State of Washington
Department of Fish and Wildlife
201 North Pearl Street, Ellensburg, Washington 98

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EVALUATION COUNCIL

Comments originally sent by e-mail, rec'd by EFSEC 8/8/08 @ 4:20pm JAL

August 8, 2008

Mr. Jim La Spina
EFSEC
P.O. Box 43172
Olympia, WA 98504-3172

Subject: Comments for the Request for Site Certification Agreement Amendment to Authorize Project Expansion—Wild Horse Wind Power Project

Dear Mr. La Spina:

Thank you for the opportunity to review this project. The Department of Fish and Wildlife (WDFW) has reviewed the information that the Energy Facility Siting Evaluation Council (EFSEC) and Puget Sound Energy (PSE) have provided. From the information, database, and maps examined, WDFW expects the proposed Wild Horse Expansion (Expansion) would have environmental impacts similar to that of the original Wild Horse Wind Power Project, with some notable exceptions. WDFW thinks that construction of the four most eastern turbines, the "V" and "W" strings, would cause too much environmental impact and further degrades the wildlife habitat value of the project and the neighboring wildlife area. The four most eastern turbines are isolated from the rest of the project by a deep drainage and by property ownership. The selection of any alternative of connecting the "V" and "W" strings to the substation, whether overhead or trenched, will cause a severe impacts to the nearby Quilomene Wildlife Area and the surrounding habitat. Therefore, we oppose the amendment in it's current configuration and propose that PSE create a Supplemental Environmental Impact Statement (EIS) to study the impacts of the turbines to wildlife, the greater sage-grouse (*Centrocercus urophasianus*) in particular, and the Quilomene Wildlife Area, and the surrounding habitat. The Supplemental EIS should address the feasibility of construction.

Additionally, WDFW has a few other concerns that PSE could address during mitigation. We recommend that EFSEC incorporate some of the lessons we learned about wind development in sensitive shrub-steppe habitats during the construction of the Wild Horse Project into the amendment of the Site Certification Agreement. Any lesson learned during the last construction would help abate some of the construction impacts of the Expansion project. The Expansion does, however include some new elements of concern, including an increased risk of bat and avian mortality on some turbine strings near woodlands and springs. We do have a number of

other concerns in the appended document with details of our comments that we think PSE can mitigate for or make plans to complete.

In conclusion, WDFW would like to see PSE complete a Supplemental EIS on the environmental impacts of the four most eastern turbines on wildlife, particularly greater sage-grouse and the direct and indirect impacts to habitat. These turbines concern us the most, partly due to the proximity of the Quilomene Wildlife Area. The turbines will cause direct impacts from the road running through the wildlife area, direct mortalities to wildlife from the wildlife area from collisions with turbines and the overhead lines, and indirect effects caused by disturbance, especially on greater sage-grouse. Greater sage-grouse habitat will be degraded through disturbance and habitat fragmentation. Greater sage-grouse cannot tolerate tall vertical structures. Grouse may abandon the area and may have lower nest productivity rates due to nest predation. The project incorporates measures to reduce environmental impacts, but the amendment needs additional detail and mitigation. The overall project has potential for significant adverse impacts to wildlife, wildlife habitat, and recreation associated with wildlife. A supplemental Environmental Impact Statement should be prepared for the V and W turbine strings in the Expansion proposed by this amendment.

EFSEC should have PSE apply to the amendment a number of lessons learned regarding minimizing impacts and improving restoration learned in the original Wild Horse construction. PSE should revise the Site Certification Agreement (SCA) and attachments/submittals accordingly in collaboration with WDFW.

WDFW would like to emphasize the differences between the Expansion site with the rest of Wild Horse project area. PSE should redesign the construction monitoring to reflect these differences or else they should keep the expansion separate when creating post-construction monitoring plans. WDFW and the Technical Assistance Committee (TAC) should approve all monitoring plans.

WDFW welcomes the opportunity to work with the EFSEC and PSE during the design, assessment, and construction phases of the Expansion. PSE can address WDFW's concerns of the impacts from the V and W strings of turbines in a supplemental EIS. PSE can address all other concerns through mitigation and/or additional studies. Our experience working with the Wild Horse Wind Power Project and shrub-steppe may be helpful in your consideration of the Wild Horse Expansion Wind Power Project. Please keep me apprised of the status of the Amendment of the SCA. If you have any questions or need more information from the WDFW,

please feel free to call me at (509) 925-1506.

Sincerely,

Brock A. Applegate

Brock Applegate
Wind Power Mitigation Biologist

Cc: Edd Bracken, WDFW Ellensburg
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SPECIFIC COMMENTS CONCERNING THE AMENDMENT TO THE SCA:

Impacts to Greater Sage-Grouse by "V" and "W" Turbines Strings: WDFW remains very concerned about the V and W strings of turbines because of their impacts on the environment, the Quilomene Wildlife Area, and the Greater Sage-Grouse Recovery Area. WDFW (Schroeder et al. 2004) and U.S. Fish and Wildlife Service (2003) both have recommended that sage-grouse receive a 5-mile disturbance buffer for leks. Manes et al. (2002) found and instinctive avoidance of tall structures, even those with perch deterrents by prairie grouse. In California, sage-grouse abandoned leks and attended leks less within three miles of power lines (Rodgers 2003). In Washington, Sage-grouse vacated 95% of their leks (19 out of 20) within 7.5 km (4.7 miles) of 500 kV power lines and abandoned another 59% (22 out of 37 leks) beyond 4.7miles (WDFW 2008). No one has surveyed from 3-5 miles away from the project footprint and the northeastern part of the Expansion with V and W turbine strings would have the largest impact if leks exist. WDFW would expect the area to the northeast of the Expansion the most likely place for leks. Please note that surveying for leks does not discount the possibility of the existence of leks in already surveyed areas.

Greater sage-Grouse in Washington exist in two remnant populations in Washington at approximately 30 miles apart (Schroeder et al. 2000). The best opportunity to reconnect these two populations lies with the Colockum, Quilomene, and Whiskey Dick Wildlife Areas, so we must maintain the habitat quality and integrity for sage-grouse to guarantee a chance of recovery (Stinson et al. 2004). The Whiskey Dick and Skookumchuck watershed reflect some of the best sage-grouse habitat around because 1) the area contains an upper bench separating multiple drainages, 2) sage-grouse tend to move uphill as summer desiccates the plant at lower elevations, and 3) before the project, the area contained some of the most suitable habitat in the region. With that in mind, we would like to minimize the impacts on the Quilomene Wildlife Area because of its potential for sage-grouse.

WDFW (Schroeder et al. 2004) recommends a 2-mile disturbance buffer for sage-grouse habitat from tall structures. The entire project area resides in the Greater Sage-Grouse Recovery Area. We have grown particularly concerned because construction of the V and W strings, proposed in the northeast part of the Expansion, would requires PSE to place turbines very close to the property line of the Quilomene Wildlife Area and will most likely also require access across the wildlife area. The V and W strings of turbines would not only degrade the sage-grouse habitat in the project area but also in the Quilomene Wildlife Area, which we find inappropriate for a public resource. Construction of the V and W strings would be the closest turbines to the Wildlife Area and would further degrade the sage-grouse habitat for other life activities like nesting, brooding, wintering, and migrating because of their aversion to vertical structures.

Sage-grouse's aversion to development includes avoiding roads, highways, drilling rigs, gas wells, etc. Hollaran (2005) noted a decrease in sage-grouse activity close to drilling rigs, gas wells, and haul roads. He noted an overall negative effect on sage-grouse by energy development. With many other studies noting the effects of development, we think that oil and gas drilling would act as a surrogate for wind power development. Connelly et al. (2004) noted a

negative effect of Interstate 80 with a sample size of 802 leks within 100 km. No leks existed within 2 km of the highway, very few within 4 km, and outside 4 km, leks were evenly distributed. In addition, sage-grouse attendance decreased from 44% of the leks within 7.5 km of the highway to 67% beyond 7.5 km beyond the highway. Sage-grouse may avoid areas with regular sound, disturbance, and/or development beyond the avoidance of tall vertical structures.

Direct Impacts from V and W Strings of Turbines: WDFW has noted no good alternatives to connecting the electrical lines of the V and W string of turbines with the substation. As noted above, sage-grouse avoid power lines and an overhead line would create one more obstacle in the migration corridor for the grouse. We have also noted the environmental impacts due to trenching weather PSE runs the lines underground up and down the Skookumchuck Valley, widens impacts through the Quilomene Wildlife Area along the road, or pioneers a new road on PSE's own ownership. We consider this list, a list of bad choices.

WDFW has additional concerns with constant need for an upgraded road to service the V and W string turbines and the disturbance associated with such.

Calculation of Impacts: The construction of the Wild Horse project and the Expansion is greater than the extent of the project footprint (permanent impacts). The construction degrades nesting/brooding/wintering/migration habitat for sage-grouse throughout the entire project area through habitat fragmentation. The construction degrades nesting/brooding/wintering/migration habitat for sage-grouse in the Wildlife Areas. We should take into consideration 2-miles from the project area with the understanding that the habitat is not 100% degraded. WDFW recommend working with our grouse experts, Mike Schroeder and Mike Livingston to discover the percentage of reduction of habitat by indirect effects, disturbance, and habitat fragmentation and to be reflected in the mitigation acreage. The percentage would probably be higher in the project area and lower in the surrounding 5-mile buffer. Ultimately, we feel the permanent impact acreage should be increased to reflect the degradation of habitat within the project area and in the surrounding suitable habitat, especially in the Quilomene and Whiskey Dick Wildlife Areas.

Compensatory Mitigation: In the letter to EFSEC, WDFW does not agree with PSE's assertion that the mitigation for the original Wild Horse Project has been fully mitigated. WDFW sees an increase in permanent and temporary impacts caused by the Expansion. PSE's letter for the amendment also suggests that EFSEC should not require them to conduct further mitigation. This assertion is a substantial mischaracterization of the environmental impacts, mitigation and agreements and settlements associated with the Wild Horse project. We disagree with the idea of "surplus mitigation" that PSE can now apply toward additional impacts from the Expansion project. WDFW and PSE have already negotiated the mitigation package for original Wild Horse project. The proposed Expansion will create additional direct and indirect environmental impacts and PSE should mitigate for these impacts, including the permanent footprint impacts of the project.

The Wind Power Guidelines speaks to the possible content of a mitigation packages: "[Mitigation should be] like-kind (e.g., shrub-steppe for shrub-steppe; grassland for grassland) and/or of equal or higher habitat value than the impacted area, noting that an alternative ratio may be negotiated by a wind developer and WDFW for replacement habitat the differs from the impacted habitat." The original mitigation is part of the mitigation package for the original Wild Horse Wind Power Project, not the Expansion.

Presence of Threatened and Endanger Species and Designated Habitat: PSE asserts that the Expansion will have no significant adverse impacts, has no threatened and endangered species in the project area, and expects no use by threatened and endangered species. Greater sage-grouse have historically used the project area and have recently been observed adjacent to the area. They likely still occur in the project area. Additionally, the letter by PSE and the State Environmental Policy Act (SEPA) checklist leaves out the designation that the entire project area resides in a Greater Sage-Grouse Recovery Area. WDFW finds the impact to the recovery area as significant due to the State listing of "Threatened" and to the current review by the U.S. Fish and Wildlife Service of this federal Candidate Species for listing.

Concerns with Bat Survey Results: Bats will potentially use the northern part of the project more than on other portions of Wild Horse Project. Pre-project survey data suggest greater risk of bat mortality than that occurring on the currently existing project. However, WDFW bases this analysis on only three bat detection devices with high detections and more devices on the S-String, devices on the U-string, and a device on the other springs, Spike springs, might increase sample size to make a better determination. The current number of bats per detector per night suggests that the Expansion project will have more bat mortalities than the current project and moderately higher than average bat mortality for wind power projects in the Western United States. With the recent unexpectedly high bat mortalities for wind power projects in Alberta and Montana, we recommend that PSE study this issue further, including the inability to detect smaller bats because of searchers missing smaller carcasses and the better ability of predators to scavenge smaller carcasses.

Plant Surveys for State Threatened Plant, (*Tauschia Hooverii*): PSE's survey contractor left off Hoover's Tauschia (*Tauschia hooveri*) from the survey list for the Vantage Wind Power Project. Another contractor has found the plant all over the Vantage Wind Power Project area. For the Wild Horse Project plant surveys, PSE's contractor now claims they actually surveyed for the plant and they did not find any individuals. If the Vantage Wind Power Project resides across the Vantage Highway from the Wild Horse Wind Power Project, WDFW finds it hard to believe that no Tauschia exists on the Wild Horse Wind Power Project and/or possibly the Expansion. We recommend that PSE have the project area re-surveyed with another contractor to document the Washington State Threatened plant, Hoover's Tauschia before construction and develop possible mitigation measures.

Greater Sage-Grouse Lek Surveys Concerns: Sage-grouse lek surveys did not extend out far enough to document possible impacts to sage-grouse by 350+ -foot wind turbines. Both the Management Recommendations for Washington's Priority Species, Volume IV: Birds (greater

sage-grouse) (Schroeder et al. 2004) and the U.S. Fish and Wildlife Service's Interim Guidelines To Avoid And Minimize Wildlife Impacts From Wind Turbines (2003) both ask for a 5-mile disturbance buffer for sage-grouse leks to minimize disturbances. PSE searched for a 2-mile buffer outside their project footprint. Sage-grouse leks may exist outside the unsurveyed 2-mile buffer, especially on the Quilomene Wildlife Area to the northeast. PSE should describe the impacts to sage-grouse habitats by the expansion project including leks, nesting, brooding, wintering, and migration habitat.

Literature Cited

Connelly, J. W., S. T. Knick, M. A. Schroeder, and S. J. Stiver. 2004. Conservation assessment of greater sage-grouse and sagebrush habitats. Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming. Online at http://sagemap.wr.usgs.gov

Holloran, M. J. 2005. Greater sage-grouse (*Centrocercus urophasianus*) population response to natural gas field development in western Wyoming. Dissertation. University of Wyoming, Laramie, USA.

Manes, R., S. Harmon, B. Obermeyer and R. Applegate. 2002. Wind energy and wildlife: an attempt at pragmatism. Wildlife Management Institute, Washington D.C.

Rodgers, R. 2003. Wind Power Generation: Biological Concerns. Wind Energy Symposium April 10, 2003. Ft. Hays State University, Hays, Kansas.

Schroeder, M. A., D.W. Hays, M.F. Livingston, L.E. Stream, J.E. Jacobson, and D.J. Pierce. 2000. Changes in the distribution and abundance of sage grouse in Washington. Northwestern Nat. 81:104-112.

Schroeder, Michael A., Derek Stinson, and Michelle Tirhi. 2004. Sage grouse (*Centrocercus urophasianus*). *In* E. M. Larsen, J. M. Azerrad, and N. Nordstrom, editors. Management Recommendations for Washington's Priority Species, Volume IV: Birds [Online]. Available http://wdfw.wa.gov/hab/phs/vol4/sage_grouse.pdf

Stinson, D.W., D.W. Hays, and M.A. Schroeder. 2003. Washington state recovery plan for the sage-grouse. Washington Department of Fish and Wildlife, Olympia, Washington. 103 pp.

U.S. Fish and Wildlife Service. 2003. Interim guidelines to avoid and minimize wildlife impacts from wind turbines. Washington D.C.

Washington Department of Fish and Wildlife. 2008. Greater Sage-grouse and the Proposed Withrow Wind Farm. Bridgeport, Washington.

Watson, Jim, and M. Whalen. 2004. Golden eagle (*Aquila chrysaetos*). *In* E. M. Larsen, J. M. Azerrad, and N. Nordstrom, editors. Management Recommendations for Washington's Priority Species, Volume IV: Birds [Online]. Available http://wdfw.wa.gov/hab/phs/vol4/goldeagl.pdf

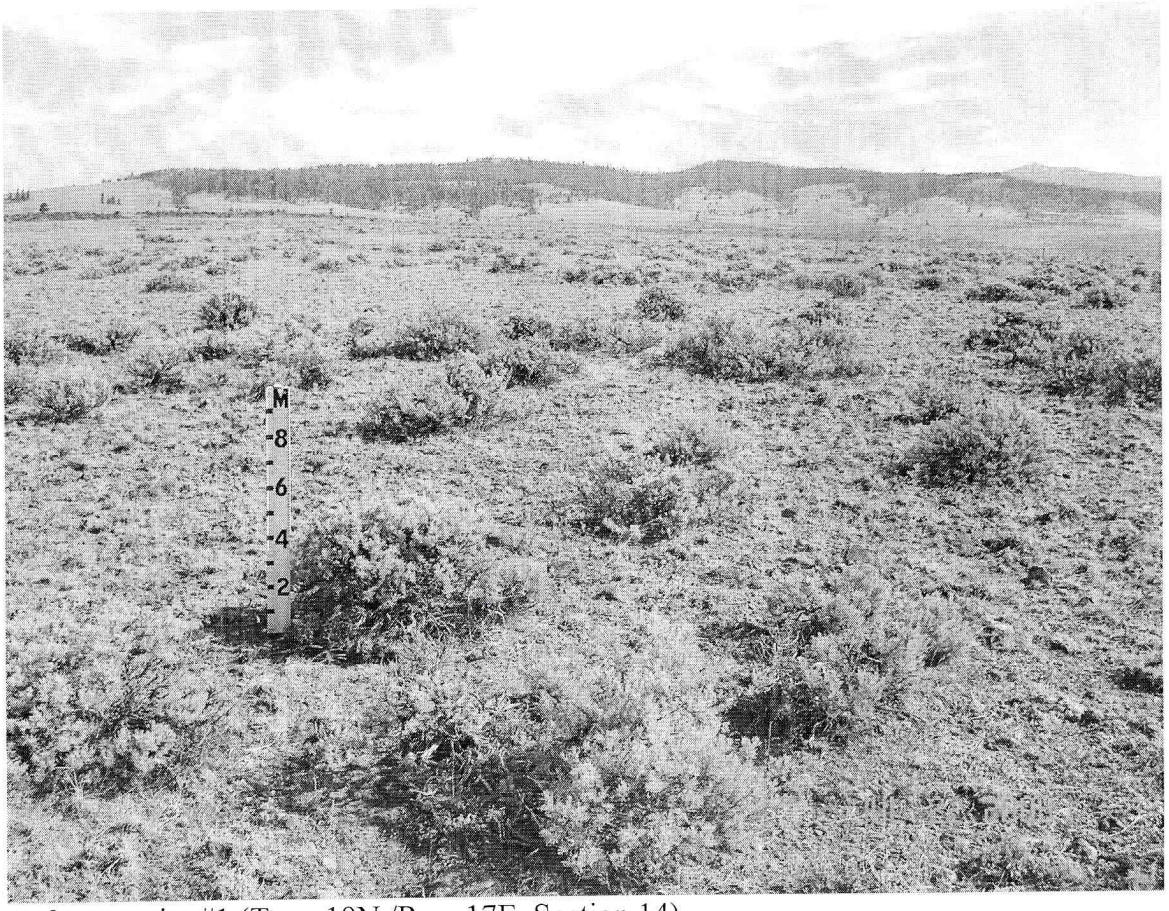
Kittitas Valley Wind Project

Reference Sites for Post-Construction Restoration

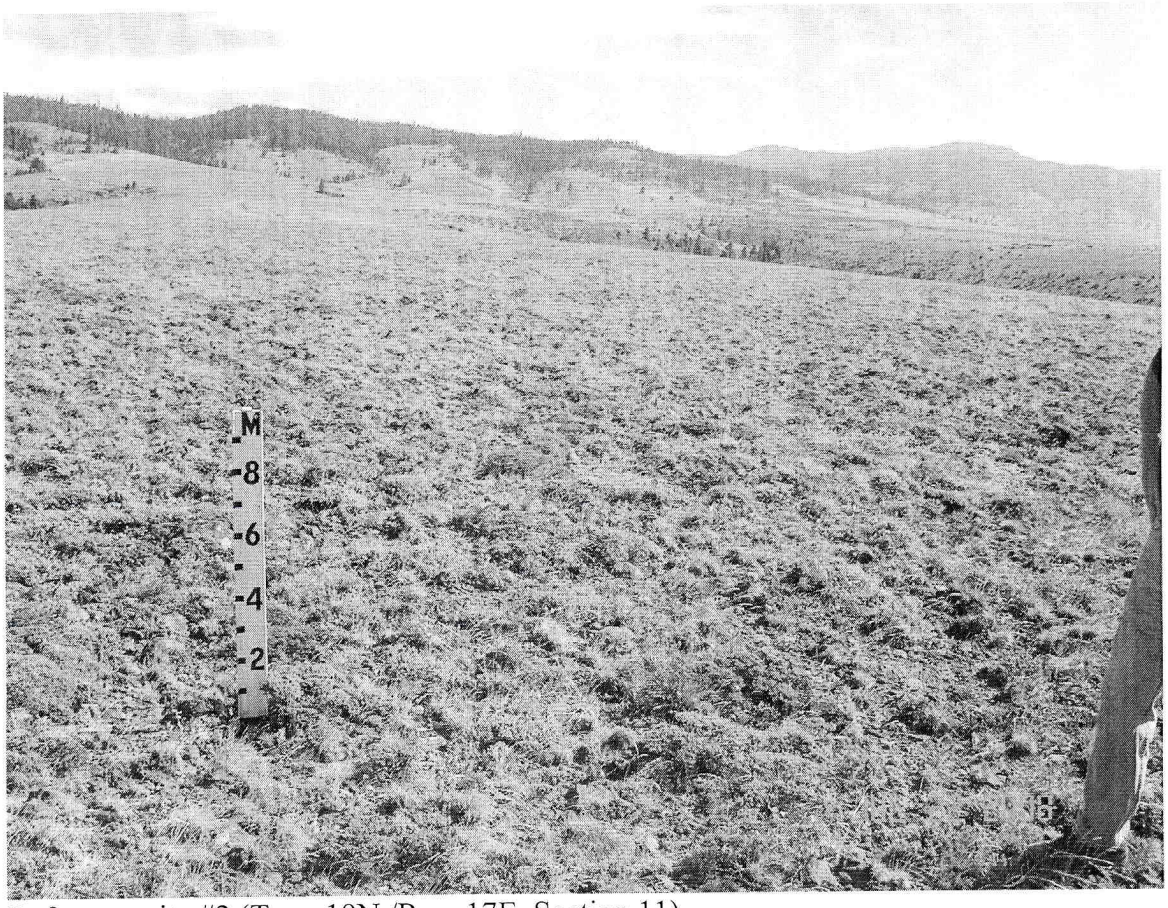
Reference sites were selected to allow comparison of project disturbance and post-construction restoration success with representative undisturbed plant communities. Based upon current plans and information, it appears project impacts will be predominantly in Very Shallow or Dry Stony Ecological Sites. Reference sites were selected to be representative of the plant communities within the disturbance footprint of the project.

At the time these reference sites were selected, the staking had not been placed for project construction. Once final construction plans are approved and construction has begun, the reference sites should be revisited to confirm they are outside of potential construction impacts. If necessary, reference site locations can be revised at that time.

Location of Reference Sites for Kittitas Valley Wind Project				
	UTM Coordinates (NAD 83)		**T19N/R17E**	
Reference Site	**Easting**	**Northing**	**Section**	**Predominant Ecological Site**
#1	675440	5224026	14	Very Shallow (9-15 in. precip. zone)
#2	675476	5225299	11	Very Shallow (9-15 in. precip. zone)
#3	673639	5221426	21	Dry Stony (9-15 in. precip. zone)
#4	673851	5221182	22	Dry Stony (9-15 in. precip. zone)
#5	674001	5220957	22	Dry Stony (9-15 in. precip. zone)
#6	674027	5220630	27	Dry Stony (9-15 in. precip. zone)



Reference site #1 (Twn. 19N./Rge. 17E, Section 14).



Reference site #2 (Twn. 19N./Rge. 17E, Section 11).