

**BEFORE THE WASHINGTON  
UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND	)	
TRANSPORTATION COMMISSION,	)	
	)	
Complainant,	)	<b>DOCKET NO. UG-040640</b>
	)	<b>DOCKET NO. UE-040641</b>
vs.	)	<i>(consolidated)</i>
	)	
PUGET SOUND ENERGY, INC.,	)	
	)	
Respondent.	)	
	)	
<hr/>	)	
In the Matter of the Petition of	)	
	)	<b>DOCKET NO. UE-031471</b>
PUGET SOUND ENERGY, INC.	)	<i>(consolidated)</i>
	)	
For an Order Regarding the Accounting	)	
Treatment for Certain Costs of the	)	
Company's Power Cost Only Rate Filing.	)	
	)	
<hr/>	)	
In the Matter of the Petition of	)	
	)	<b>DOCKET NO. UE-032043</b>
PUGET SOUND ENERGY, INC.	)	<i>(consolidated)</i>
	)	
For an Accounting Order Authorizing	)	
Deferral and Recovery of the Investment	)	
and Costs Related to the White River	)	
Hydroelectric Project.	)	
<hr/>	)	

**EXHIBIT NO. \_\_ (DWS-6)**

**PSE RESPONSE TO STAFF DATA REQUEST NO. 220**

**September 23, 2004**

**BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**Docket Nos. UG-040640 and UE-040641  
Puget Sound Energy, Inc.'s General Rate Case  
for Gas and Electric Operations**

**WUTC STAFF DATA REQUEST NO. 220**

**WUTC STAFF DATA REQUEST NO. 220:**

Has the Company compared the cost of any volatility in day-ahead or same-day markets to the revenue requirement increase caused by the current PSE forward market policy? If so, please explain such efforts and provide any supporting studies, analyses or other documentation. If not, why not?

**Response:**

Having the ability to hedge in the forward market provides Puget Sound Energy, Inc. ("PSE") with the ability to protect itself from a highly volatile energy market as well as provide opportunities to lower costs to the rate payer. In essence, a company abstaining from a disciplined hedging program exposes itself to two major risks: upward energy costs and increased uncertainty related to such company's exposures related to those costs.

Hence, a hedging program that is managed in a disciplined manner can prove to be a highly effective tool in reducing price/cost volatility. Hedging a commodity risk in the forward market, prior to beginning of the delivery month (also called the spot market), provides PSE with the opportunity to reduce exposure in its wholesale gas and power portfolios. When PSE is deficit resources to serve supply ("short"), energy costs will rise in the event of upward price spikes. In the situation where PSE has surplus resources to sell ("long"), the risk exposure is to falling market prices. Having the ability to hedge in the forward market provides PSE with the opportunity to lock-in resource levels and prices and mitigate unfavorable price exposure. An overarching principle behind PSE's hedging program is finding the balance between mitigating risk and stabilizing costs for its customers.

A widely-accepted concept in risk management is that the more time passes, the wider the distribution of price outcomes. A one-month forward commodity would have a smaller band of price extremes than a twelve-month forward commodity. The forward market provides PSE with opportunities to mitigate risks associated with large price

deviations from current market expectations. As history has shown, as illustrated in Exhibit A, below, forward prices will vary from the actual spot price settlement.

Exhibit A illustrates the potential movement that a one-year series of monthly prices (sometimes called a "strip") at Sumas could experience twelve months prior to the beginning of the delivery period. In this exhibit, the 12-month strip has a starting price of \$5.63/decatherm (or MMBtu). As market fundamentals change and the time remaining until the beginning of the delivery period elapses, the forward month price moves into new price bands. Exhibit A illustrates how a portfolio with different scenarios of percentages hedged and unhedged performs under different market conditions. The curve with the greatest price extremes is the unhedged portfolio; the 100 percent hedged portfolio experiences no price variability.

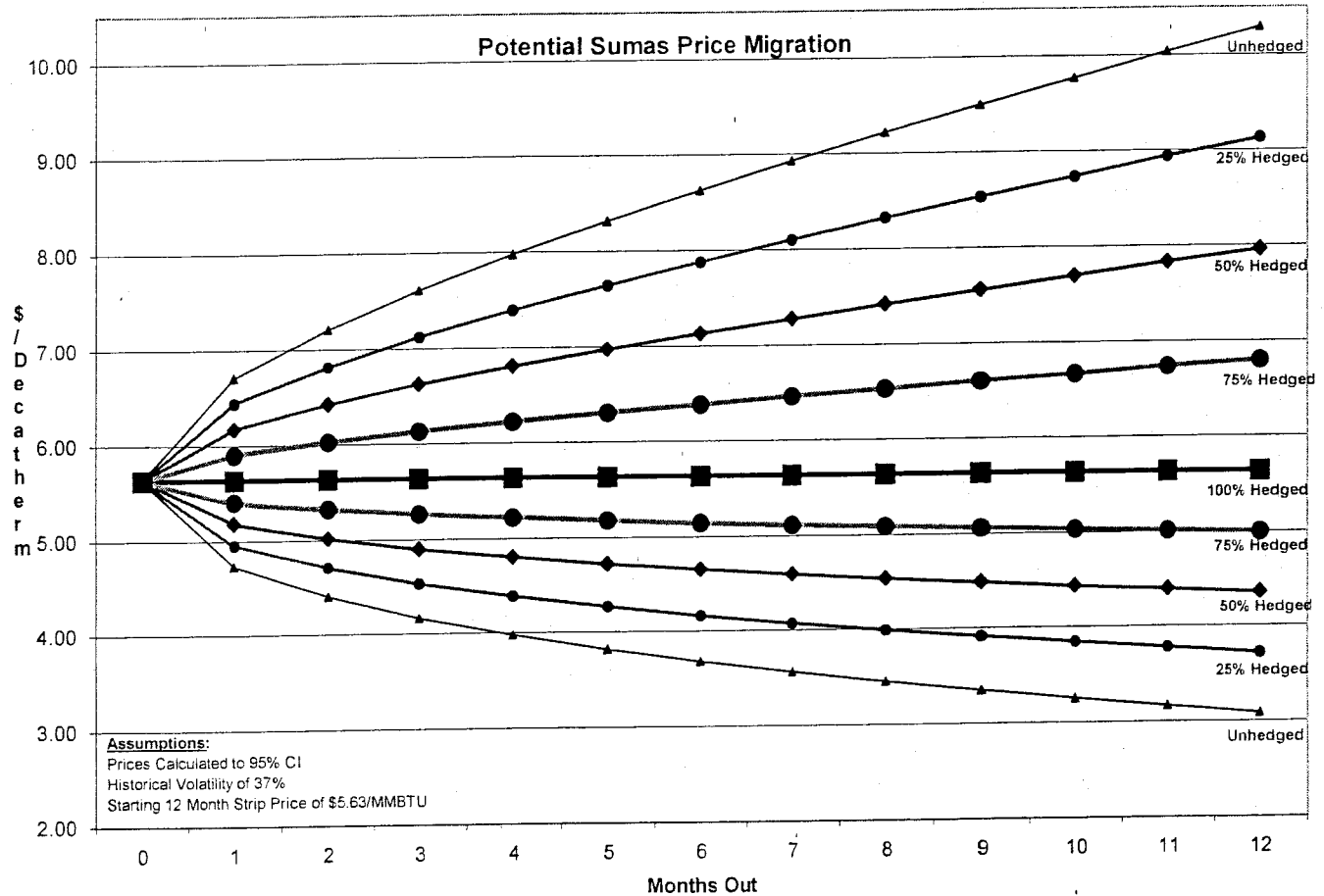
In addition to the potential movement of forward prices, PSE must also manage exposures in the daily and hourly market. Therefore, PSE seeks to mitigate those risks as well. Although the first-of-the-month commodity price serves as a baseline for spot prices within that month, the potential for daily price shocks within the month remains of concern. While the majority of spot days do not experience extreme price movements, as illustrated in Exhibit B, below, it only takes a few days of extreme prices to adversely impact total energy costs for the rest of the year.

In Exhibit B, the line to the left of the dashed vertical line represents the historical Gas Daily Sumas Price. This posted market price reflects the daily market price (also called the "spot" price) for physical gas purchased and sold in the physical markets at Sumas. The line to the right of the dashed vertical line represents current forward market prices of future delivery months. The top line to the right of the dashed vertical line represents the potential movement of spot prices incorporating the potential migration of prices from both the forward and spot market. The bottom line to the right of the dashed vertical line represents the potential benefit that PSE could experience should it choose to remain completely unhedged. The risk of PSE experiencing unfavorable Sumas spot prices (top line) far outweighs the potential benefit of staying completely unhedged (bottom line). The second to the top line illustrates how hedging 50 percent of volumetric exposures dampens the impact of adverse price movements.

In a very simple example, for the rate year in this proceeding using updated power costs provided in PSE's Response to WUTC Staff Data Request No. 169, if wholesale energy prices were to double and the price relationship between power and gas were maintained, the projected costs could increase by roughly \$348 million (secondary costs could increase by \$130 million, secondary sales could increase by \$28 million and fuel/gas costs could increase by \$246 million). Looking back, as shown in Exhibit B for Sumas gas prices, it is possible for prices to double in a very short period of time. During the Western Energy Crisis in 2000-2001, prices were much more volatile.

Hedging activity is intended to protect against negative price exposure such as occurs in extreme market events.

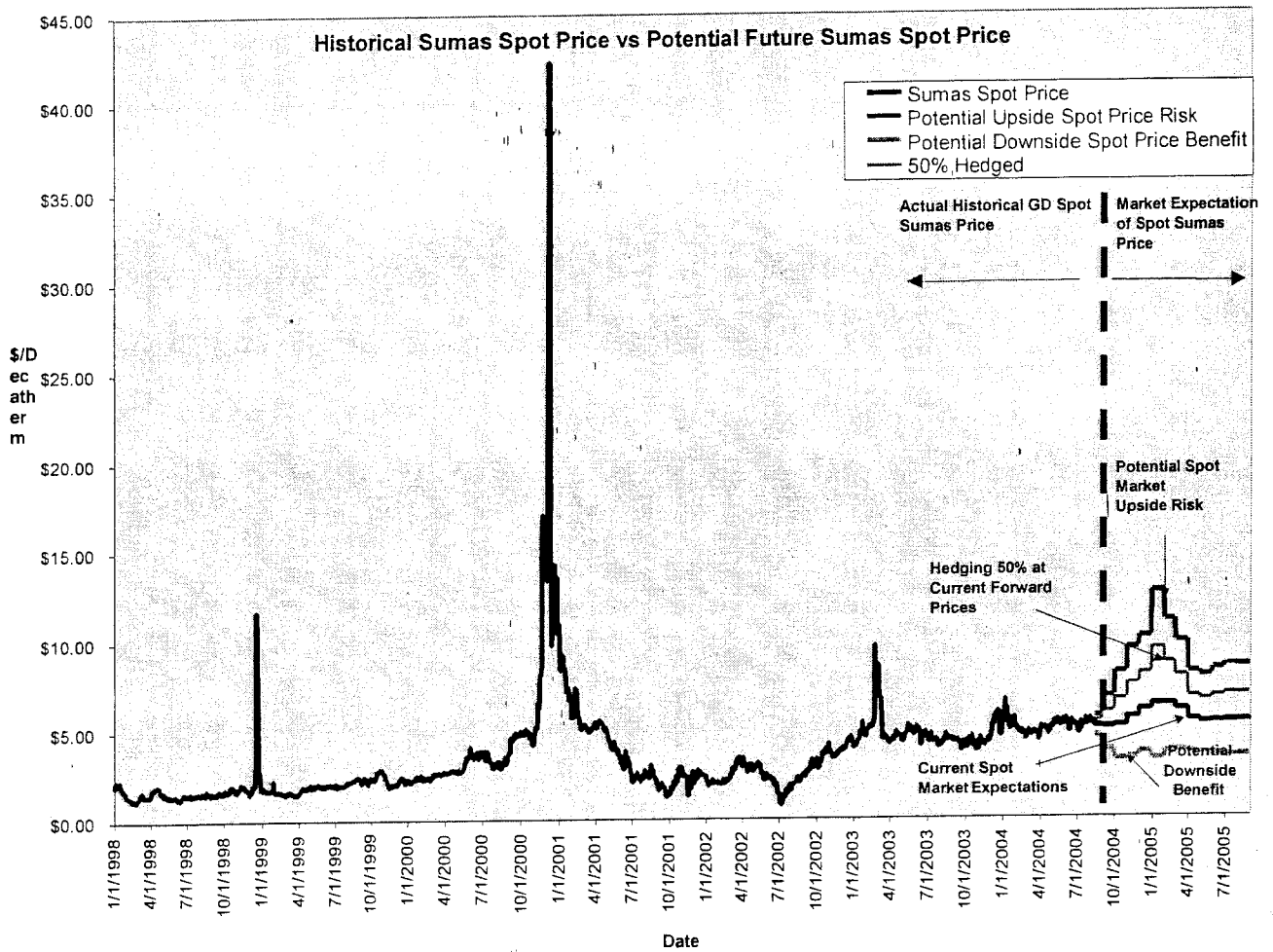
**Exhibit A:**



**Exhibit A Assumptions:**

Bands around the current forward curve were used assuming a constant 37% historical volatility for the twelve-month strip calculated to the 95.0% confidence interval. The starting 12-month strip price, the average of the Sep04-Aug05 prices, was \$5.63.

**Exhibit B:**



**Exhibit B Assumptions:**

A combination of forward market volatility and spot market volatility were used to forecast potential spot price scenarios to the 95.0% confidence interval.

WUTC Staff Data Request No. 220  
 Date of Response: September 1, 2004  
 Person who Prepared the Response: S. Aladin; A. Saati  
 Witness Knowledgeable About the Response: Julia M. Ryan