THE 7(b)(2) RATE TEST OVERVIEW, HISTORY, AND ISSUES

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7(b)(2) Rate Test Overview

How Residential Exchange Benefits Are Calculated

- The Residential Exchange Program is a creation of the NW Power Act: The Act addresses access to the benefits of the Federal Columbia River Power System for Public Utilities, IOUs, and DSIs
- Highlights of NW Power Act:
  - Public Utilities retain preference to BPA power for their net requirements and Publics' residential consumers may receive exchange benefits
  - IOUs can place net requirements on BPA and IOUs' residential consumers may receive exchange benefits
  - DSIs receive initial 20-year power sales contracts
  - Publics' exposure to higher costs is limited by the Section 7(b)(2) rate test
- Exchange Benefits:
  = (Utility's Average System Cost – BPA's PF Exchange Rate) x Utility's Exchange Load

7(b)(2) Tests the Costs and Benefits

- Expected Costs: *(increase trigger)*
  - Residential Exchange Program (REP) costs
  - Continued service to the DSIs

- Expected Benefits: *(decrease trigger)*
  - Non-firm sold to the DSI top quartile at higher prices (IP rate) than market
  - Value of restriction rights on DSI load
  - Financial benefit of BPA backing of resource acquisitions

Overview of the 7(b)(2) Rate Test

This rate test is designed to ensure that the cost of the Residential Exchange Program (REP) and other factors, when considered together, do not raise the rates of public utilities beyond what they would have been, taking into account five factors listed in Section 7(b)(2).

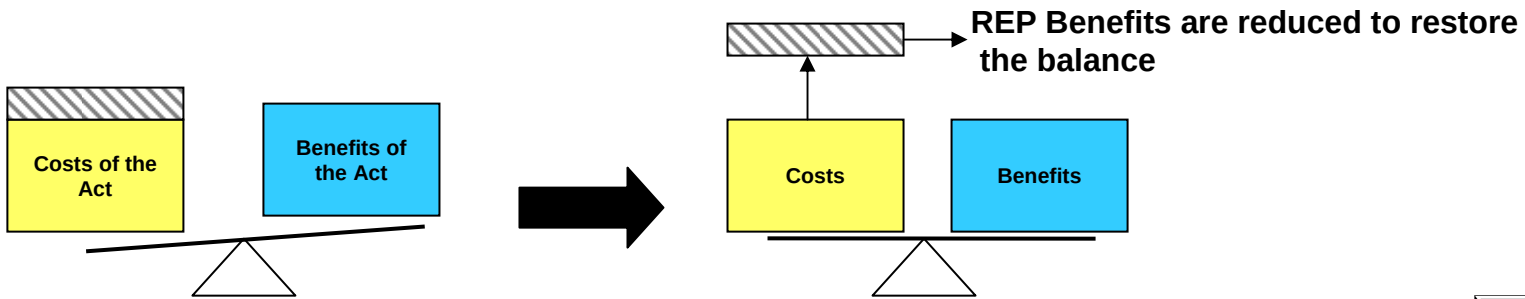
Step 1: Calculate the PF rate (the Program Rate) that includes all of BPA's costs, including a forecast of REP benefits

Step 2: Calculate the PF rate that accounts for the five factors (the 7(b)(2) Rate), one of which is no REP

Step 3: Compare the two rates:

a. If the Program Rate is <u>less than or equal to</u> the 7(b)(2) Rate, then no rate protection is due to the Public Utilities and the Program Rate becomes both the PF Preference Rate and the PF Exchange Rate used to determine REP benefits.

b. If the Program Rate is <u>greater than</u> the 7(b)(2) Rate, then a specific amount of costs is removed from the Program Rate to produce the PF Preference Rate — the removed costs are spread to all other; the now higher PF Exchange Rate results in lower REP benefits.



The Five Factors Listed in Section 7(b)(2)

1. Publics provide firm service to DSIs (BPA portion only) that are within or adjacent to their service areas
2. Publics are served from available FBS resources (FBS used for pre-Act contracts is not available)
3. There is no Residential Exchange Program
4. 7(b)(2) resource acquisition stacks are defined and sorted least cost first (includes conservation as resource)
5. Power reserve benefits resulting from the Act are not achieved and reduced resource financing benefits

Differences In 7(b)(2) Case Rate

- Revenue requirement excludes Residential Exchange, conservation and new resources, and includes the costs of additional power reserves
- More secondary sales due to no top quartile and difference in displaceable resources
- 7(b)(2) load forecast includes within and adjacent DSI loads
- 7(b)(2) load forecast removes embedded conservation
- 7(b)(2) load forecast may reflect elasticity effect of lower rates, including effects on transferred DSI loads
- Resources necessary to serve 7(b)(2) load are drawn first from available firm surplus (including power that may be committed to post-Act contracts) and then from the resource stack

7(b)(2) Mechanics In Detail

- Forecast annual PF rates in the Program and 7(b)(2) Cases for the rate period plus the ensuing 4 years (WP-07 had 7 annual rates for each case, 2007-09 plus 2010-13)
- Adjust the Program Case rates by removing applicable 7(g) costs
- Discount the stream of annual PF rates back to the beginning of the rate period using BPA's cost of capital
- Take the simple average of the adjusted discounted Program Case and 7(b)(2) Case PF rates and round to one decimal place

7(b)(2) Mechanics In Detail (continued)

- Compare the two average rates by subtracting the 7(b)(2) average rate from the Program Case average rate
- If the result is positive, multiply the result times the PF Preference load in the Program Case to determine the rate protection amount
- Subtract the rate protection amount from the PF Preference revenue requirement and add the rate protection amount to the revenue requirement of all other firm load, including the PF Exchange load
- This 7(b)(3) cost re-allocation will produce a lower PF Preference rate, a higher PF Exchange rate, and lower REP benefits

Summary of 7(b)(2) Results

Summary of Pre-1996 7(b)(2) Rate Tests

- **Costs:**
  - Large gross REP costs
  - BPA has 7(b)(2) firm surplus, so small cost of continued service to the DSIs
- **Benefits:**
  - Small benefit of having a ready DSI market for BPA secondary sales
  - Large benefits of having DSIs provide generating reserves ~$150M/yr.
  - Small benefit due to BPA backing of resource acquisitions
- **Rate Test results:**
  - Benefits and costs in balance
  - 7(b)(2) trigger at or near zero
  - PF Exchange Rate equal to PF Preference Rate
  - Net REP costs ~$140 to $200 million per year nominal ($190 to $380 million in 2005$)

Summary of WP-96 7(b)(2) Rate Test

- **Costs:**
  - Large gross cost of REP
  - BPA has 7(b)(2) firm surplus, so small cost for continued service to now smaller DSI load
- **Benefits:**
  - DSIs served with firm, therefore there is no benefit of top-quartile sales
  - No restriction rights on DSI load – therefore no benefit
  - Change in tax code eliminates financing benefits due to BPA backing of resource acquisitions
- **Rate Test results:**
  - Benefits and costs no longer in balance
  - 7(b)(2) trigger is 3.2 mills
  - PF Exchange Rate much higher than PF Preference Rate
  - Net REP costs ~$70 million per year (Congress mandated FY1997 benefits to be $140 million)

Summary of 7(b)(2) Rate Tests Under Subscription

- The rate test was conducted in each rate case assuming a traditional exchange; used to set the PF Exchange rate
- IOU Settlement Benefits, substituting for the net cost of the traditional REP, were determined exogenously and incorporated after the rate test
- Summary of the WP-02 and WP-07 7(b)(2) tests:
  - Little to no 7(b)(2) firm surplus available
  - Large gross cost of traditional REP
  - Small to zero firm DSI load providing no benefits
  - No financing benefits
  - 7(b)(2) tests produce large triggers
  - Forecasts of traditional exchange benefits were $48 million per year for FY2002-06, $30 million per year for FY2007-09

Future 7(b)(2) Issues That Impact Benefits

Issue	Direction/Magnitude
Mid-Columbia resources:	+ + +
Conservation resources:	- -
Valuation of reserves, benefits of surplus sales:	+ +
Others:	+ or -

7(b)(2) History and Issues

7(b)(2) Start-up Requirements

- The Act specified that the Rate Test was to commence after July 1, 1985.
- To be ready to implement the Rate Test, BPA first developed a Legal Interpretation. This was issued on May 31, 1984.
- Next BPA developed an Implementation Methodology. The final Methodology and the Record of Decision were issued on August 17, 1984.
- To model the rate test, BPA adopted the Supply Pricing Model as modified by rate case parties' comments. The SPM approximated BPA's ratesetting methodologies, allocations and calculations, including a repayment module. The SPM was used through the 1996 rate case. Beginning with the 2002 rate case, the rate test was incorporated into the Rate Analysis Model.

The Legal Interpretation of Section 7(b)(2)

- BPA issued a Notice of Proposed Interpretation on January 23, 1984; 14 parties commented; cross comments produced 4 more
- The Legal Interpretation, issued on May 31, 1984, defined certain terms and:
  - Addressed the limits of the five 7(b)(2) assumptions
  - Determined that, in a conflict, 7(a) trumps 7(b)(2) and 7(b)(3)
  - 7(g) costs are subtracted from the Program Case only
  - DSI loads are assumed for the full rate test period
  - DSI loads are firm in the 7(b)(2) Case
  - Legislative history defines within and adjacent DSIs
  - “FBS not obligated…” requires reference to DSI contracts
  - Clarified resource stack issues
  - Deferred other issues to the Implementation Methodology

The Section 7(b)(2) Implementation Methodology

- Proposed methodology issued February 29, 1984
- FRN published March 26, 1984, commencing a 7(i) hearing
- Final ROD signed on August 17, 1984
- Changes in the 1985 rate case were limited to errors and anomalies
- Issues were separated into five areas: reserve benefits, financing benefits, natural consequences, the computer model, and the rate test trigger
- The Implementation Methodology can be tested and modified in a 7(i) rate hearing that addresses the rate test

The Implementation Methodology (continued)

Implementation Methodology Issues

- How reserve benefits are quantified.
  - The full value developed in the relevant rate case is used.
- Whether to adjust the value of restriction rights.
  - The value is adjusted for within and adjacent loads.
  - Each rate case will determine top quartile reserves.
- Whether additional resources are owned by 7(b)(2) customers.
  - Assuming ownership simplifies the calculation of financing benefits.
- Whether to use an outside expert for financing benefits.
  - An outside expert will be used.
- Whether financing benefits assumptions are appropriate.
  - Parties agreed on the type of information provided to the outside expert.

The Implementation Methodology (continued)

Implementation Methodology Issues, continued

- Whether the specific financial expert for 1985 was appropriate.
  - The opposition was not supported by the evidence.
- Whether the selection of the expert was proper.
  - The selection was proper due to BPA's authority.
- Whether the expert can choose the manner in which to conduct the financing benefits analysis.
  - The parties agreed it should be specific to each rate case.
- Whether the three natural consequences are direct results of the five factors.
  - The three natural consequences are appropriate.
- Whether a new load forecast is used if the rates differ significantly.
  - A new load forecast is reasonable.

The Implementation Methodology (continued)

Implementation Methodology Issues, continued

- Whether demand elasticity before and after the rate test period should be modeled.
  - Elasticity is limited to the rate test period.
- Whether surplus firm and nonfirm differ in the two cases.
  - The amounts are different because loads are different.
- Whether elasticity affects the amount of surplus available.
  - Incorporating elasticity into surplus availability is speculative.
- Whether resource additions are added in discrete lumps.
  - Type 1 and Type 2 will be added in discrete lumps.
  - Type 3 will be sized to the amount needed.
- Whether added resource costs are melded or stacked.
  - The 7(b)(2) Case rate pools should be stacked like the Program Case rate pools.

The Implementation Methodology (continued)

Implementation Methodology Issues, continued

- Whether the SPM is the appropriate computer model.
  - The PPC-modified SPM is the appropriate tool.
- What rounding should occur prior to testing the rates.
  - Rounding to the nearest tenth of a mill will be used.

7(b)(2) History and Issues – 1985 Rate Case

1985 Rate Case – Trigger = 0 mills/kWh

- What interest rate to use in calculating the Financing Benefits.
  - BPA staff position adopted and issue has not resurfaced.
- How to quantify the Reserve Benefits and how the costs should be allocated in the 7(b)(2) case.
  - BPA staff position adopted and issue has not resurfaced.
- How 7(g) conservation costs and loads should be treated in the 7(b)(2) case.
  - Treatment was made to comport with the Implementation Methodology and is the continuing method in use now.
- Whether the SPM modeling adequately performed the 7(b)(2) Rate Test.
  - The model was adequate.

7(b)(2) History and Issues – 1987 Rate Case

1987 Rate Case – Trigger = 0.4 mills/kWh

- Whether both IOU and Public exchange costs should be treated the same for purposes of the 7(b)(2) Rate Test.
  - All exchange loads are treated equally.
- How the cost of reserves in the 7(b)(2) Case is calculated.
  - BPA's financial advisor determines the cost.
- Whether some conservation costs should be in the 7(b)(2) Case even if the FBS is sufficient to meet all of the 7(b)(2) case loads.
  - No.
- Two issues dealt with treatment of the Con/Mod program and the level of Investment Service Coverage in the 7(b)(2) rate test for the DSIs.
  - These were not contentious at the time and moot now.

7(b)(2) History and Issues – 1987 Rate Case

1987 Rate Case – Trigger = 0.4 mills/kWh, continued

- Whether BPA's sequencing of the 7(c)(2), 7(b)(2) and the Floor Rate test was correct.
  - The sequence is first 7(c)(2), then 7(b)(2), then if necessary 7(c)(2) again and last, the Floor Rate test.

7(b)(2) History and Issues – 1989/91 Rate Cases

1989 Rate Case – Trigger = 0.4 mills/kWh

- In 1989 BPA extended the 1987 rates. Therefore, there were no fresh 7(b)(2) issues.

1991 Rate Case – Trigger = 0.2 mills/kWh

- In 1991 BPA settled the rate case for an agreed upon percentage rate increase.
- Rate Test trigger went from an initial proposal trigger of 0.4 to 0.2.

7(b)(2) History and Issues – 1993/95 Rate Cases

1993 Rate Case – Trigger = 0 mills/kWh

- Whether certain data should be updated for the Final Proposal.
  - The decision was to update.
- Whether the approach the financial consultant used in estimating the interest rate differential was proper.
  - BPA decided to continue to use the historical approach.

1995 Rate Case – Trigger = 0 mills/kWh

- The 1995 rate case was a settled rate case and no issues were raised on the rate test. A rate test was performed and a Study was published.

7(b)(2) History and Issues – 1996 Rate Case

1996 Rate Case – Trigger = 3.2 mills/kWh

- Whether BPA was closed-minded and predetermined the outcome in conducting the 7(b)(2) rate test.
  - BPA did not predetermine the 7(b)(2) Rate Test.
- Whether balancing purchases are FBS replacements resources.
  - Balancing purchases are FBS replacements resources.
- Whether the non-dedicated portions of the Mid-Columbia resources should be available to serve public load in the 7(b)(2) Case.
  - Because the Mid-Cs were not actually used in the 7(b)(2) Case rate calculation, the issue was moot.

7(b)(2) History and Issues – 1996 Rate Case

1996 Rate Case – Trigger = 3.2 mills/kWh , continued

- Whether an uncontrollable event has a narrow or a broad definition.
  - Uncertain outcomes (price levels, plant closures, droughts, business cycles, etc) do not constitute uncontrollable events.
- Whether BPA should net the cost and credits associated with its conservation programs.
  - The netting approach would continue to be used.
- Whether BPA should use the same analyses in calculating reserve benefits in both the 7(b)(2) Case and the Program Case.
  - Yes.

7(b)(2) History and Issues – 2002 Rate Case

2002 Rate Case – Trigger = 3.4 mills/kWh

- Whether conservation should be declared as an FBS replacement resource.
  - Conservation is not an FBS resource.
- Whether PNRR is the cost of an uncontrollable event.
  - It is not.
- Whether the decision to terminate a generating plant is an uncontrollable event.
  - It is not.
- Whether there were enough resources to serve 7(b)(2) customers' loads in the 7(b)(2) Case.
  - Yes, there were.
- Whether a new load/resource balance in the 7(b)(2) Case was needed and how to deal with FPS contract loads.
  - BPA decided to do it the way the PPC outlined.

7(b)(2) History and Issues – 2002 Rate Case

2002 Rate Case – Trigger = 3.4 mills/kWh , continued

- The Mid-C resources were not used.
  - Because they were not used, this issue was moot.
- Whether demand elasticity should be recognized in the DSI load forecast in the 7(b)(2) Case.
  - Demand elasticity did affect the DSI load.
- Whether the rate development process implemented BPA's policy goals.
  - It did.
- Whether BPA used the proper inputs and assumptions in the rate test and whether those assumptions were tied to the 1996 rate case.
  - BPA used the proper inputs and assumptions.

7(b)(2) History and Issues – 2007 Rate Case

2007 Rate Case – Trigger = 5.9 mills/kWh

- Whether 7(b)(2) sets an absolute rate ceiling for the PF Preference rate.
  - It does not set an absolute rate ceiling.
- Whether BPA modeled the REP in the Program Case correctly.
  - BPA did model it correctly.
- Whether BPA modeled conservation costs correctly.
  - BPA did model them correctly.
- Whether a party (PCG) modeled the PF rate correctly.
  - They did not.
- The IOUs with the partial settlement dropped their 7(b)(2) issues. Those issues were the Mid-Cs, conservation, and uncontrollable events.