

U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
NEPA DETERMINATION



RECIPIENT: Blacks in Green, NFP

STATE: IL

PROJECT TITLE: Sustainable Chicago Geothermal

Notice of Funding Opportunity Number
DE-FOA-0002632

Procurement Instrument Number
DE-EE0010661

NEPA Control Number
GFO-0010661-002

CID Number
GO10661

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

B5.1 Actions to conserve energy or water (a) Actions to conserve energy or water, demonstrate potential energy or water conservation, and promote energy efficiency that would not have the potential to cause significant changes in the indoor or outdoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, manufacturers, and designers), organizations (such as utilities), and governments (such as state, local, and tribal). Covered actions include, but are not limited to weatherization (such as insulation and replacing windows and doors); programmed lowering of thermostat settings; placement of timers on hot water heaters; installation or replacement of energy efficient lighting, low-flow plumbing fixtures (such as faucets, toilets, and showerheads), heating, ventilation, and air conditioning systems, and appliances; installation of drip-irrigation systems; improvements in generator efficiency and appliance efficiency ratings; efficiency improvements for vehicles and transportation (such as fleet changeout); transportation management systems (such as traffic signal control systems, car navigation, speed cameras, and automatic plate number recognition); development of energy-efficient manufacturing, industrial, or building practices; and small-scale energy efficiency and conservation research and development and small-scale pilot projects. Covered actions include building renovations or new structures, provided that they occur in a previously disturbed or developed area. Covered actions could involve commercial, residential, agricultural, academic, institutional, or industrial sectors. Covered actions do not include rulemakings, standard-settings, or proposed DOE legislation, except for those actions listed in B5.1(b) of this appendix.

(b) Covered actions include rulemakings that establish energy conservation standards for consumer products and industrial equipment, provided that the actions would not:

1. Have the potential to cause a significant change in manufacturing infrastructure (such as construction of new manufacturing plants with considerable associated ground disturbance);
2. involve significant unresolved conflicts concerning alternative uses of available resources (such as rare or limited raw materials);
3. have the potential to result in a significant increase in the disposal of materials posing significant risks to human health and the environment (such as RCRA hazardous wastes); or
4. have the potential to cause a significant increase in energy consumption in a state or region.

**B5.19
Ground**

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

source heat pumps 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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to BIG, NFP/Blacks in Green (BIG) to design and install a geothermal heating and cooling system that would serve community housing and a museum space in Chicago, IL. A workforce plan, community pathways, skills mapping, and a community foundation would be established in order to engage community members.

A previous NEPA Determination (ND) was signed on 8/11/2023 (GFO-0010661-001; CXs: A9, B3.1) that reviewed Budget Period One (BP1), in which the project system was designed, project sites were finalized, permitting needs were analyzed, and local engagement was carried out. This ND would review BP2, which includes building, testing, and deploying the system designed in BP1.

Award activities would take place at BIG (Chicago, IL) and would consist of establishing a project management office and Community Foundation, carrying out studies, initial technical design, modeling, and technical analyses. The community geothermal system would be deployed in Chicago in a city block bounded to the north and south by 63rd and 65th St and the east and west by St. Lawrence Ave and S Champlain Ave. The geothermal system would be deployed within the alleys, and would consist of 120 geothermal boreholes in a closed loop configuration and a horizontal loops system connecting the boreholes. Boreholes would be 6 inches in diameter. Permeable pavement would be installed to replace excavated asphalt and concrete. Fifty-seven homes would be connected to the system, which would require interior renovations to install equipment, piping, and ductwork.

Ground disturbance would take place within public right of way alleys. The installation of piping would connect buildings on private property to geothermal boreholes on the public right of way. The installation of the pump house would occur in a vacant lot in the block. Asphalt and concrete excavated from the alleys would be recycled. Approximately 2800 cubic yards of dirt would be hauled off and disposed of. Existing utility rooms would be utilized for all interior equipment. Exterior renovations to the buildings to connect piping from the installed heat pump to the interior heat exchanger would involve exterior envelope penetrations (using existing if available).

Of the 57 homes that would be connected to the system within the West Woodlawn neighborhood of Chicago, 48 are potentially eligible for the National Register of Historic Places as they are 45 years or older. Additionally, the Emmett and Mamie Till-Mobley House is located in the area and was determined to be eligible for listing on the National Register of Historic Places. It was recognized as part of the Emmett Till and Mamie Till-Mobley National Monument in 2023. Pursuant to Section 106 of the National Historic Preservation Act, DOE initiated consultation with the Illinois State Historic Preservation Office on March 25, 2025 and received concurrence from the SHPO with a finding of "No Adverse Effect to Historic Properties" on May 16, 2025.

Individuals working on this project could be exposed to physical hazards, such as glycol leakage and hazards associated with drilling, piping, and trenching. Existing corporate health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, and monitoring. Additional policies and procedures would be implemented as necessary if new health and safety risks are identified.

DOE has considered potential impacts on resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE does not anticipate impacts on these resources that would be considered significant or require DOE to further consult with agencies or stakeholders.

For Categorical Exclusion Determinations:

- The proposal fits within a class of actions that is listed in Appendix B to 10 CFR Part 1021 or Appendix B and C of DOE's NEPA Implementing Procedures (June 30, 2025). To fit within the classes of actions listed in Appendix B to 10 CFR Part 1021, or Appendix B of DOE's NEPA Implementing Procedures, a proposal must satisfy the conditions that are integral elements of the classes of actions in Appendix B of both 10 CFR Part 1021 and DOE's NEPA Implementing Procedures.

- There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

- The proposed action has not been segmented to meet the definition of a categorical exclusion.

- The proposed action is categorically excluded from further NEPA review.


NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Geothermal Technologies Office (GTO)
Review completed by Alex Colling on 07/18/2025.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Electronically Signed By: Nicole Serio
NEPA Compliance Officer

Date: 8/5/2025

FIELD OFFICE MANAGER DETERMINATION

- ☒ Field Office Manager review not required
☐ Field Office Manager review required

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____
Field Office Manager

Date: _____