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Company: Puget Sound Energy (PSE)

Staff: Hank McIntosh, Regulatory Analyst
Nicholas Garcia, Policy Strategist
Joelle Steward, Regulatory Analyst
Yohannes Mariam, Regulatory Analyst
Dick Byers, Senior Electricity Policy Advisor

Background:

WAC 480-100-238 requires electric utilities to file Least Cost Plans every two years. WAC 480-90-238 requires gas utilities to file analogous plans every two years.[1] By Commission letter dated October 3, 2003, the Commission directed PSE to file its 2005 Least Cost Plan no later than May 1, 2005. PSE filed its plan on May 2, 2005, the first business day of the month.

Electric Plan Review

- Principal Findings: PSE faces a growing energy and capacity deficit, a need for additional transmission capability, as well as financial and credit constraints that affect power purchase agreements. Other concerns include uncertainties related to possible hydropower project relicensing environmental restrictions, and high and volatile natural gas prices.
- PSE's Objective: To develop an implementable plan in light of these challenges.
- Planning Approaches: PSE's planning standard is to maintain adequate resources to meet the highest average load each month. PSE also uses a 7 percent operating reserve in its peak hour forecast. PSE uses both scenario stress tests and stochastic computational analysis to evaluate resource portfolios and their risks.
- Resource Needs: PSE's need for new resources is driven by 1) expected annual load growth of 1.8 percent (970 average megawatts [aMW] over 20 years) and 2) an eroding resource base. PSE faces the expiration, between

[1] In the Fourteenth Supplemental Order to Dockets UE-951270 and UE960195, accepting the stipulation in the WNG and Puget Electric Merger, PSE was directed to produce a single plan satisfying the requirements of the two rules. This has become standard practice for PSE.

2011 and 2013, of contracts with three cogenerators in northwestern Washington (523 aMW) and its long-term contracts with the mid-Columbia hydroelectric projects (451 aMW).

Energy Deficit: Near-term deficit is 305 aMW by 2008. Mid-term deficit is 739 aMW by 2011. Long-term deficit reaches 1,471 aMW by 2013.

Capacity Deficit: PSE is deficit for meeting peak loads over entire planning horizon. (deficit starts at 1,000 megawatts electric [MWe] and grows to 4,000 MWe over 20 years) [see exhibit II-4 on page 5]

- <u>Long-term strategy</u>: PSE emphasizes demand-side management (DSM) and fuel conversion, renewables, gas-fired turbines and power contracts through the first 7-10 years covered by the plan; power purchase contracts are replaced by new gas and coal-fired generation in the second 10 years. PSE assumes enhanced regional transmission by 2016.

  Renewables: By 2007 PSE expects to have 5 percent wind in its portfolio (Hopkins Ridge and Wild Horse: total 388 MW nameplate). PSE's goal is 10 percent renewables by 2013.

  Conservation: PSE meets 10 percent of its current load through the DSM acquired over the past 20 years. PSE believes that its future DSM potential is 13 aMW/yr

  Bridging Contracts: PSE plans to use short lived contracts to fill in requirements until fossil resources and transmission can be obtained.

  Fossil Resources: Transmission constraints (from Montana, Wyoming etc.) and uncertain environmental regulation and costs impede inclusion of coal plants in PSE's near-term portfolio. PSE assumes that these constraints and uncertainties will be resolved by 2016. Consequently, the fossil resources component of the plan focuses on a diversity of generation resources in the long-term.

- <u>Near-Term Action Plan</u>:

  Conservation: set new targets and file new program tariffs; issue a demand-side RFP; evaluate potential for fuel-switching programs; and develop a demand-response pilot program.

  Renewables: develop goal for Green Power program and encourage small-scale demonstration projects.

  New Resources: issue a supply-side RFP; finalize acquisition of Hopkins Ridge and Wild Horse; and upgrade its Colstrip turbine.

Gas Plan Review

- Principal Findings: PSE faces no immediate problems, however, its long-term gas supply portfolio shows a deficit beginning in the 2007/2008 heating season.
- Planning Approach: Use an industry-standard linear programming tool, SENDOUT. PSE also uses a companion program, VectorGas which improves the simulation of the gas industry environment.
- Resource Needs: PSE's analysis considers the gas needed for its business as a local distribution company (LDC) and gas needed to fuel electricity generation. Joint management of PSE's gas needs produces cost savings estimated at 1 percent per year.
- Long-term strategy: PSE's long-term natural gas plan focuses on expanded conservation programs, enhanced deliverability to and from Jackson Prairie storage and acquisition of additional capacity on the West Coast Pipeline in northern British Columbia.
- Near-Term Action Plan:

  Conservation: develop new conservation programs and file associated tariffs with the Commission.

  Supply Resources: research and, if justified, seek expansion of Jackson Prairie deliverability; explore location and cost for LNG storage; and seek peak-supply resources and additional pipeline capacity.

Next Steps:

The Commission will hear public comments on PSE's plan on July 18, 2005 in an open public meeting. At a subsequent open public meeting, the Commission will be asked to authorize that the Commission Secretary issue a letter acknowledging that the plan satisfies the filing requirements under WAC 480-100-238 (Electric Least Cost Plans) and WAC 480-90-238 (Gas Least Cost Plans).