Department of Energy
Golden Field Office
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DOE/EA-1819

FINDING OF NO SIGNIFICANT IMPACT
KILOWATTS FOR KENSTON WIND ENERGY PROJECT
CHAGRIN FALLS, OHIO

AGENCY: U.S. Department of Energy, Golden Field Office

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: The U.S. Department of Energy's (DOE) Proposed Action is to authorize the expenditure of Federal funding appropriated under the *American Recovery and Reinvestment Act of 2009* (Pub. L. 111-5, 123 Stat. 115; ARRA) to design, permit, and construct the Kilowatts for Kenston Wind Energy Project (Wind Energy Project), a 750-kilowatt wind turbine at Kenston High School, located at 9500 Bainbridge Road, Chagrin Falls, Ohio.

DOE has made SEP funds available to the Ohio Department of Development's (ODOD's) Energy Resources Division through the State Energy Program (SEP); however, DOE must complete review of the Wind Energy Project under the *National Environmental Policy Act* (42 U.S.C. 4321 et seq.; NEPA) before ODOD may issue a subgrant to provide SEP funding for the construction of the Wind Energy Project. DOE has authorized ODOD to use a percentage of the Federal funding for preliminary activities related to the Wind Energy Project, which include preparation of this EA, conducting analysis, and agency consultation. Such activities are associated with the proposed project and would not significantly impact the environment nor represent an irreversible or irretrievable commitment by DOE in advance of completing the EA.

All discussion, analysis, and findings related to the potential impacts of construction, operation, and eventual decommissioning of the Wind Energy Project, including the applicant-committed measures, are contained in the *Final Environmental Assessment for Kilowatts for Kenston Wind Energy Project, Chagrin Falls, Geauga County, Ohio* (DOE/EA-1819; Final EA). The Final EA is hereby incorporated by reference.

This FONSI is prepared in accordance with NEPA, the Council on Environmental Quality regulations for implementing NEPA, as amended, 40 CFR Parts 1500 to 1508, and DOE NEPA regulations 10 CFR Part 1021.

ENVIRONMENTAL IMPACTS: The Final EA examined the potential environmental impacts of the Proposed Action and of a No-Action Alternative. Under the No-Action Alternative, DOE would not authorize the use of SEP funds for the Wind Energy Project, which DOE assumes for purposes of the EA would not be constructed or operated.

The Wind Energy Project would be constructed and operated on previously disturbed land located in the central portion of the 189-acre Kenston High School campus. The Wind Energy Project is anticipated to generate 1,336,305 kilowatt-hours per year, offsetting approximately 70 percent of electricity used by the school.

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Based on the information presented within the EA and using the sliding scale approach, DOE concludes that the Wind Energy Project would not impact the following resources: wetlands, floodplains, cultural and historic resources, threatened or endangered species, avian and bat species, soils, air quality, water quality, radio frequency transmissions, social and economic conditions, or minority or low-income populations, or result in impacts related to intentional destructive acts. Therefore, these resource areas were dismissed from a more detailed analysis in the EA. DOE discusses all resource areas in the EA, but only carries through for detailed discussion potential impacts on land use, noise, human health and safety, biological resources, and historic properties. The discussion below summarizes impacts for select resource areas that are generally of particular concern for wind turbine projects.

Implementation of the Wind Energy Project would permanently commit 256 square feet and temporarily disturb approximately 2 acres of previously disturbed land owned by the Kenston Local School District. The construction area is currently a grass lawn and has been since the school campus was developed. The area immediately surrounding the wind turbine location is used for overflow parking during sporting events and would continue to be used as such after construction of the Wind Energy Project is completed. The Wind Energy Project would not result in any direct or indirect land use impacts or any irretrievable commitment of land beyond the life of the project (Section 3.3 of the Final EA)

Noise would be generated by construction equipment during the Wind Energy Project's short-term construction phase. However, construction noise is not expected to substantially increase existing ambient noise levels. The City of Chagrin Falls does not have noise regulations. However, during operations, the predicted turbine sound levels will be in the range of 41 to 49 A-weighted decibels (dBA), which are below the U.S. Environmental Protection Agency guidelines of 55 to 65 dBA. An adverse noise impact is considered to occur if the wind turbine noise could increase the ambient daytime or nighttime noise level by more than 3 dBA. The increase in ambient noise levels for daytime and nighttime at the nearest receptors would be less than 1 dBA. Therefore, no adverse noise impacts are expected (Section 3.2.2.3 of the Final EA).

The visual simulation shows that the Wind Energy Project would be readily seen in the foreground from vantages within the school property. However, the results of the visual analysis indicate that the Wind Energy Project would not be visible to many of the local residents due to obstruction proximities and densities to typical sights such as trees and buildings. Residences, public facilities, and commercial buildings are widely scattered with large tracts of trees interspersed. Orientation of buildings and the presence of these trees limit views to the immediate surroundings for most viewers and limit views of the Wind Energy Project. In addition, existing vegetation within the town further limits views.

The shadow flicker study completed for the Wind Energy Project indicated that no homes or occupied business structures located beyond the school property will receive flickering shadows of over 30 hours per year.[1] While a portion of Kenston High School located northwest of the project site would receive shadowing of over 30 hours per year, this portion of the school, which includes the maintenance garage, has no windows facing the turbine. The school tennis courts to the southwest of the site would receive moving morning shadows for up to 50 hours per year during sunny late fall to early spring mornings. The stadium to the northeast of the site would receive moving shadows throughout much of the year from late afternoon into the evenings (Section 3.2.2.2 of the Final EA). To mitigate the impact of shadow flicker on the stadium and the tennis courts, Kenston will shut down the turbine when shadow flicker occurs simultaneously with a sporting event. Visual impacts that would adversely affect users of the project area and surrounding areas are not anticipated as a result of the Wind Energy Project.

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1. The wind turbine's shadow influence is calculated at 10 rotor diameters.

Appropriate safety training, precautions, and best management practices would be applied during construction, operation, and decommissioning of the turbine in an effort to reduce or eliminate health and safety issues. No residences or public access areas are located within the fall zone of the turbine (1.1 times the total turbine height). The southwest corner of the football stadium is within the 332-foot fall zone (approximately 322 feet away from the turbine site), as is the eastern half of the tennis court (approximately 191 feet from the proposed turbine site). As described in the Final EA, risk of turbine collapse is very rare. Access to the blade and tower impact area will be restricted, with very limited public use. Any risk to public safety due to an extremely rare event such as tower collapse or blade throw will be mitigated by limiting access within the fall zone and areas (i.e., portions of the stadium or tennis courts located in the fall zone and are intermittently occupied during sporting events). Risk of impacts to individuals in these areas as a result of tower collapse or blade throw is highly unlikely (Section 3.2.2.7 of the Final EA).

There are no historic properties within the project site. In accordance with Section 106 of the *National Historic Preservation Act* (16 U.S.C. 470 *et seq.*; NHPA) and based on analysis conducted by the grant recipient, DOE determined that the Wind Energy Project would not have an adverse effect on historic properties or cultural resources. The Ohio Historic Preservation Office determined that no historic properties would be adversely affected by the Wind Energy Project (Section 3.2.2.4 of the Final EA).

A primary area of environmental concern for the operation of wind turbines is the potential to injure or kill birds and bats. Analysis in the EA indicates that the Wind Energy Project may affect, but is not likely to adversely affect, the Federally listed Indiana bat and would have no adverse effects on other Federally listed species. Recommendations as described in the U.S. Fish and Wildlife Service (USFWS) *Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines* were considered in the siting, design, and installation plans for the Wind Energy Project. Kenston has also committed to conducting voluntary avian and bat mortality monitoring during the first post-construction fall migration season. This monitoring would provide data to the USFWS and Ohio Department of Natural Resources Division of Wildlife on potential levels of avian and bat mortality associated with single turbines. Based on the analysis in the EA, and in consideration of USFWS recommendations, DOE determined that impacts to biological resources were minimal (Section 3.2.2.6 of the Final EA).

PUBLIC PARTICIPATION IN THE EA PROCESS: In accordance with applicable regulations and policies, DOE sent a scoping notice on August 26, 2010, to Federal, State, and local agencies; tribal governments; elected officials; businesses; organizations; and special interest groups, providing 15 days to comment on the scope of the EA. DOE published the Scoping Notice online at the DOE Golden Field Office Reading Room website. One response to the public Scoping Notice was received from the USFWS regarding potential impacts to the Indiana bat. DOE continued its ongoing consultation with the USFWS and received a "may affect, but not likely to adversely affect" finding in October 2010.

DOE published the Draft EA online at the DOE NEPA website for a 15-day review period, which ended January 17, 2011. Postcards announcing the availability of the Draft EA were mailed to identified stakeholders, and the Notice of Availability (NOA) was published online at the DOE NEPA website. The NOA was also published in *The Chagrin Valley Times* newspaper on December 30, 2010. DOE received one comment during the comment period related to cumulative effects of multiple single wind turbines across the United States. Response to this comment is incorporated in the Final EA as Appendix E and, where appropriate, DOE updated the text in the Final EA to address the comment.

DETERMINATION: Based on the information presented in the Final EA (DOE/EA-1819), DOE determined that the Proposed Action would not constitute a major Federal action, significantly affecting

the quality of the human environment within the context of NEPA. Therefore, preparation of an environmental impact statement is not required, and DOE is issuing this FONSI.

The applicant has committed to obtain and comply with all Federal, State, and local permits and applicable regulations required for construction, operation, and eventual decommissioning of the Wind Energy Project. Necessary permits and applicant-committed measures are identified in Sections 2.4 and 2.5 of the Final EA.

The Final EA is available at the DOE Golden Field Office Reading Room website, http://www.eere.energy.gov/golden/Reading_Room.aspx, and the DOE NEPA website, http://nepa.energy.gov.

For questions about this FONSI, please contact:

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Carol J. Battershell
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