

EXHIBIT NO. ___(DEM-1CT)
DOCKET NO. _____
2006 PCA 4 COMPLIANCE
WITNESS: DAVID E. MILLS

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**In the Matter of the Petition of
PUGET SOUND ENERGY, INC.
For Approval of its 2006 Power Cost Adjustment
Mechanism Report**

Docket No. UE-_____

**PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF
DAVID E. MILLS
ON BEHALF OF PUGET SOUND ENERGY, INC.**

**REDACTED
VERSION**

AUGUST 31, 2006

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PUGET SOUND ENERGY, INC.

**PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF
DAVID E. MILLS**

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1 **PUGET SOUND ENERGY, INC.**

2 **PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF**
3 **DAVID E. MILLS**

4 **I. INTRODUCTION**

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

7 A. My name is David E. Mills. My business address is 10885 N.E. Fourth Street,
8 Bellevue, Washington, 98004-5591. I am the Director, Power & Gas Supply
9 Operations for Puget Sound Energy, Inc. ("PSE" or "the Company").

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

12 A. Yes, I have. It is Exhibit No. ___(DEM-2).

13 **Q. What are your duties as Director, Power & Gas Supply Operations for PSE?**

14 A. I am responsible for the Company's Power Supply Operations and Gas Supply
15 Operations Departments. In this capacity, my responsibility area manages all PSE
16 short-term and medium-term wholesale power and natural gas portfolios (up to
17 two years), and my area works with Mr. Eric Markell's responsibility area to plan
18 for long-term hedging requirements. Mr. Markell is the Senior Vice President
19 Energy Resources for PSE.

1 **Q. Please summarize the contents of your testimony.**

2 A. I first provide some brief background information regarding the PCA Mechanism
3 and how it addresses the volatility of PSE's power costs. I then describe the
4 efforts undertaken by PSE to attempt to control and moderate its power costs
5 during the one-year period that began on July 1, 2005 and ended on June 30, 2006
6 ("PCA Period 4"). Finally, I provide a high-level overview of the Company's
7 actual power costs for PCA Period 4 as compared to its baseline power cost rate.

8 **II. BACKGROUND REGARDING THE PCA MECHANISM**

9 **Q. Why does the Company have a PCA Mechanism?**

10 A. The parties to the Company's 2001 general rate case were keenly aware from the
11 experience of the Western Power Crisis in 2000-01 how volatile power prices can
12 be. In response to that potential volatility, uncertainty in the wholesale energy
13 markets and PSE's need to add resources to meet its load obligations, the parties
14 who participated in the Power Cost Adjustment Collaborative in the 2000-01 rate
15 case agreed to a negotiated Power Cost Adjustment ("PCA") Mechanism. The
16 Commission approved the PCA Mechanism in its Twelfth Supplemental Order,
17 Docket Nos. UE-011570 and UG-011571 (June 20, 2002) at 11-15.

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

19 A. PSE's power supply portfolio contains a diverse mix of resources with widely
20 differing operating and cost characteristics. Although there are many complex

1 variables embedded in the portfolio, the major volume and price drivers of power
2 cost volatility are: (1) streamflow variation affecting the supply of hydroelectric
3 generation; (2) risk of forced outages of generating units; (3) weather uncertainty
4 affecting power usage; (4) variations in market conditions such as wholesale gas
5 and electric prices; and (5) transmission and transportation constraints. All of
6 these create load/resource volatility which PSE balances with wholesale market
7 purchases and sales, causing fluctuations in power costs.

8 **Q. How does the PCA Mechanism work?**

9 A. Generally, the PCA Mechanism sets forth an annual accounting process for a
10 sharing of costs and benefits between PSE and its customers over four graduated
11 levels (so-called "bands") of power cost variances for the first \$120 million of
12 power cost variances, with a \$40 million cap on PSE's potential exposure over a
13 4-year period ending June 30, 2006. On power cost variances over the
14 \$40 million cap, the PCA sharing mechanism allocates 99% of costs or benefits to
15 customers and the remaining 1% of costs or benefits to PSE.

16 **Q. What do you mean by "power cost variances"?**

17 A. Power cost variances are the difference between: (i) the "baseline" power costs
18 that are built into PSE's electric rates during a particular rate case based on
19 projections of fixed and variable power costs that are anticipated to be incurred
20 during an annual period, and (ii) the variable power costs that PSE actually incurs

1 during that period, plus the fixed power costs as determined in the most recent
2 rate proceeding.

3 The PCA Mechanism requires an annual true-up of PSE's actual power costs (in
4 contrast to the projected power costs that are generally included in rates) and an
5 accounting of the amount in the deferral account that tracks excess costs or
6 benefits. *See* Order No. 04 in Docket No. UE-031389 (Jan. 14, 2004), in which
7 the Commission approved PSE's 2003 PCA Annual Report regarding the true-up
8 for the PCA Period 1.

9 **Q. How does the PCA Mechanism treat PSE's costs related to new resources
10 brought into the Company's power portfolio?**

11 A. Under the PCA Mechanism, new resources with a term of less than or equal to
12 two years are included in allowable PCA costs, with the prudence of such
13 resources determined in the Commission's review of the annual PCA true-up.
14 Some costs related to a new electric resource with a term of greater than two
15 years are included in the PCA allowable costs through a bridge mechanism until
16 the total costs of such resources can be reviewed and approved in a power cost
17 only or general rate case.

1 **III. PCA PERIOD 4 POWER COSTS**

2 **A. New Resources During PCA Period 4**

3 **Q. Is the Company seeking inclusion of any new long-term electric supply**
4 **resources in the PCA Period 4 power costs?**

5 A. No. The Company sought recovery of and a prudence determination on several
6 new resource items in PSE's 2005 PCORC proceeding, Docket No. UE-050870.
7 These included the Hopkins Ridge wind project, the Point Roberts contract
8 extension, the Grant County PUD contract extension and the Canwest settlement.
9 The prudence of these resources has already been approved by the Commission,
10 and they are already a part of the Company's resource portfolio.

11 **Q. Did PSE acquire any new resources during PCA Period 4 with a term of less**
12 **than or equal to two years?**

13 A. Yes. PSE acquired such resources in connection with short- and intermediate-
14 term off-system physical or financial purchases and sales of power and/or fuel to
15 generate power. The majority of such transactions during this period were short-
16 term (less than 3 months) balancing transactions of power and natural gas
17 purchase and sale contracts. Such balancing transactions are made in response to
18 changes in market heat rates, which guide decisions whether to hedge power
19 versus natural gas, and changes in load or resource availability. Such transactions
20 include intermediate term transactions entered into pursuant to PSE's
21 programmatic portfolio hedging efforts.

1 The Company also purchased winter capacity and entered into power exchanges
2 to improve the reliability of supply to PSE's system.

3 **Q. Why did PSE enter into the various transactions described above?**

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

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

18 The following section of my testimony first describes these systems and tools
19 generally. I then illustrate their application for PCA Period 4 by describing actual
20 hedging strategy decisions and their execution undertaken by PSE with respect to
21 its power supply for November 2005.

1 **B. PSE's Management of its Power Portfolio and Related Fuel Supply**
2 **for PCA Period 4**

3 **1. Overview of PSE's Portfolio and Risk Management Systems**

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

6 A. PSE's Energy Portfolio Management Department ("EPM Department") –
7 composed of energy market analysts, quantitative analysts, and other
8 professionals – is responsible for identifying, quantifying, and reporting on risk
9 factors. The EPM Department also develops and recommends risk management
10 strategies for the Company. The EPM Department includes the Power and Gas
11 Supply Operations Departments ("PGSO") who perform these tasks and manage
12 PSE's short-term portfolios.

13 PSE's Energy Management Committee ("EMC") – composed of senior PSE
14 officers – oversees the activities performed by the EPM Department and PGSO
15 staff. The EMC provides policy-level and strategic direction on a regular basis.

16 In addition, the EMC reviews bi-weekly position reports, sets risk exposure
17 limits, approves policy and procedures, reviews proposed risk management
18 strategies, and approves the appropriate strategies for implementation by staff.

19 With respect to hedging strategies for specific time periods or quantities of
20 energy, the EMC has approved a programmatic hedging plan. EPM staff follows
21 this plan to systematically reduce the Company's net power portfolio exposure

1 beginning [REDACTED] months in advance of the month in which the power will be needed
2 to serve PSE's load. This process is described in greater detail below. Such
3 exposure reduction is subject to minimum and maximum monthly limits to reduce
4 timing and market risks associated with hedging activities. EPM staff may also
5 recommend hedging [REDACTED] or more months out that departs from this plan, but
6 execution of such hedges is subject to EMC approval.

7 By [REDACTED] ahead of delivery, the bulk of the hedging strategies and transactions
8 have been made. Decisions about hedges for delivery [REDACTED] months or less after
9 execution (" [REDACTED]" or "[REDACTED]") are made by EPM staff,
10 within limits set out in PSE's Energy Supply Hedging and Optimization
11 Procedures Manual.

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

14 A. PSE employs production cost modeling techniques to estimate future demand for
15 on-peak power, off-peak power, and gas for PSE's fleet of natural gas-fired power
16 plants through its KW3000 system. The KW3000 system permits PSE to model
17 scenarios of price, hydro, load, generating resources and other inputs as required
18 to represent future projected portfolio needs.

19 **Q. Please further describe what KW3000 does.**

20 A. In order to model a variety of scenarios regarding PSE's gas-fired generation,
21 KW3000 takes into account each plant's individual operating characteristics

1 which include conversion efficiency, start-up costs, variable operating costs, ramp
2 rates, minimum run times, planned outages, availability, etc. KW3000 performs
3 simulations of different market conditions and random outages in order to develop
4 an estimate of how much gas is required and how much power will be produced.
5 The plants are modeled on an hourly basis, and the information is aggregated into
6 daily and monthly time frames for purposes of developing a forward-looking
7 position.

8 KW3000 incorporates the inter-relationship between gas and power prices in
9 developing its probabilistic gas and power positions. In different market
10 scenarios, PSE would have different gas or power requirements. The reason for
11 this is twofold. First, the plants have different heat rates and become economic to
12 dispatch at different price differentials between power and gas. Second, the
13 forward market prices for power and gas change often, and the price relationship
14 between power and gas, "implied market heat rate," changes as well. At certain
15 implied market heat rates, PSE will expect to run each plant at an expected rate,
16 and the total of all the plant requirements can be calculated. But if the market
17 conditions change, then PSE will expect to adjust its gas purchases and power
18 purchases in order to serve load with the most economic resource. For example,
19 it may be more economic to purchase power than to purchase gas to generate the
20 power PSE needs to serve its load. KW3000 also incorporates information about
21 hedges that PSE has already executed as part of PSE's resource stack.

1 **Q. How does PSE use KW3000 to help make hedging decisions?**

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

13 Based on this volumetric position for each month, KW3000 also generates a
14 report showing the potential exposure associated with the "open" positions
15 (defined as any net surplus or deficit amount). See Exhibit No. ___(DEM-3C) at
16 Tab 1.

17 Once PSE's aggregated energy position and net exposure are defined for a
18 particular period, the risk management staff evaluates and develops risk
19 management strategy proposals and/or executes transactions around the purchase
20 or sale of gas or power, as appropriate to balance the position and reduce the
21 exposure. Execution entails entering into specific transactions with approved
22 counterparties, using both approved instruments and executed master agreements.

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

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

10 The EPM Department collects a wide range of data to monitor supply/demand
11 factors which include but are not limited to: weather trends; macro economic
12 factors; crude oil complex; gas storage inventories across the U.S., Canada and in
13 the western U.S. specifically; hydro run-off forecasts; reservoir storage;
14 precipitation and snowpack; and more. Additionally PSE staff review other
15 energy companies' forecasts of price and supply/demand fundamentals, such as
16 trading firm newsletters and consulting service forecasts.

17 EPM staff also receive real-time information from a variety of sources which
18 include email newsletters from industry publishers such as McGraw Hill (Gas
19 Daily, Megawatt Daily), Bloomberg (live news and market data), Telerate,
20 Intercontinental Exchange (live price data), broker lines that act as PA systems
21 where current transactions are communicated through a speaker system, and other

1 tools. EPM staff has live data coming from the systems operations staff so they
2 can view real-time load data and real-time generation dispatch.

3 **Q. Does the Company use any other tools to manage its energy portfolio?**

4 A. Yes. The Company also uses an on-line counterparty credit risk management
5 system to assist the Credit department and the EPM staff in evaluating potential
6 transactions with respect to credit issues. With this tool, the reader can review
7 data including: the Moody's and S&P rating of the entity; information about the
8 parent of the entity if applicable; amount of parental guarantee extended to PSE if
9 applicable; the amounts payable and receivable with the entity; the aggregate
10 mark to market exposure of all open forward transactions with the entity (the
11 dollar value of the difference between the original contract price and current
12 market price); the existence of netting terms; FAS 149 designation for accounting
13 purposes; and date that the information is calculated. The information is
14 calculated daily.

15 **Q. What guidance does the Company have in place for approaching risk
16 management strategy proposals?**

17 A. Over the past several years, PSE moved from a more "discretionary" model of
18 making hedging decisions to a more "programmatic" approach to hedging. PSE
19 initially implemented a "dollar cost averaging" strategy, which has been described
20 in several proceedings including the 2003 PCORC and the Company's annual
21 filing for PCA Period 2, Docket No. UE-041570. The dollar-cost averaging

1 strategy established a disciplined approach to purchasing a defined volume of gas
2 or power on a monthly basis. In applying this strategy, PSE typically established
3 plans to purchase hedges for specific forward time frames, with the goal of
4 purchasing a defined amount of power and of gas in order to ratably reduce the
5 deficit positions by a small amount each month.

6 By Spring 2003, the EMC approved expansion of this concept to an "Exposure-
7 based Dollar Cost Averaging." This refinement moved the Company from
8 defining a specific commodity and volume to be hedged every month to a dollar
9 amount of risk reduction to be accomplished every month. Under this approach,
10 the EMC would approve a dollar figure of risk to be reduced, and PSE staff would
11 determine whether it was better to hedge gas or power. Also, as markets went up
12 or down, the dollar amount would allow for greater or less volumetric purchases.

13 During PCA Period 2, the Company began to employ a metric called Margin at
14 Risk ("MaR"), which measures risk reduction as a result of incremental hedging.
15 *See* Exhibit No. ___(DEM-3C) at Tab 2. PSE has incorporated the MaR concept
16 into the evaluation process for hedge strategies to measure risk reduction for
17 various alternatives. A series of hedge strategies (transaction types) are run
18 through the portfolio, providing a table of how much risk reduction is gained by
19 month and by strategy. The MaR concept assists with deciding how to allocate
20 dollars in a credit-constrained environment, and provides an additional basis for
21 choosing between available commodities. *See* Exhibit No. ___(DEM-3C) at
22 Tab 4.

1 In July 2004, the EMC approved a continuation of a dollar cost averaging strategy
 2 informed by MaR. However, the EMC directed that PSE staff monitor and more
 3 actively address the exposure associated with PSE's power portfolio position
 4 [REDACTED] months ahead of the time the power would be needed. Under this
 5 Rolling [REDACTED]-Month Hedging Plan, EPM staff more actively manage the next
 6 rolling [REDACTED] months beyond their [REDACTED]-month [REDACTED] purview. This hedging plan
 7 increased Staff's ability to react to position changes as a result of stream-flow
 8 variations, forced thermal plant outages and changing market conditions. *See*
 9 Exhibit No. ___(DEM-3C) at Tab 2.

10 **Q. How does the Rolling [REDACTED]-Month Hedging Plan work?**

11 A. The plan is set up to systematically reduce the total net exposure for each month
 12 of the [REDACTED] months beyond the [REDACTED] timeframe, within maximum and minimum
 13 limits on the amount of hedging that can or must be done each month, so that the
 14 total net exposure for a month will fall within existing exposure limits when each
 15 month falls into EPM staff's [REDACTED]-month purview.

16 The maximum monthly hedge is calculated by dividing the total net exposure by
 17 the remaining months before the position enters the [REDACTED]-month purview. The
 18 minimum monthly hedge is calculated by dividing the total net exposure (minus
 19 the EMC's limit authority) by the remaining months before the position enters the
 20 [REDACTED]-month purview. For example, in [REDACTED] – when the Rolling [REDACTED] Month
 21 Hedging Plan was approved – the total net exposure for November 2005 was
 22 approximately -\$15 million. With [REDACTED] months remaining before November 2005

1 fell into Staff's █-month purview, the maximum reduction in exposure to be
2 undertaken by EPM staff would be █, and the minimum
3 reduction in exposure to be undertaken by staff would be █
4 █. In addition, EPM staff review market fundamentals, hydro
5 conditions, and other available information as well as the MaR analysis to
6 determine which commodity to hedge (and for which month given a credit
7 constrained environment) and whether to hedge to the minimum or maximum
8 exposure reduction level (or somewhere in between).

9 Additional illustration of the application of the Rolling █ Month Hedging Plan
10 and PSE's other risk management tools and systems are provided in my Exhibit
11 No. ____ (DEM-3C).

12 **Q. Has the Company addressed long-term hedging issues?**

13 A. Yes. These efforts have taken place on a number of fronts, including through:
14 analysis conducted for the Company's Least Cost Plan (filed with the Commission
15 on May 2, 2005); building PSE's modeling capabilities; surveying customer
16 preferences with respect to price volatility and hedging costs; assessing the
17 amount of credit available to PSE to engage in longer-term hedging; and engaging
18 in long-term market fundamental analysis.

19 **Q. What is entailed in the modeling work?**

20 A. PSE has been trying to capitalize on the strengths of two models: AURORA and
21 KW3000. The Company is deploying both AURORA and KW3000 to run risk

1 analysis using both gas and power forward market price inputs and to develop
2 risk exposure metrics in the long-term portfolio similar to those that are already in
3 place for the short-term portfolio. At the same time, the Company is trying to
4 extend the KW 3000 model to incorporate a longer time horizon.

5 **Q. What work has PSE done in the area of fundamental market analysis?**

6 A. For the last several years, the industry as a whole has anticipated that the recent
7 rise in natural gas prices would cause an increase in production and reduction of
8 consumption, and that new LNG facilities and the delivery of Alaska and
9 McKenzie Delta gas via pipeline projects would also reduce prices as soon as
10 2007-2008 and potentially until 2011. PSE has been investigating this
11 "worldview" as part of its analysis regarding whether to seek to engage in longer-
12 term hedging of gas supply. PSE has continued to gather a great deal of
13 information from external sources about future market developments. PSE
14 representatives have met with major oil companies, LNG analysts, banks, market
15 forecasters and other industry observers as well as conducting independent
16 research.

17 **Q. Has PSE considered undertaking additional long-term hedging in the**
18 **meantime?**

19 A. Generally, the Company has concluded that it could be beneficial to expand its
20 hedging strategies from an ■-month horizon to a ■-year horizon and to engage in
21 more extensive hedging of its portfolios, given appropriate commodity market

1 conditions. It should be noted that the Company also concluded that commodity
2 market conditions between September and December 2005 were not appropriate
3 for moving toward such a strategy. However, in late December 2005, commodity
4 market conditions became more favorable and the Company began to hedge the
5 maximum volumes applicable under its existing hedging strategies. As described
6 in my prefiled direct testimony in the 2006 General Rate Case proceeding, Docket
7 No. UE-060266 et al., (DEM-01T), the Company is not in a position to implement
8 a more extensive hedging program at this time because of credit concerns.

9 **2. Application of PSE's Risk Management System to PCA**
10 **Period 4 Power Costs**

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

14 A. Yes, I would be pleased to. Take, for example, PSE's energy requirements for
15 November 2005. Beginning in [REDACTED], PSE's short-term risk management
16 team began to actively reduce spot market price exposure for the delivery period
17 November 2005. From [REDACTED] through [REDACTED], on a monthly or bi-monthly
18 basis, EPM staff developed strategies to reduce PSE's exposure with respect to its
19 electric supply needs for November 2005. Such strategies were based on updated
20 Position and Exposure Reports generated by KW3000, market heat rates, hydro
21 conditions and weather fundamentals, and other available information. In
22 accordance with the EMC approved Rolling [REDACTED] Month Hedging Plan and within

1 the limits described in PSE's Energy Supply Hedging and Optimization
2 Procedures Manual, PSE staff executed these strategies by entering into hedging
3 transactions. EPM staff can make recommendations to depart from this plan, but
4 execution of such hedges are subject to EMC approval. With respect to
5 November 2005 power supply, EPM staff did not make any such
6 recommendations, but instead, kept the EMC informed of its analyses and
7 activities.

8 Beginning in [REDACTED], within the [REDACTED]-month window prior to delivery, primary
9 responsibility for hedging PSE's November 2005 position shifted to PSE's EPM
10 Department and staff. Staff analyzed PSE's position for November 2005 on a
11 monthly or bi-monthly basis and, based on market conditions and other
12 information available to them at the time, took actions to reduce PSE's exposure
13 under the authority and limits of the Energy Supply Hedging and Optimization
14 Procedures Manual.

15 Describing and documenting the details of these activities requires extensive
16 description and explanation of the information and reports used by the Company
17 at each stage of its consideration, decision making, and execution of PSE's risk
18 management system. Thus, I have separated this description and documentation
19 out for separate presentation in my Exhibit No. ___(DEM-3C).

1 **Q. Are the activities described in Exhibit No. ___(DEM-3C) the only risk**
2 **management activities that PSE undertook for PCA Period 4?**

3 A. No, similar activities were undertaken with respect to managing PSE's portfolio
4 and exposure for the entire PCA Period 4. Some of that information is evident
5 from the materials presented in Exhibit No. ___(DEM-3C) and the other exhibits
6 presented with my testimony. However, describing and documenting all of the
7 details of such activities for the entire PCA Period 4 would be a monumental task.

8 **Q. How did the Company manage gas supply for Tenaska during PCA**
9 **Period 4?**

10 A. The Company managed gas supply for Tenaska as part of its overall power
11 portfolio by applying the risk management tools and systems described above.
12 The Company ultimately hedged the financial exposure associated with its power
13 portfolio taking into account the probabilistic dispatch rate of the Tenaska and
14 other plants. This means that the Company hedged fuel supply in the financial
15 gas derivatives market over time as necessary to reduce open position exposure
16 and ultimately balance the position on a probabilistic basis. The Company then
17 acquired only the estimated physical fuel requirement in the monthly or daily spot
18 market, whichever was determined to be most advantageous at the time.

1 **3. Winter Peaking Contracts and Exchanges**

2 **Q. Why does 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.

5 **Q. How else does PSE plan for winter peaking events?**

6 A. In the power market, the preponderance of transactions relevant for PSE occur at
7 the Mid C market. Therefore, during an extreme cold event, the Company makes
8 incremental purchases in the short term or spot Mid C market if the prices are less
9 than the cost of generating or if additional supplies are needed to supplement the
10 Company's resources. However, there is inadequate transmission capacity to
11 move all of the Company's long- and short-term purchases and incremental
12 purchases during an extreme cold event. Therefore, some precautions must be
13 taken to augment the Company's electric portfolio to ensure deliveries of
14 wholesale supply to the distribution system even during extreme cold winter
15 events.

16 During an extreme cold event, there is a risk that no short-term firm capacity will
17 be available. Additionally, curtailments of non-firm hourly transmission are
18 likely to occur. Therefore, to ensure the Company has adequate transmission
19 capacity to meet load demand, PSE has developed two strategies to deliver
20 additional winter supply to its system. [REDACTED]

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[REDACTED]

[REDACTED]

Q. What is an exchange transaction?

A. An example of an exchange transaction is where PSE will take delivery from a counterparty at a location where transmission constraints are not expected to occur, [REDACTED], and simultaneously provide supply to the counterparty at the Mid C in exchange.

Q. How did PSE approach the decisions whether and how to enter into winter peaking contracts and exchanges for the Winter of 2005-06?

A. PSE approached these decisions within the context of its portfolio and risk management systems and procedures.

The Company specifically considered how it should plan for and execute contracts to provide peaking capacity or related hedges. As part of that analysis, PSE considered the cost-effectiveness of entering into various call options that were available in the market versus "self-insuring" against extreme winter peak events. The Company ultimately decided that it would purchase a limited quantity of winter peaking hedges.

The Company also analyzed transmission issues associated with potential extreme peaking and determined that it should enter into several exchanges and acquire

1 additional BPA transmission rights for the winter of 2005-06. *See* Exhibit
2 No. ___(DEM-3C) at Tab 8.

3 **Q. How did the costs of the winter peaking and exchanges described above**
4 **compare to the costs that were built into the Company's power cost baseline**
5 **for PCA Period 4?**

6 A. The baseline costs for the PCA Period 4 winter were established in Docket
7 No. UE-050870, the Company's 2005 PCORC proceeding. These included a
8 projection that PSE would incur [REDACTED] in winter peaking contract and
9 exchange costs during PCA Period 4. PSE's actual costs for winter peaking
10 contracts and exchanges during PCA Period 4 totaled [REDACTED].

11 **C. PSE's PCA Period 4 Power Costs**

12 **Q. How did PSE's actual power costs during PCA Period 4 compare to the**
13 **power costs recovered in rates?**

14 A. As detailed in the testimony of Mr. John Story, Exhibit No. ___(JHS-1T), and
15 PSE's 2006 PCA Report, PSE's actual power costs were below the amounts
16 recovered through the Power Cost Baseline Rate during PCA Period 4 by
17 approximately \$10.5 million.

18 The primary drivers of this over-recovery were: (1) actual power loads were 5
19 percent greater than forecast; (2) an adjustment to Hopkins Ridge fixed costs to
20 reflect lower capital costs. The market heat rates during PCA Period 4 were less

1 than forecast, reducing the quantity of generation at PSE's gas-fired generation
2 plants, which in turn reduced PSE's level of secondary sales transactions and
3 increased the level of secondary purchase transactions.

4 IV. CONCLUSION

5 **Q. Do you believe that PSE has met the Commission's prudence standard with**
6 **respect to its power costs during PCA Period 4?**

7 A. Yes, I do. PSE's management of its power costs during PCA Period 4 was
8 reasonable. The Company has structures and processes in place to formulate
9 strategies for controlling power costs and executed those strategies, taking into
10 account information and variables associated with managing a complex resource
11 portfolio within a dynamic natural and market environment.

12 **Q. Does that conclude your testimony?**

13 A. Yes, it does.