EXH. PKW-1CT
DOCKET UE-17____
PCA 15 COMPLIANCE
WITNESS: PAUL K. WETHERBEE

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of **PUGET SOUND ENERGY** **For Approval of its April 2017 Power Cost Adjustment Mechanism Report**	**Docket UE-17____**

PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF

PAUL K. WETHERBEE

ON BEHALF OF PUGET SOUND ENERGY

REDACTED VERSION

APRIL 28, 2017

PUGET SOUND ENERGY

PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF PAUL K. WETHERBEE

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I. INTRODUCTION

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

A. My name is Paul K. Wetherbee. My business address is 10885 NE Fourth Street, Bellevue, Washington, 98004-5591. I am the Director, Energy Supply Merchant for Puget Sound Energy ("PSE").

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

A. Yes, I have. It is Exh. PKW-2.

Q. What are your duties as Director, Energy Supply Merchant?

A. I am responsible for oversight of all Front Office activities including power and gas trading, participation in the Energy Imbalance Market, and the hedging program. I am responsible for the dispatch of PSE's generating assets, related transmission, and any associated environmental attributes.

Q. Please summarize the contents of your testimony.

A. First, I provide some brief background information regarding the Power Cost Adjustment ("PCA") Mechanism and how it addresses the volatility of PSE's power costs. Then I describe the changes in power resources from those included in

current rates, as well as PSE's efforts to manage its power costs during the period that began on January 1, 2016 and ended on December 31, 2016 ("PCA Period 15"). I then compare PSE's actual power costs for PCA Period 15 to the baseline power cost rates that were in effect for PCA Period 15. See the Prefiled Direct Testimony of Katherine J. Barnard, Exh. KJB-1T, for further information regarding the PCA baseline rates for the PCA Period 15. The baseline power cost rate approved in the 2014 Power Cost Only Rate Case, WUTC Docket No. UE-141141 ("2014 PCORC") went into effect December 1, 2014 and the baseline power cost rate approved in the 2016 Power Cost Update, WUTC Docket No. UE-161135 ("2016 PCU") went into effect December 1, 2016.

II. BACKGROUND REGARDING THE PCA MECHANISM

Q. Why does PSE have a PCA Mechanism?

A. The parties to PSE'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 volatility and uncertainty in the wholesale energy markets as well as PSE's need to add resources to meet its load obligations, the parties who participated in the PCA settlement collaborative in PSE's 2001 general rate case agreed to a negotiated PCA Mechanism. The Commission approved the PCA Mechanism in its Twelfth Supplemental Order in PSE's 2001 general rate case, Dockets UE-011570 and UG-011571. The PCA Mechanism became effective July 1, 2002.

Q. Please describe why 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 and transportation constraints. All of these affect load and resource volatility, which PSE may balance with wholesale market purchases and sales. These same volatility factors also affect the wholesale power markets in general.

Q. How does the PCA Mechanism work?

A. Generally, PSE's PCA Mechanism is an annual accounting process to share costs and benefits between PSE and its customers over four graduated levels (so-called "bands") for the first $120 million of power cost variances. For power cost variances over $120 million, the PCA sharing mechanism allocates 95 percent of costs or benefits to customers and the remaining five percent of costs or benefits to PSE.

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

A. Power cost variances are the annual difference between: (1) the actual recovery of power costs based on the "baseline" fixed and variable power costs that are built

into PSE's electric rates: and (2) the sum of PSE's actual variable power costs allowed under the PCA Mechanism plus the fixed power costs as determined in the most recent rate proceeding. For example, during the PCA Period 15, PSE under recovered $2.1 million of its actual allowed variable and fixed power costs. PCA Period 15 actual power costs are discussed in more detail in section III.C. of my testimony. See Ms. Barnard's Prefiled Direct Testimony, Exh. KJB-1T, for further information and discussion of the PCA Annual Report for PCA Period 15.

Q. How are PSE's costs for new resources treated in the PCA Mechanism?

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. Power costs related to a new electric resource with a term *greater* than two years are included in allowable PCA costs through a bridge mechanism known as PCA Exhibit G, "New Resource Adjustment." If the cost of the new resource exceeds the baseline rate on a cost per MWh basis, Exhibit G reduces the PCA mechanism's variable costs of the new resources to be equivalent to the baseline rate until the prudence of such resources can be reviewed and approved in a power cost only or general rate case.

Q. Were there new resources that triggered the PCA Exhibit G calculation during the PCA Period 15?

A. No. There were no new resources that triggered the PCA Exhibit G calculation during PCA Period 15.

Q. Have there been changes to the PCA Mechanism?

A. Yes. Pursuant to a settlement stipulation in the 2013 PCORC, PSE and parties to that proceeding initiated a collaborative process to address issues relevant to the PCA Mechanism and PCORCs. The collaborative resulted in a multiparty settlement to address the following five elements of the PCA:

- Removal of fixed production costs from the PCA imbalance calculation;
- Modifying the dead band and the sharing bands;
- The refund or surcharge trigger;
- Timing and stay out provision; and
- Administrative costs of PSE's hedging program.

The multiparty settlement was approved by the Commission and the changes were implemented on January 1, 2017. Since these changes were effective after PCA period 15, discussion of the PCA Mechanism for PCA period 15 relates to the PCA prior to the 2017 changes.

III. PCA PERIOD 15 POWER COSTS

A. PCA Period 15 Power Resources

Q. Please describe the changes to long-term electric supply resources that are different than those included in the baseline rates during PCA Period 15.

A. As noted above, the baseline rates in effect during the PCA Period 15 reflect the power portfolio from PSE's 2014 PCORC. There were a few changes to PSE's portfolio that are reflected in the PCA Period 15 power costs that are different than those recovered in rates for the entire PCA Period 15. Specifically, PCA Period 15 actual power costs included:

(1) Existing contract changes and expirations:

a. a 100 MW increase in delivered power per the terms of the Centralia Coal Transition PPA contract effective December 1, 2016;

b. a 100 MW increase in delivered power per the terms of the Centralia Coal Transition PPA contract effective December 1, 2015;

c. a 75 MW decrease due to the expiration of Barclays' long term contract effective February 28, 2015;

d. a 100 MW decrease of winter capacity associated with the Klamath peakers due to the expiration of a power purchase agreement with Iberdrola Renewables effective February 29, 2016;

e. a 1 MW decrease due to the expiration of a power purchase agreement with Hutchinson Hydro LLC effective September 30, 2016;

f. an upgrade to the Goldendale plant that increased capacity to 300 MW beginning in June 2016.

(2) Changes to fixed gas transportation contracts to continue to support the physical gas requirements of PSE's gas fired generation:

a. A 37,913 Dth per day and a 3,507 Dth per day with Nova Gas Transmission Ltd. from NIT to the Alberta/British Columbia border (A/BC) effective December 1, 2015 and January 1, 2016, respectively;

b. Interbook contract of 500,000 Dth/day of working gas capacity and 50,000 Dth/day of injection/withdrawal capacity at Jackson Prairie Storage Project effective April 1, 2016, replacing a comparable contract that expired March 31, 2016;

c. 40,946 Dth per day with Foothills Pipeline from A/BC to Kingsgate effective December 1, 2015;

d. 40,567 Dth per day with Gas Transmission Northwest from Kingsgate to Stanfield effective November 1, 2015;

e. Plymouth Liquified atural as storage with Northwest Pipeline that provides 70,500 Dth per day demand and 241,700 Dth storage capacity effective November 1, 2015;

f. 34,197 Dth per day winter only with Northwest Pipeline from Jackson Prairie to Longview and Sedro-Woolley

effective November 1, 2015;

g. 15,000 Dth per day with Northwest Pipeline from Plymouth to Sedro-Woolley, with segmentation at Jackson Prairie, effective November 1, 2015, and

h. 20,000 Dth per day with Northwest Pipeline from Sumas to Jackson Prairie effective October 10, 2015.

(3) Updates to all rate year power contracts and resources to reflect current operations, contract terms and planned maintenance.

Q. Did PSE acquire any new resources during PCA Period 15 with a term of less than or equal to two years?

A. Yes. PSE acquired such resources in the form of off-system physical or financial purchases and sales of power and 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 load or resource availability as well as changes in market heat rates, which guide PSE decisions of whether to dispatch gas-fired generation or to buy power and sell hedged natural gas for power. Such transactions include intermediate term transactions entered into pursuant to PSE's programmatic portfolio hedging efforts.

PSE also purchased winter [redacted] to secure firm power 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 utilization of PSE's energy resources.

PSE has had organizational structures, policies and overarching strategies in place for many years 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. PSE also uses modeling tools that assist in managing its power and gas portfolios in future months. PSE uses these tools to develop and implement 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 15 by describing actual hedging strategy decisions and their execution undertaken by PSE with respect to its power supply for a sample month, April 2016.

B. PSE's Management of its Power Portfolio and Related Fuel Supply for PCA Period 15

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. The Energy Supply Merchant ("ESM") department is composed of energy market analysts, quantitative analysts, energy traders and other professionals. The ESM department is responsible for monitoring the energy portfolio and identifying, monitoring, developing and recommending risk management strategies for PSE. The ESM department performs these tasks and manages PSE's short- and medium-

term portfolios. During PCA Period 15, the ESM department was under my direction beginning May 1, 2016.

The Energy Risk Control ("ERC") department is responsible for independently monitoring, measuring, quantifying and reporting official risk positions and performing credit analysis. The ERC department is led by the Corporate Treasurer.

PSE's Energy Management Committee ("EMC") – composed of five PSE officers – oversees the activities performed by both the ESM and ERC departments. 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 PSE staff. In addition, PSE's Board of Directors provides executive oversight of these areas through the Audit Committee.

Q. What are the current hedging strategies approved by the EMC?

A. The ESM department uses the Programmatically Managed Hedge program to systematically reduce PSE'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.

The Actively Managed Hedge consists of the next full [redacted] calendar months and is managed in accordance with the EMC approved Energy Supply Hedging and Optimization Procedures Manual ("Procedures Manual"). The Programmatically

Managed Hedge program covers the [redacted] period beyond the Actively Managed Hedge. Since a full calendar quarter is added at a time to this program, the Programmatically Managed Hedge varies from [redacted].

Q. How does the Programmatically Managed Hedge program work?

A. The Programmatically Managed Hedged program is a multi-year strategy designed to manage the power portfolio's total net exposure for each month, so that the total net exposure will fall below the EMC exposure limits set forth in the Procedures Manual. Portfolio exposure management is subject to minimum and maximum monthly parameters to reduce timing and market risks associated with hedging activities. The maximum monthly parameter is calculated by dividing the total net exposure by the remaining number of months prior to the time when the position falls into the Actively Managed Hedge. The minimum monthly parameter is calculated by dividing the total net exposure (plus or minus the EMC monthly limit authority) by the remaining number of months prior to the time when the position falls into the Actively Managed Hedge. If such a month's position already falls below the EMC monthly exposure limit authority, there is no monthly hedge requirement. The ESM department utilizes the Programmatically Managed Hedge strategy to manage PSE's net power portfolio exposure months in advance. This process is described in greater detail in Exh. PKW-3C which steps through a sample month, April 2016.

Q. How does PSE integrate hedging activities with its power portfolio modeling?

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 probabilistic position. The risk system includes executed power and gas hedges to model the portfolio. 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," change as well.

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 generation. 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 exposure associated with the open positions. *See* Exh. PKW-4C.

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 ESM department evaluates and develops risk management strategy proposals and/or executes transactions around the purchase or sale of gas or power, as appropriate, to stay within limits. Execution entails entering into specific transactions with approved counterparties, approved instruments, executed master agreements and available credit.

Q. How does PSE use the risk system to implement its Programmatically Managed Hedge program?

A. As described above, PSE's Programmatically Managed Hedge program is set up to

manage the total net exposure for each of the [redacted] beyond the next [redacted] timeframe, within maximum and minimum parameters 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 set forth in the Procedures Manual as the month rolls into the Actively Managed Hedge period. Every month, the ERC department calculates the minimum and maximum parameters for each of the months in the Programmatically Managed Hedge period.

Q. Does the Energy Supply Merchant department implement the Programmatically Managed Hedge program by 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 parameters of the program. The ESM department then makes use of both technical analysis and market fundamentals (water supply, weather forecasts, regional renewable additions and natural gas storage, to name a few) that impact the wholesale electric and gas markets to decide on the volume to hedge while remaining within the monthly parameters. The ESM department also determines when and how to execute such transactions to manage each month's net exposure.

Q. How does the Energy Supply Merchant department develop a view of appropriate hedging strategies for the power portfolio?

A. The ESM department utilizes a wide set of tools and sources of information to help them make informed decisions about dispatching plants, purchasing fuel and

executing hedges approved by the EMC. They hold regular meetings to review operational events, discuss market trends, fundamentals and technical analysis and review supply and demand information. Within 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 ESM department with years of experience in energy trading, optimization and risk management.

Q. What types of information does the Energy Supply Merchant department consider?

A. The ESM 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 snow pack. Additionally, they review forecasted wholesale market prices and supply/demand fundamentals, such as trading firm publications and consulting service forecasts.

The ESM department also receives real-time information from a variety of sources such as: S&P Global Platts (Gas Daily, Megawatt Daily), Future Source, Intercontinental Exchange (live price data), live broker lines where current transactions are communicated through a speaker system, and other tools. The ESM department also has instantaneous data coming from PSE'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 for hedging, the ESM department uses such information to develop recommendations to the EMC regarding potential changes to PSE's overarching hedging strategies or to recommend transactions that do not fall within those strategies.

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

A. Yes. The ERC department is responsible for establishing and monitoring counterparty credit limits in accordance with the EMC approved Credit Risk Management Policy. Counterparty exposure is calculated and monitored frequently and ESM department staff is permitted to transact only within the established credit limits.

2. Application of PSE's Risk Management System to PCA Period 15 Power Costs

Q. Would you provide some examples of how PSE applied the risk management systems, tools and strategies described above with respect to PCA Period 15 power supply and costs?

A. Yes. Take, for example, PSE's power demand for April 2016. In [redacted], April 2016 rolled into staff's Programmatically Managed Hedge purview. PSE's ESM department began to actively manage spot market price exposure for the delivery period April 2016. From [redacted] through [redacted], on a monthly basis, the ESM department developed strategies to programmatically reduce PSE's power cost exposure for April 2016. Strategies incorporated hydro conditions, weather, supply/demand fundamentals, implied market heat rates and updated Position and

Exposure Reports generated by PSE's risk system. See Exh. PKW-3C for discussion of the hedges transacted for April 2016, which are presented in Exh. PKW-5C.

Beginning in [redacted], April 2016 rolled into the Actively Managed Hedge – at which point the ESM department continued to analyze PSE's position for April 2016 on a daily basis and, based on market conditions and other information available to them at the time, how and when to manage 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 PSE 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 Exh. PKW-3C.

Q. Are the activities described in Exh. PKW-3C the only risk management activities that PSE undertook for PCA Period 15?

A. No. Similar activities were undertaken with respect to managing PSE's portfolio and exposure for the entire PCA Period 15.

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3. Winter Peaking Contracts

Q. Why does PSE enter into winter peaking contracts?

A. Winter peaking contracts help to reliably serve high loads during extreme winter peak events.

Q. How did PSE approach the decisions of whether and how to enter into winter peaking contracts for the winter months of calendar year 2016?

A. PSE approached these decisions within the context of its portfolio and risk management systems and procedures. The ESM department used peak winter load/supply modeling and purchased forward [redacted] power [redacted] transactions to ensure firm physical power supply during the winter peaking months.

C. PSE's PCA Period 15 Actual Power Costs

Q. How have PSE's recoveries of power costs compared to those set in rates?

A. During PCA Period 15, PSE's rates under-recovered actual power costs by $2.1 million. Since this amount is within the $20 million dead-band, PSE will absorb the full amount of $2.1 million under-recovery and there will be no sharing of costs with customers.

Q. Why do actual power costs differ from those set in rates?

A. The actual costs of power delivered to PSE's system will always differ from those set in rates because they reflect the actual resources available to PSE, as discussed above, and the actual outcome of power costs variables. Examples of these variables include:

(i) streamflow variation affecting the supply of hydroelectric generation;

(ii) weather uncertainty affecting power usage;

(iii) variations in market conditions resulting in changes to wholesale gas and electric prices;

(iv) forced generation outages;

(v) variability of wind generation;

(vi) differences in actual resources in the power portfolio versus those set in rates due to contract expirations, contract changes and resource acquisitions, and

(vii) transmission and transportation constraints.

Although power costs set in rates are estimated "as closely as possible to costs that are reasonably expected to be actually incurred,"[1] they are still forecasts of future events and are further limited by regulatory normalizing assumptions. Specifically, ratemaking in the 2014 PCORC and the 2016 PCU normalized the power cost volatilities by employing:

(i) a 70-year hydro data set to determine hydro generation,

(ii) a weather normalized load forecast,

(iii) a three-month average forward gas price forecast,

(iv) model generated forward power prices,

(v) historical average forced outage rates; and

(vi) forecast average wind generation.

[1] *WUTC v. Puget Sound Energy, Inc.*, Dockets UE-040640, *et al.*, Order 06 at ¶ 108 (Feb. 18, 2005).

Q. What caused the difference during PCA Period 15 between PSE's actual power costs and power costs recovered in rates?

A. PSE's $2.1 million under-recovery of amounts recovered through the power cost baseline rate during the PCA Period 15 was due to lower baseline rate revenues caused by lower customer demand than was forecast as well as overall warmer temperatures for the first three quarters of 2016. Actual delivered load was 869,078 MWh lower than the forecast load provided in rates. This caused baseline rate revenues to be $52.1 million below the forecasted level. These lower revenues were partially offset by a decrease in power costs relative to costs that are set in rates in the amount of $50.1 million.

The major reasons power costs were below forecast are: (i) lower customer demand causing PSE to purchase or generate less power during PCA Period 15; (ii) lower costs to generate power from PSE's gas-fired generators; (iii) lower coal generation and costs; and higher transmission revenue.

The overall loss of load caused a decrease in power costs of approximately $16.9 million. While power costs remained lower than those set in rates overall, this decrease was partially offset by the unrecovered cost of the 100 MW Centralia PPA capacity increase that occurred December 1, 2015 and MidC Hydro costs that were higher than those set in rates.

Q. Please provide a summary of how the power resources used to serve load compare to those set in rates for PCA Period 15.

A. Table 2 provides an itemization of the changes in generation and retail loads from those included in the baseline rate for PCA Period 15.

Table 1: 2016 Generation and Load Differences from Rates

Generation Higher / (Lower) than Rates (in aMW's):	Change aMW	Change %
Hydro	(11)	-2.2%
Colstrip	(54)	-9.4%
Gas Fired	(5)	-1.0%
Wind	(12)	-4.7%
Contracts	116	42.9%
Market Purchases and Sales	(138)	-25.4%
Load (Generated, Purchased & Interchanged)	(104)	-4.0%
Delivered Load	(99)	-4.1%

Q. Please provide a summary of the power cost variances for PCA Period 15 compared to those set in rates.

A. Table 3 provides a summary of the items which caused the calculated $2.1 million under-recovery of power costs for PCA Period 15.

Table 2: Components of CY 2016 PCA Under Recovery
($ in millions)

Over / (Under) Recovery - Actuals vs Rates:	CY 2016
Revenues	
Delivered Load Lower by 869,078 MWh	($52.1)
Allowed Costs	
Load (GPI) Lower by 908,206 MWh	16.9
Hydro Generation	0.7
Gas Fired Generation	37.2
MidC Hydro Costs	(4.4)
Coal Generation and Costs	5.3
Long-Term Contracts	(7.2)
Transmission Revenues	0.8
Other	0.7
Total Allowed Costs	50.1
CY 2016 PCA Under Recovery of Power Costs	**($2.1)**

Q. Are PSE's PCA Period 15 actual allowable power costs net of any accounting adjustments?

A. No, there were no accounting adjustments made to the actual PCA Period 15 power costs.

IV. CONCLUSION

Q. Has PSE met the Commission's prudence standard with respect to its power costs during PCA Period 15?

A. Yes. PSE met the Commission's prudence standard for the PCA Period 15 power costs because PSE's management of its power costs during PCA Period 15 was

reasonable. PSE has structures and processes in place to formulate strategies for managing 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.