



STATE OF WASHINGTON
Office of Trade and Economic Development

ENERGY POLICY

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July 24, 2001

Carole Washburn
Executive Secretary
Washington Utilities and Transportation Commission
PO Box 47250
Olympia, WA 98504-7250

SUBJECT: DOCKET NO. UE-992027 AND UG-992028
PUGET SOUND ENERGY 2000-2001 ELECTRIC AND GAS LEAST COST PLAN

Dear Ms. Washburn:

The Washington Office of Trade and Economic Development (OTED) is pleased to submit these comments on Puget Sound Energy's December, 1999, Least Cost Plan. OTED was an active participant in PSE's Technical Assistance Group (TAG), and had several follow-up discussions with the company regarding its resources. Our comments address the need for comprehensive resource planning beyond the scope that is included in PSE's 1999 plan and identify what we consider to be insufficient elements of their Plan as indicated by the Washington Administrative Code (WAC).

The current plan was produced during an environment of legislative and regulatory uncertainty regarding the structure of retail energy markets in Washington. PSE constructively addressed some of this debate in their Plan by describing their resource situation under several different scenarios including the advent of retail access. However, the potential for regulatory or legislative change does not absolve the company of its obligation to procure sufficient energy resources to meet the needs of its retail customers at the least cost to society. Nor does the emergence of an active short-term market for electricity absolve the company of its obligation to plan for the long-term needs of its customers. The events of 2000 and 2001 have vividly demonstrated the dangers of short-term planning horizons.

The plan as submitted fails to meet the directives in the Least Cost Planning WAC. Therefore we ask the Commission to direct PSE to initiate a new, more thorough Least Cost Plan with the following elements.

- A comprehensive resource plan that demonstrates how the company will procure firm power supplies to meet firm loads over the next several years.

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- An assessment of technically feasible improvements in the efficient use of electricity and natural gas including load management and specifically including an acquisition plan for capturing cost-effective conservation.
- The necessary modeling for minimizing system costs that includes a comparative evaluation of electricity generation resources (including non-hydropower renewable resources), long- and short-term market purchases, and energy efficiency improvements.
- A description of the role of fuel switching retail electrical load and its function in providing energy service -- energy and delivery -- to customers at the lowest total cost.

Again, we thank you for the opportunity to offer comments.

Sincerely,

Elizabeth C. Klumpp
Senior Energy Policy Specialist

Enclosure(s)

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WASHINGTON OFFICE OF TRADE & ECONOMIC DEVELOPMENT
COMMENTS ON PUGET SOUND ENERGY 2000-2001 ELECTRIC AND GAS LEAST COST PLAN

Electric Resource Planning

Puget Sound Energy's (PSE) Least-Cost Plan proposes a significant reliance on market purchases to meet loads: "Considering that PSE presently purchases approximately 65 percent of the power in its electric supply portfolio and the industry conditions discussed in this plan, PSE believes it is best positioned to meet its customer's electrical energy needs by focusing on being an effective buyer as competitive electric markets continue to evolve, and by relying less on owning and operating new generation resources."¹ Given the extraordinary volatility in short-term electricity markets over the past twelve months, we believe that this aspect of the Plan needs a great deal of additional scrutiny. PSE should outline in detail how it intends to manage the risks associated with wholesale price fluctuations. Will PSE rely substantially on short-term purchases, or does it intend to enter into additional longer-term contracts as well? Does it intend to make use of financial hedging products as a tool to obtain price stability? How will the risks inherent in these activities be shared between shareholders and ratepayers? The potentially severe consequences of making losing bets in short-term power markets make it imperative that the disposition of both the risks and the rewards associated with these activities be well understood by all parties.

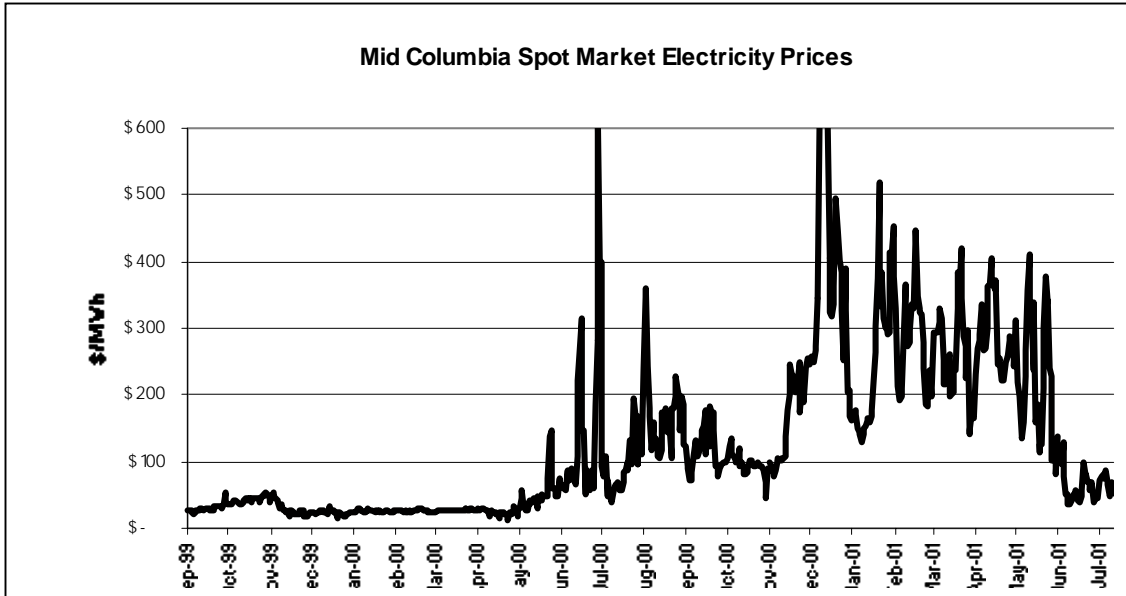
PSE deserves credit for managing the events of the past year in such a way as to avoid incurring significant costs on behalf of core customers, especially considering that other, similarly situated utilities have raised rates by 30-60 percent. Of course, it has been operating during the last few volatile years in a uniquely forgiving environment in part because four to five years ago industrial customers representing approximately 500 MW of load initiated their pursuit for direct access to the power market and because PSE has had enough resources to serve its core customers through 2006-2007 even in a critical water year, as indicated by its Plan. In the medium load growth scenario PSE had sufficient resources to serve even the 500 MW of industrial "non-core" load that has been served at market rates since 1996. PSE's Plan indicates that it has not been short on power over the course of a year since it was published.

However, the events of 2000 and 2001 have highlighted the very real danger that power might not be available in the short-term market at any price. Reliance on short-term markets to meet firm loads therefore appears to introduce a reliability risk, with consequent public health and safety concerns. The Commission should insist that PSE's Plan continue to demonstrate sufficient firm resources to meet anticipated firm loads under critical conditions.

Power Market Price Signals

PSE's 1999 IRP, their first in many years, indicated that PSE would, in the near future, rely heavily on passing power market price signals through to customers as their means to obtain voluntary demand management from customers and to eliminate their need to secure long-term resources for their customers. While we see the potential for significant value in providing more timely information to customers about the consequences of their energy consumption decisions, the act of sending price signals does not absolve a utility of its long-term resource planning responsibilities. An electric utility in Washington is still a monopoly provider of power that needs to hedge market prices and volatility by developing an energy resource package with which to serve its customers. A utility needs to manage the vagaries of the market to the benefit of their customers; this includes the need to balance the frequently competing goals of stable prices versus low prices.

¹ Page 147, PSE 1999 Least Cost Plan.



Weighted Average Mid-C Prices from 9/99 through 7/01

PSE's pursuit of time of use pricing for its retail customers relies solely on providing timely information about wholesale market prices to induce conservation and load management. Although, real-time price information may be necessary to take advantage of the most sophisticated load management tools, it is not sufficient, on its own, to ensure that all economic investments in conservation and load management are undertaken. There are numerous, critical pieces of information and market infrastructure unavailable to the average customer that preclude power prices from serving as an effective market signal. Chief among them is information about how to reduce or manage energy consumption in a way that provides savings. In order to take full advantage of time-of-use price signals and provide savings to the integrated utility system, consumers will need a great deal of assistance to identify technologies that can help them achieve cost savings. Just as with traditional energy-saving technologies, utility programs are necessary to overcome lack of information and other market barriers that would otherwise slow the market penetration of cost-effective technologies.

PSE's plan indicates a willingness to consider such programs: "PSE plans to investigate approaches that use enabling technology to provide real market signals to customers and thereby enable active conservation and load management." It is disappointing that PSE is not actively pursuing the opportunity to enable load management technologies, especially considering that the Department of Labor and Industries has recently announced their willingness, in an emergency rulemaking, to lower both the frequency and cost of previously required inspections for the installation of load control devices in utility programs.

We believe that there is a role for real time meters and time of use prices in our electricity system. Indeed, OTED's *2001 Biennial Energy Report*² to the legislature includes an eighteen page section, "Managing Washington's Demand for Electricity" that addresses many of the different strategies for managing and reducing electrical loads through a range of activities including energy efficiency, real time pricing programs, power buy-back programs, and peak load management programs. It describes the variety of the programs that had been piloted or operated to date and the potential benefits of load management strategies. These potential benefits include increasing the reliability of the power system, reducing electricity wholesale price spikes, and reducing reliance on diesel generators and the need for peaking-only generators.

² Washington State Office of Trade & Economic Development, "2001 Biennial Energy Report" is available at <http://www.energy.cted.wa.gov/>

Specifically, we recognize that real time price signals can create opportunities for consumers to participate in load management programs *if* the necessary infrastructure, such as the appropriate load control technologies and utility sponsored load control programs, exists. We indicate in another recent report that, “Retail energy rates that better reflect wholesale market conditions might encourage more conservation during times of tight supplies. Utilities and regulators should consider mechanisms that would encourage utilities and customers to better respond to market conditions by managing customer demand, while ensuring that customer retain the value of rate-based resources and are given the tools they need to respond to changing rates.”³ Program research and program experience indicates that “Participating customers’ willingness to respond to prices is influenced by their ability, or that of their energy provider, to intelligently use load management technologies such as control systems, their access to flexible end-use technologies (thermal storage or back-up generation), and their ability to adopt flexible production schedules or to reschedule building operations.”⁴

In order to explore the best ways to empower consumers to leverage savings from time-of-use pricing programs, we recommend that PSE outline and develop, in their new Plan or earlier, a pilot program that distributes load control equipment, such as water heater controls, in homes with time-of-use rates. This pilot could evaluate results such as the energy use patterns in homes with utility-managed load control devices, compared to occupant-managed load control devices, compared to homes with no load control devices installed. Combining the installation of load control technologies with time-of-use prices may serve to highlight the value of real time meters and time-of-use prices.

Dual Fuel Resource Planning

We are enclosing for your review a copy of the Executive Summary from our recently published report, “Convergence: Natural Gas and Electricity in Washington.” The report addresses the interconnectedness of the two energy industries, as natural gas becomes a fuel of choice for generating electricity. The summary provides some suggestions for resource planners on both natural gas and electricity supply and price issues. The following are summaries of particularly relevant recommendations.

The state may wish to:

- *Consider ways to encourage utilities to maintain diverse resource portfolios.*
- *Consider ways to encourage additional investment in energy conservation and renewable resources as a hedge against volatile natural gas prices.*
- *Consider policies that would encourage the direct use of natural gas at the customer location and improve the efficiency of existing uses of natural gas. [For example, residential natural gas heating systems use natural gas 50-60 percent more efficiently than existing combine cycle combustion turbine generators. If a utility is purchasing electricity generated with natural gas then it could establish programs for both new and existing single and multi-family housing to ensure they are heated with natural gas.]*

These recommendations also to serve to highlight a limitation that we find with PSE’s Plan. Instead of including a model for minimizing system costs that allows for recognizing the changes in prices for various resources over time, it includes static charts of prices at a given point in time, typically 1998 prices. These static prices cannot serve as an effective planning tool for any utility operating in the current dynamic energy markets. For example, their Plan reads, “The primary benefit of centralized wind power plants is environmental, as it is not expected to be cost-competitive, on a commodity basis, with other technologies in the future.”

³ Washington State Office of Trade & Economic Development, “Convergence: Natural Gas and Electricity in Washington, 5/01, is available at <http://www.energy.cted.wa.gov/>.

⁴ Caves, D., K. Eakin, and A. Faruqui, April 2000. *Mitigating Price Spikes in Wholesale Markets Through Market-Based Pricing in Retail Markets*. Electricity Journal, Volume 13 Number 3.

The volume-weighted average of Dow Jones wholesale power prices at Mid-Columbia for 2000 was \$92 per MWh. For the first six months of 2001, prices averaged \$202 per MWh. Even under conservative assumptions about the cost of shaping and delivery, wind power is being offered in the region on a long-term basis for less than \$70 per MWh. Wind might well have had a role in providing cost-competitive resources during the first year of PSE's Plan. A dynamic model would provide indicators that signal when wind, or another resource, is either cost-competitive or an effective hedge for price stability.

The Electricity Efficiency Resource

The Company has included a chart labeled, "PSE Electricity Conservation Supply Curve by Sector and End Use." However, it does not indicate the avoided levelized cost that PSE staff used to determine that 14.5 aMW of electricity efficiency savings were annually available in their territory. It does not communicate what measures or programs would come on-line or off-line as avoided costs changed and it does not outline a strategy for acquiring these cost-effective resources. The Company's Plan cannot adequately convey that they are, at any point in time, capturing the available cost-effective energy efficiency resource.

Regional analysis of the Northwest Power Planning Council's 1995/1996 conservation supply curves (which many stakeholders believe underestimated the industrial potential by approximately 50 percent) indicates that 11 to 13 average megawatts (aMWs) of electricity savings at a cost effectiveness level of 24 mills per kilowatt-hour (kWh) are available to PSE. At 50 mills, or \$50 per megawatt-hour (MWh), the Council's analysis indicates that 14 to 17 aMWs of cost-effective electricity savings are available annually in their service territory. PSE reports achieving approximately 4 aMW in 1999 and 7.3 aMW in 2000.

We offer one more point of reference on the possible available efficiency resource in PSE's service territory. Seattle City Light is estimating that in 2001 they will achieve first year electricity savings that are approximately equal to 1 percent of their load. PSE is estimating that they will achieve electricity savings equal to nearly 0.4 percent of their load.

The earlier Figure 1 provides the Mid-C volume-weighted spot price from September 1999 through July 2001. If the Company is relying heavily on the wholesale market prices as a signal for the cost or value of electricity, and they consider the conservation resource potential outlined in the Council's Plan, then there are minimally 14 to 17 aMW of cost-effective electricity savings available in the PSE service territory through efficiency measures.

It is necessary to clarify that the Council's analysis does not indicate the temporary savings available to the region if people stop using electricity, or reduce their consumption in response to a public call to cut back. The Council confines its analysis to the magnitude of electricity savings available within the region that can be obtained through true energy efficiency. That means the electricity savings potential in the Council's Plan, by definition, does not diminish a resident's lifestyle or reduce an industry's production schedule. In fact, energy efficiency measures frequently enhance comfort or increase productivity. The savings from energy efficiency measures endure for the life of the measure, possibly ranging from three to twenty plus years. Therefore, savings from buy-back programs or campaigns to reduce use should be analyzed outside of the scope of the Council's saving estimates.

Due to the nature of the energy efficiency resource, we do not suggest that a utility synchronize its efficiency programs with any external measure as volatile as the past year's wholesale electricity markets. Successfully achieving electricity or natural gas savings through efficiency measures requires partnerships with retailers, manufacturers, installers and suppliers of efficiency goods and services and requires a marketing presence to consumers. With the exception of some simple to install measures such as compact fluorescent bulbs or energy misers that control the energy use of

vending machines, many measures rely on longer-term partnerships and infrastructure. These measures should be compared to the total cost – resource costs, environmental costs, health costs - of acquiring generation resources over a similar time frame. An appropriate indicator might be bids on a five-year, fixed price contract for delivered firm power with environmental mitigation.

PSE writes in their Plan, "PSE, with the support and advice from the TAG process, developed the 1999 conservation program filing." Given that this Plan references discussions and filings nearly two years old, we would like to remind the Commission that OTED's March 1999 comments supporting PSE's energy efficiency program filing included five pages of concerns addressing both quantity and quality of their efficiency programs. We noted that PSE's low savings targets and budgets precluded the company from capturing all cost-effective energy efficiency in their service territory and that their programs appeared to focus heavily on reacting to customer service inquiries.

Northwest Gas Efficiency

PSE's Least Cost Plan indicates that the company is missing at least one-half of the energy efficiency resource in its service territory. We encourage the Commission to work with PSE to remedy this.

PSE's Plan indicates that 2.1 million therms of cost-effective energy savings are available in their natural gas sector over three years. In the absence of conservation supply curves for natural gas it is difficult to conclude whether this is or is not a meaningful target. (Regardless, we applaud the implementation of their natural gas efficiency programs. In two years, the energy efficiency staff at PSE has exceeded their three-year target by approximately 25 percent. We attribute this success in part to the merger because it unleashed Puget's electric efficiency engineers and managers in the relatively untapped natural gas efficiency market where they have achieved significant successes in the commercial and industrial sectors.)

Distributed Generation Technologies

PSE's Plan provides a description of a wide variety of distributed resource technologies available. It also includes scenario plans that address various adoption levels of distributed technologies. This is helpful information. However, the issue exists that most customers will never be aware of the opportunities for smaller-scaled, local generation. It would be useful, as a component of resource planning, for a utility to effectively educate its consumers on the availability, costs, and benefits of distributed generation technologies.

Request for a New Least Cost Plan

Resource planning is as relevant today in Washington as it has ever been. The Commission has a critical role in overseeing the development of resource plans for the state's investor-owned utilities. This is an opportune time to review our utilities resource plans. We look forward to assisting in any public review process.

In light of the WAC's requirement for utilities to develop a biennial Least Cost Plan, the fact that PSE's last Plan was submitted 18 months ago, and that the static nature of this document does not address so much of the industry evolution of the last few years, we recommend that the Commission direct PSE to immediately initiate a new Least Cost Plan. In particular we ask that it include a dynamic model for minimizing system costs and that this model analyze the costs and benefits to ratepayers of securing long-term resources as well as relying on power market purchases, an analysis of the costs and benefits of fuel switching, an assessment of technically feasible improvements in the efficient use of electricity and natural gas, and an action plan that includes a conservation acquisition plan that captures the larger resource available in their service territory.