

**EXHIBIT NO. ___(JMR-1T)
DOCKET NO. UE-04____
2004 PSE PCA 2 COMPLIANCE
WITNESS: JULIA M. RYAN**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**In the Matter of the Petition of
PUGET SOUND ENERGY, INC.
For Approval of its 2004 Power Cost Adjustment
Mechanism Report**

Docket No. UE-04____

**PREFILED DIRECT TESTIMONY OF
JULIA M. RYAN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

AUGUST 31, 2004

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PUGET SOUND ENERGY, INC.

PREFILED DIRECT TESTIMONY OF JULIA M. RYAN

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1 **PUGET SOUND ENERGY, INC.**

2 **PREFILED DIRECT TESTIMONY OF JULIA M. RYAN**

3 **I. INTRODUCTION**

4 **Q. Please state your name, business address, and position with Puget Sound**
5 **Energy, Inc.**

6 A. My name is Julia M. Ryan. My business address is 10885 N.E. Fourth Street,
7 PSE 12N, Bellevue, Washington, 98004-5591. I am the Vice President of Risk
8 Management and Strategic Planning for Puget Sound Energy, Inc. ("PSE" or "the
9 Company"). From December 2001 to March 15, 2004, I served as Vice President
10 Energy Portfolio Management for the Company.

11 **Q. Have you prepared an Exhibit describing your education, relevant**
12 **employment experience, and other professional qualifications?**

13 A. Yes, I have. It is Exhibit No. ____ (JMR-2).

14 **Q. What are your duties as Vice President of Risk Management and Strategic**
15 **Planning for PSE?**

16 A. I lead the Company's Energy Risk Management, Power Supply Operations, and
17 Gas Supply Operations Departments and Risk Analysis and Planning. In this
18 capacity, my responsibility area manages all PSE short-term and medium-term
19 wholesale power and natural gas portfolios (*i.e.*, up to two years), and my area
20 works with Mr. Eric Markell's responsibility area to plan for long-term hedging

1 requirements. I also have responsibility for the corporate integrated financial and
2 risk analysis planning group.

3 **Q. Please summarize your testimony.**

4 A. I describe the efforts undertaken by PSE to attempt to control and moderate its
5 power costs since 2002, particularly with respect to costs incurred during the one-
6 year period that began on July 1, 2003 and ended on June 30, 2004 ("PCA
7 Period 2"). As described in my testimony, these efforts are undertaken on a
8 portfolio rather than unit-specific basis. However, given the Commission's recent
9 orders regarding the Tenaska facility in PSE's PCORC proceeding, Docket
10 No. UE-031725, I include a specific description of how that facility is integrated
11 into PSE's portfolio management.

12 **II. PSE'S PCA PERIOD 2 POWER COSTS**

13 **A. Background Regarding Power Cost Volatility and the PCA Mechanism**

14 **Annual True-Up**

15 **Q. Please describe why PSE's power costs can be volatile.**

16 A. PSE's power supply portfolio contains a diverse mix of resources with widely
17 differing operating and cost characteristics. Although there are many complex
18 variables embedded in the portfolio, the major volume and price drivers of power
19 cost volatility are: (1) streamflow variation affecting the supply of hydroelectric
20 generation; (2) risk of forced outages of generating units; (3) weather uncertainty
21 affecting power usage; (4) variations in market conditions such as wholesale gas

1 and electric prices; and (5) transmission and transportation constraints. All of
2 these create load/resource volatility which PSE balances with wholesale market
3 purchases and sales, causing fluctuations in power costs.

4 **Q. How was power price volatility dealt with in the resolution of the Company's**
5 **2001 general rate case?**

6 A. In response to significant price volatility, uncertainty in the wholesale energy
7 markets and PSE's need to add resources to meet its load obligations, the parties
8 who participated in the Power Cost Adjustment Collaborative agreed to a
9 negotiated Power Cost Adjustment ("PCA") Mechanism. The PCA Mechanism
10 set forth an annual accounting process for a sharing of costs and benefits between
11 PSE and its customers over four graduated levels (so-called "bands") of power
12 cost variances on the first \$120 million of power cost variances, with a
13 \$40 million cap on PSE's potential exposure over a 4-year period ending June 30,
14 2006. On power cost variances over the \$40 million cap, the PCA sharing
15 mechanism allocates 99% of costs or benefits to customers and the remaining 1%
16 of costs or benefits to PSE. The Commission approved the PCA Mechanism in its
17 Twelfth Supplemental Order, Docket Nos. UE-011570 and UG-011571 (June 20,
18 2002) at 11-15.

19 The PCA Mechanism requires an annual true-up of PSE's actual power costs (in
20 contrast to the normalized prospective power costs that are generally included in
21 rates) and an accounting of the amount in the deferral account that tracks excess
22 costs or benefits. *See* Order No. 04 in Docket No. UE-031389 (Jan. 14, 2004), in

1 which the Commission approved PSE's 2003 PCA Annual Report regarding the
2 true-up for the PCA Period 1.

3 **Q. How does the PCA Mechanism treat PSE's costs related to its ongoing**
4 **resource management activities?**

5 A. Under the PCA Mechanism, new resources with a term of less than or equal to
6 two years will be included in allowable PCA costs, with the prudence of such
7 resources determined in the Commission's review of the annual PCA true-up.

8 **B. New Resources During PCA Period 2**

9 **Q. Did PSE acquire any new resources during PCA Period 2 with a term of less**
10 **than or equal to two years?**

11 A. Yes. PSE acquired such resources in connection with short- and intermediate-
12 term off-system physical or financial purchases and sales of power and/or fuel to
13 generate power. The majority of such transactions during this period were short-
14 term (less than 3 months) balancing transactions of power and natural gas
15 purchase and sale contracts. Such balancing transactions are made short-term in
16 response to changes in market heat rates, which guide decisions whether to hedge
17 power versus natural gas, and changes in load or resource availability. Longer
18 term transactions during PCA Period 2 are described below. There were also
19 purchases of winter capacity to improve reliability of supply to PSE's system.

1 **Q. What longer-term transactions did PSE enter into during PCA Period 2?**

2 A. During PCA Period 2, PSE entered into a 12 month wind-power transaction for an
3 average 7.75 aMW. This transaction was entered into at \$48.15/MWh in a
4 \$50/MWh market, and included an additional credit of \$15/MWh from the
5 Conservation & Renewables discount offered by the Bonneville Environmental
6 Foundation, resulting in a net price of \$33.15/MWh. Given the Company's
7 potential future acquisition of wind generation facilities, this small position in
8 wind was undertaken to assist the Company in better understanding the
9 operational issues associated with integrating windpower into the load-resource
10 portfolio. *See* Exhibit No. ____ (JMR-3C).

11 PSE also entered into a twelve month fixed-price power purchase agreement for
12 on-peak 50MW for the period of January 1, 2004 through December 31, 2004 at
13 \$42/MWh. The transaction was with a reliable producer that has generation
14 situated at a location that is expected to have little transmission constraints
15 flowing to PSE's distributions system, thus, enhancing the security of PSE's
16 supply during 2004. This partially replaced an RMC-approved 26-month
17 transaction that was not executed because the counterparty raised the price to
18 \$46.00/MWh despite there being no change in forward market prices. *See* Exhibit
19 No. ____ (JMR-4C).

20 In addition, PSE entered into a twelve month fixed-price power purchase
21 agreement for on-peak 25MW for the period of January 1, 2004 through
22 December 31, 2004 at \$41.25/MWh. This transaction allowed PSE to lock in

1 power supply at prevailing wholesale prices

2 **Q. Why did PSE enter into winter peaking contracts?**

3 A. Winter peaking contracts are procured so that PSE will be able to serve high loads
4 that occur during an extreme winter peak event. Daily call options contracted for
5 November-February are a specialized hedge product and are one of the few
6 products the Company can purchase in the market that can help cover price and
7 volume risks associated with an extreme winter peaking event. The call options
8 are structured on a "day-ahead" basis, and provide some disaster insurance for a
9 multiple-day winter peaking event in a high priced market environment.

10 PSE procured several types of call options for PCA Period 2. Some were physical
11 calls at Mid C, or other locations that allow the Company to call on physical
12 power at a pre-determined price. Others are financial calls that provide a financial
13 payment based upon the difference between posted market price at Mid C and the
14 strike price (to off-set the costs of purchasing physical power). The financial
15 payment acts as a hedge against the actual cost incurred to procure peaking
16 supplies. Some of the financial calls also had an associated temperature strike
17 that must be met, along with a price strike.

18 PSE entered into the transactions described above within the context of its
19 portfolio and risk management systems and procedures, which are described in
20 greater detail later in my testimony. PSE monitored and refined its 2003/04
21 winter peaking hedge strategy throughout the Spring of 2003. *See* Exhibit
22 No. ___(JMR-5C).

1 **C. PSE's PCA Period 2 Power Costs**

2 **Q. How did PSE's actual power costs during PCA Period 2 compare to the**
3 **power costs recovered in rates?**

4 A. As detailed in the testimony of Ms. Barbara Luscier, Exhibit No. ____ (BAL-1T),
5 and PSE's 2004 PCA Report, PSE's power costs exceeded the amounts recovered
6 through the Power Cost Baseline Rate during PCA Period 2.

7 The primary drivers of this under-recovery were: (1) higher per MWh power
8 caused by, among other reasons, reduced hydro runoff for the past two water
9 years that was only 83% and 81% of normal above Grand Coulee; and (2) natural
10 gas and power prices that were higher than assumed in the PCA Power Cost
11 Baseline Rate. The market heat rates during PCA Period 2 were less than forecast
12 in the PCA settlement and the PCORC, reducing the quantity of generation at
13 PSE's gas-fired generation plants, which in turn reduced PSE's level of secondary
14 sales transactions and increased the level of secondary purchase transactions.

15 **Q. Please discuss the relevance to this filing of power costs related to the**
16 **Tenaska generating facility during PCA Period 2.**

17 A. In its Order No. 14 in the PCORC docket, UE-031725, the Commission
18 determined that PSE's management of fuel supply for the Tenaska generating
19 facility was not prudent during the time period from approximately late 2001
20 through June 30, 2003. See Order No. 14 at ¶ 91. The Commission's Order
21 No. 15 in the PCORC docket clarified that Order No. 14 had not made "any

1 prudence determination concerning periods after June 30, 2003." Order No. 15 at
2 n.29. The Commission stated that PSE would bear the burden to show the
3 prudence of its fuel acquisition for Tenaska during PCA Period 2 if the prudence
4 of such acquisition is challenged in PCA Period 2 compliance proceeding. Order
5 No. 15 at ¶ 52. The Commission further clarified that it would address in PCA
6 Period 2 proceeding the issue whether the 50% benchmark disallowance
7 established in Order No. 14 should be applied during all of PCA Period 2 or only
8 during the portion of that period falling after Order No. 14, even if there is no
9 challenge to prudence. Order No. 15 at ¶ 53.

10 **Q. Is Tenaska's fuel supply managed independently from PSE's other power**
11 **resources?**

12 A. No, PSE's management of fuel supply for Tenaska cannot be separated from
13 PSE's overall management of its electric portfolio because PSE manages the fuel
14 supply for Tenaska as part of its broader energy supply portfolio. Since at least
15 the beginning of 2002, gas purchase decisions for PSE's electric generating needs
16 have been made on an aggregated portfolio basis rather than on a facility-specific
17 basis. PSE views the gas and power positions in combination to consider the
18 inter-relations of all components of the electric portfolio.

19 Implementing hedging strategy on an overall portfolio basis (as opposed to
20 developing strategies for individual turbines) permits PSE to more efficiently
21 manage its resources. With respect to gas-fired generation, this approach better
22 reflects PSE's actual operation of its portfolio as resources are dispatched or

1 displaced depending upon market conditions and, specifically, the relative
2 wholesale market prices of natural gas and power ("heat rate" or "spark spread").
3 Therefore, while individual gas purchase contract costs must be allocated into
4 accounts for accounting and financial reporting purposes, the strategies to hedge
5 are not necessarily plant-specific.

6 **Q. How was this portfolio-based approach applied during PCA Period 2 with**
7 **respect to operation of and fuel supply for PSE's combustion turbine fleet?**

8 A. The Company's analysis of its overall portfolio needs during PCA Period 2 is
9 described in Section III.B and Exhibit No. ____ (JMR-9C). As a practical matter,
10 the majority of gas for power purchased for PSE's portfolio during PCA Period 2
11 was for the Tenaska and Encogen facilities. PSE's simple cycle combustion
12 turbines ("CTs") were not running because prevailing heat rates caused them to be
13 "out of the money," such that it was more economic to purchase power or use the
14 Tenaska or Encogen generating units to produce it. Even so, Tenaska was "out of
15 the money" and was fully displaced by other sources of power during nearly all of
16 the second half of PCA Period 2.

17 **III. PSE'S MANAGEMENT OF ITS POWER PORTFOLIO AND**
18 **RELATED FUEL SUPPLY FOR PCA PERIOD 2**

19 **Q. Was PSE's management of the power costs and transactions for PCA**
20 **Period 2 reasonable?**

21 A. Yes, I believe it was. These transactions were undertaken within a comprehensive

1 portfolio and risk management system of organizational structure, technological
2 tools, and human resources designed to help ensure that PSE can: (1) deliver
3 reliable energy when our customers demand it; (2) serve our customers at a low
4 cost while mitigating price volatility; and (3) enhance the value of PSE's energy
5 resources to reduce power and gas costs.

6 The Company has organizational structures in place to provide upper level
7 oversight and policy direction and decisions while also permitting power supply
8 operations and energy risk management staff the flexibility to implement PSE's
9 policies and manage the portfolio on a day to day basis. The Company has also
10 developed systems and tools to aid its personnel in performing their portfolio
11 management duties. The Company is continually looking for ways to improve
12 our existing systems and tools to further enhance our risk management
13 capabilities.

14 This section of my testimony first describes these systems and tools generally,
15 then illustrates their application for PCA Period 2 by describing actual hedging
16 strategy decisions and their execution for PSE's September 2003 power supply.

17 **A. Overview of PSE's Portfolio and Risk Management Systems**

18 **Q. What organizational structures are in place to provide oversight and control**
19 **of power portfolio management activities?**

20 A. PSE's Energy Risk Management Department ("ERM Department") – composed of
21 energy market analysts, quantitative analysts, and other professionals – is

1 responsible for identifying, quantifying, and reporting on risk factors. The ERM
2 Department also develops and recommends risk management strategies for the
3 Company. The ERM Department works closely with the Power Supply
4 Operations ("PSO") and Gas Supply Operations Departments to perform these
5 tasks and to manage PSE's short-term portfolios.

6 PSE's Risk Management Committee ("RMC") – composed of senior PSE
7 officers – oversees the activities performed by the ERM Department and PSO
8 staff. The RMC provides policy-level and strategic direction on a regular basis.
9 In addition, the RMC reviews bi-weekly position reports, sets risk exposure
10 limits, approves policy and procedures, reviews proposed risk management
11 strategies, and approves the appropriate strategies for implementation by staff.

12 With respect to hedging strategies for specific time periods or quantities of
13 energy, the RMC must approve hedges for delivery times that are six months or
14 more after execution of the hedge or for amounts in excess of certain exposure
15 limits. By six months ahead of delivery, the bulk of the hedging strategies and
16 transactions have been made. Decisions about hedges for delivery five months or
17 less after execution are made by PSO staff, within limits set out in PSE's Energy
18 Supply Hedging and Optimization Procedures Manual.

19 **Q. How does PSE integrate hedging activities into its provision of electric power**
20 **to customers?**

21 A. PSE employs production cost modeling techniques to estimate future demand for
22 on-peak power, off-peak power, and gas for PSE's fleet of natural gas-fired power

1 plants through its KW3000 system. The KW3000 system permits PSE to model
2 scenarios of price, hydro, load, generating resources and other inputs as required
3 to represent future projected portfolio needs.

4 KW3000 generates a volumetric position report for gas for power, on-peak power,
5 and off-peak power. The position report shows, for each of the twelve months
6 following the date of the report, the resource types in PSE's power position
7 grouped by Short-term Purchase and Sale transactions, Long-term contracts,
8 Frederickson 1 (Fred 1), Tenaska and Encogen, Combustion Turbines (CT's),
9 NUGs/QFs, Coal Plants, and Hydro (both PSE owned and Mid C Contracts). The
10 gas-fired generation is therefore categorized by heat rate efficiency of the
11 facilities. Tenaska and Encogen have very similar heat rates, and are grouped
12 together. Fredonia, Fredrickson, and Whitehorn CTs are grouped together
13 because of their similar heat rate conversions. Frederickson 1 is separate from the
14 others because of its lower heat rate.

15 Once PSE's aggregated energy position is defined for a particular period, the risk
16 management staff evaluates the potential exposure associated with the "open"
17 positions (defined as any net surplus or deficit amount) and develops risk
18 management strategy proposals around the purchase or sale of gas or power, as
19 appropriate to balance the position. Factors considered include fundamental
20 market dynamics, such as supply and demand information, market trends, and the
21 like.

22 Once strategy is approved at a high level by the RMC, the staff then executes the

1 strategy. Execution entails entering into specific transactions with approved
2 counterparties, using both approved instruments and executed master agreements.

3 **Q. How does PSE's staff develop a view of appropriate hedging strategies for the**
4 **power portfolio?**

5 A. The ERM Department and PSO staff utilize a wide set of tools and sources of
6 information to help them make informed decisions about dispatching plants,
7 purchasing fuel, executing hedges approved by the RMC and optimizing excess
8 capacity in the power portfolio. They also hold weekly strategy meetings so that
9 the combined teams can review operational events, discuss market trends, and
10 review new supply/demand information. With this context, they work together to
11 understand the greatest exposures in the portfolio, and discuss where hedging
12 priorities occur.

13 The ERM Department and PSO team collect a wide range of data to monitor
14 supply/demand factors which include but are not limited to: weather trends;
15 macro economic factors; crude oil complex; gas storage inventories across the
16 U.S., Canada and in the western U.S. specifically; hydro run-off forecasts;
17 reservoir storage; precipitation and snowpack; and more. Exhibit No. ___(JMR-
18 9C) at Tab 13 provides a sample Fundamentals Analysis report that is published
19 bi-weekly by PSE's ERM staff. Additionally PSE staff review other energy
20 companies' forecasts of price and supply/demand fundamentals, such as trading
21 firm newsletters and consulting service forecasts.

22 The PSO staff also receive real-time information from a variety of sources which

1 include email newsletters from industry publishers such as McGraw Hill (Gas
2 Daily, Megawatt Daily), Bloomberg (live news and market data), Intercontinental
3 Exchange (live price data), broker lines that act as PA systems where current
4 transactions are communicated though a speaker system, and other tools. The
5 PSO group has live data coming from the systems operations staff so they can
6 view real-time load data and real-time generation dispatch.

7 **Q. Please describe how PSE develops its forecast of future portfolio positions in**
8 **KW3000?**

9 A. As described above, KW3000 models a variety of scenarios regarding PSE's loads
10 and resources. For example, with respect to PSE's gas-fired generation, each
11 plant's individual operating characteristics include conversion efficiency, start-up
12 costs, variable operating costs, ramp rates, minimum run times, planned outages,
13 availability, etc. KW3000 performs simulations of different market conditions
14 and random outages in order to develop an estimate of how much gas is required
15 and how much power will be produced. The plants are modeled on an hourly
16 basis, and the information is aggregated into daily and monthly time frames for
17 purposes of developing a forward-looking position.

18 KW3000 incorporates the inter-relationship between gas and power prices in
19 developing its probabilistic gas and power positions. In different market
20 scenarios, PSE would have different gas or power requirements. The reason for
21 this is twofold. First, the plants have different heat rates and become economic to
22 dispatch at different price differentials between power and gas. Second, the

1 forward market prices for power and gas change often, and the price relationship
2 between power and gas, "implied market heat rate," changes as well. At certain
3 implied market heat rates, PSE will expect to run each plant at an expected rate,
4 and the total of all the plant requirements can be calculated. But if the market
5 conditions change, then PSE will expect to adjust its gas purchases and power
6 purchases in order to serve load with the most economic resource. For example, it
7 may be more economic to purchase power than to purchase gas to generate the
8 power PSE needs to serve its load.

9 KW3000 also incorporates information about hedges that PSE has already
10 executed as part of PSE's resource stack.

11 **Q. What additional tools has the Company developed to improve its abilities to**
12 **manage the energy portfolio?**

13 A. During PCA Period 2, the Company developed several new tools to assist with
14 many elements of portfolio management. These include an on-line counterparty
15 credit risk management system and a new risk analysis metric to measure the
16 benefit of potential incremental hedges.

17 **Q. What is the on-line counterparty credit risk management system?**

18 A. PSE developed a new desktop credit analysis tool to replace daily paper reports to
19 assist the Credit department and the Power and Gas Supply Operations staff in
20 evaluating potential transactions with respect to credit issues. With this tool, the
21 reader can review a great deal of data over and above the amount of credit

1 extended by type (gas, power) that was available in the prior report, including:
2 the Moody's and S&P rating of the entity; information about the parent of the
3 entity is applicable; amount of parental guarantee extended to PSE if applicable;
4 the amounts payable and receivable with the entity; the aggregate mark to market
5 exposure of all open forward transactions with the entity (the dollar value of the
6 difference between the original contract price and current market price); the
7 existence of netting terms; FAS 149 designation for accounting purposes; and
8 date that the information is calculated. The information is calculated daily.

9 **Q. What is the new risk analysis metric?**

10 A. The new metric, called Margin at Risk ("MaR"), measures risk reduction as a
11 result of incremental hedging. During PCA Period 2, PSE incorporated the MaR
12 concept into the evaluation process for hedge strategies to measure risk reduction
13 for various alternatives. A series of hedge strategies (transaction types) are run
14 through the portfolio, providing a table of how much risk reduction is gained by
15 month and by strategy. The MaR concept assists with deciding how to allocate
16 dollars in a credit-constrained environment, and provides an additional basis for
17 choosing between available commodities. *See* Exhibit No. ____ (JMR-6C).

18 **B. Application of These Portfolio and Risk Management Structures and Tools**
19 **for PCA Period 2**

20 **Q. Did the RMC approve specific hedging strategies during PCA Period 2?**

21 A. Yes. Examples of such strategy approvals are provided below and in Exhibit

1 No. ____ (JMR-9C). The primary overarching strategy development related to the
2 Company's further development of its dollar cost averaging strategy.

3 Prior to January 2003, the ERM staff would propose hedging strategies to the
4 RMC for approval that were defined volumetrically, by time frame and by
5 commodity type. Then, in early 2003, the Company developed a dollar-cost
6 averaging strategy. The dollar-cost averaging strategy established a disciplined
7 approach to purchasing a defined volume of gas or power on a monthly basis. In
8 applying this strategy, PSE typically established plans to purchase hedges for
9 specific forward time frames, with the goal of purchasing a defined amount of
10 power and of gas in order to ratably reduce the deficit positions by a small amount
11 each month. *See, e.g.*, Exhibit No. ____ (JMR-9C) at Tabs 16-19.

12 By Spring 2003, the RMC approved expansion of this concept to an "Exposure-
13 based Dollar Cost Averaging." This refinement moved the Company from
14 defining a specific commodity and volume to be hedged every month to a dollar
15 amount of risk reduction to be accomplished every month. Under this approach,
16 the RMC would approve a dollar figure of risk to be reduced, and staff would
17 determine whether it was better to hedge gas or power. Also, as markets went up
18 or down, the dollar amount would allow for greater or less volumetric purchases.
19 *See* Exhibit No. ____ (JMR-7C).

20 The latest change in the dollar cost averaging strategy occurred in May 2004
21 when it was complimented by using margin at risk (MaR) analysis to inform the
22 hedging decisions. The MaR analysis and its use in PSE's hedging activity is

1 described earlier in my testimony.

2 A summary of the changes in the dollar cost averaging hedging strategy through
3 PCA Period 2 is provided in Exhibit No. ____ (JMR-8C).

4 **Q. Would you please provide some examples of how PSE applied the risk**
5 **management systems, tools and strategies described above with respect to**
6 **PCA 2 Period power supply and costs?**

7 A. Yes, I would be pleased to. Take, for example, PSE's energy requirements for
8 September 2003. As early as August 2002, PSE's short-term risk management
9 team studied ways to reduce potential spot market price risk during September
10 2003. From that time through February 2003, on a monthly or bi-monthly basis,
11 the ERM Department and PSO staff developed and proposed strategies to the
12 RMC for reducing PSE's exposure with respect to its electric supply needs for
13 September 2003. Such proposals and strategies were based on updated Position
14 Reports generated by KW3000, heat rate and market price information, and other
15 information about market circumstances. PSO staff then executed the RMC-
16 approved strategies if possible, or returned to the RMC with revised proposals if
17 circumstances prevented execution of an approved strategy.

18 Beginning in March 2003, within the six-month window prior to delivery,
19 primary responsibility for hedging PSE's September 2003 position shifted to
20 PSE's ERM Department and PSO staff. They analyzed PSE's position for
21 September 2003 on a monthly basis and, based on market conditions and other
22 information available to them at the time, took actions to reduce PSE's exposure

1 under the authority and limits of the Energy Supply Hedging and Optimization
2 Procedures Manual.

3 Describing and documenting the details of these activities requires extensive
4 description and explanation of the information and reports used by the Company
5 at each stage of its consideration, decisionmaking, and execution of our risk
6 management system. Thus, I have separated this description and documentation
7 out for separate presentation in my Exhibit No. ____ (JMR-9C).

8 **Q. Are the activities described in Exhibit No. ____ (JMR-9C) the only risk**
9 **management activities that PSE undertook for PCA Period 2?**

10 A. No, similar activities were undertaken with respect to managing PSE's portfolio
11 and exposure for the entire PCA Period 2. Some of that information is evident
12 from the materials presented in Exhibit No. ____ (JMR-9C) and the other exhibits
13 presented with my testimony. However, describing and documenting all of the
14 details of such activities for the entire PCA Period 2 would be a monumental task.

15 **IV. CONCLUSION**

16 **Q. Do you believe that PSE has met the Commission's prudence standard with**
17 **respect to its power costs during PCA Period 2?**

18 A. Yes, I do. PSE's management of its power costs during PCA Period 2, including
19 for the Tenaska generating facility, was reasonable. The Company has structures
20 and processes in place to formulate strategies for controlling power costs and
21 executed those strategies, taking into account information and variables associated

1 with managing a complex resource portfolio within a dynamic natural and market
2 environment.

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

4 **A.** Yes, it does.