INDEX

REBUTTAL TESTIMONY OF

STEPHEN R. OLIVER, WILLIAM D. LAMB, KIMBERLEY A. LEATHLEY,

ROBERT J. PETTY, AND JOHN B. PYRCH

Witnesses for Bonneville Power Administration

SUBJECT: **Rebuttal Testimony for Five-Year Flat-Block Price Forecast and**

Conservation Augmentation

Attachments

1	REBUTTAL TESTIMONY OF
2	STEPHEN R. OLIVER, WILLIAM D. LAMB, KIMBERLEY A. LEATHLEY,
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6	**SUBJECT: REBUTTAL TESTIMONY FOR FIVE-YEAR FLAT-BLOCK PRICE**
7	**FORECAST AND CONSERVATION AUGMENTATION**
8	**Section 1. Introduction and Purpose of Testimony**
9	*Q. Please state your names and qualifications.*
10	A. My name is Stephen R. Oliver. My qualifications are contained in WP-02-Q-BPA-54.
11	A. My name is William D. Lamb. My qualifications are contained in WP-02-Q-BPA-40.
12	A. My name is Kimberly A. Leathley. My qualifications are contained in WP-02-Q-BPA-42.
13	A. My name is Robert J. Petty. My qualifications are contained in WP-02-Q-BPA-58.
14	A. My name is John B. Pyrch. My qualifications are contained in WP-02-Q-BPA-61.
15	*Q. Have you previously filed testimony in this proceeding?*
16	A. Yes. We previously sponsored direct testimony on the Five-Year Flat-Block Price
17	Forecast, *see* Oliver, *et al.,* WP-02-E-BPA-20, except for Mr. Pyrch, who previously
18	sponsored testimony on the Conservation and Renewables Discount, *see* Esvelt, *et al.,*
19	WP-02-E-BPA-33.
20	*Q. Please state the purpose of your testimony.*
21	A. The purpose of this testimony is to respond to the direct testimony filed by the Direct
22	Service Industries (DSI) regarding the Five-Year Flat-Block Price Forecast, and to
23	respond to the direct testimony filed by the Northwest Energy Coalition (NWEC)
24	regarding conservation augmentation.
25	*Q. How is your testimony organized?*
26	

1	A.	This testimony is organized in three sections. Section 1 outlines the purpose of the
2		testimony. Section 2 responds to the DSIs' arguments regarding the Five-Year
3		Flat-Block Price Forecast. *See* Schoenbeck and Bliven, WP-02-E-DS/AL/VN-03.
4		Section 3 responds to NWEC's arguments regarding conservation augmentation.
5		*See* Weiss, WP-02-E-NA-01.

Section 2.   Five-Year Flat-Block Price Forecast

7	*Q.*	*The DSIs argue that Bonneville Power Administration's (BPA) forecast does not account*
8		*for declining market prices due to pricing cycles. Schoenbeck and Bliven,*
9		*WP-02-E-DS/AL/VN-03, at 36-39. Specifically, the DSIs argue that current market*
10		*prices have resulted in an unprecedented level of planned new generation and that if a*
11		*small part of that generation is developed within the next three years, market prices will*
12		*go down. Id. at 37. Do you agree?*
13	A.	No. In developing BPA's five-year flat-block price forecast, BPA took into account both
14		market and pricing cycles and the potential for new generation to affect prices. BPA used
15		four methods to derive and confirm the five-year flat-block price forecast of $28.10.
16		*See* Oliver, *et al.,* WP-02-E-BPA-20, at 3-7. The combination of the four methods
17		accounts for pricing cycles and potential new generation.
18		First, using actual market experience contemplates pricing cycles and uncertainty
19		in that sellers today will sell based on their evaluation of generating resources coming
20		online and the possible resulting decline in market prices. Otherwise, all sellers would
21		simply hold their supply until a future date to sell at a higher price. *See* Oliver, *et al.,*
22		WP-02-E-BPA-20, at 8.
23		Second, by using a derivation of the Marginal Cost Analysis Study (MCA) and
24		the AURORA model, BPA has implicitly evaluated the five-year flat-block price forecast
25		in the context of market cycles. The MCA assumes generation coming online and being
26		retired, which could contribute to a pricing cycle(s). BPA has acknowledged that sellers

1	today will price blocks of power for less than the last one kilowatt (kW) of load, or the
2	marginal cost of new generation. *See* Oliver, *et al.,* WP-02-E-BPA-20, at 5 and 8-9.
3	BPA analyzed this situation by decrementing the load forecast in the MCA with twice the
4	level of BPA's expected purchases. This analysis results in a price of $23.81 per
5	megawatthour (MWh) compared to a price of $32.24 per MWh in the MCA. Comparing
6	this with BPA's estimated price of $28.10 per MWh, BPA concludes that it is reasonable
7	that the average price of BPA's potential purchases will be between the price resulting
8	from decrementing load in the Western System Coordinating Council (WSCC) and the
9	last one kW.
10	Third, the very pricing mechanism used by financial institutions to develop
11	market quotes hinges on market volatility, which contemplates market cycles.
12	Fourth, BPA directly acknowledges market cycles by extrapolating current market
13	prices using the historical market price escalation and the forecast price escalation in the
14	MCA. This technique captures a historical look at market cycles and fundamental market
15	changes inherent in the electricity industry and a future perspective using the escalation
16	of marginal cost pricing. *See* Oliver, *et al.,* WP-02-E-BPA-20, at 6. The result of this
17	analytical technique is a range of prices from $22.90 per MWh to $32.58 per MWh.
18	*See* Oliver, *et al.,* WP-02-E-BPA-20, at 6-7. BPA's estimated price of $28.10 per MWh
19	falls well within this range--the range within which market cycles are likely to occur.
20	In summary, by using four approaches to derive and confirm BPA's five-year
21	flat-block market price forecast, BPA demonstrated that it not only contemplated market
22	cycles but also factored them into BPA's evaluation.
23	*Q.*	*The DSIs argue that BPA recognizes that market prices will go down because BPA stated*
24		*that "the market can generate solutions different from a theoretical model since market*
25		*participants are individually making decisions to build generating resources in the*
26	

1	*Northwest to meet perceived demand." Schoenbeck and Bliven, WP-02-E-DS/AL/VN-03,*
2	*at 37. Is this an accurate characterization of your testimony?*
3	A. No. BPA does not recognize that market prices will go down. BPA recognizes that there
4	is uncertainty in future market prices and that there will be a range of opinions as to
5	whether the future price of power may be higher, lower, or relatively the same compared
6	to current prices. Applying the historical market price escalation rate and the marginal
7	cost price forecast escalation rate in the MCA demonstrates this wide range of
8	possibilities. *See* Oliver, *et al.,* WP-02-E-BPA-20, at 6-7. BPA believes that the market
9	will likely assess the prices for five-year flat-block purchases within the aforementioned
10	range and that $28.10 per MWh is a reasonable assessment of a price point.
11	*Q. The DSIs argue that new generation currently under construction (about 1,800 megawatt*
12	*(MW) in the WSCC) plus a small portion of planned generation in California (3,000 MW)*
13	*out of 17,000 MW) is enough to significantly lower the AURORA price forecast.*
14	*Schoenbeck and Bliven, WP-02-E-DS/AL/VN-03, at 38. With the DSIs' AURORA*
15	*forecast of market clearing prices for the Fiscal Years 2002-2006 rate period being less*
16	*than the price BPA is forecasting for the flat-block purchase ($28.10 per MWh) and*
17	*using BPA's AURORA modeling, the DSIs argue that the market forecast is reduced from*
18	*about 32 mills per kilowatthour (kWh) to around 22 mills per kWh. Please respond.*
19	A. BPA does not accept the DSIs' proposal for resource additions as given in their
20	testimony. *See* Anderson, *et al.,* WP-02-E-BPA-42. Additionally, BPA does not agree
21	that the added generation (even if it were to occur) is enough to significantly lower the
22	AURORA price forecast. BPA submitted a data request for the DSIs' analysis. The
23	DSIs responded by correcting their testimony, noting that BPA should change the DSIs'
24	"22 mills per kWh" market forecast to "29.6 mills per kWh." *See* Attachment 1. Moving
25	from the marginal cost price in the MCA of approximately 32 mills per kWh to 29.6 mills
26	per kWh does not represent a significant reduction to the BPA price forecast. Further, as

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1	noted above, BPA used four approaches to derive and confirm BPA's five-year flat-block
2	market price forecast, not simply the MCA.
3	*Q.* *The DSIs argue that the industry has experienced a pricing cycle before when new*
4	*generation was added in the 1980s, with a resulting depression in the wholesale price of*
5	*electricity that has only recently been alleviated for a sustained period, which suggests*
6	*that there will be new generation in the next three years resulting in lower wholesale*
7	*prices within the next year. Schoenbeck and Bliven, WP-02-E-DS/AL/VN-03, at 38-39.*
8	*Do you agree?*
9	A. No. Although the DSIs have referenced many potential plans for development, BPA has
10	not seen any evidence of actual commitments to construct plant that would support a
11	conclusion that new generation will be over-developed in the next three years producing
12	the result the DSIs describe. Further, as previously noted, BPA's five-year flat-block
13	price forecast for a block purchase reflects a mid-range price between historical and
14	forecast escalation rates which accounts for the possibility of price volatility due to new
15	generation development. Moreover, the DSIs did not substantiate their assertion that new
16	generation in today's electricity market would likely result a pattern similar to that of the
17	early 1980s.
18	*Q.* *The DSIs argue that BPA's citation of price quotes and actual market experience is based*
19	*upon today's state of system development and when new generation comes online in the*
20	*next one to three years, both spot prices and forward market prices will decline.*
21	*Schoenbeck and Bliven, WP-02-E-DS/AL/VN-03, at 39. Do you agree?*
22	A. No. It is BPA's experience that market price changes occur due to a variety of factors
23	besides generation plant additions. These factors include economic conditions,
24	hydrologic conditions, fuel prices, regulatory/legislative decisions, and generation plant
25	retirements. Today's market price quotes reflect the market's assessment and
26	

1	expectations of those factors and therefore are one legitimate indicator of the forward
2	market.
3	*Q.*	*The DSIs argue that BPA's use of its trading floor experience to support its forecast is*
4		*flawed because BPA's prices are based on today's market, at the peak of the pricing*
5		*cycle, and BPA fails to take into consideration the downward pressure on market prices*
6		*that new generation will bring to bear. Schoenbeck and Bliven, WP-02-E-DS/AL/VN-03,*
7		*at 39. Do you agree?*
8	A.	No. We will continue to rely on our assumed resource additions in the MCA and the
9		AURORA model. *See* Anderson, *et al.,* WP-02-E-BPA-42. In addition, BPA used
10		four different analytical techniques to derive and confirm its five-year flat-block market
11		price estimate, not solely trading floor experience. The combination of all four
12		techniques leads BPA to conclude that $28.10 per MWh is a legitimate estimate of the
13		five-year market price for block purchases over the next 12 to 24 months.
14	*Q.*	*The DSIs argue that BPA's extrapolation of current market prices upward from the high*
15		*point of a pricing cycle to arrive at a range of prices confirming BPA's forecast,*
16		*especially using a growth rate of 6.2 percent measured over the period of price upswing*
17		*that leads to new generation development, is unreasonable. Schoenbeck and Bliven,*
18		*WP-02-E-DS/AL/VN-03, at 39. Do you agree?*
19	A.	No. BPA believes that current prices are a legitimate indicator for possible five-year
20		flat-block purchases over the next 12 to 24 months because "[t]his technique captures a
21		historical look at market cycles and fundamental market changes inherent in the
22		electricity industry and a future perspective using the escalation of marginal cost
23		pricing." *See* Oliver, *et al.,* WP-02-E-BPA-20, at 6. Moreover, BPA used the 6.2 percent
24		escalation rate as the reasonable upper bound in a range of possible prices. The lower
25		bound was derived from the historical escalation rate (-2.7 percent). BPA's forecast of
26		

1		$28.10 per MWh occurs near the mid-point of the range. Therefore, BPA believes that
2		the range is reasonable.
3	Q.	*The DSIs point to BPA's statement that long-term annual escalation over 18 years is*
4		*–2.7 percent, and state that while they do not think that future escalation will continue to*
5		*be negative, it is closer to what will be observed than the short-term growth of*
6		*6.2 percent. Schoenbeck and Bliven, WP-02-E-DS/AL/VN-03, at 39-40. Do you agree?*
7	A.	No. BPA believes that price escalation will likely be more toward the center of the range
8		of the escalation in the MCA price forecast and escalation of historical prices. BPA
9		believes this based on the results of the three other techniques BPA used to examine its
10		price estimate: actual market experience, a derivation of the MCA and the AURORA
11		model, and market quotes for forward transactions.
12	Q.	*The DSIs argue that BPA's forecast has ignored the spring months, noting BPA's*
13		*statement that due to large surplus in the spring, BPA chose not to purchase for the*
14		*months of April, May, and June. Schoenbeck and Bliven, WP-02-E-DS/AL/VN-03, at 40.*
15		*The DSIs argue that using BPA's value of its sales during those months, which they say is*
16		*$14.25 per MWh, as an opportunity cost that is averaged with nine months of purchases*
17		*at $29.7, results in an annual price of $25.80 per MWh. Id. Please respond.*
18	A.	BPA disagrees with the DSIs' evaluation of the spring price value. BPA has been unable
19		to replicate the DSIs' assertion that BPA's value of sales for April, May, and June is
20		$14.25 per MWh. The correct value of spring energy is $16.12 per MWh, which is a
21		weighted-average of BPA's assumed purchases and sales in its surplus sales and
22		purchases forecast.
23	Q.	*In summary, the DSIs argue that the best indicators point to prices around $25.00 per*
24		*MWh and, with the DSIs' AURORA modifications yielding a confirming price of*
25		*$25.36 per MWh, BPA should adjust is market price forecast to $25.36 per MWh.*
26		*Schoenbeck and Bliven, WP-02-E-DS/AL/VN-03, at 41. Please respond.*

1	A. The DSIs' analysis is not persuasive for the reasons noted above. They have been unable
2	to substantiate their testimony and provide analytical results associated with their
3	AURORA adjustments. *See* Attachment 2. Due to the inability of the DSIs to produce
4	the output of their MCA, BPA could not verify their forecast and resulting price. Even
5	so, BPA has reviewed its testimony and has confirmed that by using four approaches to
6	derive and confirm its five-year flat-block price forecast BPA has captured the range
7	around price uncertainty due to possible price and market cycles.
8	**Section 3. Conservation Augmentation**
9	*Q. NWEC expresses concern over the proposed level of the Conservation and Renewables*
10	*(C&R) Discount. Weiss, WP-02-E-NA-01, at 20. NWEC makes a "guess" why it thinks*
11	*the level was proposed by stating several possible reasons, such as BPA might not have*
12	*expected to be resource deficit. Id. NWEC then states that if BPA will now acquire*
13	*1,000 average megawatts (aMW) at "least cost" then the "least cost" alternative for a*
14	*good portion of the 1,000 aMW should be conservation. Id. Please respond.*
15	A. As BPA has proceeded with augmentation of the Federal system to meet loads forecast to
16	be served under Subscription, BPA has reviewed the role conservation should play in
17	such augmentation. As a result, BPA has decided that 12 aMW of conservation
18	resources, on an annual basis, will be targeted for acquisition. BPA set this target based
19	on the current 1998 NW Conservation and Electric Power Plan. However, over the rate
20	period, BPA plans to implement a total of 150 aMW from all BPA-sponsored
21	conservation activities.
22	*Q. How will the acquisition of 12 aMW of conservation resources be funded?*
23	A. BPA will fund these conservation acquisitions by shifting a portion of the expense budget
24	from augmentation power purchases to augmentation through conservation activities.
25	This expense budget will be spent to cover annualized payments for incremental
26	conservation as part of augmentation. BPA believes that it can acquire measurable

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1		conservation over the five-year rate period in lieu of conventional generation resources.
2		BPA counsel has advised that conservation costs are allocated under section 7(g) of the
3		Northwest Power Act.
4	Q.	*NWEC notes that BPA must acquire power from the market at market prices estimated by*
5		*BPA to cost somewhere between 28 mills/kWh and 32 mills/kWh. Weiss,*
6		*WP-02-E-NA-01, at 20. Each kWh not conserved will cost BPA and its customers from*
7		*7-11 mills. Id. Please respond.*
8	A.	BPA believes the net cost for acquiring conventional generation resources and then
9		reselling such power is within the 7-11 mill range noted above. The net cost BPA is
10		willing to incur in acquiring conservation under the augmentation program will be based
11		upon the difference between BPA's posted rates and BPA's five-year flat-block price
12		forecast. The actual difference used will be adjusted to reflect the 10 percent credit
13		assigned to conservation by the Northwest Power Act and is expected to be in the same
14		7-11 mill range noted above. This will assure that conservation augmentation will be
15		implemented with measures valued at a 10 percent premium to the market forecast.
16		These changes will be reflected in BPA's final proposal.
17	Q.	*Does this conclude your testimony?*
18	A.	Yes.

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