



RECIPIENT: Garfield County Fairgrounds Trust Authority

STATE: OK

PROJECT TITLE : OKLAHOMA - SEP ARRA - Garfield County Fairgrounds

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|--|--------------------------------------|----------------------------|-------------------|
| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
| DE-FOA-0000052 | EE0000133 | GFO-09-332-013 | 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 Oklahoma will provide \$472,178 in Recovery Act funds to Garfield County Fairgrounds Trust Authority to install a 30 ton geo-exchange system at the Garfield County Fairgrounds Youth Activities Building, a 64 ton geo-exchange system Garfield County Fairgrounds Pavilion meeting area, a 100 kW wind turbine and replace existing lighting with more efficient T5HO lights.

The ground source heat pump system for the Youth Activities building will be a vertical, closed loop system with a capacity of 30 tons. There will be 30 boreholes needed, drilled to a depth of 200ft. The ground source heat pump system for the Pavilion meeting area will be a vertical, closed loop system with a capacity of 64 tons. There will be 64 boreholes needed, drilled to a depth of 200ft. Both of the proposed systems will be a closed loop systems, therefore, there are no impacts to ground water expected. Both of the proposed ground source heat pump systems will be built to the following specifications: The state certified and licensed driller will follow IGSHPA and NGWA regulations during installation. The system will use HDPE piping that is heat fused and all wells will be fully grouted with a thermally enhanced bentonite grout. The refrigerant used in the system will be a non-toxic, food grade propylene glycol and water mixture. Drilling spoils are the only expected waste from the project and will be re-used on-site when possible or taken to the appropriate landfill. The site for both well fields is flat, so erosion control will not be required.

The geothermal well field portion for both well fields will occur in a grassy, open area that are regularly maintained and mowed. The area surrounding the proposed project site is developed commercial and residential. There are not expected to be any adverse effects to threatened and endangered species, wetlands, floodplains, coastal zones or cultural resources as a result of the proposed project as these resources are not present at the project sites.

The wind turbine will be 100kW with an installed height of 156ft to the tip of the turbine blade. Ground disturbance will be minimal with a concrete pad that will be 20ft in diameter. The turbine will be placed in a mowed, grassy area in the northwest corner of the fairgrounds property. All electricity generated by the wind turbine will be used by the existing facilities at the Fairgrounds. The recipient consulted with WECC who conducted an environmental study to assess the potential impacts of shadow flicker, noise and visibility of the proposed wind turbine (attached). The sites that would be most affected by shadow flicker are a house and one of the parking lots. Both of these could experience some disturbance, with a maximum of a 65 minute duration on the worst day. As seen in the attached study, this would occur in the morning hours during the summer for the nearest house and during summer evenings in the nearest fairgrounds parking lot. The results from the study indicate that the noise in the nearest fairgrounds parking lot could be above the maximum limit of 50 dB(A). Also, the nearest house and the Expo Center North could experience significant noise levels above 45 dB(A). This is roughly equivalent to normal household levels and thus could be audible to residents. The Expo Center South could have noise levels at 42 dB(A), which could be perceptible in relatively quiet ambient conditions. Some part of the wind turbine will be visible in almost all parts of the City of Enid,

as well as much of the surrounding countryside. A microwave interference analysis was conducted and determined that the proposed wind turbine would not result in microwave interference (document attached). The recipient held a public hearing regarding the proposed wind turbine and received no negative comments (document attached). The recipient has consulted with the USACOE, FAA, USFWS, and IRAC, all of which have determined that the proposed wind turbine will not have adverse effects to the respective resources under the jurisdiction of those agencies (documentation attached). DOE concurs with the aforementioned determinations.

SHPO has been consulted and determined that the proposed project will not affect any historic properties.

The proposed project is consistent with activities outlined in B5.1 "actions to conserve energy"; therefore, it is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

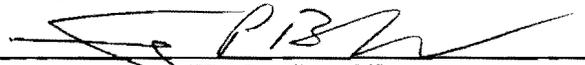
Insert the following language in the award:

Note to Specialist :

EF2a completed by Logan Sholar

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:


NEPA Compliance Officer

Date:

2/16/11

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:
