BEFORE THE STATE OF WASHINGTON

ENERGY FACILITY SITE EVAUATION COUNCIL

In the Matter of Application No. 2003-01: SAGEBRUSH POWER PARTNERS, LLC; KITTITAS VALLEY WIND POWER PROJECT	EXHIBIT 27 (PO-T)

APPLICANT'S PREFILED DIRECT TESTIMONY
WITNESS # 8: PEGGY O'NEILL

Q Please state your name and business address.

A My name is Peggy O'Neill and my business address is 825 NE Multnomah, Portland, OR 97232-2146.

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

A I am employed by CH2M Hill. CH2M Hill provides environmental consulting services to organizations such Zilkha Renewable Energy. We assist those organizations in analyzing environmental impacts of projects such as the Kittitas Valley Wind Power Project ('Project'). I am a biologist for CH2M Hill. My duties regarding this were to supervise the wetlands and

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waters field investigation and provide senior review of resultant documents. I assisted in the preparation of the Application for Site Certification for this Project.

Q Would you please identify what has been marked for identification as Exhibit 27-1 (PO-1).

A Exhibit 27-1 (PO-1) is a résumé of my educational background and employment experience.

Q Are you sponsoring any portions of the "Application for Site Certification" and "Clarification Information Provided to EFSEC Independent Consultant for EIS Preparation", for the Kittitas Valley Wind Power Project?

A Yes. I am sponsoring the following sections for which I was primarily responsible for the analysis and development:

Section 3.4.2	Wetlands
Clarification Information	Attachment 2

Q Are you familiar with these sections of the Application?

A Yes

Q Did you prepare these sections, or, if not, did you direct and/or supervise their preparation?

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A Yes. Field work was conducted under my supervision by another wetlands biologist, Peter Pellegrin. I reviewed his field survey plans before he began his field work, and reviewed and discussed the results of his field work as we worked together to complete the technical report that summarized his efforts.

Q Is the information in these sections within your area of authority and /or expertise?

A Yes

Q Are the contents of these sections of the Application either based upon your own knowledge, or upon evidence, such as studies and reports as a reasonably prudent persons in your field and expertise are accustomed to rely in the conduct of their affairs?

A Yes.

Q To the best of your knowledge, are the contents of these sections of the Application true?

A Yes.

Q Do you incorporate the facts and content of these sections as part of your testimony?

A Yes.

Q Are you able to answer questions under cross examination regarding these sections?

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A Yes

Q Do you sponsor the admission into evidence of these sections of the Application?

A Yes

Q Are there any modifications or corrections to be made to those portions of the Application that you are sponsoring?

A A Joint Aquatic Resource Permit Application (JARPA) was prepared and submitted for this Project. The application was updated and supplementary information provided to the U.S. Army Corp of Engineers on February 11, 2004.

Q Would you please summarize and briefly describe your evaluation of the wetlands and mitigations if any, resulting from the construction and operation of the project.

A I provided supervision of an investigation of potentially jurisdictional wetlands and waters within the project site and senior review of resultant documents. The investigation was performed by Peter Pellegrin, a CH2M HILL biologist trained in wetland delineation and jurisdictional determinations. His determination of wetlands and waters of the U.S./State followed procedures described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) for determining federal and state jurisdictional wetlands and waters of the United States. The *National List of Plant Species that Occur*

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in Wetlands: Northwest (Region 9) (USFWS, 1988) and its 1993 supplement (COE, 1993) were used to determine hydrophytic status of vegetation. An area was considered to be potentially jurisdictional if it met criteria for hydrology, hydric soils, and hydrophytic vegetation or had physical characteristics such as a streambed and discernable banks, and some evidence of hydrology. Changes in vegetation, including species composition, distribution, or abundance, within the study site was considered along with the other factors to make a best professional judgment about the jurisdictional status of the drainage. I reviewed field notes and site photographs and discussed the findings of the investigation with Peter Pellegrin. I provided technical assistance to him during preparation of the report and provided senior technical review of the report.

Potentially jurisdictional wetlands or waters of the United States have been identified at ten locations within or adjacent to the Project area. At four of the locations, the Project design will keep Project developments away from streams and wetlands and avoid any impacts to waters of the United States. In six other locations, potentially jurisdictional streams (waters of the U.S) were identified where impacts cannot be reasonably avoided. At the present time the properties where stream crossings will be located are used for grazing. Three of the seven stream crossing locations have existing dirt or gravel trails adjacent to or crossing the stream. The total area of construction activities within jurisdictional waters (for all 7 crossings) will be 1,270 square feet or 0.03 acres.

Potential direct impacts to wetlands and waters from the Project will result from construction of road and underground electric cable crossings of seven intermittent streams. The streams involved in the seven crossings are all intermittent streams that do

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not provide fish habitat. All crossings are a minimum of one mile from any stream reaches that support fish. Construction is expected to occur while the streams are dry, and thus there should be no impacts to water quality or to water-dependent resources during the construction of the crossings.

The design of the crossings will allow the periodic stream flows to pass through the porous rock bases of the crossing without increasing erosion or turbidity. Each crossing will involve excavating just enough existing streambed material to allow for the placement of roadbed crossing material or electrical cables. All work will occur when flows are absent or well below 5 cfs. Backhoes will be used to remove existing streambed material. The excavated material will be spread on the shoulders of the new and widened roads. The new road crossings will be constructed of clean quarry rock and clean gravel excavated from the locations of project wind turbine foundations, or brought in from offsite sources. Electrical cables will be placed within the roadbed where feasible. Road crossings will be no wider than 24 feet in order to accommodate the construction equipment and transport trucks required to construct the wind turbine project.

The final profile and grade of each crossing will be as close to the original streambed as possible while providing a load-bearing surface that function as a ford crossing. All crossings will be constructed in compliance with the Project's construction stormwater NPDES permit and its erosion control plan, which will include erosion control details for stream crossings. The DOE Western Washington Stormwater Manual, modified as appropriate for Kittitas County, will be used for guidance in development of the erosion

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control measures (the applicant was informed by DOE that because the Eastern Washington manual is not yet approved and available, the Western Washington manual should be used). The total volume of materials removed from jurisdictional waters will be 47.1 cubic yards; the total amount of clean rock and gravel placed within the ordinary high water mark of jurisdictional waters will be 60.5 cubic yards

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A comprehensive mitigation plan is proposed for this Project. It consists of several categories of actions, including:

- Thorough study and analysis to avoid impacts;
- Project design features to minimize impacts;
- Construction techniques and Best Management Practices (BMPs) to minimize impacts;
- Post-construction restoration of temporarily disturbed areas;
- Operational BMPs to minimize impacts;
- Monitoring and adaptive management to minimize impacts during operations; and
- Acquisition and enhancement of on-site habitat: a large contiguous area of good quality habitat that faces immediate threat of development.

The impact to the .03 acres of Class 4 wetlands will be mitigated by preservation and enhancement of 8 acres of riparian land in the mitigation parcel described in Sections 3.4.7.7-3.4.7.10 of the Application for Site Certification. Although the mitigation parcel has been determined to be in "fair" to "good" condition, several opportunities for enhancement exist that would be expected to raise habitat quality further. Primary among these is management and control of cattle grazing within the entire parcel, and

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especially within the riparian zone. A grazing management plan will be developed that eliminates cattle pressure on the most sensitive portions, and allows for reestablishment of native vegetation in specific problem areas.

Although high concentrations of noxious weeds were not found within the parcel, scattered patches and individuals (primarily diffuse knapweed [*Centauria diffusa*]) are present throughout. An overall noxious weed control effort for the parcel, developed in coordination with the Kittitas County Noxious Weed Control Board, would likely be effective at reducing or eliminating noxious weeds from the site, increasing the habitat quality and effectiveness.

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Exhibit 27-1 (PO-1)

Peggy O' Neill
Environmental Scientist

Education

MS, Environmental Sciences and Resources, Portland State University
BS, Earth Science, Western Oregon University

Distinguishing Qualifications

- 5 years of experience conducting biological investigations
- Work includes riparian corridor assessments, wetland delineations, vegetative analyses, and threatened and endangered evaluations
- Expertise in urban riparian ecology and wetland and riparian investigations in metropolitan areas
- Develops action plans for protection of riparian and stream habitat from impacts associated with urban development
- Experience performing environmental monitoring during construction phase of projects

Relevant Experience

Peggy O'Neill is an environmental scientist with 5 years of experience conducting biological investigations. Her work includes riparian corridor assessments, wetland delineations, vegetative analyses, and threatened and endangered evaluations. She provides a strong academic background in the environmental sciences with particular expertise in urban riparian ecology, as well as applied experience as a biologist on wetland and riparian investigations in metropolitan areas.

Ms. O'Neill has extensive experience in riparian and wetland habitat assessment. She has been integral in developing action plans for protection of riparian and stream habitat from impacts associated with urban development. Her responsibilities include public presentation of study results to coordinating agencies as well as to citizen groups.

Representative Projects

Wetland Delineation, Threatened and Endangered Plant Survey, Removal-Fill Permit Application, and Research Mitigation Options, Albany-Millersburg Joint Water System, Oregon. Performed wetland delineation on 107-acre city-owned site and for 3.2 miles in a 50-foot corridor along Century Drive in the Albany-Millersburg area. Purpose of the

wetland delineation was compliance with permit requirements of Section 404 of the Clean Water Act and the Oregon Removal-Fill law to facilitate construction of a joint water system to serve the two towns. Conducted a complete survey for sensitive plant species identified as potentially occurring in the area. Prepared a Joint Removal-Fill permit application, including coordination with the appropriate jurisdictional agencies. Prepared a technical memorandum detailing mitigation options, including timelines, and estimated installation costs.

Threatened and Endangered Plant Surveys, Cielo Wind Power, Goldendale, Washington. Conducted protocol-level surveys for threatened and endangered plant species identified as potentially occurring in the vicinity of the project area. Purpose of the survey was to facilitate siting of wind turbines for generation of electric power. Identified and mapped major plant populations. Made recommendations for siting wind turbines to minimize and/or avoid impacts to sensitive species.

Wetland Delineations and Functional Assessments, Clark County Public Works, Washington. Performed wetland delineations and conducted functional assessments to facilitate proposed road improvements along NE 179th Avenue in northern Clark County. Delineated all wetlands within a 200-foot corridor along NE 179th Avenue from NE 10th Avenue to NE 50th Avenue and from I-5 to NW 11th Avenue, in accordance with Clark County Wetlands Ordinance and Washington Department of Ecology wetland identification guidelines. A wetland functional assessment was conducted for each identified wetland using the Department of Ecology *Methods for Assessing Wetland Function, Volume 1: Western Washington* and the *Washington State Wetlands Rating System for Western Washington.* The assessments included an evaluation of potential presence of sensitive plant, animal, and fish species within the project area.

Mitigation Monitoring, Intel Corporation, Hillsboro, Oregon. Conducted baseline, quarterly, and annual monitoring of two wetland mitigation projects. Evaluated projects based on established criteria for success of the mitigations. Monitoring included evaluating plant species abundance and condition and assessing hydrological conditions and wetland soil development. Prepared quarterly reports with maintenance recommendations. Annual reports were prepared and submitted to the client and the appropriate regulatory agencies in accordance with conditions of the permits.

Wetland Determination, Habitat Evaluation, Joint Removal-Fill Permit Application, and Jackson County Floodplain Permit, Jackson County Department of Public Works, Oregon. Performed a determination of wetlands and a habitat evaluation in the vicinity of two proposed bridge replacement projects . Habitat evaluation included an assessment of stream conditions and potential presence of sensitive terrestrial and aquatic species within the project areas. Prepared a Joint Removal-Fill permit application for proposed impacts to wetlands and waters of the state. Prepared a Jackson County Floodplain Permit in accordance with local regulations.

East Vilas Road Mitigation Monitoring, Jackson County Department of Public Works, Oregon. Performed quarterly monitoring of East Vilas Road mitigation sites, which included an assessment of plant survival, development of wetland soil conditions, and evidence of wetland hydrology. Prepared quarterly reports with maintenance recommendations for the client. Prepared annual monitoring reports for submittal to the appropriate jurisdictional agencies in accordance with terms of the Removal-Fill permits.

Plant Species and Noxious Weed Surveys, West Eugene Parkway, Oregon Department of Transportation, Eugene, Oregon. Conducted a protocol-level survey for sensitive plant species identified as potentially occurring in the vicinity of the project area. Also conducted a survey for noxious weeds as listed by the Bureau of Land Management and the City of Eugene noxious weed list.

Wetland Delineation, Threatened and Endangered Species Evaluation, Properly Functioning Condition Assessment, Revegetation Plan, and Biological Assessment, Rock Creek Grade, Oregon Department of Transportation, Olex, Oregon. Purpose of these investigations was to facilitate a bridge replacement and road realignment for Oregon Highway 19 at Olex, approximately 20 miles north of Condon. Conducted field investigations to delineate wetlands and to evaluate the habitat for potential presence of sensitive plant and animal species identified as potentially occurring within the project area. Evaluated Rock Creek and adjacent riparian areas according to Proper Functioning Condition protocol. Designed a revegetation plan for proposed impacts to streamside vegetation. Prepared a biological assessment addressing possible impacts to listed species within the project area.

Experience Prior to CH2M HILL

Habitat Assessment and Action Plan, Wilsonville, Oregon. Managed a multi-disciplinary natural resource evaluation of Wilsonville Memorial Park and surrounding properties to assist the City in planning for location of a new city hall/town center complex. Performed assessments of wetland and riparian habitats. Made recommendations for integrating protection of natural resources with proposed development plan. Coordinated with city officials and local planners, including presentation of findings to development panel.

Habitat Assessment and Enhancement Recommendations, Beaverton, Oregon. Conducted wetland, riparian, and natural resource inventories for a 200-acre urban reserve area proposed for urban development in accordance with State of Oregon Goal 5 requirements. Assessed function and values of wetlands and riparian corridors, delineated all wetlands on site, and assisted in stream and wildlife assessments. Identified design criteria and made recommendations for plan modifications to minimize impacts to natural resources. Coordinated with local, state, and federal regulatory staff to prepare conceptual mitigation designs for unavoidable impacts to wetland and riparian areas within the proposed project area.

Wetland Mitigation/Creation, Tillamook Lumber, Tillamook, Oregon. Performed environmental assessments and natural resource inventories necessary for project development and permitting for expansion of existing operation. Developed mitigation plan for impacts to wetlands associated with relocation of a stream channel within the impact area. The plan included habitat restoration and a streambank stabilization plan designed using a variety of bioengineering techniques. The plan was developed with the participation of local, state, and federal agencies, and included public involvement.

Wetland Buffer Mitigation, Parr Property, Columbia Gorge Scenic Area, Hood River, Oregon. Prepared mitigation plan for impacts to a wetland buffer in conjunction with private property development. Identified design criteria and prepared conceptual mitigation plan to meet Hood River County regulations as specified by the Columbia Gorge

Scenic Area Act. Coordinated with county and Gorge Commission officials to prepare, supervise installation of, and monitor success of final mitigation design.

Wetland Determination, Andresen Road, Vancouver, Washington. Conducted a determination of wetland conditions on property adjacent to I-205 and Andresen Road in Vancouver to support buyer in a property transaction. Identified design constraints for the site. Identified potential mitigation opportunities, including approximate cost estimates. Provided expert testimony in dispute between buyer and seller.

Wetland Delineation, Assessment, and Buffer Mitigation, Cape Horn/Skye Elementary School, Washougal, Washington. Performed wetland delineation and assessment of wetland functions and values to support development and permitting for a school expansion project for Camas School District No. 117. Developed mitigation plan to compensate for unavoidable impacts to wetlands. The plan was coordinated with local, state, and federal regulatory agencies and included an educational component for student involvement in the project.

Papers and Presentations

"Biogeographic Variation and Riparian Plant Species Diversity in an Urbanizing Oregon Basin," paper presented at the International Conference on Riparian Ecology and Management in Multi-Land Use Watersheds, Portland, OR, August 2000.

Memberships in Professional Organizations

Society of Wetland Scientists
Native Plant Society
Ecological Society of America
Wetlands Conservancy