PMC-EF2a

(2.04.02)

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

RECIPIENT: Colorado Department of Personnel and Administration **STATE:** CO

PROJECT TITLE: Recovery Act: Colorado State Capitol Building Geothermal Program

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-EE0002809	GFO-0002809-002	

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.
B2.1 Workplace enhancements	Modifications within or contiguous to an existing structure, in a previously disturbed or developed area, to enhance workplace habitability (including, but not limited to, installation or improvements to lighting, radiation shielding, or heating/ventilating/air conditioning and its instrumentation, and noise reduction).
B5.19 Ground source heat pumps	The installation, modification, operation, and removal of commercially available smallscale ground source heat pumps to support operations in single facilities (such as a school or community center) or contiguous facilities (such as an office complex) (1) only where (a) major associated activities (such as drilling and discharge) are regulated, and (b) appropriate leakage and contaminant control measures would be in place (including for cross-contamination between aquifers); (2) that would not have the potential to cause significant changes in subsurface temperature; and (3) would be located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rational for determination:

The Colorado Department of Personnel and Administration (CDPA) would utilize DOE and cost share funds for the construction of an open-loop Ground Source Heat Pump (GSHP) system, including improvements to in-building HVAC systems and development of open-loop production and re-injection wells associated with the GSHP system at the Colorado State Capital Building.

Phase 1 (all tasks) of the project was approved by GFO-10-290 on September 3, 2010 and drilling of the second well as a monitoring well was included as part of that approval. This NEPA determination is specific to the remaining tasks of the project (Phase 2 – all tasks). The drilling of the second well remains covered by GFO-10-290 and all requirements for the drilling of the well remain in place.

Phase 2 (see the Statement of Project Objectives for details of the tasks below)
4. Geothermal Exchange 2nd Production/Injection Well
5. Heat Pump Exchange Interior Installation
6. Monitoring
7. Project Management and Reporting

The proposed project includes two Denver Basin wells that would fully penetrate the Upper and Lower Arapahoe aquifer systems. One well would be used to produce water from the Arapahoe aquifer and the second would be used to inject the identical volume of water back into the Arapahoe aquifers. Both wells would be completed (screened) at the same intervals within the Arapahoe aquifers.

A permit application process was developed by the Colorado Division of Water Resources for permitting of the two proposed wells. Originally, both proposed wells were to be constructed as monitoring wells that would then be tested prior to the final permitting that would convert the monitoring wells to geothermal production/injection wells before the GSHP system was put into service. The first of the two proposed wells was installed in late 2010. Subsequently, the State Engineer's Office and EPA agreed that data from the first well that was drilled could be used for the final permitting of both wells given their close proximity to each other. As part of the final permitting, a notification period was required to provide the well owners within the area an opportunity to submit comments regarding the proposed

permit. No comments were received. CDPA received the final permits for both wells (535-G and 75963-F for the first well; 536-G and 75964-F for the second well) from the State Engineers Office in early May 2012. CDPA has also received a Class V Underground Injection Control (UIC) permit from the EPA for the geothermal injection well.

All construction related activities would take place in areas that have already been highly disturbed. DOE has also confirmed that this project will not affect any wetland or floodplain. As this project will service a historical structure on historical grounds, DOE requested that the project proponents coordinate with the State's Historic Preservation Office. This project was determined to have no adverse effect on the State Capital Building by the Colorado Historic Preservation Officer Mr. Edward C. Nichols in a letter dated March 14, 2012.

Remaining project budget: $4,124,200 (DOE); $1,412,645 (cost share)

Remaining tasks of this project are composed of information gathering, analysis, and dissemination; workplace enhancements; and ground source heat pumps; therefore the DOE has categorized this proposal into Categorical Exclusions A9, B2.1, and B5.19.

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: Electronically Signed By: Kristin Kerwin Date: 5/15/2012

NEPA Compliance Officer

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: _____ Date: _____

Field Office Manager