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Secretary  
WA Utilities and Transportation Commission  
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July 18, 2003

**Re: NW Energy Coalition Comments on Puget Sound Energy Least Cost Plan, Docket  
Nos. UE-030594 & UG-030595**

Dear Ms. Washburn,

Thank you for the opportunity to provide written comments on Puget Sound Energy's (PSE) least cost plan submitted on April 30, 2003. The Coalition wants to take this opportunity to commend PSE on the rigorous supply-side analysis conducted for this least cost plan as well as the utility's efforts to engage stakeholders in the development process.

PSE plans to submit a supplemental least cost plan at the end of August to address demand-side resource availability and options. We recommend the Commission wait for that document before issuing a final acknowledgement letter to PSE with regard to its overall 20-year plan. We believe it is imperative to examine the supply and demand side analyses together as a comprehensive snapshot of PSE's resource outlook and plan for meeting customer needs. WAC 480-100-238 specifies that an electric least cost plan describe "the mix of generating resources and improvements in the efficient use of electricity that will meet current and future needs at the lowest cost to the utility and its ratepayers." Further, the plan must include "an assessment of technically feasible improvements in the efficient use of electricity, including load management, as well as currently employed and new policies and programs needed to obtain the efficiency improvements." Similarly, WAC 480-90-238 specifies that a gas least cost plan describe "the strategies for purchasing gas and improving the efficiencies of gas use that will meet current and future needs at the lowest cost to the utility and its ratepayers consistent with needs for security of supply." Further, the plan must include "an assessment for each customer class of the technically feasible improvements in the efficient use of gas, including load management, as well as the policies and programs needed to obtain the efficiency improvements." Waiting until the demand-side analysis is completed and submitted to the Commission prior to issuing a letter of acknowledgement reflects the intent of the rules to ensure a comprehensive 20-year plan.

The August demand-side plan deadline is fast-approaching - waiting to receive that plan before issuing an acknowledgement letter would not significantly delay Commission action. We also recommend that the Commission provide PSE with preliminary comments on the April plan as soon as possible to enable the utility an opportunity to address those comments in its August report and make modifications as needed.

Our specific comments and recommendations with regard to the April plan follow.

### **Support PSE's goal of serving 10% of load by 2013 with "renewable" resources**

In its least cost plan, PSE sets a *target* of meeting 5% of its customers' needs (125-133 aMW) and a *goal* of meeting 10% of its customers' needs (250-266 aMW) with renewable energy by 2013. The Coalition strongly supports a minimum goal of serving 10% of customer needs with clean new renewable resources by 2013. Non-hydro renewable resources like wind and biomass will mitigate risks faced by the utility and its customers, particularly those related to fuel price, human health and the environment. For example, renewables promote power price stability by avoiding risks associated with the volatile natural gas market. A recent analysis assigned a proxy for the value of the physical hedge provided by renewables at \$5.50/MWh.<sup>1</sup>

The Tellus Institute recently analyzed the potential for wind, biomass and geothermal resources in the Pacific Northwest.<sup>2</sup> The study found that up to 35% of regional demand could be met with these renewable resources available in the region, and further that "significant increases in the contribution of renewable resources ...should be possible without major electricity price increases" (p. 45). Potential for new renewable resources exists within PSE's service territory as well as elsewhere in Washington and the region. New renewable resources provide additional benefits to Washington State through local economic development opportunities and job creation.

PSE also proposes to acquire renewable energy for half of its own needs next year and for all of its own needs starting in 2006. Further, PSE plans to set goals and develop a 5-year plan for the use of renewable resources by its employees. We fully support these efforts by PSE to lead by example.

We recommend that the Commission encourage PSE to meet its goal of serving at least 10% of customer needs by 2013 with new renewable resources, and meet all of its own needs with renewable resources starting in 2006.

### **Encourage PSE to meet load growth with energy efficiency and new renewable energy**

The April plan indicates that PSE can meet load growth through 2013 with renewable resources that grow to 10% and energy efficiency at 15 aMW/year. During that time period, PSE expects load to grow by approximately 1.2% (not accounting for new conservation). PSE's need for both near-term and long-term resources is driven more by resource expirations than load growth. The Tellus analysis shows that the region can more than meet load growth through 2020 with efficiency and renewables. At a minimum, we believe PSE should pursue a goal of meeting all future load growth with these clean energy resources. We encourage PSE also to consider replacing expiring resources with efficiency and renewables to the extent practicable over the long-term.

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<sup>1</sup> Owens, B. "Renewables as a hedge against gas price movement: An effective tool for policy-makers, utilities and stakeholders." Public Utilities Fortnightly. March 15, 2003.

<sup>2</sup> Lazarus, M., D. von Hippel, & S. Bernow. Clean Electricity Options for the Pacific Northwest: An Assessment of Efficiency and Renewable Potentials through the Year 2020. Tellus Institute. October 2002.



## **Urge PSE to acquire all cost-effective, achievable energy efficiency in its service territory**

The April plan includes a placeholder for 150 aMW of new conservation over the next 10 years. PSE currently is conducting a rigorous analysis of the conservation potential in its service territory, to be reflected in its August plan. The utility will then work with the Conservation Resource Advisory Group to develop programs to achieve its proposed annual conservation targets. The opportunity exists now for the Commission to send PSE a positive message of support for acquiring all achievable, cost-effective conservation identified through its market assessments and analyses, consistent with regional and state energy policies.<sup>3</sup> Further, we urge the Commission to clarify that financing energy efficiency up front with cash rather than as a capital expense over time should not act as a barrier to acquiring available energy efficiency.

PSE also should examine other demand-side opportunities such as fuel-switching and buy-back programs as options to meet its energy and peak needs. The August plan should include analysis and discussion of these options. PSE currently is conducting a pilot fuel-switching program. We recommend that the early results of that program be incorporated into the December plan. Both the electric and gas implications of a robust fuel-switching program should be analyzed and discussed.

Finally, the plan indicates that “a decision by PSE to acquire a new generation resource will not come at the expense of its corporate commitment to conservation” (p. 13-2). We commend PSE for its renewed commitment to conservation. We expect PSE to maintain that corporate commitment, and ask the Commission to support the utility in prioritizing cost-effective conservation above other resources.

## **Request PSE to remove municipal solid waste and qualified hydropower from its definition of “renewable energy”**

The term “renewable energy” generally implies clean resources that can provide diversity benefits to a utility’s system mix. The April plan defines “renewable energy” as the electricity, gas or mechanical energy produced at facilities that are fueled by: (a) wind, (b) solar energy, (c) geothermal energy, (d) landfill gas, (e) municipal solid waste, (f) gas recovered from waste treatment facilities, (g) biomass, (h) wave or tidal action and, (i) qualified hydropower (as defined in RCW 19.29A.090). This definition

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<sup>3</sup> According to RCW 43.21F.010, “The legislature finds and declares that it is the continuing purpose of state government, consistent with other essential considerations of state policy, to foster wise and efficient energy use and to promote energy self-sufficiency through the use of indigenous and renewable energy sources, consistent with the promotion of reliable energy sources, the general welfare, and the protection of environmental quality.” Further, “it is the policy of the state of Washington that: (1) The development and use of a diverse array of energy resources with emphasis on renewable energy resources shall be encouraged; ... (3) The development and use of energy resources shall be consistent with the statutory environmental policies of the state; [and] (4) Energy conservation and elimination of wasteful and uneconomic uses of energy and materials shall be encouraged, and this conservation should include, but is not limited to, resource recovery and materials recycling.” (RCW 43.21F.015) The Pacific Northwest Electric Power Planning and Conservation Act of 1980 requires the Northwest Power Planning Council to prepare and adopt a regional conservation and electric power plan that gives “priority to resources which the Council determines to be cost-effective. Priority shall be given: first, to conservation; second, to renewable resources; third, to generating resources utilizing waste heat or generating resources of high fuel conversion efficiency; and fourth, to all other resources.” [§4(e)(1) of the Act, 94 Stat. 2705.]

includes municipal solid waste (MSW), which is not considered under Washington State statute as a renewable resource or a qualified alternative energy resource (RCW 19.29A.010; 19.29A.090). MSW generally is not considered an environmentally preferred resource due to the air emissions from incinerating trash as well as the potentially toxic ash that is produced.

The general public associates the term “renewable energy” with clean resources. To avoid the potential for confusion, we strongly recommend that PSE remove MSW from its definition of renewable energy. PSE still could pursue this resource elsewhere in its acquisition strategy.

We also recommend that PSE remove qualified hydropower from its definition of renewable resources. While hydropower clearly is a renewable resource, and is recognized as such in statute, we believe the focus of the 10% goal should be on diversifying PSE’s resources. In 2002, hydropower served 46.42% of PSE’s load.<sup>4</sup> The April plan indicates PSE’s expectation that hydropower will serve 39% of load in 2003, and at least 32% in 2013. Clearly, hydropower will continue to comprise a significant portion of PSE’s resource mix. We encourage PSE to acquire low-impact hydropower and increase efficiency at existing hydropower facilities to serve customers’ needs, but we recommend that resource acquisition occur independently of the 10% renewables goal.

### **Urge PSE to look beyond expensive, polluting, inefficient single-cycle natural gas plants (SCT) and identify cleaner alternatives for backing up wind power**

In its analysis, PSE modeled wind power as the proxy for new renewable resources. In so doing, PSE assumed that single-cycle natural gas plants would be used to back-up intermittent energy output from wind power. The analysis also seems to have assigned no capacity value to wind energy.<sup>5</sup> As a result, the model shows that serving more than 5% of customer needs with new renewables increases both cost and risk. We believe an SCT should be the resource of last resort to firm wind. Using gas to firm wind not only undercuts the environmental benefits of using wind power, but also diminishes the value of wind power as a hedge against volatile gas prices. Further, we recommend assigning a specific capacity value to wind energy. Typically, that capacity value is considered to be approximately one-third of the maximum potential output of a wind facility.

We support PSE’s plan to include a more robust analysis of wind power integration in its December 2003 plan. Examples of other resources that could provide firming capabilities for wind power include hydropower, other renewable resources such as biomass that typically have higher production factors, and wind facilities located in different geographic areas. With regard to firming wind with hydropower, we recommend PSE consider in its analysis the amount of hydropower storage available as well as fish and wildlife constraints that may prevent use of hydropower under different circumstances.

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<sup>4</sup> PSE’s fuel mix disclosure report, as issued by CTED Energy Policy Group on 6/25/03.

<sup>5</sup> We note that an annual capacity factor of 30% for wind power is assumed in Chapter 11-30 for the analysis of the impact of CO2 credit prices on generation technologies.

We also are optimistic that PSE's recent contract for output from the Stateline wind facility will enable the utility to gain direct experience with integrating wind into its system. That experience also should be discussed in the December plan.

### **Urge PSE to include in its December plan an examination of other renewable resources beyond wind power**

In its April plan, PSE used wind power as a proxy for new renewable resources. We support PSE's intent to expand the scope of its analysis to include other renewable resources such as biomass and geothermal power, and recommend that analysis be reflected in the December plan. Distributed biomass opportunities in particular are available within PSE's service territory, and could provide system benefits by reducing the need for additional transmission capacity over the long-term.

### **Dissuade PSE from pursuing new coal resources**

PSE's least cost plan suggests that more than one-half of energy demand will be met with fossil fuels by 2013. Costs to human health and the environment, including respiratory problems and global warming, make gas- and coal-fired electricity even more expensive than existing projections suggest. Over-relying on fossil fuels is a risky proposition (in part because PSE's other significant resource, hydropower, is cost-correlated with natural gas).

In its recently submitted least cost plan, PacifiCorp assumed that any new fossil fuel plant will have to pay at least \$8/ton for carbon dioxide (CO<sub>2</sub>) emissions. The Regional Technical Forum assigned a value of \$15/ton for CO<sub>2</sub>. The Climate Trust in Oregon and Seattle City Light (SCL) recently have received project proposals for CO<sub>2</sub> emissions mitigation at an average cost of \$2-3/ton. Exhibit 11-26 in PSE's April plan shows a "tipping point" at which natural gas is cost-desirable over coal (appx. \$3/ton), and separately a point at which wind is cost-desirable over coal (appx. \$8/ton)<sup>6</sup>. This tipping point clearly falls within the realm of likelihood and must be considered when making resource acquisition decisions.

PSE did not include emissions assumptions regarding mercury in its screening model (p. 11-31). Coal plants emit significant quantities of mercury, and the likelihood is increasing that mercury emissions will be regulated on a national level. The cost of addressing these emissions also points to coal as a risky acquisition.

We recognize that PSE's plan indicates no near-term acquisition of new coal resources, but it does refer to the potential for exploring new coal post-2006. Exhibit 2-10 shows PSE acquiring approximately 375 aMW of new coal between 2006 to 2013. We recommend the Commission send PSE a strong

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<sup>6</sup> It's important to note that the analysis assumed 100 MW of SCT added to wind for capacity reasons. The cost of SCT's as well as the fact that they release CO<sub>2</sub> likely resulted in a higher tipping point than would have been the case if a different source of back-up power had been assumed for wind.

signal to avoid pursuing new coal as this resource is risky for ratepayers and bad for human health and the environment.

**Encourage PSE to account for CO2 emissions mitigation in its resource plan and mitigate a meaningful amount of CO2 emissions from newly acquired fossil-fuel facilities**

Chapter 11 of the April plan accurately states that power plants in the U.S. are not currently subject to CO2 regulations. Appendix L refers to the Oregon CO2 standard enacted in 1997. However, the plan fails to acknowledge current activity in Washington. The Energy Facility Site Evaluation Council (EFSEC) has required CO2 emissions mitigation for plants sited or amended in the past few years (Sumas 2, Chehalis, Satsop 1, Wallula) and is in the process of developing a standard rule for CO2 mitigation for future natural gas power plants greater than 350 MW. On Thursday July 17, 2003, EFSEC held a public hearing as its final step prior to releasing a draft CO2 rule that will apply to future natural gas power plants. The Department of Ecology announced at that hearing that it plans to initiate a process this fall to develop a CO2 standard for power plants smaller than 350 aMW. The Puget Sound Clean Air Agency (PSCAA) is utilizing its authority under the State Environmental Policy Act to require CO2 emissions mitigation for new facilities under its regulatory purview (e.g., PSCAA assumes that it will address permits for at least three gas plants this year). PSE should account for existing and expected CO2 mitigation requirements in its resource acquisition strategy<sup>7</sup>, as well as address additional future potential requirements under state and/or federal laws and rules.

On a broader scale, on February 20, Washington State's Attorney General Christine Gregoire joined the Attorneys General from six other states in announcing plans to sue the Bush Administration over its failure to regulate CO2 emissions from the nation's power plants, claiming that the administration's current policy regarding CO2 emissions violates the federal Clean Air Act and contributes significantly to global warming. Their intention is to compel the federal Environmental Protection Agency (EPA) to revise national regulations governing power plant emissions. A Gallup poll conducted March 3-5 found that 75% of Americans favor "imposing mandatory controls on carbon dioxide emissions and other greenhouse gases." These are additional indicators of the strong potential for broader CO2 emissions mitigation requirements for new power plants in the foreseeable future.

Chapter 2-11 shows PSE's electric resource addition strategy leading to acquisition of approximately 800 aMW of new natural gas power from 2004-2013, as well as approximately 375 aMW of new coal from 2006-2013. We urge the Commission to encourage PSE to commit to mitigating CO2 emissions from its fossil fuel resources even in the absence of a state or federal standard. In so doing, PSE can help address a real threat to our environment and way of life (e.g., the University of Washington climate team is projecting temperature increases in Washington of roughly 1 degree F. per decade and loss of roughly 80% of snow pack in this century), while also positioning itself for economic success in the low-

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<sup>7</sup> PNW cities such as Olympia, Spokane, Seattle, Portland, and Missoula also are reducing greenhouse gases under the Cities for Climate Protection Program. While it is unlikely that PSE would pursue a new fossil fuel power plant within any of these city limits, it's important to keep in mind that local action to reduce emissions is occurring in the absence of consistent federal and statewide standards.

carbon, high-efficiency economy of the future. With the ratification of the Kyoto treaty in most advanced economies, much of the world is preparing to operate under binding constraints on greenhouse gas emissions with the right to emit CO2 becoming an increasingly scarce and valuable commodity. Recognizing this risk, a consortium of institutional investors representing over \$4 trillion in assets announced in February that they are revaluing the world's 500 largest corporations based on their exposure to climate-related damages, carbon risk, and their position with respect to fossil fuel and clean energy markets<sup>8</sup>. Increasingly, cleaner power will be worth more in the electricity marketplace. By assuming zero carbon mitigation in its least cost plan, PSE clearly misses the mark from a risk assessment and an economic opportunity perspective.

Addressing CO2 emissions up front represents an appropriate risk mitigation strategy for the utility and its customers. To the extent that this is ignored, the risk should be borne by the utility and its shareholders rather than the ratepayers.

### **Ask PSE to update its natural gas price forecast**

PSE obtained its natural gas price forecast from the PIRA Energy Group in January 2003 (Chapter 11-10). PIRA's long-term forecast of market prices for natural gas at Sumas rises to \$4.25/MMBtu by 2023 while the Northwest Power and Conservation Council's medium forecast rises to almost \$6.50 by 2023.<sup>9</sup> Cambridge Energy Resources also has forecast higher gas prices over time than PIRA. We understand that PSE plans to include in its August plan an updated forecast of natural gas prices. We support that intention, and ask the Commission to request this update.

Thank you again for the opportunity to offer these written comments on PSE's April least cost plan. Coalition Policy Director Nancy Hirsh will attend the public hearing in Bellevue on July 21 to offer the Coalition's perspective on the least cost plan and answer questions from the Commission.

Sincerely,

Danielle Dixon  
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<sup>8</sup> See <http://www.climatesolutions.org/pages/eNewsbulletins/March2003/MoneyTalks.htm>

<sup>9</sup> Based on materials distributed at PSE's CRAG meeting on July 16, 2003.