

1 **Q. What is your name and business address?**

2 A. My name is Alan P. Buckley. My business address is Chandler Plaza Building,
3 1300 South Evergreen Park Drive S.W., Olympia, Washington 98504-7250.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am employed by the Washington Utilities and Transportation Commission as a
6 Senior Policy Strategist. I am responsible, among other duties, for the analysis of
7 power supply issues relating to the Commission's jurisdictional electric utilities.

8 **Q. Would you describe your education and relevant employment experience?**

9 A. I received a B.S. degree in Petroleum Engineering from the University of Texas at
10 Austin in 1981. In 1987, I received a Masters of Business Administration degree
11 in Finance from the University of California at Berkeley. From 1981 through
12 1986, I was employed by Standard Oil of Ohio (now BP America) in San
13 Francisco as a Petroleum Engineer working primarily on Alaskan North Slope
14 exploration drilling and development projects. From 1987 through 1988, I was
15 employed as a Rates Analyst at Pacific Gas and Electric Company in San
16 Francisco. Beginning late in 1988 until late 1992, I was employed by R. W. Beck
17 and Associates, an engineering and management consulting firm in Seattle
18 Washington, conducting cost-of-service and other rate studies, carrying out power
19 supply studies, analyzing mergers, and analyzing the rates of the Bonneville
20 Power Administration and Western Area Power Administration.
21 I came to the Commission in December 1993, where I have held a number of
22 positions including Utilities Analyst, Electric Program Manager, and the position
23 that I presently hold. I have provided testimony in numerous proceedings before

1 the WUTC. I have also testified in proceedings at the Federal Energy Regulatory
2 Commission and at the Bonneville Power Administration.

3 **Q. What is the purpose of your testimony?**

4 A. I provide an alternative estimate of near-term power supply savings that Puget
5 Sound Energy (“PSE”) should be able to achieve from the sale of Centralia. By
6 near-term, I am referring to the 2000 and 2001 timeframe. My testimony focuses
7 on the “market cost” portion of the savings calculation that represents the
8 replacement power supply costs.

9 **Q. Did you prepare any exhibits in this docket in support of your direct**
10 **testimony?**

11 A. Yes. I prepared Exhibit 406 (APB-1).

12 **Q. Would you please summarize PSE’s proposal in this Docket in regard to**
13 **near-term power supply savings?**

14 A. Yes. PSE bases its power supply savings on the difference between the costs of
15 operating Centralia and the market cost of providing “in-kind” replacement
16 power. PSE then netted the gain on sale against this difference to derive annual
17 power cost savings. The Company ran several scenarios representing various
18 discount rates, plant availabilities, and levels of CO2 taxes.

19 **Q. Can you explain what is meant by replacement “in-kind”?**

20 A. Yes. By replacing Centralia energy “in-kind”, the Company assumes it will
21 replace the entire Centralia power production amount with power shaped in the
22 same fashion as what has been historically produced by the plant. This was the
23 only form of replacement power analyzed by PSE.

1 **Q. How did the Company determine a market cost for in-kind replacement**
2 **power?**

3 A. Under several scenarios, PSE derived estimates of market costs using market
4 prices as predicted from AURORA model runs or based on forward looking
5 futures contracts. High-, medium-, and low-price assumptions were incorporated
6 in the AURORA model runs. These market prices were applied “in-kind” to the
7 total energy production expected for Centralia. A “shaping” factor was applied to
8 the market prices to adjust for the shape of Centralia power. Market price
9 estimates using forward looking futures contracts were used for the medium- or
10 “expected” price sensitivities for the years 2000 through 2004.

11 **Q. Please summarize your recommendations.**

12 A. PSE’s estimates of market costs based on replacing the Centralia power “in-kind”
13 generally overstates the near-term replacement cost of energy and results in lower
14 estimates of power supply savings during this period. PSE’s analyses rely too
15 heavily on a high cost replacement alternative and do not reflect the increased
16 flexibility available to the Company as a result of the Centralia sale. The
17 Commission, in its recent Order Granting Reconsideration in Docket No. UE-
18 990267, clearly states that PSE will need “whatever analysis is required to make
19 an informed decision”. This statement is contained in the Commission’s
20 discussion of least cost planning efforts in resource decisions such as sales. The
21 Company’s analysis is not supported by any least cost planning efforts which
22 would address some of the concerns expressed above.

1 In order to develop a conservative estimate of near-term power supply savings, I
2 recalculated the market costs of replacement power (under PSE's Scenario No.1)
3 using estimates of spot market prices coupled with firming purchases. I believe
4 that near-term power supply savings (without the gain on sale impact) could
5 reasonably be approximately \$1.5 million and \$2.6 million for the years 2000 and
6 2001, respectively. This represents a conservative estimate of the level of power
7 supply savings that PSE should be able to obtain in the near-term.

8 **Q. What is the problem with using “in-kind” replacement power?**

9 A. I believe PSE's own testimony says it very well:

10 *“ PSE may find that it will not need to replace its share of the output of*
11 *Centralia in kind. If replacement is necessary, PSE can replace it with*
12 *any one of a variety of options, including spot market purchases, shorter*
13 *fixed-term purchases, DSM, renewable energy or cost-effective*
14 *distributive generation.” (Gaines: Ex. T-101, pp. 5-6)*

15 In other testimony, PSE states that:

16 *Q. How does PSE plan to replace its share of the Centralia Power?*

17 *A. It is not entirely clear that PSE will have to replace the power in*
18 *kind, but, in any event, PSE intends to take advantage of market*
19 *resources to the extent it needs to replace the resource. PSE is*
20 *also analyzing other flexible power replacement products,*
21 *including, for example, winter-only energy supplies and capacity*
22 *and load-factoring products. The opportunity for distributed*

1 **Q. PSE mentions analyzing other power replacement options. Were any such**
2 **analyses provided to the Commission?**

3 A. No. The testimony is inconsistent with the analyses PSE used to derive power
4 supply savings. Market costs were based solely on in-kind replacement power
5 priced using forward looking futures contracts or market price estimates from
6 AURORA runs. The prices were then adjusted using a factor to represent the
7 effect of purchasing the energy with the same shape as Centralia generation. No
8 attempt at resource re-dispatch or developing other resource combinations was
9 made.

10 **Q. What analyses do you believe would have been appropriate?**

11 A. Nothing more than what PSE itself suggests. PSE should have carried out an
12 analysis utilizing a model that could compare post-Centralia sale power supply
13 costs with those costs including Centralia, by allowing PSE's system to be re-
14 dispatched to meet load. Alternative power supply options could be modeled to
15 derive a least cost alternative for replacing Centralia, if appropriate. This kind of
16 analysis would address much of the flexibility that PSE promotes, not only by
17 identifying a range of replacement options, but also by taking advantage of
18 whatever displacement capabilities exist in PSE's existing portfolio.

19 **Q. Did other Companies involved in the sale of Centralia do such an analysis?**

20 A. Yes. Pacificorp carried out that kind of analysis for its system.

21 **Q. Did Staff carry out such an analysis?**

22 A. No. At the present time, Staff does not have the tools to model PSE's system in
23 such a manner.

1 **Q. Can you comment further on the analysis that PSE did carry out?**

2 A. Yes. As I stated earlier, PSE used in-kind replacement power to develop its
3 market cost estimate. For the “expected” or mid-price range, annual strips of
4 forward prices were used in the calculation of market costs for the period 2000
5 through 2004. These prices represent averages of monthly or quarterly futures
6 contracts for firm energy. These are applied to the total Centralia production
7 amount with a shaping adjustment. Other price scenarios (high- and low-price)
8 utilize AURORA model results for price estimates. In any case, PSE’s
9 methodology results in market cost estimates on the high end of the scale,
10 particularly for the mid- or “expected” market price scenario.

11 **Q. Why are PSE’s market cost estimates on the high side?**

12 A. For three reasons. The first reason is due to the assumption that the price forecast
13 for replacement power should be applied to the total equivalent amount of
14 Centralia production. This assumes that all the power produced by Centralia is
15 required to be replaced. This is counter to PSE’s own testimony. Any analysis
16 should account for potential differences in how much power is likely to be
17 replaced. This would include not only the amount of energy, but also the use of
18 alternative resources such as suggested by PSE, including spot market purchases
19 combined with capacity, seasonal exchanges, or other least cost resources.
20 The second reason is that all of the energy is assumed to be acquired in the same
21 shape (including off-peak and on-peak hours) as was produced by Centralia. This,
22 again as suggested by PSE, would most likely not be the case. Centralia is
23 essentially a base load plant that operates fairly constant throughout the day and

1 year. PSE's market cost methodology does not take into account the potential for
2 replacement market energy to be purchased in off-peak or low-load hours, which
3 would result in reduced costs as compared to purchasing energy in the same shape
4 as Centralia. Nor does it take into consideration that other resource alternatives
5 such as capacity purchases or seasonal exchanges may best meet PSE's needs.
6 Finally, PSE's analyses (for the "expected" price scenario and in the near-term)
7 are based on strips of forward futures contracts for firm power. These prices
8 represent the high end of energy replacement costs. The actual "expected"
9 AURORA prices for the same near-term period are lower than the strips used by
10 PSE and best represent potential "spot-market" prices of energy which, under any
11 number of scenarios, could represent all or a portion of the price of replacement
12 energy for Centralia.

13 **Q. Can you recommend a better methodology to derive acceptable market cost**
14 **estimates for the near-term?**

15 A. Lacking access to the appropriate models previously discussed, I believe that a
16 proper analysis should better match the testimony of PSE's own witness. In order
17 to estimate near-term market costs for comparing savings, I would investigate a
18 number of possible replacement possibilities, rather than use a single "in-kind"
19 methodology.

20 **Q. Please continue.**

21 A. In carrying out an analysis such as this, it is appropriate to begin with a range of
22 estimates. For example, the Company's methodology of "in-kind" replacement
23 using prices based on firm futures contracts results in estimates toward the high

1 end of the replacement cost scale and thus minimizes expected savings.
2 Assuming the Company's Scenario No. 1 with "expected" market prices, and not
3 including the "gain on sale" amount, near-term power supply costs are actually
4 estimated to increase about \$1.7 million in 2000 and then are about equal in 2001.
5 Exhibit 406, Alternative I, shows the summary calculation using this
6 methodology.

7 On the other hand, a scenario in which PSE did not replace any Centralia energy
8 would most likely result in the largest savings. In this case, the net savings would
9 be equivalent to the fixed cost savings associated with the Centralia plant, net any
10 net margins (revenues that exceed the variable cost of operating the plant) that
11 may be collected through market sales of Centralia energy. To estimate this
12 amount, I subtracted the variable operating costs of operating Centralia from the
13 full embedded cost to obtain the fixed cost of Centralia. I then credited a margin
14 on market sales equal to the difference between market price forecasts and the
15 variable operating costs. This results in savings of around \$2.9 million and \$3.6
16 million for the years 2000 and 2001, respectively. Exhibit 406, Alternative II,
17 shows the calculation of these estimates.

18 **Q. You said that the options described above would most likely bracket the**
19 **expected sale effects. What other possibilities are there?**

20 A. As stated by PSE's own witness, there are numerous possibilities for replacing the
21 energy from Centralia, if necessary. These include combinations of short-term
22 firm market transactions, spot-market purchases backed by PSE's own generation
23 or other capacity purchases, seasonal exchange arrangements, or simple re-

1 dispatching of PSE’s existing resources. PSE also identified other alternatives
2 such as DSM and distributed generation opportunities as potential replacements.
3 Determining which combination of these options that would be projected to best
4 serve load and meet a least cost standard is impossible without the modeling effort
5 which was not carried out by the Company.

6 **Q. Can you make a more representative estimate of near-term power supply**
7 **savings?**

8 A. Yes. A reasonable method to estimate potential savings would be to replace the
9 annual strip of forward prices used by PSE for 2000 and 2001 with the actual
10 “expected” AURORA results to represent estimated spot market prices. To
11 provide an additional level of firmness, a charge could be added to represent the
12 market costs associated with firming the spot market purchases. This method
13 results in a conservative estimate of market costs for replacement power within
14 the range of costs identified above. It relies on spot power and ancillary firming
15 markets for replacement power, rather than the firm, forward futures contract
16 prices represented in PSE’s analyses.

17 **Q. What are the market costs and savings utilizing your method?**

18 A. By using an approach that attempts to represent the use of the spot market, with
19 firming, for replacement power rather than futures contracts, I calculate a market
20 cost of \$14.9 million and \$15.4 million for 2000 and 2001, respectively. This
21 assumes full replacement of the total expected Centralia production and other
22 Scenario No. 1 assumptions. Comparing this to the costs of Centralia for those
23 years results in estimated power supply savings of approximately \$1.5 million for

1 2000 and \$2.6 million in 2001. Exhibit 406, Alternative III, shows the calculation
2 of these estimates.

3 **Q. You mention that this represents a conservative estimate of market costs.**

4 **Can you please explain why?**

5 A. Yes. This estimate is conservative for several reasons. The first reason is that I
6 assume, as did PSE, that the entire amount of energy from Centralia is replaced
7 and is done so on a relatively firm basis. Also, this method does not take into
8 account the potential for shaping the energy into even lower cost off-peak hours,
9 nor does it represent re-dispatching of existing or alternative resources to meet the
10 load requirements. Finally, I firmly believe that there are combinations of
11 alternative resource options that would result in even lower costs for whatever
12 amount of energy is ultimately needed. This could include the ability to meet all
13 near-term energy needs with existing, very low-cost hydro generation during
14 favorable water years.

15 **Q. In your analysis you used AURORA market prices that were used in both the
16 Colstrip and Centralia PSE filings to represent the spot market. There are
17 some indications that the prices for market energy may be on the increase.**

18 **Do you wish to comment?**

19 A. Yes. My testimony addresses only the near-term (2000 and 2001) power supply
20 savings potential. This period is approximately the same as the remainder of
21 PSE's rate freeze period per the Merger agreement. There is less price uncertainty
22 associated with this period than the post-rate freeze period. In addition, the best
23 opportunity for power supply savings is not dependent on relatively small changes

1 in market forecasts, but lies in the flexibility to utilize or acquire a combination of
2 resources to meet load if it is necessary to replace the energy from Centralia. This
3 can only be captured through more extensive modeling of power supply
4 alternatives that should take place in preparation for future rate cases. To the
5 extent that recent market price forecasts change significantly, Staff would fully
6 expect PSE to re-evaluate the Company's decision to sell Centralia or the price
7 being received.

8 **Q. In its Order Granting Reconsideration in Docket No. UE-990267, the**
9 **Commission ordered PSE to track the actual costs of replacement power for**
10 **purposes of determining future true-ups. Is this Staff's recommendation in**
11 **this proceeding?**

12 A. No. Staff is proposing no true-ups related to the near-term power supply costs.

13 **Q. Please explain why not.**

14 A. It is virtually impossible to specifically calculate the actual true costs of
15 replacement power on a resource by resource basis without some kind of
16 modeling. The potential for cost savings is in the coordinated dispatch of all
17 utility-owned resources and other resource options. The very basis for my
18 testimony in this proceeding is that it is incorrect to simply apply an "in-kind"
19 substitute to derive replacement costs. While in-kind replacements are easier to
20 price and true-up, PSE must, as stated in its testimony, economically re-dispatch
21 available resources to meet load and most likely not rely on a single, trackable
22 transaction. Re-dispatching will affect the costs of other resources, but it is the
23 difference in total aggregate costs that are important and the only way to properly

1 track replacement costs. Unfortunately, given differences in resource availability,
2 weather, load, and other factors, a comparison of costs without a particular
3 resource can only be carried out by comparing actual costs against modeled
4 performance with the resource included based on actual dispatch conditions. This
5 results in the same uncertainties that exist when simply trying to model dispatch
6 efficiencies based on a "test-year".

7 **Q. What is your recommendation?**

8 A. With the problems inherent in properly deriving amounts to be trued-up, I
9 recommend that the Commission adopt a single, conservative estimate for power
10 supply savings for purposes of measuring any amounts that should be deferred in
11 order to capture near-term benefits for ratepayers. For purposes of Centralia, the
12 estimated power supply savings of \$1.5 million and \$2.6 million for 2000 and
13 2001 respectively, (Alternative III), meet that requirement.

14 **Q. Does this conclude your testimony?**

15 A. Yes.