



TO: Commissioners McRae, Barofsky, Schlossberg, Brown, and Carlson

FROM: Brian Booth, Chief Energy Resources Officer; Megan Capper, Energy Resources Manager; Aaron Bush, Senior Energy Resource Analyst; Ben Ulrich, Lead Energy Resource Analyst

DATE: July 9, 2024

SUBJECT: BPA Product and Energy Resource Study

OBJECTIVE: Information and Board Discussion

Issue

The 2023 Integrated Resource Plan identified the Bonneville Power Administration (BPA), which accounts for roughly 80% of EWEB's managed portfolio, as the foundation of EWEB's portfolio post-2028, and our BPA product choice as a key decision for the utility. Currently, BPA is renegotiating contracts with publicly owned utilities in the Northwest, with the goal of utilities making product selections by June of 2025 and signing new contracts in December of 2025. BPA will offer utilities different products to meet a range of customer utility interests and needs. To prepare for this decision, staff is providing context and information which will help our customers better understand the Energy Resource Study (ERS) and its findings.

This memo describes the defining characteristics of each BPA product, and how that product might impact EWEB's non-federal power supply needs. It also describes the newly formed Executive Steering Committee (ESC) as well as the importance of both qualitative and quantitative factors in the BPA product election. Staff will work with the ESC and Board to ensure that there is clarity on the BPA product decision inputs, process, and timeline.

Key Takeaways

BPA Products:

- BPA products are under development. With direction from the General Manager and Chief Energy Resource Officer, EWEB staff are actively working on the utility's behalf to create BPA product options that meet our needs. EWEB's advocacy strategy is aligned with the utility's core values of reliability, affordability, and environmental responsibility.

- BPA will offer a range of products providing greater and lesser amounts of service. The differences in BPA product services will be key inputs to EWEB’s economic and qualitative analyses.
- A key difference between the products will be the amount of capacity¹ and Planning Reserve Margin service provided by BPA².
 - EWEB’s need to secure supplemental, non-federal capacity and Planning Reserve Margin service will differ depending on our BPA product selection.

EWEB Dedicated Resource Obligations

- Under all BPA product options, EWEB will be required to provide energy from our ‘dedicated resources’ to serve load throughout the contract. Per the Northwest Power Act, these ‘dedicated resources’ include legacy assets like Carmen Smith and other owned hydro.
- BPA may only provide replacement power for dedicated resources under very specific circumstances dictated by Northwest Power Act statute.
- This means that EWEB’s power needs cannot be served entirely by BPA during the next contract, and that EWEB will have ongoing supply obligations for these dedicated resources that must be managed outside of the BPA contract for the foreseeable future.
 - There are multiple ways of managing these non-BPA obligations, including potentially river management and other operational resource management (e.g., fuel), each with their own costs and risks which EWEB will be evaluating in a parallel effort related to business model review.
- The “Load Following” (see [“Types of BPA Products”](#) section for description) product has stricter performance obligations for dedicated resources compared to BPA’s other products. If EWEB elects the Load Following product, EWEB will need to consider how those obligations could impact our existing resource operations and any future non-federal resources acquired to meet load growth.

Executive Steering Committee and Product Decision

- An Executive Steering Committee (ESC) has been formed to navigate the BPA product decision and its intersection with EWEB’s business model evaluation and Board discussions.
- The ESC will work with the Board to define the BPA decision process.
- The ESC and Board will define how qualitative factors such as stakeholder input, local control, and alignment with EWEB’s values fit into the BPA product decision.

¹ Capacity refers to the ability to move energy to meet peak loads.

² Planning Reserve Margin (PRM) refers to the amount of additional capacity needed above an average/forecasted peak load to ensure reliability standards are met.

BPA Process and Timeline

Post-2028 BPA products are not yet finalized, and product development is an ongoing process. EWEB staff are actively engaged in these discussions, which involve BPA as well as 130 other Northwest public utilities. These factors are important to keep in mind, because EWEB staff is trying to identify options that will work best for EWEB, but we must also consider BPA's statutes and interests, as well as the interests of multiple other parties. Staff's guiding principles have been for BPA to provide all its 'preference' customers under the Northwest Power Act equitable access to energy and capacity from BPA, and for BPA to design rates that leave BPA and customers neutral between products, without cross-subsidization.

Key dates in BPA's timeline are:

- Summer/fall 2024 – finalize product design.
- Summer/fall 2024 – finalize BPA rate design.
- June 2025 – BPA product selection deadline.
- December 2025 – sign and execute BPA contract.

Executive Steering Committee

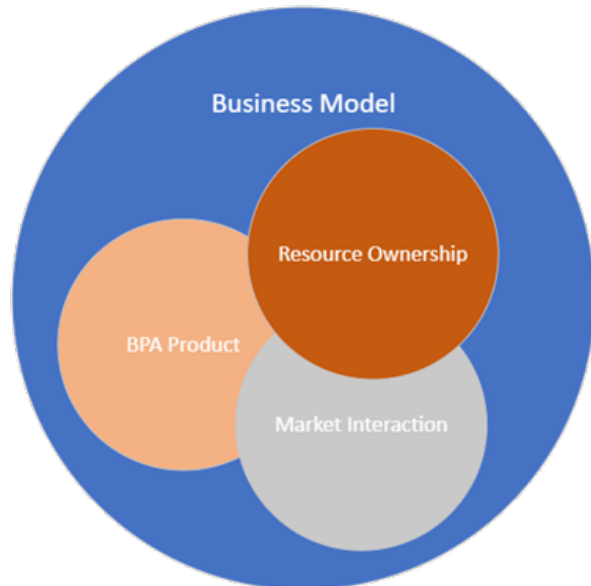
Staff and management recognize that the BPA product decision is an important milestone for EWEB, and one which interconnects with other 'business model' decisions. As a result, an Executive Steering Committee has been formed to help identify the best BPA product for EWEB, and to fast-track appropriate analysis and convene key stakeholders from across the utility. The Executive Steering Committee consists of:

- General Manager – Frank Lawson
- Assistant General Manager – Deborah Hart
- Assistant General Manager – Rod Price
- Chief Energy Resources Officer – Brian Booth

The ESC is currently being supported by staff from Power Planning, Finance, Generation, and Rates, and may include additional consultant support as well. The ESC plans to meet frequently over the coming months to develop a common understanding of key electric power supply decisions and how they intersect with our BPA product choice. The ESC will work with the Board to determine the appropriate decision-making process (e.g. ESC product recommendation to the Board, Board granted authority to the ESC or General Manager, Record of Decision and resolution, etc.). Consistent with other EWEB processes, the ESC and Board will incorporate stakeholder feedback as well as quantitative and qualitative factors into the product election.

Product Choice in Business Model Context

Our current vertically-integrated power supply ‘business model’ is a combination of resource ownership, BPA product, and market interaction. Since inception, EWEB has built and owned energy generation assets, primarily hydro facilities on the McKenzie River. We own transmission lines to bring that energy to customers and we own the distribution system in Eugene and our upriver territory. We also have dedicated staff who manage those generation facilities and trade energy with other utilities.



In the past, our BPA product election has aligned with these factors, with EWEB choosing products like Slice/Block (see [“Types of BPA Products”](#) section for description) that give us ability to actively manage our owned resources and take advantage of EWEB staff skillsets in trading and operations. However, BPA also offers products, particularly Load Following, that provide additional services. Many BPA Load Following customers do not own or operate their own resources, and instead rely on BPA to supply and deliver all of their energy.

Going forward, our BPA product election will not pre-determine our business model, but it could be indicative of EWEB’s overall strategic direction and scope of resource acquisition and management. Additionally, certain products may be better aligned with some ‘business models’ than others. For example, while EWEB will always be free to pursue any non-federal resources or programs we desire, different products might not create the same need or incentive to do so. These tradeoffs and the alignment between specific products and business model decisions will be discussed in more detail in the Energy Resource Study and future Board materials.

BPA will also provide a one-time opportunity to switch products during the post-2028 Provider of Choice contract, so EWEB will have the ability to change course in the future if we desire.

Qualitative and Quantitative Decision Criteria

The *financial* analysis in the Energy Resource Study will yield one factor among several that the Board and Executive Steering Committee will need to weigh as EWEB selects a BPA product. That factor is quantitative: how much a particular product *costs* and how many non-federal resources or services EWEB would need to procure to supplement the BPA product choice. The Board and Executive Steering Committee will additionally need to weigh other factors, such as:

- How much **local control** does EWEB want to retain over the energy generating resources that we choose?
- How does the BPA product decision intersect with both regional (“grid”) and **local reliability and resiliency**?
- How much future **flexibility** does each product give EWEB?
- How does the BPA product impact EWEB’s ability to meet **our values** of safety, reliability, affordability, environmental responsibility, and community/culture?

The Energy Resource Study will include discussion of these factors, but it will be up to the ESC and the Board, incorporating community feedback, to give value and weight to one factor over another. Additionally, it will be important to clearly define up front what the qualitative factors are and how they intersect with the BPA product election. For example, while “local resiliency” is mentioned above, the term might mean something different to different people. Ensuring that the community, Board, and ESC are on the same page about the different factors under consideration, and how these factors will be incorporated into the decision-making process will be important going forward. Management and staff plan to provide more details on these factors and related processes in upcoming Board meetings and work sessions.

BPA 2028 Contract Context

Tiered Rates

BPA has decided to maintain tiered rates for the post-2028 Provider of Choice contracts. This means that EWEB’s share of low-cost Tier 1³ power will be capped, and load growth beyond that amount will need to be served by other resources. EWEB’s decision about how to serve future load growth – either through BPA Tier 2 product options or through non-federal resources – is separate from the BPA product election. While there are interactions between the two decisions, for simplicity, product choice and load growth can be considered independently. EWEB will be asked to choose whether to have BPA serve load growth in 2026, *after* our BPA product election in June 2025.

- EWEB’s product decision is about whether EWEB or BPA manages within-year load and resource balancing and real-time load service responsibility.
- EWEB’s Tier 2 / non-federal resource decision is about whether EWEB or BPA procures additional energy to meet future load growth.

³ Tiered rates are a *ratemaking* approach used by BPA to separate the costs of BPA’s existing federal resource portfolio from the costs of new resources to meet load growth. Tier 1 power is based on the capabilities and costs of the existing federal hydro system and accompanying resources, while Tier 2 power is based on forecast market rates or the cost of new resources.

Future Regional System

Over the next few years, the regional power system is expected to undergo dramatic transformation, with two changes in particular impacting EWEB and BPA. These are the Western Resource Adequacy Program (WRAP), and organized market development. Combined, these two changes will impact both EWEB's long-term resource procurement requirements, as well as how we trade and manage these resources to meet load. How each BPA product interacts with WRAP and future markets will be defining characteristics for that product.

Western Resource Adequacy Program (WRAP)

- EWEB has committed to participate in the binding phase of the Western Resource Adequacy Program in summer 2028. The WRAP is intended to bolster regional reliability by ensuring that all participants procure enough resources on a planning basis to carry their share of reliability obligations. This includes a Planning Reserve Margin above EWEB's average peak, which is a higher planning standard than we have had in the past.
- Because the WRAP is a regional program, and one that BPA has committed to meeting for Load Following customers, the crosswalk between WRAP obligations and different BPA products is an important consideration for EWEB. Some products, like Slice/Block, would provide EWEB with a defined amount of capacity from BPA that is short of our full WRAP obligation, while other products, like Load Following, would have WRAP compliance 'built in.' These services from BPA will impact both product value and price – considerations that will be incorporated into EWEB's Energy Resource Study (ERS) evaluation.

Organized Power Markets

- Moving forward, EWEB's ability to interact directly with market operations and settlements rather than BPA rates will impact how our dedicated resources are valued (can they respond to direct market signals), and how much value certain types of customer programs provide for our portfolio (e.g. demand response).

Types of BPA Products

BPA is planning to offer four base products in the Provider of Choice post 2028 contracts. These are:

- Slice/Block
- Block Only
- Block with Shaping (and optional Peak Load Variance Service)
- Load Following

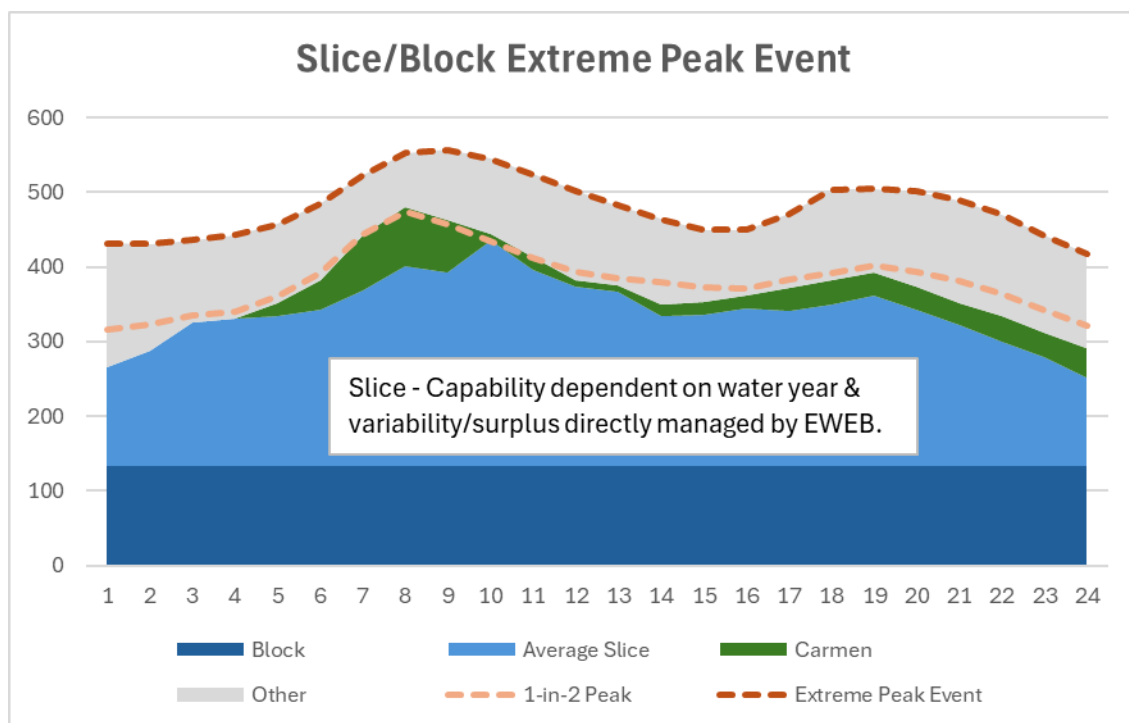
These products are discussed briefly in the following pages. All products *except* the Load Following product are referred to as “planned products”. This is because BPA provides *planned* amounts of energy and capacity based on a customer's forecast needs. The planned products provide BPA with greater certainty on its obligations and, as a result, those customers are given more flexibility to operate non-federal resources. In contrast to planned products, BPA provides the Load Following product with energy and capacity based on actual, real-time load service. In exchange for this real-time load service, BPA requires greater certainty on non-federal resource operations. At a high level, the tradeoff between the types of BPA products is described below:

- **Planned products** (Slice/Block, Block only, and Block with Shaping) – BPA provides a planned amount of energy and capacity. The customer (load serving utility) assumes actual load-service responsibilities and risk, has direct market exposure, and is able to operate non-federal resources as desired. Block only and Slice/Block receive less service from BPA and are cheaper per MWh than Load Following.
- **Load Following** – BPA meets customer actual loads and manages risk. BPA imposes stricter requirements for non-federal resource shape and delivery, and load is settled through BPA rates rather than directly through the market.

Slice/Block

Slice/Block is EWEB's current product. It consists of two parts:

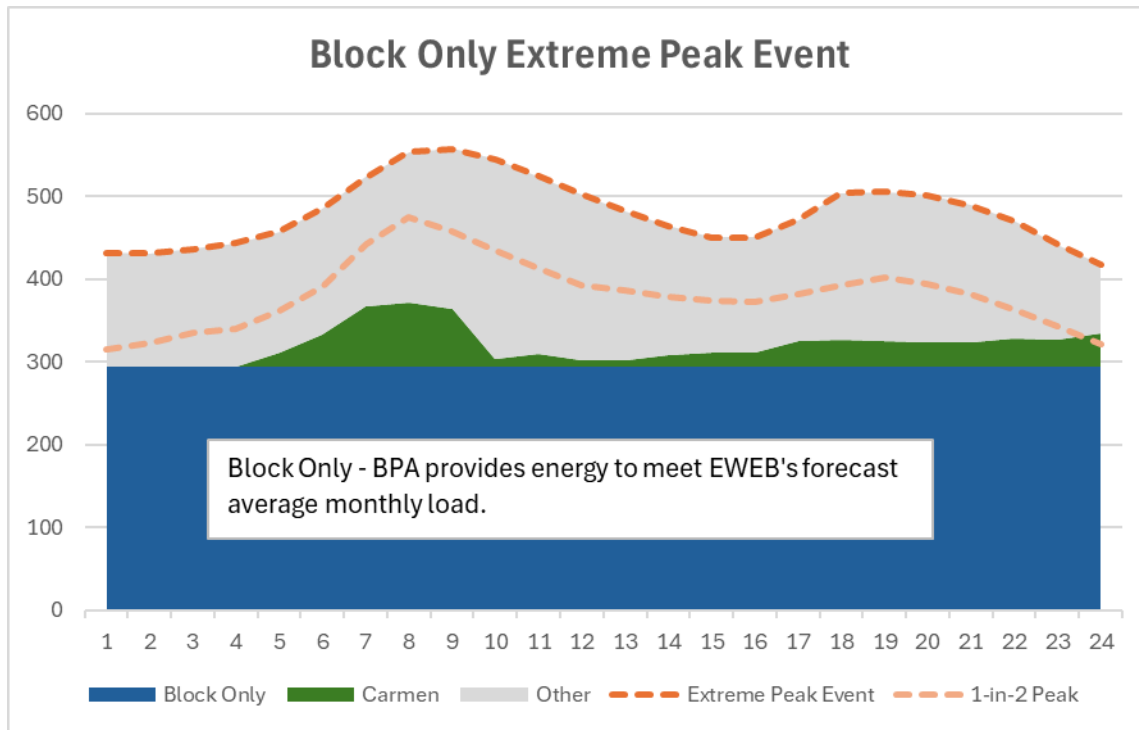
- Slice – BPA provides EWEB with energy and capacity in the 'natural' shape of the federal Tier 1 resources. EWEB manages hydro variability risk, and 'reshapes' the federal system output to match our load. EWEB also markets energy that is surplus to our needs, and these funds flow directly to us.
- Block – BPA provides EWEB with a flat block of energy shaped to our *forecast* monthly load needs. BPA makes purchases and sales to reshape and deliver this energy, and also sells surplus energy on EWEB's behalf.



The image above shows the 'resource stack' needed to meet an extreme winter peak load under the Slice/Block product. With this product, EWEB's dedicated resources are dispatched 'efficiently' to supplement power from BPA. EWEB also fills gaps with 'other' non-federal resources – either through long-term purchases or real-time.

Block Only

This version of the Block product provides a flat block of energy, without additional shaping/flexibility. In general, Block is the cheapest product option from BPA, and is most viable for customers with large, flexible non-federal resources because they can reshape their resources around the Block to serve load.



The image above shows the ‘resource stack’ needed to meet a peak load under the Block product. With this product, EWEB’s dedicated resources are dispatched ‘efficiently’ to supplement power from BPA. EWEB also fills gaps with ‘other’ non-federal resources – either through long-term purchases or real-time. Under Block only, EWEB’s non-federal peaking needs are larger than under other products.

Block with Shaping

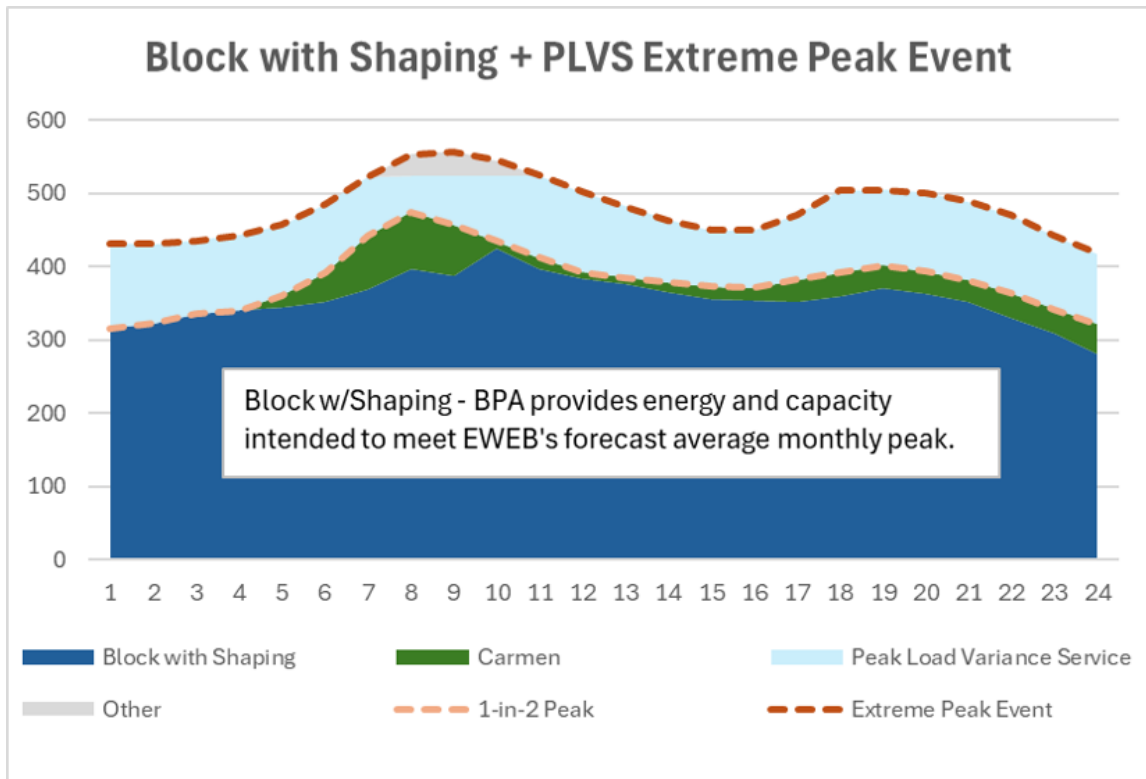
The Block with Shaping option provides energy to meet a customer’s average monthly forecast load, as well as the ability to shape that energy every hour. BPA’s goal for the Block with Shaping product is to provide customers with a ‘planned product’ option that gives access to federal capacity, while also allowing customers flexibility to operate their non-federal resources as desired. BPA would manage surplus sales from the federal hydro system.

On its own, the Block with Shaping option would provide EWEB with capacity to meet average monthly peak loads. This means EWEB would need to acquire additional non-federal generation or purchase the *Peak Load Variance Service* from BPA to meet our future capacity obligations.

Peak Load Variance Service

Customers who take the Block with Shaping product from BPA will have the option to add on ‘Peak Load Variance Service’. Under this service, customers would pay an additional fee for BPA to provide planning capacity up to that customer’s 1-in-10 peak load. This is intended to be an ‘insurance’ type product for infrequent load events and

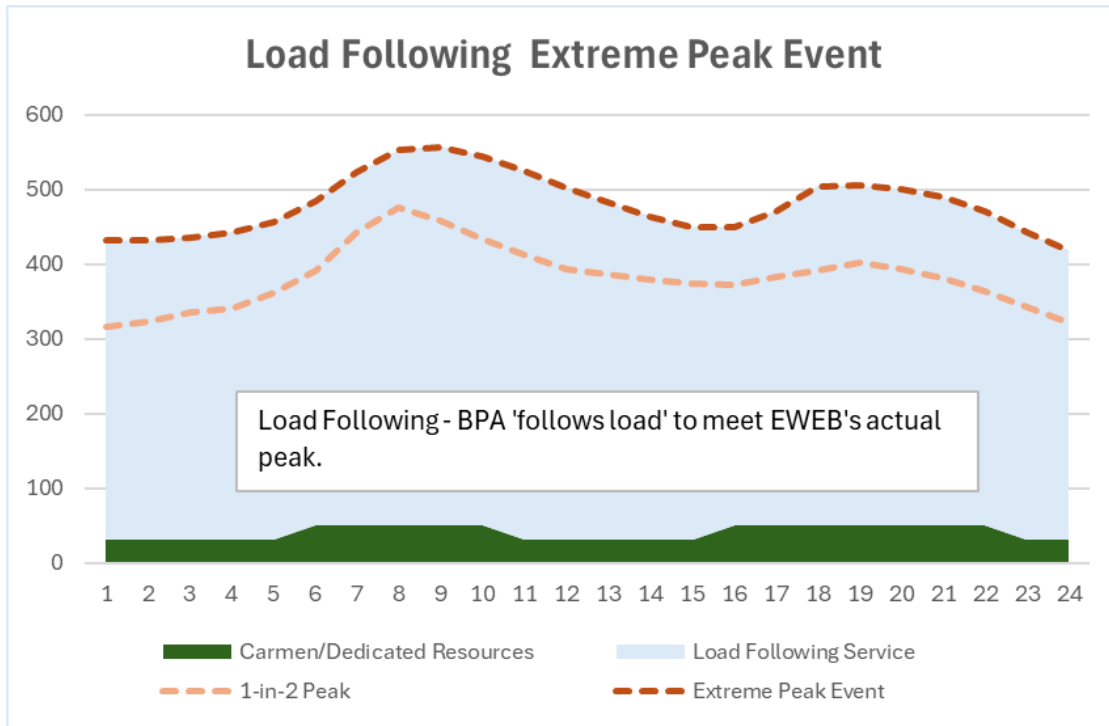
may meet some or all of EWEB WRAP obligations. BPA has proposed to base this fee off BPA’s embedded cost of capacity. There are still details to be worked out, in order to align this product to WRAP obligations.



The image above shows the ‘resource stack’ needed to meet a peak load under the Block with Shaping product. With this product, EWEB’s dedicated resources are dispatched ‘efficiently’ to supplement power from BPA. If EWEB elected this product with the optional PLVS service, our non-federal (“Other” in the chart) peaking resource needs would be small relative to Slice/Block or Block only.

Load Following

Under the Load Following product, BPA ‘follows’ a customers’ hourly load and provides all planning and real-time operational services to meet load obligations. Load Following customers schedule resources in specific shapes to provide BPA with certainty over its obligations. Load variations are trued up at BPA rates, rather than market value. Load Following customers pay demand charges based on actual peak loads and will be required to procure Peak Load Variance Service as part of the Load Following package. Load Following customers are also required to bring resources to serve load growth in a flat annual block shape. If a specific resource does not meet this requirement, the customer will pay BPA or another party to reshape the resource into a flat block.



The image above shows the ‘resource stack’ needed to meet a peak load under the Load Following product. With this product, EWEB’s dedicated resources are dispatched in a predetermined shape ‘at the bottom’ of the resource stack. BPA fills any gap between those resources and our actual load. Customers pay demand and energy shaping rates to cover the additional energy and capacity services that BPA provides.

EWEB Dedicated and Non-Federal Resources

EWEB has several non-federal resources that are ‘dedicated’ to serve load under our BPA contract. While this requirement will be discussed in greater detail in future materials, staff are providing a brief overview to give context for our requirements.

- At a high-level, BPA will **not** provide EWEB with energy or capacity to replace resources that are dedicated to load in our BPA contract. These resources currently include Carmen-Smith, Walterville, Trailbridge, Wanapum, Priest-Rapids, Stone Creek, and Smith Creek.

This means that under any product option, unless we can meet strict statutory requirements for resource removal⁴, EWEB will have some form of non-federal resource obligation.

⁴ BPA’s power contracts are dictated within the bounds of the agency’s federal statutes. In the case of ‘dedicated resources’, these can only be removed with BPA’s consent and if they meet the legal definitions for ‘loss, obsolescence, or retirement’, or subject to BPA Administrator approval.

With regards to dedicated resource obligations, BPA has stricture requirements for Load Following customers compared to Planned Product customers. This is because BPA serves real-time load for Load Following customers and needs greater certainty on non-federal resource operations. These obligations would impact both dedicated resources that EWEB currently owns EWEB, as well as future non-federal resources that we might acquire to serve load growth. Given these factors, EWEB's future resource acquisition strategy may also be influenced by the BPA product selection because these performance obligations must be considered before acquiring non-federal resources.

Rates

Each different product attribute will have a 'rate' attached to it in BPA's rate design methodology. BPA expects to finalize overall Provider of Choice rate design by this fall, and EWEB is actively participating in these conversations. While we will know the overall rate format and billing determinants before we elect a product, actual rates will be set through a BPA rate-case process in two-year increments. This means that there will always be some uncertainty about exact BPA rates until a specific future rate-period begins.

The interaction between the rates a customer pays for each product and how that money flows back through BPA's cost pools will impact the total cost of that product. In general, Block only is the least expensive BPA product, as it includes no shaping ability and therefore does not pay a demand charge, while Load Following and Block with Shaping are the most expensive products as a result of their shaping ability and subsequent demand charges. Slice sits in the middle – it does not pay a demand charge, but it also does not receive a secondary revenue credit from BPA. For EWEB, identifying tradeoffs between additional BPA product cost relative to the value that product provides will be a key outcome of the Energy Resource Study.

Recommendation & Requested Board Action

No action is requested at this time. Understanding the BPA product offering will be important as EWEB develops our resource strategy. The information is provided to facilitate Board understanding and discussion.

BPA Rate/Service Glossary

The sections below describe key rates and services from BPA. For each category, BPA provides a service and attaches a rate treatment for that service.

Energy (Monthly Shaping Charge)

BPA shapes energy from the 'natural' output of the federal system into a shape that reflects customer monthly load profiles.

Capacity (Demand Charge)

Capacity refers to the ability to move energy to meet variable or peak loads.

Peak Load Variance Service (Peak Load Variance Charge)

Peak Load Variance Service refers to BPA holding back additional capacity to meet infrequent load events and 'planning reserve margin'.

Surplus Sales (Secondary Revenue Credit)

BPA markets surplus power from the federal system on behalf of customers and provides a revenue credit to reflect that revenue.