

Post 2028 Residential Exchange Program October 25, 2022

1:00pm-3:30pm

Join the WebEx Meeting

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Join by Meeting Number: 1-415-527-5035, 2760 137 3154#



Agenda for October 25, 2022

| Time | Topic | Presenter(s) |
|-----------|--|-----------------|
| 1:00-1:15 | Introduction, Review of Follow Ups and Comments since 9/27/2022 | Scott Winner |
| 1:15-1:30 | Quick Recap of What We've Learned | Stephanie Adams |
| 1:30-3:20 | Deep Dive: <ul style="list-style-type: none">• 7(b)(2) Rate Test• Discount Rate Scenarios Break <ul style="list-style-type: none">• Conservation Treatment Scenarios• ASCs Doubling Scenario | Stephanie Adams |
| 3:20-3:30 | Next Steps, Feedback and Questions | Stephanie Adams |



Review of Follow Ups & Requests

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Requests and Comments Received

Requests and Comments received from September 27th to October 20th.

- Data Requests published to the [Post 2028 REP website](#).
 - Publish ASCs for 2022-2034 used in the Reference Case and corresponding ASC scenarios.
 - Publish Discount Rates used in the 2012-13, 2022-23 and 2029-30 analysis.
- A future workshop topic to learn about the discount rate used in the scenarios was requested.
 - *Included in today's presentation.*
- Provide a scenario that uses the new hydro generation forecast using the 30 water year P10 methodology.
 - *This will be provided as part of the BP-24 refresh released in Sub-Phase 2.*



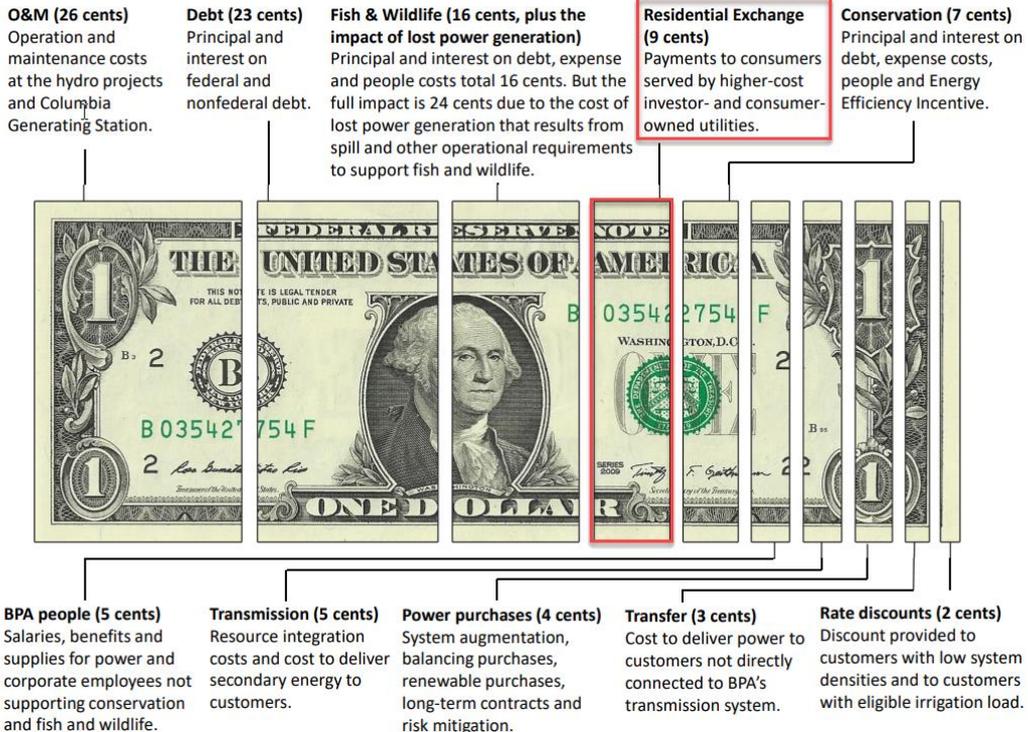
Recap: September Workshop Highlights

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Recap: What is the REP Program?

How BPA spends a Dollar of it's Revenue based on BP-22



What is the REP Program?

- The REP is a federal program that provides economic benefits of the federal system to residential and farm customers of participating utilities.

Why are we discussing the REP program now?

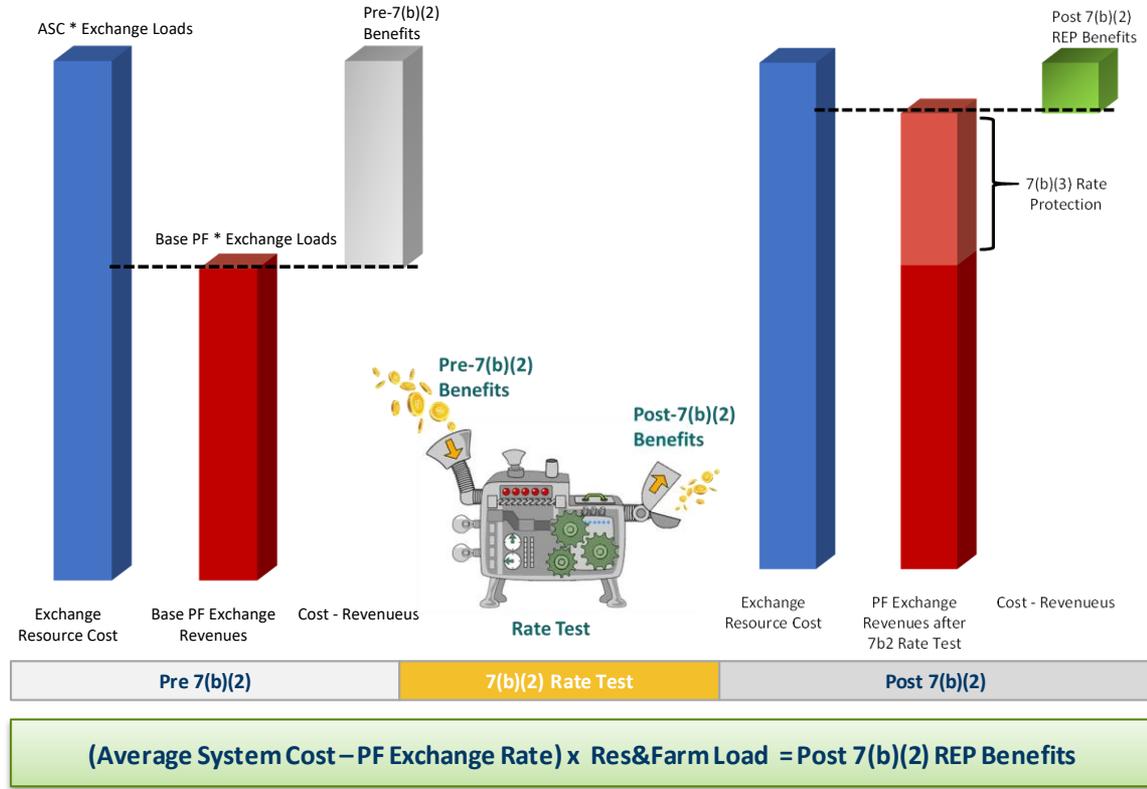
- The current REP settlement expires in 2028 adjacent to long-term power contracts. Given the contentious history of the REP program we need to get an early jump on understanding the program and its issues before arriving at a position before 2025.

What is the basis of determining the Net amount of REP benefits?

- The amount is determined by [(ASC's - PFx rate) * Exchange Loads].

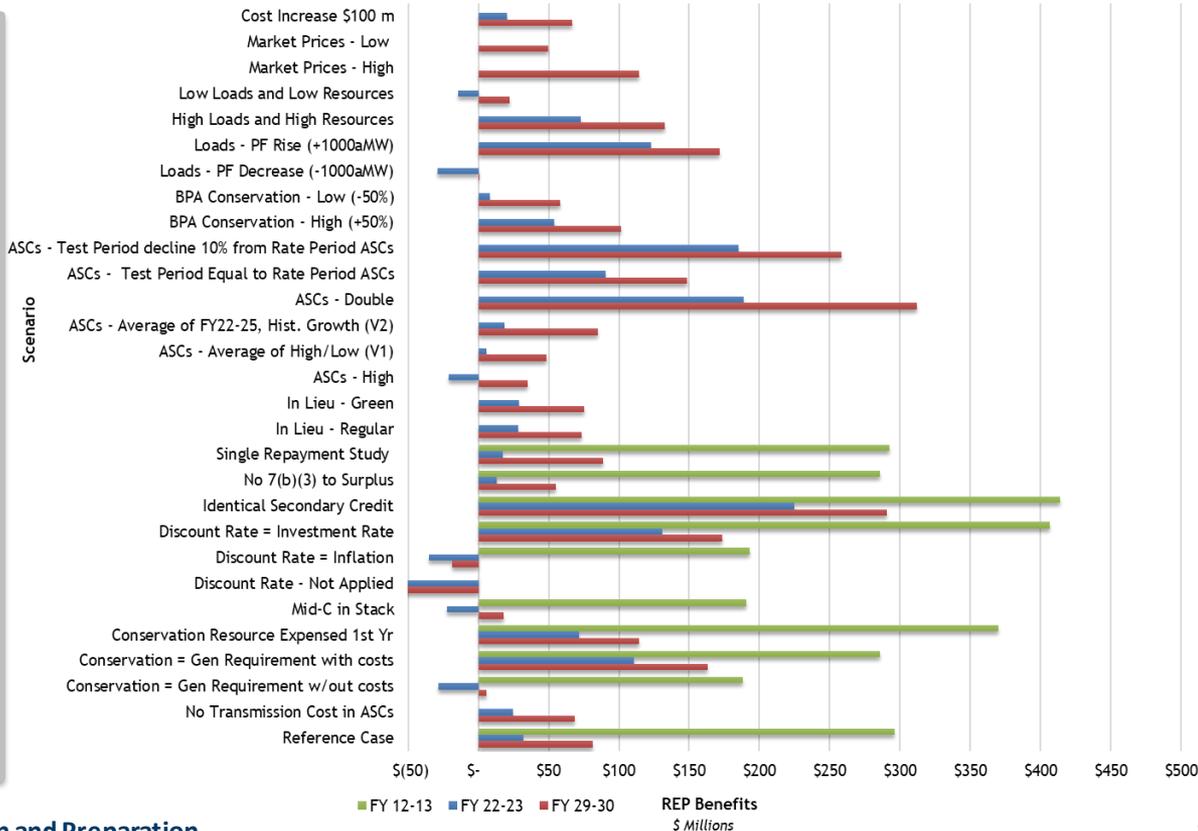
Recap: Calculating REP Benefits

- Pre 7(b)(2) REP benefits represent the level of benefits that would be in place if there were no 7(b)(2) Rate Test or Rate Protection.
- Post 7(b)(2) benefits represent the REP benefits that remain after performing the 7(b)(2) rate test.
- The rate test calculates the amount of rate protection.
- The Rate Test is affected by methodological choices which can change the level of REP Benefits.
- Rate protection is allocated away from preference loads and assigned to all other loads including Exchange Loads.



Recap: Sub-Phase 1 Scenario Results Presented 9/27

- The “dry run” analysis shared at the 9/27 REP workshop provides an educational model for participants to become familiar with, and to get a sense of scale for, the various assumptions and factors that affect the REP benefit levels.
- Understanding each scenario and how the results were derived is complex and will require time to fully understand.
- Participants are encouraged to ask questions and/or submit agenda topics for future workshops.
- Results do not represent what REP benefits will be in the future. The analysis will continue to be updated during the Phase 1 process.



Recap: Scenario Results – Methodologies

| Scenario | REP Benefits (\$ millions) | | | Scenario Specifics |
|--|----------------------------|-----------|-----------|---|
| | FY12-13 | FY22-23 | FY29-30 | |
| 1 Reference Case | \$ 296.3 | \$ 31.8 | \$ 81.3 | Same reference case methodology used as the 2012 REP discussions/proceeding. |
| 2 No Transmission Costs in ASCs/PFx Rate | n/a | \$ 24.4 | \$ 68.8 | This scenario changes the ASC methodology (ASCM) by removing transmission cost from ASCs and the transmission adder included in the PF Exchange Rate. |
| 3 Conservation = Gen Requirement w/out costs | \$ 187.9 | \$ (28.5) | \$ 5.6 | The following is removed from the 7(b)(2) Case: conservation augmentation from loads, conservation resources from the resource stack and any conservation costs. |
| 4 Conservation = Gen Requirement with costs | \$ 285.5 | \$ 110.6 | \$ 163.2 | This removes conservation augmentation from 7(b)(2) Case loads and conservation resources from the resource stack. Conservation costs are included in the 7(b)(2) Case. |
| 5 Conservation Resource Expensed 1st Yr | \$ 369.8 | \$ 71.5 | \$ 114.5 | Shifts to expensing all Conservation in the 7(b)(2) Case to the year called upon, regardless of the amortization period or whether it is capital or expense. |
| 6 Mid-C in Stack | \$ 190.4 | \$ (22.1) | \$ 17.7 | Includes Type 2 Resources defined as existing 7(b)(2) Customer resources not committed to regional load by preference customers or IOUs. |
| 7 Discount Rate - Not Applied | n/a | \$ (74.2) | \$ (72.4) | Removes application of the discount rate when calculating the 7(b)(2) and Program Case Rates. |
| 8 Discount Rate = Inflation | \$ 192.9 | \$ (35.5) | \$ (18.9) | Uses BPA inflation rate in lieu of BPA's 30 year Agency Borrowing Rate. |
| 9 Discount Rate = Investment Rate | \$ 406.3 | \$ 130.9 | \$ 173.3 | Uses BPA's risk adjusted discount rate in lieu of BPA's 30 year Agency Borrowing Rate |
| 10 Identical Secondary Credit | \$ 413.8 | \$ 225.0 | \$ 290.4 | Sets the secondary revenue credit in the 7(b)(2) case equal to program case. |
| 11 No 7(b)(3) to Surplus | \$ 285.7 | \$ 12.9 | \$ 55.4 | Removes allocation of rate protection to secondary sales. |
| 12 Single Repayment Study | \$ 292.5 | \$ 17.1 | \$ 89.0 | Uses the Program Case repayment study in the 7(b)(2) Case which includes costs associated with Conservation and New Resources. |
| 13 In Lieu - Regular | n/a | \$ 28.4 | \$ 73.3 | This is an Ad-Hoc calculation outside of RAM, which assumes 500aMW of Exchange Load is met with a market purchase. |
| 14 In Lieu - Green | n/a | \$ 29.1 | \$ 75.2 | This is an Ad-Hoc calculation outside of RAM, which assumes 500aMW of Exchange Load is met with a market purchase of carbon free energy. |

Recap: Scenario Results – Sensitivities

| Scenario | REP Benefits (\$ millions) | | | Scenario Specifics |
|---|----------------------------|-----------|----------|---|
| | FY12-13 | FY22-23 | FY29-30 | |
| 1 Reference Case | \$ 296.3 | \$ 31.8 | \$ 81.3 | Same reference case methodology used as the 2012 REP discussions/proceeding. |
| 15 ASCs - High | n/a | \$ (21.2) | \$ 35.2 | FY22-23 assumes 11.8% avg growth rate in ASCs from the rate period to the test period/ FY29-30 results assume 8.9% avg ASC growth rate from the rate period to test period. |
| 16 ASCs - Average of High/Low (V1) | n/a | \$ 5.6 | \$ 48.6 | FY22-23 assumes 9% avg growth rate in ASCs from the rate period to the test period / FY29-30 results assume 7.5% avg ASC growth rate from the rate period to test period. |
| 17 ASCs - Average of FY22-25, Hist. Growth (V2) | n/a | \$ 18.5 | \$ 85.2 | FY22-23 assumes 7.1% avg growth rate in ASCs from the rate period to the test period / FY29-30 results assume 6.2% avg ASC growth rate from the rate period to test period. |
| 18 ASCs - Double | n/a | \$ 189.0 | \$ 312.1 | All ASCs double across all years from the Reference Case. |
| 19 ASCs - Test Period Equal to Rate Period ASCs | n/a | \$ 90.4 | \$ 148.7 | ASCs in test period (last four years) set equal to the rate period (first two years). |
| 20 ASCs - Test Period decline 10% from Rate Period ASCs | n/a | \$ 184.9 | \$ 258.6 | ASCs in test period (last four years) decline 10% from the rate period levels (first two years). |
| 21 BPA Conservation - High (+50%) | n/a | \$ 54.0 | \$ 101.5 | Assumes future conservation savings and costs increase 50% from Reference Case levels. |
| 22 BPA Conservation - Low (-50%) | n/a | \$ 8.3 | \$ 58.2 | Assumes future conservation savings and costs decrease 50% from Reference Case levels. |
| 23 Loads - PF Decrease (-1000aMW) | n/a | \$ (28.9) | \$ 0.3 | PF Loads decreased 1,000 aMW. Firm Surplus increased. No change in Resources. Changes to secondary revenue or positions were not modeled. |
| 24 Loads - PF Rise (+1000aMW) | n/a | \$ 122.7 | \$ 171.9 | PF Loads increased 1,000 aMW. No change in resources except augmentation purchases, treated as FBS replacement. Changes to secondary revenue or positions were not modeled. |
| 25 High Loads and High Resources | n/a | \$ 72.8 | \$ 132.5 | Pairs high PF loads with a rise in FBS resources of 1,000 aMW. |
| 26 Low Loads and Low Resources | n/a | \$ (14.6) | \$ 21.9 | Pairs low PF loads and with a reduction in FBS resources of 1,000 aMW. |
| 27 Market Prices - High | n/a | n/a | \$ 114.3 | Reflects high market prices for FY 29-30 scenario analysis. |
| 28 Market Prices - Low | n/a | n/a | \$ 49.5 | Reflects low market prices for FY 29-30 scenario analysis. |
| 29 Cost Increase \$100 million | n/a | \$ 20.4 | \$ 67.0 | Adds \$100 million in FY22 allocated to FBS (85%), Conservation (10%), Business Support (5%). FY23 & beyond reflects the \$100 million escalated at inflation until FY34. |

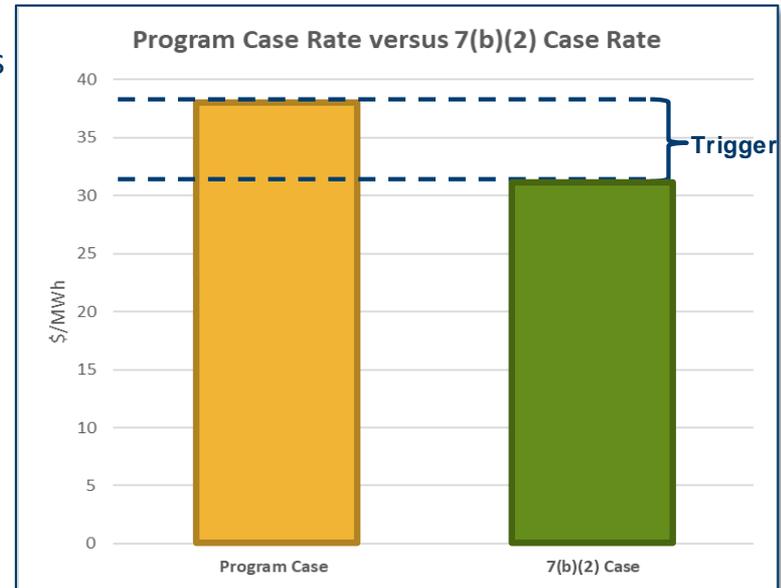


Deep Dive: 7(b)(2) Rate Test



Recap: Calculating Post-7(b)(2) Benefits

- **The Rate Test can be considered an ongoing cost/ benefit analysis.**
 - It compares projected rates set to recover certain power costs included in the NWPA (Program Case) to a hypothetical rate set to recover power costs assuming certain features of the NWPA were not in place (7b2 Case).
 - The Rate Test is intended “to assure that the financial benefits of the preference clause in the Bonneville Act will continue to accrue to BPA preference customers.” Sen. Rep., Appendix B
- **Functionally, the Rate Test limits the amount of REP costs that may be recovered in the PF rate.**
 - If the Program Case rate is higher than the 7(b)(2) Case rate, then the Rate Test is said to “trigger” and the difference between the \$/MWh is multiplied by PF public load to establish a rate protection amount.
 - The rate protection amount is then allocated away from PF customer loads to all other power sold as a supplemental rate charge.

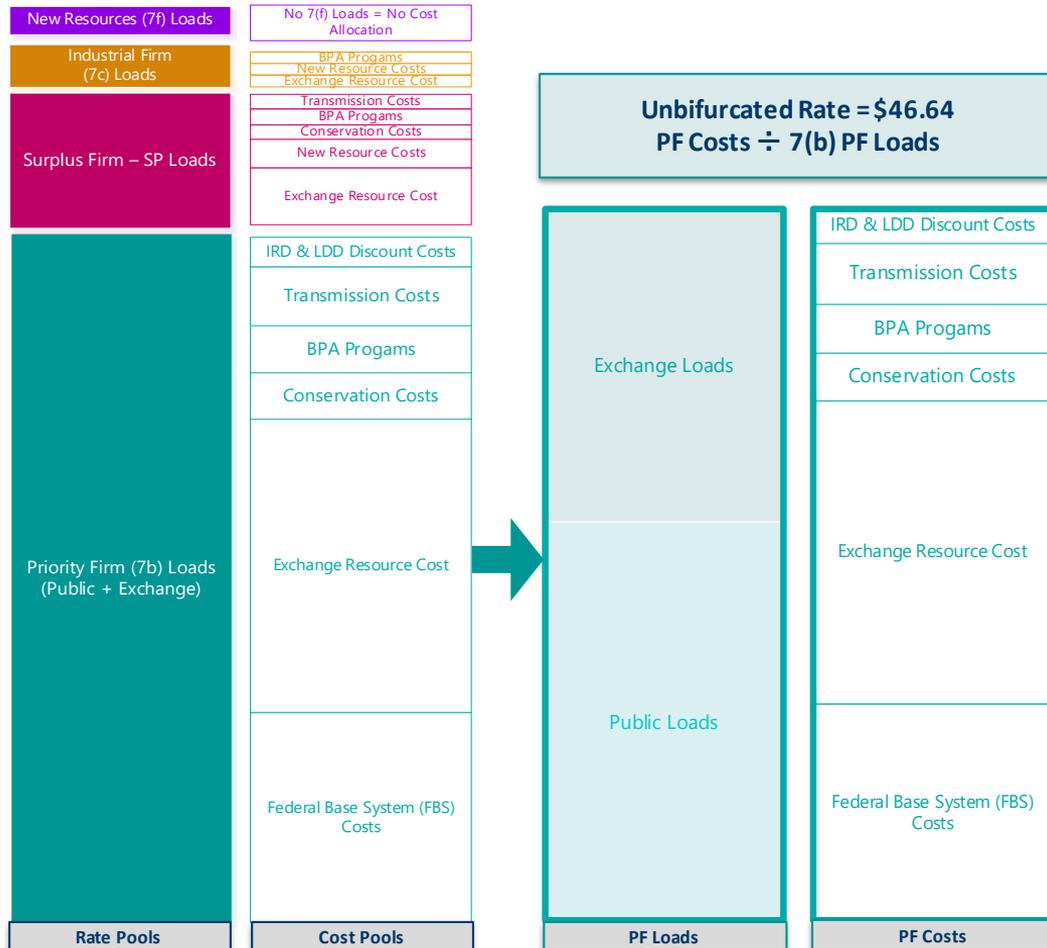


Section 7(b)(2) Methodology Terms

- **The Northwest Power Act does not require BPA to develop a methodology for the 7(b)(2) Rate Test.**
 - Nevertheless, BPA has developed a 7(b)(2) Methodology and Legal Interpretation to explain its implementation of the Rate Test. Most recent is the 2008 7(b)(2) Implementation Methodology, but it was withdrawn as part of the 2012 REP Settlement.
- **BPA’s 2008 7(b)(2) Methodology uses certain terms to refer to ideas in the Rate Test.**
 - The “Program Case”, is effectively rates set under the NWPA, but excludes certain 7(g) costs.
 - The “7(b)(2) Case”, which is a set of “hypothetical” rates developed assuming certain provisions of the Northwest Power Act were not in effect (i.e. no REP, DSIs served by publics, FBS limited).
 - The Rate Test “Trigger” refers to the event when the Program Case rate is *higher* than the 7(b)(2) Case rate which causes rate protection to trigger.
 - “Rate Protection”: The difference between the Program Case and 7(b)(2) Case rate multiplied by the PF public load to determine the amount of rate protection.
 - “Resource Stack”: A hypothetical stack of resources that publics would have used to meet their remaining loads in the absence of the Northwest Power Act.
- **Section 7(b)(3) Allocation**
 - 7(b)(2) determines the amount of rate protection applicable to the PF rate.
 - 7(b)(3) says where to put the costs that 7(b)(2) says can’t be collected in the PF rate. The rate protection is then allocated to all “other” non-PF rates.

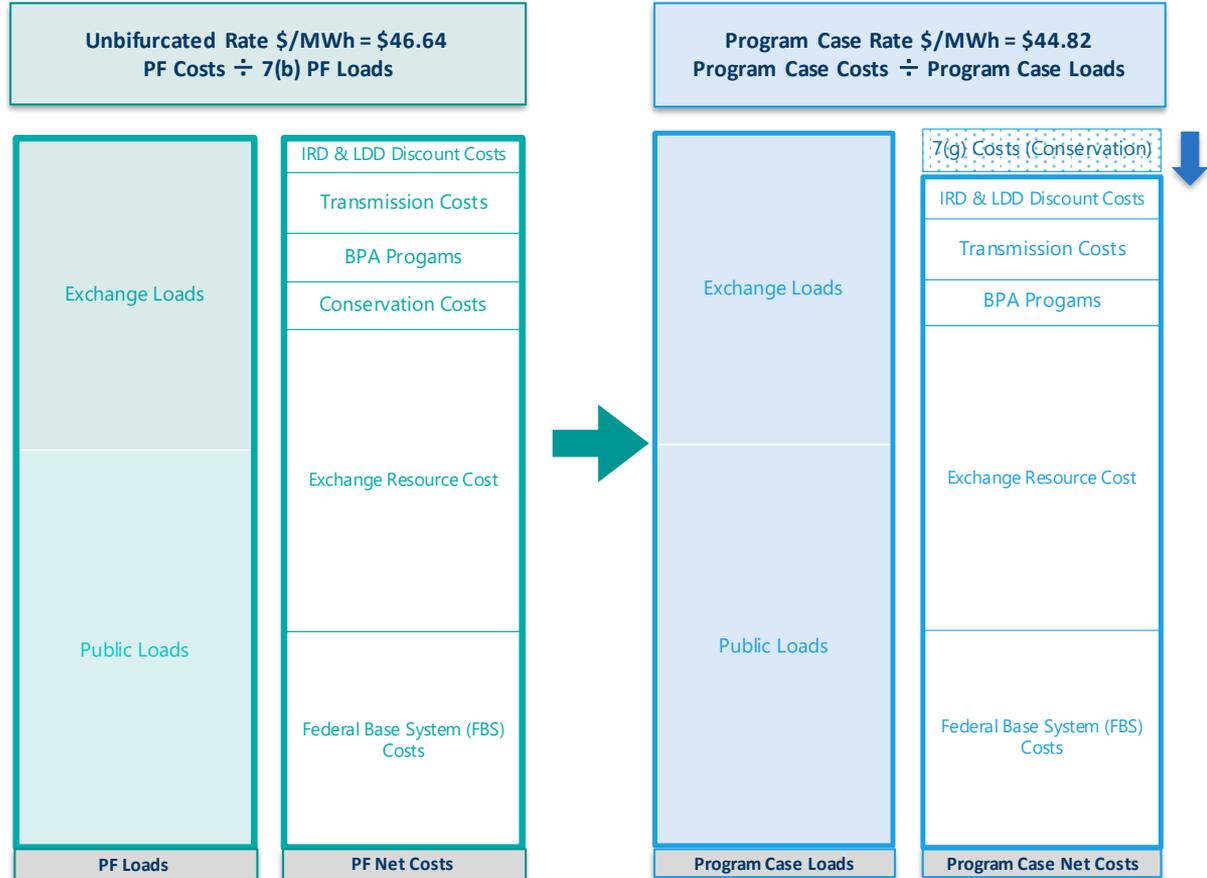
Calculating Rates used in the Rate Test under the 2008 7(b)(2) Implementation Methodology and Legal Interpretation.

- **The first step in calculating rates is performing the Cost of Service Analysis (COSA).**
 - The COSA allocates costs into rate pools based on the resources used to serve those loads, consistent with Section 7 of the NWPA & cost causation.
 - For example, the entire FBS resource is used to serve Priority Firm (PF) Loads which results in the total FBS cost being allocated to the PF Rate Pool.
- **After allocation of cost and credits to the PF Rate Pool, the rate is referred to as the Unbifurcated PF Rate.**
- **The Unbifurcated PF Rate is the same for both the PFp and PFx rate prior to the 7(b)(2) rate test.**
 - The Unbifurcated Rate is used as the starting point for determining the Program Case Rate used in the Rate Test.



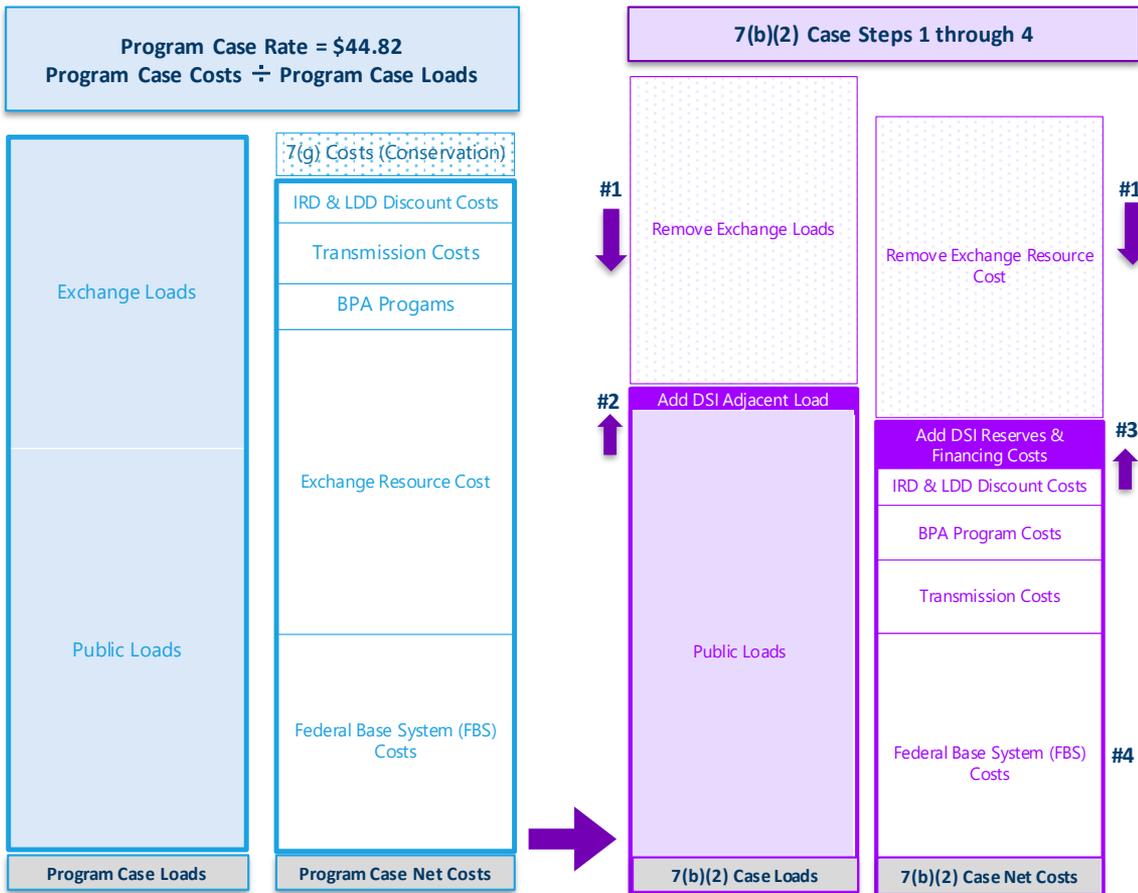
Determining the Program Case Rate used in the 7(b)(2) Rate Test in the Reference Case

- The Program Case rate uses the Unbifurcated Rate as a base.
- The Program Case is adjusted based on terms set forth in Section 7(b)(2) of the Northwest Power Act.
- To get to the Program Case Rate, BPA removes Applicable 7(g) costs (conservation, uncontrollable events, billing credits, and excess experimental resources costs) per the Northwest Power Act, which lowers the Program Case Rate.



Determining the 7(b)(2) Case Rate requires multiple adjustments

- The 7(b)(2) Case uses the Program Case rate as a base prior to making adjustments set forth by Section 7(b)(2) of the Northwest Power Act.*
 - No REP purchases and sales. (7(b)(2)(C))
 - DSIs are served by their local utility instead of BPA. (7(b)(2)(A))
 - Power reserve benefits and reduced financing costs available under the Act are not achieved. (7(b)(2)(E))
 - The Federal Base System (FBS) resources are used to serve 7(b)(2) Case loads first and all costs associated with the FBS are included in the 7(b)(2) Case. (7(b)(2)(B))



* Under the 2008 7(b)(2) Implementation Methodology and Legal Interpretation

Determining the 7(b)(2) Case Rate requires multiple adjustments (continued)

5) After the FBS is exhausted, other resources owned by publics are called upon in least cost order. 7(b)(2)(D)

- Resources BPA has acquired from customer, but not included in the FBS (Type 1)
- Resources owned by customers, but not dedicated to 5(b) load (Type 2)
- Other resources (Type 3)

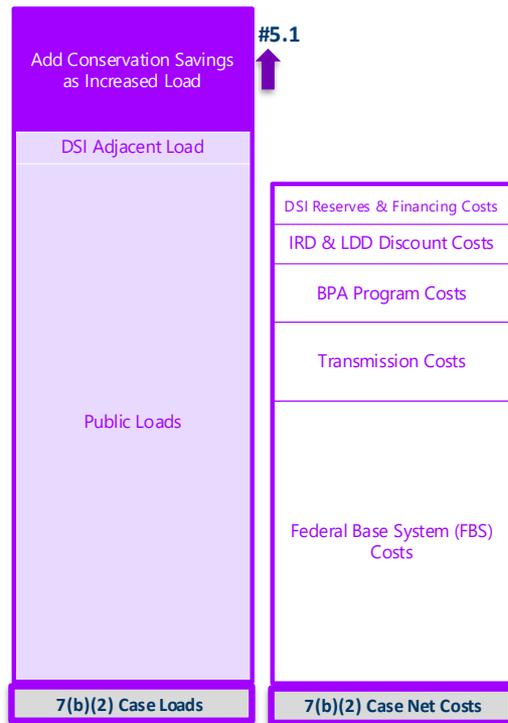
5.1) Treatment of Conservation*

- Considered a Type 1 resource.
- 7(b)(2) Case Loads are increased by the amount of BPA acquired conservation included in the Resource Stack.

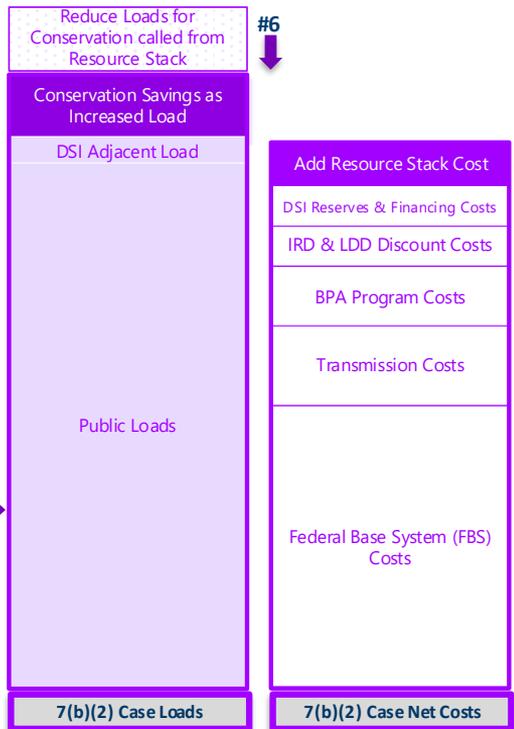
6) Final 7(b)(2) Case loads are decreased to the extent that conservation is selected from the Resource Stack and the associated resource cost is added.

**This is based on 2008 7(b)(2) Implementation Methodology and Legal Interpretation.*

7(b)(2) Case - Step 5



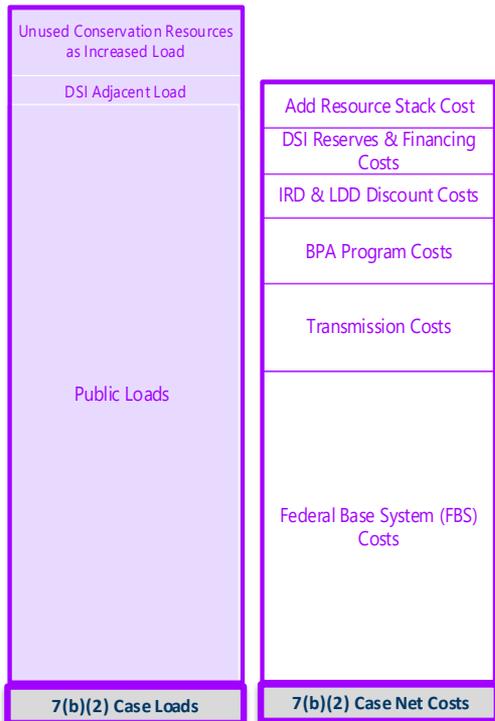
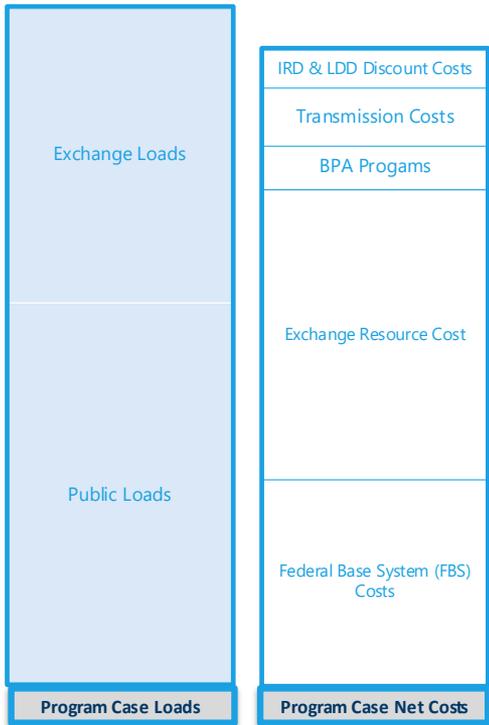
7(b)(2) Case - Step 5.1



Summary of Final Program Case and 7(b)(2) Rate Components

Program Case Rate = \$44.82
Program Case Costs ÷ Program Case Loads

7(b)(2) Case Rate \$/MWh = \$26.71
7(b)(2) Case Costs ÷ 7(b)(2) Case Loads



Application of the Discount Rate in the 7(b)(2) Rate Test

- The Program Case and 7(b)(2) Case Rate are calculated for the rate period plus the test period, a total of six years “(assuming a 2-year rate period).
- The comparison between the Program Case and the 7(b)(2) Case rates consider the time value of money.
 - The two sets of rates are discounted back to the beginning of the first year of the Relevant Rate Case at BPA’s projected 30 Year Agency Borrowing Rate and then a simple average is computed over the six-year period.
 - If the simple average of the discounted 7(b)(2) Case rates is less than that of the Program Case rates, then a trigger value is determined which is used to identify the amount of rate protection.



| Reference Case | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|-------------------|----------|----------|----------|----------|----------|----------|
| Program Case Rate | \$ 44.82 | \$ 45.57 | \$ 47.23 | \$ 47.09 | \$ 48.95 | \$ 48.91 |
| 7(b)(2) Case Rate | \$ 26.21 | \$ 29.09 | \$ 28.73 | \$ 29.15 | \$ 29.58 | \$ 30.90 |

| Reference Case | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Average |
|------------------------------|----------|----------|----------|----------|--------------------------|----------|-----------------|
| Discounted Program Case Rate | \$ 43.68 | \$ 43.11 | \$ 43.24 | \$ 41.62 | \$ 41.71 | \$ 40.14 | \$ 42.25 |
| Discounted 7b2 Case PF | \$ 25.54 | \$ 27.52 | \$ 26.30 | \$ 25.77 | \$ 25.21 | \$ 25.36 | \$ 25.95 |
| | | | | | 7b2 Trigger Value | | \$ 16.30 |

| Reference Case Discount Rate | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|--|--------|-------|--------|--------|--------|--------|
| 30 Year BPA Agency Borrowing Rate Annual | 2.61 | 3.02 | 3.33 | 3.57 | 3.73 | 3.82 |
| Discount Rate Converted to Deflator | 0.9746 | 0.946 | 0.9155 | 0.8839 | 0.8521 | 0.8207 |

2022 Calculation: $.9746 = (1/(1+(2.61/100)))$

Computation and Allocation of Rate Protection

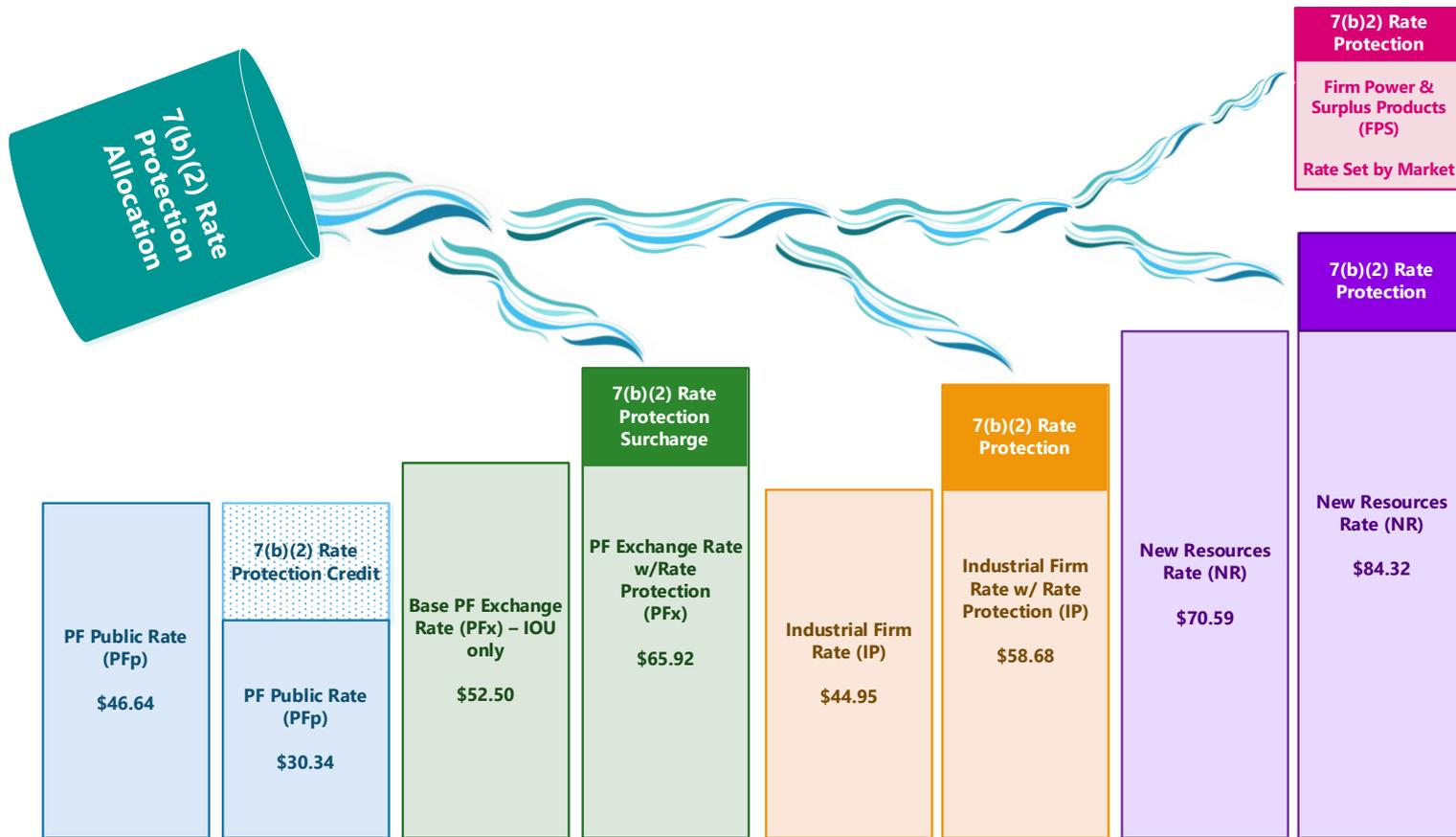
- The final step is the calculation and allocation of Rate Protection to all other power sold.
- The amount of rate protection is calculated by multiplying the Trigger Value by PF Public Load for each year.
- The Rate Protection is then allocated annually to all other Rate Pools using a load based allocation.
 - Rate Protection is allocated to PF Exchange Loads, Industrial Firm Loads, New Resource Loads and FPS & Secondary Loads. The majority of rate protection is borne by the Pfx rate.

| Calculating Total Rate Protection | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|--|--------------|-------------|-------------|-------------|-------------|-------------|
| Total PF Public Load (GWh) | 57,217 | 57,654 | 58,519 | 58,668 | 58,876 | 59,076 |
| Public Rate Protection Amount (PF Load x Trigger Value) \$ | 932,639 | \$ 939,764 | \$ 953,867 | \$ 956,290 | \$ 959,673 | \$ 962,932 |
| 7b2 Trigger Value \$ | 16.30 | | | | | |

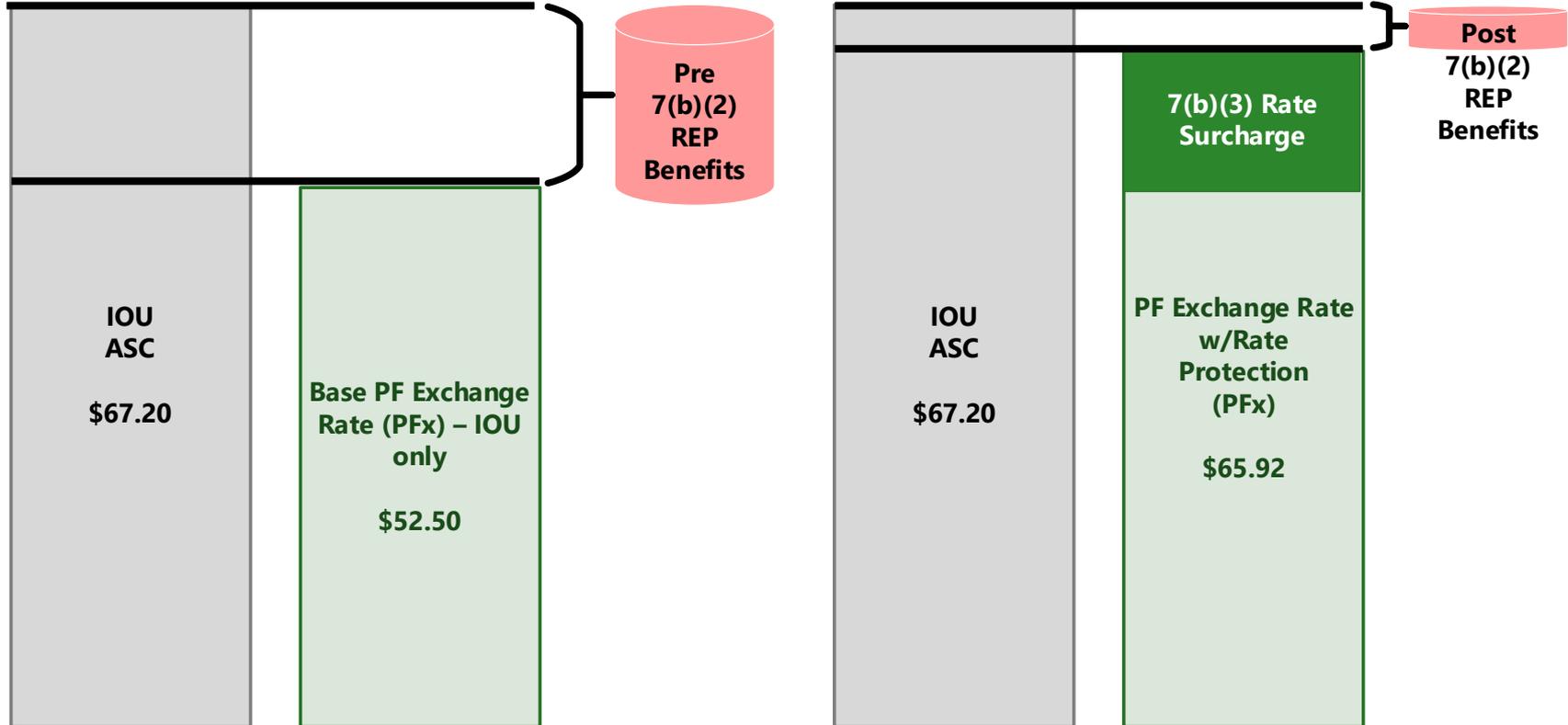
| Rate Protection Energy Allocation Factors | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| PF Exchange Rate Pool | 0.6589 | 0.6736 | 0.6674 | 0.6750 | 0.6657 | 0.6825 |
| IP Rate Pool | 0.0015 | 0.0016 | 0.0016 | 0.0016 | 0.0015 | 0.0016 |
| NR Rate Pool | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| FPS and Secondary Pool | 0.3396 | 0.3248 | 0.3310 | 0.3234 | 0.3328 | 0.3160 |

| Allocation of PF Public Protection Amount | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| Priority Firm Exchange - 7(b) Loads \$ | 614,477 | \$ 633,037 | \$ 636,622 | \$ 645,497 | \$ 638,825 | \$ 657,161 |
| Industrial Firm - 7(c) Loads \$ | 1,443 | \$ 1,486 | \$ 1,483 | \$ 1,503 | \$ 1,472 | \$ 1,514 |
| New Resources - 7(f) Loads \$ | 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| Surplus Firm - SP Loads \$ | 316,720 | \$ 305,241 | \$ 315,762 | \$ 309,291 | \$ 319,376 | \$ 304,256 |

Allocation of Rate Protection to all other Power Sold per 7(b)(3)



7(b)(3) Allocation and Final REP Benefits





Deep Dive: Discount Rate Scenarios



Discount Rate Scenarios

The Rate Test considers the time value of money. As a result, the Program Case and 7(b)(2) Rate are discounted back to the beginning of the Rate Period.

- The Reference Case uses BPA’s 30 Year Agency Borrowing Rate for the discount rate.
- Scenario 7 assumes no discount rate is applied to the Rate Test.
- Scenario 8 uses BPA’s Inflation Forecast.
- Scenario 9 uses BPA’s Investment Rate.
- The discount rate used in the 2012 Reference Case was significantly higher, reflecting much higher borrowing rates at the time.

| Various Discount Rate Inputs | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|--|-------|-------|-------|-------|-------|-------|
| 30 Year BPA Agency Borrowing Rate Annual | 2.61% | 3.02% | 3.33% | 3.57% | 3.73% | 3.82% |
| BPA Agency Inflation Forecast Annual | 1.70% | 2.60% | 2.50% | 2.60% | 2.70% | 2.70% |
| BPA Agency Investment Rate | 6.81% | 6.81% | 6.81% | 6.81% | 6.81% | 6.81% |

| Discount Rate from 2012 Reference Case | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|-------|-------|-------|-------|-------|-------|
| 30 Year BPA Agency Borrowing Rate Annual | 6.01% | 6.28% | 6.85% | 6.87% | 6.99% | 6.99% |

- **The Discount Rate can have a significant impact on the Trigger Value and ultimately Net REP Benefits.**
- **The Program Case Rate typically exceeds the 7(b)(2) Case Rate. As a result, a larger discount rate produces a greater impact on the Program Case Rate compared to the 7(b)(2) Case Rate.**
 - Scenario 9 reflects the largest discount rate which produces the smallest trigger value, increasing Net REP Benefits.
 - Scenario 7 reflects no usage of a discount rate which produces the largest trigger value, decreasing Net REP Benefits.

| Reference Case | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Average | |
|--|------------------------------|----------|----------|----------|----------|----------|----------|-----------------|
| REP Benefits \$31m | Discounted Program Case Rate | \$ 43.68 | \$ 43.11 | \$ 43.24 | \$ 41.62 | \$ 41.71 | \$ 40.14 | \$ 42.25 |
| | Discounted 7b2 Case PF | \$ 25.54 | \$ 27.52 | \$ 26.30 | \$ 25.77 | \$ 25.21 | \$ 25.36 | \$ 25.95 |
| | 7b2 Trigger Value | | | | | | | \$ 16.30 |
| No Discount Rate - Scenario 7 | | | | | | | | |
| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Average | |
| REP Benefits \$(74)m | Discounted Program Case Rate | \$ 45.23 | \$ 45.95 | \$ 47.62 | \$ 47.48 | \$ 49.35 | \$ 49.29 | \$ 47.49 |
| | Discounted 7b2 Case PF | \$ 26.16 | \$ 29.04 | \$ 28.68 | \$ 29.10 | \$ 29.53 | \$ 30.84 | \$ 28.89 |
| | 7b2 Trigger Value | | | | | | | \$ 18.60 |
| Discount Rate uses Inflation Rate - Scenario 8 | | | | | | | | |
| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Average | |
| REP Benefits \$(36)m | Discounted Program Case Rate | \$ 44.62 | \$ 44.88 | \$ 46.02 | \$ 45.39 | \$ 46.65 | \$ 46.07 | \$ 45.61 |
| | Discounted 7b2 Case PF | \$ 25.92 | \$ 28.47 | \$ 27.82 | \$ 27.92 | \$ 28.02 | \$ 28.93 | \$ 27.85 |
| | 7b2 Trigger Value | | | | | | | \$ 17.76 |
| Discount Rate uses Investment Rate - Scenario 9 | | | | | | | | |
| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Average | |
| REP Benefits \$131m | Discounted Program Case Rate | \$ 41.60 | \$ 39.62 | \$ 38.45 | \$ 35.90 | \$ 34.94 | \$ 32.70 | \$ 37.20 |
| | Discounted 7b2 Case PF | \$ 24.58 | \$ 25.54 | \$ 23.62 | \$ 22.43 | \$ 21.31 | \$ 20.84 | \$ 23.05 |
| | 7b2 Trigger Value | | | | | | | \$ 14.15 |

Break!

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Deep Dive: Conservation Treatment Scenarios



Conservation Treatment: Reference Case

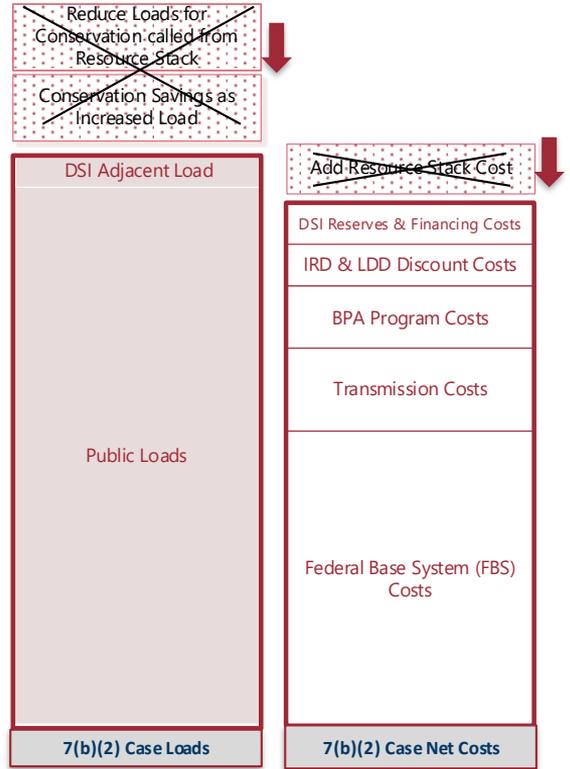
- Under the 2008 7(b)(2) Implementation Methodology and Legal Interpretation, which the Reference Cases uses, conservation resources are included in the resource stack and used to serve 7(b)(2) case loads as a Type 1 resource.
- This follows the 2008 Legal Interpretation, which viewed conservation as a resource under section 7(b)(2)(D)(i).
- To remove the effects of conservation from the 7(b)(2) Case, the 7(b)(2) Customer loads are increased by an amount of load equal to the conservation resources included in the Resource Stack.
- As conservation resources are called upon from the Resource Stack the 7(b)(2) Case loads are decreased and the associated resource cost is added.
- This adjustment is the way conservation resources are given effect when selected from the Resource Stack under section 7(b)(2)(D)(i).



Conservation Treatment: Scenario 3 (No Conservation)

- In Scenario 3 - Conservation is treated similar to the Program Case.
 - Both Program Case and 7(b)(2) Case have the same loads; no adjustment is made in the 7(b)(2) Case for conservation.
 - Because conservation costs are removed from the Program Case and the 7(b)(2) Case as applicable 7(g) costs, conservation as a resource costs is not included in Resource Stack per 7(b)(2)(D).
 - No conservation related costs are included in the 7(b)(2) Case.
- This scenario produces lower Net REP benefits compared to the Reference Case because it lowers the 7(b)(2) load obligations without incurring any additional costs which reduces the 7(b)(2) Rate in comparison to the Program Case Rate.

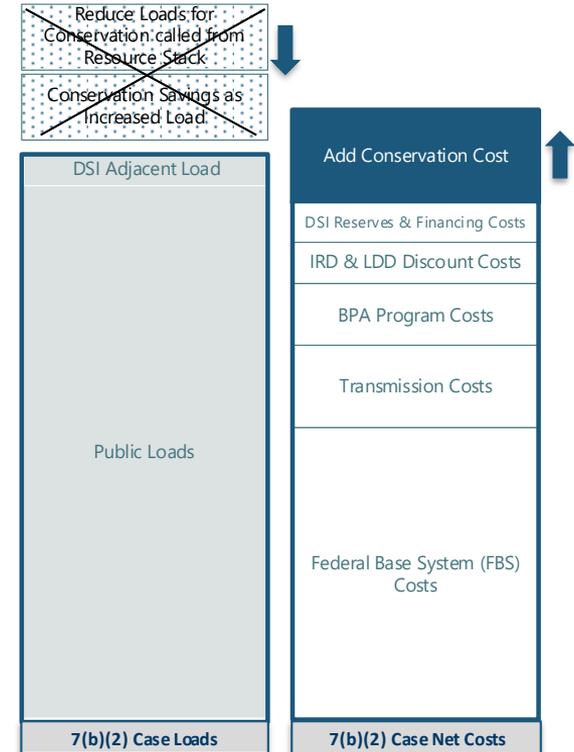
| | REP-Total | Program | | |
|--|-------------|----------|----------|----------|
| | | Case | 7b2 Case | Trigger |
| 1 FY 2022-23 Reference Case | \$ 31,840 | \$ 42.25 | \$ 25.95 | \$ 16.30 |
| 3 Conservation = Program Case w/out Conservation Costs | \$ (28,541) | \$ 42.45 | \$ 24.84 | \$ 17.61 |
| 4 Conservation = Program Case with Conservation Costs | \$ 110,649 | \$ 41.99 | \$ 27.40 | \$ 14.59 |
| 5 Conservation Resources in Resource Stack Expensed Year 1 | \$ 71,476 | \$ 42.12 | \$ 26.68 | \$ 15.44 |



Conservation Treatment: Scenario 4 (Conservation Costs only)

- In Scenario 4 – Conservation is treated similar to Scenario 3 except the total cost of conservation that was removed from the Program Case is added to the 7(b)(2) Case.
 - The Program Case and 7(b)(2) Case loads are the same; no load adjustment is made for conservation.
 - The total amount of conservation costs removed from the Program Case are included in the 7(b)(2) Case.
 - Conservation is not included as a resource in the Resource Stack.
- This scenario produces higher Net REP benefits compared to the Reference Case because it increases fixed costs for conservation which is spread across the smaller 7(b)(2) load obligation.

| | REP-Total | Program | | |
|--|-------------|----------|----------|----------|
| | | Case | 7b2 Case | Trigger |
| 1 FY 2022-23 Reference Case | \$ 31,840 | \$ 42.25 | \$ 25.95 | \$ 16.30 |
| 3 Conservation = Program Case w/out Conservation Costs | \$ (28,541) | \$ 42.45 | \$ 24.84 | \$ 17.61 |
| 4 Conservation = Program Case with Conservation Costs | \$ 110,649 | \$ 41.99 | \$ 27.40 | \$ 14.59 |
| 5 Conservation Resources in Resource Stack Expensed Year 1 | \$ 71,476 | \$ 42.12 | \$ 26.68 | \$ 15.44 |



Conservation Treatment: Scenario 5

(Expensed portion of Conservation Resource is Recovered the First Year)

- In Scenario 5 – Conservation is treated similar to the Reference Case except the total cost of Conservation increases when called upon from the Resource Stack to reflect the cost being recovered over one year instead of five years.
 - 7(b)(2) loads are increased for Conservation savings.
 - Conservation Resources are included in the Resource Stack.
 - The expensed portion of conservation resource costs included in the Resource Stack are recovered over one year instead of five years.
- This scenario produces higher Net REP benefits compared to the Reference Case because it increases Resource Stack costs.

| | REP-Total | Program | | |
|--|-------------|----------|----------|----------|
| | | Case | 7b2 Case | Trigger |
| 1 FY 2022-23 Reference Case | \$ 31,840 | \$ 42.25 | \$ 25.95 | \$ 16.30 |
| 3 Conservation = Program Case w/out Conservation Costs | \$ (28,541) | \$ 42.45 | \$ 24.84 | \$ 17.61 |
| 4 Conservation = Program Case with Conservation Costs | \$ 110,649 | \$ 41.99 | \$ 27.40 | \$ 14.59 |
| 5 Conservation Resources in Resource Stack Expensed Year 1 | \$ 71,476 | \$ 42.12 | \$ 26.68 | \$ 15.44 |



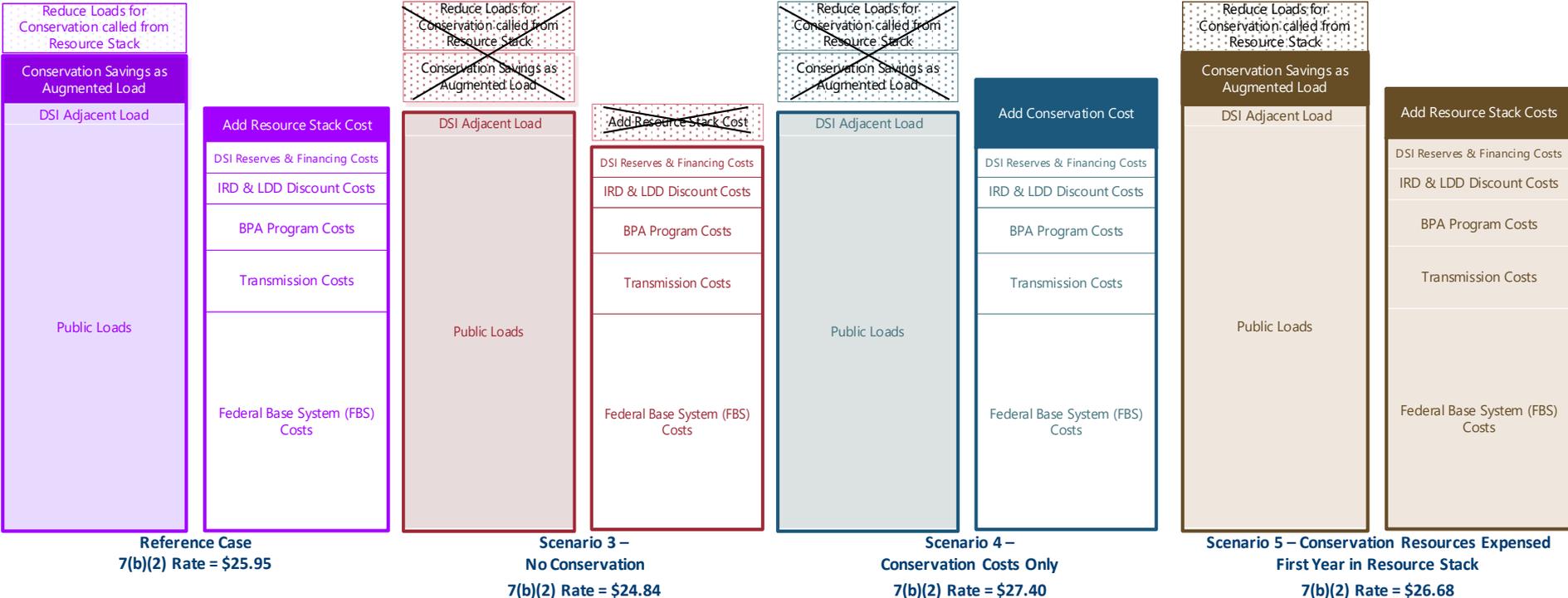
Conservation Treatment Scenarios

REP Benefits \$31m

REP Benefits \$(29)m

REP Benefits \$110m

REP Benefits \$72m





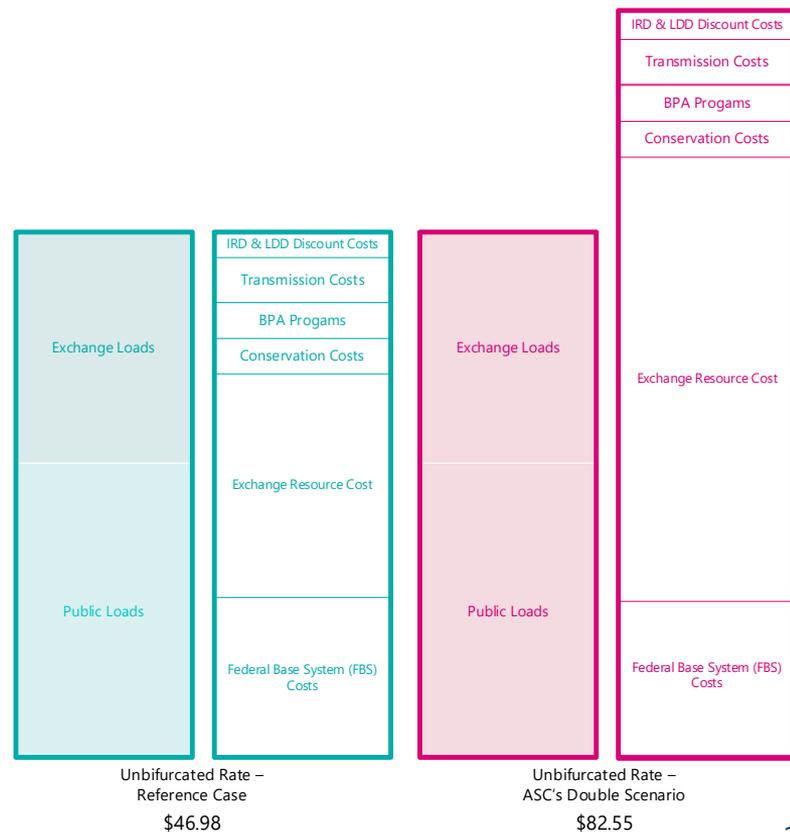
Deep Dive: ASC's Doubling Scenario



ASC Doubling Scenario

Why do Net REP Benefits increase significantly in the ASC doubling scenario?

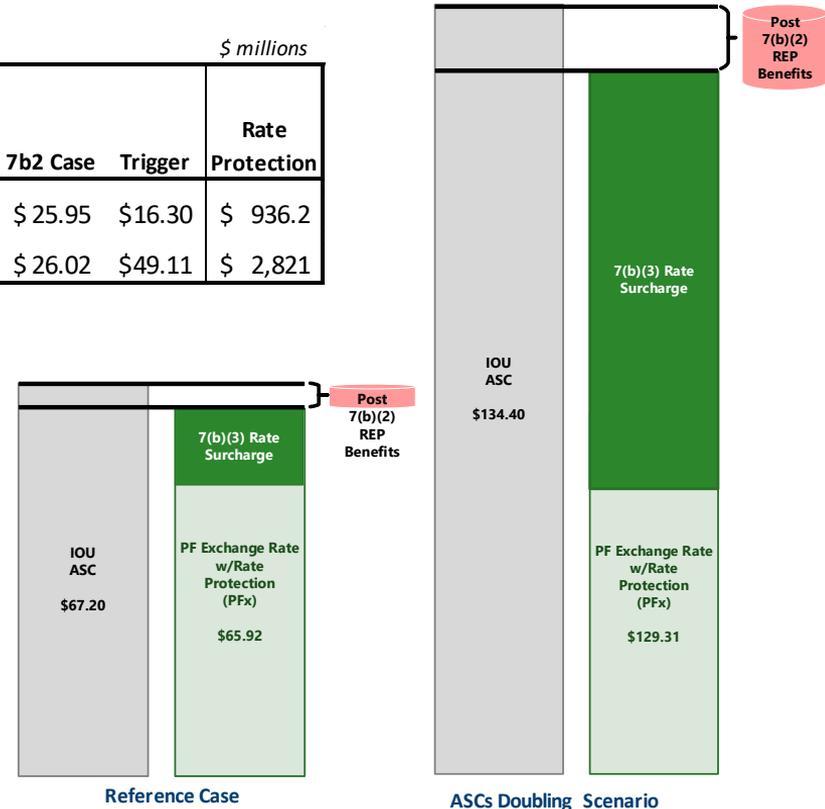
- Net REP benefits are determined by comparing ASCs to the PFX Rate.
- When ASCs double a few things happen:
 - Exchange Resource Costs double, a cost that is included in the unbifurcated rate which feeds to the Program Case in the Rate Test.
 - The higher Exchange Resource Cost blends with other costs in the unbifurcated rate and is spread across both PF Public and Exchange loads.
 - The lower cost of the Federal Based Systems (FBS) prevents the Unbifurcated Rate and ultimately the Program Case Rate from escalating at the same rate as ASCs (i.e. doubling).



ASC Doubling Scenario: PFX Rate Impact

| FY 2022-23 REP Scenario Forecast | \$ millions | | \$/MWh | | | \$ millions | | | |
|----------------------------------|-------------|-------------------|---------------|-----------------------|----------------------|--------------|----------|---------|-----------------|
| | REP-Total | Unbifurcated Rate | Base PFX Rate | PFX Rate Post 7(b)(3) | FY22-23 2yr Wtd ASCs | Program Case | 7b2 Case | Trigger | Rate Protection |
| 1 FY 2022-23 Reference Case | \$ 31.8 | \$ 46.98 | \$ 52.50 | \$ 66.59 | \$ 67.20 | \$42.25 | \$ 25.95 | \$16.30 | \$ 936.2 |
| 18 ASCs - Double | \$ 189.0 | \$ 82.55 | \$ 88.03 | \$129.31 | \$134.40 | \$75.13 | \$ 26.02 | \$49.11 | \$ 2,821 |

- **The Rate Test and PFX Rate are impacted by ASCs doubling:**
 - The higher Program Case Rate driven by higher Exchange Resource costs causes the trigger value to increase which produces greater rate protection.
 - The rate protection is allocated via 7(b)(3) and increases the PFX rate but not at an equivalent rate as the ASCs.
 - This leads to a higher level of Net REP Benefits.





Next Steps, Feedback and Questions



Workshop Schedule Update

Workshop Schedule Update

- The November 15th workshop is being cancelled to allow staff time to focus on finalizing the BP-24 Rate Proposal.
- The December 13th workshop is being moved to December 20th and will be held from 1:00pm to 4:00pm.

Next Steps

- Participants can submit comments, questions and requests for future agenda topics after each workshop by emailing REP2028@bpa.gov
 - Requests for workshop topics for the December 20th workshop need to be received by December 2nd.
 - Participants are encouraged to ask questions or request topics on specific scenarios during this phase. Sub-Phase 2 will focus on settlement discussions and will not focus on educational and/or foundational components associated with REP or the 7(b)(2) Rate Test mechanics.

Workshop Dates

September 27th
 October 25th*
 November 15th**
 December 20th**
 January 24th
 February 21st
 March 14th
 April 18th
 May 23rd

*Scheduled 1pm-4pm

**New Date

Additional Resources

- [REP Post-2028 External Webpage](#)
- [REP Fact Sheet](#)
- [History of REP](#)
- [REP-12 Final Record of Decision and Agreement](#)
- [REP-12 Final Settlement Evaluation and Analysis Study](#)
- [REP-12 Final Settlement Evaluation and Analysis Documentation](#)
- [1984 Section 7\(b\)\(2\) Implementation Methodology](#)
- [1984 Section 7\(b\)\(2\) Legal Interpretation](#)
- [2008 Section 7\(b\)\(2\) Implementation Methodology](#)
- [2008 Section 7\(b\)\(2\) Legal Interpretation](#)
- [1980 Northwest Power Act](#)

Thank You!

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