



## Department of Energy

Golden Field Office  
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DOE/EA-1809

### FINDING OF NO SIGNIFICANT IMPACT WHITE EARTH NATION WIND ENERGY PROJECT II

**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 congressionally directed funding by the White Earth Nation to develop viable wind energy resources within its tribal boundaries. White Earth Nation (or the Tribe) would use the funding to construct up to four wind turbines at two sites on the White Earth Reservation in Mahnomen County, Minnesota. The Tribe is considering three sizes of wind turbines for the proposed project: 10-kilowatt, 40-kilowatt, and 300-kilowatt wind turbines. Specific wind turbine equipment has not been selected; however, the Tribe is considering wind turbines of European origin, remanufactured and improved by companies with wind industry electrical/installation experience. White Earth Nation would install the wind turbines on self-supporting monopole or lattice towers, with hub heights ranging from 80 to 160 feet above ground level, and total height ranging from 105 to 187 feet, depending on the turbine used.

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 White Earth Nation Wind Energy Project II* (DOE/EA 1809; 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 White Earth Nation to expend congressionally directed funding for development of up to four wind turbines and also examined a No Action Alternative. Under the No-Action Alternative, DOE would not authorize White Earth Nation to use federal funds for the proposed wind energy project and DOE assumed, for purposes of the EA, that the project would not be constructed or operated without this financial assistance.

Up to four wind turbines, a transmission line, and other required infrastructure would be located at two sites: one (consisting of three subsites) near the town of Waubun, and the other near the town of Naytahwaush. White Earth Nation's primary goal for the proposed project is to increase the utilization of renewable energy technology in meeting the energy needs of the White Earth Reservation Tribal Government and tribal community and to offset their reservation's overall consumption of fossil fuels with renewable wind power. The wind turbines and other infrastructure are expected to have a useful life

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of at least 20 years. Construction of all project components would disturb approximately 8.36 acres; 7.08 acres would be temporary (i.e., during construction) and 1.53 acres would be permanent (i.e., during the 20-year operational life).

The proposed project is not expected to have any measurable effects on the following four resource areas because they do not occur at or near the project sites: geology (i.e., geologic faults or known mineral deposits), water resources, floodplains, and national wild and scenic rivers. In addition, hazardous and universal wastes are not anticipated to be generated during installation, operation, or decommissioning, and all wastes generated over the life of the project would be handled, collected, transferred, and disposed of in accordance with all applicable federal, state, and local regulations. Intentional destructive acts are not anticipated as a result of the project because the project would not involve the transportation, storage, or use of radioactive, explosive, or toxic materials; the project location is not near any national defense infrastructure or in the immediate vicinity of a major inland port, container terminal, or nuclear power plant; and the proposed project would not offer any targets of opportunity for terrorists or saboteurs to inflict adverse impacts to human life, health, or safety.

### *Land Use*

Existing land uses at the project sites include farmland and open fields. The proposed project would result in the permanent conversion of up to 0.67 acre of farmland. Except for this area of permanent disturbance, the proposed project would have little impact on existing farmland because farming activity could continue on the remainder of the site, and adjacent land uses would not be affected. The proposed project would result in the permanent conversion of approximately 0.86 acre of open field on tribal land; this conversion is in accordance with tribal plans for use of the land and is compatible with the adjacent land uses. Because the amount of land that would be converted to a new use is small at each site and the new use would be compatible with existing and adjacent land uses and in accordance with White Earth Nation's plans and the City of Wauban's plans, land use impacts would be minor. Furthermore, the proposed project would not affect airspace regulated by the FAA since none of the wind turbine models under consideration extends more than 200 feet above ground level.

### *Visual Quality*

The wind turbines would be a dominant vertical component in the landscape due to their height, particularly at the Waubun site with its open landscape, but would not obstruct views in the way that a large building might. Since other vertical elements occur in each landscape, such as electrical transmission line poles, buildings, and trees, the visual impact from the turbine(s) would be somewhat minimized and is considered minor. A negligible amount of shadow flicker could occur during evening work hours in the fall, and would affect workers at businesses and tribal buildings near Waubun subsites B and C, and users of the sports complex near the Naytawaush site. However, shadow flicker as a result of the proposed project would be well below the level of impact (30 hours annually).

### *Noise*

Noise levels associated with construction of the proposed project would be minor and temporary, and noise levels associated with operation of the project, such as the swishing sounds from the revolving rotor blades as they encounter turbulence in the passing air, are also expected to be minor. The nearest residence to any of the sites is approximately 350 feet from Waubun subsite A; at that distance, turbine-

related noise would be approximately 54 dBA. These noise levels are within the acceptable ambient noise levels (between 50 and 60 dBA).

### *Cultural Resources*

The Tribal Historic Preservation Officer did not identify any archaeological resources or sites of religious or traditional cultural importance, therefore the proposed project would not impact any known resources within the area of potential effect (APE). An architectural history evaluation was also conducted and two historic properties were recommended as eligible for listing in the National Register of Historic Places (NRHP). Both of these properties are within the Waubun APE; no historic properties recommended as eligible or listed on the NRHP were found within the Naytahwaush APE. The two recommended eligible properties are a newly identified segment of a previously determined eligible railroad corridor, the Minneapolis, St. Paul & Sault Ste. Marie Railway/Soo Line Railroad/Canadian Pacific Railway (MStP&SSM /Soo Line/CP Railway) and the Golden Rule Store in Waubun. The construction activity from the proposed project is not anticipated to have any temporary, adverse direct or indirect effect on the MStP&SSM/Soo Line/CP Railway or the Golden Rule Store. Operation of the proposed wind turbines would have minor permanent indirect visual effects on the MStP&SSM /Soo Line/CP Railway and the Golden Rule Store; however, based on the findings of the cultural survey and consultations with the Minnesota State Historical Preservation Officer, there would not be any adverse effects to the properties or alteration to their ability to convey historical significance. The proposed wind turbines would not affect the integrity of materials, design, workmanship, location, or association of the Golden Rule Store. In addition, the proposed wind turbines would not compromise the historical significance of the Golden Rule Store as the only known existing general store/commercial building in Waubun that retains the best integrity of any buildings that date to the town's development period.

### *Soils*

The proposed project would result in long-term alteration of up to 1 acre of prime farmland. DOE and the Natural Resources Conservation Service (NRCS) jointly completed a Farmland Conversion Impact Rating form, which assesses the relative value of the farmland. Based on a low score on this assessment, none of the proposed project sites needs protection under the Farmland Protection Policy Act (FPPA). Furthermore, the acreages permanently impacted would be small and the remainder of the sites that contain agricultural land (Waubun subsites A and B) would remain farmable. Due to the small acreages of soil that would be permanently impacted and the FPPA scores, the proposed project would not result in adverse direct or indirect impacts to farmland soils.

### *Wetlands*

No direct wetlands impacts, such as filling or draining, would occur as a result of construction or operation of proposed project features because no project features occur in wetlands. Indirect impacts to nearby wetlands are not anticipated. Protected calcareous fens occur near the Waubun site, the closest is approximately 0.25 mile from the wind turbine at Waubun subsite B. These fens would not be directly impacted by the project because they occur outside the project boundaries; construction and operation of project features would not result in filling, draining, or otherwise degrading the calcareous fens. Indirect impacts due to changes in groundwater hydrology are of concern because the calcareous fens are dependent on groundwater hydrology. Dewatering during construction will be conducted, if necessary, to maintain the groundwater level at a depth of between 1 to 2 feet below the bottom of the foundation. The

Minnesota Department of Natural Resources has reviewed information regarding this protection measure during construction and determined that temporary (less than 30 days) dewatering during construction would not have an adverse effect on the fens.

### *Habitat*

Disturbances from construction and operation of the proposed project would directly affect small acreages of vegetation currently onsite, however, the project sites do not contain ecologically significant habitat and the onsite vegetation has been previously disturbed (e.g, agricultural land, maintained and unmaintained open fields). Native prairie remnants that occur in the Waubun State Wildlife Management Areas near Waubun are outside the project area and would be avoided. The wind turbines and other project features would be distant enough from the prairie remnants to allow for prairie management. Because of the small acreage potentially affected (permanent disturbance would range from 0.25 acre at Naytahwaush to a maximum of 0.67 acre at Waubun subsite A), and previous vegetation disturbance, habitat impacts would be minimal.

### *Wildlife*

Wildlife impacts from wind energy projects primarily affect birds and bats. The most probable direct impact to birds from the proposed project would be mortality or injury due to collisions with wind turbine blades and/or towers. An estimated one to up to three bird kills per year could result from the proposed project. Collisions may occur with resident birds foraging and flying within the project sites or with migrant birds moving through seasonally. Although direct impact to birds is possible, the estimated impact to birds from the proposed project is considered minor because only a small number of individuals may be affected, not populations. The impacts would be spread across multiple species and bird groups, as well as across seasons. The most probable indirect impact to birds is displacement. Because no raptor nests were observed within or near any of the project sites during the raptor nest survey, displacement of nesting raptors is unlikely. Indirect effects of the proposed project on birds is considered negligible because, if it does occur, the area surrounding each site has ample similar, undisturbed habitat that displaced birds could use, whether for foraging or nesting.

Direct impacts to bats as a result of the proposed project may include mortality and injury. Mortality or injury could occur from collisions with the wind turbine or barotrauma. An estimated 3 bat fatalities per year would occur as a result of the proposed project based on the Midwest region average at other wind facilities. It is assumed that most of the bat kills would consist of hoary bats, silver-haired bats, and/or eastern red bats since they have the highest potential to occur in the project area and are the most common species killed at other wind energy facilities in the region and nationally. Direct impacts are considered minimal because, while a small number of individuals are likely to be killed annually due to operation of the proposed project, bat populations would not be affected, particularly since the impact is likely spread across several species.

### *Federal- and State-listed Species*

One federally listed species, the threatened gray wolf, has potential, but is not known, to occur in the proposed project area. Since the gray wolf is highly mobile, any individuals that happen to be in the area are expected to avoid the noise and activity associated with construction. Operation of the proposed project would not affect the gray wolf. The five state-listed species that are known to occur in Mahnomen

County are all bird species. As noted above, impacts, including mortality, could occur to listed birds, impacts are unlikely and because populations would not be adversely affected. The status of a listed bird species would not change as a result of the proposed project. Other species of concern include two bats; neither is known to occur in Mahnomen County. If present, impacts including mortality could occur, but impacts would be minor because populations would not be affected and the status of a listed bat species would not change as a result of the proposed project. The United State Fish and Wildlife Service (USFWS) noted particular concern about the greater prairie chicken, a state species of concern, but not federally protected. Direct mortality of the greater prairie chicken, which is known to occur in the vicinity of the Waubun project sites, could occur due to collisions with project features. This species is considered a poor flyer and is unlikely to collide with turbine blades at a height of 60 feet or more or with single towers located in agricultural fields or maintained grass fields near existing buildings. If mortality did occur due to the proposed project, the greater prairie chicken population in Minnesota would not be adversely affected since mortality would not be substantial enough to cause population declines, especially since the core of the population is found west of the site. The project would not result in a loss of important greater prairie chicken habitat, such as lekking, nesting, or brood rearing for this species, since none occurs at either of the project sites.

#### *Human Health and Safety*

Health and safety issues related to the proposed project are primarily related to construction. Worker health and safety during construction would be the responsibility of the contractor. Contractors typically have a health and safety plan that addresses issues such as confined space entry, hoisting and rigging operations, and proper handling and disposal of toxic and hazardous substances. White Earth Nation will ensure that the contractors hired for construction have appropriate health and safety plans. Wind turbines are not considered a significant source of electromagnetic field (EMF) exposure since emission levels around wind farms are low. Based on the most current research on EMF, and the distance between any turbine and occupied residences, the turbine would have no impact to public health and safety due to EMF. During operation, access to the wind turbine would be limited to maintenance workers and White Earth Nation officials; therefore, no public health and safety issues are anticipated.

#### *Transportation*

During the construction phase of the proposed project, a temporary increase in the number and frequency of vehicular traffic on the local roads identified above surrounding the project site is anticipated. No long-term or permanent impacts to the local transportation systems would occur as a result of this project.

#### *Socioeconomics and Environmental Justice*

The proposed project would have a small direct, beneficial impact to the local economy, especially during the construction period. Since the proposed project would benefit the local economy, including local low-income and minority populations on the White Earth Nation's reservation, the proposed project would not have disproportionate adverse effects on these groups of people.

#### *Air Quality and Climate Change*

Both negative and beneficial impacts to air quality are likely to be associated with development of the proposed project. Air quality would be minimally impacted in the immediate vicinity of the two proposed

project sites during construction due to dust and exhaust from construction equipment. Fugitive dust from ground disturbance would be generated during construction, the amount of which would depend largely on weather conditions during construction, with windy and dry weather generating the most fugitive dust. Fugitive dust emissions would be temporary and intermittent during trenching and pad construction activities within the two-month construction window. After construction, air quality is expected to return to pre-construction levels. Construction related impacts to air quality would be minor because they would be localized and temporary. No long-term negative direct or indirect air quality impacts are anticipated for operation of the proposed project.

It is assumed that if the wind turbines were not built, the power needed by the White Earth Nation would continue to be supplied by other sources, primarily fossil fuels. Implementation of the proposed project would have a minor, beneficial impact by offsetting greenhouse gases and other fossil fuel emissions emitted during electricity production.

### *Utilities and Energy*

The proposed project could generate up to 630,136 kilowatts per hour per year. The primary beneficiaries of this project are the White Earth Nation tribal government and the reservation residents. The tribal government would benefit from low-cost wind energy, potential revenue from the sale of the wind energy, greater utilization of renewable energy, and reduced reliance on fossil fuel. The existing transmission system is capable of accepting electricity generated by the proposed project. No adverse energy impacts would result from the project.

The proposed project would not interfere with civilian or military radar because the wind turbines would be less than 200-feet high (radar usually does not scan for objects this close to the ground). Furthermore, the proposed project would not interfere with existing microwave systems and broadcast stations. No television broadcast towers occur within 40 miles of the proposed project and due to the small scale of the project, it would not interfere with television broadcast.

### *Irreversible and Irrecoverable Commitment of Resources*

For the proposed project, resources consumed during construction of the project, including labor, fossil fuels, and construction materials, would be committed for the life of the project. Nonrenewable fossil fuels would be irretrievably lost through the use of gasoline- and diesel-powered construction equipment during construction. A maximum of 1.53 acres of land would be irreversibly committed during the functional life of the project.

The short-term use of the proposed project area would not affect the long-term productivity of the area. If it is decided at some time in the future that the proposed project has reached its useful life, the turbine, tower, and foundation could be decommissioned and the site reclaimed and revegetated to resemble the pre-disturbance conditions. The installation of wind turbine(s) at the sites would not preclude using the land for purposes that were suitable prior to this project.

### *Cumulative Impacts*

DOE evaluated the cumulative impacts of the proposed project and other past, present, and reasonably foreseeable projects in the area. 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 notices on December 3, 2010, to stakeholders and interested parties including local, state, and federal agencies, organizations, and adjacent landowners, providing 30 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 two local newspapers. In response to the Scoping Notice, DOE received one scoping comment. In addition, pursuant to Section 106 of the National Historic Preservation Act (NHPA), DOE consulted with the Minnesota State Historic Preservation Office (SHPO), and the White Earth Nation Tribal Historic Preservation Officer regarding the proposed project. Copies of the consultation letters and response letters are included in Final EA. A consultation letter was also sent to the Bureau of Indian Affairs requesting participation during the NEPA process; no response was received from this agency.

DOE issued the Draft EA for comment on March 1<sup>st</sup>, 2012, 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 March 30<sup>th</sup>, 2012. DOE received two comments on the Draft EA. The first was from a tribal resident who asked where he could apply to have a turbine put on his property. The second comment was from the USFWS requesting that White Earth Nation incorporate Best Management Practices (BMPs) as guided by their new Land Based Wind Energy Guidelines. White Earth Nation has committed to incorporating these BMPs as part of their proposed project.

**DETERMINATION:** Based on the information presented in the Final EA (DOE/EA 1809), DOE has determined that its Proposed Action, funding the White Earth Nation Wind Energy Project II, 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 White Earth Nation's commitment to obtain and comply with all appropriate federal, state, and local permits required for construction and operation of the wind energy project, and to minimize potential impacts through the implementation of BMPs and their applicant committed measures 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](http://www.eere.energy.gov/golden/Reading_Room.aspx)

For questions about this FONSI, contact:

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