



Department of Energy

Golden Field Office
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Golden, Colorado 80401-3393

DOE/EA-1791

FINDING OF NO SIGNIFICANT IMPACT

UNIVERSITY OF MINNESOTA WIND ENERGY RESEARCH CONSORTIUM PROJECT

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

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: The U. S. Department of Energy (DOE) is proposing to authorize the expenditure of Federal funding by the University of Minnesota to design, permit, and construct a wind turbine research facility¹. This funding has been appropriated under the *American Recovery and Reinvestment Act of 2009*. The University would use the funding to install a wind turbine research facility at its University of Minnesota Outreach Research and Education (UMore) Park in Rosemount, Minnesota. The proposed research facility would consist of a 2.5-megawatt-capacity Clipper Liberty C-100 wind turbine with a total height of 426.5 feet, a meteorological tower of similar height, a 34.5-kilovolt interconnection low-voltage transmission line, a data transfer line, and two short access roads. A portion of the DOE-awarded funding would also be used for turbine and technical research activities.

DOE has completed all discussion, analysis, and findings related to the potential impacts of the proposed project, including the applicant-committed measures, and completed the *Final Environmental Assessment for the University of Minnesota Wind Energy Research Consortium Project* (DOE/EA-1791; Final EA). The Final EA is hereby incorporated by reference.

DOE prepared this FONSI in accordance with the *National Environmental Policy Act* (42 U.S.C. 4321 *et seq.*; NEPA), the Council on Environmental Quality NEPA regulations (40 CFR Parts 1500 to 1508), and DOE's NEPA implementing procedures (10 CFR Part 1021).

ENVIRONMENTAL IMPACTS: The Final EA examined the potential environmental impacts of DOE's Proposed Action to authorize the University of Minnesota to expend Recovery Act funding for a wind turbine research facility and also examined a No-Action Alternative. Under the No-Action Alternative, DOE would not authorize the University of Minnesota to spend

1. Prior to the issuance of this FONSI, DOE has authorized the University to use a percentage of the Federal funding for preliminary activities, which include preparing this EA, conducting analysis, and consulting with regulatory agencies. Such activities are associated with the Proposed Action and do not significantly impact the environment or represent an irreversible or irretrievable commitment by DOE in advance of its conclusion of the potential environmental impacts from the proposed project.



Federal funds on the proposed project and DOE assumed, for purposes of the EA, that the research facility would not be constructed or operated without this financial assistance.

The wind turbine, meteorological tower, transmission line, and other required infrastructure would be located entirely on property owned by the University of Minnesota. Although energy production is not the primary goal of the project, the wind turbine would be connected to the electrical transmission grid. The wind turbine and other infrastructure are expected to have a useful life of 15 years. Construction of all project components would disturb approximately 1 acre; 0.4 acre would be temporary (i.e., during construction) and 0.6 acre would be permanent (i.e., during the 15-year operational life).

Emissions of air pollutants during construction of the wind turbine and other project components would be minimal and temporary, and there would be no emissions during project operations. No surface waterbodies, wetlands, or floodplains would be disturbed, and groundwater, which is much deeper than the proposed foundation depths, would not be affected. No recreational resources are located on the project site. The project would not result in a detectable increase in traffic or require a change in traffic circulation. The turbine and meteorological tower would not present an obstruction to air navigation and would not interfere with long-range radar operations. Additionally, the proposed project would have no impact on any public utility services or communication corridors, and no evidence of contaminants were found in the project site during extensive soil surveys. Therefore, DOE concludes that the project would have no impacts, or minimal impacts, on air quality, water resources, recreational resources, transportation, utilities, and hazardous materials.

Soils at the project site are not very erosive and there would be little erosion or sediment runoff during construction. The project would not adversely affect the availability of prime farmland soils or production of agricultural products in the region. The project would have no impact on primary geologic resources including economically viable deposits of sand and gravel. DOE concludes that the impacts to geology and soils from both construction and operation activities associated with the proposed project would be minor.

The closest potentially affected receptors are residences located about 3,200 to 3,600 feet from the turbine site. At those residences, flickering shadows cast by the turbine would be diffuse and at least partially blocked by surrounding trees. Sound levels from the turbine would be below background levels at the residences, and would comply with the State standard for residential buildings. DOE, therefore, concludes that the project would result in minor adverse effects from shadow flicker and noise.

The turbine is designed to automatically shut down when ice is detected on the blades, and there are no occupied structures within the area onto which ice on the blades might fall. Thus, the risk of harm from ice throw would be negligible.

The project site is primarily cultivated. Conflicts between the project and ongoing land uses are not anticipated. The University, in cooperation with the City of Rosemont, would evaluate all

proposed future land uses to ensure that those proposals are safe and compatible with operation of the turbine. This may result in some proposed uses, such as residential development, being delayed or prohibited from the immediate vicinity of the wind turbine.

The addition of the turbine and meteorological tower would not create a substantial change in the viewshed because there are numerous tall, modern structures in the surrounding area, including water towers, antennae, power lines, and the towers and stacks at a nearby refinery.

The wind turbine and meteorological tower would be located outside of migratory flyways, breeding areas, and designated natural resource areas. The project site does not have high-quality habitat for wildlife, and the project would not result in habitat fragmentation. Trees would be removed from an approximately 25-acre area around the wind turbine to reduce interference with operation of the wind turbine and meteorological tower. Trees in the area occur at low density in narrow strips and small stands, and their removal would have a negligible adverse effect on birds and other wildlife. Some birds and bats probably would collide with and be injured or killed by the meteorological tower and operating turbine. DOE anticipates that the number of birds and bats killed would be similar to or less than the number of mortalities at other wind turbines in the Midwest. Contingent on the availability of funding, the University plans to develop and implement a post-construction bird and bat fatality monitoring plan under the guidance of the U.S. Fish and Wildlife Service and Minnesota Department of Natural Resources.

The proposed project would not affect any species listed as threatened or endangered under the *Endangered Species Act*. One State-threatened bird species, the loggerhead shrike, might occur within or near the project area. That area and immediate vicinity have limited suitable habitat for shrikes, and no shrikes or evidence of their prey or nests were detected during a survey of the project site in 2010. DOE thus concludes that the proposed project would have a negligible impact on this species.

There are no archaeological sites or historic properties listed, or eligible for listing, on the *National Register of Historic Places* within the project area. One historical property, the Edmund H. Knodt Farm, is 0.65 mile from the turbine site and is eligible for listing on the National Register. The wind turbine would be a visible and prominent feature when viewed from the farm and would be out of scale with the surrounding landscape. Because the turbine could alter the setting and feeling of the landscape, the proposed project has the potential to cause an indirect adverse visual effect to the farmstead. To comply with Section 106 of the *National Historic Preservation Act*, DOE consulted with the Minnesota State Historic Preservation Officer and developed a Memorandum of Agreement that identified measures to mitigate this potential adverse effect.

There would be no unusual or potentially unacceptable hazards or risks to construction workers, who would be trained to operate under a site-specific safety program and procedures. During operation, access to the turbine would be limited to maintenance workers and University staff and researchers; therefore, no public health and safety issues are anticipated.

The proposed project could have a minor, short-term economic benefit during construction and might have longer-term impacts on growth and development linked to the expansion of renewable energy research opportunities. DOE concludes that no significant adverse impacts would occur to any members of the communities in or near the project area; therefore, there would be no adverse and disproportional impacts on minority or low-income populations.

DOE evaluated the cumulative impacts of the proposed project and other past, present, and reasonably foreseeable projects in the area, including UMore Park's plans for future development, area mining and gravel projects, and transportation improvement projects. DOE concluded that the proposed project, in conjunction with other activities considered, would have negligible cumulative impacts on all resources considered within the Final EA.

PUBLIC PARTICIPATION IN THE EA PROCESS: DOE sent scoping letters on June 3, 2010, to Federal, State, and local agencies; Tribal governments; businesses; organizations; special interest groups; and interested individuals, providing 15 days to comment on the scope of the EA. DOE published the Scoping Notice on the DOE Golden Field Office Public Reading Room Website and in five local newspapers. In response to the Scoping Notice, DOE received comment letters from six agencies. All comments received, and DOE's responses as appropriate, are included in the Final EA.

DOE issued the Draft EA for comment on January 28, 2011, and posted it on the DOE Golden Field Office Public Reading Room Website. DOE sent postcards announcing the availability of the Draft EA to identified stakeholders and published a Notice of Availability on the Website. The comment period ended on February 15, 2011. The City of Rosemont requested clarification about how the project would be developed and decommissioned, and how it might affect future use of surrounding areas. The U.S. Fish and Wildlife Service suggested that the University monitor the impacts of the wind turbine and meteorological tower on birds and bats and requested that trees not be removed when birds are nesting. The EA was modified to address these comments. DOE also received letters from the Minnesota Pollution Control Agency and Dakota County stating that those organizations had no comments on the EA.

DETERMINATION: Based on the information presented in the Final EA (DOE/EA-1791), DOE has determined that its Proposed Action, funding the design, permitting, and construction of the University of Minnesota wind turbine research facility, does not constitute a major Federal action significantly affecting the quality of the human environment within the context of NEPA. Therefore, the preparation of an environmental impact statement is not required, and DOE is issuing this FONSI.

The University of Minnesota's commitment to obtain and comply with all appropriate Federal, State, and local permits required for construction and operation of the wind turbine research facility, and to minimize potential impacts through the implementation of best management practices and their Applicant Committed Actions detailed in the Final EA, shall be incorporated and enforceable through DOE's financial assistance agreement. 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, contact:

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