

BP-14 Transmission Pre-Rate Case

June 27, 2012



Agenda

- Cost Allocation Decision
- Utility Delivery
- Dynamic Transfer Capability (DTC)
- Incremental Rate
- Redispatch



Cost Allocation Decision



Cost Allocation Decision

- After careful consideration of customer comments, staff recommendation for Network cost allocation is to use the 12 NCP for the initial proposal due to the following:
 - System usage profile -- The system usage profile on BPA's system, as demonstrated by applying the FERC tests, is relatively flat and has been for a number of years. This is true even when TTSL data, as opposed to reservations, are used to represent PTP usage. As a matter of industry standard this strongly supports the use of a monthly average, as opposed to a single annual value, in allocating costs.
 - Planning for the system for all scenarios. BPA plans the transmission system to not only meet the annual system peak, but also to be operated to supply projected customer demand and projected firm transmission service all ALL demand levels over a RANGE of forecast system demands. Planning on a single annual system peak is insufficient to accommodate this.



Cost Allocation Decision (cont.)

- Consistency with Planning. In planning the BPA transmission system, BPA's Planning group typically uses noncoincident peak loads, not loads coincident with the system peak. The use of noncoincident peak loads ensures that facilities are adequate to meet loads across all of the system.
- For these reasons, BPA staff believes that the 12 NCP is most consistent with cost causation.



Utility Delivery



Utility Delivery

- The 1996 Rate Case provided the current segmentation definition for Utility Delivery.
- There has not been significant changes in the definition since 1996.
- In the 1996 Rate Case ROD there were several reasons for including 34.5 kV facilities in the Network segment definition:
 - Some BPA customers provided historical rationale for why they use 34.5 kV facilities as transmission.
 - Where voltage has been stepped down to 34.5 kV, there is transmission to another substation over 34.5 kV lines prior to the power being transformed to lower voltage and distributed to end users.
 - 34.5 kV was the transmission voltage used by the Bureau of Reclamation.



Utility Delivery

- BPA staff appreciates the informative presentation by Snohomish and Brattle on the Bulk Electric System (BES) and The 7 factor test.
- Staff's preliminary thinking is that the BES and the 7 factor test do not require a change in BPA's segmentation.
 - The BES is used for system reliability, not cost allocation purposes.
 - The 7 factor test is used to determine whether FERC or the State PUC would have jurisdiction over service over the facilities. In contrast, BPA only provides wholesale service and there is no jurisdictional question.
 - A “performance based” assessment of the BPA transmission system would likely be difficult and controversial. It is unclear how such an assessment would be used in ratemaking.



Utility Delivery

- BPA appreciates receiving the NRU/PNGC/WPAG proposal concerning the Utility Delivery Charge.
- BPA staff's preliminary analysis is that the proposal has considerable merit. In particular:
 - The proposal that BPA and the customers should renew discussions aimed at selling the remaining facilities.
 - The eventual conversion of the Utility Delivery Charge to a use of facilities design.
- However, we are concerned about the proposal to fix the Delivery Charge at the current level (escalated at the same rate as the NT rate) for the next three rate periods.
 - Absent a settlement agreement, what would be the justification for setting the delivery charge at a level below-cost for that long?
 - How would the under recovery be allocated?
 - Across all Network users; or
 - To NT and PTP based on the relative Delivery Segment usage?



Dynamic Transfer Capability (DTC) Rate Development Alternatives



Potential DTC Rate Considerations: Context

- As new DTC uses occur and historic uses of DTC change over time, requests and the need for dynamic capacity are likely to increase. BPA may not be able to allow these requests without investments, both capital and expense, specifically aimed at “growing” DTC.
- Assuming BPA were to incur costs to grow DTC, it seems appropriate to explore rate options based on sound rate making principles that allocate costs equitably and recover these costs appropriately.
- BPA is interested in exploring DTC rate options should the need arise to recover costs of growing DTC at some point in the future.
- We would like customer input on “growing DTC”, especially on their preference among possible rate alternatives to meet these needs.



Potential DTC Rate: Context (cont.)

- **Specifically, BPA would like customers' input on how BPA might approach the following questions:**
 - *Should BPA create a DTC rate for this rate period?*
 - *What are possible options for a DTC rate design? BPA will offer a few rate options to consider and is interested in hearing other ideas from customers. BPA is seeking customer input on options for a DTC rate at some point in the future.*
 - *What are customers' reactions to various DTC rate options?*



Potential DTC Rate: Background

- DTC-related costs are currently embedded in transmission rates.
- To date, BPA has not incurred additional costs to support DTC awards for new uses.
- Currently, expenses related to managing voltage control are allocated to the scheduling, system control, and dispatch (SCD) rate, which every transmission customer pays.
- Capital, maintenance, and other costs related to acquiring and maintaining voltage control equipment are allocated to the transmission segment that a piece of equipment supports (e.g., Network and Intertie segments).
- BPA research has not found any other US utility that has established a DTC rate -- or anything comparable to a DTC rate.



DTC Rate: Options

- Several options might be considered. They include:
 - Functional Segmentation Study
 - System Variability Ratio
 - Balancing Reserve Ratio
 - Direct Assignment/UFT
 - Status Quo
- BPA is seeking your input on the potential for adopting a DTC-related rate for the next rate period. No decision has been made on creating a DTC-related rate for the FY14-15 rate period.
- We are also interested in your feedback on the options presented today or any other options you would recommend for BPA consideration.



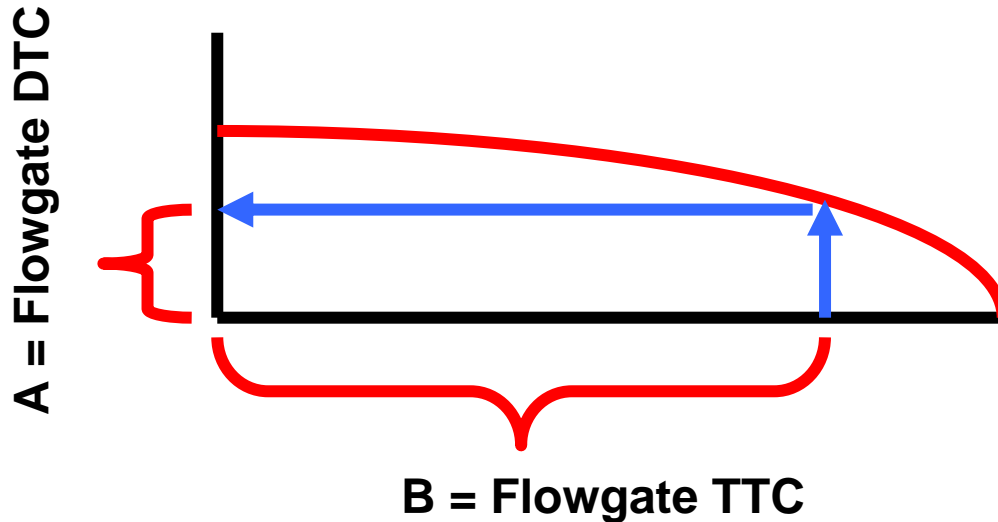
Alternative A: Segmentation

- BPA would perform a study of costs that support voltage control and remove those costs from the SCD, Network, and Intertie segments.
- To construct a DTC rate, costs would then be allocated to two functions: (A) “normal” voltage control, and (B) voltage control associated with dynamically transferred resources.
- An appropriate billing factor would then be developed (e.g., MW of DTC use over a specified time period).
- The final step would be to apply the billing factor to DTC use. This would presumably include all customers that benefit from resources that move within hour—NT load, CSGI, other wind facilities, hydro, thermal, but not schedules that do not vary over the operating hour.
- BPA has not estimated voltage control costs that would be recovered through a DTC rate using this approach.



Alternative B: System Variability Ratio

- This approach would entail multiplying a Dynamic Variability Ratio (DVR) by BPA's total transmission revenue requirement.
- The DVR could be defined as the ratio of flowgate DTC (A) to total flowgate transfer capability (B) or some similarly established and measurable quantity.



$$(\text{DVR}) * (\text{Total TX Rev Requirement}) / \text{DTC Allocation} = \text{DTC Rate}$$



Alternative C: Balancing Reserve Ratio

- Balancing reserve allocations (regulation, load following, and generation imbalance) developed in the rate case would be a surrogate measure of system variability use.
- The portion of system costs attributable to within hour variability for a particular use would be computed by the ratio of reserves assigned to that use (MW) to total transmission sold (MW) times the total transmission revenue requirement (\$\$).
- An illustrative example is shown next. Using this example, estimates suggest about 3% of system costs (about \$16 million) support dynamic transfers under this methodology.



Alternative C: Example Balancing Reserve Ratio (For Illustration Only)

- **Total Balancing Reserves (current Rate Case):**
 - 470 MW VERBs 59.5% of Total Balancing Reserves
 - 50 MW DERBs 6.3% of Total Balancing Reserves
 - 270 MW LOAD 34.2% of Total Balancing Reserves
 - Total 790 MW

- **Estimated Total Balancing Reserves (Next Rate Case):**
 - 600 MW VERBs 63.2% of Total Balancing Reserves
 - 50 MW DERBs 5.3% of Total Balancing Reserves
 - 300 MW LOAD 31.6% of Total Balancing Reserves
 - Total 950 MW

- **Estimated annual MW of Tx Sold (FPT+ IR + PTP + NT) (current Rate Case--2013):**
35,788 MW (Table T6/T7)
 - Estimated portion of system supporting variations of flow within hour: = $950/35,788 = 2.65\%$
 - Total Transmission Revenue Requirement = \$596 M (excluding COI—Table T3).

- **Estimated TX cost associated with flow variation within hour = $2.65\% \times \$596 \text{ M} = \15.8M**
 - **Portion Allocated to Reserves:**
 - VERBs $63.2\% \times \$15.8 = \9.9 M
 - DERBs $5.3\% \times \$15.8 = \0.8 M
 - LOAD $31.6\% \times \$15.8 = \underline{\$5.0 \text{ M}}$
 - Total $\$15.8 \text{ M}$



Alternative D: Direct Assign/UFT

- Costs could be directly assigned to the new use or user.
- Example: a new use cannot be accepted without incurring additional operating costs and the customer was willing to pay that cost (e.g., an equipment investment to manage voltage control for facilities that were only affected by that customer).
- In this example, the customer benefits directly. Those costs are directly assigned to the requestor of the new DTC use.
- This situation could arise where a wind project can not be moved out of BPA's BAA without incurring costs.



Alternative E: Status Quo (No Change)

- All expense costs related to DTC continue to be aggregated and allocated to the SCD rate.
- Capital, maintenance, and other costs related to acquiring and maintaining voltage control equipment are allocated to the transmission segment that a piece of equipment supports (e.g., Network and Intertie segments).
- This is the approach BPAT uses today.



Summary of DTC Rate Alternatives

- **Alternative A: Segmentation**
 - BPA performs a study of what costs support dynamic voltage control and then segments those costs to Network, California Intertie, and Montana Intertie.
 - If BPA chooses to develop a DTC rate, the next step is to allocate these costs associated with voltage control between two functions: (A) “normal” voltage control, and (B) voltage control associated with dynamically transferred resources.
 - The final step would be to assign these costs to DTC use. This would presumably include all customers that benefit from resources that move within hour—NT load, CSGI, other wind facilities, hydro, thermal, but not schedules that do not vary over the operating hour.
- **Alternative B: System Variability Ratio**
 - This approach would entail multiplying a Dynamic Variability Ratio (DVR) by BPA’s total transmission revenue requirement.
 - The DVR could be defined as the ratio of flowgate variability DTC to total flowgate transfer capability or some similar approach.



Summary of DTC Rate Alternatives (cont.)

- **Alternative C: BR Ratio**

- This alternative would use balancing reserve allocations (regulation, load following, and generation imbalance) developed in the rate case as the measure of system variability use.
- The portion of system costs attributable to within hour variability for a particular use would be computed by the ratio of reserves assigned to that use (MW) to total transmission sold (MW) times the total transmission revenue requirement (\$\$).

- **Alternative D: Direct Assign/UFT**

- Where a new use could not be accepted without incurring additional operating costs (e.g., FTE increase to manage voltage excursions for a new use) or investment in equipment to manage voltage excursions, these costs could be directly assigned to the new use.
- This situation could arise where a wind project can not be moved out of BPA's BA without incurring costs.

- **Alternative E: Status Quo: No Change**



Next Steps

- Your feedback is valued. Please respond by [July 13, 2012](#) to:
 - techforum@bpa.gov
- Please include “DTC Rate Alternatives” in the subject line of your response.



Incremental Rate



Background

- New Transmission facilities required to serve new requests for service are subject to the “higher of” test, also known as the “or” test. Under this test, BPA may charge the higher of the embedded cost rate with the new facilities included, or an incremental cost rate that fully recovers the costs of the new facilities from the requests that need the facilities over the contract term.
- Under our current (FY 2012-13) Rate Schedules, incremental cost rates must be established in a 7(i) rate case.
- In the workshops prior to the FY 2010-11 and 2012-13 rate cases, BPA and customers considered developing a formula incremental rate. Discussions were productive, but BPA and customers ultimately decided in the workshops not to develop a formula incremental rate during these rate cases.
 - BPA and customers decided to focus on other rate case issues instead.



Background, cont.

- BPA continues to believe that it could have a need for incremental costs rates in the future.
 - Network Open Season reform is being discussed now. Network upgrades identified in future Network Open Season cluster studies as required for service, but that do not move forward at embedded costs rates, will be subject to incremental rates.
 - Intertie upgrades may also be subject to incremental costs rates.
 - The incremental rate would apply to service taken under the upgrades, once they were constructed and energized.
 - If there is not a formula incremental rate in place, the incremental rate would have to be developed in a 7(i) process after or simultaneously with completion of the NEPA study. This could be an iterative process and may have to be repeated for each individual project that was moving forward at an incremental rate.



Question

- The question at this point is whether it would be beneficial to take the time now to work through specific Network and Intertie examples to better understand all the inter-related revenue requirement and revenue recovery issues involved in developing a formula incremental rate, or wait to have such a discussion when we are ready to establish rates through the 7(i) process.
 - Advantages to developing and adopting a formula rate now:
 - Formula would be in place when it was needed, potentially minimizing the time required to offer service under the rate.
 - In theory, would eliminate the need to run a special 7(i) process to develop the rate later.
 - While it may be difficult to develop a formula incremental rate in the abstract, BPA could use the Garrison to Ashe project from the 2010 NOS as an example in developing the formula.
 - Advantages to waiting to develop a rate:
 - May be easier to develop and tailor an incremental rate for a specific project, rather than developing one in the abstract.
 - May be a more efficient use of BPA and customer resources to develop a rate at the time it is needed.



Feedback

- Do customers have a preference as to whether we continue to discuss developing a formula incremental rate now, or wait until a specific project is identified and moving forward?
- Other questions/comments?



Links to Materials from Previous Discussions

- Links to previous presentations on incremental rates:
 - July 14, 2010 presentation (pre-FY 2012/2013 rate case) (beginning on slide 23): http://www.bpa.gov/corporate/ratecase/2012/docs/BPA-12%20Final%20Transmission%20Rates%20Workshop_071410.pdf
 - April 14, 2010 presentation (pre-FY 2012/2013 rate case) (beginning on slide 30): <http://www.bpa.gov/corporate/ratecase/2012/docs/04-14-2010%20Workshop%20Transmission%20Slides%20.pdf>
 - November 9, 2009 presentation (pre-FY 2012/2013 rate case): http://www.bpa.gov/corporate/ratecase/2008/2010_BPA_Rate_Case/docs/Afternoon%20Session_Transmission%20Rates%20Meeting_%20Incremental%20Rate%20Design_110909.pdf



Links to Materials from Previous Discussions, cont.

- October 2008-February 2009 materials (pre-FY 2010/2011 rate case):
 - February 4, 2009: Potential rate schedule language:
http://www.bpa.gov/corporate/ratecase/2008/2010_BPA_Rate_Case/docs/DraftProposedIncRateSched.pdf
 - Draft proposals from workshops:
 - January 9, 2009:
http://www.bpa.gov/corporate/ratecase/2008/2010_BPA_Rate_Case/docs/Workshop_FormulaIncrementalRateProposal_1-9-09.pdf
 - December 4, 2008:
http://www.bpa.gov/corporate/ratecase/2008/2010_BPA_Rate_Case/Docs/12-5-08Workshop_Formula%20Incremental%20Rate%20Proposal.pdf
 - November 21, 2008:
http://www.bpa.gov/corporate/ratecase/2008/2010_BPA_Rate_Case/docs/Workshop_Formula%20Incremental%20Rate%20Proposal.pdf
 - October 23, 2008 presentation (beginning on slide 13):
http://www.bpa.gov/corporate/ratecase/2008/2010_BPA_Rate_Case/docs/TR-10%20Transmission%20Workshop_102308_Phase%20III.pdf



Attachment M - Redispatch



Types of Redispatch Under Attachment M

- Under Bonneville's Open Access Transmission Tariff (OATT), Attachment M, Transmission Services (TS) requests redispatch from Power Services as part of its congestion management efforts.

- There are three different types of Attachment M redispatch:
 - Discretionary Redispatch - requested by TS prior to curtailing any firm or non-firm point-to-point (PTP) schedules or secondary NT schedules for the purpose of avoiding or ameliorating curtailments.
 - NT Firm Redispatch - requested by TS for the purpose of maintaining firm network transmission (NT) schedules after non-firm point-to-point (PTP) and secondary NT schedules are curtailed according to NERC curtailment priority.
 - Emergency Redispatch - requested by TS in response to a "system emergency" as defined by NERC.

- Under Attachment M, in response to any redispatch request, including requests for redispatch specific to Network Load located either within or outside of the BPA control area, Power Services (PS) may provide redispatch through redispatch of federal generation, purchases and/or sales of energy, or purchases of transmission.



Discretionary Redispatch

- TS may request Discretionary Redispatch from PS prior to curtailing any firm or non-firm PTP schedules or any firm or secondary NT schedules in order to avoid or ameliorate curtailments.
- PS has the discretion whether or not to provide requested amount, or any amount less than the total request.
- TS has the discretion to request Discretionary Redispatch and PS has the discretion to provide Discretionary Redispatch. There is no obligation on either party.



NT Redispatch

- Requested by TS only after all applicable non-firm point-to-point (PTP), secondary NT schedules and conditional firm schedules are curtailed according to NERC curtailment priority.
- For NT Reliability Redispatch, TS requests redispatch from PS and simultaneously curtails firm PTP schedules in amounts proportionate to the firm NT and firm PTP flows on the affected transmission flowgates at the time of the request.
- PS must comply with requests for NT Reliability Redispatch to the extent that it can do so without violating non-power constraints.
- BPA is currently reviewing options for using non-Federal resources, in addition to the FCRPS, to provide NT Reliability Redispatch.



Additional NT Redispatch Options

- BPA's OATT, based on the pro forma tariff, provides for Redispatch of all designated Network Resources.
- BPA agrees in principle that processes, systems and business practices to implement least cost redispatch from all federal and non-Federal Network Resources with the potential to resolve the transmission constraint is desirable.
- Reduction in FCRPS flexibility.
 - Due to non-power constraints placed on the FCRPS for flood control, fish and wildlife, navigation, recreation, and other special operations, the ability to move/adjust federal generation has become more limited since the inception of Attachment M in 2001.
 - Balancing Authority Area (BAA) requirements such as additional balancing reserves for variable generation have further reduced FCRPS flexibility.
- Additional resources for NT Redispatch are needed to maintain reliable service to Network Loads through Redispatch during transmission congestion.



Attachment M Redispatch - Actual and Forecasted Costs

- In the 2012 Transmission Rate Case, Transmission Services forecasted a total of \$400,000 per year for Attachment M Redispatch costs. This amount was included as part of the overall Transmission Services' revenue requirement.
- Power Services is only compensated when there is a redispatch event.

	Actual FY 2009	Actual FY 2010	Actual FY 2011
Discretionary Redispatch	\$170,157	\$46,439	\$11,355
NT Redispatch	\$392,162	\$49,261	\$470,500
Emergency Redispatch	\$964	\$1,510	-
Attachment M Total Cost	\$563,282	\$97,210	\$481,855

2012 Rate Case Forecast (per yr)	Actual FY 2012 (through April)
\$175,000	\$3,924
\$225,000	\$201,878
-	-
\$400,000	\$205,802



Potential FY 2014-2015 Rate Case Items

- In the 2012 Transmission rate case, Attachment M costs were estimated and included in the network revenue requirement. Because the rate levels were settled, Attachment M costs were not allocated to customer classes.
- BPA is considering three alternatives for rate recovery of Redispatch costs. Under all three alternatives, the cost of NT Redispatch would be allocated to NT Customers only.
 - Alternative 1: Recover all Redispatch costs in the network revenue requirement.
 - Alternative 2: Recover all Redispatch costs through a Formula Rate.
 - Alternative 3: Recover NT Redispatch costs through a Formula Rate and Discretionary and Emergency Redispatch costs in the network revenue requirement.



Redispatch Rate Recovery

Alternative 1

- Alternative 1: Recover all Redispatch costs in the network revenue requirement.
- Pros:
 - Creates more certainty for customers with regard to cost since they will be set in the rate case.
 - Is the most administratively simple to implement.
 - No impact to billing.
- Cons:
 - Redispatch costs have varied significantly from year-to-year and are difficult to forecast because they occur infrequently.
 - NT Redispatch costs, in particular, will be difficult to forecast because it is difficult to anticipate congested network conditions and BPA is considering significant changes to the resource pool that will provide NT Redispatch during the rate period.
 - Under or over-recovery is likely, the magnitude of which may be significant for NT Redispatch.



Redispatch Rate Recovery

Alternative 2

- Alternative 2: Recover all Redispatch costs through a Formula Rate.
- Pros:
 - Redispatch costs have varied significantly from year-to-year and are difficult to forecast because they occur infrequently. Use of a formula rate would ensure that redispatch costs would not be under or over-recovered.
 - The costs of redispatch have historically been relatively small. A formula rate would not create a great deal of uncertainty for customers with regard to their total cost of transmission.
 - Decisions on specific resources to add to the resource pool for the NT Redispatch program could be made after the initial rate proposal because BPA would not have to forecast redispatch costs.
- Cons:
 - Customers would not know the redispatch costs they would have to bear until after they have been billed. This may make budgeting more difficult.
 - Creates additional workload for billing, particularly for Discretionary and Emergency redispatch which requires allocation among customer classes.



Redispatch Rate Recovery

Alternative 3

- Alternative 3: Recover NT Redispatch costs through a Formula Rate and Discretionary and Emergency Redispatch costs in the network revenue requirement.
- Pros:
 - Addresses the particular forecasting challenge for NT Redispatch.
 - Some billing implementation workload, but less than Alternative 2.
 - Creates certainty for customers on Discretionary and Emergency Redispatch costs.
- Cons:
 - Uncertainty of forecast Discretionary and Emergency Redispatch costs.
 - Under or over-recovery is still an issue for Discretionary and Emergency Redispatch.



Next Steps

- Customers provide comments and proposals on rate treatment proposed alternatives for Redispatch by July 13.
- After consideration of customer comments, BPA will propose a rate treatment.
- If Alternative 1 chosen:
 - Forecast Discretionary, NT, and Emergency Redispatch Costs.
 - Continue analyzing additional NT Redispatch resource options.
- If Alternative 2 is chosen:
 - Develop Formula Rate protocols sufficient to ensure just and reasonable rates.
 - Develop cost allocation for Discretionary and Emergency Redispatch (NT Redispatch will be allocated to NT Customers only).
 - Continue analyzing additional NT Redispatch resource options.
- If Alternative 3 is chosen:
 - Forecast Discretionary and Emergency Redispatch Costs.
 - Develop NT Redispatch Formula Rate protocols sufficient to ensure just and reasonable rates.
 - Continue analyzing additional NT Redispatch resource options.



Next Steps

- Customer comments and feedback for DTC, Incremental Rates, Redispatch, and Utility Delivery by July 13 to Tech Forum:
 - techforum@bpa.gov
- Upcoming Workshops
 - July 25 - Transmission Pre-Rate Case – All Day
 - Load Forecasting
 - Revenue Forecast
 - LGIA Credits
 - Segmented Revenue Requirement
 - July 26 - Generation Inputs – AM
 - http://www.bpa.gov/corporate/ratecase/bp14_meeting_ws.cfm

