

April 2008
DOE/EA-1590

**DEPARTMENT OF ENERGY
Western Area Power Administration
Finding of No Significant Impact
Wessington Springs Wind Project, South Dakota**

Summary – Wessington Wind I LLC, a subsidiary of Babcock and Brown Renewable Holdings, Incorporated, applied to the Department of Energy (DOE), Western Area Power Administration (Western) to interconnect the Wessington Springs Wind Project in Jerauld County, South Dakota to Western's Ft. Thompson – Sioux Falls 230-kilovolt (kV) Transmission Line. Wessington Wind I LLC proposes to build a wind farm consisting of 34 wind turbines, new and improved access roads, an operation and maintenance building, a 34.5 kV underground collection system, a collector substation, an interconnection substation, and a fiber optic communication system.

The environmental assessment (EA) entitled "Wessington Springs Wind Project (DOE/EA-1590)" was distributed for pre-approval review by agencies, tribes, and interested parties on December 19, 2007. As a result of comments received during the review process, the EA was revised to clarify and correct information contained therein. The EA was approved concurrently with this finding of no significant impact (FONSI).

Based on findings and analysis in the EA, Western has determined that with the proposed mitigation outlined in both the EA and in the attached Wessington Springs Wind Project Mitigation Action Plan (MAP), the Wessington Springs Wind Project and associated facilities (Proposed Action) would not result in any significant environmental impacts. Therefore, the preparation of an environmental impact statement (EIS) will not be required. The basis for this determination is described in this FONSI.

Additional information and copies of the EA and FONSI are available to all interested persons and the public through the following contact:

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Purpose and Need – Western is a Federal power-marketing agency in the Department of Energy (DOE) that sells and delivers Federal electric power to municipalities, public utilities, Federal and state agencies, and Native American tribes in 15 western and central states. The Proposed Action is located within Western's Upper Great Plains Region, which operates and maintains nearly 90 substations and more than 8,000 miles of Federal transmission lines in Minnesota, South Dakota, North Dakota, Montana, Nebraska, and Iowa.

Western offers capacity on its transmission system to deliver electricity when such capacity is available under Western's Open Access Transmission Tariff (Tariff). The Tariff has been approved by the Federal Energy Regulatory Commission as being consistent with the Commission's Final Order Nos. 888, 888A, 888B, and 888C, which are intended to ensure non-discriminatory transmission system access.

Western has received a Generation Interconnection Request from Wessington Wind I LLC to connect the Proposed Action to Western's existing Ft. Thompson – Sioux Falls 230kV Transmission Line. The interconnection with Western's transmission line would require modification to the existing Western facility, including the construction of a new Western interconnect substation. According to DOE's NEPA Implementing Procedures (10 CFR Part 1021) this action requires environmental review.

In responding to the need for agency action, Western must abide by the following:

- Addressing Interconnection Requests. Western's *General Guidelines for Interconnection* establishes a process for addressing applications for interconnection. The process dictates that Western respond to the applications as presented.
- Protecting Transmission System Reliability and Service to Existing Customers. Western's purpose and need is to ensure that existing reliability and service is not degraded. Western's *General Guidelines for Interconnection* provides for transmission and system studies to ensure that system reliability and service to existing customers is not adversely affected. If the existing power system cannot accommodate the applicant's request without modifications or upgrades, the applicant may be responsible for funding the necessary work unless the changes would provide overall system benefits.

- Consideration of the Applicant's Objectives. Because the statement of Purpose and Need affects the extent to which alternatives are considered reasonable, it is important to understand both Western's Purpose and Need and that of the applicant.

Project Description – The Proposed Action would encompass approximately 3,560 acres of leased private land, including 1,950 acres of land managed under USFWS grassland or wetland easements. Approximately 210 acres have only grassland easements, 840 acres have only wetland easements, and 900 have both grassland and wetland easements.

Wessington Wind I LLC would install and operate 34 General Electric (GE) 1.5sle three-bladed 1.5 MW wind turbines. The total height of each wind turbine would be 389 feet with a blade in the vertical position, and the hub height would be 262 feet. The tower would be a tubular conical steel structure approximately 15 feet in diameter at the base. During construction, a work area/staging area at each turbine would include the crane pad and rotor assembly area. This area would measure about 180 feet by 185 feet. It is anticipated that mat foundations (inverted-T foundations) would be used for the turbines. The area excavated for a turbine foundation would typically be no more than 70 feet by 70 feet. Pad-mounted transformers would be placed next to each turbine. In some cases, for step-and-touch voltage compliance, a 17-foot area around a turbine may have to be covered in 4 inches of gravel. The need for a gravel layer would be determined on a case-by-case basis for each turbine.

The wind farm's electrical system would have two key elements: 1) a collection system, which would collect energy from each wind turbine, and step it up to 34.5kV; and 2) a collector substation, which would step up the power from 34.5kV to 230kV. The underground collection system would be placed in one trench or two parallel trenches that would generally follow the internal road network. The current design has a total trench length (including parallel trenches) of 85,616 feet (16.2 miles).

The collector substation would transform the electricity from 34.5kV to 230kV for transmission along the existing Fort Thompson-to-Sioux Falls 230kV Transmission Line. The proposed collector substation would be below the escarpment in the valley of Firesteel Creek. The fenced area would occupy up to 2 acres. Access to the collector substation would be provided by a new 30-foot-wide access road running north from 236th Street.

A new interconnect substation would provide the interconnection between the proposed wind farm and the 230kV transmission line. The interconnect substation would be designed, owned, and operated by Western. The interconnection substation would have a fenced area of about 9 acres.

The fiber optic line would run from the interconnect substation to an existing radio tower 4.2 miles to the north. It is proposed that the line would be buried, either in the trenches

used for the underground collection system or within the rights-of-way of existing County and Township roads.

It is anticipated that the 5,000-square-foot O&M building would be at the southern edge of the project area near 236th Street and about 2,000 feet from the proposed collector and interconnect substations. However, the precise location of the O&M building has not been finalized.

Primary access to the wind project area would be along one or more of the existing gravel or paved County roads. Township and section-line roads that are required for access to the wind project would be upgraded and maintained by Wessington Wind I LLC. In some cases, temporary construction at sharp corners might be necessary to accommodate the construction crane and trucks hauling turbine components. The route selected would depend in part on the results of environmental studies and the requirements of the hauling contractor.

Turbines and other wind farm facilities would be accessed by an internal network of 16-to-20-foot-wide graveled roads. Some existing private roads would be improved and some new roads would be built. An additional 7.5 to 9.5 feet of land on each side of these roads would be temporarily disturbed during construction, but this area would be restored and reseeded. The internal road network as currently proposed would be 65,441 feet (12.4 miles) long.

At an estimated seven locations, a 180-foot-diameter (0.6-acre) turnaround area would be needed for large trucks and trailers hauling turbine components. After construction, these areas would be restored and reseeded with native mix.

One permanent unguaged, 80-meter meteorological (MET) tower would be placed near the wind turbines to assess turbine performance.

Alternatives – DOE's NEPA regulations require that an EA include a discussion of the No Action alternative (10 CFR 1021.362 (c)). Under the No Action alternative, the project would not be built and site-specific and direct impacts would not occur.

Another project alternative was originally considered. This alternative would have included a 99MW wind project proposed to be built in two phases on 6,000 acres of leased land in the Wessington Springs area. This proposal would have been constructed in two phases. Phase I would have had 34 turbines; Phase II would have had 32 turbines. Wessington Wind I LLC decided to downsize the wind project proposal by eliminating 32 turbines on about 3,200 acres of land because of the magnitude of potential impacts on waterfowl and other wildlife. Because these issues made the project infeasible, planners evaluated other options, including the Proposed Action. The Phase II alternative was dismissed from full evaluation in the EA.

Agency Consultation and Public Involvement Process – Western initiated the NEPA scoping process in on April 17, 2007 and extended it 44 days to May 31, 2007. A

public scoping meeting was held in Wessington Springs, South Dakota on May 17, 2007. Federal, state, and local agencies; landowners; Native American tribes; non-governmental organizations; environmental groups; and other interested parties were mailed a packet containing a letter, a fact sheet, maps, a comment card and an invitation to the public meeting. The public meeting was also announced in a few local papers and on the local radio station beginning May 8, 2007.

Environmental Impacts – Western’s conclusions about the Proposed Action’s environmental impacts are based on information contained in the EA. The EA is available upon request. In reaching conclusions about the proposed project’s environmental impacts, Western considered environmental protection measures as defined in the EA and mitigation measures proposed by Western, Wessington Wind I LLC, and USFWS with the project. In addition, Western completed consultations with tribes, and SHPO before authorizing construction activities for the Proposed Action. In some cases, design considerations may require project facilities to be moved within the project area but to locations not subjected to detailed surveys. In these cases, surveys would be conducted and appropriate consultations and approvals would be completed prior to construction in these areas.

The existing environmental and potential environmental impacts were identified and evaluated for the following resources:

- Geology and Soil;
- Air Resources;
- Water Resources;
- Biological Resources;
- Endangered, Threatened, Proposed, and Candidate Species, as well as Designated Critical Habitat;
- Socioeconomics;
- Environmental Justice;
- Land Use;
- Visual Resources;
- Noise;
- Transportation;
- Safety and Health Issues;
- Cultural Resources; and
- Native American Religious Concerns.

Western concluded that, with the environmental protection measures implemented, the Proposed Action would not require mitigation beyond that already proposed. The basis for these conclusions is summarized below.

Geology and Soil. The Proposed Action site is along the eastern edge of the Coteau du Missouri division of the Great Plains physiographic province. The dominant geologic feature is the escarpment, known locally as the Wessington Hills, forming the edge of

the Coteau du Missouri. During geotechnical drilling, all boreholes were drilled to 50 feet. In no case did a borehole above the escarpment extend below glacial till. Below the escarpment near the proposed interconnect substation site, a 50-foot borehole did not extend beneath colluvium or alluvium that had been derived from glacial till.

The most significant direct impact to geologic resources would possibly be large-scale erosion brought on by slope failure. This impact is not likely for the Proposed Action because onsite geotechnical surveys have been performed, and a preliminary layout of the turbines, internal road network, and underground collection system has been developed by project engineers with access to the geotechnical data.

Within the boundaries of the Proposed Action, soil associations in order of abundance are the Ethan-Betts Association, Ethan-Houdek-Eakin Association, and Beadle-Dudley Association. Soil resource impacts would be minimized by the implementation of erosion and sediment control best management practices (BMPs) as part of the Storm Water Pollution Prevention Plan (SWPPP) required for projects disturbing more than one acre. Various measures are proposed to avoid or minimize impacts as part of the Proposed Action design, such as revegetation of all areas of temporary disturbance using an approved native seed mix.

Western has concluded that the Proposed Action would not cause direct, indirect, or cumulative significant impact to geology and soil based on the environmental protection measures.

Air Resources. The Proposed Action area is rural, and there are few residences within one mile of the proposed wind farm. Because there are no industrial activities in the vicinity, agriculture and vehicles using unpaved roads in the Proposed Action area may be the primary sources of fugitive dust. In the proposed wind farm area, farm and ranching equipment may contribute to priority pollutants. All of South Dakota is currently in attainment for all criteria pollutants

Construction of the Proposed Action would create dust from vehicles, road construction, clearing and removal of vegetation, equipment laydown, grading, and trenching. Construction equipment and vehicles would create vehicle exhaust. A concrete batch plant would create particulates, and on-site diesel generators for the batch plant would add to priority pollutants. Construction equipment would be required for up to 10 months, but the total number of pieces of equipment present at the construction site on a given day would be less. Emissions from construction would be confined to day-time activity for the duration of the construction period.

Because the Proposed Action area is rural, there are no requirements for fugitive dust control other than taking standard and reasonable precautions and implementing proper dust control measures to ensure opacity limits are not exceeded. Based on EPA guidance, approximate emission factors are estimated at 1.2 tons/acre/month for total suspended particulate (TSP) concentrations from construction activities scattered

throughout an area. Dust emissions would be lower. Implementation of BMPs and other measures (e.g., water spraying, revegetation) would reduce fugitive dust. Western has concluded that no direct, indirect, or cumulative significant impacts to air resources would occur from the construction and operation of the Proposed Action.

Water Resources. The Proposed Action area is located within the Firesteel Creek watershed, which drains to the James River. The National Wetlands Inventory (NWI) identifies one lacustrine wetland onsite that is 32 acres in size. Palustrine wetlands are more common in the project area and cover 199 acres.

During geotechnical drilling, groundwater was predominantly encountered between 25 to 30 feet below grade; however, groundwater was encountered 12 to 15 feet below grade in 20 percent of the boreholes. Groundwater was encountered as shallow as 4 feet below grade east of the escarpment.

Proposed Action components have been laid out to avoid jurisdictional wetlands. A delineation was performed of 19 small wetlands and possible wetlands crossed by proposed roads. The Corps of Engineers (COE) reviewed the results of the delineation and determined that none of the wetlands that would be affected by the Proposed Action were jurisdictional.

Construction of the turbines, roads, underground collection system, and other components of the Proposed Action would disturb more than one acre and would require coverage under a General Permit for Storm Water Discharges and development of a SWPPP. Wessington Wind I LLC would implement erosion and sediment controls throughout construction, including stabilization measures for disturbed areas and structural controls to divert runoff and remove sediment. Implementation BMPs would minimize impacts to receiving waters.

During operations and maintenance, some oil would be stored at the O&M building during periodic maintenance of the turbines. However, the amount stored on-site would be phased, and aggregate storage capacity would remain below the legal threshold of 1,320 gallons. Therefore, a Spill Prevention Control and Countermeasure (SPCC) plan would not be necessary.

Western has determined that no direct, indirect, or cumulative significant impacts to surface water and wetland resources would occur from the construction and operation of the Proposed Action.

Biological Resources. The project area contains rolling hills intermixed with wetlands, mixed-grass prairie, patches of deciduous trees, and cropland. Mixed short and tall grasses occur primarily on the rolling hills throughout the central and eastern portion of the Proposed Action and comprise 70 percent of the project area. The escarpment runs north-south along the eastern edge of the proposed project area and provides approximately 100 feet of relief. Drainages along the escarpment are populated with deciduous woodland comprising seven percent of the project area. Wetlands make up

seven percent of the project area and are found primarily in the central and western portions of the Proposed Action. Cultivated fields are generally located along the western boundary and comprise 13 percent of the project area. Additional fields can be found along the eastern edge below the escarpment. Cattle grazing is found throughout the project area.

South Dakota has 27 invasive species designated by administrative rules, nine of which are documented in Jerauld County. The distribution of invasive species within the project area is unknown at this time.

Mammals occurring in the project vicinity include game species, such as white-tailed deer, mule deer, and pronghorn; rabbits; shrews; voles; mice; and gophers. There are 12 species of bats documented in South Dakota, seven of which may occur in the project area. Bat call surveys in summer and fall 2007 recorded six of these species, but the number of recorded calls was very low.

Avian surveys were conducted in 2007. Fixed point count migratory bird surveys were conducted in March and April 2007. Transect surveys for breeding birds were conducted in May, June, and July 2007. Collectively, a total of 5,162 birds representing over 60 species were recorded. During fixed point surveys, the most frequently observed species were snow geese, sandhill cranes, and mallards. Red-tailed hawks and northern harriers were the most abundant raptors observed. Several groups of sandhill cranes were observed. The most common species observed during transect surveys were bobolink, blue-winged teal, red-winged blackbird, western meadowlark, and grasshopper sparrow. Red-tailed hawks and great-horned owls were the most abundant raptors.

Federal special status species that may occur in the project area include the whooping crane and the bald eagle. The bald eagle was delisted as an endangered species in August 2007. State species of concern that are known to occur or may occur in the Proposed Action area include greater prairie chicken, sharp-tailed grouse, Le Conte's sparrow, chestnut-collared longspur, American bittern, northern harrier, upland sandpiper, marbled godwit, Wilson's phalarope, grasshopper sparrow, western meadowlark, and regal fritillary butterfly.

Construction activities could affect avian species through mortality, habitat alteration or loss, and disturbance. The possibility for mortality is associated with destruction of eggs or abandonment of active nests due to disturbance.

Operation and maintenance of the wind farm could affect avian species through direct mortality, disturbance and displacement, and habitat fragmentation. Based on data from other wind energy projects, the 34 turbines of the Proposed Action could result in an estimated annual mortality of 62 to 74 passerines and 1 raptor. Using data from other wind farms, 34 turbines could result in an estimated annual mortality of 46 bats from collisions. However, the results of the bat call survey suggest that bat density in the Proposed Action area may be lower than at other wind farms.

The Proposed Action would result in the permanent loss of about 33 acres of grassland, 5 acres of deciduous woodland, and probably 0 acres of wetlands. For State species of concern, the wind farm would reduce habitat for wetland and grassland birds and for regal fritillary butterflies.

Traffic, noise, and human presence during construction and maintenance of the wind farm could displace individual foraging bald eagles, but the proposed wind farm is not likely to result in bald eagle mortality.

Western has concluded that construction and maintenance of the Proposed Action would not result in decline, which could lead to the listing or jeopardization, of the continued existence of any wildlife species. Therefore, the Proposed Action would not result in a direct, indirect, or cumulative significant impact to wildlife. Western has concluded that the Proposed Action would not result in direct, indirect or cumulative significant impacts to vegetation.

Endangered, Threatened, Proposed, and Candidate Species. Of the Federally-listed species known to occur in South Dakota, the whooping crane (*Grus Americanus*), is known to occasionally or frequently occur near the project area. Other species may be present but are either infrequently observed or have only historic range in the project area. Migrating whooping cranes could use wetlands or uplands in the vicinity of the proposed project for feeding or roosting, and therefore may be adversely affect by the Proposed Action.

As a result, Western consulted with the USFWS under Section 7 of the Endangered Species Act. A Biological Opinion (BO) was issued on March 28, 2008. The BO listed the following reasonable and prudent measures as necessary and appropriate to minimize impacts of incidental take of whooping cranes.

1. At the end of the 3-year whooping crane monitoring period, if whooping cranes or sandhill cranes (surrogate species) have been observed utilizing habitats in the project area, Western shall consult with the Service to determine the suitability for additional monitoring.
2. Wessington Wind I LLC will develop mortality monitoring procedures in coordination with the Service.
3. The presence of a dead whooping crane at the project area would represent new information and, in this circumstance, Western shall request reinitiation of formal consultation with the Service.
4. Wessington Wind I, LLC shall incorporate adaptive management principles into their operations to help guide any future modifications to operation.

In order to be exempt from the prohibitions of Section 9 of the ESA, the BO identified that Western must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. Wessington Wind I LLC shall provide training for all construction, operation, and maintenance personnel to ensure positive identification of whooping cranes in the field.
2. Wessington Wind I LLC shall provide appropriate training for all operation and maintenance personnel to facilitate timely detection, identification, and reporting of any injured or dead whooping cranes or sandhill cranes.
3. Any observations of whooping cranes by Wessington Wind I LLC personnel made as a result of monitoring or other incidental sightings in the project area and surrounding vicinity shall be immediately reported to the Service.
4. Wessington Wind I LLC shall immediately report any whooping crane or sandhill crane mortality to the Service. Since the area may be utilized by additional cranes, temporary turbine shutdown of all turbines shall occur until bird monitors have determined, with input from the Service, that there are no whooping cranes observed in the wind farm area to reduce the risk of additional mortality.
5. Information gathered and experience gained at the site from operations should inform knowledge of the impacts of the wind farm, and shall be incorporated into adaptive management of the site, utilizing the Department of Interior's Technical Guide on Adaptive Management (Williams et. al., 2007).

Based on the above, the Proposed Action would not result in the loss of individuals of a population leading to a jeopardy opinion from the U.S. Fish and Wildlife Service. The Proposed Action, however, would not cause a significant direct, indirect, or cumulative impact to any endangered, threatened, proposed, candidate, or other sensitive species.

Socioeconomics. The Wessington Springs area is rural, with an economy focused on agriculture, ranching, and recreation. Construction of the wind farm would likely begin in spring 2008 and would be completed in 8 to 10 months. An average of about 40 full time workers is expected to be involved. Peak employment is expected to be 70 employees for about one month. It is assumed that half the labor force would be hired locally. When construction is completed in late 2008, operation and maintenance would begin, requiring five permanent employees, including one manager and four technicians.

All of the Proposed Action, except for the interconnect substation, would be located on private land leased by Wessington Wind I LLC. Leasing of private land would provide additional income to seven property owners with current lease agreements.

Wind turbines are taxed as property on a leased site; land values would not be affected for tax purposes. The wind turbine generators and ancillary buildings would be subject to property tax, with the payment made by Wessington Wind I LLC.

All local service providers (e.g., medical services, education, public safety, utilities) have indicated that they would be able to accommodate the construction and operation and maintenance phases of the Proposed Action.

Considering the short duration proposed for construction, the Proposed Action would not result in the degradation or commitment of existing goods and services to an extent that would limit the sustainability of existing communities. Western has determined that the Proposed Action would not result in a significant impact on socioeconomic resources.

Environmental Justice. According to poverty statistics for 2000, 12.7 percent of the total South Dakota population was low-income, 20.2 percent of the population of Jerauld County was low-income, and about 3.4 percent of Wessington Springs' population was low-income. Also, census data indicate that about one percent of the population of Jerauld County is minority, of which most individuals are American Indian. No minority or low-income populations would be disproportionately affected from construction or operation of the Proposed Action.

Western has determined that discrimination of or disproportionate impacts to low-income, minority, and subsistence populations are not anticipated and a significant impact would not occur.

Land Use. Of the land within the Proposed Action boundary, 73 percent is grassland and 13 percent is used for cultivation. The remainder consists of wetlands and deciduous woodland. Cattle grazing is the predominant land use. No occupied residences exist with the Proposed Action boundary, 16 occupied residences are within 1.5 mile, and 50 are within 4 miles. There are no formal recreation areas within the wind farm boundaries and only a few in the general vicinity. Dispersed recreation in the wind farm area primarily includes hunting and wildlife viewing. Cady Lake Waterfowl Production Area (WPA), owned by the USFWS, would be 0.3 mile from the wind farm boundary.

Wind farm construction would alter approximately 129 acres (up to 42 acres permanently), interfering only a small degree with existing grazing operations. Areas temporarily disturbed (up to 94 acres) would be restored to their original condition. Landowner-permitted hunting could continue during operation of the Proposed Action. Of the 1,950 acres of land managed under USFWS grassland or wetland easements, about 20 acres would be permanently lost from wind farm development. Wessington Wind I LLC would work with USFWS to identify how to mitigate this loss.

Western has concluded that the Proposed Action would not cause a direct, indirect, or cumulative significant impact to land use.

Visual Resources. Three landscape character types were identified within 10 miles of The Proposed Action: Eastern Agricultural Plains (dominated by agricultural lands, rolling hills and natural grasslands with cattle); Western Wessington Hills Rangeland (characterized by dissected rolling hills dominated by natural grassland), and Rural Townscape (Wessington Springs and Lane). Most of the project area has common Scenic Quality/Visual Integrity, and a few locations have above average Scenic Quality/Visual Integrity.

Viewpoints in the study area include some of the 50 occupied residences within 4 miles, several locations along U.S. 281 and SD 34, a scenic overview next to Wessington Springs, a few local parks in Wessington Springs and Lane, and several South Dakota Department of Game, Fish, and Parks (SDGFP) Game Production Areas. These viewpoints have moderate to high visual sensitivity.

Visual impacts of the Proposed Action would result from: 1) turbines, because of structure dominance, reflected light and glare, FAA-required lighting, and overlapping blade rotation; 2) crane pads, access roads, collector and interconnect substation sites, and the O&M building; 3) trenching for the underground collection system; 4) the temporary presence of construction equipment and vehicles; and 5) soil exposure and dust.

The Proposed Action would have visual impacts to some nearby residences, some travelers along SD34, and some recreational users. Mitigation measures would reduce these impacts to acceptable levels. Therefore, the Proposed Action would not significantly impact visual resources.

Noise. No background noise measurements have been made in the Proposed Action area, but measurements from other locations suggest that the background noise levels could typically range from 38 to 48 dB(A). Noise levels generated by farm machinery, wildlife, and the wind can sometimes reach 55 dB(A). Few roads cross the project area and these have relatively little traffic.

There are no noise sensitive receptors (e.g., residences, schools, hospitals, or offices) within the proposed project boundaries, although occupied residences are located within 0.25 mile of the wind farm. The nearest schools and hospitals are in Wessington Springs, more than two miles from the proposed wind project.

Construction at the wind farm would occur in an 8-to-10-month period. Construction activities would be intermittent and would occur during normal day-time working hours. Construction noise would be within acceptable Occupational Safety and Health Administration (OSHA) standards. Also, based on the typical attenuation of sound over distance, construction noise would be reduced to acceptable levels 1,000 to 2,500 feet from the construction equipment.

During operations, the noise level at the base of each turbine would be about 55dB. The noise level at the nearest occupied residence would be about 40dB, equivalent to typical background noise levels in a rural environment. Winds in the area would likely mask the noise generated by the turbines and would not exceed noise level standards.

Western has concluded that no direct, indirect, or cumulative noise impacts would occur as a result of the proposed project.

Transportation. South Dakota State Highway 34 (SD 34) is about 2.5 miles north of the Proposed Action area, and U.S. Highway 281 passes six miles east of Wessington Springs. Access to the Proposed Action area from SD 34 is along several existing paved and gravel County roads. Unpaved roads maintained by Townships provide access to parts of the project area. It is estimated that during construction, each wind turbine generator would require 10 to 11 truck shipments of components, some of which could be oversized or overweight. Some County and Township roads may need to be modified to ensure safe movement of these vehicles. During operations, sites may be attended during business hours by a small maintenance crew of about three individuals. Transportation activities would be limited to a small number of daily trips.

No rail facility crosses the Proposed Action area. Airports identified in the vicinity include Wessington Springs Airport, 2.4 miles to the northeast, and the Huron Regional Airport, 28 miles northeast of the project area. A Military Training Route (MTR) (VR 510) passes over the Proposed Action area. This MTR is controlled by the 114th Wing of the South Dakota Air National Guard (SDANG) in Sioux Falls. It has a floor of 100 feet above ground level (AGL). A Class E Federal airway, V 120, passes about 1 mile south of the wind project area. The floor of this airway is 1,200 feet AGL.

The Federal Aviation Administration (FAA) has issued a Determination of No Hazard to Air Navigation for the proposed wind turbines. The South Dakota Aeronautics Commission has issued a single Aeronautical Hazard Permit for the 34 proposed turbines. According to the Airspace Manager of the 114th Wing, raising the floor of VR 510 near Wessington Springs to 500 feet AGL would likely not be a problem. The Proposed Action would not interfere with aircraft operations in V 120, the Class E Federal airway.

Western has determined that the Proposed Action would result in no direct, indirect, or cumulative impacts to transportation.

Safety and Health Issues. There are few existing hazards at the Proposed Action site. Ranching, farming, and hunting are the primary activities in the area; there are few residences nearby; and there are no industrial uses. Fire is the primary existing health and safety risk, because much of the Proposed Action area is rangeland.

Emergency service providers in Wessington Springs and Jerauld County would have the capacity to provide service to the Proposed Action. Because all land within the

boundary is privately owned, public access can be restricted. With limited public access and with design guidelines and appropriate safety measures during construction, operation, and maintenance, there would be few risks to human health and safety.

Western has concluded that the Proposed Action would not cause significant adverse impacts related to safety, radio-frequency interference, audible noise, nuisance shocks, hazardous shocks, or electric and magnetic field exposure.

Cultural Resources. Cultural resource surveys of portions of the Proposed Action area were performed in spring 2007. Approximately 475 acres were inventoried. Monitoring of geotechnical drilling by archaeologists was performed in summer 2007. A total of 13 cultural resources were identified. All are archaeological sites; and all have been treated as eligible for the National Register of Historic Places (NRHP). No impacts would occur to these sites because they would all be avoided. The remainder of the Area of Potential Effect (APE) would be inventoried for cultural resources prior to construction. An additional inventory of the buildings within one mile of the Proposed Action has indicated that one building is eligible for NRHP, but that the Proposed Action would not have an impact. Avoidance has been and would continue to be the preferred option for the protection of NRHP-eligible cultural resources. If avoidance is not feasible, other measures, including data recovery, may mitigate impacts.

Western has determined that there will be adverse effects to historic properties as a result of this undertaking. Specifically, these effects are the intrusions to the viewshed of the Lyle wind-powered mill (JE-014-00001) and the Bennett gambrel roof barn (JE-013-00004). Accordingly, a Historic Properties Treatment Plan (HPTP) will be prepared and coordinated for the above properties. The objectives of this plan will be determined through consultation with the signatories of the Memorandum of Agreement (MOA). Implementation of the HPTP will follow Western's National Environmental Policy Act decision document, and will include a detailed description of potential effects to the properties and will also identify specific treatment strategies for addressing project effects.

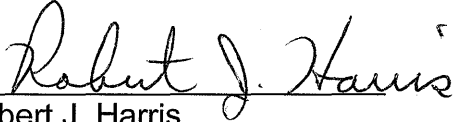
Based on these findings and commitments, no significant direct, indirect or cumulative impacts to cultural resources is expected as a result of construction, maintenance, or operation of the Proposed Action.

Native American Religious Concerns. In August 2007, a meeting was held at the site of the Proposed Action at the request of representatives of the Lower Sioux Indian Community, Santee Sioux Nation, Sisseton-Wahpeton Oyate, and Fort Peck Tribes to discuss cultural resources in and near the project area. On February 25, 2008 an agreement to complete a MOA was reached between Western and the Tribes. The MOA was executed April 10, 2008. The MOA includes provisions for tribal monitoring and a discovery plan. The tribes completed a traditional cultural properties (TCP) study to review the site of the Proposed Action.

All project facilities and activities for the Proposed Action would avoid sacred sites and TCPs through avoidance and tribal monitoring. Western would comply with federal and state laws to notify the appropriate tribes, individuals, agencies, and authorities in the event that important cultural or historic resources are discovered during construction activities. In addition, Western would comply with the Memorandum of Agreement to address any concerns expressed during the course of consultation, planning, and construction. If burial or cultural sites with Native American religious values are identified prior to or during construction, interested tribes will be notified and consulted with concerning mitigation measures. No significant impacts to Native American religious concerns, sacred sites, or TCPs are expected as a result of tribal monitoring, TCP surveys, and tribal ceremonies.

Determination – The analyses contained in the EA indicate that the Proposed Action is not a major Federal action significantly affecting the quality of the human environment. Western has determined that preparation of an EIS is not required.

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