepared by Casey Strickland

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____



NEPA Compliance Officer

Date: _____

7/2/10

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: _____