NPG-68

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Puget Sound Energy, Inc.,	)	
	)	
Complainant,	)	
	)	
v.	)	**Docket Nos. EL01-10-000**
	)	**EL01-10-001**
	)	
All Jurisdictional Sellers of Energy and/or Capacity at Wholesale Into Electric Energy and/or Capacity Markets in the Pacific Northwest, Including Parties to the Western Systems Power Pool Agreement,	)	
	)	
Respondents.	)	

REBUTTAL TESTIMONY OF ROBERT F. McCULLOUGH
ON BEHALF OF SEATTLE CITY LIGHT

Q. Please state your name and business address.

A. My name is Robert F. McCullough. I am Managing Partner of McCullough Research, 6123 S.E. Reed College Place, Portland, Oregon 97202.

Q. Have you previously submitted testimony in this proceeding?

A. Yes. I submitted direct testimony on behalf of Seattle City Light on August 17, 2001.

Q. What is the purpose of your testimony today?

A. The purpose of my testimony is to rebut the testimony filed by various witnesses on behalf of the Transaction Finality Group ("TFG").

Q. Dr. Scott T. Jones has testified (at page 26) that there should not be a "separately defined just and reasonable price established for the Pacific Northwest in this proceeding." Do you agree?

A. Yes. As the Federal Energy Regulatory Commission ("Commission") has found, "[t]here is a critical interdependence among the prices in the [California] ISO's organized spot markets, the prices in the bilateral spot markets in California and the rest of the West, and the prices in forward markets." *San Diego Gas & Electric Light Company v. Sellers of Energy and Ancilliary Services Into Markets Operated by the California Independent System Operator Corporation and the California Power Exchange*, 95 FERC ¶ 61,418 (June 19, 2001), slip op. at 6. Accordingly, prices in the California market impact prices throughout the energy markets in the West. Nowhere in my testimony do I argue that the opportunity costs for Pacific Northwest transactions were not determined by the distorted prices in the California market. Distortions in the California market clearly set the prices for the entire WSCC market, including the prices in the Pacific Northwest. However, absent those distortions, the market prices during the period December 25, 2000 through June 20, 2001, would have been set by the marginal cost of the last unit dispatched in the Pacific Northwest. Dr. Jones' comments show that he may not have fully appreciated the events of the past year. In May 2000, California experienced a departure from market economics that distorted prices throughout the entire WSCC market. Mr. Jones is correct that the Northwest Power Pool ("NWPP") operates within the larger market most of the year, during those months when the Intertie is not saturated by the spring flows on the Columbia River. What he apparently does not understand is that, absent the distortions in California, resources in California would have had to compete during this period with the resources in the Pacific Northwest, reducing the overall market prices from the levels I have estimated.

Q. Why did you focus only on the Pacific Northwest market in determining a just and reasonable or "benchmark" price for the purpose of this proceeding?

A. The calculations undertaken in my testimony show the cost of serving loads within the Pacific Northwest. In an undistorted world, we would expect the surplus resources in California to compete with Pacific Northwest generation and to provide lower cost alternatives during the winter months. Accordingly, using the marginal cost of the highest cost unit to be dispatched in the Pacific Northwest is a conservative estimate of a benchmark price. Even during the summer months, the substantial surplus available in California might well provide competitive alternatives to Pacific Northwest generators considering the low loads experienced in California for the past year. The distortions in the California market were so great and so pervasive that they have tended to obscure the fact that peak loads in California during the period of my analysis were much lower than in previous years, while the amount of capacity was greater than in previous years. Determination of a just and reasonable price for the Pacific Northwest should not be based on the assumption that the perceived shortages in California would have existed in a workably competitive market.

Q. Is the methodology which you used the one that should be used to determine the marginal cost of the last unit which would have been dispatched had the WSCC market been workably competitive?

A. Yes. The methodology which I used would be the appropriate approach for determining the marginal cost of the last unit which would have been dispatched in the Western market if it had been workably competitive. Because of the severe time constraints on this proceeding and a limitation on available data, I was only able to make this determination with regard to the Pacific Northwest. It is the appropriate methodology which should be applied in determining the

benchmark for the entire Western market. However, as I have noted, during this period, if the prices in the California market had not been distorted, the market price would have been determined by the marginal cost of the last unit dispatched in the Pacific Northwest. For example, with regard to the Pacific Northwest, the methodology that I used is the same basic methodology that has been used to estimate Pacific Northwest power costs for the past twenty years. Before May 2000, the dispatch of plants in the Pacific Northwest reflected a very clear relationship between the marginal cost of the highest cost operating unit and market prices. Pricing in futures markets, after the Commission's April 16, 2001 order, have also begun to reflect this same relationship. My determination of the operating costs of the marginal unit was very conservative. If the time allowed for the preparation of testimony in this proceeding had been sufficient, I would have identified the costs of each base load unit in merit order. Rather than pursue the issue to this level of specificity, I used the actual marginal cost of the most expensive unit in each class – Centralia for coal and Coyote Springs for natural gas. In each case, this tends to overstate the marginal costs and market prices since less expensive coal and natural gas units are usually at the margin.

Q. Why didn't you include all of the resources in the WSCC market in making your determination? (Jones at 26-28.)

A. The best estimate of just and reasonable prices would be to redispatch the entire WSCC market, removing the distortions in the California market from the analysis. Logically, it would have provided considerably lower rates for December and February than those which I calculated for the Pacific Northwest alone. The reason why such a redispatch would be beneficial is that, absent California's problems, their massive winter surplus would have been available to displace the higher cost units that were dispatched in the Pacific Northwest. Given the load resource

balance during this period, limiting my analysis to the Pacific Northwest as I did, in fact, overstates the market prices that should have occurred throughout the WSCC during the winter months and, therefore, overstates the benchmark that Seattle used to calculate its potential refunds. According to the WSCC 2000 Summer Adequacy report, reserve margins in December were 39% Since peak loads over the period from May 2000 to the present were considerably lower than in previous years, we would have expected more than 13,000 MW of California resources to be available to compete with resources in the Pacific Northwest.

Q. Does your methodology take into account generation that was withheld from the California market resulting in a distortion of the market clearing prices?

A. Pacific Northwest resources did not experience the amazing outage rates reported by the five major California generators. For that matter, other generators in California did not experience such outage rates either. The determination of the proper mitigation market clearing price should adjust the outages to normal undistorted levels and reflect the marginal cost of the highest priced unit that would have been dispatched assuming outages at historical rates.

Q. Dr. Jones states: "Economic theory indicates that the price that should prevail in a competitive marketplace is the highest competitively established price (i.e., where supply and demand are exactly balanced)." Do you agree? (Jones at 27.)

A. Dr. Jones' comment is a tautology. The competitive price is the price that brings supply and demand into balance. What Dr. Jones does not appreciate is that from December 25, 2000 through June 20, 2001, there was only one customer in the California market, the California ISO The competitive nature of a market that involved daily bilateral bargaining between five generators and one buyer which felt constrained to pay any price required did not remotely approximate a competitive market. As has been reported in the press, some of the prices paid to

generators reached unbelievable levels – levels specifically determined by the Commission to be unjust and unreasonable. Dr. Jones' comment that demand was setting the price is a formal way of describing the actions of a small group of ISO and California Department of Water Resources buyers who were purchasing energy in California during the period. The Commission has already determined that the California market was dysfunctional and that the prices in the market were unjust and unreasonable.

Q. On page 27, beginning at line 18, Dr. Jones states that you ignored "the fact that the electrical production bought and sold during the time period in question had a higher value than its variable cost." He goes on to state that your methodology "ignores the fact that the electrical generation in question could have been sold (and in some cases was sold by NPG members) at a higher price than a price based on the variable operating costs of Pacific Northwest generating units." (Jones at 28.) Do you agree?

A. Dr. Jones's theory that electricity had "a higher value than variable cost" represents a case where theory attempts to follow facts. In our twenty year experience with competitive bulk power markets in the Pacific Northwest, the prices have been set by the marginal cost of the last unit dispatched. This reflects the simple operation of supply and demand as taught in Economics 101. Starting in May 2000, the complex centralized apparatus in California created an artificial market for energy in the WSCC. Since May 2000, the price paid in California, and the opportunity cost for all transactions in the WSCC, were the distorted prices in the California market. The deviation between marginal cost and price has been pointed to by many parties in the debate as evidence of the exercise of market power. To my knowledge, no one has described this situation as being "workably competitive." The scarcity value of electricity in Dr. Jones' testimony simply reflects the very distortion we are now trying to correct by establishing a just

and reasonable price. Simply stated, Dr. Jones wants to assume the distortions were the result of a competitive market. He asks us to ignore the distortions created by the California market in determining a just and reasonable price. The Commission has determined that the prices in the California market between December 25, 2000 and June 2001, were not just and reasonable. Without the distortions in California, the enormous surplus of resources in California from December through June would have been available to compete with Pacific Northwest supplies – reducing the just and reasonable price below the levels I have estimated.

Q. Mr. Van Vactor testifies that the appropriate definition of the Pacific Northwest for this proceeding is the meaning set forth in the *Pacific Northwest Electric Power Planning and Conservation Act*, 16 U.S.C. § 839a(14). (Van Vactor at 5.) Do you agree?

A. Mr. Van Vactor relies on a legal definition that has more to do with the environmental issues in the Pacific Northwest Electric Power Planning and Conservation Act than anything to do with the WSCC market. The definition that Mr. Van Vactor cites reflects a geographic band (75 miles) around the Columbia River basin. As such, it neither includes all of the loads of the utilities in the Pacific Northwest nor all of the resources. What it does include is the anadromous fisheries that have been severely threatened by the hydroelectric projects along the Columbia River. This simply has nothing to do with the WSCC market. While Congress may have been appropriately concerned about these environmental issues, it is not the basis on which the Commission should rely to define the WSCC market. Section 2(6) of the Act makes clear why this unusual definition is not relevant for the purposes of this proceeding:

> (6) to protect, mitigate and enhance the fish and wildlife, including related spawning grounds and habitat, of the Columbia River and its tributaries, particularly anadromous fish which are of significant importance to the social and economic well-being of the Pacific Northwest and the Nation and which are dependant on suitable environmental conditions substantially obtainable from the

management and operation of the Federal Columbia River Power System and other power generating facilities on the Columbia River and its tributaries. [16 U.S.C. § 839(6) (1994).]

It is also clear that the boundaries of the NWPP and the Northwest RTO are not arbitrary These boundaries reflect the industry's best judgment on the market areas that are served by generation and transmission assets.

Q. Mr. Van Vactor testifies that hydroelectric power does "[n]ot necessarily" have a low marginal cost. He claims that "the marginal cost of depleting a reservoir is the expected cost to refill it. In this instance historic costs are irrelevant." (Van Vactor at 17.) Do you agree?

A. Yes. Mr. Van Vactor is correct. This statement agrees with concepts behind my analysis. The marginal cost of power for the entire month is equal to the block loaded resources used to fill out the energy requirements. As calculated in my testimony, this ranges from baseload coal units in some months to gas units in others. Clearly, Mr. Van Vactor agrees with the thrust of my analysis that the hourly cost of a combustion turbine has little relevance to the marginal cost of a hydroelectric system unless this resource was being block dispatched to meet net energy requirements. Mr. Van Vactor's further arguments in this answer have very little content. His discussion of whether I should have used the term "variable" or "marginal" in the description of a concept upon which we both agree has little or no significance.

Q. At page 18, beginning at line 11, Mr. Van Vactor states that your analysis "does not reflect the actual availability of the region's generators or their cost of operations." He also claims that your results are "radically different than the analysis conducted by both BPA and the NW Planning Council, which concluded that there would be a severe deficit in power supply in the event of low water." Is that correct?

A. Mr. Van Vactor is correct that BPA and the Regional Planning Council were concerned about a theoretical shortfall that could have occurred this winter. Mr. Van Vactor is incorrect in his application of these studies to the problem at hand in three different ways. First, these theoretical forecasts assumed different loads, resources, and operational arrangements than the actual loads, resources, and operational arrangements this past winter. The reason I used actual Pacific Northwest Power Pool hydroelectric and nuclear operations was so that my analysis would be based on actual events. Second, both BPA and the Regional Planning Council focused on a different region than the one under discussion in this proceeding. BPA is primarily concerned with its own service territory. The Regional Planning Council, by the explicit authority of the Pacific Northwest Electric Power Planning and Conservation Act, is only concerned with the Columbia River basin. Third, Mr. Van Vactor is incorrect that I attempted a projection of events. I adjusted the availability of resources for actual availability whenever possible, including the single significant thermal outage that took place outside of the ISO's control area.

Q. Would you explain why you believe "non-firm" power in a hydroelectric system is the same as a spot purchase or sale? (Van Vactor at 18-19.)

A. Mr. Van Vactor has phrased his answer as if he disagrees with my argument and then continues on to endorse my basic position. He quotes a Power Planning Council document that roughly defines "non-firm" as used in the Pacific Northwest. A careful review of my testimony and the definition quoted by Mr. Van Vactor makes it clear that there is no discrepancy in our use of the term "non-firm." Since our definition of firm is the level of generation that can be assured over the critical period, any surplus over the firm level is available for spot sales. He then continues to assert that monthly sales could not be spot sales. In doing so, he is stating his

opinion. In practice, Pacific Northwest utilities make sales a day, a week, a month, or a season in duration. We would view these as "spot" or "non-firm" since they are not firm in the meaning of the Coordination Agreement.

Q. Mr. Adamson at page 4, beginning at line 16 states that you do not "recognize the actual constraints that limit hydroelectric operations in the Northwest."

A. Mr. Adamson's comments clearly reflect that operations in the Pacific Northwest are new to him. His comments concerning the constraints on the hydro system, for example, show that he has a newcomer's understanding of the Columbia River and its operations. His assertion is wrong in two respects: First, the hydroelectric system is not dispatched on a "big battery basis" nor did my modeling assume that it was. Second, since the complexities of hydroelectric dispatch could not easily be analyzed in the context of this accelerated proceeding, I used the actual hydroelectric generation of the Pacific Northwest Power Pool in the U.S. Thus, Mr. Adamson is in the unfortunate position of asserting that the actual generation was inconsistent with constraints on the system.

This is made very clear when Mr. Adamson states: "Over the winter of 2000 and 2001 reservoir levels were well below normal levels. Using water in this period to generate power might have increased the chances of large blackouts later in the year. One might speculate that hydro operators in the PNW were rather averse to the idea of blackouts, and hence might have wished to shepherd their water releases carefully." (Page 18, ENR-10) Since I used the actual generation, Mr. Adamson apparently believed that they were unable to generate at the levels they actually achieved.

Q. Mr. Adamson claims at page 4, beginning at line 19 that in your methodology you appear "to ignore the importance of exports in [your] energy 'dispatch' calculation." Is that correct? Would you explain?

A. Mr. Adamson criticizes my approach in that it attempts to deal with Pacific Northwest Power Pool on its own and does not attempt to redispatch the entire WSCC market in the absence of market distortions within the ISO's control area. While modeling the entire WSCC market without the California distortions would have been a fine project, it is clearly outside the scope and duration of this accelerated proceeding. If Mr. Adamson had checked further, he would have discovered that, absent the distortions in the California market, California would have been massively surplus in the winter months. These resources would have been available to compete with Pacific Northwest resources like the Beaver unit used to meet Northwest Power Pool resources. The absence of wintertime imports in our calculations produces conservative estimates of the marginal cost of the highest cost unit run -- estimates that are higher than the marginal cost that would have resulted if the full WSCC markets had operated without California's distortions.

Q. Mr. Adamson at page 5, beginning at line 9 states that the "[c]hanges in forward gas prices provide a better explanation for changes in forward electricity prices than the analysis provided by Mr. McCullough." Do you agree?

A. This assertion by Mr. Adamson is simply wrong. Any party to the price excursions of the past eighteen months knows that the spark gap between electricity and gas climbed to unheard of levels after May 2000. Simply stated, an electric price shift of 1000% cannot be explained by a gas price shift of 100%. Mr. Adamson is apparently in the position of arguing that no market power was exercised in the WSCC over the past eighteen months, a unique position that puts him

at odds with studies by various state agencies and the conclusions reached by the Commission as the result of the investigation it undertook in April of this year.

Q. Mr. Adamson states at page 16, line 1 that marginal production costs do not equate to the short run marginal costs of power. Do you agree?

A. No. Mr. Adamson is seemingly contradicting his own testimony that constraints exist in the use of storage by arguing that Pacific Northwest utilities would have stored water in order to make later sales. Mr. Adamson's unfamiliarity with the Pacific Northwest explains, in part, his misapprehensions. If he believes that Pacific Northwest utilities would have stored water during the winter for release during the summer when prices could have been higher, he does not understand that inter-seasonal dispatch has been dramatically diminished by recent environmental changes in the operation of the river. As a matter of policy, environmental concerns now mitigate against such practices.

Q. At page 16, lines 8 through 16, Mr. Adamson describes "'scarcity value' in the context of the PNW market." Do you agree with his description of "scarcity value"?

A. A number of witnesses hold the belief that "scarcity" prices are higher than marginal cost. None of the witnesses has been able to explain this concept very well. Until May 2000, the bulk power market in the WSCC market operated in a fashion very similar to the simple supply and demand curves taught in college. If the demand curve is vertical (as it was, by design, in California) prices are set by the intersection of the upwardly sloping supply curve with the vertical demand curve. Presumably, Mr. Adamson believes that the price was determined in some fashion so that the price was greater than the intersection of the supply and demand curves.

Clearly, this is a case for market power. It, however, is not a justification for the price of power to be higher than the intersection of the supply and demand curves in a workably

competitive market. For the past twenty years, we have observed WSCC markets where the demand curve has some response to price (generally because Pacific Northwest industrial firms are both energy intensive and are often paying wholesale market prices) and the supply curve slopes smoothly up from nuclear through coal to gas. We have many years of experience with this market. In the 1980s, when resources were scarce and gas prices were high, the highest cost operating unit set the market price. This regime came to an abrupt end in May 2000. At no point have we experienced an exception to the rules of economics, other than those more appropriately identified as the exercise of market power.

Q. Mr. Adamson argues that long term gas prices fit the 3Q futures prices better than current spot prices. (Adamson at 19-21.) Does this make a difference?

A. Not at all. While Mr. Adamson seems to think that this invalidates the point I am making, it actually supports my conclusion. If he is correct, he is simply making the point that all of these markets were moving together over this period. My point, simply stated, is that it was impossible for Seattle to avoid the disturbances in California by shifting from one market to another. The chart on page 21 of his testimony makes my point very well. While I am sure that we could debate the benefits one could find by comparing the futures price with various predictors, the simple fact is that these markets have moved closely together.

Q. Mr. Adamson states at page 23, beginning at line 5:

> **"Due to the integration of these markets [the Pacific Northwest, California, the Rocky Mountain states, and the Desert Southwest], the appropriate way to implement such a refund methodology would be to pick the highest cost unit operating in the hour across the broader region, not the PNW sub-region."**

Do you agree with this statement?

A. As I have pointed out before, absent the distortion in the California ISO's control area, some 13,000 MW of additional resources would have been available to compete with the resources used to meet the Pacific Northwest's winter loads. Addition of these resources would have lowered my estimates of the benchmark price for December 2000 and February 2001.

In general, the best just and reasonable rate would be derived by a careful modeling of operations across the WSCC market. Unlike the block loaded energy dispatch serving the Pacific Northwest, this would not be on a monthly basis. Primarily thermal areas, like California, dispatch thermal units to meet hourly loads. A careful analysis would include both the thermal dispatch in California and the hydroelectric dispatch in the Pacific Northwest. Absent the distortions in the California market, this would have resembled the prices we have observed since 1980. While such a project is useful, it is hardly consistent with the Commission's schedule in this case.

Q. Dr. Richard Tabors states (at pages 8-9):

> **"The sales price of hydroelectric energy by Powerex in one month needs to be evaluated by reference not to the prevailing price of energy at the time the sale occurred, nor to a theoretical market price based on thermal generation and the price of natural gas, but rather to the opportunity cost or value of the energy at any point in the future. The best indicator of this value is the forward market price for electricity. This temporal nature of hydroelectric production must be considered in any refund calculation, if the Commission retroactively determines that overcharges have occurred."**

Do you agree with this statement?

A. Absolutely. Dr. Tabors clearly agrees with my point concerning the use and dispatch of hydroelectricity. He also agrees with the point clearly made by Ms. Green and myself that electric spot markets are related across a wide range of durations.

Q. Dr. Tabors states (at page 5):

> **"There is no support for determining a mitigated market clearing price ('MMCP') specific to the Pacific Northwest and the information needed to calculate an MMCP potentially applicable to California and Pacific Northwest spot markets is not available in this proceeding."**

Do you agree with that statement?

A. No. Dr. Tabors launches into a long description of how much more detailed an analysis he would have undertaken in the late 1970s. While his presentation is interesting, it begs the simple point that, absent the distortions in the California market, prices in the Pacific Northwest would have reflected the marginal cost of the most expensive units actually dispatched in the Pacific Northwest. While I will not burden the record with an extensive discussion of theoretical issues, the simple point is that we can and have derived a just and reasonable rate by looking at what the prices would have been absent the California distortions. If the prices in the California market had not been distorted, the market prices during the relevant period would have been determined by the marginal cost of the last unit dispatched in the Pacific Northwest. Our evidence is in the record and has the support of twenty years of market experience.

Q. Dr. Tabors at page 28, beginning at line 16, claims that your reliance upon "the relationship between a set of published spot price indices for the first half of 2000 and the price of a forward contract for the third quarter of 2000 bid to Seattle City Light" does not represent a statistically valid analysis of the specific relationship between spot market prices and all future market transactions in the Pacific Northwest during the period December 25, 2000 through June 20, 2001. Do you agree or disagree with Dr. Tabors?

A. As with Mr. Adamson, their careful research simply supports my point. There are a variety of models we can put forth to explain the pricing of third quarter future markets. No one would argue that it is good policy to disregard additional data or a more sophisticated analytical

approach. The key is this simple, the spot markets and the future markets were highly correlated Correlation between markets made it impossible for buyers outside of California to avoid the cost of the California catastrophe.

Q. Mr. Stelzer states at page 14, beginning on line 20 and continuing over to page 15 as follows:

> **"Consistent with my previous discussion regarding commercial practices in the Pacific Northwest, a spot market transaction in the region is any transaction with a duration of 24 hours or less that is prescheduled no more than 24 hours in advance of delivery, with an allowance for the conventions of scheduling for weekends and holidays."**

Do you agree that this is the appropriate definition of "spot market transaction" in the Pacific Northwest market?

A. Mr. Stelzer has carefully defined the standard prescheduled transaction. His assertion that this is the spot market is simply an assertion, however. As a number of witnesses have testified in this proceeding, the operations of hydroelectric utilities involve purchasing sufficient energy to meet the energy requirements over a daily, weekly, monthly, or seasonal basis. The spot market includes a variety of transactions and a variety of durations. At any given time each utility in the Pacific Northwest will be making hundreds of transactions of different durations. As a general rule, very few of these are of very short duration. The peculiarity of the California ISO is not a part of the Pacific Northwest. Most transactions are of durations longer than a day. This simply represents efficiency – if the schedulers know that an energy requirement exists for the full month, they would not normally choose to make a hundred transactions when one will serve their purpose.

Q. Do you believe that the prices in the Pacific Northwest during the period December 25, 2000 through June 20, 2001, were unjust and unreasonable and that, accordingly, refunds are lawful or appropriate?

A. Prices paid in the Pacific Northwest since May 2000 were unjust and unreasonable. A workably competitive market leads to prices based on the highest cost operating unit. Since May 2000, the prices have reflected the distorted operation of the California markets. In December 2000, for example, approximately half of California's base load units were offline, leading the California ISO to declare an emergency virtually every day. The Commission has found the situation to be unjust and unreasonable simply because no creditable explanation for such behavior has been put forward. The Commission's decision to order refunds is a logical corollary to the Commission's finding that the prices in the Western market were unjust and unreasonable.

Q. Did the prices in the California market during the period December 25, 2000 through June 20, 2001 affect the prices for spot market bilateral transactions in the Pacific Northwest?

A. Yes. No market participant in the Pacific Northwest could operate without a detailed appreciation of the distorted situation at the California ISO. Starting in June 2000, we began providing daily updates of the California situation to our utility and industrial clients outside of California. This situation became even more pronounced in December 2000, as the ISO started to declare emergencies on a daily basis. The ongoing negotiation between the ISO and the generators in California effectively set the market price. The Pacific Northwest market over this period was a price taker.

Q. Do you agree with Dr. Tabors' conclusion that "the Pacific Northwest is one element of an integrated western wholesale electric market"? (Tabors at 40.)

A. Dr. Tabors feels the calculation of a specific just and reasonable price for the Pacific Northwest is unrealistic because it is a part of a larger market. For most of the year, Dr Tabors is correct that the Pacific Northwest is part of the California market. During periods when the Intertie is saturated, the two regions tend to operate as separate markets. He is wrong, however, in claiming that we can not estimate a reasonable price level for just one region. As Dr. Tabors knows, absent the distortions this winter in California, the Pacific Northwest could have relied on imports from California. These imports would have provided competition to Pacific Northwest supplies. We can easily calculate the price we would have experienced in the Pacific Northwest through this period without assuming California imports, knowing that the imports would have had to have beat this price in order to be commercially viable. We also know that overall loads in California this year are very low – running as much as 14% under projections. While a perfect analysis would conduct a monthly energy dispatch for the Northwest Power Pool and an hourly dispatch for the WSCC's thermal systems, it is clear that absent California's distortions, California would have been in a position to export throughout this entire period. In sum, Dr. Tabors' objection simply turns out to be that we did not assume additional cost reducing imports from California in our estimates.

Q. Does that conclude your testimony?

A. Yes.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Puget Sound Energy, Inc., *Complainant,*	)	
v.	)	Docket Nos. EL01-10-000 EL01-10-001
All Jurisdictional Sellers of Energy and/or Capacity at Wholesale Into Electric Energy and/or Capacity Markets in the Pacific Northwest, Including Parties to the Western Systems Power Pool Agreement, *Respondents.*	)	

AFFIDAVIT OF WITNESS

I, Robert F. McCullough, being duly sworn, depose and say that the statements and exhibits contained in the testimony on behalf of Seattle City Light in this proceeding are true and correct to the best of my knowledge, information and belief.

Executed on this 30 day of August 2001.

Robert F. McCullough

COUNTY OF MULTNOMAH
STATE OF ~~WASHINGTON~~ OREGON, to-wit:

Subscribed and sworn to before me this 30 day of August 2001.

My Commission Expires: 4-5-2005

Notary Public

OFFICIAL SEAL
RICHARD W SHAWGO
NOTARY PUBLIC-OREGON
COMMISSION NO. 342720
MY COMMISSION EXPIRES APRIL 5, 2005

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the email service list compiled for the above-referenced proceeding.

Dated at Washington, D.C., this 31st day of August, 2001.

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