EXHIBIT NO. DEM-1CT
DOCKET NO. UE-10____
PCA 8 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 March 2010 Power Cost Adjustment Mechanism Report**	**Docket No. UE-10____**

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

REDACTED VERSION

MARCH 31, 2010

PUGET SOUND ENERGY, INC.

PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF
DAVID E. MILLS

PUGET SOUND ENERGY, INC.

PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF DAVID E. MILLS

I. INTRODUCTION

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

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

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

A. Yes, I have. It is Exhibit No. DEM-2.

Q. What are your duties as Director, Energy Supply & Planning for PSE?

A. My responsibilities include oversight of the Company's Power Supply Operations and Gas Supply Operations departments, including the following: (i) managing all PSE short-term (intra-month) and medium-term (up to three years) wholesale power and natural gas portfolios; and (ii) working with the Company's Energy Resources department to plan for long-term hedging requirements. My responsibilities also include developing strategies to address risks related to PSE's electric and gas portfolios and developing the Company's Integrated Resource Plan.

Q. Please summarize the contents of your testimony.

A. I first provide some brief background information regarding the Power Cost Adjustment ("PCA") Mechanism and how it addresses the volatility of PSE's power costs. I then describe the Renewable Energy Credit transactions, changes in power resources and efforts undertaken by PSE to manage, control and moderate its power costs during the period that began on January 1, 2009 and ended on December 31, 2009 ("PCA Period 8"). Finally, I compare the Company's actual power costs for PCA Period 8 to its baseline power cost rate that was in effect for PCA Period 8 pursuant to WUTC Docket No. UE-072300.

II. BACKGROUND REGARDING THE PCA MECHANISM

Q. Why does the Company have a PCA Mechanism?

A. The parties to the Company's 2001 general rate case were keenly aware from the experience of the Western Power Crisis in 2000-2001 how volatile power prices can be. In response to that potential volatility, uncertainty in the wholesale energy markets and PSE's need to add resources to meet its load obligations, the parties who participated in the PCA settlement collaborative in PSE's 2000-2001 general rate case agreed to a negotiated PCA Mechanism. The Commission approved the PCA Mechanism in its Twelfth Supplemental Order in Docket Nos. UE-011570 and UG-011571.

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

A. PSE's power supply portfolio contains a diverse mix of resources with widely differing operating and cost characteristics. Although there are many complex variables embedded in the portfolio, the major drivers of power cost volatility are: (1) streamflow variation affecting the supply of hydroelectric generation; (2) weather uncertainty affecting power usage; (3) variations in market conditions such as wholesale gas and electric prices; (4) risk of forced outages; (5) variability of wind generation; and (6) transmission constraints. All of these have an impact on load and resource volatility, which PSE may balance with wholesale market purchases and sales.

Q. How does the PCA Mechanism work?

A. Generally, the PCA Mechanism sets forth an annual accounting process for a sharing of costs and benefits between PSE and its customers over four graduated levels (so-called "bands") for the first $120 million of power cost variances. On power cost variances over $120 million, the PCA sharing mechanism allocates 95% of costs or benefits to customers and the remaining 5% of costs or benefits to PSE.

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

A. Power cost variances are the difference between (1) the "baseline" fixed and variable power costs that are built into PSE's electric rates as determined in the most recent rate proceeding and (2) PSE's actual variable power costs allowed under the PCA Mechanism, plus the fixed power costs as determined in the most recent rate proceeding. See the Prefiled Direct Testimony of Mr. John H. Story, Exhibit No. JHS-1T in this docket for further information.

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

A. Under the PCA Mechanism, new resources with a term less than or equal to two years are included in allowable PCA costs. The prudence of such resources is determined in the Commission's review of the annual PCA true-up. Some costs related to a new electric resource with a term of greater than two years are included in allowable PCA costs through a bridge mechanism, known as PCA Exhibit G, "New Resource Adjustment", until the prudence of such resources can be reviewed and approved in a power cost only or general rate case.

Q. Did PSE acquire new resources during PCA Period 8 that triggered PCA Exhibit G?

A. Yes. I discuss these new resources later in my testimony. In addition, Mr. John Story discusses the PCA Exhibit G adjustment in more detail in his Exhibit No. JHS-1T.

III. RENEWABLE ENERGY CREDITS

Q. What are Renewable Energy Credits?

A. Renewable Energy Credits ("RECs") represent the monetary value of the environmental attributes of power generation from renewable energy facilities. PSE receives RECs from electricity generated from its owned and contracted wind or other renewable energy resources such as the Hopkins Ridge, Wild Horse and Klondike wind facilities. In general, RECs may be traded as a bundled product where the electricity and environmental attributes are sold together, or as an unbundled product where only the environmental attribute is sold.

Q. Did PSE have any bundled REC transactions during the PCA Period 8?

A. Yes. During 2009, PSE entered into several bundled REC contracts with third parties to monetize RECs generated by its resources during 2009 and future years. The outcome of PSE's Docket UE-070725 will determine how PSE will account for the revenues created by the sale of RECs.

Q. Do PSE's RECs transactions impact power costs?

A. No, PSE's bundled REC sales do not affect total power costs. Under these agreements, PSE delivers firm physical market-sourced power at the Mid-Columbia ("Mid-C") hub in quantities equivalent to the Renewable Portfolio Standard-eligible product quantities defined in the contracts. The buyers are obligated to pay the contractual on- or off-peak Mid-C index price as published by the Intercontinental

Exchange, Inc. ("ICE") for the power delivered plus a fixed price per MWh for the RECs. PSE then purchases the equivalent physical power obligation to settle at the contractual daily Mid-C index price as published by the ICE. Any difference between the cost of the purchased power and the proceeds from the sale of the power is removed from power costs and deferred in FERC Account 253. As a result, the cost of the physical power sold equals the cost of the power purchased, resulting in a zero impact to power costs.

IV. PCA PERIOD 8 POWER COSTS

A. <u>PCA Period 8 Power Resources</u>

Q. Have the long-term electric supply resources changed during PCA Period 8?

A. Yes. A number of changes to the Company's portfolio occurred during the PCA Period 8. Specifically, the PCA Period 8 power costs included:

(1) Energy from the following newly acquired resources:

a. the Mint Farm Energy Center ("Mint Farm") gas-fired combined cycle combustion turbine provided 296 MW of additional capacity;

b. the Wild Horse Wind Project expansion ("Wild Horse Expansion") added 44 MW of nameplate capacity;

c. the Credit Suisse Purchased Power Agreement ("PPA") was signed to replace, effective January 1, 2009, the terminated 50 MW PPA with Lehman Brothers ("Lehman PPA") upon Lehman's announcement to file Chapter 11 bankruptcy;

d. a PPA with Qualco Dairy Digester (0.50 MW of nameplate capacity) effective March 9, 2009;

e. a PPA with Farm Power Rexville, LLC effective August 28, 2009 for the output of an anaerobic manure digester (0.75 MW of additional capacity);

(2) Extension of the following contracts:

a. for the Nooksack hydro agreement (2.5 MW) with Puget Sound Hydro, LLC;

b. with Port Townsend Paper Corporation for hydro generation (0.375 MW) through December 31, 2009;

c. between PSE and Occidental Energy Marketing, Inc. for gas transportation between the Rockies region and Sumas through June 30, 2011;

(3) a five year PPA with Powerex Corporation to serve the retail load in Point Roberts, Washington that replaces the existing contract effective October 1, 2009 at a lower cost per MWh;

(4) the expiration of the nearly 3 MW PPA with the Puyallup Energy Recovery Company, LLC on April 18, 2009; and

(5) lower generation and costs under the Public Utility District No. 2 of Grant County, Washington ("Grant County PUD") Mid-C contract terms effective November 1, 2009. This contract was approved in PSE's 2006 general rate case, Docket Nos. UE-060266 and UG-060267 (consolidated) (the "2006 GRC"). Specifically, the PCA Period 8 hydro generation was reduced to reflect PSE's:

a. new Grant County PUD contract ownership share. PSE's Wanapum Development and Priest Rapids Development Hydroelectric Projects ownership share decreased from 10.8% and 0.54%, respectively, to 2.76% of the combined Priest Rapids Hydroelectric Project projection; and

b. decision not to purchase any Meaningful Priority under the Grant County PUD contract which allows purchasers to buy a percentage of the Reasonable Portion generation (referred to as "Meaningful Priority") at a price determined by Grant County PUD's annual power auction. PSE declined the option for the 2009 calendar year after anticipating an above market auction price due to increasing participation by Power marketers willing to pay a premium for Mid-C power. The actual 2009 auction price using actual generation was approximately $65 per MWh.

Q. Please provide more information regarding the new Mint Farm and Wild Horse Expansion resources.

A. Mint Farm was purchased and placed in-service in December 2008. The Company then took Mint Farm offline for capital and maintenance improvements to bring the plant to Company operating and insurance standards and brought the unit back online on January 19, 2009. The Wild Horse Expansion's additional 22 wind turbines entered commercial operation on November 9, 2009. PSE has deferred costs associated with these new resources pursuant to RCW 80.80.060 and has requested a prudency determination in PSE's general rate case Docket Nos. UE-090704 and UG-090705 (the "2009 GRC"). The deferral of the costs for these resources for PCA Period 8 is discussed in the testimony of Mr. John Story, Exhibit No. JHS-1T.

Q. Were any of the above new resources subject to the PCA bridge mechanism during PCA Period 8?

A. Yes. The PCA bridge mechanism is PCA Exhibit G, "New Resource Adjustment" and is provided on pages 8-10 of Mr. Story's Exhibit No. JHS-3. Power costs during PCA Period 8 for new resources with terms greater than two years that are not yet recovered in rates, except Mint Farm and the Wild Horse Expansion, were analyzed for adjustment under PCA Exhibit G. Please see the prefiled direct testimony of John Story, JHS-1T for further discussion regarding the exclusion of the Mint Farm and the Wild Horse Expansion from the PCA Exhibit G analysis.

These new resources not yet recovered in rates include the PPAs with Qualco Dairy Digester, Credit Suisse and Farm Power Rexville. PSE is awaiting a prudence determination in its current 2009 general rate case proceeding for the Qualco Dairy Digester and Credit Suisse PPAs. PSE plans to file for recovery and a prudence determination for the Farm Power Rexville PPA in its next rate proceeding. Please see Mr. Story's testimony, Exhibit No. JHS-1T for a more detailed discussion of the PCA Period 8 Exhibit G calculation.

Q. Did PSE acquire any new resources during PCA Period 8 with a term of less than or equal to two years?

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

The Company purchased winter on-peak index power to improve the reliability of supply to PSE's system.

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

A. These transactions were undertaken within a comprehensive portfolio and risk management system of organizational structure, technological tools, and human resources designed to allow PSE to (1) deliver reliable energy when its customers demand it; (2) serve its customers while mitigating price volatility; and (3) enhance the value of PSE's energy resources.

The Company has in place organizational structures, policies and overarching strategies to provide oversight and control of energy portfolio management activities, many of which must be undertaken on an hourly and daily basis by PSE's experienced energy traders. The Company also uses modeling tools that assist in projecting whether its power and gas portfolios will be surplus or deficit in future months. The Company uses these tools to develop and implement hedging strategies to reduce the cost risks associated with portfolio volatility.

The following section of my testimony first provides a description of these systems and tools. I then illustrate their application to PCA Period 8 by describing actual hedging strategy decisions and their execution undertaken by PSE with respect to its power supply for October 2009. *See* Exhibit No. DEM-3C.

B. PSE's Management of its Power Portfolio and Related Fuel Supply for PCA Period 8

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

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

A. PSE's Energy Portfolio Management function ("EPM department") includes certain employees from the Energy Supply & Planning department ("ESPD") and the Structuring, Asset Optimization and Analytics department. The EPM department is composed of energy market analysts, quantitative analysts, seasoned energy traders and other professionals. The EPM department is responsible for identifying, quantifying, monitoring and recommending risk management strategies for the Company. The EPM department performs these tasks and manages PSE's short- and medium-term portfolios. The ESPD is led by the Executive Vice President and Chief Resource Officer, and the Structuring, Asset Optimization and Analytics department is led by the Executive Vice President and Chief Financial Officer.

The Energy Risk Control ("ERC") department includes the Credit Risk Management group, and is responsible for providing risk control oversight. The ERC department is led by the VP Finance and Treasurer Officer.

PSE's Energy Management Committee ("EMC") – composed of senior PSE officers – oversees the activities performed by the EPM department. The EMC is responsible for providing oversight and direction on all portfolio risk issues in addition to approving long-term resource contracts and acquisitions. The EMC provides policy-level and strategic direction on a regular basis, reviews position reports, sets risk exposure limits, reviews proposed risk management strategies, and approves policy, procedures and strategies for implementation by staff.

In addition, the Company's Board of Directors provides executive oversight of these areas through the Audit Committee.

Q. What hedging strategies have been approved by the EMC?

A. With respect to hedging strategies for specific time periods or quantities of energy, the EMC has approved a Programmatic Hedging Strategy. The original programmatic hedging strategy was approved by the EMC on July 22, 2004, with a PSE staff transactional purview of [redacted]. The term of the EMC approved programmatic hedge strategy originally consisted of the last [redacted] of the [redacted] purview ("Programmatically Managed Hedge"), but was reduced to [redacted] in early 2006. The balance of the [redacted] purview were actively managed ("Actively Managed Hedge") in accordance with the EMC approved Energy Supply Hedging and Optimization Procedures Manual ("Procedures Manual"). In October 2007, the Company extended department staff's transactional purview from [redacted] to [redacted]. At that time, the balance of the current month plus the first full [redacted] became the Actively Managed Hedge in accordance with the Procedures Manual and the latter [redacted] became the Programmatically Managed Hedge in accordance with the EMC approved strategy. EPM department staff utilize the programmatically managed hedge to systematically reduce the Company's net power portfolio exposure beginning months in advance of the month in which the power will be needed to serve PSE's load. This process is described in greater detail below and in Exhibit No. DEM-3C, which also steps through an example month. Such exposure reduction is subject to minimum and maximum monthly limits to reduce timing and market risks associated with hedging activities.

Pursuant to the hedging strategies in effect during the PCA Period 8, by at least [redacted] prior to delivery, the bulk of the hedging strategies and transactions have been made, leaving primarily only balancing transactions needed to respond to changes in market heat rates, load, hydro conditions, unit assumptions and other portfolio changes. Decisions about hedges for delivery during the Actively Managed Hedge are made by EPM department staff, within limits set out in PSE's Procedures Manual. The table below shows the term of the hedging strategies impacting the PCA Period 8.

Hedging Purview Impacting PCA 8	**Total Months Managed**	**Programmatically Managed Hedge**	**Actively Managed Hedge**
Pre-October 2007	[redacted]	[redacted]	Balance of the Current Month + Next Full [redacted] Months
Post-October 2007	[redacted]	[redacted]	Balance of the Current Month + Next Full [redacted] Months

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

A. PSE's risk system employs production cost modeling techniques to estimate future demand for on- and off-peak power and natural gas for PSE's fleet of gas-fired power plants. This risk system permits PSE to model scenarios of prices, hydro conditions, load projections, generating and contracted resources and other inputs as required to represent future projected portfolio needs.

To model a variety of scenarios regarding PSE's gas-fired generation, the risk system takes into account each plant's individual operating characteristics, including: unit efficiency, start-up costs, variable operating costs, minimum run times, planned and unplanned outages, and unit availability. The risk system performs simulations of different market conditions and various outages in order to develop an estimate of the gas volumes required to produce a volume of power. The plants are modeled on an hourly basis and the information is aggregated into daily and monthly time frames for purposes of developing a forward-looking position. The risk system incorporates information about hedges that PSE staff has already executed to model whether the portfolio is surplus or deficit. The risk system incorporates the inter-relationship between gas and power prices in developing its probabilistic gas and power positions. In different market scenarios, PSE's gas or power requirements will change. The reason for this is twofold. First, the plants have different operating efficiencies (known as "heat rates") and become economic to dispatch at different price differentials between power and gas.

Second, the forward market prices for power and gas change frequently and the price relationship between power and gas, known as the "implied market heat rate", changes as well. At certain implied market heat rates, PSE will expect to run each plant at an expected rate, and the total of all the plant requirements can be calculated. But if market conditions change, PSE will expect to adjust its gas and power purchases and sales in order to serve load with the most economic resources. For example, it may be more economic to purchase power than to purchase gas to generate the power PSE needs to serve its load.

Q. Please describe the output that the electric portfolio risk system produces.

A. The risk system generates a probabilistic volumetric position report, comprised of 250 scenarios, for on- and off-peak power and gas for power. The position report shows, for each of the months following the date of the report, the resource types in PSE's power position grouped by: short-term purchase and sale transactions, long-term contracts, combustion turbines ("CT") grouped by heat rate efficiency of the facilities, Non Utility Generators/Qualifying Facilities ("NUGs/QFs"), coal plants, wind and hydro (both PSE-owned and Mid-C contracts). Based on this volumetric position for each month, the risk system also generates the potential exposure associated with the "open" positions (defined as any net surplus or deficit amount). *See* Exhibit No. DEM-6C.

Q. How does PSE use the electric portfolio risk system to help make hedging decisions?

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

Q. How does PSE use the risk system to implement its Programmatic Hedging Plan?

A. As described above, PSE's Programmatic Hedging Plan is set up to systematically reduce the total net exposure for each of the [redacted] months beyond the next [redacted] month timeframe, within maximum and minimum limits on the amount of hedging that can or must be done each month, so that the total net exposure for each month will fall within the limits of the plan. Every month, the risk system calculates the total net exposure to be reduced for each of the [redacted] in the Programmatically Managed Hedge period.

Q. Does Energy Portfolio Management staff implement the Programmatic Hedging Plan relying only on the net exposure?

A. No. The net exposure drives transactions only to the point of showing whether

PSE's exposure is within the maximum and minimum monthly limits of the plan. EPM department staff must then make use of market fundamentals, water supply and weather forecasts that impact the wholesale electric and gas markets to decide whether to press toward the maximum or minimum monthly limits, or somewhere in between. EPM department staff also determines when and how to execute such transactions to maintain each month's net exposure reduction within the maximum and minimum limits.

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

A. The EPM department utilizes a wide set of tools and sources of information to help its members make informed decisions about dispatching plants, purchasing fuel and executing hedges approved by the EMC. They also hold several meetings each month so that the teams can review operational events, discuss market trends and review supply/demand information. With this context, the teams work together to understand the exposures in the portfolio and discuss where hedging priorities occur. Underlying all this teamwork is an EPM department staff with years of experience in energy trading, optimization and risk management.

Q. What types of information does the Energy Portfolio Management staff consider?

A. The EPM department collects a wide range of data to monitor supply/demand factors, which include but are not limited to, weather trends; macro economic factors; crude oil markets; gas storage inventories across the United States, Canada and in the western United States; hydro run-off forecasts; reservoir storage; precipitation and snowpack and more. Additionally, PSE staff review forecasted wholesale market prices and supply/demand fundamentals, as well as commodity price technical analysis, such as trading firm publications and consulting service forecasts.

EPM department staff also receive real-time information from a variety of sources such as: McGraw Hill (Gas Daily, Megawatt Daily), Future Source, Intercontinental Exchange (live price data), live broker lines where current transactions are communicated though a speaker system, and other tools. The EPM department also has instantaneous data coming from the Company's systems operations staff so they can view load and generation dispatch data on a real-time basis.

In addition to using such information and processes to implement the current Programmatic Hedging Plan, the EPM department also uses such information to develop recommendations to the EMC regarding potential changes to the Company's overarching hedging strategies or to recommend transactions that do not fall within those strategies.

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

A. Yes. PSE also uses a counterparty credit risk management system to assist the Credit Risk Management group and the EPM department staff in evaluating credit issues associated with potential transactions. With this tool, staff can review data that is gathered and calculated daily, including:

- Moody's and S&P rating of the entity;
- applicable information about the parent of the entity;
- amount of parent guarantee credit provided to PSE, if applicable;
- the entity's amounts payable and receivable;
- the aggregate mark to market exposure of all open forward transactions with the entity (the dollar value of the difference between the original contract price and current market price);
- the credit limit assigned to the entity;
- the existence of netting terms; and
- Financial Accounting Standards Board Statement No. 149 designation for accounting purposes. This Statement provides accounting and reporting for derivative instruments and hedging activities.

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

A. Over the past several years, PSE moved from a more "discretionary" model of making hedging decisions to a more "programmatic" approach to hedging. The preceding dollar-cost averaging strategy established a disciplined approach to purchasing a defined volume of gas or power on a monthly basis. In applying this strategy, PSE typically established plans to purchase hedges for specific forward time periods, with the goal of purchasing a defined amount of power and gas in order to ratably reduce the deficit positions by a small amount each month.

By spring 2003, the EMC had approved expansion of this concept to an "Exposure-based Dollar Cost Averaging." This refinement moved the Company from defining a specific commodity and volume to be hedged every month to a dollar amount of risk reduction to be accomplished every month. Under this approach, the EMC would approve a dollar figure of risk to be reduced, and PSE staff would determine whether it was better to hedge gas or power. As market prices move up or down, the dollar amount allows for less or greater volumetric purchases of power or gas for power.

In May 2004, during PCA Period 2, the Company began to employ a metric called Margin at Risk ("MaR"), which measures risk reduction as a result of incremental hedging. *See* Exhibit No. DEM-4. PSE has incorporated the MaR concept into the evaluation process for hedge strategies to measure risk reduction for various alternatives. A series of hedge strategies (transaction types) are run through the portfolio, providing a table of how much risk reduction is gained by month and by strategy. The MaR concept assists with deciding how to allocate dollars in a credit-constrained environment, thus providing an additional tool for choosing between available commodities. *See* Exhibit No. DEM-7C.

In July 2004, the EMC approved a continuation of a dollar cost averaging strategy (hedging on a regular schedule over a lengthy period, in order to capture lower as well as higher prices during periods of volatility) informed by MaR. However, the EMC directed that PSE staff monitor and more actively address the exposure associated with PSE's power portfolio position [redacted] ahead of the time the power would be needed. On January 7, 2006, the Rolling [redacted] Hedging Plan was amended to be a Rolling [redacted] Hedge to guide hedging decisions for the [redacted] to [redacted] time frame. In October 2007, this hedging plan was extended and now covers the [redacted] to [redacted] time frame ("Programmatically Managed Hedge"). This hedging plan increased staff's ability to react to position changes as a result of forecast customer demand, stream-flow variations, forced thermal plant outages, and changing market conditions.

EPM department staff use the Programmatically Managed Hedge to systematically reduce the Company's net power portfolio exposure (including natural gas for power generation) beginning [redacted] in advance of the month in which the power is needed to serve PSE's load.

Q. How does the Programmatically Managed Hedge Plan work?

A. As mentioned above, in October 2007, the Company extended staff's transactional purview from [redacted] to [redacted]. At that time, the first [redacted] became the Actively Managed Hedge in accordance with the Procedures Manual and the remaining [redacted] became the "Programmatically Managed Hedge" in accordance with the EMC approved strategy. The revised strategy retained many of the same features as the previous hedging strategy. These include

(i) a required ratable reduction of monthly commodity exposure removed each month;

(ii) the volume of monthly hedging and intra-month timing for hedging is informed by market fundamentals; and

(iii) hedging targets are established on the basis of the minimum or maximum amount of commodity exposure allowed under the EMC approved strategy.

The revised plan requires that on or before [redacted] ahead of delivery, the bulk of the hedging strategies and transactions have been made per this programmatic plan. These revisions enable the Company to monitor and more actively address the exposure associated with PSE's power portfolio position [redacted] ahead of the time the power would be needed to serve load.

Q. Why did the Company extend its hedging strategies?

A. Prior to extending the term of the hedging strategies, the Company engaged in a very detailed best-practices benchmarking and market research initiative. These efforts revealed that customers prefer a longer period of rate stability and that industry leading companies were engaged in longer term hedging practices than PSE. Given this and other information, PSE determined it could be beneficial to expand its hedging horizons.

2. <u>Application of PSE's Risk Management System to PCA Period 8 Power Costs</u>

Q. Would you provide some examples of how PSE applied the risk management systems, tools and strategies described above with respect to PCA Period 8 power supply and costs?

A. Yes. Take, for example, PSE's energy requirements for October 2009. Beginning in [redacted], PSE's EPM staff began to actively reduce spot market price exposure for the delivery period October 2009. From [redacted] through [redacted], on a monthly or bi-monthly basis, EPM department staff developed strategies to reduce PSE's exposure with respect to its electric supply needs for October 2009. Such strategies reflected updated Position and Exposure Reports generated by PSE's risk system, market heat rates, hydro conditions and weather fundamentals, and other available information. In accordance with the EMC approved Programmatic Hedging Plan and within the limits described therein, PSE staff executed these strategies by entering into hedging transactions. EPM Department staff can make recommendations to depart from this plan, but execution of such hedges is subject to EMC approval. With respect to the October 2009 power supply, EPM department staff did not make any such recommendations, but instead kept the EMC informed of its analyses and activities. See Exhibit No. DEM-3C for discussion of the hedges transacted for October 2009, which are presented in Exhibits Nos. DEM-9C and DEM-10C.

Beginning in [redacted], the power supply for October 2009 rolled into staff's newly extended [redacted] Programmatically Managed Hedge purview. Beginning in [redacted], the power supply for October 2009 rolled into staff's Actively Managed Hedge - at which point staff analyzed PSE's position for October 2009 on a monthly or bi-monthly basis and, based on market conditions and other information available to them at the time, took actions to reduce PSE's exposure under the authority and limits of the Procedures Manual.

Documenting these activities requires detailed description and explanation of the information and reports used by the Company at each stage of its consideration, decision making, and execution of PSE's risk management strategies. Thus, this description and documentation is presented separately as Exhibit No. DEM-3C.

Q. Are the activities described in Exhibit No. DEM-3C the only risk management activities that PSE undertook for PCA Period 8?

A. No. Similar activities were undertaken with respect to managing PSE's portfolio and exposure for the entire PCA Period 8. Some of that information is apparent from the materials presented in Exhibit No. DEM-3C and the other exhibits filed with my Prefiled Direct Testimony. However, describing and documenting all of the details of such activities for the entire PCA Period 8 would be a monumental task and outside the scope of this testimony.

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

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

3. Winter Peaking Contracts and Exchanges

Q. Why does PSE enter into winter peaking contracts?

A. Winter peaking contracts are procured so that PSE will be able to reliably serve high loads that occur during an extreme winter peak event.

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

A. In the power market, most of the transactions relevant for PSE occur at the Mid-C trading hub. Therefore, during an extreme cold event, PSE purchases incremental power in the day ahead or real time Mid-C markets if the prices are less than the cost of generating or if additional supplies are needed to supplement PSE's resources. Historically, there has been inadequate transmission capacity from the Mid-C to PSE's system (Cross Cascades transmission path) to move all of PSE's resources and market purchases during an extreme cold event, resulting in risk that short-term firm capacity would not be available. Additionally, curtailments of non-firm hourly transmission were likely to occur. PSE's strategies to ensure it had adequate transmission capacity to deliver additional winter supply to its system to meet peak demand have historically been to [redacted]

[redacted]. Given the long-term firm BPA Cross Cascades transmission PSE has acquired over the last few years (650 MW in 2006, 115 MW in 2008 and 35 MW in 2009) and the location of newly acquired resources, PSE is less constrained by Cross Cascades transmission to meet winter peaking needs.

Q. How did PSE approach the decisions whether and how to enter into winter peaking contracts and exchanges for the winter months of calendar 2009?

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

PSE specifically considered how it should plan for and execute contracts to provide peaking capacity or related hedges. As part of that assessment, PSE considered the effectiveness of entering into various call options that were available in the market versus "self-insuring" against extreme winter peak events. PSE ultimately decided that it would purchase several winter on-peak power index power transactions to ensure firm physical power supply during the winter peaking hours.

C. PSE's PCA Period 8 Actual Power Costs

Q. Were there any accounting adjustments made in PCA Period 8?

A. Yes, a $5.0 million credit to PCA Period 8 power costs which related to PCA Periods 4 through 8 was applied to the determination of the customer deferral to reflect a refund of state utility taxes paid on displacement costs under the Tenaska contract. During 2009, the Thurston County Superior Court granted PSE's motion for summary judgment against the Washington Department of Revenue for the state utility tax that PSE had paid between 2006 through 2009. As required under the PCA Mechanism, this credit was allocated to the appropriate PCA periods. See Mr. John Story's Exhibit JHS-1T for further information.

Q. Why was this credit included in the PCA Mechanism?

A. The actual power costs flowed through the PCA Mechanism included state utility taxes that PSE paid to Tenaska associated with the contracted displacement charges. Now that PSE has received a refund of these taxes, it is appropriate that the credit be included in the PCA Mechanism. Approximately ($0.7) million of the ($5.0) million refunded was for 2009 payments and remains in the PCA Period 8 power costs, and as such, the payments made and refunds received net to zero in PCA Period 8, as if the payments had not been originally included in total allowable costs.

Q. How did PSE's actual power costs during PCA Period 8 compare to the power costs recovered in rates?

A. PSE's actual PCA Period 8 power costs were approximately $32.2 million above the amounts recovered through the power cost baseline rate during PCA Period 8.

The primary drivers of this under-recovery were higher power costs caused by a combination of (1) lower Mid-C hydro generation due to 79% of normal runoff at

Grand Coulee during the January - July 2009 period (where normal is considered to be the 30 year average from 1971 to 2000), *see* Exhibit No. DEM-12; (2) an extended Colstrip Unit 4 outage to repair cracks in two sections of a rotor; and (3) lower than expected wind generation. In addition, lower than forecasted load due to poor economic conditions also adversely impacted the PCA. The drivers of the under-recovery noted above were partially offset by lower Mid-C contract costs resulting primarily from PSE's decision discussed above, to not purchase Meaningful Priority from Grant PUD, and from higher gas fired generation due to higher market heat rates.

V. CONCLUSION

Q. Do you believe that PSE has met the Commission's prudence standard with respect to its power costs during PCA Period 8?

A. Yes; PSE met the Commission's prudence standard for the PCA Period 8 power costs because PSE's management of its power costs during PCA Period 8 was reasonable. The Company has structures and processes in place to formulate strategies for controlling power costs and executed those strategies, taking into account information and variables associated with managing a complex resource portfolio within a dynamic market environment.

Q. Does that conclude your testimony?

A. Yes, it does.