

# memorandum

DATE: June 15, 2015

REPLY TO  
ATTN OF: KEC-4

SUBJECT: Supplement Analysis for the Whistling Ridge Energy Project Final EIS (DOE/EIS-0419/SA-1)

TO: Amy Gardner  
Project Manager, TEP-TPP-1

**Proposed Action:** Review for substantial project changes and significant new circumstances or information

**Proposed by:** Bonneville Power Administration (BPA)

**Location:** Skamania County, Washington

**Background:** In August 2011, BPA and the Washington Energy Facility Site Evaluation Council (EFSEC) completed the Whistling Ridge Energy Project Final Environmental Impact Statement (EIS) (DOE/EIS-0419). This Final EIS was prepared jointly by BPA and Washington EFSEC to meet each agency's respective obligations under the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA) for certain requests for agency action related to the proposed Whistling Ridge Energy Project (Wind Project). These requests were made to each agency by Whistling Ridge Energy LLC (WRE), the Wind Project proponent.

The action before Washington EFSEC, the siting authority for the Wind Project, was a decision on whether or not to recommend approval of WRE's Application for Site Certification for the Wind Project to the Governor of the State of Washington. After completing the Final EIS, EFSEC recommended approval to the Governor. The Governor then granted approval to construct and operate the Wind Project and issued an executed Final Site Certificate Agreement (SCA) to WRE for the Wind Project.

The action before BPA is a decision on whether or not to approve WRE's request to interconnect the state-approved Wind Project to the Federal Columbia River Transmission System (FCRTS), which is the high-voltage electric transmission system that is owned and operated by BPA. BPA is in the process of making a decision concerning this request. BPA has prepared this Supplement Analysis pursuant to its NEPA Regulations at 10 CFR 1021.314(c) to determine, prior to making a decision, whether there have been substantial changes to the proposal or significant new circumstances or information relevant to environmental concerns since completion of the Final EIS for the Project.<sup>1</sup>

**Analysis:** BPA is aware that in approving the Wind Project subsequent to issuance of the Final EIS, the State of Washington decided to limit the maximum number of allowed wind turbines for the Wind Project. In addition, information about changed circumstances and additional environmental information that has arisen subsequent to issuance of the Final EIS has been brought to the attention of BPA. The following assesses the significance of these post-Final EIS developments in relation to environmental concerns.

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<sup>1</sup> Throughout this Supplement Analysis, the term "Wind Project" is generally used to refer to all aspects of WRE's proposal except for the BPA interconnection facilities, while the term "Project" is used to refer to both the Wind Project and the BPA interconnection facilities.

## *Project Developments*

In its Application for Site Certification, WRE proposed developing up to 50 wind turbines at the Wind Project site. Accordingly, in order to provide an analysis of the maximum potential development, a maximum 50-turbine wind project was what was described and evaluated in the Final EIS for the Project. The State of Washington's approval of the Wind Project, however, denied two "strings" of turbines – string A-1 through A-7 and string C-1 through C-8 – thereby not approving 15 turbine sites out of the original 50 potential sites originally proposed. These two turbine strings were not approved primarily due to concerns about their impacts on the aesthetic and cultural heritage of the area due to the prominent visibility of these turbines from the Columbia River Gorge National Scenic Area (Scenic Area) as well as other portions of the Columbia River Gorge. By authorizing up to 35 turbines, the Final SCA executed by the Washington Governor reflects the denial of the two turbine strings.

As an initial matter, BPA believes that the State of Washington's decision to approve 35 wind turbine sites for the Wind Project does not actually constitute a change in the Project. As the Final EIS expressly states, the Wind Project would involve "up to" 50 wind turbines, meaning that it was envisioned from the outset that fewer than 50 turbines could potentially be authorized by the State of Washington for development. Furthermore, the Final EIS describes that the wind turbines for the Wind Project could range from 1.2 to 2.5 megawatts (MW) in generating capacity. For up to 75 MW of total installed capacity (the amount considered in the Final EIS and authorized by the State of Washington), a variety of combinations of turbine size and numbers thus were under consideration. At one end, 50 1.2-MW turbines (generating 60 MW) or 50 1.5-MW turbines (generating 75 MW) were envisioned. At the other end, 30 2.5-MW turbines (generating 75 MW) were possible. Ultimate approval by the State of Washington of an up to 35-turbine wind project generating up to 75 MW thus was within the spectrum of alternatives considered in the Final EIS.

The prospect of fewer than 50 turbines ultimately being approved and developed is also reflected in the analysis of impacts contained in the Final EIS. For example, the analysis of visual resources in Section 3.9 of the Final EIS explains that the impact analysis and associated visual simulations were based on using 50 of the largest turbines – the 2.5-MW Clipper Liberty model C93 turbines – for the Project as a conservative approach. This section goes on to acknowledge, however, that:

the Applicant [WRE] has applied for EFSEC certification for a maximum of 75 MW. If 2.5 MW turbines were to be used, only 30 turbines could be built, and overall visual impact would be less.

Nonetheless, even if the State of Washington's decision to approve 35 wind turbine sites is viewed as a change in the Wind Project, this change does not result in substantially different impacts from those described in the Final EIS. The types of impacts that would occur would be the same, although the level of some impacts would likely be reduced without development of turbine strings A-1 through A-7 and C-1 through C-8. For instance, while elements of the Wind Project would still be visible from surrounding areas, not developing these turbine strings would decrease the overall Project visibility from key viewing areas within the Scenic Area. Fewer turbines would also result in an incremental decrease in the needed Project work areas and associated ground disturbance and vegetation clearing, as well as an incremental increase in distance from Project turbines to the nearest residence.

In addition, while the State of Washington has decided to deny two of the proposed turbine strings, all other aspects of the Wind Project remain the same. The locations and footprints of all other Project facilities have not changed from what was described in the Final EIS, and the amounts of temporary and permanent disturbance from these other facilities remain the same. As discussed above, the State of Washington's approval of the Wind Project did not change the total installed capacity (up to 75 MW) authorized for the Wind Project. With use of turbines on the higher end of generating capacity, it thus is still possible for WRE to develop a 75-MW facility even with the modified maximum number of allowed

wind turbines. Accordingly, the amount of energy being interconnected to the FCRTS is not expected to differ from what was considered in the Final EIS.

Overall, the up to 35-turbine Wind Project ultimately approved by the State of Washington after the Final EIS was completed is within the scope of the Final EIS, does not result in a seriously different picture of environmental impacts from what was considered in the Final EIS, and does not represent a substantial change in the Project relevant to environmental concerns within the meaning of NEPA.

### ***New Circumstances and Information***

The following analyzes the significance of changes in conditions relevant to environmental concerns and bearing on the Project and its impacts that have occurred since the issuance of the Final EIS in 2011. New or additional information potentially relevant to environmental concerns and bearing on the Project and its impacts that has been made available since that time also are analyzed.

- 2012 **air quality** monitoring data for particulate matter 2.5 micrometers diameter and smaller (PM<sub>2.5</sub>) at the Dalles Air Monitoring Station show an increase in the number of good air quality days (350) and a decrease in the number of moderate air quality days (15) (ODEQ 2013), compared to the 2008 monitoring data reported in the Final EIS. No other changes in air quality have been documented since publication of the Final EIS. Because the air quality has improved in the general area, the incremental addition of Project emissions would be less likely to contribute to violations to the National Ambient Air Quality Standards (NAAQS).
- **Water resources** in the general area have changed as a result of the 2011 removal of the Condit Dam, which previously formed Northwestern Lake and blocked anadromous fish migration in the White Salmon River. Due to the dam removal, no **fish** migration blockage now exists downstream of the confluence of Little Buck Creek and the White Salmon River. Anadromous fish migration is now hindered at the mouth of Little Buck Creek due to an elevation difference between the creek and the White Salmon River channel (Allen 2014). As a result of the continued migration barrier at the mouth of Little Buck Creek, migrating salmonids would still not have access to the Project site and there are no fish bearing streams in the Project site. Accordingly, effects on fish from the Project would be the same as those identified in the Final EIS.
- Although there have been some small areas of forest harvest within the Project site since 2011, the majority of **forest vegetation** within the Project site has not been harvested. This non-harvested vegetation thus has had approximately four years of growth beyond what was reported in the Final EIS, but the vegetation types and general composition are largely still the same. In addition, vegetation at the Project site is still heavily managed native habitat that is permanently committed to use by commercial forestry operations and utility infrastructure. Because the vegetation type and management within the Project area have not significantly changed since 2011, the Project impacts to vegetation would be consistent with those discussed in the Final EIS.
- BPA conducted a **wetland** determination for the BPA interconnection facilities in August 2014 and did not identify any additional wetlands. In addition, no new potential wetlands have been identified at any other Wind Project facility sites.
- The Final EIS identified Cedar Swamp, a **wetland** in the general vicinity of turbines C-1 through C-4, as being classified as a Category II wetland according to the 2004 Washington State Wetland Rating System. In 2014, the Washington State Department of Ecology updated this rating system. However, since Cedar Swamp had already been rated prior to 2014, the updated rating system does not apply (Ecology 2014). In addition, because the Final EIS found that this

wetland and its buffers would not be affected by the Project, any change in the rating system is not relevant to the Project or its impacts. This conclusion is even more true since the State of Washington decided not to approve turbine string C-1 through C-8.

- BPA conducted a follow up **sensitive plant species** evaluation for the BPA interconnection facility in August 2014 and found no potential sensitive vegetation species habitat. In addition, review of Washington State Natural Heritage data (BPA eGIS 2014) showed that no new sensitive plant species occurrences have been identified within a mile of the Project site.
- As discussed in the Final EIS, BPA conducted consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act (ESA) for the Project and through this consultation, the USFWS issued a concurrence letter in July 2010 that the Project “may affect, but is not likely to adversely affect” **Northern spotted owl (NSO)**. Additional correspondence concerning information about NSO occurred after the Final EIS was issued.

In October 2011, the Seattle Audubon sent a letter on behalf of itself and other groups requesting that BPA and the USFWS reinitiate Section 7 consultation for the NSO because: (a) the USFWS’s concurrence letter was based on inaccurate NSO information; (b) the concurrence letter failed to evaluate key NSO information; and (c) the USFWS’s June 2011 Revised Recovery Plan for the NSO needed to be evaluated. In November 2011, BPA provided a response letter that explained why reinitiating consultation was not necessary. In December 2011, the USFWS also provided a response letter that agreed with BPA and concluded that, based on a review of the additional information provided by Seattle Audubon as well as the Revised Recovery Plan, reinitiation of Section 7 consultation was not recommended for the Project.

In February 2012, USFWS sent a letter to BPA that provided further clarifications and explanation of NSO issues that had been raised. In the 2012 letter, USFWS clarified that the Moss Creek Campground and Mill Creek NSO sites were potentially occupied habitat, instead of historically occupied sites, as the sites have not been decertified and NSO were detected as recently as 2010. USFWS confirmed that the Project’s habitat conversion from managed forest land to open land would still have an insignificant effect relative to the overall amount of NSO potentially occupied habitat. The USFWS also analyzed the effects of the Project construction and operational noise on NSO and determined that any potential exposure to elevated sounds would have an insignificant effect on individuals present in the Project area. As a result, the USFWS concluded that it did not need to change their previous concurrence with the determination that the Project is not likely to adversely affect NSO.

In May 2014 and April 2015, BPA contacted the USFWS to determine if there had been a change since 2012 in the status of NSO populations, habitat, or new studies that would alter the Project impacts on the species. The USFWS did not indicate any NSO status changes or new information for the Project area that would result in the need to reinitiate ESA consultation or alter the range of potential Project impacts as previously discussed (Romanski 2014; Romanski 2015).

Based on the foregoing, there has been no significant change in circumstances or new or additional information concerning NSO relevant to the Project and its impacts that have occurred since the issuance of the Final EIS.

- The USFWS has proposed to list three **wildlife species** as threatened under the ESA in Skamania County: North American wolverine, yellow-billed cuckoo, and Oregon spotted frog (USFWS 2013a). Suitable habitat for these species is not present in the Project area, as confirmed by the USFWS. There would be no effect on these species from the construction and operation of the

Project. In addition, the USFWS did not indicate any species status changes or new information for the Project area for other species that would result in the need to initiate ESA consultation or alter the range of potential Project impacts as previously discussed (Romanski 2015).

- Additional information concerning noise impacts to **wildlife species** was provided to BPA after issuance of the Final EIS. BPA reviewed this information to determine whether it presents a significantly different picture of potential impacts to wildlife from what was described in the Final EIS. Concerning noise impacts in general, the additional information is consistent with the Final EIS's consideration of impacts to wildlife. As discussed in the Final EIS, wildlife species in general may be disturbed by Project construction, including through changes to the noise environment. A more detailed discussion of potential effects to wildlife from Project construction and its associated noise is contained in Appendix C of the Final EIS. The behavioral and/or physiological effects on some wildlife species and/or individuals from noise are confirmed by the more recent information that has been provided to BPA (see e.g., NPS 2011, USFWS 2011, Francis and Barber 2013, and USFWS 2012).

Concerning operational noise impacts, there has been limited studies on the direct effects from wind turbine operational noise on wildlife. However, the potential for operational noise from wind turbines to impact bird species is acknowledged in Appendix C of the Final EIS, and is considered one of the reasons for potential displacement of birds and other wildlife during Wind Project operations that is discussed in Section 3.4.2 of the Final EIS. Supporting this conclusion is the theory that wind turbine operations can result in subtle yet detectable changes to the noise environment that may lead to wildlife behavioral and/or physiological effects, such as damage to hearing from acoustic over-exposure or masking of communication signals and other biologically relevant sounds (USFWS 2012). Species' responses to operational noise disturbance differ based on species type, life history stage, and even amongst individuals (Francis and Barber 2013). For those species affected by wind facility noise, operational noise could decrease wildlife habitat quality and result in long term displacement (Mockrin and Gravenmier 2012). The extent of wildlife displacement is difficult to predict for most species or life stages and the response severity to noise would likely vary from species to species and individuals of the same species (Francis and Barber 2013). After initial avoidance, some wildlife species may acclimate to the operational noise and begin to use areas previously avoided. Some returning wildlife may have a decrease in fitness due to the noise, while others may fully acclimate without any adverse effects.

Regardless, as discussed in Final EIS, all of the existing vegetation communities at the Project site are part of a mosaic of habitat that comprise an existing, ongoing commercial forest operation. These conditions result in frequent and repeated disturbance and fragmented habitat, and the quality and value of the forest habitat is generally considered lower quality than non-commercial forest lands. While the Wind Project's operational noise may result in a long-term degradation of habitat for those species most sensitive to noise, similar to that discussed in the Final EIS, these impacts would take place in landscape of managed timber land that would continue to be a fragmented environment with ongoing disturbance. Accordingly, impacts to wildlife during Project operation would be expected to be generally no different from those described in the Final EIS, even in light of the additional information concerning wind turbine operational noise that has been provided to BPA.

- In 2012, the U.S. Forest Service released a report that summarized available scientific literature on potential wind energy facility impacts to wildlife, with a focus on the Pacific Northwest, and current best management practices recommended in federal and state guidelines for wind energy development (Mockrin and Gravenmier 2012). The report includes a statement that wind energy facilities can lead to alterations of wildfire regimes that can lead to longer-term impacts to **wildlife habitat**. While this may be generally true, the Project site is managed for forest harvest where wildfires are relatively rare, and these lands have been (and would continue to be)

protected by Washington Department of Natural Resources, WRE, and local fire authorities. Because of this, it is not anticipated that there would be a significant change in wildfire risk from the Project (Section 3.12.2.1) because wildfires would continue to be managed at the Project site as it is currently. Therefore, changes in wildlife habitat from suppression of wildfires at the Project site would continue regardless of the presence of the proposed wind Project.

The 2012 Forest Service report also includes discussions of how birds' responses to topography may include soaring along ridges or lowering flight height when crossing a ridge, and placing wind facilities in these areas is thought to increase **raptor collisions** and mortalities (Mockrin and Gravenmier 2012). As discussed in Section 3.4 and Appendix C of the Final EIS, raptor surveys indicated a low use of the Project area and it is estimated that Project operation would result in 0 to 0.25 raptor fatalities/MW/year. Bird use of the area was determined through pre-Project surveys and would be subject to post-construction monitoring and review by a Technical Advisory Committee (TAC). As such, the Final EIS inherently considers raptor and other bird use in response to the various ecological features of the Project site in the Section 3.4 and Appendix C analysis.

The 2012 Forest Service report also indicates that forest clearing for wind facilities can create habitat conditions, such as new forest edge, that may result in increased **bat usage**, which in turn could lead to increased collisions (Mockrin and Gravenmier 2012). As discussed in Section 3.4 and Appendix C of the Final EIS, bat surveys were conducted for the Project in a variety of habitats throughout the Project area, including areas with edge habitat such as recent clear cuts and young reforested areas. As described in Section 3.4 of the Final EIS, the turbines would not be constructed near wetlands or ponds which are typically associated with elevated bat use and areas cleared around turbine strings would closely mimic the clear cuts and young reforested areas that were monitored during Project planning. These areas had the lowest recorded bat activity in the Project area; therefore, it is not anticipated that the creation of additional edge habitat would result in localized areas with elevated bat use. Post-construction mortality monitoring for bats is planned for at least two years after construction and, if elevated mortality or mortality of protected species occurs, the monitoring would be extended and operational changes may be recommended. Anticipated effects to bats from turbine collisions, even with the potential creation of edge habitat, are anticipated to remain consistent with those described in the Final EIS.

The 2012 Forest Service report also cites a 2007 study suggesting that **bat mortalities** increase with turbine heights, with the highest mortalities experienced with turbines taller than 65 meters (approximately 213 feet) (Mockrin and Gravenmier 2012). As reported in the Final EIS, Project field surveys evaluated bat abundance at both ground level and rotor heights using survey protocols that were consistent with Washington Department of Fish and Wildlife (WDFW) guidelines (WDFW 2009). Bat mortality at wind developments is generally correlated with pre-construction bat pass density, though bat mortality was difficult to predict at the Project site due to variable levels of recorded use by bats across years and habitats. Fall presence monitoring (typically the period of highest bat mortality) indicated low levels of bat use for the Project site relative to other wind developments; therefore, it is possible that wind development at the Project site would result in low mortality. Post-construction mortality monitoring for bats is planned. The TAC would be involved in the development of the monitoring plan. If elevated mortality or mortality of protected species occurs, the study would be extended and operational changes may be recommended. Despite information that bat mortality can be increased with elevated turbine heights, the bat mortality discussion in the Final EIS accounts for this by comparing mortality to other wind projects that have turbines taller than 213 feet and by using bat use data at a variety of potential rotor heights in the analysis. Accordingly, the information from the 2012 Forest Service report does not significantly alter the analysis or conclusions in the Final EIS concerning the potential for bat mortality.

- In 2013, a report was issued that compiled **bird and bat mortality** data from various studies and provided estimates of collision mortality at wind facilities throughout the United States (Loss et al 2013). The literature synthesis conducted by Loss et al (2013) found that bird mortality rates appeared to differ by region. Within the regions, ecoregions contain different species, habitat features, and topography. Thus, even though additional operational mortality data has become available for wind projects in forested areas, including the Sheffield Wind Project in Vermont (Martin et al 2013), it would not be accurate to apply forest mortality data from other ecoregions directly to mortality estimates for the Wind Project.

While new wind projects have been brought online in the Columbia River Plateau since 2011, no new wind facilities have been constructed in forested habitat in Western Oregon or Washington. Without operational data from wind facilities in a similar ecoregion, there is no new operational data that would contribute to the understanding or quantification of potential operational bird and bat mortality in forested areas within the Wind Project site.

Loss et al. (2013) state that 2.83 birds/MW/year are killed in the Western study region, but the synthesis, as does other resource such as the Wind Wildlife Interactions Fact Sheet (AWWI 2014), goes on to indicate that specific site conditions should be considered when evaluating a facility. The baseline avian use study for the Project was conducted in a manner consistent with the WDFW Wind Energy Guidelines (WDFW 2009) and did not identify any areas within the Project site that were considered a bird or bat high use area that required avoidance. Based on the information obtained during the pre-Project surveys combined with the mitigation measures for the Project, as described in Section 3.4.3 of the Final EIS and the SCA, particularly the implementation of post-construction avian and bat mortality studies and the use of a TAC, the effects of the Project on birds and bats are still consistent with those disclosed in the Final EIS.

- Information concerning **sensitive bird** population estimates for Washington state was provided to BPA after issuance of the Final EIS (Ruth 2006). While BPA has reviewed this information, it notes that for the Project, bird surveys were developed in coordination with WDFW and USFWS consistent with WDFW wind development guidelines (WDFW 2009). The purpose of the surveys was not to count the absolute number of birds, but to obtain an index of use that could be used to assess risk at the site. This was a reasonable approach to analyzing potential Project impacts on bird species that may be present. The information concerning statewide bird estimates provides more generalized bird data and does not substantially contribute to data used for the evaluation of avian risk for the Project. Even if the statewide data is considered, and it was found that sensitive status avian use at the Project site differed substantially (e.g., higher or lower) from avian use in similar environments elsewhere, the comparisons would not help with a risk assessment because generally there is a low correlation between non-raptor avian abundance measured during preconstruction studies and post construction avian fatality rates (AWWI 2014).
- After issuance of the Final EIS, information from bird studies for other wind projects was provided to BPA as a comparison of **avian use** at the Project site to avian use at other wind facilities. Single year bird observation data from the proposed Radar Ridge (West 2009) and Coyote Crest (Tetra Tech 2009) Wind Projects showed no olive-sided flycatchers observed during field surveys. Surveys for the Whistling Ridge Energy Project recorded 27 observations of this species. However, simply because there were 27 observations does not mean that this is the number of individuals in the survey area. For example, it is not known if the 27 observations of olive-sided flycatchers represent 27 observations of the same individual or single observations of 27 different individuals. This uncertainty is common in almost all bird surveys since birds are not individually marked. As stated in the Final EIS, the number of olive-sided flycatchers observed at the Project site does not suggest that there is an elevated concentration of this

species. Therefore, the olive-sided flycatcher data at the other proposed wind sites does not change the conclusions in the Final EIS regarding the Wind Project.

Northern goshawks and Vaux's swifts were observed more frequently at the Wind Project site compared to Kittitas Valley, Desert Claim, and Wild Horse wind facilities (West 2003). The observation of five northern goshawks over two years during avian point count surveys indicates incidental presence at the Whistling Ridge Energy Project site, but the intensive three-year survey in suitable habitat for goshawks established the absence of nesting or breeding goshawks in the surveyed areas. Thirty observations of Vaux's swift between 2004 and 2009 were observed at the Whistling Ridge Energy Project site, with higher numbers of Vaux's swifts being recorded during fall migration. The Kittitas Valley, Desert Claim, and Wild Horse wind facilities all are located in the Columbia Plateau Ecoregion which contains different habitat and associated species assemblages compared to the forested Wind Project site. While Vaux's swifts and Northern goshawks may have been observed more frequently at the Wind Project site as compared to wind sites in the Columbia Plateau Ecoregion, this difference in observation frequency does not alter the Final EIS's conclusions that took into account the Project's site-specific field survey results.

- After issuance of the Final EIS, the USFWS published *Land-Based Wind Energy Guidelines* (USFWS 2012), which contains a set of voluntary guidelines to help assess wind project impacts to **sensitive wildlife species** and **habitats**. Per the guidance, projects with planning underway when the guidelines were published should implement those portions of the guidelines relevant to the current project phase. The project operator is not expected to revisit previously-completed phases of project planning to meet the guidelines. The mitigation measures for the Project, as described in Section 3.4.3 of the Final EIS and the SCA, particularly the implementation of post-construction avian and bat mortality studies and the use of a TAC to evaluate the mitigation and monitoring program and to determine the need for further studies or mitigation measures, are consistent with the post-project construction phase recommendations under the Land-Based Wind Energy Guidelines. Therefore, the Project would generally be compliant with the voluntary applicable guidelines relevant to projects in the late planning stages.
- In 2013, the USFWS published *Eagle Conservation Plan Guidance Module 1 – Land-based Wind Energy* (USFWS 2013b). Similar to the *Land-Based Wind Energy Guidelines*, the USFWS indicated that it did not expect project developers or operators to retroactively redo analyses or surveys using the new approaches outlined in the Eagle Conservation Plan Guidance. Implementation of the avian mitigation measures described in Section 3.4.3 of the Final EIS combined with the very low potential for Project-related impacts to bald and golden eagles would meet the intent of the guidelines.
- In 2013, a report was issued that reviewed **golden eagle** and **bald eagle** mortalities at wind energy facilities in the United States (Pagel et al 2013). The report found that between 1997 and 2012, five golden eagle and no bald eagle mortalities due to wind facilities were reported in Washington State. In addition, there has been recent information concerning an enforcement action under the Migratory Bird Treaty Act (MBTA) for deaths of golden eagles and other birds at wind projects in Wyoming, as well as information about deaths of golden eagles at the Wild Horse Wind Project in central Washington State. As discussed in the Final EIS, surveys of the Project site show that bald and golden eagles are uncommon visitors. Because of the rare occurrence of bald and golden eagles at the Project site, the potential for bald or golden eagle fatalities as a result of turbine collisions is considered to be extremely low. In addition, as discussed in the Final EIS and pursuant to the Final SCA, a variety of actions will be taken to minimize or avoid the potential for golden and bald eagle mortalities. Pre-construction raptor nest surveys will be conducted during the nesting season immediately prior to beginning site preparation, a TAC will be convened to assist with developing measures to ensure that risks to

migratory birds and eagles are minimized as much as possible, and a golden eagle and bald eagle plan that addresses Project operation will be completed before the Project begins operations. This plan will be completed in consultation with the USFWS and WDFW, which BPA expects will ensure that these agencies are in agreement with the approach being taken. Accordingly, the additional information concerning eagle mortality and the Wyoming enforcement action does not significantly change the analysis or conclusions concerning golden eagle, bald eagle, or other birds in the Final EIS.<sup>2</sup>

- A search of Washington State Historic Preservation Office records indicates that no new **cultural resource** studies or sites have been identified since the publication of the Final EIS. Although not specifically discussed in the Final EIS, an archaeological object was identified in May 2011 on Chemawa Hill within the Wind Project site. Nonetheless, the Final EIS addressed the cultural significance of Chemawa Hill and its culturally sensitive nature. Furthermore, the State of Washington's approval of the Wind Project did not approve the turbine strings that would have been located on Chemawa Hill, thereby eliminating the potential for impacts to any cultural resources at Chemawa Hill. WRE also has committed to continued collaboration with the Yakama Nation regarding construction activities in potential culturally sensitive areas. The conclusions in the Final EIS concerning potential impacts to cultural resources therefore remain the same.
- Studies and literature reviews that examine the effects of turbine **noise** and **infrasound** on **human health** have been completed by various entities since issuance of the Final EIS (Oregon Health Authority 2013, Salt and Lichtenhan 2014, Hanning 2012). Further, Health Canada (2013) has initiated a study evaluating the noise effects of turbine operation. These studies note that environmental noise in community settings can be linked to sleep disturbance, annoyance, stress, and decreased cognitive performance, but the perception of sound as noise is a subjective response that is influenced by factors related to the noise, the person, and the social/environmental setting (Oregon Health Authority 2013). The extent of that impact depends on many site-specific variables, such as distance from the facility, local topography and waterbodies, weather patterns, background noise levels. Hanning (2012) recommends a setback distance of approximately 0.87 mile of turbines from residences to minimize potential noise-related annoyance from operation.

For the Wind Project as approved by the State of Washington, the nearest residence would be approximately 0.8 mile away from the Project turbines. As identified in the Final EIS, operation of the Project is anticipated to result in a 5 dBA increase in nighttime noise and a 3 dBA increase in daytime noise at this location. In their literature review, Oregon Health Authority (2013) found that a 10 dBA increase in noise could result in a noticeable change in outdoor noise levels at impacted residences. The Project's noise increase at the closest residences would be well below this level and the predicted noise levels would be within the applicable Washington State Environmental Noise Levels (WAC 173-60). While elevated noise levels, particularly during the night may be noticeable to nearby residences, the Wind Project would meet the Washington State

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<sup>2</sup> On May 26, 2015, the USFWS published a Notice of Intent in the Federal Register for a programmatic EIS that the FWS intends to prepare for a proposal to authorize incidental take of migratory birds under the MBTA (see 80 FR 30032). The programmatic EIS will consider various alternatives for authorizing incidental take that each would require the USFWS to promulgate new regulations under the MBTA, as well as an alternative involving development of voluntary guidance for industry sectors regarding operational techniques or technologies that can avoid or minimize incidental take. At this time, it is unknown which alternative – or combination of alternatives – may ultimately be selected for implementation by the USFWS. In addition, although the Federal Register Notice does not identify a timeframe for completing the programmatic EIS and any associated rulemaking, it is reasonable to expect that this process could take at least two years given its subject, scope, and potential sensitivities. Accordingly, any consideration of how the USFWS's process could affect the Project would be highly speculative at this time. Nonetheless, whatever the ultimate future outcome of the USFWS's process, BPA would comply with any new requirements relevant to its action to the extent applicable, and it is reasonable to expect that WRE also would comply with any such requirements applicable to the Wind Project.

Environmental Noise Levels, which have been designed to protect against adverse effects of noise on human health. Because the predicted noise levels and state standards have not changed from those disclosed in the Final EIS, the conclusions of the EIS have not changed.

Salt and Lichtenhan (2014) discuss infrasound's potential effect on human health. The discussed potential effects of infrasound are generally consistent with the Final EIS's evaluation in Section 3.7.2.2. For the Project as approved by the State of Washington, the distance of Project wind turbines from the nearest residence has increased; therefore, the infrasound impacts discussed in the EIS would likely be reduced.

- Since issuance of the Final EIS, there have been additional developments concerning wind projects in the **cumulative impact** study area for the Project. Some wind projects that were proposed or under construction at the time the Final EIS was issued have now been completed and are operational, and other wind projects have been proposed. Wind projects that have been completed and are operational include the Shepherds Flat South (Horseshoe Bend), Shepherds Flat North (North Hurlburt), and Shepherds Flat Central (South Hurlburt) wind projects in Gilliam and Morrow Counties, Oregon (ODOE 2014a, 2014b, 2014c; USGS 2015). In Oregon, wind projects that have been proposed and are currently still proposed include the Baseline Wind Energy Facility in Gilliam County and the Saddle Butte Wind Park in Gilliam and Morrow Counties (ODOE 2015). One other project in Oregon – the Rock Creek Wind Facility in Gilliam County – was proposed but appears to have been withdrawn (ODOE 2015; Gilliam County 2015). In Washington, wind projects that have been proposed include the Lund Hill Wind Project in Klickitat County, the Goodnoe Hills II Wind Project in Klickitat County, the Imrie Wind Project in Klickitat County, and the School Section Wind Project in Klickitat County (Klickitat County 2015). Some of these proposed projects have also been approved but are not yet under construction.

Concerning the increase in the total amount of installed wind energy capacity that may occur if all of the proposed wind projects in the cumulative impact study area are ultimately built out, that increase – whatever it ultimately may be – by itself does not have an impact on the environment. In other words, the number of megawatts of wind energy in the cumulative impact area, by itself, is not relevant to environmental concerns. Instead, as indicated in the Final EIS, it is the extent to which proposed wind energy development could contribute to cumulative impacts to the various environmental resources described in Section 3.14 of the Final EIS that is relevant for the purposes of NEPA analysis.

Nonetheless, to the extent that the total amount of installed wind energy capacity could potentially contribute to indirect cumulative impacts to fish species due to the relationship among wind projects interconnected to BPA's transmission system, Columbia River hydro operations, and operation of this hydroelectric generation system to meet Clean Water Act (CWA) and ESA requirements for listed fish species, this potential indirect cumulative impact is discussed in Section 3.14.3.5 of the Final EIS. As discussed in this section, BPA has put in place measures to ensure that wind power on its transmission system does not cumulatively impact Columbia River hydro operations necessary for listed fish species. These measures and their successors apply to all potentially contributing wind projects regardless of the amount of wind power on BPA's transmission system to ensure there is no indirect cumulative impact.

Concerning the potential contribution to cumulative environmental impacts from the additional proposed and completed wind projects, the addition of these projects would not be expected to result in cumulative impacts significantly different from what is described in Section 3.14 of the Final EIS. For cumulative visual impacts in particular, while the additional proposed and completed wind projects would increase the overall number of wind turbines and associated facilities in the study area, they would occur in a landscape that already includes several existing

wind projects as well as various other human development and ongoing timber harvests, as discussed in Section 3.14.3.10 of the Final EIS. Any incremental increase in cumulative visual impacts from these wind projects would be within the scope of cumulative impacts already discussed in the Final EIS. In addition, the significance of impacts to visual quality from these projects would still be highly individualized as described in the Final EIS. Furthermore, any incremental increase in visual impact on local residents and frequent visitors from repetitive views of wind turbines would be consistent with the analysis included in the Final EIS.

For views from Interstate 84 (I-84), only one of the completed wind projects – the Shepherds Flat North wind project – would be visible. None of the additional proposed wind projects would be located within close enough proximity to I-84 to be visible so would not contribute to cumulative visual impacts beyond what is disclosed in the Final EIS. For the Shepherds Flat North wind project, this project was already considered as a reasonable foreseeable future project in the Final EIS, and thus was already included in the analysis cumulative impacts to visual resources in the Final EIS. In addition, Figure 3.13-2 in the Final EIS shows the segment of I-84 near the location of the Shepherds Flat North wind project as an area where existing wind facilities are currently visible, and the completion of that project is consistent with that determination. Finally, even with additional completed and proposed wind projects, the visual impact of the Whistling Ridge Energy Project along I-84 would constitute a small cumulative impact when considered in combination with views of the Shepherd’s Flat Project and other wind projects located from 35 to 70 miles to the east.

Accordingly, the additional developments concerning wind projects in the cumulative impact study area since issuance of the Final EIS do not present a significantly different picture of potential cumulative impacts from what was described in the Final EIS.

- Since issuance of the Final EIS, there also have been additional developments non-wind-related projects in the **cumulative impact** study area for the Project. For non-wind projects, the cumulative impact analysis in the Final EIS considered reasonably foreseeable future projects within a 20-mile radius of the Whistling Ridge Energy Project. Additional non-wind projects that have been proposed by BPA include the Ross-John Day Transmission Line Fiber Replacement Project, the North Bonneville-Midway Transmission Line Insulator Replacement Project, the Wautoma-Ostrander Transmission Line Impairment Project, and Bonneville-Hood River Rebuild Project. The Oregon Department of Transportation has proposed extending the Historic Columbia River Highway State Trail south of I-84. The USFWS has proposed demolishing two existing houses at the Little Salmon River National Fish Hatchery. Skamania County Public Utility District has proposed rebuilding approximately 790 feet of an existing underground utility line near Oregon View Lane.

The proposed BPA projects are largely maintenance projects that involve few to any infrastructure additions. Each of the BPA projects would undergo the appropriate NEPA analysis, ESA consultation, wetland permitting, and consultation under the National Historic Preservation Act and would have appropriate mitigation to reduce environmental impacts (as appropriate). As the BPA projects would largely not change the nature of the existing facilities and would generally not occur within the same timeframe as the Project (thus reducing overlap of potential construction-related cumulative impacts), cumulative impacts from these projects would be low and consistent with those disclosed in the Final EIS.

BPA also in the process of constructing its Big Eddy-Knight Transmission Project, which is a new 500-kilovolt (kV) transmission line and ancillary facilities extending from BPA's existing Big Eddy Substation in The Dalles, Oregon, to a new Knight Substation near Goldendale, Washington. Although this new line is located approximately 30 miles from the Whistling Ridge Energy Project at its closest point and thus is outside of the cumulative impact

study area for the Project, BPA has considered it in this Supplement Analysis to determine if it represents significant new information or circumstances for the Final EIS's cumulative impact analysis. The Big Eddy-Knight Transmission Project was analyzed in its own Final EIS (DOE/EIS-0332), completed in 2011, which is available at: [http://efw.bpa.gov/environmental\\_services/Document\\_Library/Big\\_Eddy-Knight/](http://efw.bpa.gov/environmental_services/Document_Library/Big_Eddy-Knight/). As described in that Final EIS, the Big Eddy-Knight Transmission Project would result in various environmental impacts, such as impacts to visual resources, geology and soils, and noise during construction. These impacts are taking place in the context of the many existing transmission lines throughout the general area where the Big Eddy-Knight Transmission Project is being built, as well as The Dalles Dam and other existing and proposed development. In addition, BPA is implementing various mitigation measures for the Big Eddy-Knight Transmission Project to minimize or avoid its environmental impacts. These impacts thus are within the scope of cumulative impacts already considered in the Final EIS for the Whistling Ridge Energy Project, and construction of the Big Eddy-Knight Transmission Project does not present a significantly different picture of cumulative impacts from what was described in the Final EIS for the Whistling Ridge Energy Project. Furthermore, the cumulative impacts of the Big Eddy-Knight Transmission Project with the Whistling Ridge Energy Project, other wind projects, and other past, present, and reasonably foreseeable future projects have already been considered in the Final EIS for the Big Eddy-Knight Transmission Project (see Chapter 4 of that EIS).

For those non-BPA projects being constructed or undergoing restoration over a similar timeline as the Project, these projects and their effects are similar to what is already considered and described in the Final EIS. Furthermore, the implementation of the various best management practices would minimize the potential contribution of these projects to cumulative impacts. As such, the non-BPA projects when considered with the Whistling Ridge Energy Project would not result in cumulative impacts to resources beyond those disclosed in the Final EIS.

**Findings:** This Supplement Analysis finds that (1) the changes in the Whistling Ridge Energy Project since the Final EIS was completed in 2011 are within the scope of the Final EIS and do not represent a substantial change in the Project relevant to environmental concerns within the meaning of NEPA, and (2) there are no significant new circumstances or information relevant to environmental concerns and bearing on the proposed actions or their impacts within the meaning of NEPA. Therefore, no further NEPA documentation is required.

/s/ Katey Grange  
Katey Grange  
Environmental Project Manager

Concur:  
/s/ Stacy Mason

Date: June 15, 2015

Stacy Mason  
NEPA Compliance Officer

Attachment:  
References

cc:  
Whistling Ridge Energy Project Final EIS mail list

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