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KEVLYN D. MATHEWS, SCOTT G.W. REED, and GLENN A. RUSSELL

Witnesses for Bonneville Power Administration

SUBJECT: OTHER INTER-BUSINESS LINE ALLOCATION

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Section 1: Introduction and Purpose of Testimony

Q. Please state your name and qualifications.

A. My name is Milos Bosanac, and my qualifications are contained in BP-12-Q-BPA-07. I am a witness for Redispatch.

A. My name is David W. Bogdon and my qualifications are contained in BP-12-Q-BPA-05. I am a witness for Segmentation of U.S. Corps of Engineers (COE) and U.S. Bureau of Reclamation (Reclamation) Network and Delivery Facilities.

A. My name is Danny L. Chen, and my qualifications are contained in BP-12-Q-BPA-11. I am a witness for Station Service.

A. My name is Janet Ross Klippstein, and my qualifications are contained in BP-12-Q-BPA-41. I am a witness for Station Service.

A. My name is Kevlyn D. Mathews, and my qualifications are contained in BP-12-Q-BPA-51. I am a witness for Station Service.

A. My name is Scott G.W. Reed, and my qualifications are contained in BP-12-Q-BPA-63. I am a witness for Redispatch.

A. My name is Glenn A. Russell, and my qualifications are contained in BP-12-Q-BPA-67. I am a witness for Segmentation of COE and Reclamation Network and Delivery Facilities and for Station Service.

Q. What is the purpose of your testimony?

A. The purpose of this testimony is to sponsor sections 7, 8, and 9 of the Generation Inputs Study, BP-12-E-BPA-05 (Study) and sections 7, 8, and 9 of the Generation Inputs Study Documentation, BP-12-E-BPA-05A (Documentation) and to support the forecast of revenues Power Services (PS) will receive from Transmission services (TS) for Redispatch Services under Attachment M of the BPA Open Access Transmission Tariff (OATT) in the rate period, Study, section 7; the segmentation analysis of the COE and Reclamation transmission facilities, Study, section 8; and the methodology used to forecast energy used by BPA for station service use at its substations and other facilities located at the Ross and Big Eddy/Celilo complexes and the costs that PS will allocate to TS for Station Service energy usage, Study, section 9.

Section 2: Redispatch

Q. Please describe Redispatch.

A. Under Attachment M, TS requests Redispatch of Federal resources as part of congestion management efforts. Generally, Redispatch results in decrementing resources that can effectively relieve flowgates that are at or near Operating Transfer Capability limits and incrementing resources to maintain service to loads. Redispatch essentially shifts generation from one Federal project to another project to alleviate congestion on the Transmission system.

Q. In what situations will TS request Redispatch from PS?

A. Under Attachment M of the OATT, there are three types of Redispatch that may be called upon by TS from PS: (1) Discretionary Redispatch; (2) Network Transmission (NT) Redispatch; and (3) Emergency Redispatch. Under Discretionary Redispatch, TS requests that Federal generation be shifted from one project to another. PS provides this service at its discretion based on real-time operating objectives and constraints. TS requests Discretionary Redispatch prior to curtailing any transmission schedules. TS requests NT Redispatch to maintain firm NT schedules. NT Redispatch can be requested only after all non-firm Point-to-Point and secondary NT schedules are curtailed according to North American Electric Reliability Corporation (NERC) curtailment priority. PS fulfills its NT Redispatch obligation by either shifting generation from one Federal project to another or making transmission and/or power purchases or sales to maintain firm NT schedules during planned or unplanned outages. PS is required to provide NT Redispatch when requested by TS to the extent PS can do so without violating non-power constraints. Emergency Redispatch is requested after TS declares a system emergency as defined by NERC. PS must provide Emergency Redispatch even if non-power constraints are violated. Study, section 7.4.

Section 2.1: Redispatch Revenues

Q. How does BPA calculate PS revenues for a Redispatch event?

A. When TS requests Discretionary Redispatch, PS provides the quantity of megawatts that can be moved from a given project and provides the associated energy purchase and/or sale price. TS can accept or reject these terms. PS revenues from Discretionary Redispatch are calculated on bids that are accepted by TS. PS Revenues collected from NT Redispatch are calculated from two sources: market prices for incrementing and decrementing Federal Columbia River Power System (FCRPS) resources when requested by TS and the actual cost to PS of purchasing replacement power and/or replacement transmission to maintain firm NT schedules during planned or unplanned outages.

Q. *How did you forecast PS revenues for Redispatch for the FY 2012-2013 rate period?*

A. In order to forecast PS revenues for the FY 2012-2013 rate period, BPA staff looked at historical revenues collected by PS in FY 2009 and partial FY 2010 for Redispatch services. Study, section 7; Documentation, Tables 7.1 and 7.2.

Q. *What are the projected PS revenues for Discretionary Redispatch for the FY 2012-2013 rate period?*

A. As with the FY 2010-2011 rate period, BPA Staff is forecasting $175,000 per year as the expected PS revenues for Discretionary Redispatch for the FY 2012-2013 rate period. Study, section 7.2. This forecast is based on actual FY 2009 revenues of $170,157 and actual FY 2010 revenues of $46,439. *Id.* Although actual PS revenues for FY 2009 and FY 2010 are less than the forecast amount, due to the unpredictable nature of the need for Redispatch and the variability in Redispatch costs on a monthly and seasonal basis, we continue to forecast $175,000 for the FY 2012-2013 rate period. *Id.*

Q. *What are the projected revenues for NT Redispatch for the FY 2012-2013 rate period?*

A. As we did for the FY 2010-2011 rate period, we are forecasting $225,000 per year as the expected PS revenues for NT Redispatch for the BP-12 rate period. Study, section 7.3. This forecast is based on actual FY 2009 revenues of $392,162 and actual FY 2010 revenues of $49,261. *Id.* The actual FY 2009 revenues exceeded the FY 2010-2011 rate period forecasts by $167,162, and the FY 2010 revenues are less than the FY 2010-2011 rate period forecasts. *Id.* Due to the unpredictable nature of the need for Redispatch and the variability in Redispatch costs on a monthly and seasonal basis, we continue to forecast $225,000 per year as the expected PS revenues for NT Redispatch for the FY 2012-2013 rate period. *Id.*

Q. What are the projected PS revenues for Emergency Redispatch for the FY 2012-2013 rate period?

A. We project no PS revenues for Emergency Redispatch for the FY 2012-2013 rate period because Emergency Redispatch events are unlikely to occur, and the actual costs incurred during FY 2009 and FY 2010 were minimal. Study, Section 7.4. The actual PS revenues for FY 2009 of $964 are attributable to two Emergency Redispatch events. *Id.* The actual PS revenues for FY 2010 of $1,510 are attributable to only one Emergency Redispatch event. *Id.*

Q. What are the total projected revenues for Redispatch Services for the FY 2012-2013 rate period?

A. BPA is forecasting $400,000 per year as the expected revenues for providing Redispatch Services for the FY 2012-2013 rate period. Study, section 7.5.

Section 3: COE and Reclamation Segmentation Analysis

Q. Please explain the proposed treatment of COE and Reclamation transmission costs?

A. A small portion of the COE and Reclamation investment is associated with transmission facilities. In the FY 2012-2013 rate case, BPA Staff included all COE and Reclamation investments, including those associated with transmission facilities, in the power repayment study and the power revenue requirements. Power Revenue Requirement Study, BP-12-E-BPA-02. Although these investment costs are paid by PS, they are functionalized to TS, and identified and assigned to the appropriate transmission segment. PS recovers the costs of transmission facilities that perform a Network or Utility Delivery function from TS as a revenue credit. BPA has used this methodology since the WP-02 rate case, and BPA Staff proposes to continue this treatment for the COE and Reclamation transmission costs for the upcoming rate period.

Q. Why is it necessary to assign the investments of COE and Reclamation transmission facilities to the transmission segments?

A. It is necessary to assign the investments of COE and Reclamation transmission facilities to the transmission segments so the costs of the transmission facilities can be properly allocated between PS and TS. COE and Reclamation transmission facilities perform Generation Integration (GI), Network, and Utility Delivery functions. The investment in transmission facilities must be broken up into the appropriate function so the costs can be assigned to the appropriate use. The costs of transmission facilities that perform a GI function are assigned to PS and recovered through power rates, while the costs of transmission facilities that perform a Network or Delivery function are assigned to TS and recovered through transmission rates. 2002 Final Transmission Proposal Segmentation Study, TR-02-FS-BPA-02.

Q. How are the COE and Reclamation transmission facility investments assigned to the various segments?

A. The assignment of transmission facility investment to the appropriate segment is consistent with the 2002 Final Transmission Proposal Segmentation Study. *Id.* The 2002 Final Transmission Proposal Segmentation Study is the last segmentation study performed by BPA, and has been used as the basis for segmentation of COE and Reclamation facilities ever since. COE and Reclamation transmission facilities are broken into three segments: GI, Network, and Utility Delivery. GI facilities are those facilities that connect Federal generation to the BPA Transmission Network. This includes generator step-up transformers (GSUs), power house lines or cables, and switching equipment at the Network station for the power house line. Network facilities are those facilities that supply bulk power to the other transmission segments and operate at voltages of 34.5 kilovolts and above. Utility Delivery facilities are those facilities that deliver power to BPA public utility customers at voltages less than 34.5 kilovolts.

Q. Does this proposal determine the segmentation for BPA-owned transmission facilities?

A. No. This proposal addresses only those transmission facilities owned by the COE and Reclamation. The segmentation of BPA-owned transmission facilities is addressed in the transmission rate case.

Q. Why are the costs of the land associated with the Reclamation switchyards included in the total costs of the switchyards?

A. An underlying tenet of generally accepted accounting principles is that the cost of property, plant, and equipment includes the purchase price of the asset and all expenditures necessary to prepare the asset for its intended use. Accordingly, in determining the cost of an electrical switchyard, it is necessary to include the cost of the land upon with the switchyard is built. BPA follows this principle in its 2002 Final Transmission Proposal Segmentation Study, in which it includes the cost of land associated with BPA substations in the substation cost.

However, for Reclamation projects, the cost of the land on which the substations (referred to as a switchyard) are sited is accounted for separately in Reclamation financial statements. As a result, in preparing previous Studies the cost of the land associated with the Reclamation switchyards was overlooked and mistakenly omitted. In order to be consistent with generally accepted accounting principles and the Segmentation Study, the cost of the land is included in determining the total switchyard costs to be segmented for Reclamation switchyards.

Section 3.1: Calculation of Costs for the GI Segment

Q. What are GI facilities?

A. As stated in the previous section, GI facilities connect federal generation to the BPA transmission network, and include GSUs, power house lines or cables, and switching equipment at the Network station for the power house line. Study, section 8.2.

Q. What are GSUs?

A. GSUs are the facilities at the Federal projects that transform the voltage of the power from that of the generator to that of the local transmission system. The GSUs are all owned by the project owner. Separate identification of the GSUs facilitates the segmentation of GI facilities from Network and Utility Deliver facilities.

Q. What are the proposed costs of the GI segment for the FY 2012-2013 rate period?

A. The total investment in COE and Reclamation transmission facilities allocated to the GI segment is $161,862,370. Documentation, Table 8.6, line 7.

Section 4: Station Service

Q. What is Station Service?

A. Station Service refers to real power taken directly off the BPA power system for use at BPA's substations and other facilities located at the Ross Complex and the Big Eddy/ Celilo Complex.

Q. What costs are allocated to Station Service?

A. The costs allocated to Station Service are the real power costs for power supplied by BPA for use at BPA substations. This does not include Station Service that TS purchases from another utility or that is supplied by another utility.

Q. Is Station Service metered?

A. Generally no. But there are a few locations on the BPA system where Station Service usage is metered.

Q. What method did you use to forecast the quantity of Station Service used by BPA?

A. Because most locations on the BPA system do not have meters to measure Station Service usage, we developed a methodology to estimate the amount of energy usage at BPA substations. The Ross and Big Eddy/Celilo complexes include facilities that are not typical substation loads. The energy estimate for these two complexes is based on historical data. For other substations, the methodology consists of the following steps: 1) establish the amount of installed station service transformation capacity (measured in kilovolt amperes (kVA)); 2) determine the historical monthly average station service energy usage for those substations for which load data exists; 3) derive an average load factor based on the ratio of installed station service transformation and historical energy usage; and 4) apply the derived load factor to the installed transformation for all substations to determine the quantity of Station Service energy usage for all substations on the BPA system. This amount is then added to the historical use at the Ross and Big Eddy/Celilo complexes to determine total station service energy use, which is then adjusted to reflect transmission losses. Study, section 9.2.

Q. What is "installed station service transformation"?

A. Power is transformed to a lower voltage to supply power to the buildings and equipment at the substations. "Installed station service transformation" is the transformation installed at the substation to serve this load. The maximum power carrying capability of these transformers is measured in kVA.

Q. *Why do you perform a separate calculation for BPA substations versus the Ross and Big Eddy/Celilo complexes?*

A. The Ross and Big Eddy/Celilo complexes are not typical substations. These complexes include loads not found at other substations, and therefore do not necessarily have the same relationship between installed transformation and energy that is typical for a substation.

Q. *What is the forecast amount of Station Service?*

A. The total forecast quantity of Station Service average usage, not including transmission losses that BPA supplies for substations and other facilities is estimated to be 81,160,370 kWh per year. Documentation, Table 9.4, line 1.

Q. *How are transmission losses calculated in the forecast of Station Service?*

A. The BPA Transmission Network loss factor is applied to the estimated use to account for transmission losses. This is the same Network loss factor that BPA applies to transmission schedules. Currently the Network loss factor is 1.9 percent. *See* BPA Open Access Transmission Tariff, Schedule 9.

Q. *What in the methodology for forecasting Station Service has changed from the last rate case?*

A. The methodology has not changed from the last rate case, other than to include transmission losses, which were not accounted for in previous rate cases. Data for substations that have been either sold or added to the system have been removed from or added to the forecast.

Q. *Why did you include transmission losses?*

A. Energy used for station service experiences transmission losses just as does other energy used on the Network. By including transmission losses, we are recovering the full cost of station service.

Q. What is the revenue forecast for Station Service?

A. We are forecasting revenues of $3,081,477 per year for Station Service. Documentation, Table 9.6, line 1.

Q. Why do you use the market price forecast to price Station Service energy?

A. We priced the energy used for Station Service based on the market price forecast, because that is the same price forecast that is used to forecast surplus sales from the PS trading floor. Power Risk and Market Price Study, BP-12-E-BPA-04, section 2.4. If the energy was not being provided for Station Service, it would be sold on the Trading Floor. Using the market price forecast to forecast the cost for Station Service provides the same revenue credit to the composite cost pool as it would if this energy was not being used for Station Service.

Q. To which Transmission segments are the costs for station service assigned?

A. Station Service costs are allocated to all transmission segments. The total cost is prorated to the segments based on the three-year average substation Operations and Maintenance associated with the respective segments, as determined in the Transmission Segmentation Study.

Q. Where are the results of the Station Service revenue forecast used in the rate case?

A. The cost allocation for station service is a component of the Generation Inputs revenue credit for the composite cost pool. Power Rates Study, BP-12-E-BPA-01, section 4.

Q. Does this conclude your testimony?

A. Yes.