EXHIBIT NO. ___(JMR-3)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JULIA M. RYAN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY, INC.,** **Respondent.**	**Docket No. UE-04____** **Docket No. UG-04____**

SECOND EXHIBIT TO THE PREFILED DIRECT TESTIMONY OF JULIA M. RYAN (NONCONFIDENTIAL) ON BEHALF OF PUGET SOUND ENERGY, INC.

APRIL 5, 2004

ADDITIONAL DETAIL REGARDING
PSE'S ENERGY RISK MANAGEMENT STRATEGIES

Volumetric and Market Price Risks -- Electric

1. Volatility related to variations in hydroelectric supply.

During an average streamflow year, approximately one-third of PSE's electric energy production comes from hydroelectric sources. During poor streamflow conditions, PSE may need to acquire replacement power to serve its customer load. During favorable streamflow conditions or at times when PSE's peaking thermal resources are dispatched at high operating rates due to favorable market conditions, PSE may need to sell surplus power to balance its supply portfolio and mitigate its power costs. These balancing transactions are conducted in the wholesale power markets. Because PSE always faces the wholesale market for incremental purchases and sales, and the market price of power is quite volatile, hydroelectric shortfalls or surpluses can greatly affect PSE's power costs. As streamflow variations can be a major driver of power cost variation, it is important to estimate this resource accurately. As I discuss below, the Company believes the best method of estimating hydro generation is to use of available water year data.

2. Volatility related to forced outages.

PSE relies on more than 2,100 MW of nameplate thermal generating units to help meet its customer loads. These units include approximately 680 MW of large base load

coal generators with low variable fuel costs; approximately 830 MW of gas and oil-fired combined cycle combustion turbine cogenerators with moderate heat rate conversions (including the Company's anticipated ownership share of the Frederickson 1 combined cycle combustion turbine); and approximately 595 MW of relatively less-efficient, simple-cycle gas and oil-fired combustion turbine generators. Forced outages at any of these units can expose PSE to significant price volatility in its power supply portfolio. Material or equipment failure, fire, electrical disturbances, or other force majeure events typically cause forced outages.

3. Volatility related to load/temperature uncertainty.

The Pacific Northwest region has a high saturation of electric space heating relative to other areas of the country. As a result, the level of PSE's retail electric load is closely related to temperature – meaning that PSE's load increases as the weather gets colder. In light of the significant electric heating load in PSE's service territory, PSE's cost of load/temperature uncertainty can be significant.

4. Risks related to market prices.

Even absent the foregoing volume-related risks, which affect the amount of PSE's exposure to market prices, PSE has significant price-related risk associated with the expected volume of its purchases and sales of power in the wholesale markets and its need to purchase or dispose of natural gas in connection with the operation of its gas-fueled generating units.

5. Risks related to transmission and transportation constraints.

Pipeline outages and curtailment of transmission rights due to deratings, planned outages or forced outages are examples of transmission risk.

Monitoring of Risk Exposure

As part of PSE's risk management strategy, PSE monitors several different types of risk exposures:

1. Spot market position – also described as current open position. This is the expected net purchase/sale in the spot market in physical terms (Dth or MWh) in a given period if the position were not hedged prior to the delivery period. The measurement of physical position is a classic risk indicator used in monitoring risk exposure, and limits are typically ascribed to this measure. In this risk limit, the Company monitors individual monthly position as well as cumulative position.

2. Spot market exposure – This exposure is calculated by multiplying the spot market position by the current forward market price to determine the dollar exposure associated with the spot market position. This metric serves two primary purposes. It allows us to view the combined gas plus on-peak power and off-peak power risks together. It also provides us a picture of where cost exposure resides.

3. Downside risk – Whereas the spot market exposure measurement gives us a sense of the risk associated with the expected position and the current

forward market prices, a downside risk assessment allows us to see the risks associated with 'downside' risk scenarios. Energy Risk Management runs the portfolio through 100 simulations or scenarios, where we allow certain factors to change within a pre-established range of outcomes (mostly historical observed conditions). The factors that can change within the portfolio include load, hydro energy availability, energy prices (gas and electric) and unit availability. Then we analyze the distribution of the 100 scenarios and evaluate the 'downside' scenarios, which often represents the worst ten scenarios.

4. Credit and counterparty risk exposure – In addition to looking at the current financial exposure with counterparties (for example, accounts payable, accounts receivable and the dollar value of any current month delivery), we also monitor the forward exposure risk if a party ceases to perform its contractual obligations to PSE. This latter calculation is based upon a mark-to-market assessment, where the replacement value or resale value (as appropriate) is compared to the original contractual arrangement with the counterparty. In addition to the mark-to-market assessment, we also consider where prices could potentially move so we can estimate the potential credit risk exposure.

Hedging Instruments

To the extent they are available at reasonable prices from approved counterparties, PSE uses a variety of hedging instruments today to manage the electric and gas portfolios that include, but are not limited to:

- Standard forward contracts (to balance portfolio supply and demand);
- Physical and financial fixed-price purchase and sales transactions;
- Call options (to provide PSE the ability to call on day-ahead supply--used as a tool for winter peak capacity planning);
- Dual trigger call options (derivation of product above--links temperature and market price);
- Heat rate call option sales (to monetize excess generation capacity);
- Locational exchanges (to manage supply options and mitigate transmission curtailment risks); and
- Seasonal exchanges (to shift surplus positions to deficit positions and to manage storage).

Many other products are proposed to, and evaluated by, PSE. We anticipate other products will be added as market conditions change, and as the Company's energy portfolio changes.

Hedging Within the Power Portfolio

PSE has recently developed a dollar cost averaging strategy to reduce exposure in the power portfolio. Conceptually, forward purchase hedge strategies are established for specific forward time frames, with the goal of purchasing a defined amount of dollar exposure, to ratably reduce the deficit positions a little bit every month. Currently, the portfolio is generally hedged on a six-month rolling forward basis. With respect to the more forward month positions and exposures, the hedging strategy is to ratably reduce the monthly exposure in the 6 to 18 forward months. One of the advantages of this strategy is that it reduces the possibility of purchasing the commodity at the forward market's highest point or selling at its lowest point, thereby minimizing the deviation between the average of the purchase/sale price and the spot market price at time of delivery.

Hedging Within the Gas Portfolio

The Company fixes the price for a portion of the natural gas supply requirements in order to lock in costs of gas for the gas portfolio, using an approach that defines hedge quantities based on price signals and time remaining to delivery. In some cases, the fixed-price hedge has been achieved by converting a longer-term index price contract into a fixed-price contract by mutual consent of the parties. Another option is to enter into new fixed-price physical contracts, and a third option is to enter into fixed-price derivative contracts that can be matched with the index-priced physical supply contracts. Depending upon market conditions and the mix of current supply contracts, we may use one or more of these instruments. For example, in 2002 and 2003, we negotiated index-

priced supply agreements that gave the Company the option to fix the price for any given month or series of months.