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TESTIMONY OF
SPENCER WEDLUND, AUDREY PERINO, SID CONGER, AND JANET ROSS
KLIPPSTEIN

Witnesses for Bonneville Power Administration

SUBJECT: Revenue Forecast

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5

6 **SUBJECT: REVENUE FORECAST**

7 **Section 1. Introduction and Purpose of Testimony**

8 *Q. Please state your names and qualifications.*

9 A. My name is Spencer Wedlund. My qualifications are contained in WP-02-Q-BPA-68.

10 A. My name is Audrey Perino. My qualifications are contained in WP-02-Q-BPA-57.

11 A. My name is Sid Conger. My qualifications are contained in WP-02-Q-BPA-14.

12 A. My name is Janet Ross Klippstein. My qualifications are contained in WP-02-Q-BPA-38.

13 *Q. What is the purpose of your testimony?*

14 A. The purpose of our testimony is to sponsor the revenue forecast contained in Chapter 6 of
15 the Wholesale Power Rate Development Study (WPRDS), WP-02-E-BPA-05 and in
16 Section 3 of the Documentation for WPRDS, WP-02-E-BPA-05A.

17 *Q. How is your testimony organized?*

18 A. Our testimony is organized in eight sections, including this introductory section.

19 The second section summarizes the revenue forecast. The third section describes the
20 forecast of revenues from Subscription and Pre-Subscription products. The fourth section
21 describes the forecast of revenues from long-term contracts. The fifth section deals with
22 the output from the Risk Analysis Model (RiskMod) that is included in the revenue
23 forecast and the estimation of short-term surplus market sales and revenues. The sixth
24 section discusses the calculation of Fish Cost Contingency Fund (FCCF) credits. The
25 seventh section discusses the estimates of power purchases and power purchase expenses.
26 The eighth section discusses section 4(h)(10)(C) credits.

1 **Section 2. Revenue Forecast**

2 *Q. What is the purpose of the Revenue Forecast?*

3 A. The revenue forecast documents the revenue the Bonneville Power Administration (BPA)
4 expects to receive during the rate period given a specified set of rates. Two revenue
5 forecasts were prepared for this proposal: revenues from current rates and revenues from
6 proposed rates.

7 *Q. What is the purpose of the current rate revenue forecast?*

8 A. The current rate revenue forecast documents the revenues BPA expects during the period
9 fiscal year (FY) 1999 through FY 2006, using the rates that were effective on October 1,
10 1996 (existing rates). Pursuant to U.S. Department of Energy Order RA6120.2, the
11 current revenue forecast is used to test whether the revenues from existing rates satisfy
12 BPA's revenue requirement.

13 *Q. What is the purpose of the proposed rate revenue forecast?*

14 A. The proposed rate revenue forecast documents the revenues BPA expects from sales over
15 the rate period (FY 2002 - FY 2006), from the proposed rates. This forecast is used to
16 demonstrate that the proposed rates enable BPA to meet its revenue requirement.

17 *Q. What revenues are projected for FY 1999 – FY 2006 using current rates?*

18 A. Revenues (excluding residential exchange revenues) expected over the next eight years
19 assuming current rates are: \$2,200 million in FY 1999, \$2,093 million in FY 2000,
20 \$2,124 million in FY 2001, \$2,423 million in FY 2002, \$2,442 million in FY 2003,
21 \$2,404 million in FY 2004, \$2,435 million in FY 2005, and \$2,452 million in FY 2006.
22 *See Section 3.12 in WPRDS Documentation, WP-02-E-BPA-05A.*

23 *Q. Why was a FY 1999 through FY 2001 revenue forecast prepared?*

24 A. The revenue forecast for this time period is used for several purposes including
25 projections of financial reserves for the beginning of the FY 2002 - FY 2006 rate period.
26

1 Q. *What revenues are projected for FY 2002 through FY 2006 in the proposed rate revenue*
2 *forecast?*

3 A. Revenues (excluding residential exchange revenues) expected over the rate period
4 using proposed rates are \$2,475 million in FY 2002, \$2,494 million in FY 2003,
5 \$2,456 million in FY 2004, \$2,487 million in FY 2005, and \$2,507 million in FY 2006.
6 *See* Section 3.13 in Documentation for WPRDS, WP-02-E-BPA-05A. Following is a
7 brief description of the summary parts of the revenue forecast.

8 Q. *How are revenues from Subscription and Pre-Subscription contracts forecast?*

9 A. Forecasting revenues from regional Subscription and Pre-Subscription contracts is done
10 by first multiplying the appropriate power rates by the projected billing determinants for
11 the regional Subscription and Pre-Subscription sales to the public, private and industrial
12 customers. These include the energy rates for heavy load hour (HLH) and light load hour
13 (LLH) sales, the demand charge, and the load variance charge. The Conservation and
14 Renewable Discount (C&R Discount) and Low Density Discount (LDD) are then
15 subtracted.

16 Q. *How is revenue from regional and extraregional long-term contracts forecast?*

17 A. Forecasting revenue from regional and extraregional long-term contracts requires a
18 contract by contract analysis. The forecast of revenue from long-term contracts is
19 explained in Section 4 below.

20 Q. *How is the forecast of short-term surplus market sales revenue developed?*

21 A. The forecast of revenues from short-term surplus market sales takes into account market
22 price and hydro conditions. The forecast of short-term surplus market sales is explained
23 in Section 5 below.

24 Q. *How is the forecast of ancillary and reserve products developed?*

25 A. Forecasting revenue from the sale of generation inputs for ancillary and related services
26 involves estimating the expected sales and the underlying costs of providing these

1 services. The generation inputs for ancillary and related services revenue forecast is
2 explained in the testimony of BPA witnesses *see* DeClerck, *et al.*, WP-02-E-BPA-26.

3 *Q. What other revenue components are forecast in a different way?*

4 A. Some components of the forecast are based on BPA's recent experience. That is
5 particularly true for most miscellaneous components (listed in Section 3.13, WP-02-E-
6 BPA-05) and for the U.S. Army Corps of Engineers (COE) and U.S. Bureau of
7 Reclamation (Reclamation) credits for upstream benefits. Credits that BPA receives from
8 the U.S. Treasury (Treasury) for payments to the Colville Tribe during the rate period,
9 are defined in legislation. Also *see* Revenue Requirement Study, WP-02-E-BPA-02.

10 *Q. What models are used to forecast BPA's revenues?*

11 A. For this proposal, BPA developed a series of linked spreadsheets to forecast revenues.
12 The spreadsheets perform the same types of calculations as those performed by the
13 Revenue Forecast Model, used in prior rate filings. Like the Revenue Forecast Model,
14 the linked spreadsheets incorporate results from other models. BPA's revenue forecast is
15 based on the billing determinants from the loads associated with regional Subscription
16 and Pre-Subscription sales. The forecast also includes revenues from short-term surplus
17 market sales that were derived using RiskMod. RiskMod was also used to derive
18 estimates of FCCF credits, 4(h)(10)(C) credits, and purchased power expense. RiskMod
19 is discussed in Section 5 of this testimony and in the Risk Analysis Study,
20 WP-02-E-BPA-03.

21 *Q. Have there been any significant changes to the revenue forecast methodology since BPA
22 prepared its 1996 rate proposal?*

23 A. Yes. The principal change is that revenues from short-term surplus market sales are now
24 projected by using the RiskMod and AURORA instead of a combination of other models
25 (*i.e.*, the Accelerated California Market Estimator (ACME), and the Nonfirm Revenue
26 Analysis Program (NFRAP)).

1 Q. *What other changes have been made?*

2 A. The models used to estimate surplus sales and purchases now account for both HLH and
3 LLH generation and loads.

4 Q. *Why was this done?*

5 A. This was done to improve the estimates of resources available for sale and the revenues
6 that might be achieved.

7 Q. *What other changes have been made?*

8 A. A detailed calculation of the Low-Density Discount in previous rate proposals has been
9 replaced by an annual estimate derived from credits granted in prior years. The LDD is
10 projected to be about \$14 million per year during the FY 2002 - FY 2006 rate period and is
11 expected to have about the same financial impact during the proposed rate period as it
12 currently has. During FY 1998, the LDD amounted to \$13 million.

13 Q. *Why was this done?*

14 A. The sales forecast for this proposal was prepared by consuming sector, *i.e.*, residential,
15 commercial, and industrial. It did not include customer-specific data, so BPA had to change
16 the methodology for calculating the LDD.

17 Q. *Are there any other significant changes since the previous rate filing?*

18 A. Yes, another change is that in previous rate filings, BPA forecast revenues by applying
19 the demand and energy charges to expected sales (billing determinants) for each customer
20 class. For this proposal, the loads of the generating utilities and other full-requirements
21 customers are aggregated.

22 Q. *Why was this done?*

23 A. This was done because the separate treatment of partial and full-requirements customers was
24 no longer necessary once displacement rights were eliminated.

25

26

1 *Q. Why are the loads of generating and non-generating customers added together?*

2 A. Forecasted sales to generating and non-generating customers are added together because
3 areason for treating them separately no longer exists.

4 *Q. What was the reason for separately identifying them in the past?*

5 A. The principal reason for separately identifying these forecasts was that generating customers
6 were able to displace a portion of their purchases with their own surplus generation or with
7 purchases from others. The proposed new contracts no longer include these options.

8 *Q. Are there any other changes since the last rate filing?*

9 A. Yes, this forecast no longer includes estimates of wheeling revenues and only includes those
10 transmission revenues that the Power Business Line (PBL) expects to receive for the
11 Transmission Business Line (TBL).

12 *Q. Are there any other changes since the last rate filing?*

13 A. A new component of the revenue forecast is the estimate of regional Pre-Subscription
14 contracts. Revenues from regional Pre-Subscription contracts were estimated by
15 applying the PF billing determinants for all contracts together, instead of documenting
16 the revenues associated with each contract.

17 *Q. Why was this method used?*

18 A. First, many of the contracts contain provisions for maintaining confidentiality of certain
19 contract terms. Second, most of the regional Pre-Subscription contracts were expected to
20 yield approximately the same amount of revenue if the purchases are made at the PF rate.
21 Third, estimating the revenues by applying the PF rate as a proxy for all of the contract
22 terms is less complicated.

23 **Section 3. Revenues from Regional Subscription and Pre-Subscription Contracts**

24 *Q. What are regional Subscription and Pre-Subscription contracts?*

25 A. Regional Subscription and Pre-Subscription contracts refer to those contracts that were
26 signed with regional public customers prior to the Subscription process and those

1 contracts with regional customers that we expect to sign at the conclusion of the rate
2 process for full and partial service. This includes sales to publics, investor-owned-
3 utilities (IOU), and industrial customers.

4 *Q. How were the revenues from regional Subscription contracts estimated?*

5 A. The revenues from regional Subscription contracts were estimated by applying the rates
6 (either current or proposed) to the sales forecast in the Loads and Resources Study,
7 WP-02-E-BPA-01. The current rates were obtained from the 1996 Final Rate Proposal,
8 WP-96-A-02. The proposed rates were obtained from the WPRDS and incorporated into
9 documentation for the revenue forecast in Section 3.13 of Documentation for WPRDS,
10 WP-02-E-BPA-05A.

11 *Q. How is revenue from regional Pre-Subscription contracts forecast?*

12 A. Revenue from Pre-Subscription regional contracts is forecast by applying the proposed
13 PF rate to all projected billing determinants associated with these contracts. That is, the
14 PF HLH energy rate is applied to all projected HLH energy deliveries. The PF LLH rate
15 is applied to all projected LLH energy deliveries. The PF demand rate is applied to
16 projected demand quantities, and the load variance charge is applied to the total energy
17 deliveries. Finally, a “collar adjustment” equal to about \$7 million per year is subtracted
18 to approximate the financial impact of the price collars that were negotiated when the
19 regional Pre-Subscription contracts were signed. The sum of these revenues represents
20 the forecast of revenues from regional Pre-Subscription contracts.

21 *Q. How was the Low-Density Discount estimated?*

22 A. The Low-Density Discount was estimated by collecting information on LDDs received in
23 the recent past and the expected value of LDDs during the remainder of the current rate
24 period.

1 Q. *What was the Low-Density Discount in FY 1998?*

2 A. In FY 1998, the LDD totaled about \$13 million, *see* Section 3 of Documentation for
3 WPRDS, WP-02-E-BPA-05A.

4 Q. *What is the expected Low-Density Discount during the remainder of the current rate
5 period?*

6 A. In FY 1999 though FY 2001 the LDD is projected to be about \$12 million per year.
7 *See* Section 3.10 of Documentation for WPRDS, WP-02-E-BPA-05A.

8 Q. *What is the estimated Low-Density Discount during the FY 2002 – FY 2006 rate period?*

9 A. The LDD is projected to be \$14 million per year.

10 Q. *Why is the Low-Density Discount expected to be higher in FY 2002 – FY 2006 rate period?*

11 A. BPA expects to sell more power to public agencies that are eligible for the LDD during
12 the FY 2002 - FY 2006 rate period.

13 Q. *Why did BPA replace the previous detailed Low-DensityDiscount estimate with a flat
14 estimate?*

15 A. BPA replaced the detailed LDD estimate with a flat estimate for two reasons. First, in the
16 current rate proposal, detail about individual customer loads is not available. Second, the
17 old method was too detailed. In the 1996 rate filing, about 80 pages were devoted to
18 documenting this discount.

19 Q. *Did you include a discount for conservation and renewable investments in the revenue
20 forecast?*

21 A. Yes, a Conservation and Renewables Discount was included in the forecast of revenues at
22 current and proposed rates.

23 Q. *Why was the C&R Discount included in the forecast of revenues at current rates?*

24 A. The C&R Discount was included in the forecast of revenues at current rates because the
25 C&R Discount would have been offered if the current rates were resubmitted to the Federal
26 Energy Regulatory Commission for approval.

1 Q. *How was the cost of the C&R Discount estimated?*

2 A. The cost of the C&R Discount was estimated by multiplying 0.5 mills per kilowatthour
3 by the expected sales made to public, direct-service industrial, and IOU customers.

4 Q. *Was the C&R Discount applied to both Subscription and Pre-Subscription sales?*

5 A. No, the C&R Discount was applied to regional Subscription sales only.

6 Q. *Why wasn't the C&R Discount applied to Pre-Subscription sales?*

7 A. There are two reasons the C&R Discount was not applied to Pre-Subscription sales.
8 First, many of the Pre-Subscription sales do not qualify for a discount because they are
9 fixed rate contracts. Second, many of the contracts contain provisions for maintaining
10 confidentiality of certain contract terms and could not be used to apply the discount.

11 Q. *How large is the estimated C&R Discount?*

12 A. The C&R Discount is estimated to be about \$30 million per year during the
13 FY 2002 - FY 2006 rate period.

14 **Section 4. Revenues from Long-Term Contracts**

15 Q. *What are regional and extraregional long-term contracts?*

16 A. Long-term contracts are those contracts for power sales, capacity sales, capacity for
17 energy exchanges, energy for energy exchanges, seasonal exchanges of energy, contract
18 financial settlements, contract financial buyouts, or contract cash outs with a duration
19 greater than one year. The rates are negotiated for each contract.

20 Q. *What are those contracts?*

21 A. The long-term contracts in the region include two power sales, one capacity sale, revenue
22 associated with contract buyouts and settlements, and the remaining WNP-3 exchange
23 contracts. The long-term contracts outside the region include power sales, capacity sales,
24 capacity and energy exchanges, energy for energy exchanges, contract financial
25 settlements and contract cash outs.

26

1 *Q. How is the revenue from long-term contracts estimated?*

2 A. The revenue from long-term contracts is estimated by applying the contract terms to each
3 contract and summing the revenues for the contracts to the in-region group and also
4 summing the revenues for the contracts outside the BPA region. Another category called
5 Other Power Sales includes the revenues from the Reclamation irrigation pumping power
6 and Supplemental and Entitlement Capacity.

7 **Section 5. RiskMod and Short-Term Surplus Market Sales**

8 *Q. What is RiskMod and how has it been used to estimate revenues in this proposal?*

9 A. RiskMod is a model that uses water, market, load and resource conditions to produce
10 expected value estimates of surplus market sales and revenues. Also *see* Risk Analysis
11 Study, WP-02-E-BPA-03.

12 *Q. What results are estimated using RiskMod?*

13 A. RiskMod is used to estimate short-term surplus market sales and revenues, FCCF credits,
14 purchased power requirements and expenses, and section 4(h)(10)(C) operational credits.

15 *Q. What are short-term surplus market sales?*

16 A. Short-term surplus market sales are sales made from any generation that remains after all
17 firm loads are served. Sales as short as one-hour to as long as one year are considered
18 short-term surplus market sales. For the rate proposal they are assumed to be monthly
19 sales and take place either during the light-load-hours (LLH) or the heavy-load-hours
20 (HLH).

21 *Q. How are the short-term surplus market sales estimated?*

22 A. Short-term surplus market sales are estimated by determining the amount of HLH and
23 LLH generation for each month and the water conditions for each month and then
24 subtracting projected firm HLH loads from projected generation during HLH, and
25 projected firm LLH loads from LLH generation. This process was followed for
26

1 50 different water conditions and each of 12 months. The differences were averaged for
2 each month to produce the forecast.

3 *Q. How are short-term surplus market revenues estimated?*

4 A. Short-term surplus market revenues are estimated by multiplying the surplus resources
5 available for sale (using the process described above) by a projected market price
6 (which was adjusted during excess supply conditions in April, May and June) for each
7 month in each water condition for sales during HLH and for sales during LLH.
8 The resulting revenues were averaged for each month to produce the forecast. The resulting
9 LLH and HLH revenues were added to obtain total short-term surplus market revenues.

10 *Q. Why is BPA using RiskMod to estimate short-term market sales and revenues in this rate
11 filing instead of the models it previously used?*

12 A. BPA chose to use RiskMod because the models BPA previously used are no longer
13 available. Also, RiskMod is used elsewhere in the rate filing. *See Conger, et al.,*
14 *WP-02-E-BPA-15.*

15 **Section 6. Fish Cost Contingency Fund (FCCF)**

16 *Q. What is the Fish Cost Contingency Fund?*

17 A. The FCCF is a fund of credits earned prior to 1994 under section 4(h)(10)(C) of the
18 Northwest Power Act. BPA may access these credits as a result of an agreement between
19 BPA and the Clinton Administration that was formalized in a Memorandum of
20 Agreement (MOA) dated September 13, 1996. The MOA provides BPA access to these
21 credits under certain conditions. The provision is designed to compensate power
22 customers for fish and wildlife expenditures BPA has made at projects whose costs are
23 not allocated entirely to power. BPA is allowed to take a credit for the fraction of the
24 expenditures equal to the proportion of cost allocation assigned to non-power uses. The
25 FCCF is described in more detail in the Chapter 12 of the Documentation for Revenue
26 Requirement Study, WP-02-E-BPA-02A.

1 *Q. How is the FCCF taken into account in the Revenue Forecast?*

2 A. RiskMod samples from a table of FCCF credit values for each of the five years that were
3 derived from surplus revenues and power purchase expenses in the rate period for each of
4 the 50 water years. In each RiskMod simulation, an FCCF credit is added to the revenue
5 equal to the lesser of the credit value for that fiscal year and for that water year and the
6 remaining balance in the FCCF.

7 **Section 7. Section 4(h)(10)(C) Credits**

8 *Q. What are section 4(h)(10)(C) credits?*

9 A. Section 4(h)(10)(C) credits are credits provided by the Treasury to offset a portion of the
10 additional costs BPA incurs for fish and wildlife recovery efforts. These credits are
11 documented in Section 3.5 of Documentation for WPRDS, WP-02-E-BPA-05A.

12 *Q. What are the components of section 4(h)(10)(C) credits?*

13 A. There are three components to the credits. The first is a capital cost component, about
14 \$35 million per year. The second is a program expense component, about \$139 million
15 per year. The third is an operational expense component, which averages about
16 \$156 million per year, but can be much greater depending upon runoff conditions.

17 *Q. What are section 4(h)(10)(C) operational credits?*

18 A. Section 4(h)(10)(C) operational credits are credits provided to offset a portion of the
19 additional purchased power expenses BPA incurs due to changed operations for fish and
20 wildlife recovery. The credit does not include lost revenue due to fish and wildlife
21 recovery operations.

22 *Q. Why are the operational credits affected by runoff conditions?*

23 A. The operational credits are affected by runoff conditions because the combination of low
24 runoff with changed operations can significantly increase purchased power expenses.

25 *Q. What are the operational credits that are incorporated in this rate proposal?*

26 A. The operational credits in this proposal average slightly more than \$42 million per year.

1 *Q. Does this forecast revise the way operational credits are calculated?*

2 A. Yes, operational credits are now calculated as the additional cost of replacing firm
3 generation. In the past, operational credits were calculated as the additional cost of
4 purchases to meet firm loads due to changed operations.

5 *Q. Why was this change implemented?*

6 A. This change was implemented because the original interpretation made the cost of the
7 fish and wildlife operations dependent on BPA marketing decisions. The estimation of
8 section 4(h)(10)(C) credits is now completely independent of BPA marketing decisions.

9 **Section 8. Power Purchases and Purchased Power Expenses**

10 *Q. How are the power purchases estimated?*

11 A. Power purchases are estimated by following the same process used to estimate short-term
12 surplus market sales. When monthly loads are subtracted from monthly generation for a
13 particular water condition (during HLH or LLH) and the difference is negative, then a
14 power purchase is necessary. The negative differences for each month are averaged to
15 determine the average monthly difference. The monthly differences are averaged to
16 determine an annual purchased power amount.

17 *Q. How are the purchased power expenses estimated?*

18 A. Purchased power expenses are estimated by multiplying the market price in a particular
19 month for a particular water condition by the purchased power quantity. The same
20 process is followed for all water conditions and months where purchases are necessary.
21 The HLH and LLH purchases for each month are averaged over the 50 water conditions
22 and then summed to obtain a total purchased power expense estimate. The monthly
23 purchased power expenses are totaled to obtain the annual expense estimate. These
24 expenses are documented in Section 3.4 of Documentation for WPRDS,
25 WP-02-E-BPA-05A.

26

1 Q. *Are there any elements of the Revenue Forecast likely to change prior to BPA's adoption*
2 *of new PBL rates?*

3 A. Before new rates are filed, we will know what FY 1999 revenues are, so the current
4 forecast will be replaced by actual results. We will also update our forecast of FY 2000
5 and FY 2001 revenues to reflect our most current outlook. This will have the effect of
6 changing the level of expected reserves at the beginning of FY 2002.

7 Q. *Does this conclude your testimony?*

8 A. Yes.

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