

PMC-ND

(1.08.09.13)

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



RECIPIENT:Wyandotte Municipal Services

STATE: MI

PROJECT TITLE : Wyandotte Integrated Renewable Energy Strategy – WIRES 2

| | | | |
|--|--------------------------------------|----------------------------|-------------------|
| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
| | DE-FG36-06GO86090 | GFO-86090-006 | GO86090 |

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:

B5.18 Wind turbines The installation, modification, operation, and removal of a small number (generally not more than 2) of commercially available wind turbines, with a total height generally less than 200 feet (measured from the ground to the maximum height of blade rotation) that (1) are located within a previously disturbed or developed area; (2) are located more than 10 nautical miles (about 11.5 miles) from an airport or aviation navigation aid; (3) are located more than 1.5 nautical miles (about 1.7 miles) from National Weather Service or Federal Aviation Administration Doppler weather radar; (4) would not have the potential to cause significant impacts on bird or bat populations; and (5) are sited or designed such that the project would not have the potential to cause significant impacts to persons (such as from shadow flicker and other visual effects, and noise). 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. Covered actions include only those related to wind turbines to be installed on land.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to authorize the expenditure of federal funds by Wyandotte Municipal Services (WMS) for two, vertical axis wind turbines in Wyandotte, MI. This project is one of several projects proposed as part of the larger project titled "The Wyandotte Integrated Renewable Energy Strategy – Wyandotte WIRES 2." The overall goal of Wyandotte WIRES 2 is to reduce the City of Wyandotte's environmental and energy impact and encourage businesses and citizens to adopt cleaner energy practices.

DOE has previously completed five NEPA determinations and authorized the use of federal funds for some activities associated with this award. The previous NEPA determinations are summarized below:

- GFO-06-078: CX-A9, CX-B3.1 and CX-C12; 6/21/2006. This determination applied to the original Phase 1 and Phase 2 of the project which was a wind power demonstration project. After completion of the feasibility study and a draft Environmental Assessment (EA), the project was re-scoped and construction of the wind power demonstration project was not completed.
- GFO-86090-002: CX-A9; 11/20/2013. This determination applied to administrative and project management activities only, including research, feasibility studies, design, outreach and education, for Phase 2 of the current Statement of Project Objectives (SOPO).
- GFO-GO086090-003: CX-B5.1; 3/7/2014. This determination applied to the design and installation of energy-efficient and low-maintenance LED streetlights and stadium lights (Phase 2 Task 1 of the current SOPO).
- GFO-86090-004: CX B5.19; 6/1/2015. This determination applied to design and installation of geothermal infrastructure at Bacon Memorial District Library described in Phase 2, Task 3 of the current SOPO.
- GFO-86090-005: CX A9, B5.19; 7/21/2015. This determination applied to the planning, design, and installation of geothermal infrastructure at the BASF building on Hudson St. in Wyandotte, MI as outlined in Phase 2, Task 3 of the current SOPO.

This NEPA determination applies to the Phase 2, Task 2 "Planning and installation of micro-wind turbine

demonstration sites." Proposed project activities include the design, development, and installation of two, 74-foot, mono-pole, vertical-axis wind turbines with a total capacity of 6.4 kilowatts. The wind turbines would be located at 4200 8th Street, in Wyandotte, MI on a vacant, grass-covered lot with an area of 27 acres. The site was formerly used as a chemical plant and as a scrap and salvage yard. There is a BASF building on the south end of the lot, commercial business properties across the street along the east side of the lot, commercial and residential properties across the street along the north side of the lot, and railroad tracks along the west side of the lot.

Ground disturbance related to excavating the foundations for the wind turbines would equal approximately 500 square feet. Power would be delivered via underground cable, from the turbines to the existing grid circuit along the adjacent street. The underground distance is estimated to be approximately 250 feet to the nearest pole. Total estimated ground disturbance for the project would be less than 1,000 square feet. Soil samples at the site were analyzed for Volatile Organic Compounds (VOC) and Semivolatile Organic Compounds (SVOC). No VOCs were detected, while three SVOCs were detected including benzo(a)anthracene, fluoranthene and pyrene. Detections were reported at one of twelve sampling locations at the site. The analysis concluded that the property can be classified as "Facility" as defined in Michigan NREPA, Part 201, which excludes residential development. The proposed project is industrial in nature and is consistent with the classification of "Facility."

Both wind turbines would be placed in the northeast corner of the lot. The nearest commercial building is approximately 330 feet to the east, and the nearest residential building is approximately 625 feet to the north-east. Sound generated by the turbines is estimated to be 50 decibels at the turbine which is equivalent to normal office noise. It is not expected that the turbines would produce or add to the sound generated by the railroad tracks directly west or the commercial enterprises to the east of the proposed site. The proposed wind turbines would have blades set on the vertical axis with a radius of 5.5 feet; therefore, any shadows from the turbines would behave more like the shadow from a tower rather than the flickering shadows associated with a traditional horizontal axis turbine. The relatively low height of the turbines and distance to the nearest residence would reduce shadow throw to a short amount of time in the evenings. Due to these factors, DOE has concluded that adverse effects from shadow flicker would be minimal. The FAA has reviewed the proposed project and determined that the wind turbines do not exceed obstruction standards and would not be a hazard to air navigation. The Michigan DOT has reviewed the proposed project and determined that no permit is required under the Michigan Tall Structure Act. DOE has conducted a review of the National Register of Historic Places and determined that there are no historic properties in the vicinity of the proposed project.

There are three federally listed species that may potentially occur at the site including Indiana bat, Northern long-eared bat and Red knot. The two turbines would be placed in a developed area greater than 1,000 feet from suitable habitat for birds or bats. The relatively short height of the turbines prevents the need for aviation lighting, thus minimizing adverse impacts to night-migrating birds, and underground electric wires preclude electrocution risks. As stated above, the turbines would use tubular, monopole towers for support so there would be no lattice work or guy wires present reducing perching opportunities and collision risk. Based on the size, scale, location, and installation design of the proposed turbines DOE has determined that the proposed project may affect, but is not likely to adversely affect the three federally listed species described. DOE consulted with USFWS under Section 7 of the Endangered Species Act and in a letter dated August 25, 2015, the USFWS concurred with DOE's determination.

Based on review of the project information and the above analysis, DOE has determined that proposed Phase 2, Task 2 activities would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed activities are consistent with actions contained in DOE categorical exclusion B5.18 "Wind turbines" and is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

Phase 2, Task 3 "Evaluation, engineering, plan development, and installation of a geothermal infrastructure." This applies to locations described in the SOPO that do not currently have an existing NEPA determination. Only the following locations currently have NEPA determinations - the Bacon Memorial District Library and the BASF building on Hudson Street.

