BEFORE THE WASHINGTON STATE UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of Puget Sound Energy 2005 Least Cost Plan, pursuant to WAC 480-90-238 and WAC 480-100-238	DOCKET NO. UE-050664

Comments of Public Counsel
June 21, 2005

Public Counsel offers the following comments in response to Puget Sound Energy's (PSE's) filing of its 2005 Least Cost Plan (LCP) under docket number UE-050664. Public Counsel has been participating in PSE's Least Cost Planning Advisory Group (LCPAG), which is PSE's venue for working with public interest concerns and other stakeholders. The LCPAG has been the foundation for a successful, collaborative process involving public interests in the development of the 2005 LCP. The draft LCP does not diverge substantively from methodologies agreed upon in the LCPAG, so we recommend that the WUTC accept the 2005 LCP as submitted.

We further recommend that the WUTC issue an initiating letter for PSE's 2007 Least Cost Plan as soon as possible, and that the initiating letter set May 1, 2007 as the due date for submission thereof.

We see several opportunities for creating a 2007 plan that strengthens some weak areas in the 2005 plan. In addition, each least-cost planning cycle provides an opportunity for process improvements aimed at creating a better plan. Below we describe these opportunities; we encourage the WUTC to incorporate some or all of these in the initiating letter.

1. Allow sufficient time for draft review.

PSE's draft of the submitted LCP was made available to the general public and the LCPAG on Wednesday, April 6 2005; comments were due to PSE by Friday, April 15, 2005. The final plan was submitted to the WUTC on Friday, April 29, 2005. This schedule allowed the public only seven working days to review and comment on a 337-page document. Of even greater concern, PSE was left with only nine working days to change the LCP in response to the received comments.

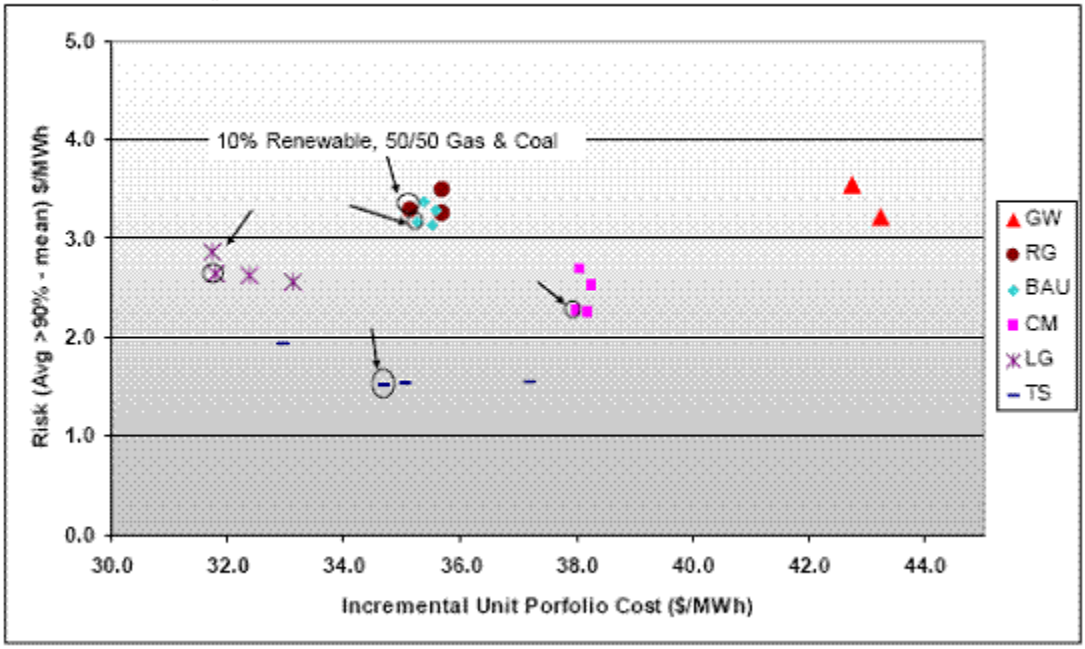
A draft LCP provides LCPAG members with an overview of the entire least-cost planning process, which can yield insights not always visible from the close quarters of LCPAG meetings. A draft also provides the general public with the opportunity to comment. For both of these reasons, PSE may receive valuable, substantive suggestions for change to the draft, that require new analysis and therefore require a longer timespan between the draft and the final release.

We recommend that in future years PSE release the draft LCP a full 60 calendar days prior to the WUTC due date. Commenters should be given two full weeks, thus leaving PSE with a month and a half to implement any significant changes that might be called for after receiving comments.

2. Model more adventurous portfolios.

Exhibit X-20 (p. X-36) plots twenty two portfolio-scenario combinations, and is reproduced here for ease of discussion:

Exhibit X-20
Dynamic Cost and Risk Tradeoff Results for all Scenarios



This is an excellent exhibit summarizing tradeoffs of cost versus risk, and we encourage the continued inclusion of similar graphical analyses in future LCPs. In the specific case of the 2005 LCP, Exhibit X-20 is not only an excellent tool for evaluating portfolios, but is also evidence that the chosen portfolios are insufficiently diverse.

The portfolio-scenario combinations fall into clusters related by scenario. This means that all of the tested portfolios behave very similarly with changing economic and regulatory conditions. It also means that the cost and risk differences between portfolios are sufficiently small that they are swamped by cost differences generated by the otherwise dispassionate scenarios.

We recommend that in future LCPs PSE include more speculative resources. Examples might include IGCC coal, emerging turbine technologies (currently, the GE LMS100 might be an

example), large-scale PV, tidal or wave energy. PSE argues on p. X-9 that it cannot include such speculative technologies "...because it would not provide an accurate cost tradeoff analysis." Though we agree that such technologies should not be considered in the two-year plan, the nature of the twenty-year plan is fundamentally speculative and testing the impact of emerging technologies on future resource acquisitions is appropriate. In particular, doing so would provide PSE with advance notice that some developing technologies have the potential to supply energy or savings at a lower cost than conventional technologies. PSE can take advantage of that advance notice to develop technical expertise in, and nurture business relationships around, emerging technologies that could yield great benefits in future, short-term planning.

3. Improve equivalence of gas- and electric-side plans.

The organization of the LCP document fails to draw obvious parallels between electric and gas planning. Rearranging the document more logically would not only facilitate reading, but would also reveal ways in which the electric and gas planning can be more mutually supportive. One improvement to the document might be to divide it into five logical parts:

- treatment of forecasts
- resource descriptions
- analysis results
- action plans
- special issues

Each part could then include some parallel chapters on electric and gas planning (except perhaps the special issues part).

Besides the unmethodical arrangement of gas and electric topics in the document, two substantive inconsistencies between electric and gas planning stand out in the 2005 LCP: the differing planning scenarios, and incomparable cost-risk analysis.

Planning scenarios

The electric plan was developed around a set of six economic & regulatory scenarios, but the gas plan was developed around a different set of five scenarios. Text on p. XIV-5 describes correspondences between the two sets, but if scenarios can indeed be deemed equivalent as the text implies, why don't they simply have the same names? We recommend that in future plans the scenarios be named and discussed separately from either the electric or gas planning methodology, as an independent, shared parameter.

Cost-risk analysis

The electric plan is based on comparison of clearly-defined, competing portfolios by a portfolio screening model. This approach allows the verbal and graphical presentation of costs and risks associated with different approaches to resource acquisition (different portfolios). In contrast, the gas planning process constructs a single, optimized portfolio from fuel, transportation and conservation resources provided as input to the SENDOUT software. The resulting discussion and exhibits provide the reader with very limited insight into the values of alternative approaches to gas resource acquisition, because SENDOUT acts as a "black box" that makes cost-risk decisions automatically. Is there a way to perform and/or present the gas analysis such that cost-risk tradeoffs are as clear as e.g. Exhibit X-20 is for the electric system? It would be especially helpful if the reader can move from electric to gas, and gas to electric, recognizing the same presentation formats for data in each.

4. Study economic and environmental costs of fuel conversion.

For the first time in 2005, fuel conversion received a serious, quantitative treatment in the LCP. It was treated as an electric conservation resource, its merit based on relative cost of conversion versus the cost of continued use of electricity. But encouraging growth of PSE's gas business has an implied, additional cost in the form of increased gas supply infrastructure. A careful accounting of this secondary cost is important to a complete analysis of fuel conversion.

A primary driver of many public advocates' interest in fuel conversion is environmental impact, so a thorough analysis of fuel conversion should also include a careful, quantitative accounting thereof. This is possible at least for net CO_2 emissions, and possibly for other pollutants as well. In the case of CO_2, PSE can calculate a nominal carbon intensity of electricity supplied for any resistive load being replaced with a gas appliance, based on the load shape for the appliance. Expected gas use for a new appliance installed through a fuel conversion program is also known, so the carbon benefit is easily calculated as these gas CO_2 emissions minus the electric CO_2 emissions. A positive value would indicate that the fuel conversion reduces emissions; a negative value would indicate an increase, casting doubt on fuel conversion as an environmentally preferable measure.

We recommend that fuel conversion be treated as a special issue in the next LCP, with a dedicated chapter that presents a one-time, deep analysis of the net cost and net environmental benefit of fuel conversion, giving full attention to impacts on both the electric and gas sides.[1] Only if fuel conversion is demonstrated to be a clear win when the whole system is taken into account, should it be included in the detailed, biennial assessment of electric conservation resources.

[1] For completeness, such a study should probably also compare fuel conversion to heat pump solutions.

5. Include demand-response measures in the dispatch analysis.

The 2005 LCP includes a number of demand-response measures among the full spectrum of demand-side measures analyzed in Chapter VII of the document. The treatment described in Chapter VII is appropriate for measures that have a mostly flat load shape, i.e. that can be reasonably modeled by decrementing PSE's baseload forecast. But demand-response measures reduce peak loads only without affecting baseload. The demand-side analysis described in Chapter VII is not an appropriate method for analyzing demand-response technologies.

We recommend that PSE continue increasing its attention to demand-response measures, but that such measures be included in selected resource portfolios, along with generating resources. This will subject the demand-response measures to the hourly dispatch performed by the portfolio screening model, thus properly accounting their high value, peak-shaving attributes.

6. Clarify role of "market" purchases.

The language and graphics used to describe "market" electricity purchases easily confuse a lay reader. The document treats three important concepts relating to "market" electricity, which we define for discussion as follows:

> **market purchases** are purchases of electricity in the spot market, or in contracts under two years in length.
>
> **load-resource balance** is the difference between load forecast at a certain moment in time, and resources forecast at the same moment in time.
>
> **long-term contracts** arrange for the delivery of capacity and/or energy to PSE over a period of two years or more.

The term "load-resource balance" is clearly defined as such in Chapter IX, but elsewhere load-resource balance is described with the word "market," for instance in Exhibit I-1. Long-term contracts are frequently referred to simply as "contracts" (e.g. Exhibit IX-2) which invites confusion

with market purchases, some of which are secured with short-term contracts. We recommend that in future LCPs PSE clearly delineate these three concepts and use consistent terminology when discussing them.

The important pie chart describing PSE's existing portfolio (Exhibit II-3 and Exhibit IX-2) includes a wedge for "contracts," but no wedge for market purchases. The fraction of any utility's delivered energy that is expected to come from market purchases is an important datum, as was underlined by various utilities' fates during the 2001 price crisis. We strongly recommend that all representations of resource portfolios include an indicator of (anticipated) market purchases, or a clear note that none are expected.