Puget Sound Energy Resource Acquisition Program

August 25, 2003

Introduction

This document describes the development of Puget Sound Energy's program to acquire new electric resources during the next several years. The first section summarizes the electric resource strategy developed in PSE's Least Cost Plan. The second section discusses implications for acquisition of new long-term resources by PSE. The third section describes the process and schedule that PSE has developed to implement its program for acquiring new electric resources.

Least Cost Plan

Puget Sound Energy issued its Least Cost Plan on April 30, 2003. The Least Cost Plan sets forth PSE's long-term strategic plan to configure its energy resource portfolio to meet the needs of its retail customers cost-effectively while also protecting against significant sources of risk. The Company will issue a Least Cost Plan Update on August 29, 2003, including a detailed assessment of conservation resources and integration of conservation within its overall resource strategy.

A major input to PSE's Least Cost Plan is the long-term forecast of loads for PSE's retail electric customers. Another important input is reductions in the amount of existing power supplies in the Company's electric resource portfolio, including recent and future expirations of existing long-term power supply contracts. The following chart shows both the long-term forecast of retail electric load growth and expirations of existing long-term firm resources (based on the August 29, 2003 Least Cost Plan Update):



The Least Cost Plan uses this information along with a number of other forecasts, analyses and assumptions to identify PSE's year-by-year need for new electric resources during 2004-2023. To develop the projection of its needs for new resources, PSE simulated the performance of its electric resource portfolio, including expected cost to customers and risk (measured as variability of cost to customers). The portfolio modeling included Monte Carlo simulation of the effects of key sources of risk for the portfolio such as variability in wholesale market prices for electricity and natural gas and variability in hydroelectric generation. These integrated resource portfolio analyses identified costs and risks at a variety of levels of resource adequacy, ranging from no addition of new long-term firm resources to addition of long-term firm resources to meet or exceed the projected needs.

As a result of the portfolio modeling analyses and consideration of qualitative factors, PSE has adopted a balanced resource portfolio adequacy standard for electric energy and capacity. The energy portion of the resource portfolio adequacy standard balances the electric resource portfolio by adding new long-term firm energy resources sufficient to meet projected customer energy loads under average-year hydro conditions (with PSE's single-cycle combustion turbines assumed to be held available to serve energy loads during below-average hydro years). PSE's need for new energy resources under the adopted resource adequacy standard is shown in the following chart:



Similarly, the capacity portion of the resource adequacy standard identifies a need for new capacity resources sufficient to enable the portfolio to meet projected peak loads on cold winter days that the minimum-hour temperature at Sea-Tac Airport drops to 16 degrees Fahrenheit. PSE's need for new capacity resources at the adopted resource adequacy standard is approximately 1,000 megawatts in 2004 and grows to about 2,950 megawatts in 2013.

In addition to establishing a resource portfolio adequacy standard, the Least Cost Plan identifies a preferred mix of 'generic' resource technologies planned for addition to the portfolio during 2004-2013. The preferred mix of new electric energy resources includes:

- New electric conservation resources (including a goal to acquire an average of 19 aMW per year of new conservation during 2004-2013, from the August 29, 2003 Least Cost Plan Update)
- Renewable resources (including a goal to meet 10 percent of PSE's annual customer energy loads with renewable resources by 2013)
- Combined-cycle gas-fired turbine generation
- Coal-fired generation
- Seasonal exchanges or other seasonal shaping transactions

The following chart displays the diverse mix of new electric resources identified in the Least Cost Plan:



Strategy to Add a Diverse Mix of New Resources

Implications for Acquisition of New Electric Resources

The resource strategy developed as part of PSE's Least Cost Plan provides a "shopping list" that serves as a guide for acquisition of new electric resources. Some of the major implications from the Least Cost Plan include:

- 1. PSE has an existing need for new electric resources. The largest near-term driver for this need is the recent and impending expiration of several power supply contracts.
- PSE's Least Cost Plan resource strategy includes goal to acquire an average of 19 aMW per year of conservation during 2004-2013. This can meet a portion (192 aMW by 2013) of the Company's need for new electric resources. To meet the remaining need, it will be necessary to acquire new electric resources based on generating technologies.
- 3. PSE's strategy is to seek to acquire new resources from a diverse mix of resource technologies and fuel types. This diversified approach provides an important means to avoid the concentration of risks that could result from relying exclusively on a single resource technology to meet all of the need.
- 4. As PSE's need for new electric resources grows over time, it will be necessary and beneficial for PSE to make a series of resource acquisitions, rather than all at once. For example, a resource acquisition program that occurs in several stages helps spread risks and allows new information to be factored into the process over time.
- 5. PSE's need to acquire new electric resources has a seasonal "shape". In other words, PSE's need for new electric resources is largest during the winter months. In contrast, PSE does not have a current need for new resources during the summer months. This is illustrated by the following chart:



- 6. Accordingly, PSE's resource acquisition program should also seek to acquire new electric resources that can be "shaped" to fit the seasonal profile of its need, either directly or through companion transactions.
- 7. Evaluation of alternative proposals for new resource acquisitions must include analysis and comparison of the net impacts of each proposal on the costs and risks to PSE's retail electric customers. This type of analysis requires integrated modeling of new resource acquisition proposals within PSE's overall resource portfolio, including interactions between loads, existing resources, and new resources.
- 8. Therefore, a one-dimensional estimate of avoided costs does not provide a sufficient basis for evaluating and comparing new resource acquisition proposals.
- 9. As noted above, PSE has developed a strategy to acquire a diverse mix of new resource technologies. In addition to evaluating resource acquisition proposals in terms of net impacts on portfolio cost and risk, PSE is obligated to seek specific resource opportunities that have lower costs relative to other proposals for the same or similar types of resources (i.e., competing proposals within a resource technology). Therefore, early-stage evaluation of specific resource proposals that are based on the same resource technology (e.g., wind power, combined-cycle combustion turbines) can be aided by development of 'pro forma' avoided costs that are specific to that generic resource technology.
- 10. Acquisition of new electric resources to meet PSE's need for energy will also meet a portion of the Company's need for winter peaking capacity. It will be necessary to acquire capacity resources to meet the remaining need for winter peak capacity. Such resources could include winter peak-clipping or other forms of customer demand response, as well as generation-oriented capacity resources.

Resource Acquisition Program

PSE has developed a diversified, multi-stage resource acquisition program to implement the long-term resource strategy developed in the Least Cost Plan. The Company has designed this program to address the implications identified in the previous section of this document. The program is also designed to address various resource acquisition considerations that extend beyond the relatively generic context of resource planning.

PSE has been exploring opportunities to meet its near-term needs to acquire new resources through solicitations (outside the WAC 480-107-060 process) that the Company issued in August 2002 (assets) and November 2002 (power purchase agreements). Any acquisitions that result from those solicitations will only meet a portion of PSE's total need for new resources and may only meet a portion of its need for combined-cycle gas-fired turbine generation as idenitfied in the Least

Cost Plan. PSE will implement its resource acquisition program through a series of requests for proposals pursuant to WAC Chapter 480-107. These RFPs will be coordinated with completion of the resource solicitations that PSE began in 2002 and a screening solicitation for coal resources to be issued in Fall 2003.

The planned schedule for major elements of PSE's resource acquisition program during the next two years includes the following elements:

- (a) Completion of the competitive solicitations that PSE issued in August 2002 (assets) and November 2002 (power purchase agreements)
- (b) RFP for 150 MW of Wind Power Resources (Fall 2003)
- (c) Screening Solicitation for Coal Resources (Fall 2003)
- (d) Two or more RFPs for Resources with Stable Variable Costs, Including but not Limited to Coal and Large PURPA projects (Fall 2003/ Winter 2004)
- (e) RFP for Other Renewable Resources and Small Thermally-Matched Cogeneration (Early 2004)
- (f) Potential RFP(s) and/or Solicitation(s) for Seasonal Shaping (2004)
- (g) Possible Second RFP for Wind Power (2004 or 2005)

Summary information about PSE's resource acquisition program:

- The resource acquisition program is designed to result in acquisition of new resources to meet the needs of PSE and its retail electric customers at least cost and within acceptable risk. The program allows a broad variety of resource technologies to participate in the competitive resource acquisition process and be evaluated on a consistent basis.
- A specific set of avoided cost estimates will be developed for each RFP. These avoided cost estimates will be based on the type of resource technology(s) being solicited in the RFP. The avoided cost estimates will provide general information to potential respondents regarding the costs of new power supplies based on the generic resource technology requested under each RFP.
- 3. Where applicable, the RFPs will include requests for proposals under multiple acquisition approaches. One such approach would involve resource development by the respondent, leading to project ownership by PSE. Another example for the acquisition approach would be through a power purchase agreement.
- 4. PSE's evaluation of proposals submitted in response to each RFP will include analysis of each proposal's net impacts on overall cost and risk in PSE's electric resource portfolio.

- 5. PSE's evaluation of proposals submitted in response to each RFP will include evaluation of various risks and costs, including project permitting, financing and development risks. The evaluations will also address such topics as counterparty credit, imputed debt and compensating equity costs (for PPAs), security and control costs, resource integration, transmission and environmental considerations.
- 6. PSE will periodically update its resource acquisition program to reflect ongoing progress, including:
 - Results of each stage of resource acquisition
 - Biennial Least Cost Plans and Updates
 - Other new information and analysis
- 7. PSE is also evaluating alternatives for meeting its winter peaking capacity needs. Acquisition of capacity resources will be coordinated with acquisition of energy resources (including conservation and generation) and will consider demand response as well as generation-based forms of peaking capacity.