

PMC-EF2a

(20402)

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

**RECIPIENT:**DNREC Division of Energy and Climate**STATE:** DE**PROJECT TITLE :** Ft. Miles Battery 519 Geothermal System

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0000013	DE-EE0000775	GFO-0000775-006	0

**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:****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 City of Lewes, Fort Miles Historical Association, and Delaware Department of Natural Resource and Environmental Control's Parks and Recreation Division (Applicants) have partnered under the EECBG Program to demonstrate the potential geothermal resource on the Fort Miles Battery in Lewes, Delaware. A competitive grant of \$175,000 was awarded to the City of Lewes and Fort Miles Association by the Delaware Energy Office in September 2010 for the completion of this project. Delaware Department of Natural Resource and Environmental Control, Parks and Recreation will also be contributing funding and resources to assist the project.

The Applicants propose to install a closed loop vertical ground source heat pump (GSHP) system at the Ft. Miles Battery 519 Museum in the Cape Henlopen State Park (20,000 square ft. underground concrete military bunker). The GSHP system would have a capacity of ~19 tons using Environol (denatured alcohol at 21% concentration). There would be 18 boreholes with 20' spacing located on the park. Borehole depths are estimated to be ~300' deep with a 2800 square ft. borefield. A state certified and licensed driller would follow International Ground Source Heat Pump Association (IGSHPA) regulations during installation. The casings would be sealed to prevent the risk of surface contamination of ground water. The work would be inspected by city and military inspectors.

Battery 519 is a historical World War II coastal defense facility that is open to the public as a World War II and Cold War military museum. The park is visited by 2 million tourists annually and the Battery is listed on the National Register of Historic Places as representing nationally significant trends in federal sea coastal defense policy. According to the State of Delaware Historical and Cultural Affairs (SHPO), no historic properties would be adversely affected by this project (correspondence dated 6/9/11).

The GSHP would be approximately 820' from the Atlantic coast. However, the Delaware Coastal Zone Program determined this project would not require Coastal Zone Status Decision or Permit (correspondence dated 11/1/2011).

DOE does not anticipate that this project will adversely impact any Threatened or Endangered (T&E) species due to the pre-disturbed nature of the site and lack of suitable habitat. Furthermore, there are no surface, wetlands, and floodplains onsite.

After a thorough review of the information submitted for the proposed project, it has been determined that the proposed action will not have a significant impact to human health and/or the environment. The proposed project comprises the installation of a ground source heat pump to support the Ft. Miles Battery 519 Museum in the Cape Henlopen State Park. All major activities including drilling are regulated, the project would not have the potential to cause significant changes in underground temperature, and the installation would be located in a previously developed area. As such, CX B5.19 applies.

**NEPA PROVISION**

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

This EF2A was written by Christopher Carsuona II

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature: \_\_\_\_\_

*Kushin*  
NEPA Compliance Officer

Date: 11/16/2011

**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: \_\_\_\_\_