

**SNOHOMISH COUNTY PUBLIC UTILITY DISTRICT
BOARD OF COMMISSIONERS SPECIAL MEETING**

****Special Meeting**
August 1, 2024**

CONVENE SPECIAL MEETING – 1:00 p.m. – Commission Meeting Room

Virtual Meeting Participation Information

Join Zoom Meeting:

- Use Link:
<https://us06web.zoom.us/j/81287996481?pwd=Hn8N7EEObgxvjFGhbOe41n5ZuKabCU.1>
- Dial in: (253) 215-8782
- Meeting ID: 812 8799 6481
- Passcode: 884361

The Board of Commissioners of Public Utility District No. 1 of Snohomish County, Washington, will hold a **SPECIAL MEETING** on **THURSDAY, August 1, 2024**, in the Commission Meeting Room located in the District Headquarters Building, 2320 California Street, Everett, Washington. The **SPECIAL MEETING** will convene at 1:00 p.m. for a [BPA Power Product Analysis](#). It is anticipated that the **SPECIAL MEETING** will adjourn at approximately 4:00 p.m.

ADJOURNMENT

Agendas can be found in their entirety on the Snohomish County Public Utility District No. 1 web page at www.snopud.com. For additional information contact the Commission Office at (425) 783.8611.



Bonneville Power Administration (BPA) Power Product Analysis

August 1, 2024

Garrison Marr, Senior Manager, Power Supply

Previously Presented: May 7, 2024

Agenda

- BPA Product Switch Context
- Analytical Process & Results
- Additional Items
- Summary and Recommendation

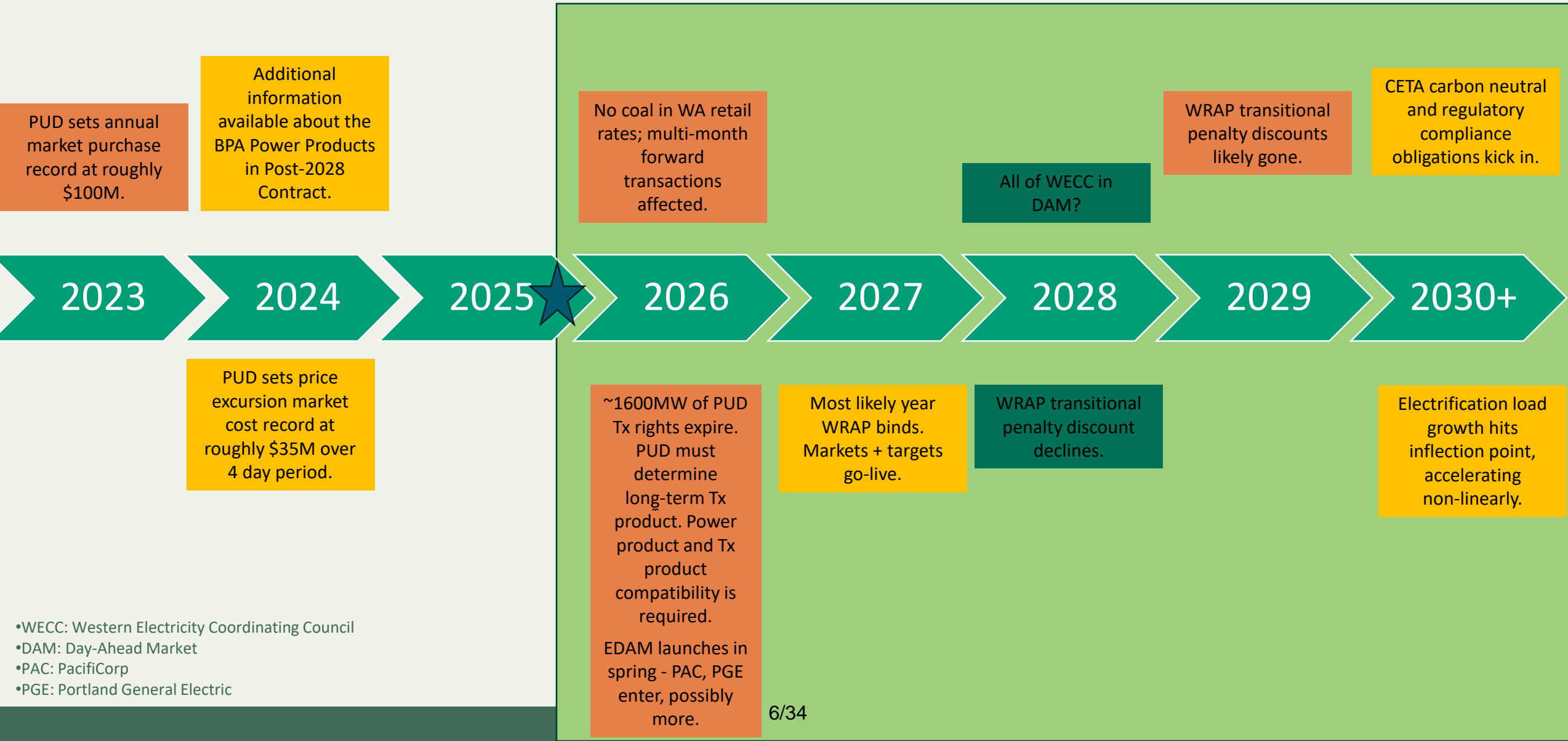


BPA Product Switch Context

Why are we assessing BPA Power Products?

- The District has been affected by wholesale market price volatility and wholesale market exposure in recent years that affects its financial position.
- As regional changes come into clearer view, considering the smartest ways to navigate change is a continuous effort.
- The majority of our Transmission portfolio is up for renewal or conversion in 2026. Ensuring the transmission and power products are aligned is important, accelerated analysis helps consider alignment needs.
- The analysis is intended to determine what BPA Power Product can help the PUD better manage risk & opportunity, navigate industry changes, and set a long-term path.

Market Environment Scan



- WECC: Western Electricity Coordinating Council
- DAM: Day-Ahead Market
- PAC: PacifiCorp
- PGE: Portland General Electric

Refresher: What is the Slice Product?

- Advance sale of % of Federal system output
- Paired with Block product (firm energy in fixed hourly amounts)
- **Total BPA Product costs known upfront** for FY, regardless of output
- **Customer takes on all risk of low hydro**; this creates market sale/purchase variability
- Can be shaped within BPA system capability; **good for Non-Federal integration**
- **Customer responsible for their own Western Resource Adequacy Program (WRAP) compliance, market participation**
- Product compatibility with Organized Markets will be impacted by BPA's position that Slice be scheduled before Day-Ahead markets run

What is the Load-Following Product?

- BPA takes on all load-service responsibilities
- Billing includes energy and capacity portions and varies with actual load; direct PUD market exposure is removed
- Non-Federal resources have integration rules in BPA contracts that Slice does not have
- BPA takes on WRAP obligation
- The product would be dispatched through future organized markets by BPA

What is the Product Switch Window?

- The Regional Dialogue contract allowed for one product switch opportunity in 2016
- Additional product changes have occurred at the request of customers and at the BPA Administrators discretion
- In the Fiscal Year 2026 Rate Case, Snohomish requested that BPA provide a Product Switch window and that Snohomish be included in analysis for a potential product switch
- BPA has concluded their analysis, which is generally supportive of allowing a product change, and BPA intends to make a decision after considering public comments in August 2024
- We have expedited our processes to align with BPA's processes in order to facilitate a product change if approved by all parties

What is the Commission Being Asked to Consider?

- Staff is presenting analysis on the cost, risk and opportunity trade-offs of switching from the Block/Slice Product to the Load-Following product effective October 1, 2025.
- The expectation would be that this decision would preclude the option of being Block/Slice customers at the beginning of the Post-2028 BPA Power contract.
- The analysis generally finds that a Product Switch would result in lower costs and lower cost variability under most, but not all, conditions.
- Analysis also finds important qualitative trade-offs:
 - Block/Slice offers more flexibility, operational control, market opportunity, and resource diversity.
 - Load-Following reduces risk and complexity, and may be best suited to address unique resource development and transmission risks associated with electrification load growth.
- The PUD's Executive Leadership Team recommends a power product switch.
- If a product switch is approved, the PUD would recalibrate its long-term power and transmission strategy into the 2025 IRP.



Analytical Process & Results

Analytical Process Overview

- **4 studies conducted**
 - LookBack: Retrospective comparison study of net costs.
 - LookForward: Comparative study of FY26-28 net costs.
 - Qualitative: Survey and analysis of qualitative considerations.
 - Long-Term Analysis: High-level comparative analysis of 2029-2045 net costs.
- **Peer Review Team**
 - 31 member group met 17 times over 4 months to review and provide feedback on all studies.
- **3rd Party Review**
 - Contracted external consultant to provide review and feedback of studies.

LookBack Analysis Scope

- Assessed period from October 2021 – March 2024
- Block/Slice
 - Aggregated BPA Power bills we did receive and market transactions that were realized
- Load-Following
 - Assessed BPA Power bills we would have received given loads and BPA rates
- Study purpose is to reflect what would have happened given actual circumstances, but results application are limited due to small sample size

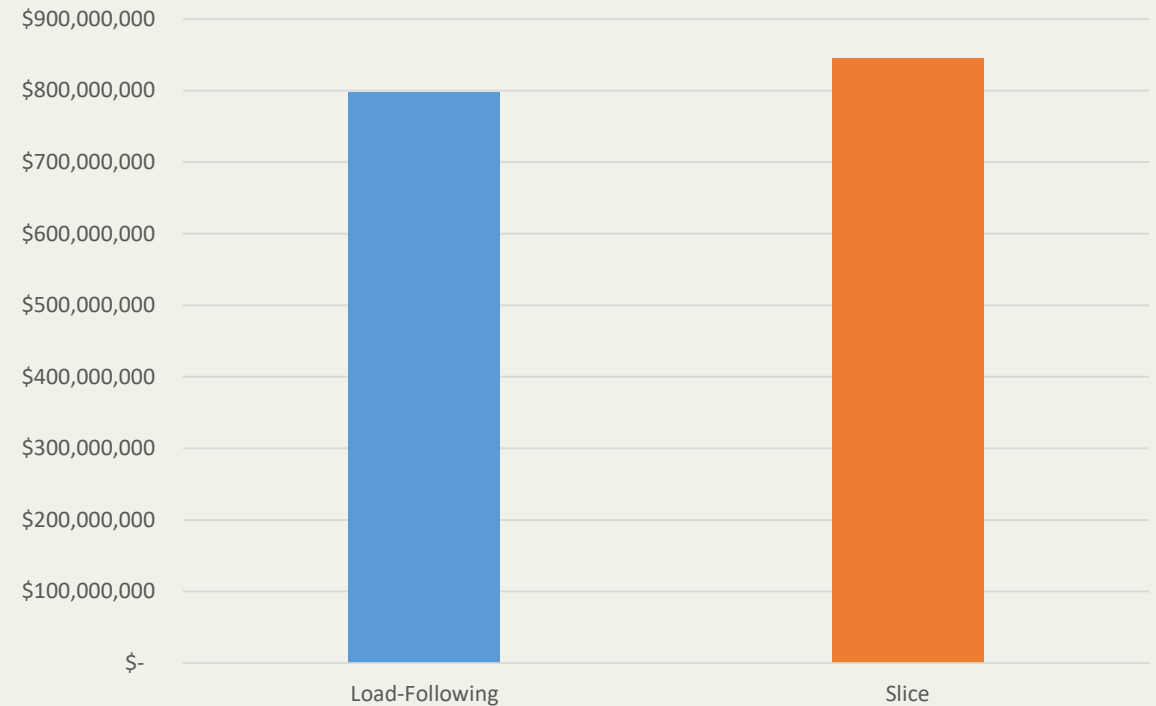
LookBack Analysis Results: Annual and Total

DataSet Comparison by Timeslice



In some periods, Slice performs better, others Load-Following performs better.

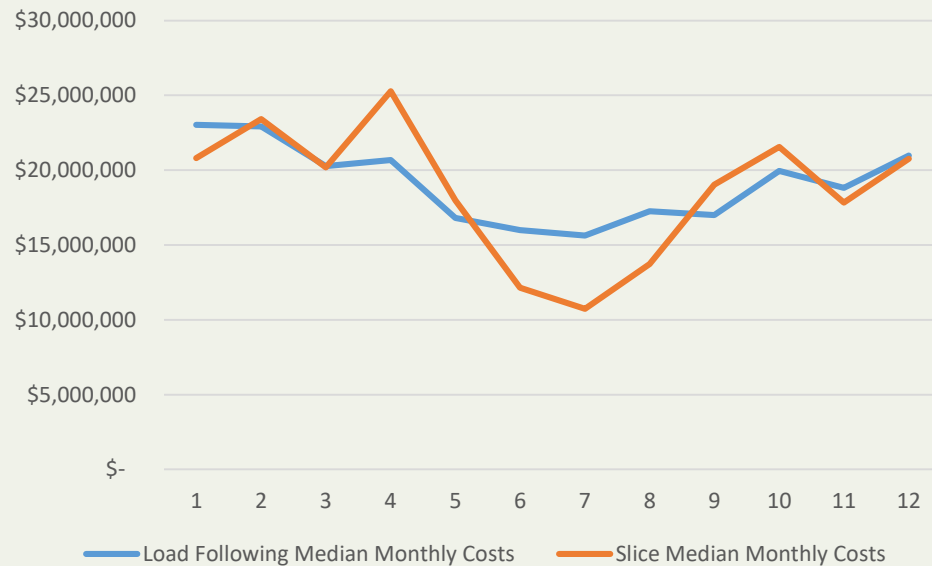
Total 42 Month Costs (Oct 2020 - March 2024)



In total for the study period, Load-Following performed better.

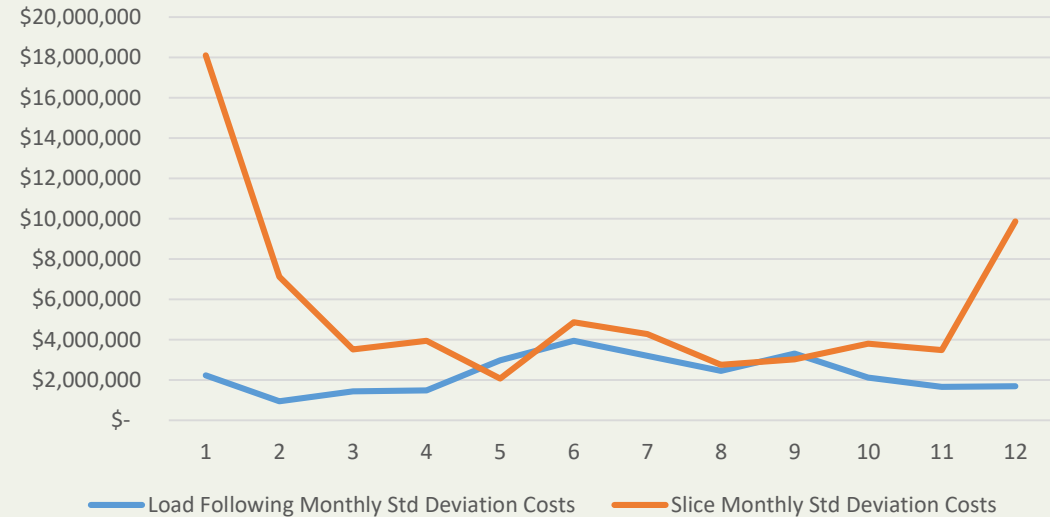
LookBack Analysis: Monthly Variation

Slice & Load Following Median Monthly Costs (FY20-Present)



Slice has lower median costs in many months within the study period.

Slice & Load Following Monthly Cost Standard (Std) Deviation (FY20-Present)



Slice has significantly more cost variation within the study period.

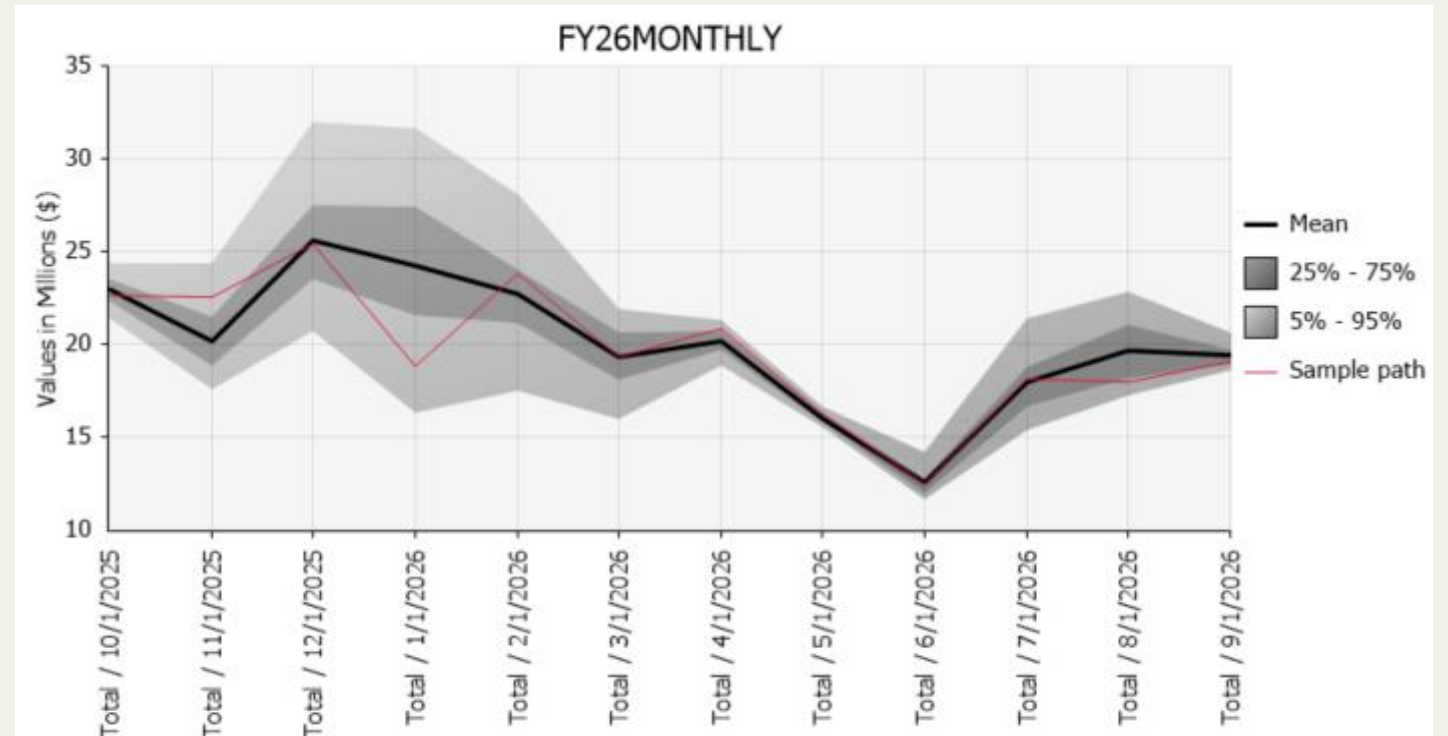
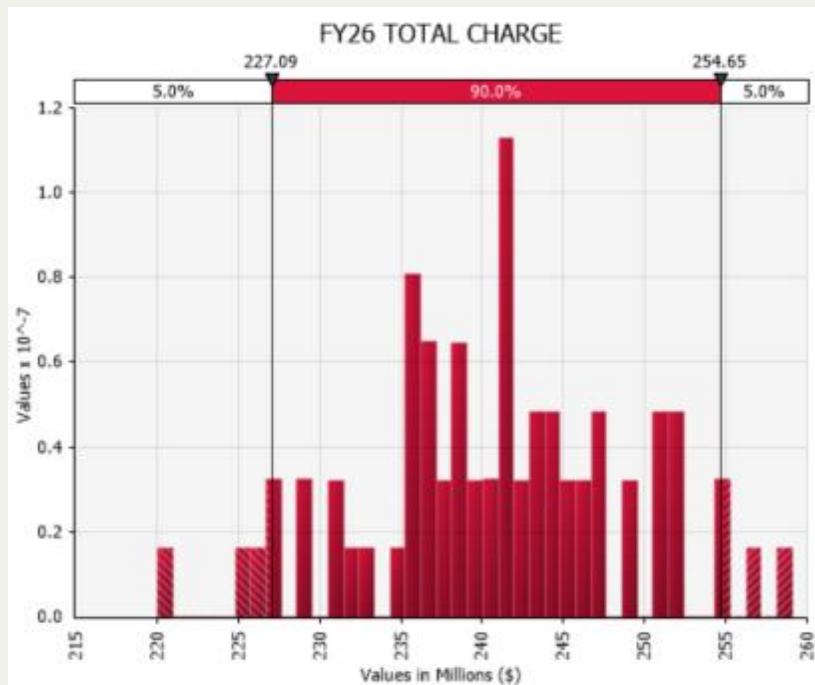
LookBack Analysis Results Summary

- Total costs would have been \$48M less under Load-Following for total period
- Some years would have resulted in lower costs under Block/Slice due to Wholesale Market Revenues
- This period includes some hydro and load events outside of historical norms
- This analysis is not conclusive by itself, it is just one part of the picture

LookForward Analysis Scope

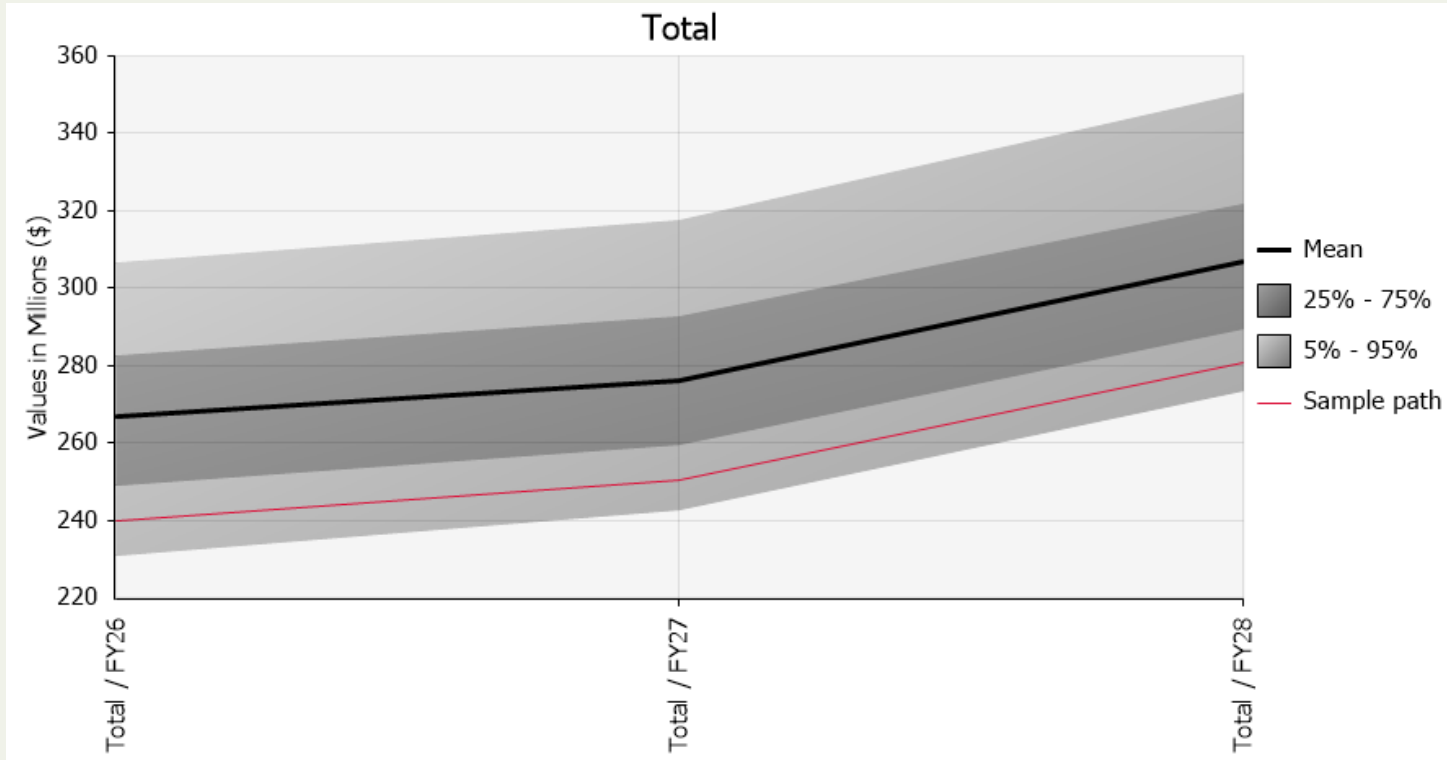
- Probabilistic analysis on BPA Fiscal Years 2026-2028
- Assesses expected net costs for both products under a wide range of hydro and load conditions
- Considers the updated Risk Refresh Strategy, expected Western Resource Adequacy Program (WRAP) requirements, and organized markets costs
- Considers transmission portfolio transitions that would be needed to support Load-Following Product, as well as conservative Non-Federal resource integration cost assumptions under Load-Following
- Produces apples-to-apples simulation of net costs in expected operating environment

LookForward Analysis: Load-Following



- Load-Following cost variability is driven by load deviations in terms of monthly average load and peak loads.
- These load variations drive Load-Shaping Charges and Demand Charges under the Load-Following Product rate design.
- Analysis finds the 25MW battery in development is effective in reducing both Demand Charges and Load-Shaping Charges.

LookForward Analysis Results Summary

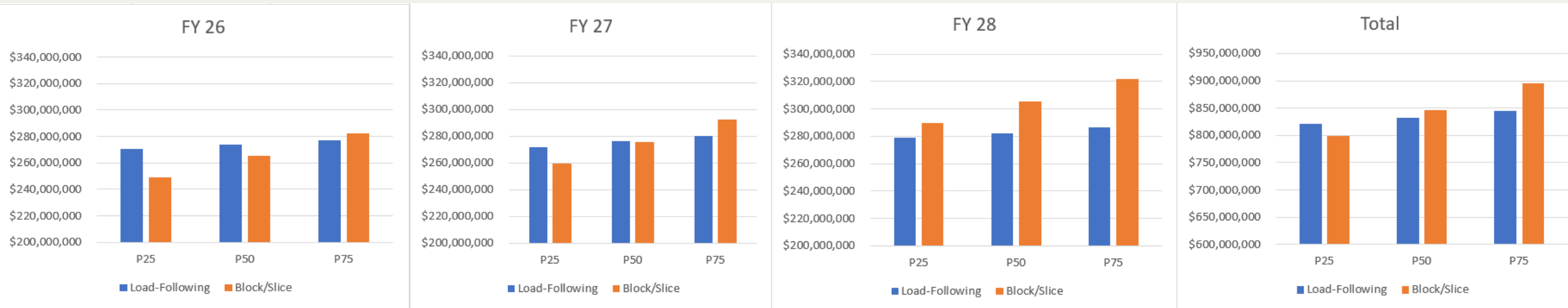


Block/Slice costs have a lower low, and a higher high in terms of cost variability than Load-Following, and an escalating cost curve.

	FY26	FY27	FY28	Total
BPA Power	\$ 243,953,623	\$ 243,758,678	\$ 243,588,914	\$ 731,301,214
BPA Net				
Transmission	\$ 31,946,181	\$ 32,798,719	\$ 33,668,307	\$ 98,413,207
WRAP				
Compliance	\$ 217,000	\$ 5,383,627	\$ 27,622,734	\$ 33,223,361
M+ Funding	\$ 1,666,357	\$ 1,708,016	\$ 1,750,717	\$ 5,125,091
Market				
Exposure	\$ (9,623,941)	\$ (8,191,032)	\$ (4,883,802)	\$ (22,698,775)
Slice Support				
Sub/Tech	\$ 202,000	\$ 207,050	\$ 212,226	\$ 621,276
Total	\$ 268,361,220	\$ 275,665,057	\$ 301,959,096	\$ 845,985,373

The causality of the structural cost escalation can be seen in the highlighted cells above. As the WRAP program becomes a binding program in Summer 2027, compliance costs with WRAP escalate as transition discounts are reduced. We'll dive deeper in subsequent slides.

LookForward Analysis Comparative Results



In FY2026, Block/Slice has a lower expected net cost (P50), but a wider range of potential costs, including “upside” for significantly lower costs.

In FY2027, both products have similar expected costs (P50), “upside” is reduced, and “downside” risks increase. WRAP costs hit a portion of the year.

In FY2028, Block/Slice has higher costs across probability thresholds. WRAP costs hit the whole year.

Total expected costs (P50) are higher for Block/Slice, though there is significant cost variability.

LookForward Analysis Results Summary

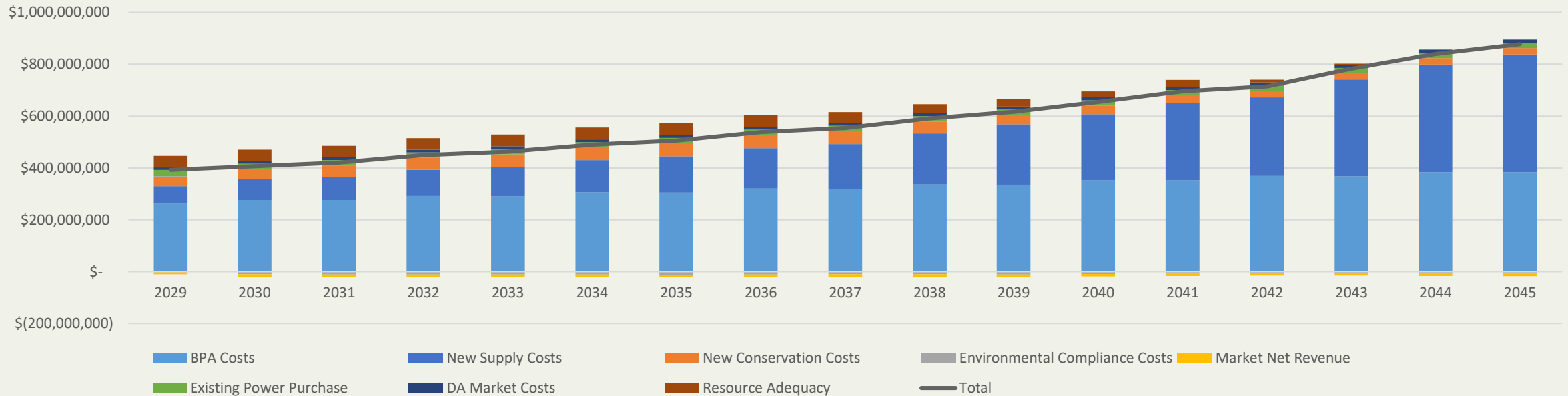
- Total costs would be \$13M less under Load-Following for the total period at P50:
 - At P25 Load-Following would cost ~\$22M more
 - At P75 Load-Following would cost ~\$50M less
- Structural net costs (P50) shift under Block/Slice due to expected WRAP compliance costs beginning in 2027
- Net cost variance is wider under the Block/Slice product
- This analysis is not conclusive by itself, but is another part of the picture

Long-Term Analysis Scope

- 2029-2045 Study Period
- Uses 2023 IRP analysis with the following updates:
 - Incorporates financial aspects of WRAP program using latest information
 - Incorporates the impact of Slice moving from an hourly product to a Day-Ahead product
- Completed on expected cost basis with adjustments for cost variance based on FY2028 LookForward Model

Long-Term Analysis Results: Slice

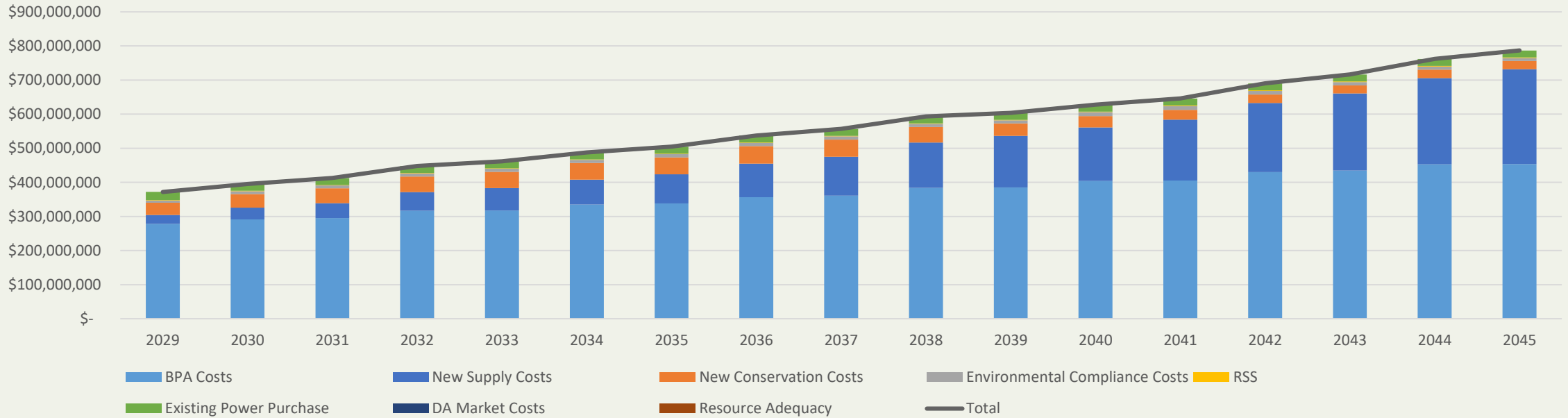
Slice Expected Cost Trajectory



- WRAP costs are a significant cost element that dissipates with Non-Federal resource development.
- New Supply Costs are significant cost components, particularly as electrification load growth accelerates in back half of study period.
- Day-Ahead (DA) Market costs include cost of making whole lost capability of hourly Slice product due to BPA Day-Ahead scheduling position that was not captured in 2023 IRP.
- Anticipate net environmental compliance revenues post-2030 in Slice portfolio.
- This analysis captures financial implications of portfolio trajectory, but execution risk on supply-side resource needs is worth consideration.

Long-Term Analysis Results: Load-Following

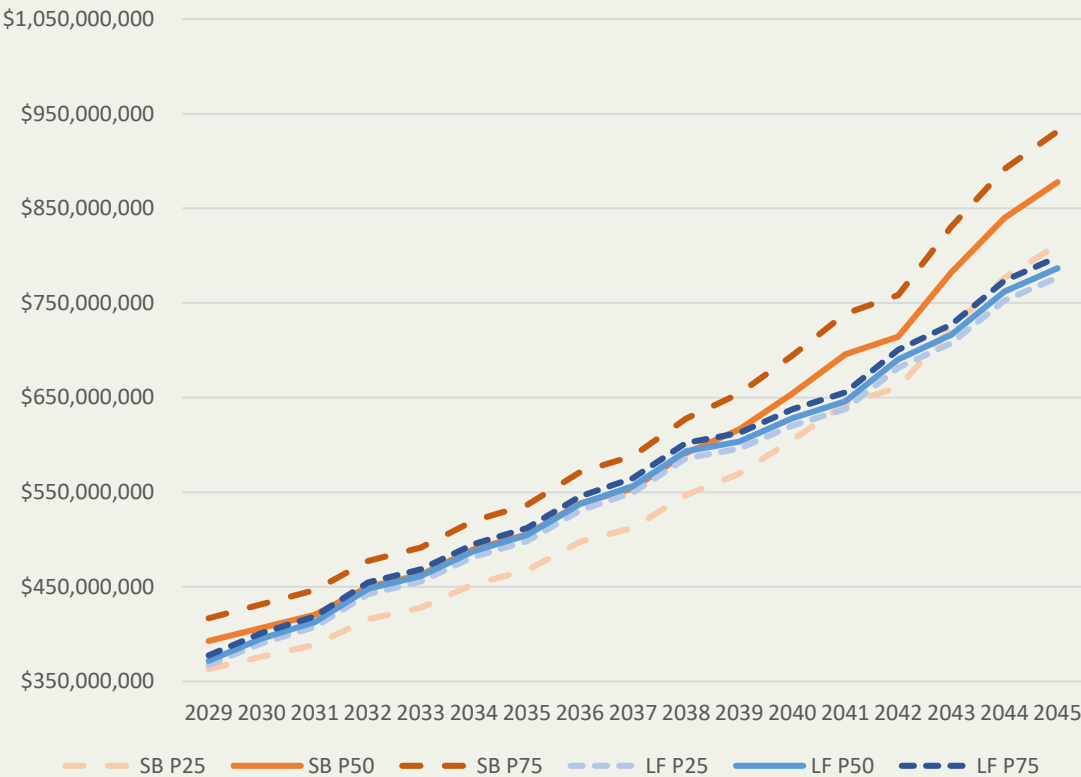
Load-Following Cost Trajectory



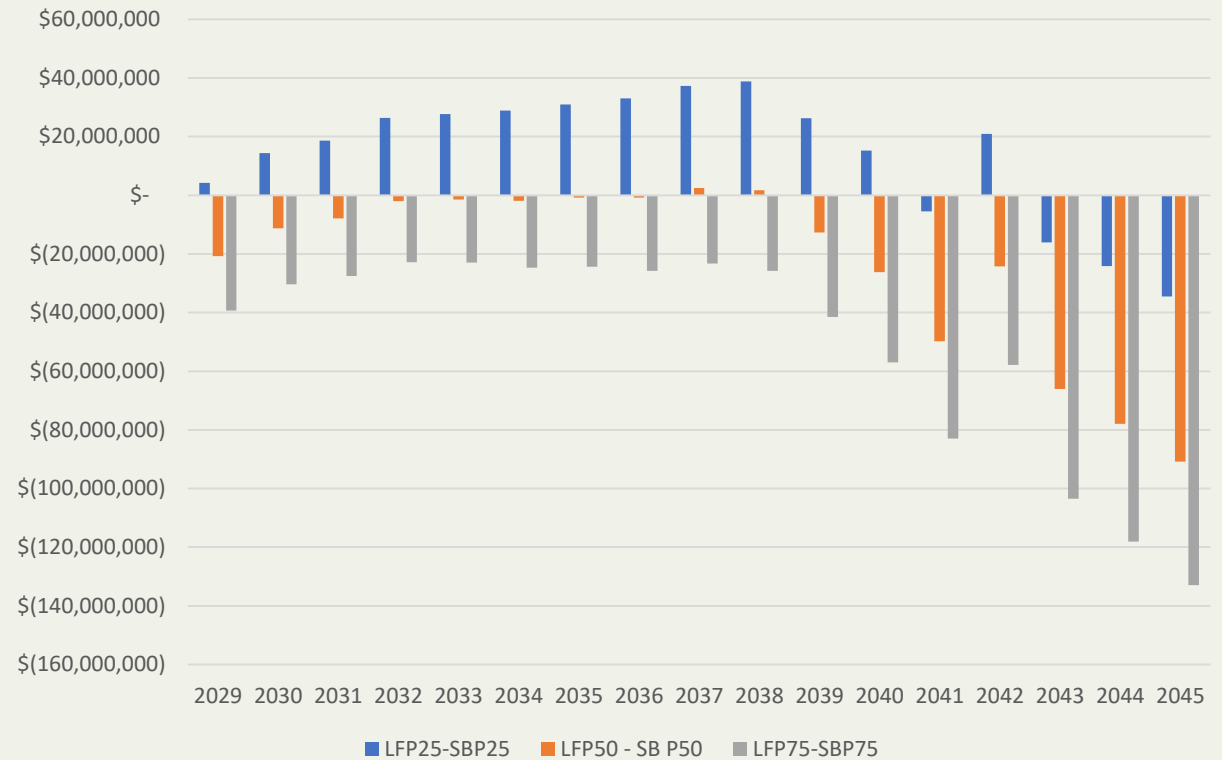
- New Supply Costs are assumed to be BPA Tier 2 based on 2023 IRP; this would be re-evaluated in 2025 IRP.
- Anticipate net environmental compliance costs in Load-Following portfolio; this would be re-evaluated in 2025 IRP.

Long-Term Analysis Results Summary

Long-Term Comparison



Long-Term Delta Comparison



- In most years, Load-Following (LF) has lower costs than Slice/Block (SB).
- In all years, Load-Following has less cost variability than Slice/Block.

Long-Term Analysis Results Summary

- Total costs would be \$170M Net Present Value (NPV) less under Load-Following for the total period at P50:
 - At P25 Load-Following would cost ~\$154M NPV more
 - At P75 Load-Following would cost ~\$411M NPV less
- Net cost variance is wider under the Block/Slice product
- WRAP, Slice design changes, and resource obligations to handle electrification load growth drive cost deltas
- Post-2028 rate design changes may narrow effective cost gaps

Qualitative Analysis Scope

- Scope developed through Peer Review Team surveys and discussions
- Scope intended to capture items that were not dollars and cents but should be considered in a decision-making process
- More than 50 topics identified and 6 priority topics landed on
- Staff developed a 30+ page write-up assessing the priority topics

Qualitative Analysis Results

Category	Slice Opportunity Summary	Slice Risk Summary	Load Following Opportunity Summary	Load Following Risk Summary	Conclusion	Rating 1-5
Financial Systems	- Slice may provide revenue opportunities in favorable water years which reduce effective BPA costs	- Market purchase and sales variances to budget have been a significant driver of recent financial turbulence due to wholesale market and hydrology conditions	- Less Budgeting variances related to wholesale transactions - Potential for improved Credit Rating - Reduced risk exposure in counterparty credit extension related to wholesale transactions	- Bond Covenant restrictions on District owned generating resources financed by tax-exempt bonds	Load-Following opportunities likely outweigh risks, though it's close	2
Strategic Plan Alignment	- Strategic plan reflects Block/Slice plans in place	- Cost risk and resource adequacy risk of Block/Slice	- Reduced risk - Reduced complexity	- Some loss of local operational control	Either product provides a path forward	3
Resource Diversity	- Less BPA reliance	- More market purchases	- Reduced market purchases in portfolio.	- Increased reliance on BPA for power needs	Expect a ~10% reduction in resource diversity	4
Future Needs	- More regulatory compliance flexibility	- WRAP compliance may be difficult to accomplish	- Reduced WRAP and Markets risk and complexity	- Regulatory compliance has less flexible options	Future needs can be met at lower risk and complexity	1
Market Depth	- Selling in a thin market may be more lucrative	- Market exposure in a thin market creates cost risk	- Reduced exposure to decreasing market depth		Reduced direct exposure to market which is expected to thin in near-term	1
Organizational Impacts	- Status quo	- Organized markets and Post-2028 BPA contract may change future needs (outside scope)	- Potential for refocusing organizational efforts on narrower set of future needs	- Potential for staffing impacts	More work is needed to determine exact impacts after product decision is made, but expect some level of staff impact	4

Qualitative Results Summary

- Load-Following would allow the District to meet its Strategic Plan objectives with less risk and complexity
- A change to Load-Following would come with trade-offs on resource flexibility, local operational control, and resource diversity
- There are significant concerns about transmission, wholesale market depth, and WRAP compliance that could be addressed differently and with less direct risk exposure under the Load-Following product



Additional Items

Other Considerations

- The PUD would need to convert a portion of its Point-To-Point (PTP) transmission product to the Network Transmission (NT) product in order to facilitate the Load-Following Product
 - Staff have confirmed NT is available, and have sequenced an approach to implementing to occur after a Power Product determination has been made
- The PUD will have options for how to integrate Non-Federal resources, and that work would also be sequenced after a Power Product decision has been made
- The PUD would need to realign its 2025 IRP approach to a Load-Following baseline to address regulatory compliance and Tier 2 BPA Power product portfolio strategies
- It is expected that PUD carbon content would be reduced significantly in a Load-Following product switch



Summary and Recommendation

Summary

- The operating environment is changing and the PUD's future challenges are drawing nearer
- There is a disconnect in our growing WRAP needs and our ability to quickly develop or acquire physical resources on firm transmission that creates new financial risks for the District
- The balance of the cost-benefit proposition of Slice is expected to change due largely to wholesale electricity market and WRAP drivers
- Our updated risk approach to short-term portfolio risks is positive, but it cannot scale to these challenges
- The analysis suggests the Load-Following product can more effectively navigate the risks, costs and complexity of upcoming challenges and deliver on the PUD's mission to provide safe, affordable, reliable and environmentally sustainable electricity
- The analysis also suggests a product change would come with trade-offs on flexibility, local operational control, resource diversity, and financial upside in good load/hydro conditions

Recommendation

- The PUD's Executive Leadership Team recommends to the Commission that the General Manager or his designee be authorized to negotiate a BPA Power Product switch with BPA and any appropriate corresponding transmission service arrangements.