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BEFORE THE STATE OF WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL

In the Matter of Application No. 2003-01:

EXHIBIT 70 (SL-T)

SAGEBRUSH POWER PARTNERS, LLC;

RENEWABLE NORTHWEST PROJECT
PRE-FILED DIRECT TESTIMONY

KITTITAS VALLEY WIND POWER PROJECT

RNP PREFILED DIRECT TESTIMONY
WITNESS # 1: SONJA LING

Q Please state your name and business address.

A My name is Sonja Ling and my business address is 917 SW Oak, Suite 303, Portland,
Oregon 97213.

Q What is your present occupation, profession; and what are your duties and responsibilities?

A I am a policy associate for the Renewable Northwest Project (RNP). RNP is a unique
coalition of consumer groups, environmental organizations and renewable energy
companies that work together to promote the development of solar, wind and

1 geothermal resources in Oregon, Washington, Idaho, and Montana. RNP currently has
2 24 members—over half the members are environmental and consumer groups.
3 Established in 1994, RNP is an advocate for clean air and global climate change
4 solutions through the development of new renewable resources in the region. RNP has
5 three strategic objectives: getting responsible renewable energy projects in the ground,
6 developing and promoting renewable energy policies, and supporting retail green power
7 programs.

8
9 My responsibilities include identifying and helping to reduce siting barriers for
10 renewable projects, participating in the siting process for proposed renewable projects
11 and tracking the development of renewable projects in the region. In addition, I
12 participate in utility long-term resource planning processes and represent RNP in key
13 proceedings before public utility commissions.

14 Q Would you please identify what has been marked for identification as Exhibit 70-1 (SL-1)?

15
16 A Exhibit 70-1 (SL-1) is a résumé of my educational background, expertise and employment
17 experience.

18
19 Q Would you please briefly describe your expertise and qualifications, including your history
20 involving wind facilities such as the Kittitas Valley Wind Power Project (KVVWPP).

21
22 A My primary responsibility is to ensure that proposed wind projects are properly sited. I
23 engage developers and interested parties to help resolve potential siting issues. I have
24 worked with state fish and wildlife agencies, local Audubon chapters and counties to
25 understand their concerns and to help educate them on how modern wind facilities have

1 been sited. I have provided comments on the following operating wind projects—Condon
2 Wind Project, Klondike Wind Project, Stateline Wind Project and Combine Hills Wind
3 Project. I also have provided input on numerous other proposed projects in various stages
4 of development in Oregon, Idaho and Washington.

5
6 I also was directly involved with the negotiations on the Washington Department of Fish and
7 Wildlife (WDFW) Wind Power (WP) Guidelines. The current WDFW WP Guidelines
8 adopted in August 2003 were developed after more than a year of negotiating with WDFW.
9 The Guidelines contain consistent and fair recommendations for pre-project environmental
10 studies, habitat and wildlife mitigation, and post-construction monitoring.

11
12 Q Would you please identify what has been marked for identification as Exhibit 70-2 (SL-2)?

13
14 A Exhibit 70-2 (SL-2) is a copy of the WDFW WP Guidelines.

15
16 Q Please describe RNP's role in the siting process for renewable projects.

17
18 A RNP supports projects that are responsibly sited. To ensure that projects are responsibly
19 sited, we first encourage developers to engage all potentially interested parties at the
20 beginning of developing a project. By learning about potential concerns early in the
21 process and by working with the concerned parties to resolve issues, we believe that
22 developers can responsibly site a project. Based on experience, we believe that
23 engaging local stakeholders is a critical first step.

1 RNP directly participates in the siting process for proposed renewable projects.
2 Specifically, we review and comment on the environmental assessment for proposed
3 projects and work with developers and concerned parties to address issues. We have
4 used the following questions to help us decide whether to support proposed renewable
5 projects:

- 6 • Would the proposed project be compatible with existing and planned land uses?
- 7 • What is the habitat type and quality? If necessary, what steps are taken to minimize
8 and mitigate impacts?
- 9 • What wildlife species are present? Are there species of concern? What measures are
10 taken to minimize and mitigate potential impacts?
- 11 • What are the other issues (e.g. visual)? And how are they being addressed?
- 12 • What are the post-construction monitoring plans?

13
14 In addition to the above general questions, we also use the WDFW WP Guidelines to
15 help us assess the environmental studies conducted and habitat and wildlife mitigation
16 plans.

17
18 We have reviewed and supported the following operating renewable projects in the
19 region: the Stateline Wind Project, Foote Creek Rim Wind Projects, Condon Wind
20 Project, Vansycle Wind Project, Nine Canyon Wind Project, Klondike Wind Project,
21 and Combine Hills Wind Project. We also have reviewed and supported the following
22 projects with permits: Four Mile Hill Geothermal Project, Telephone Flat Geothermal
23 Project, Zintel Canyon Wind Project, and Klondike Wind Project Phase II.
24
25

1 RNP has tracked the development of the proposed KVVWPP since Zilkha first announced
2 the project to the local community in April 2002. We believe that Zilkha took the first
3 critical step in developing a project—it engaged interested parties, such as the local
4 community, the local Audubon chapter, the Yakama Nation and the WDFW about its
5 project early in the development process. The input received was then subsequently used
6 to help shape studies. We also have reviewed the KVVWPP Draft Environmental Impact
7 Statement and we believe that the pre-project environmental studies conducted are
8 consistent with the WDFW WP Guidelines and the level of studies done for other
9 operating wind projects in the Northwest. Furthermore, it is noteworthy that the proposed
10 habitat mitigation plan includes approximately 550 acres of habitat to be purchased and
11 protected for the life of the project— this is 57% more than what is recommended in the
12 WDFW WP Guidelines. The KVVWPP will also have a post-construction monitoring plan,
13 which will be consistent with other operating wind projects in the Northwest and the
14 WDFW WP Guidelines.

15
16 Q Please describe and quantify the current mix of Washington State's energy supply.

17
18 A Based on the 2002 Washington State Electricity Fuel Mix Report, Washington
19 customers' electric power comes from hydropower (71.59%), coal (13.47%), co-
20 generation (5.10%), nuclear (5%), natural gas (3.47%), biomass (0.51%), other (0.30%),
21 landfill gases (0.28%), wind (0.21%), waste (0.03%), and petroleum (0.03%).

22
23 Q Please describe the environmental benefits of wind power.

24 Wind power is a pollution-free renewable resource that can help reduce global
25 greenhouse gases and other toxic emissions, such as sulfur dioxide, nitrogen oxides,

1 carbon monoxide, particulate matter and volatile organic compounds associated with the
2 burning of fossil fuels. Wind power can also help reduce the region's over-reliance on
3 hydropower, particularly in low water and drought years. Furthermore, wind power
4 does not create any environmental waste nor does it rely on the region's limited water
5 supply once in operation.

6
7 Nuclear and fossil fuel resources, on the other hand, have significant health and
8 environmental impacts. According to the US EPA, air emissions from burning fossil
9 fuels to generate electricity account for 69% of all sulfur dioxides, 40% of all carbon
10 dioxide, 33% of all mercury, 22% of all nitrogen oxides, and 8 % of all particulate
11 matter 2.5 and 3% of all particulate matter 10. Fossil fuels are major sources of acid
12 rain, pollution-caused illnesses, habitat destruction, smog and greenhouse gases.

13
14 The development of wind power can help reduce polluting emissions from the
15 combustion of fossil fuels for electricity generation. The annual tons of polluting
16 emissions avoided by developing a 60 aMW (180 MW wind project, operating at 33%
17 capacity factor) wind facility are listed in the table below.

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1 **Annual emissions avoided by a 60 aMW wind project**

2

Tons/year avoided	New gas ¹	New coal ²
3 Carbon Dioxide	216,000	531,900
4 Sulfur dioxide	1	302
5 Nitrogen oxides	20	177
6 Carbon monoxide	3	378
7 Particulate matter	11	38
8 Volatile organic compounds	0.2	7

9

10 Wind power can also help alleviate the increasing demand for water in the region.

11 Unlike gas and coal plants, wind power does not require millions of gallons of water
12 once in operation.³ In comparison to a combined-cycle natural gas, re-circulating plant,
13 a 60 aMW wind project would save approximately 94.6 million gallons of water
14 annually, and if compared to a coal re-circulating plant, the same wind project would
15 save at least 231 million of gallons of water annually.⁴

16
17 Q Please describe RNP's role in the region's utilities' Integrated Resource Plan (IRP) and
18 Least Cost Plan (LCP) processes.
19
20
21

22 ¹ Calculation for avoided emissions is based on actual emissions of a best available technology gas plant.

23 ² Calculation for avoided emissions is based on a coal plant permitted in Montana within the last two year. It
24 should be noted that typical permit limits for emissions will vary by state and can become more stringent in the
future.

³ Water is used to wash wind turbine blades, however, the amount is negligible.

25 ⁴ Water saved by developing a 60 aMW wind project is based on the following assumptions: water consumption
for a combined-cycle natural gas, re-circulating plant is ~0.18 gal/kWh and for a coal, re-circulating plant, it is
~0.44 gal/kWh.

1 A RNP is an active participant in the Northwest utilities' IRP processes. We participate in
2 the public stakeholder meetings, review and comment on draft analyses, and work with
3 utilities to recognize the benefits of renewable resources in their portfolios. We follow
4 the IRP processes through to review by each state public utility commission.

5
6 Q Please describe current IRP's and associated Request for Proposals (RFPs) of Puget
7 Sound Energy, PacifiCorp, Portland General Electric, Idaho Power, and Northwestern
8 Energy.

9
10 A There is a strong and growing interest by Northwest utilities to acquire renewable
11 resources, in particular wind, to meet future resource needs. Due to the continued
12 volatility of gas prices, the increased dry or drought years in the Northwest, the growing
13 potential for future additional regulation of environmental emissions, utilities are
14 concluding that a diverse portfolio is the best strategy. Many of the major investor-
15 owned utilities, as well as many public utilities, are finding that wind power is a cost-
16 effective resource today. RNP has actively participated in the following IRP and RFP
17 processes described below.

18
19 **Puget Sound Energy (PSE)**

20 Along with a wide variety of stakeholders, RNP was actively involved in PSE's
21 2003 Least Cost Plan (LCP) process. PSE has a rapidly growing resource need and
22 their LCP concluded that a diversified resource strategy was the most prudent path
23 for the company. Their plan set a goal of serving 5% of PSE's load with renewable
24 resources and a target of reaching 10% over the next 10 years.

1 At the conclusion of the LCP process, PSE issued RFPs to fill their resource need.
2 These included an RFP for 50aMW of wind power as well as an "all-source" RFP.
3 The preliminary results of these RFPs demonstrate that wind power is indeed a cost-
4 effective resource. According to PSE, the levelized energy cost for their short-listed
5 wind bids range from \$45-\$50/MWh for delivered energy, as compared to \$60-
6 \$65/MWh for the best natural gas bids (also for delivered energy). We understand
7 that coal power resources are in the range of \$50-\$53/MWh.

8
9 **PacifiCorp**

10 RNP was also actively involved with PacifiCorp's 2003 IRP. PacifiCorp's IRP
11 results demonstrated that renewables are a least cost resource for the company
12 because their analysis quantified the benefits of renewables: reduced price volatility,
13 achieving fuel diversity, reduced risk of future emissions taxes, and meeting
14 potential federal or state Renewable Portfolio Standards (RPS).

15
16 The IRP concluded that adding 1,400 MWs of renewables over the next ten years
17 was cost-effective for PacifiCorp's system. Earlier this year, PacifiCorp issued an
18 RFP for 1100 MW of renewable energy. At this point, bids are still under
19 evaluation by the company.

20
21 **Portland General Electric (PGE)**

22 PGE's Final Action Plan identified the acquisition of 65 aMW (195 MW) of wind to
23 come online in 2007. The 65 aMW wind target was a result of PGE's all-resource
24 RFP issued in June 2003. The 65 aMW target exceeds the 40 aMW of wind
25

1 proposed in PGE's initial draft 2002 IRP. PGE received 884 aMW of wind bids and
2 has short-listed 112 aMW.

3
4 **Idaho Power Company (IPCo)**

5 IPCo currently is working on its 2004 IRP. Since October 2003, we have provided
6 comments to IPCo on its supply-side resource cost analysis and have reviewed and
7 commented on its draft IRP released to its IRP Advisory Council Committee in June
8 2004. IPCo has identified the acquisition of renewable resources, specifically, wind
9 power and geothermal, as an integral part of their near-term and long-term resource
10 acquisition strategy for meeting load growth. In IPCo's 30-year levelized cost of
11 production analysis for supply-side resources, wind power is identified to be one of
12 the most cost-effective resources to acquire. Wind power costs are estimated to be
13 approximately \$42/MWh, while the costs of gas and coal are higher. IPCo's
14 analysis of the costs for gas is approximately \$59/MWh, while coal is around
15 \$45/MWh. In the next ten years, IPCo would like to add 350 MW of wind and 100
16 MW of geothermal. IPCo intends to issue a 200 MW wind RFP this fall and have
17 the 200 MW of wind online in 2006.

18
19 **Northwestern Energy (NWE)**

20 NWE in Montana also has plans to acquire wind power. RNP has worked with
21 NWE and its predecessor, Montana Power Company, since the mid-1990s on issues
22 related to renewable energy. RNP is currently a member of NWE's Technical
23 Advisory Committee. NWE issued its Default Supply Plan (the equivalent of an
24 IRP) at the end of 2003, and each of the top four portfolios included 150 MW of
25 wind power. NWE issued an RFP for 150 MW of wind power at the end of 2002.

1 They are currently in the process of preparing another solicitation for resources,
2 including wind power.

3
4 In addition to RNP's direct participation in the above utilities' IRP and RFPs, we would
5 like to mention that there are a handful of private and public utilities in the Northwest
6 that have acquired and also intend to acquire more renewables for its resource portfolio.
7 For example, Seattle City Light's 2000 Strategic Resource Plan included the acquisition
8 of 100 aMW of renewable resources over the next ten years. The 100 aMW target was
9 the result of the March 27, 2000 Earth Day Resolution which committed SCL to meet
10 all their load growth without increasing greenhouse gas emissions. SCL is currently
11 purchasing 175 MW from the Stateline Wind Project and is the largest municipal utility
12 purchaser of wind in the US.

13
14 Another example is Energy Northwest, a public power agency made up of 16 public
15 utilities in Washington. Energy Northwest is the owner and developer of the 63.7 MW
16 Nine Canyon Wind Project. The Project's output is being purchased by eight public
17 utilities. Energy Northwest has plans to expand the Project and procure additional wind
18 power to meet future public power demand.

19
20 In September 2003, the Last Mile Electric Cooperative (comprised of six small
21 Northwest consumer-owned utilities and a renewable energy non-profit) announced its
22 intentions to develop a 200 MW wind project in Klickitat County, Washington.

23
24 In Avista's 2003 IRP, Avista identified the acquisition of wind in 2008-2010. However,
25 in order to gain experience with integrating wind into their own system, Avista issued a

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wind RFP for up to 50 MW in August 2003. As a result of its RFP, Avista is currently purchasing 35 MW of wind.

Finally, in Oregon, the Eugene Water and Electric Board (EWEB) adopted an energy resource strategy to acquire new renewable resources at a rate of 1% of load per year starting in 2000.

SONJA LING

EXPERIENCE

Renewable Northwest Project

Policy Associate

*Portland, OR
Mar 2001 – present*

Participate in the siting of new renewable resources in the Northwest and track the development of proposed projects. Represent RNP in key proceedings before state regulatory commissions. Analyze and comment on utility, state and regional electric policy proposals. Conduct briefings for policy makers and organizations on behalf of RNP. In 2003, helped to coordinate, develop and negotiate changes to the Washington Department of Fish and Wildlife's wind power guidelines.

IT Power, Ltd.

Consultant

*Hampshire, England
July – Sept 2000*

Assisted during the United Nations Development Project/Global Environmental Facility-sponsored workshop on creating a Chinese Renewable Energy Industry Association in Beijing, China. Contributed to a solar photovoltaic project report for China.

National Taiwan University, Graduate Institute of Building and Planning

Visiting student

*Taipei, Taiwan
Jan – June 1999*

Worked with graduate students on eco-tourism development for the Black-faced spoonbills in the Chi-gu wetlands in Southwest Taiwan. Worked and coordinated with a broad spectrum of stakeholders including Taiwanese legislators, government agencies, and local, national and international NGOs.

National Taiwan University, The Language Training and Testing Center

Instructor

*Taipei, Taiwan
July 1998 – 1999*

Taught English to professionals and university students. Developed a course on translation and interpretation and subsequently taught it.

Tatung Company

PC Research & Development/International Appliance Division

*Taipei, Taiwan
Feb – May 1998*

Established and maintained correspondence with foreign customers concerning Tatung products. Engaged in business negotiations with foreign clients.

National Center for Asia-Pacific Economic Cooperation

*Seattle, WA
Jan – June 1997*

Educated US and international businesses about APEC's mission. Researched APEC and related trade issues. Helped conduct APEC workshops and conferences in Seattle. Assisted the US delegation during APEC's Business Advisory Council Conference in Taipei, Taiwan in 1998.

University of Washington, English as a Second Language Program

Activity Coordinator

*Seattle, WA
Aug 1994 – Dec 1995*

Organized, promoted and led trips for foreign exchange students around the Northwest. Managed all the finances; hired and trained new coordinators. Wrote newsletters, provided support to staff and ESL instructors.

EDUCATION

University of Oxford

M.S. in Environmental Change and Management

Thesis: "Solar Photovoltaic Electricity in China: Local Commerce in Xining, Qinghai"

Oxford, England
Sept 2000

University of Washington

B.A. in International Relations, Cum Laude

B.A. in Communications, Cum Laude

Seattle, WA
Dec 1997

University of Granada

Exchange student, Certificate in Spanish History and Politics

Granada, Spain
Jan – July 1996

West Texas A&M University, Alternative Energy Institute

Student, Course on Wind Energy and Wind Turbines

Online
Aug – Dec 2003

PUBLICATIONS

Ling S. and Linehan A. (2003) *Guidelines for Wind Power and Wildlife in Washington State, USA*, Wind Engineering, Vol. 27(4), pp. 273-284.

Ling S., Twidell J. and Boardman B. (2002) *Household Photovoltaic Market in Xining, Qinghai Province, China: the Role of Local PV Businesses*, Solar Energy, Vol. 73(4), pp. 227-240.

SELECTED PRESENTATIONS

"Blowing in the Wind: Restoration Requirements under WDFW's Wind Farm Development Guidelines," Seattle, WA, Washington State Bar Association, March 12, 2004.

"Environmental and Community Siting Issues," Seattle, WA, American Public Power Association, October 21, 2003.

"Wind and Wildlife in Washington: Negotiating Changes to Washington Department of Fish and Wildlife's Wind Power Guidelines," Austin, TX, American Wind Energy Association, May 21, 2003.

"What's Happening in the Wind Industry," Seattle, WA, NARUC Committee on Energy Resources and the Environment, July 15, 2001.

LANGUAGES

Chinese (fluent in speaking, reading and writing advanced)

Spanish (intermediate-advanced in speaking, reading and writing)

**EXHIBIT 70-2
(SL-2)**



*Washington
Department of
FISH AND
WILDLIFE*

August 2003

SECTION 1

BASELINE AND MONITORING STUDIES FOR WIND PROJECTS

PRE-PROJECT ASSESSMENT

The primary purposes of pre-project assessment studies are to 1) collect information suitable for predicting the potential impacts of the project on wildlife and plants and 2) design the project layout (e.g., turbine locations) so that impacts on biological resources are avoided and minimized. To the extent possible, this pre-project assessment may utilize existing information from projects in comparable habitat types in locations close to the proposed project. The site-specific components and the duration of the assessment should depend on the size of the project, the availability and extent of existing and applicable information in the vicinity of the project, the habitats potentially affected, the likelihood and timing of occurrence of Threatened and Endangered and other Sensitive-Status species at the site, and other factors such as issues and concerns identified during public scoping. Each component is discussed below. The results of the information review and baseline studies should be reported to the affected stakeholders (e.g., state and federal wildlife agencies) in a timely fashion.

Information Review

Existing information on species and potential habitats in the vicinity of the project area should be reviewed and if appropriate, mapped. Sources of existing information should include resource agencies, local experts, recognized databases (e.g., Priority Habitats and Species [PHS] database), and data gathered at other nearby wind plants or other types of projects. This information should be used to develop a current state-of-the-art field and analysis protocol that is reviewed and approved by the state wildlife agency.

Habitat Mapping

Key information about general vegetation and land cover types, wildlife habitat, habitat quality, extent of noxious weeds, and physical characteristics within the project area should be collected and compiled using current state-of-the-art protocols.

Raptor Nest Surveys

At a minimum, one raptor nest survey during breeding season within 1-mile of the project site¹ should be conducted to determine the location and species of active nests potentially disturbed by construction activities, and to identify active and potentially active nest sites with the highest likelihood of impacts from the operation of the wind plant. A larger survey area (e.g., a 2-mile buffer) is recommended if there is some likelihood of the

¹ Site – a project “site” for the purposes of addressing potential raptor nest disturbances is defined as the furthest extent of a ground disturbing activity and includes gravel sites used for construction, overhead and underground electrical routes, new and upgraded substations.

occurrence of nesting state and/or federally threatened and endangered raptor species (e.g., ferruginous hawk, bald eagle, golden eagle), or if empirical data on displacement impacts may be monitored after construction (see Research-Orientated Studies Below).

General Avian Use Surveys

A minimum of one full season of avian use surveys is recommended following current state-of-the-art protocols to estimate the use of the project area by avian species/groups of interest during the season of most concern (usually spring/early summer). Additional seasonal data (e.g. fall or winter) is recommended in the following cases: 1) use of the site for the avian groups of concern is estimated to be high relative to other projects, 2) there is very little existing data regarding seasonal use of the project site, and/or 3) the project is especially large. This additional avian use data should be collected to refine impact predictions and make decisions on project layout.

Surveys for Threatened, Endangered and Sensitive Species

If existing information suggests the probable occurrence of state and/or federal threatened or endangered or sensitive-status species on the project site at a level of concern, focused surveys are recommended during the appropriate season to determine the presence or likelihood of presence of the species. For example, if bald eagles are expected to winter in concentrations in the project vicinity, targeted surveys to estimate bald eagle use of the site would be appropriate.

MINIMIZATION OF WILDLIFE IMPACTS

One goal of the pre-project assessment is to help design the project to avoid, reduce and minimize impacts to habitat and wildlife. Below are some considerations for avoiding and minimizing impacts to wildlife.

Avoid Impacts

- Encourage development in agricultural and already disturbed lands, including using existing transmission corridors and roads where possible.
- Use of tubular towers is recommended to reduce the ability of birds to perch on towers and to possibly reduce the risk of collision. Discourage the use of lattice towers, particularly those with horizontal cross-members.
- Discourage tower types that employ guy wires. If guy wired towers are approved, encourage the requirement of bird flight diverters on the guy wires.
- Avoid high bird concentration areas, especially concentration areas of sensitive status species, and breeding sites.
- Discourage the use of rodenticides to control rodent burrowing around towers.
- Encourage the protection of PHS priority habitats.

Minimize Impacts

- Minimize use of overhead power lines.²
- When overhead lines are used, use designs that avoid and minimize impacts to raptors and other birds (e.g., adequate conductor spacing, use of perch guards).
- Minimize the use of lights on towers, in accordance with federal, state, and local requirements, wherever possible because they may attract flying wildlife to the vicinity of the turbines in certain conditions.
- Encourage the control of noxious weeds in accordance with federal, state, and local laws. Encourage the control of detrimental weedy species that invade existing habitat as a result of disturbance from construction and operation.
- Encourage the requirement of a complete road siting and management plan, including vehicle-driving speeds that minimize wildlife mortality.
- Encourage the requirement of a fire protection plan.

Reduce or Eliminate Impacts Over Time

- Encourage a decommissioning condition that would require removal of the turbines and infrastructure when it ceases operation, and restoration of the site to approximate pre-project conditions.

OPERATIONAL MONITORING

As is the case with most development, some mortality of bats and birds is expected to result from wind power projects. However, it is anticipated that significant impacts to wildlife can be avoided or lessened at most wind projects if proper pre-project assessment is implemented and good project design and management practices are established. Monitoring studies, such as carcass surveys, using current state-of-the-art protocols are required to determine the actual direct impacts of the wind farm on birds. The duration and scope of the monitoring should depend on the size of the project, and the availability of existing monitoring data at projects in comparable habitat types.

A Technical Advisory Committee (TAC) is recommended to be responsible for reviewing results of monitoring data and making suggestions to the permitting agency regarding the need to adjust mitigation and monitoring requirements based on results of initial monitoring data and available data from other projects. The range of possible adjustments to the monitoring and mitigation requirements should be clearly stated in the project permit (e.g., Conditional Use Permit). Adjustments should be made if unanticipated impacts become apparent from monitoring data. Examples of such changes

² However, use of overhead power lines might be warranted if habitat type is of concern.

may include additional monitoring or research focused to understand the identified impacts (e.g., bats) and creation of raptor nesting structures (artificial or natural, on or off-site) if significant impacts to raptor species are identified. Adjustments that are not feasible because they would make the wind project un-financeable include removing turbines or shutting down turbines during certain periods of the year. Adjustments can also reduce monitoring requirements based on monitoring data and site-specific conditions.

Potential members to the TAC include stakeholders such as state and federal wildlife agencies, the developers, environmental groups, landowners, and county representatives. Protocols for conducting the monitoring study and procedures for reporting and handling, and rehabilitating injured wildlife should be reviewed by the TAC. Progress reports summarizing the monitoring results should be reported to the TAC on a quarterly basis. Reporting schedules and scope of reports will be developed in the event of unusual unanticipated avian mortality.

RESEARCH-ORIENTED STUDIES

Standard pre-project assessment studies and standard fatality operational monitoring have been distinguished from more research-orientated studies. At some projects, additional studies that utilize pre-construction data may be conducted to test specific research hypotheses about impacts to a particular species or group of species. Rather than being necessary for pre-permit assessment, such studies are often more research-oriented and often are focused on indirect impacts, such as displacement, that provide information for future projects. Examples include the use of gradient analysis in understanding the level of displacement of grassland nesting birds as a function of distance from turbines or raptor nest monitoring comparing density and nest success before and after operation of the wind plant. If such studies are determined to be important to the overall understanding of wind energy/wildlife interactions, they should be designed to follow appropriate experimental designs and state of the art protocols (Anderson et al. 1999, Morrison et al. 2002). Funding for these more research- oriented studies should be solicited from multiple sources, including the wind industry, environmental groups, state and federal agencies, advocacy groups and other sources.

REFERENCES

- Anderson, R.L., M.L. Morrison, K. Sinclair, M.D. Strickland. 1999. Studying wind energy/bird interactions: a guidance document. National Wind Coordinating Committee Avian Subcommittee.
- Morrison, M.L., W.M. Block, M.D. Strickland, and W.L. Kendall. 2001. Wildlife study design. Springer-Verlag New York, Inc., New York, NY. 210 pp.

SECTION 2 WIND PROJECT HABITAT MITIGATION

General Principles for Wind Project Siting and Mitigation

These principles are intended for projects proposed for sites east of the Cascades, where almost all wind projects have been proposed to date. These principles would require review and revision for sites west of the Cascades.

- Implementation of the mitigation measures contained in this proposal are presumed to fully mitigate for habitat losses for all species, including species classified as “protected,” in the Washington Administrative Code, but excluding species classified as state “endangered” or federally “threatened” or “endangered,” for which additional species- and site-specific mitigation may be necessary.
- Wind project developers should be encouraged to site wind power projects on disturbed lands (i.e., developed, cultivated, or otherwise disturbed by road or other corridors).
- Wind project developers should be encouraged to place linear facilities (such as collector cable routes, transmission line routes, or access roads) in or adjacent to existing disturbed corridors in order to minimize habitat fragmentation and degradation.
- Wind project developers should be discouraged from using or degrading high value habitat areas, especially shrub-steppe habitat in “excellent” condition.
- Wind project developers are responsible for acquiring replacement habitat under this proposal and for management of such lands for the life of the project, unless otherwise indicated.
- WDFW mitigation guidance seeks to recognize the full range of environmental benefits and impacts of development in determining appropriate mitigation, including the fact that wind is a renewable energy resource that can replace fossil fuels and other energy sources that have serious environmental consequences to plant and animal species and habitats.

MITIGATION FOR PERMANENT HABITAT IMPACTS

A. No mitigation required for cropland, developed, or disturbed areas

No mitigation will be required for impacts to lands that have little or no habitat value. Examples include lands that are:

- Currently being cultivated;
- Developed (long term); or
- Disturbed by an active road or other corridor that eliminates natural habitat values.

B. Criteria for Mitigation by Acquisition of Replacement Habitat

In each of the mitigation categories listed below, the criteria indicate that the replacement habitat 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 that differs from impacted habitat;
- Given legal protection (through acquisition in fee, a conservation easement, or other means);
- Protected from degradation for the life of the project to improve habitat function and value over time;
- In the same geographical region as the impacted habitat; and
- Jointly agreed upon by the wind developer and WDFW.

If a wind power applicant meets these criteria, then the following ratios apply:

1. Acquisition of Replacement Habitat Subject to Imminent Development – 1:1

One acre of suitable replacement habitat will be accepted as mitigation for one acre of permanently impacted habitat where the replacement habitat is subject to imminent development – that is, there is a credible plan to develop the replacement habitat within five years and WDFW concurs with this assessment.

Rationale: There is no net loss of habitat function or value where the replacement habitat would be lost but for its acquisition as mitigation. In fact, there should be a net gain in habitat value over time since protection of the replacement habitat (of equal or better value than the impacted area) will usually result in improved habitat value.

2. Acquisition of Grassland, CRP Replacement Habitat – 1:1

One acre of suitable replacement grassland or CRP habitat will be accepted as mitigation for one acre of such habitat that is permanently impacted.

Rationale: Habitat values are protected under this approach because:

- Development of degraded grasslands or CRP habitat is preferable to development of shrub-steppe or other high value habitats.
- The replacement habitat was at some risk of development and is now given permanent protection.
- The replacement habitat is likely to improve in habitat function and value over time as degrading forces are removed.
- The value of the replacement habitat is equal to or better than the habitat value of the impacted area.
- The 1:1 ratio combines a number of factors -- which could require much time, effort, and expense to analyze and process -- in a simple and equitable approach.

3. Acquisition of Shrub-Steppe, Other High-Value Habitat– 2:1

Two acres of suitable shrub-steppe or other high-value replacement habitat will be accepted as mitigation for one acre of permanently impacted shrub-steppe or other high-value habitat. In this context, “other high-value habitat” includes lithosol/shrub matrix (plant communities on lithosol soils intermixed with other plant communities on deeper soils).

Rationale: A net gain in habitat value is likely under this approach because the replacement habitat:

- Was at some risk of development and is now given permanent protection.
- Is likely to improve in habitat function and value over time as degrading forces are reduced on the protected area.
- Value is equal to or better than the habitat value of the impacted area.
- The 2:1 ratio combines a number of factors -- which could require much time, effort, and expense to analyze and process -- in a simple and equitable approach.

Exception for habitat in “excellent” condition: Where a wind project will affect habitat in “excellent” condition (based on federal methodologies for assessing range land, or other method acceptable to WDFW), wind project developers will engage in additional consultation with WDFW regarding suitable mitigation requirements for such habitat.

MITIGATION FOR TEMPORARY IMPACTS TO HABITAT

Temporary impacts to habitat are those that are anticipated to end when construction is complete and land has been restored. Temporary impacts include trenching for placement of underground cables, construction staging areas, lay-down areas, and temporary construction access. Temporary impacts also include the portions of road corridors that are used during construction but that are re-vegetated at the end of construction, but do not include the portions of roads that continue to be used for project operations (which are considered permanently affected). The goal of restoration of temporary impacts should be to restore the disturbed habitat to a condition that is at least as good as its pre-project condition.

A. No Mitigation Required for Temporary Impacts to Cropland, Developed or Disturbed Areas (same as for permanent impacts)

B. Restoration, Mitigation for Temporary Impacts to Grass, CRP Lands – 0.1:1

Temporary impacts to grassland or CRP habitat can be mitigated by:

- Implementing a WDFW approved restoration plan for the impacted area. A restoration plan should include site preparation, reseeding with appropriate vegetation, noxious weed control, and protection from degradation (irrigation

or planting with live plants will not be required).

- Acquiring 0.1 acres of suitable replacement habitat for every acre temporarily impacted by the project.
- A good faith effort should be made to restore the impacted area, however long-term performance targets should not be imposed since temporal losses and the possibility of restoration failure are incorporated into the acquisition and improvement of replacement habitat.
- WDFW and a wind developer may agree on other ratios and terms where doing so is mutually beneficial.

C. Restoration, Mitigation for Temporary Impacts to Shrub-steppe Habitat—0.5:1

Temporary impacts to shrub-steppe habitat can be mitigated by:

- Implementing a WDFW approved restoration plan for the impacted area. A restoration plan should include site preparation, reseeding with appropriate vegetation, noxious weed control, and protection from degradation (irrigation or planting with live plants will not be required).
- Acquiring 0.5 acres of suitable replacement habitat for every acre temporarily impacted by the project.
- A good faith effort should be made to restore the impacted area, however long-term performance targets should not be imposed since temporal losses and the possibility of restoration failure are incorporated into the acquisition and improvement of replacement habitat.
- WDFW and a wind developer may agree on other ratios and terms where doing so is mutually beneficial.

Customized Acquisition and Restoration Packages – This Habitat Mitigation proposal should not be viewed as preventing or discouraging WDFW and wind developers from negotiating “customized” or “alternative” mitigation packages where circumstances make it desirable for both parties to use accepted methodologies (such as NRDA or an alternative mitigation option) to do so.

SECTION 3

WIND POWER ALTERNATIVE MITIGATION PILOT PROGRAM

INTRODUCTION: This pilot program offers an alternative to conventional mitigation for wind projects that can greatly improve the habitat value per mitigation dollar as well as provide a more streamlined and efficient mitigation process for applicants. A significant feature of the pilot program is that it links targeted acquisition by WDFW of the highest value habitat in central and eastern Washington³ with sustained “stewardship” funding from wind projects to restore, manage, and monitor these critical habitat areas. Fortunately, many of the areas that have the highest habitat values are also low cost, providing an outstanding opportunity to maximize the value of mitigation funds.

Because the Alternative Mitigation Pilot Program is experimental in nature, the fee will be reviewed annually, and adjusted as necessary, by WDFW to ensure that it is equitable, compared to the conventional mitigation option in Section 2, and provides incentives to encourage significant participation by wind developers. In addition, the Alternative Mitigation Pilot Program will be reviewed and evaluated at the end of five years, along with the other sections of the Wind Power Guidelines.

GOAL: The goal of the Wind Power Alternative Mitigation Pilot Program is to provide an optional and streamlined approach to mitigation that results in better habitat value and is more attractive to wind developers than conventional “on-site” mitigation.

PRE-PROJECT ASSESSMENT, OPERATIONAL MONITORING

A wind project applicant may either:

1. Follow the guidance set forth in Section 1 of the Wind Power Guidelines document (Baseline and Monitoring Studies for Wind Projects), or
2. Follow a streamlined process (to be negotiated with WDFW) if the project is to be sited in an area that has been determined by WDFW to present a low probability of significant risk to wildlife (and efforts have been made to avoid and minimize wildlife impacts).

ALTERNATIVE HABITAT MITIGATION

After determination by the wind project applicant, in consultation with WDFW, of the project's impact on habitat (in terms of acres permanently and temporarily impacted, and the type and general quality of habitat impacted), the applicant and WDFW will identify the appropriate annual fee for the life of the project⁴, based on an Alternative Mitigation Fee Rate of \$55.00/acre/year for each acre of replacement habitat that would be owed

³ At the time of this writing, a request is being made to the State Legislature for an appropriation in the 2004 Supplemental Operating Budget.

⁴ “Life of the project” is defined as beginning at the end of the first year of commercial operation and ending with implementation of the project decommissioning plan.

using the ratios and analysis contained in Section 2.⁵

As noted above, the Alternative Mitigation Fee Rate will be reviewed annually, and adjusted as necessary, by WDFW. Changes to the fee will be applied to future wind development proposals (for which mitigation has not yet been determined); changes in the fee will not be applied retroactively.

General provisions:

- The fee listed above is based on habitat in “average” condition and can be increased or decreased by up to 25% to account for differences in habitat quality.
- The applicant will be required to implement an approved restoration plan for temporarily impacted areas (in accordance with Section 2).
- In cases where the project impacts a mixture of habitat types, the fee schedule will be applied accordingly (to the nearest acre).
- The annual fee will be used primarily to support “stewardship” of high-value habitat in the same ecological region as the project (for management, monitoring, restoration, protection from degradation). It is envisioned that these annual stewardship funds will be applied to strategically important habitat in central and eastern Washington that is newly acquired by WDFW. The annual fees will be deposited into a dedicated WDFW account and may also be used for acquisition.
- If the applicant and WDFW cannot agree on a mutually advantageous “package” under the alternative mitigation program, the conventional mitigation guidance in Section 2 will be applied to the project.

⁵ To determine Alternative Mitigation Fee, use the guidance provided in Section 2 to:

- 1) Determine acres permanently and temporarily impacted by project for the shrub-steppe and grass categories (i.e., permanently impacted shrub-steppe, permanently impacted grass/CRP, temporarily impacted shrub-steppe, and temporarily impacted grass/CRP);
- 2) Multiply the acres in each of the four categories by the applicable ratio (e.g., shrub-steppe acres permanently impacted x 2.0);
- 3) Sum the acreage of the four categories to arrive at the total acres of mitigation owed; and
- 4) Multiply this total by the Alternative Mitigation Fee Rate to arrive at total annual payment for the project.

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7 BEFORE THE STATE OF WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL

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9 In the Matter of
Application No. 2003-01

Application No. 2003-01

10 SAGEBRUSH POWER PARTNERS, L.L.C.

Declaration of Service

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13 KITTITAS VALLEY WIND
POWER PROJECT
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17 JENNIFER CHAMPAGNE declares as follows:

18 I am a legal assistant to Susan Drummond, attorney for intervenor Renewable Northwest
19 Project. I have personal knowledge of the facts in this declaration and am competent to testify
20 to those facts.

21 On July 6, 2004, I caused and Renewable Northwest Project's Response to Renewable
22 Northwest Project Pre-Filed Direct Testimony and this Declaration of Service to be sent via
23 U.S. mail and via electronic mail to the following:

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DECLARATION OF SERVICE - 1

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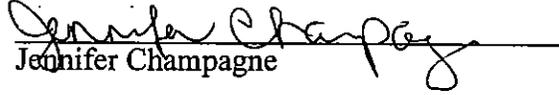
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DECLARATION OF SERVICE - 3

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1 I declare under penalty of perjury under the laws of the State of Washington that the
2 foregoing is true and correct.

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4 EXECUTED at Seattle, Washington this 6th day of July, 2004.

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8 Jennifer Champagne

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DECLARATION OF SERVICE - 4

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