

Record of Decision for the Electrical Interconnection of the Hopkins Ridge Wind Energy Project December 2004

INTRODUCTION

The Bonneville Power Administration (BPA) has decided to offer contract terms for interconnection of 150 megawatts (MW) of power to be generated by the proposed 350-MW Hopkins Ridge Wind Energy Project (Wind Project) into the Federal Columbia River Transmission System (FCRTS). The 150 MW from the Wind Project would be interconnected at a proposed BPA switching substation along BPA's Walla Walla-North Lewiston 115-kV transmission line. The remaining 200 MW produced by the Wind Project would interconnect with PacifiCorp's North Lewiston-Walla Walla 230-kV line. The proposed BPA switching substation and Wind Project would be located in Columbia County, Washington, about 10 miles northeast of Dayton, Washington.

The decision to offer terms to interconnect the Wind Project is consistent with BPA's Business Plan Final Environmental Impact Statement (BP EIS) (DOE/EIS-0183, June 1995), and the Business Plan Record of Decision (BP ROD, August 1995). This decision thus is tiered to the Business Plan ROD.

BACKGROUND

BPA is a federal agency that owns and operates the majority of the high-voltage electric transmission system in the Pacific Northwest. This system is known as the FCRTS. BPA has adopted an Open Access Transmission Tariff for the FCRTS, consistent with the Federal Energy Regulatory Commission's (FERC) *pro forma* open access tariff.¹ Under BPA's tariff, BPA offers transmission interconnection to the FCRTS to all eligible customers on a first-come, first-served basis, with this offer subject to an environmental review under the National Environmental Policy Act (NEPA).

Blue Sky Wind LLC (Blue Sky) has proposed the construction and operation of the Wind Project, which would generate up to 350 MW of electricity.² Blue Sky identified two nearby transmission lines that could potentially interconnect this Wind Project to the regional transmission grid – PacifiCorp's North Lewiston-Walla Walla 230-kilovolt (kV) line and BPA's

¹ Although BPA is not subject to FERC's jurisdiction, BPA follows the open access tariff as a matter of national policy. This course of action demonstrates BPA's commitment to non-discriminatory access to its transmission system and ensures that BPA will receive non-discriminatory access to the transmission systems of utilities that are subject to FERC's jurisdiction.

² Puget Sound Energy (a subsidiary of Puget Energy) announced on December 1, 2004, that it signed a non-binding letter of intent (LOI) with Blue Sky to acquire and own 150 MW of the proposed Wind Project.

Walla Walla-North Lewiston 115-kV line. Blue Sky applied to PacifiCorp for interconnection of the Wind Project to its line, but discovered that the maximum amount of generating capacity that can be interconnected to the PacifiCorp line is 200 MW. Thus, in May 2002, RES America Developments, Inc. (RES America), of which Blue Sky is an affiliate, submitted a transmission interconnection request to BPA for interconnection of 150 MW of the output from the proposed Wind Project. Consistent with its tariff, BPA needs to respond to this request.

RELATIONSHIP TO BUSINESS PLAN EIS

In response to a need for a sound policy to guide its business direction under changing market conditions, BPA explored six alternative plans of action in its BP EIS. The six alternatives were: Status Quo (No Action), BPA Influence, Market-Driven, Maximize Financial Returns, Minimal BPA, and Short-Term Marketing. The BP EIS examined each of these six alternatives as they relate to meeting the regional electric energy need in the dynamic West Coast energy market. The analysis focused on the relationships among BPA, the utility market, and the affected environment and evaluated transmission as well as generation, comparing BPA actions and those of other energy suppliers in the region in meeting that need (BP EIS, Section 1.7).

In the BP Record of Decision (BP ROD), the BPA Administrator selected the Market-Driven Alternative. Although the Status Quo and the BPA Influence Alternatives were the environmentally preferred alternatives, the differences among alternatives in total environmental impacts were relatively small. Other business aspects, including loads and rates, showed greater variation among the alternatives. BPA's ability to meet its public and financial responsibilities would be weakened under the environmentally preferred alternatives. The Market-Driven Alternative strikes a balance between marketing and environmental concerns, including those for transmission-related actions. It is also designed to help BPA ensure the financial strength necessary to maintain a high level of support for public service benefits, such as energy conservation and fish and wildlife mitigation and recovery activities.

The BP EIS was intended to support a number of decisions (BP EIS, Section 1.4.2), including contract terms BPA will offer for transmission interconnection services. The BP EIS and BP ROD documented a strategy for making these subsequent decisions (BP EIS, Figure 1.4-1 and BP ROD, Figure 3, page 15).

BPA's decision to offer terms for interconnecting the Wind Project is one of these subsequent decisions and the subject of this ROD. BPA reviewed the BP EIS to ensure that offering contract terms for interconnecting this Wind Project was adequately covered within its scope and that it was appropriate to issue a ROD tiered to the BP ROD. This tiered ROD, which summarizes and incorporates information from the BP EIS, demonstrates this decision is within the scope of the BP EIS and BP ROD. This ROD describes the specific information applicable to this decision to offer contract terms for transmission interconnection of the Wind Project at BPA's proposed switching substation, and provides a summary of the environmental impacts associated with the decision with reference to appropriate sections of the BP EIS and BP ROD. This ROD also references information that was incorporated by reference into the BP EIS from BPA's Resource Programs (RP) EIS (DOE/EIS-0162, February 1993). The RP EIS contains an analysis of environmental effects and mitigation for wind projects and associated transmission. Lastly, this

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tiered ROD summarizes and references Wind Project information as appropriate from Washington's State Environmental Policy Act (SEPA) Checklist³, Columbia County's Mitigated Determination of Non-Significance, and Columbia County's Conditional Use Permit (CUP) process, which includes non-discretionary conditions, and BPA's independent review of the proposed BPA switching substation proposal to clarify where and how the site-specific environmental consequences described in the BP EIS would occur.

PROJECT DESCRIPTION

Hopkins Ridge Wind Energy Project

The following description of the proposed Wind Project is a condensed version of the project description in the SEPA Checklist for this project (October 2004). The proposed Wind Project would be constructed in Columbia County, Washington, approximately 10 miles northeast of the town of Dayton. The Wind Project would be located on approximately 40 square miles south and west of the Tucannon River in rural Columbia County.

The Wind Project would be constructed in two or more phases, with each phase of construction lasting 9 to 12 months, with Phase I beginning as early as March 2005. The Wind Project would interconnect with existing BPA transmission lines in the Wind Project area in Phase I and PacifiCorp transmission lines in Phase II. Phase I would interconnect with BPA's Walla Walla-North Lewiston 115-kV line, and Phase II would interconnect with PacifiCorp's North Lewiston-Walla Walla 230-kV line. The BPA interconnection facility for Phase I would only interconnect electricity from 150 MW of the proposed Wind Project, and the portions of the Wind Project that would interconnect to BPA are noted below where possible. Because the SEPA review and CUP processes analyzed the entire 350 MW project, in some cases the portion of the Wind Project that would be interconnected to BPA is not easily distinguished.

The Wind Project could consist of up to 233 or as few as 116 wind turbines on steel tubular towers, depending on the type selected. Each turbine/tower combination would be up to 360 feet tall. Most turbines would be constructed in farmland used to grow wheat. The number of turbines that would interconnect to BPA would range from 50 to 100 turbines.

Some existing roads would be improved and some new roads would be constructed. Widened roads would be up to 20 feet wide with an additional 5 feet of shoulder on either side, for a total permanently disturbed road width of 30 feet. Existing culverts across intermittent streams would be extended or replaced with longer or larger-diameter culverts. In areas where existing roads do not provide the required access, new graveled roads would be constructed to the standards described above for improved roads.

The Wind Project would require approximately 42 miles of new roads for access to turbine strings, and 23 miles of new turbine strings (1 to 24 turbines per string), which include 20-foot-wide permanent roads plus turbine foundations, step-up transformer foundations, and turbine crane pads. The turbine strings would be connected by an electrical collector cable system that

³ CH2MHILL, October 2004. Hopkins Ridge (Blue Sky) Wind Energy Project SEPA Checklist.

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would most likely be entirely underground. Lights at the top of turbines would likely be synchronized to simultaneously flash white during the day and red at night.

The electrical system for each phase of the Wind Project would consist of the following components:

- Individual step-up transformers.
- An electrical collector system within approximately 2 acres of underground collector cable trenches that would parallel existing, widened, and new roads used for the Wind Project.
- A Wind Project substation that would be a graveled, fenced area with transformer and switching equipment and an area to park utility vehicles.
- A overhead transmission line, approximately 10 miles long, that would be used to deliver power from the Wind Project substation to the point of interconnection with either the existing BPA transmission line (115-kV) or the PacifiCorp transmission line (230-kV).
- An interconnecting substation to either BPA or PacifiCorp transmission lines.

Up to 10 permanent meteorological towers would be placed throughout the Wind Project area. The towers would be up to about 220 feet tall and would comply with Federal Aviation Administration lighting regulations. They would be freestanding, non-guyed structures.

Temporary staging areas would be created in various parts of the Wind Project during construction. From 5 to 10 staging areas would be needed for general project use, each approximately 2 acres. Up to 2 staging areas, each 1-acre, would be needed for each turbine string for parking vehicles and equipment. Staging areas would be graded and reseeded to restore them to their original use.

One or more permanent Operations and Maintenance (O&M) facilities would be constructed for carrying out O&M functions as well as to serve as control rooms. Each facility would be a fenced, pre-engineered steel structure 20 feet tall, with an adjacent graveled parking area.

If in the future the Wind Project were terminated, decommissioning of the facilities would be required. The owner would remove all wind turbines, step-up transformers, substations, overhead transmission lines and support structures, switching/interconnection facilities, control rooms/O&M buildings, and meteorological towers. Footings and foundations would be removed to a level of 3 feet below the surface of the ground. The owner would also repair any damage as a result of such removal, restore the property to grade, and implement erosion and control devices and procedures.

BPA Switching Substation

To interconnect 150 MW from the proposed Wind Project with BPA's existing Walla Walla–North Lewiston 115-kV line, BPA would construct a switching substation along this line. The proposed BPA switching substation site is a 5-acre parcel located northeast of the town of Dayton, in Columbia County, Washington, approximately 1 mile west of the Tucannon River (see attached map). The site is immediately east of Hartsock Grade Road, an unpaved county

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road that begins approximately 0.4 mile north of the intersection of Patit Road and Maloney Mountain Road. Except for the last 0.4 mile to the site, the site can be reached on paved roads. The site is bordered by the existing Walla Walla–North Lewiston 115-kV transmission line to the south and the Hartsock Grade Road to the west.

The entire 5-acre site is within a cultivated wheat field in a rural setting. The site topography ranges from fairly level (3-5 percent slopes) to steeper slopes to the northwest (7-8 percent slopes). Because of the direction of the slope, the natural drainage pattern is to the northwest, away from the Tucannon River. There are no trees, shrubs, or native plant communities on the site. The narrow shoulder of Hartsock Grade Road is vegetated with various non-native grasses and weedy plant species. Approximately 700 feet to the east of the site, agricultural fields transition to a narrow ridge-top grassland. About 0.25 mile east of the site, the ridge top ends and the land gradually descends to the Tucannon River.

To build the switching substation, the site would be graded and rock would be used to level the area. No fill dirt would be brought onto the site. The soil around the substation would be bermed and a drainage ditch on the outside of the berm would empty into the roadside ditch along Hartsock Grade Road.

Two residences are in the vicinity of the site. The closest residence is about 1,200 feet to the west of the site, along Lewis Gulch Road. This residence has a view of the site. The other residence, located about 0.5 mile to the south along Maloney Mountain Road, may have a partial view of the tops of proposed structures.

The BPA switching substation would consist of various equipment, including power circuit breakers, disconnect switches, voltage transformers, and surge arrestors, all connected by metal tubing (known as “bus”). The footprint of the BPA switching substation would be a rocked area that would cover two acres. On the rocked area, some equipment would be on concrete pads for stability. Three tubular steel pole structures, each several feet in diameter and about 50 feet tall would be constructed within the BPA switching substation. All other equipment within the switching substation would be less than about 25 feet tall. All BPA substation equipment would be within a chain link fence, approximately 7 feet tall.

The switching substation would also include a one-story control house (approximately 30 by 42 feet) that would house operations equipment. A communications tower, which is a box-type tubular structure with one antennae disk about 6 feet wide, would be built near the control house. Security lighting would be placed on the perimeter of the switching substation.

BPA personnel would visit the switching substation about once per week. There would be no water supply at the switching substation. A portable toilet would be available for personnel.

Some work would be done outside the proposed BPA switching substation, near the transmission line, to loop the BPA Walla Walla–North Lewiston transmission line into the substation. One new wood pole H-frame structure (consisting of two poles) would be added within the existing transmission line right-of-way to minimize conductor swing near the interconnection. Two new wood pole H-frame structures (consisting of three poles per structure) would be constructed next to the existing transmission line. The new wood pole structures would be approximately 65 feet tall, 5 feet taller than the existing wood pole structures.

Construction would begin around March 1, 2004 and be completed in fall 2005. Crews would work 8 to 12 hour days, during daylight hours, as needed to meet the schedule. About 10 to 15 workers would likely work at the site each day during construction.

Routine operations and maintenance activities would be conducted once the proposed BPA switching substation is operational. No hazardous substances would be used in operations and maintenance other than routine use of oil to lubricate some machinery. As a result of some maintenance activities, noise would be created momentarily when the circuit breakers are operated. When the breakers are operated, the brief, loud burst of noise would be similar to the noise caused by a gunshot. This would occur infrequently. The breakers would automatically operate when there is a problem with the line to prevent equipment from being damaged and as part of the maintenance of the line, such as when there is a need to repair or replace insulators damaged by vandals or hunters, or when wind turbine generators are being maintained.

PUBLIC PROCESS AND CONSIDERATION OF COMMENTS

Consistent with BPA's strategy for tiering appropriate subsequent decisions to the BP ROD, a public process was conducted by BPA, in conjunction with Columbia County, for the proposed Hopkins Ridge Wind Energy Project and associated proposed switching substation. SEPA and County reviews of the Wind Project provided several opportunities for public comment. Columbia County received various comments throughout the County process and addressed them through the addition or modification of non-discretionary conditions in the CUP.

Public participation opportunities included the following:

- RES America held an informational public meeting on the proposed Wind Project on September 9, 2004, in Dayton, Washington and BPA personnel were present to discuss the proposed BPA switching substation and take comments. The only comments BPA received were two questions from audience members about interconnection and what could be done to speed the process, indicating their support for the project.
- BPA created a web page for this project on the BPA Web site that describes the project, gives updates, and explains ways to comment.
- On November 28, 2004 Columbia County sent written notice to adjacent property owners about the proposed CUP process for this project, giving information on BPA's role and contact information for BPA personnel assigned to this project.
- On November 30, 2004, BPA sent written notice to adjacent property owners, agencies, Tribes and other interested persons, describing BPA's role and the interconnection decision to be made, requesting comments, and announcing that BPA employees would be present at the County CUP hearing on December 14, 2004.
- On December 14, 2004, Columbia County conducted a formal public hearing on the proposed CUP for this project and BPA personnel were present to discuss the proposed BPA switching substation and take comments.

BPA received several written comments relating to the project. The USDA Farm Service Agency, Columbia-Walla Walla County, stated that they support this project. Several members

of the Dayton, Washington community stated that they are in favor of building the switching substation in order to transmit power from the Wind Project. One local resident asked about potential traffic impacts and the amount of electricity BPA would interconnect. The Nez Perce Tribe cultural resources program expressed concern that the project could affect migratory birds.

ENVIRONMENTAL ANALYSIS

Consistent with the BP ROD, the BP EIS was reviewed to determine whether offering terms to interconnect the Wind Project is adequately covered within its scope. The BP EIS alternatives analyzed a range of marketing actions and response strategies to maintain a market-driven approach. The BP EIS showed that environmental impacts are determined by the responses to BPA's marketing actions, rather than by the actions themselves. These market responses include resource development, resource operation, transmission development and operation, and consumer behavior.

BPA's BP EIS described generating resource types, their generic environmental effects on a per-average-MW (per-aMW) basis, and potential mitigation. The discussion of generic environmental impacts of renewable energy resource development, including wind, is provided in Section 4.3.1 of the BP EIS. The RP EIS also described the environmental effects and potential mitigation associated with the construction or upgrade of transmission facilities to integrate the resources with the existing transmission system (Section 3.5). The per-aMW impacts for wind projects (RP EIS, Table 3-19) were incorporated and updated in the BP EIS (Table 4.3-1). The BP EIS contains an analysis of generic environmental impacts, including resource development and operation (Section 4.3.1) and transmission development and operation (Section 4.3.2).

The Market-Driven Alternative anticipated unbundling of products and services, constructing transmission facilities for requests for non-federal power transmission, and providing transmission access to wholesale power producers (Section 2.2.3). The BP EIS also noted that, under the Market-Driven Alternative, new transmission requests would depend more on customer requests than on new resource development by BPA (Section 4.2.3.3). Finally, the BP EIS identified the associated need to enhance transmission facilities (Section 4.2.3.2) as one consequence of all resource development. One example would be customer requests for new transmission line and substation facilities for interconnection of generation resources.

In light of the analyses contained in the BP EIS and RP EIS, the interconnection of the Wind Project clearly falls within the scope of the BP EIS. The following discussion describes the site-specific impacts that would result from the transmission interconnection (the proposed switching substation) as well as the indirect effects that would result from the Wind Project itself, and provides additional information on potential cumulative impacts.

Site-Specific Impacts

As discussed below, the potential impacts from the construction and operation of the proposed BPA switching substation and Wind Project are within the parameters projected in BPA's RP EIS and BP EIS and are consistent with federal, state, and local environmental regulations.

BPA Switching Substation Impacts

Land Use and Recreation – The proposed BPA switching substation site and the area under the transmission line are currently farmed in dryland wheat. The General Plan for Columbia County and the relevant zoning regulations designate the proposed switching substation site as Agricultural Zone A-1.

The construction of the proposed BPA switching substation may take approximately 5 acres of farmland out of production. The fenced switching substation site would be about 2 acres, with a graveled parking area next to the fenced area, adjacent to the county road. The additional 3 acres that BPA is purchasing may continue to be farmed, depending on whether agreements are made with the farmer who farms this area. There are 194,439 tillable acres in Columbia County, excluding pasture (Posey, November 22, 2004)⁴. Even if the entire site is no longer farmed, the loss of this amount of farmland is a minor impact since it represents 0.0026 percent of the farmland in Columbia County.

The property is currently used for agriculture and may occasionally be used for hunting. The proposed switching station could decrease hunting opportunities since the area would be fenced.

Vegetation – The proposed BPA switching substation would be in an agricultural field adjacent to an existing transmission line. There are no plant communities that would be impacted other than a monoculture of dryland wheat and the County road shoulder, which is vegetated with non-native species. Since the switching substation site is in actively managed cropland the potential for noxious weeds is low, but BPA will do a weed survey prior to the start of construction to determine which weed species are present in the road shoulder.

BPA would manage any vegetation on the switching substation site and transmission line right-of-way according to BPA's "Transmission System Vegetation Management Program Environmental Impact Statement" (DOE/EIS-0285, 2000).

Soils – The soils on the site are a fine-grained silt loam that are moisture sensitive and can erode during wet conditions. Soils would be disturbed during construction activities. Prior to the start of construction, appropriate erosion and sediment control Best Management Practices (BMPs) would be installed in accordance with the Washington State Department of Ecology's "Stormwater Management Manual for Eastern Washington." BMPs would be designed, installed, and maintained in such a manner as to be in compliance with all applicable federal, state, and local regulations pertaining to sediment and clean water and air requirements. BMPs would be inspected and maintained during construction until final stabilization and site restoration is complete. All soil that is to be stored for reuse as backfill, restoration, or for disposal would be covered with plastic that is weighed or staked down to prevent erosion by wind or water. Impacts to soils would be minor because the site is small and BMPs would be used.

⁴ Clark Posey, Columbia County Planning Director. November 22, 2004. Personal communication.

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Fish and Wildlife – The agricultural fields and grasslands around the project site are used mainly by deer, elk, pheasants, and other bird species. This site is not considered high quality wildlife habitat by the Washington Department of Fish and Wildlife (WDFW) because it lacks natural habitat characteristics such as a diversity of native plant species and cover for wildlife (Schirm, November 22, 2004)⁵. Because the switching substation would remove only 5 acres of dryland wheat field, the long-term impacts to wildlife would be minor. Construction impacts to wildlife, from noise and other construction disturbance, would be temporary, and minor. The new conductors and structures would be adjacent to the existing lines and would not substantially change the existing environment for wildlife. The incremental addition of the new lines is not expected to result in a measurable increase in impacts to birds and other wildlife above existing impacts. There would be no impacts to fish species because there are no waterways on or near the site, therefore no sediments from the site are expected to reach water.

Federally Listed Species – BPA requested a list from the U.S. Fish and Wildlife Service (USFWS) of the listed species under the federal Endangered Species Act with the potential to occur in the project area. A threatened plant species, Ute ladies'-tresses (*Spiranthes diuivalis*), could potentially occur in the vicinity of the proposed BPA switching substation site (USFWS, October 14, 2004)⁶. This type of orchid is found in wetlands that are dominated by native herbaceous wetland species. Because there are no wetlands or waterways on the switching substation site there would be no impacts to Ute ladies'-tresses.

Although the bald eagle was not on the USFWS species list, researchers saw one bald eagle nearby during the yearlong avian survey conducted for the Wind Project. The bald eagle that was spotted was near the upper reaches of the Tucannon River. The agriculture field where the switching station is proposed does not provide foraging habitat for the bald eagle. Likely perching and foraging habitat is not near the site, which is approximately 1 mile from the Tucannon River. There would be no impacts to the bald eagle from the construction and operation of the proposed switching substation.

Wetlands and Waterways – The proposed BPA switching substation site is in an upland wheat field on an exposed ridge top. Researchers found no vegetation characteristic of wetlands or any signs of wetland hydrology on the site. There are no waterways or defined paths to water on the site. Access to the site is only through upland, with no wetland or waterway crossings. Construction and operation of the proposed switching substation would not cause impacts to wetlands or waterways.

Historic/Archeological Resources –A cultural resources survey of the proposed switching substation site was conducted after consultation with the State Historic Preservation Office (SHPO) and five tribes. Because no cultural resources were identified within the area where ground would be disturbed, BPA determined that construction of the proposed switching substation and related facilities would have no impacts on identified cultural resources.

⁵ Tom Schirm, Area Habitat Biologist, WDFW. November 22, 2004. Personal communication.

⁶ U.S. Fish and Wildlife Service. October 14, 2004. Listed Species Letter to BPA.

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If any cultural resources are uncovered during construction, work would immediately cease and BPA archeologists and the SHPO would be notified to ensure proper procedures are implemented to protect the site until it is properly assessed.

Visual Resources – The proposed switching substation would be constructed adjacent to the existing transmission line corridor. The proposed switching substation would not greatly alter the existing visual resources in the area because it would occupy such a small area and transmission lines are already in this area. The switching substation would be in the view of one residence about 1,200 feet west of the site. As mitigation for this visual impact, the County CUP for the Wind Project would contain a condition requiring the Wind Project owner to offer to work with the landowner to implement plantings that would screen the view of the switching substation. Partial views of the top of the switching substation may be seen from one residence about 0.5 mile to the south, a low impact because the existing transmission line wood poles are already visible. The general public drives occasionally through this area. Their views of the proposed switching substation seen by drivers and their passengers would be brief.

Public Health and Safety – Public health and safety impacts are expected to be low. Construction and operation of the proposed switching substation could possibly affect the health and safety of construction workers, operation and maintenance personnel, the public, and others who work near the project site, such as farmers. During construction, BPA would use standard construction safety procedures to reduce the risk of fire. BPA would also use standard industry traffic controls to inform motorists and manage traffic during construction activities.

All equipment fueling operations shall use pumps and funnels and absorbent pads. Fueling should not take place within 200 feet of natural or manmade drainage conveyances including ditches. Tanks and equipment containing oil, fuel or chemicals shall be checked regularly for drips or leaks and shall be maintained to prevent spills onto the ground or to water. Maintenance and repair of all equipment and vehicles shall occur on an impervious surface away from all sources of surface water. A concrete washout location would be designated where runoff would not impact or enter any drainage conveyances. All potential pollutants would be stored away from storm drain inlets in a manner consistent with the manufacturer's recommendations. A supply of sorbent materials would be maintained on-site in the event of a spill. Response measures and procedures would be put in place in case of an accidental release of petroleum products and/or hazardous substances.

During operation of the proposed switching substation and existing transmission line, the effects from electric and magnetic fields (EMF) would not change from existing conditions because the transmission line would continue to be a 115-kV facility. Operation of the proposed switching substation would not involve the use of hazardous or toxic materials. The site would be fenced, preventing access to the equipment within the switching substation.

Noise – Within this quiet rural setting, noise is created periodically by farming activities related to the planting or harvest of wheat, from vehicles traveling on the graveled road, and from gunshots during hunting season. During construction, noise would result from construction machinery and from erection of the facility, depending on the type of construction activity occurring. Construction noise would be heard by residents in the home approximately 1,200 feet to the west. Transmission lines and related facilities are classified as industrial sources under the

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Washington Administrative Code (WAC 173-60). For purposes of establishing allowable noise levels at a receiving property, the allowable nighttime noise limits in industrial areas is 60 decibels. This noise level would not be exceeded because construction would be limited to daytime hours. Noise would be temporary and limited to the construction period, from March 1 to October 2005.

Noise created during operation and maintenance of the proposed switching substation would be short, infrequent, and consistent with sounds occasionally heard in this area. When circuit breakers are operated, the brief, loud burst of noise would be similar to the noise caused by a gunshot. This would occur infrequently. There would not be any low frequency electrical "humming" that some people associate with substations. This low frequency sound is only created in substations with a type of transformers that would not be used in the proposed switching substation.

During operation of the existing transmission line, there would be no noise impacts due to corona generation. Corona is the breakdown of air at the surface of the conductors and it sounds like a hissing, crackling sound. Corona-generated noise is generally only of concern for transmission lines with voltages of 230-kV or greater. Because the Walla Walla–North Lewiston transmission line is a 115-kV line, there would be no impacts due to corona generation.

Socioeconomics and Public Services – No increase in public services are anticipated from the construction and operation of the proposed BPA switching substation. During construction, the presence of up to 15 workers per day would result in a small, short-term economic benefit to the local community as they patronize local businesses.

Air Quality – To reach the site, it is necessary to travel on 0.4 mile of graveled road. Dust would be created as a result of the travel of workers and transport of construction-related equipment and materials. Dust would also be created from earth moving activities during project construction. BMPs would be put in place to control dust. If water is used for dust control, water would not be withdrawn from any stream, ditch or water body in the project area, unless approved. Work would be performed in a manner that minimizes dust. Along graveled roads vehicle speeds would be limited to 25 miles per hour. Given the rural nature of the setting and the amount of dust created by other vehicles and farming activities, there would be low, temporary impacts to air quality.

Wind Project Impacts

The following summary of environmental impacts is based on information in the SEPA Checklist (October 2004) for the project, as well as Columbia County's *Mitigated Determination of Non-Significance* for the project.

Land Use and Recreation - The proposed Wind Project area (25,280 acres) is zoned as an agricultural zone. A few rural residences occur in and near the project area. Approximately 52 percent of the land in the project area is in agricultural production (dryland wheat), 39 percent is grasslands, 5 percent is Conservation Reserve Program (CRP) grasslands, and the remainder is natural habitat. The Wind Project would result in few changes to existing agricultural practices because existing farming and grazing would continue in and around the turbines and other project facilities. The loss of agricultural land due to permanent project facilities is small (less

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than 0.6 percent of the 25,000 acres in the project area) compared to the amount of land available for farming in the County. The Wind Project would not impact any of the existing recreational uses in the area except that it could shift hunting areas from unrestricted access to access by written permission only for about 40 percent of the Wind Project area.

Vegetation - The Wind Project area lies within the Columbia Basin ecoregion, which supports sagebrush/wheatgrass steppe and grasslands consisting mostly of wheatgrass and some bluegrass and fescue. The elevation varies from 1,600 to 3,400 feet. The vast majority of the land in the Wind Project area is under agricultural production of small grains. A small amount of CRP grasslands exist in the Wind Project area.

Permanent and temporary impacts to vegetation would result from the construction of Wind Project facilities. Permanent impacts to vegetation would remove 110 acres of cropland, 19 acres of grassland, 12 acres of CRP lands, and 0.1 acre of riparian habitat. The USDA Farm Service Agency is analyzing the impact on CRP lands as a result of this project⁷. Mitigation would be provided for impacts to riparian areas in the form of enhancement of nearby riparian habitat. Temporary impacts would occur to 172 acres of cropland, 28 acres of grassland, and 17 acres of CRP, which would be mitigated through revegetation with an appropriate seed mix for that habitat type. The project was designed to avoid native habitats to the extent feasible or minimize impacts.

The potential spread of weeds into disturbed areas would be minimized through the development and implementation of a weed control plan, as stipulated in the condition in the CUP. Temporarily disturbed areas would be revegetated with an appropriate seed mix developed in consultation with the Columbia County Weed Board, WDFW, and landowners.

Geology and Soils - Available maps do not indicate any unusual features, unstable soils, or landslides in the immediate Wind Project vicinity. The Wind Project site is dominated by silt loam soils. Construction activities are expected to result in minimal soil erosion because the implementation of an approved Stormwater Pollution Prevention Plan and BMPs would control the effect of wind and water on exposed soils. Impacts are anticipated to be the same as or less than those caused by existing farming activities in the area.

Fish and Wildlife – Based on the 12-month avian study conducted during the project design phase, the per turbine mortality rate for birds for the proposed Wind Project is expected to be between approximately 0.5 and 2.5 birds per turbine per year. Actual levels of mortality that would result from the proposed Wind Project are unknown and could be higher or lower depending on patterns of avian movements through the area. Raptor nests are also located in trees in the steep draws leading from the flat agriculture areas on top of the ridges down to the Tucannon River. No construction activities or disturbance would occur within a 0.5-mile radius of any active raptor nest. State-listed species recorded during the studies included golden eagle, ferruginous hawk, peregrine falcon, and merlin. Avian mortality would be monitored for at least

⁷ Julie M Himmelberger, County Executive Director, Columbia & Walla Walla County, USDA-Farm Service Agency. December 9, 2004. Personal communication.

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two years following initial operation to determine if actual mortality is within the predicted range.

Elk, mule deer, and white-tailed deer are present in the Wind Project area. During construction, they could potentially be displaced temporarily from the site as a result of human presence and construction related disturbance. Because of the extent of suitable habitat in the region, temporary loss of habitat in the Wind Project area is a minor effect. Once construction is complete it is expected that deer and elk would become habituated to the wind turbines and reoccupy former habitat.

Bat species may occur in or near the Wind Project area. Nocturnal radar studies for detecting the presence of bat species were not conducted because some experts have stated that such studies do not adequately distinguish between bat species and other nocturnal flying species. Bat mortality would be monitored for at least two years following initial operation. Should such monitoring determine a significantly higher impact on bat species compared to other existing wind projects in the region, scientific studies aimed at determining effective methods of reducing bat fatalities would be conducted.

No fish are located in waters within the Wind Project area. Because of the distance from fish-bearing waters, it is highly unlikely that the Wind Project would have any effect on local fish-bearing lakes or the resident fish in the Tucannon River. Sediment and erosion control measures would be installed to prevent any sediment from entering fish-bearing waters.

Listed Species - Other than a single sighting of a single bald eagle, no federally listed threatened or endangered species were observed in the Wind Project area during the 12-month avian study, including during driving surveys for bald eagles along the Tucannon River. Given the lack of presence within the project area, no impacts to bald eagles are expected from Wind Project activities. No rare plant species have been found in the project area and therefore no impacts are expected.

Historical/Archeological Resources - Field surveys and existing information revealed some historic resources in the Wind Project vicinity. These sites would be avoided. The Confederated Tribe of the Umatilla Indian Reservation (CTUIR) completed an oral history study aimed at identifying customary and/or traditional uses of the project area. Although the CTUIR believes that the Wind Project area is eligible for inclusion in the National Register of Historic Places, they do not wish to nominate the area at this time. Measures to protect any identified culturally significant sites and areas would be discussed with the CTUIR. Prior to construction, a plan would be developed in consultation with the affected tribes and state archeologist that would outline procedures to be followed if any historic or archeological resources are discovered during construction. A CTUIR cultural resources monitor would be present during ground-disturbing activities to assist construction crews in identifying cultural resources and carrying out the cultural resources plan.

Wetlands and Water Resources - The Wind Project would have an impact on two intermittent stream crossings, totaling less than 0.05 acres of impact. As mitigation, a streambank area would be planted with native vegetation. This small amount of fill is not a significant impact to water resources in the area. There would be no impacts to wetlands or floodplains.

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Visual Resources - Views from exposed and higher elevation property in the Wind Project vicinity would be altered as a result of the installation of Wind Project facilities. Project facilities would not be visible from the Lewis and Clark campsite landmark on Patit Road, the Wenaha-Tucannon Wilderness, fishing holes on Tucannon Road, or from the towns of Dayton or Starbuck. The proposed Wind Project would be visible from short stretches of State Highway 12 at the intersections of Johnson Hollow Road, Whetstone Hollow Road, Willow Creek Road, and Tucannon Road. Landowners who are participating in the Wind Project own a significant portion of the Wind Project vicinity that would have altered views. Although visual resources would be impacted from some vantage points, impacts would not be considered significant because of the rural nature of the area and the few vantage points.

Noise - During construction, nearby residents would be exposed to increased noise from construction equipment. Noise levels from construction equipment would vary and would occur for up to one year for each phase of the Wind Project. To minimize noise impacts, construction activities would be limited to daylight hours and equipment would have sound-control devices.

Once the Wind Project is operational, the wind turbines would produce noise under suitable winds but would not exceed 50 dBA at any residential dwelling, as required by state law. To mitigate for the noise impacts of operating wind turbines, wind turbines would be a minimum of 1,640 feet from residences.

Public Safety - Minimal new toxic substances or hazardous waste (small amounts of lubricants and solvents) would be introduced as a result of the proposed Wind Project. Except for fuel and oil used in construction equipment, no combustible materials would be used; therefore, increased risk of fire and explosion would be unlikely. During construction activities, the potential for fires and accidents always exists. However, the Wind Project would be constructed in accordance with applicable state and local health and safety regulations to prevent such occurrences. Standard construction safety measures would be implemented to reduce the risk of hazards and accidents. BMPs would be employed to reduce or control the potential for environmental health hazards. Significant risks to public health and safety are not anticipated as a result of the proposed Wind Project.

Construction of each phase of the proposed Wind Project is expected to take 9 to 12 months. During the peak construction period, travel by construction workers would account for an estimated 75 daily trips to the Wind Project site and an additional 10 daily trips by light duty trucks. Although construction would temporarily increase traffic on roads in and around the Wind Project access routes, impacts would be minimized by coordinating construction schedules and equipment access with landowners and local residents. Once the Wind Project is constructed, operations would involve a minor increase in vehicle traffic for project operations staff, since fewer than 15 vehicle trips per day are projected to the Wind Project area.

Socioeconomics and Public Facilities - Communities most likely to be affected by construction and operation of the proposed Wind Project include Starbuck and Dayton. There would be no significant increases in permanent population as a result of construction and operation of the Wind Project because only 6 to 10 people would work full-time within each phase of the proposed Wind Project. No more than 25 people would work full-time on the entire Wind Project. The Wind Project would not result in a significant increased need for public services, including fire protection. The number of people expected to need temporary lodging or

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permanent housing within the Wind Project area would be small enough that adequate housing, and other lodging, would be available. The peak onsite work force during construction would be about 150 employees. The Wind Project would have a net economic benefit to the landowners participating in the project because wind lease payments to landowners would provide a supplementary source of income that would help farmers retain their farms when farm prices reduce other sources of farm income. An increase in the Columbia County tax base would provide benefits to all county residents. Indirect economic benefits would accrue to businesses in the area from construction workers purchasing goods and services.

Air Quality - Temporary emissions would occur during construction of the Wind Project from construction vehicles and equipment. These temporary emissions would be minimized by use of construction BMPs listed in the SEPA Checklist. There also would be an increased potential for dust generation during construction, when soil is exposed or excavated. This potential would be greatest during dry, windy weather but would be mitigated by applying water for dust control and by gravelling the access roads. When the Wind Project is operational, minimal emissions from any source are expected.

Cumulative Impacts

The BP EIS and RP EIS provide an analysis of potential cumulative impacts resulting from development of generation resources and transmission facilities in the region. The following discussion further describes potential cumulative impacts in the project vicinity.

Three wind projects in southeastern Washington and northeastern Oregon region are within approximately 40 straight-line miles of the proposed Hopkins Ridge Wind Energy Project. The operating Stateline Wind Project and approved expansions are in Walla Walla County, Washington, and Umatilla County, Oregon. The existing Combine Hills Turbine Ranch and proposed expansion are located in Umatilla County, Oregon. The existing Vansycle Ridge Wind Energy Project is in Umatilla County, Oregon.

Other projects in the area include:

- A completed road realignment project in Garfield County, 3 miles west of Pomeroy, Washington.
- Ongoing transmission line and road maintenance projects which occur on a regular basis, as needed.
- Between 15-20 housing subdivision projects pending approval in Walla Walla County. Other than subdivisions, there are no other types of developments being planned nor has any other type of development been permitted this year (Donovan, 2004)⁸.

These projects, combined with the proposed Hopkins Ridge Wind Energy Project, could have relatively minor cumulative impacts to geology and soils, fish, wetlands and water resources, cultural resources, public safety, air quality, noise, socioeconomics and public services, and

⁸ Steve Donovan, Walla Walla County Planner. December 2, 2004. Personal communication.

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public health and safety. However, potentially significant cumulative impacts might occur to land use and recreation, vegetation, wildlife, and visual resources.

Land Use and Recreation – Cumulative impacts on land use for the wind and transmission projects would be low because these projects would take a very small proportion of agricultural land out of production without changing the overall agricultural usefulness of the area. This would be a minor cumulative land use impact. The subdivision projects could take land out of agricultural production. Depending on the size and design of the subdivision projects, there could be potentially significant impacts to land use. Potentially significant impacts to recreation could occur if hunting opportunities with the area are decreased. Changing land use would likely decrease hunting opportunities.

Vegetation – Implementation of projects could impact vegetation communities including native shrub-steppe. Because most tillable areas in Columbia County in private ownership have already been converted to agriculture or are currently grazed, it is unlikely that ongoing agricultural practices would result in the conversion of remaining native vegetation to cropland or pastureland instead of impacts from grazing. Historically, 10.7 million acres of Eastern Washington were covered in shrub-steppe vegetation, but about 60 percent of that area has been converted to agricultural, industrial, residential, and other uses. The overall additional impact to shrub steppe habitat could be cumulatively significant because so much has already been degraded or lost and changing land use to residential development could decrease the remaining available shrub-steppe.

Construction of projects may increase the potential for the spread of weeds into previously undisturbed areas. Because of the awareness of the potential for the spread of weeds, projects include mitigation measures, including the development and implementation of weed control plans that could result in cumulatively insignificant impacts.

Geology and Soils – Since the projects would not alter the geology of the area, no contribution to cumulative change is likely. Ground disturbance of near-surface soils would occur from all of the projects, primarily from construction activities. Impacts to near-surface soils would be minimized by implementing BMPs. The cumulative impacts to soils associated with the proposed projects are not expected to be greater than the existing impact caused by ongoing farming activities.

Fish and Wildlife – Implementation of the proposed Wind Project combined with the other proposed or planned projects could result in cumulative impacts to wildlife. Wind and transmission projects in the region could impact avian and bat species through collisions with turbines, meteorological towers, and transmission towers and conductors. Increased bird and bat mortality would occur, and an undetermined number of fatalities would be migrants that could pass through more than one wind project during migration.

Results from studies of other wind projects can be useful in predicting mortality at new wind projects. On average, based on four studies of wind projects in Washington and Oregon, approximately 1.8 bird fatalities occur per MW of wind energy produced. Assuming that there are 750 MW of wind energy being produced by the above-mentioned projects after construction and expansion, approximately 1,350 bird deaths may occur per year. The significance of this level of mortality is unknown, and other substantial sources of avian mortality such as

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communications towers, windows, vehicles, powerlines, domestic/feral cats, pesticides, and farming practices undoubtedly occur in the region. While it is hard to predict numbers of bird deaths from other sources, it is safe to say that it is substantially higher than 1,350 per year, based on a review of the literature regarding avian mortality (Erickson, et al. 2001)⁹.

As with birds, approximately 1.7 bat fatalities occur per MW of wind energy produced. Assuming 750 MW of wind energy would be produced in the region, approximately 1,275 bat deaths may occur per year. The bat species at highest risk of collision with turbines in Washington and Oregon are hoary bat and silver haired bat, both tree dwelling migratory species. These bats may come from as far north as Canada and southern Alaska and their range extends across most of Canada and the U.S. Other sources of mortality for hoary and silver haired bats in Washington and Oregon likely include logging and pesticides. The significance of the cumulative level of mortality is unknown; however, given the extensive range of the species the expected mortality level is likely a minor portion of the populations.

Other potential impacts to wildlife from wind projects include potential short-term disturbance impacts to big game followed by long-term beneficial effects if the wind project areas become a refuge for elk and deer. If wind projects do create a refuge effect because they curtail hunting, the long-term cumulative effect may be increased numbers of deer and elk. This may require a change in management strategy or techniques to maintain herd number objectives, however, the cumulative effects to big game species are not considered significant.

Developing subdivisions on previously farmed land or native habitat would reduce habitat for some wildlife species.

Cumulative impacts to fish species would be insignificant due to the lack of direct impacts to fish bearing waters from these projects. Impacts would mainly be indirect and mitigated for by proactive design and implementation of BMPs at the project level.

Federally Listed Species – Results of the baseline wildlife studies conducted in the Wind Project area indicated that bald eagle (federal threatened) rarely occur in the project area, therefore impacts are not expected. Bald eagle also occur in Walla Walla County, Washington, and Umatilla County, Oregon, where the Stateline and Combine Hills wind projects are located. No bald eagle fatalities have been recorded at these projects. Based on this low level of impact, the cumulative effects from the wind projects in the region to the bald eagle are not expected to be significant.

Because there were no listed plant species documented in the Hopkins Ridge Wind Project area, no additional cumulative impacts to listed plants are expected. Other projects did not have known significant impacts to listed plants species, therefore the cumulative impacts to rare plant species are not considered significant.

⁹ Erickson, W. P., G. D. Johnson, M. D. Strickland, D. P. Young, Jr., K. J. Sernka, and R. E. Good. 2001. Avian Collisions with Wind Turbines: A Summary of Existing Studies and Comparisons to Other Sources of Avian Collision Mortality in the United States. National Wind Coordinating Committee (NWCC) Resource Document. August 2001.

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Historic/Archeological Resources – The projects would result in ground disturbance that could potentially impact unidentified prehistoric and/or historic sites, as well as cause impacts to traditional cultural properties. Cultural resource surveys and coordination with affected Tribes, as required prior to construction of all projects under NEPA and SEPA, identified the locations of some resources so they could be avoided to the extent possible. While impacts to cultural resources from all projects could result in a net cumulative loss of cultural resource values in the region, implementation of mitigation would help reduce cumulative impacts

Wetlands and Water Resources – Impacts to water resources and wetlands from the proposed and existing projects would be very low if protections and mitigation measures are implemented. During the planning and siting phases of wind energy projects, wetlands and jurisdictional waters are avoided where possible and impacts to these resources are minimized and mitigated for through the federal and state permitting processes. This region is quite dry and wind and transmission projects tend to occupy dry portions of the landscape, with most impacts due to unavoidable road crossings of waterways. Unavoidable impacts to waterways or wetlands have been very small for these projects, cumulatively less than 1 acre.

Proposed subdivisions could impact wetlands and waterways but avoidance or mitigation, as required through local, state, and federal permitting, would reduce impacts.

Visual Resources – Construction of the proposed Wind Project, combined with the other proposed or planned projects would contribute to a cumulative change in the existing visual character of the region. However, the overall cumulative visual impact from all projects would likely be low to moderate due to the abundance of open, undeveloped areas in the region.

The wind projects in the area may have unavoidable adverse affects on visual resources. However, visual resources are difficult to assess, and opinions vary and are highly subjective. Some viewers regard wind farms as a visual attraction, but if they were to become more commonplace on the landscape, the novelty would likely diminish. Other viewers object to some open vistas becoming changed by the placement of turbines across the landscape.

Noise – In general, noise associated with wind energy and transmission projects is greatest during the construction phase, as noise levels from the operation of these types of facilities are low and meet state standards. In additions, since all the proposed or existing projects are sufficiently distant from each other, cumulative impacts from noise are not expected.

Public Safety – A cumulative impact on transportation and traffic could potentially occur if several of the projects were constructed at the same time. If this happened, truck traffic could noticeably increase on the highways, but it is unlikely that levels of service or safety on any highways would be measurably affected. Local roads around the individual projects would not experience cumulative impacts.

All proposed and planned projects could potentially affect public health and safety, especially during construction activities. However, these effects would not result in significant cumulative effects, because the potential impacts would be localized and temporary.

Socioeconomics and Public Services – The proposed projects could contribute to increases in temporary and permanent job opportunities and populations within the region. Temporary

population increases could result from the construction work forces for the proposed and planned projects. These temporary increases would be spread over a wide geographic area and therefore would not be cumulative. Existing housing in each project area is expected to be sufficient to accommodate any influx of population for construction or operations jobs related to the proposed and planned projects.

The wind and transmission projects would not significantly increase demands on public services. Demand for public services would generally be temporary, and would be dispersed throughout the region, which would minimize the potential for a significant cumulative effect to these services. The demand for these services by the small number of permanent employees of the projects would be accommodated by existing systems. Proposed subdivisions would increase the housing in Walla Walla County and would increase the need for services in that area.

The proposed and planned projects would likely have a cumulatively beneficial economic effect to the local economy. The projects would generate tax revenues, royalties, employee salaries, and some increase in retail sales. Cumulative tax revenues and royalties would be paid to the federal, state, and/or local governments.

Air Quality – Construction of the projects would result in temporary dust and particulate emissions. Whether these impacts would be cumulatively significant on a temporary basis would depend on construction timing, the effectiveness of mitigation measures employed, and the distance between the projects. Operation of the proposed projects would not impact air quality and would not contribute to cumulative impacts to air quality in the region.

MITIGATION

Specific resource mitigation conditions to avoid or minimize environmental harm from the proposed BPA switching substation were identified through the design and site-specific review processes and are discussed above under the appropriate area in the Environmental Analysis section. All of these mitigation measures are adopted.

Specific resource mitigation conditions to avoid or minimize environmental harm from the Wind Project were identified through the SEPA and County CUP processes and are present in the mandatory CUP conditions.

PUBLIC AVAILABILITY

This ROD will be available to all interested parties and affected persons and agencies. It is being sent to all stakeholders who requested a copy. Copies of the BP EIS, BP ROD, and additional copies of this Hopkins Ridge Project ROD are available from BPA's Public Information Center, P.O. Box 12999, Portland, Oregon, 97212. Copies of these documents may also be obtained by using BPA's nationwide toll-free document request line: 1-800-622-4520, or by accessing BPA's Web site: www.efw.bpa.gov.

CONCLUSION

BPA has decided to offer contract terms for interconnection of the Hopkins Ridge Wind Project into the FCRTS. The Large Generation Interconnection Agreement (LGIA) provides for interconnection of the Wind Project with the FCRTS, the operation of Hopkins Ridge Wind Energy Project in the BPA Control Area (including control area services such as generation imbalance service), and the maintenance of reliability of the FCRTS and interconnected systems. It also provides for the construction, operation and maintenance of the interconnection facilities (i.e., the proposed BPA switching substation) and their operation and maintenance. As described above, BPA has considered both the economic and environmental consequences of taking action to integrate power from the Wind Project into the FCRTS. This decision is:

- within the scope of environmental consequences examined in the BP EIS;
- in accordance with BPA's transmission access tariff; and
- in accordance with BPA's statutory authority to make available to all utilities any capacity in this system determined in excess to that required by the United States (16 U.S.C. 838d).

BPA will take measures to ensure the continuing safe, reliable operation of the FCRTS. This ROD identifies all practicable means to avoid or minimize environmental harm that might be caused by the integration of the Wind Project into the FCRTS. BPA adopts and will undertake the mitigations identified in this ROD for the proposed BPA switching substation.

BPA has received assurances that the Hopkins Ridge Wind Energy Project has or will soon fulfill all federal, state, and local requirements for environmental compliance such as air emissions, cultural/historic resources consultation, and land use. Similarly, BPA's proposed switching substation has or will soon fulfill all of these requirements.

BPA contracts providing for integration of power from the Wind Project into the FCRTS shall include terms requiring that all pending permits be approved before the contract is implemented. BPA's contracts will also include appropriate provisions for remediation of oil or other hazardous substances associated with construction and operation of related electrical facilities in a manner consistent with applicable federal, state, and local laws.

Issued in Portland, Oregon, on December 20, 2004.

/s/ Stephen J. Wright

Stephen J. Wright
Administrator and
Chief Executive Officer

Attachments:

Project Location Map

Columbia County Mitigated Determination of Nonsignificance (DNS), November 9, 2004