

PMC-EF2a

(2010)

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



RECIPIENT: State of South Dakota

STATE: SD

PROJECT TITLE : DOC Geothermal Well field - SEP

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	DE-EE0000145	GFO-09-152-008	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:

B5.1 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:

The State of South Dakota is proposing to use \$440,000 of SEP funding to install a ground source heat pump system that will serve the heating and cooling needs for a minimum-security prison facility located within a zoned industrial park. The ground source heat pump system will be a vertical, closed loop system with a capacity of 100 tons. There will be 75 boreholes needed covering approximately 25,000 square feet (0.57 acre) located on previously disturbed ground which is currently a maintained lawn. The state certified and licensed driller will follow IGSHPA and NGWA regulations during installation. The system will use HDPE piping that is heat fused. The refrigerant used in the system will be a solution of propylene glycol in purified water. Drilling spoils are the only expected waste from the project and will be re-used on-site; sand bags and/or compost filtration would be utilized to control erosion as well as drilling spoils. A portion of the area will be covered by paving for parking/driveway areas and the remainder will be planted to soil-stabilizing plantings and grasses. Any necessary building or environmental permits will be acquired by the State of South Dakota prior to the start of any construction activities.

The geothermal well field portion of the installation will occur in a mowed, grassy lawn area located immediately north of the existing prison facility. This entire area was previously disturbed in 2000 during the original construction of the facilities, and is now zoned as an industrial park. SHPO coordination has been initiated by the State and a letter from SHPO was received stating no historic properties or cultural resources will be affected by the proposed project. Due to the project location within a zoned industrial park, there are not expected to be any adverse effects to threatened and endangered species, wetlands, or floodplains as a result of the proposed project. If hazardous materials are encountered, the contractor is required by the state to follow SD Department of Environment and Natural Resources protocol to handle the waste.

After a thorough review of the information submitted for the proposed project, it has been determined that the actions involved will not have a significant impact to human health and /or the environment. The proposed project will result in a reduction in the use of conventional fossil fuels; therefore it is hereby Categorical Excluded 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 :

Completed by Bill Knapp 9/23/10

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Kimberly Ken Date: 9/24/2010
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