



Slice Group Comments on Peak Net Requirements and Products

Slice Customers appreciate the opportunity to comment on the Bonneville Power Administration's (BPA) Provider of Choice (PoC) February 21 and 22 workshops whose topics included Peak Net Requirements (PNR) and Post-2028 Product Offerings. The Slice Customer group represents the largest customer group of planned product off-takers, and as a result, represents a distinct and important perspective on these topics. Slice customers also represent a mix of urban and rural customers, small and large, and customers from a cross-section of Pacific Northwest states. The Slice Customer Group members signing this letter consist of: Clark Public Utilities; Clatskanie PUD; Cowlitz PUD; Emerald PUD; Eugene Water and Electric Board; Franklin PUD; Grays Harbor PUD; Idaho Falls Power; Lewis PUD; Snohomish PUD; and Tacoma Power.

These collective comments represent the perspectives of the planned product off-takers listed above and are intended to address the topics presented at the February 21st and 22nd workshops. For the purposes of document organization, we have extracted the core Peak Net Requirements (PNR) comments and provided those in summary with additional detail following. We have additionally included the Peak Net Requirements concept sketch dated 12/12/2022 as Appendix A to this document, and an illustrative example of the PNR "Gap" under the proposed methodology as Appendix B and further described in these comments.

Comment Summary

1. The Slice Customer group supports the implementation of a Peak Net Requirements that meets the needs of both BPA and its customers.
2. The Slice Customer group opposes the current Peak Net Requirements proposal.
3. The Slice Customer group supports continued opportunity for customers to discuss PNR with BPA staff.
4. The Slice Customer group supports a Peak Net Requirements methodology that provides planning certainty and aligns with regional planning and capacity metrics like those being discussed in the Western Resource Adequacy Program (WRAP).
5. The Slice Customer group supports a slice product which provides full access to the percentage of the system that has been allocated to and paid for by a customer.

1. **The Slice Customer group supports the implementation of a Peak Net Requirements that meets the needs of both BPA and its customers.**

- The Slice Customer group recognizes and supports the Administrator in their interpretation and implementation of the Act. Through the course of the PoC policy development we ask for sufficient time and comment opportunity to provide the Administrator perspective on how the net requirements products will impact customers. The implementation of a PNR methodology creates a significant shift in the application of the net requirements products as they exist today, and we believe there are risks for

both the planned and load following products. These issues require sufficient time and consideration prior to the issuing of policy

2. The Slice Customer group opposes the current Peak Net Requirements proposal.

- BPA has presented a draft proposal for the measurement of Peak Net Requirements, but has not established the down-stream impacts and implications of its proposed measurement of PNR. BPA believes impacts and implications are a function of PNR implementation through the various PoC contract offerings, and is choosing to address such impacts and implications in the product design phase of the POC process. Given the lack of understanding and uncertainty surrounding the current PNR proposal; the Slice Customer group cannot yet support its implementation.
 - To be as constructive as possible the Slice Customer group requests a better understanding of what BPA is seeking to address through the development of a PNR methodology.
 - Customers request an illustration of how BPA intends to implement PNR across both planned and load following products.

3. The Slice Customer group supports continued opportunity for customers to discuss PNR with BPA staff.

- BPA's July 2022 Provider of Choice Concept Paper included a draft proposed PNR methodology which subsequently raised significant concerns among BPA's customers. As a result, the PNR Task Force was formed with the express purpose of developing a rubric for assessing and developing a peak net requirements metric, including option identification, data provisioning and analysis, and assessing implementation and impacts. During the PNR Task Force process, customers presented a framework for PNR, which included a systematic approach to both PNR measurement and implementation. We believe the approach to be consistent with the planning and operational needs of customers. This framework is included as Appendix A to these comments.
 - Given the complexity of the issue and operational implications we request the opportunity to present the PNR proposal developed by Planned Product customers during the March 22 Provider of Choice workshop.

4. The Slice Customer group supports a Peak Net Requirements methodology that aligns with regional planning and capacity metrics like those being discussed in the Western Resource Adequacy Program (WRAP).

- We support BPA's general approach of a proposed PNR calculation methodology that leverages the Western Power Pool's Western Resource Adequacy Program (WRAP) metrics. However, we remain concerned that inconsistencies exist and that planning "gaps" may be created if the specific methods are adopted as currently proposed.
- We believe it important for all net requirements products to maintain consistency with regional standards and find it likely for these standards to evolve over the course of the PoC discussions and through the next round of contracts.

- We believe BPA’s proposed PNR measurement calculation exposes a “gap” between the proposed PNR capacity measurement value and the WRAP capacity obligation specific to customers who select a Planned Product. Customers worry that a BPA implementation of PNR on Planned Products in a manner that does not fully recognize such customer’s planning and load serving obligations is inconsistent with the goal of providing equitable solutions. An illustrative example of the PNR “Gap” under the proposed methodology is provided as Appendix B to these comments.

5. The Slice Customer group supports a slice product which provides full access to the percentage of the system that has been allocated to and paid for by a customer.

- Customers support BPA’s statement during the Feb 21-22 POC Workshops to ensure PNR can be adapted to the Slice/Block product to maintain the core concept of a power purchase based on the actual capability of the Federal System. Customers oppose any PNR implementation which limits power deliveries beyond the product’s inherent design limitations based on actual water availability, system constraints, and system conditions. During the Feb 21-22 workshops, BPA stated its perspective that in the context of PNR, any PNR shortfalls Slice customers may experience would be Slice customers risk to incur due to the nature of Slice being a product based on the actual capability of the federal system. It’s Slice customers perspective that the reciprocal must also be true, and a PNR implementation that reduces a Slice customer’s access to their percentage share of the actual federal system would not be consistent with the product’s construction.
- While Customers understand and accept that the Slice/Block product does not come with a guarantee to meet individual hourly load needs, it does come with a guarantee that the customer receives a fixed percentage of the actual system capability. Customers depend on that guarantee of a fixed percentage of the system when making planning determinations of what portion of their load, including any planning reserve margin for resource adequacy, they expect to be met by their Slice/Block resource, and what portion must be met by other resources.

Slice/Block Intent and Design

The Slice Customer group requests BPA describe the proposed amount of Slice offered in an upcoming workshop. Customers believe it beneficial to understand how BPA anticipates developing these amounts and if the proposed allocation methodology will mirror that which was described in the July 2007 Regional Dialogue Policy.

Additional Consideration

Customers believe BPA should offer no less than 25% of the Federal System allocation to the Slice portion of the Slice/Block product. The 25% allocation is consistent with the level implemented through the Regional Dialogue contracts and has been successful in providing benefit to both BPA and its customers.

Customers also believe that the ratio allocation of Slice and Block should follow the same methodology used in the Regional Dialogue contracts. Specifically, the ratio allocation should be an outcome of customer commitments to Slice at the time of contract signing distributed proportionately.

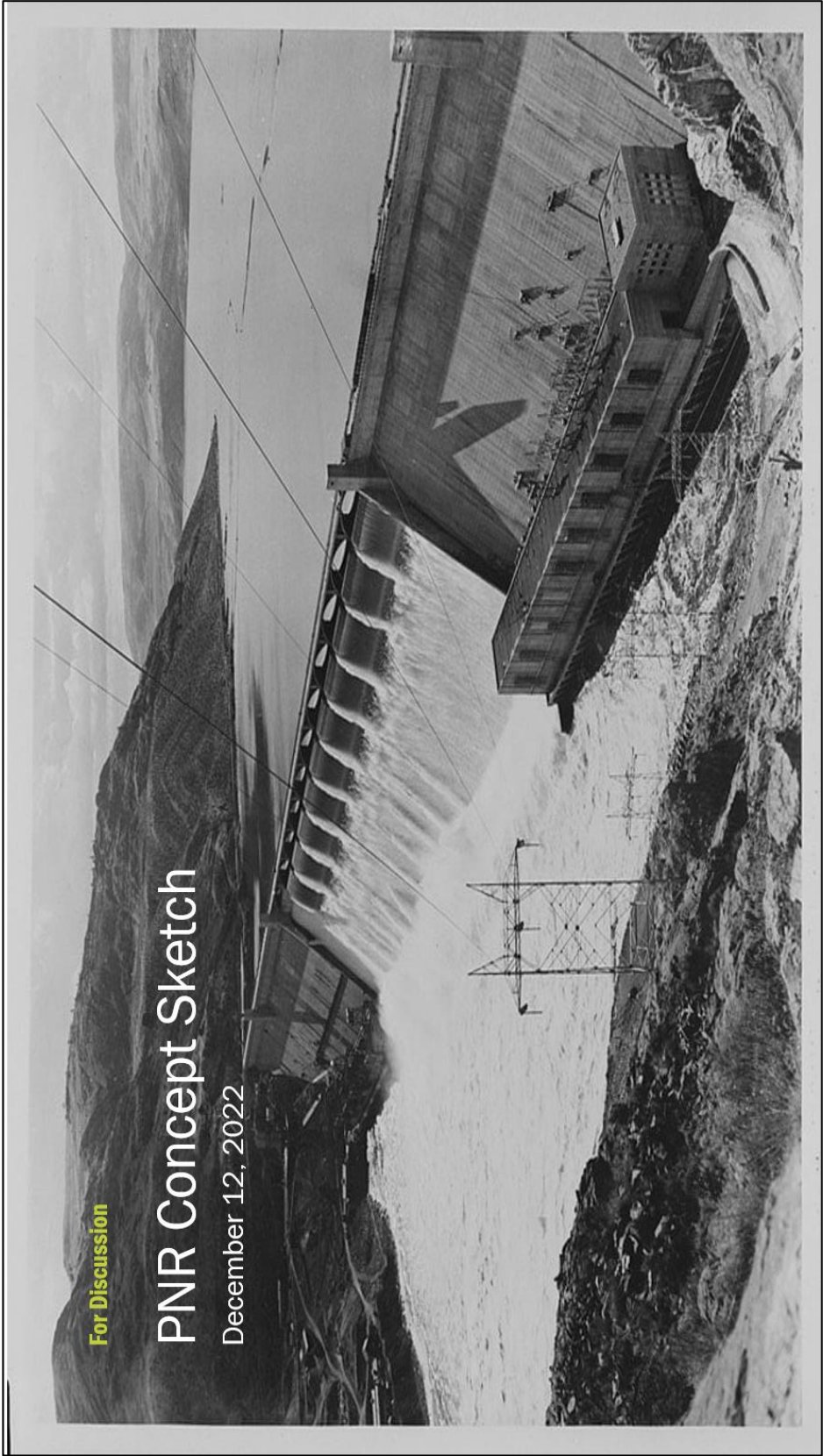
Summary

PNR is a significant and difficult issue. We recognize all of the work that has gone into these efforts. The Slice Customer group is dedicated to providing constructive comments that communicate our collective perspective. We appreciate the opportunity to comment on the materials presented and look forward to continued conversation.

Appendices

A PNR concept sketch prepared by Slice customers and presented to the PNR Task Force in December 2022 is provided as Appendix A to these comments. An indicative example of WRAP implementation complications is provided as Appendix B to these comments.

Appendix A: Slice Customer Proposal



Presentation Overview

1

PNR Interests refresher

2

Refresher: Metrics and Utility Best Practice

3

Metrics and Implementation as System

4

Concept Sketch

5

Examples

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Additional Discussion Areas

From November 28 Meeting... established by BPA and customers

1. PNR Interests Refresher

1. Consistent with industry practices for utility planning and existing planning processes
2. Methodology will consider forward planning and operations
3. BPA will address deficits and surpluses in Peak Net Requirements
4. Methodology must be as simple, practical, and achievable as possible
5. Implementation will only charge for what is provided under all products

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From November 28 meeting....highlights from utility presentations

2. Utility Best Practices

- Demonstrated approaches in portfolio planning to account for low water conditions
- Demonstrated approaches in portfolio planning to account for high seasonal and within-month load conditions
- Evaluates the coincidence of peak needs to resource capability
- Measure seasonal and temporal periods reflective of core risks
- Use statistical techniques to inform an appropriate, uniform risk threshold that can be managed to
- Measure portfolio capability and candidate resource capability
- Portfolio must satisfy multiple standards & metrics (e.g. probabilistic loss of load metrics for duration, magnitude, and frequency)

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For discussion

3. Metrics and Implementation = “System”

- Establishing a planning metric(s) and how it would be implemented form a “system” and are best considered together
- The approach or “system” should be practical, achievable, and compatible with forward planning and operations
- The following Draft concept is a system:
 - The proposed system contains metrics
 - Such metrics may require additional review if a different system is required

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For discussion

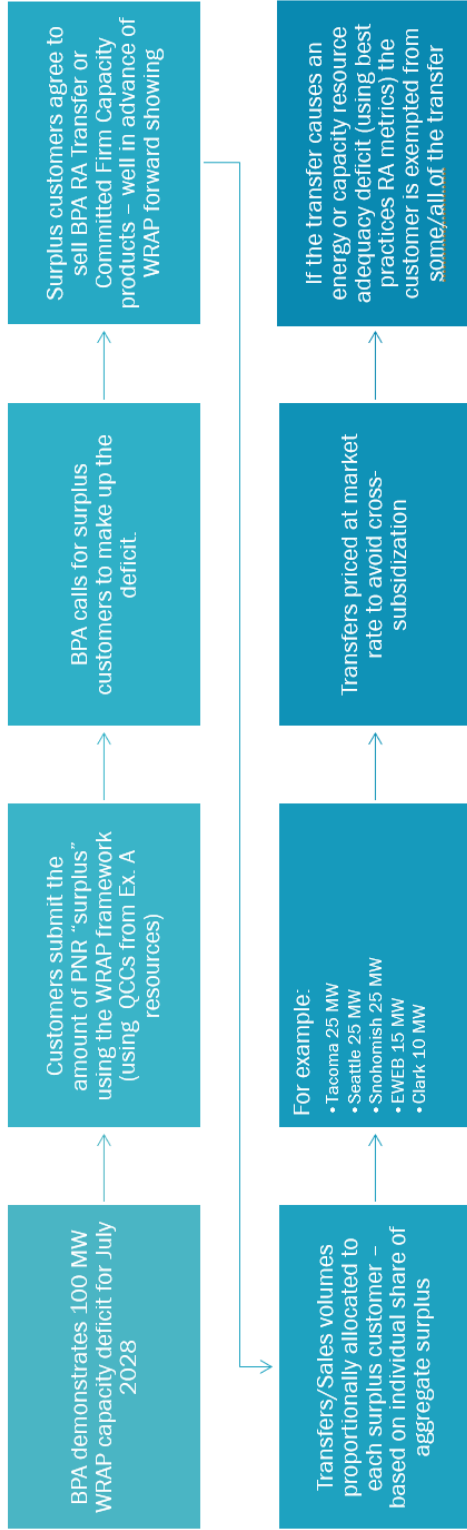
4. Concept Sketch

1. In 2022, the Western Resource Adequacy Program (WRAP) established Qualified Capacity Contribution (QCC) metrics, coincident with planning reserve margin (PRM) needed for participants to be program compliant.
 - a. Standardized resource QCCs and load measures for participants within the WRAP footprint; and
 - b. Has provided a first cut quantification of the BPA System Peak Contribution and Customer Exhibit A Resource Peak contribution
2. WRAP methodology used to determine BPA's capacity net position
3. Concept leverages WRAP framework to address any Peak Net Requirements (PNR) deficits on a forward basis at market price
 - a. A customer with deficits unaddressed by BPA Power products can be addressed by BPA through RA Transfer Product or similar capacity market product, at customer discretion
 - b. If BPA is short, this can be addressed at BPA discretion by RA Transfers (or market instrument) from customers, provided that:
 - i. This is done on a Forward basis
 - ii. Customer would not be made capacity or energy short by transfer
 - iii. Transfer burden is spread equitably across surplus customers
 - iv. Transfers are priced at market
 - v. Customers have option to switch products if transfers become systemic

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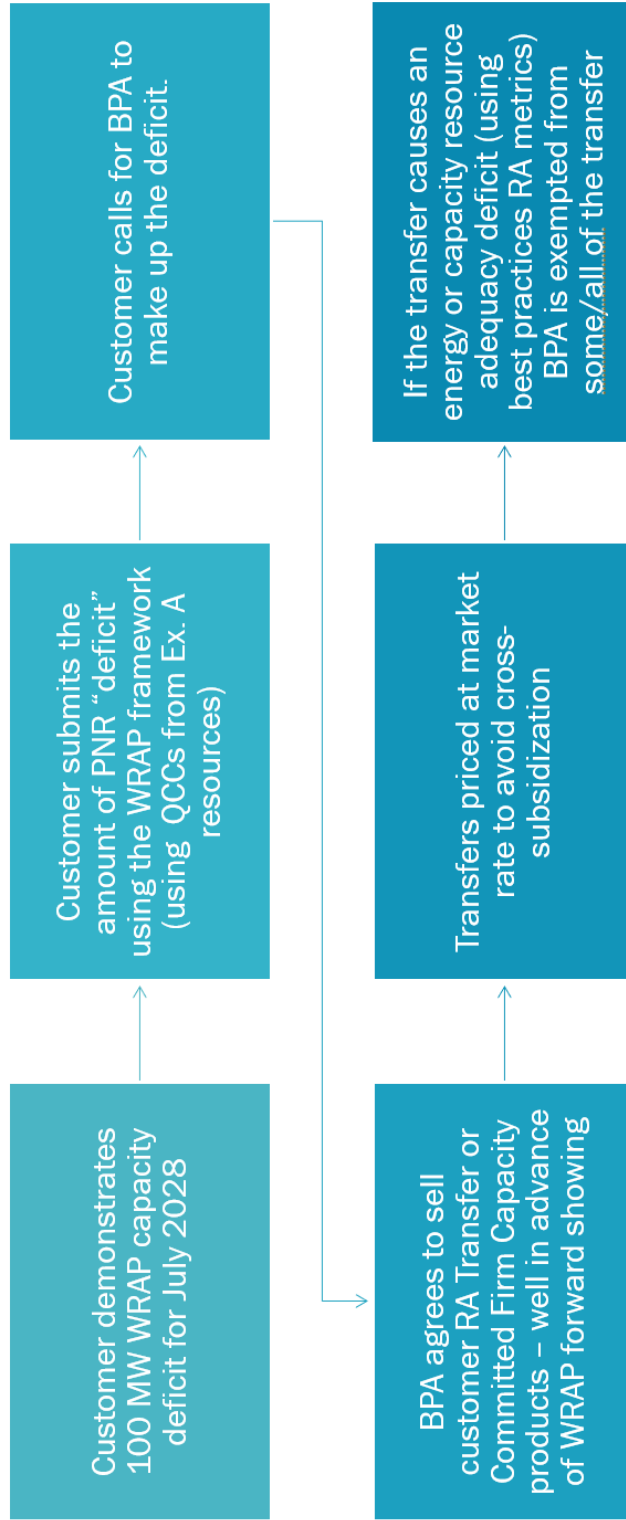
SIG PNR Straw Proposal

BPA is Short Example



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Customer is Short Example



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From November 28 Meeting...

5. PNR Interests Checked

- ✓ 1. Consistent with industry practices for utility planning and existing planning processes
- ✓ 2. Methodology will consider forward planning and operations
- ✓ 3. BPA will address deficits and surpluses in Peak Net Requirements
- ✓ 4. Methodology must be as simple, practical, and achievable as possible
- ✓ 5. Implementation will only charge for what is provided under all products

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Discussion for future

Additional Future Discussion Areas

- Test for energy and capacity deficits
- Tiered Rates for PNR and fulfilling PNR statutory obligation
- How PNR calculations feed into augmentation considerations
- PNR and product design

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Appendix B

PNR “Gap” under the BPA Proposed PNR Methodology – Further Description and Illustrative Example

Overview of WRAP Metrics – Planning Reserve Margin and Qualifying Capacity Contribution

The WRAP calculates two key measures in the modeling of its Forward Showing or “Capacity Planning” program. One measure is a **Qualifying Capacity Contribution (QCC)** for each resource type, resource contract, or resource portfolio within the footprint. Depending on the type of resource, the QCC for a specific resource is based on either the historical performance of the resource during Capacity Critical Hours, the peak Effective Load Carrying Capability of the resource, or in some instances a combination of the two. The QCC is resource specific and is used by each participant as the unique capacity value for resources in the participant’s Forward Showing resource adequacy demonstration.

WRAP also determines a **Planning Resource Margin (PRM)** in total MW of capacity that is required by the program footprint as a whole to maintain the established reliability metric of a 1 in 10 Loss of Load Expectation (LOLE). The Loss of Load Expectation incorporates those conditions of high demand in excess of the applicable peak demand forecast as well as periods of higher resource outages and lower resource performance (particularly for intermittent resources). This MW amount of PRM is then divided by the total P50 peak load of the program footprint to convert the PRM into a percentage term that is then used to allocate the total MW PRM to individual entities within the footprint based on each entity’s P50 peak load. A key takeaway on the PRM is that it reflects a comprehensive view of the capacity required to meet the combined risks of both load and resource uncertainty.

Overview of BPA Proposed PNR Calculation Methodology

BPA’s proposed PNR calculation methodology borrows from the WRAP metrics, but also attempts to bifurcate the PRM to account for uncertainty risk associated with resources only. Specifically, BPA proposes using a value of ½ the monthly WRAP PRM as a reduction in a Dedicated Resource’s QCC value used in the PNR calculation. BPA’s rationale for this reduction in QCC value is that it represents a 50/50 split of the total PRM to account for “resource” uncertainty and risk. BPA then goes on to say that the other half of the “load” uncertainty captured in the WRAP PRM would be the responsibility of the load serving entity. For customers selecting the BPA Load Following product, the load responsible entity would be BPA. Customers selecting a BPA Planned Product would be the load serving entity and thus take on this PRM obligation. BPA acknowledges the WRAP PRM does not distinguish between individual “resource” and “load” values. However, it is for this very reason that this proposed Dedicated Resource QCC adjustment is somewhat arbitrary and not consistent with the overall WRAP construct.

Illustration of the PNR “Gap” under the BPA Proposed PNR Methodology

BPA’s proposed PNR measurement calculation exposes a “gap” between the proposed PNR capacity measurement value and the WRAP capacity obligation specific to customers who select a Planned Product. One concern with BPA’s proposed PNR methodology is that a BPA implementation of PNR on Planned Products in a manner that does not fully recognize such customer’s actual WRAP obligation would severely disadvantage such customers relative to BPA’s load following customers. As an illustration of this gap, the first table below replicates BPA’s proposed PNR calculation example in slide 23 of the presentation prepared for BPA’s Provider of Choice Workshop on February 21 & 22, 2023. As

shown in BPA’s proposed PNR calculation example below, the WRAP metrics of QCC and PRM are applied only to the Dedicated Resource portion of the PNR calculation. By comparison, the following table provides an example of a Planned Product customer’s actual WRAP compliance obligation calculation assuming the same P50 peak load and Dedicated Resource amounts, but applies the actual WRAP framework. In other words, there is no bifurcation of the PRM in the WRAP compliance example, the PRM is applied entirely on the P50 peak load as intended in the WRAP Forward Showing program design.

BPA Proposed PNR Calculation Example	
Component	Value
Assumptions	a. Total Retail Load = 1,000 MW Peak in January (1:2 peak) b. WRAP QCC = 100 MW (Dedicated Resource) c. WRAP PRM = 19% in January d. Contingency Reserves (CR) BPA carrying = 3% for Dedicated Resource
Dedicated Resource Calculation	WRAP QCC adjusted for Resource Share of PRM and CR served by BPA: = WRAP QCC - (0.5*(PRM - CR))*WRAP QCC = 100 MW - (0.5*(19% - 3%))*100 MW = 92 MW
Total Retail Load - Dedicated Resources = Peak Net Requirement 1,000 MW - 92 MW = 908 MW	
Planned Product WRAP Compliance Obligation Calculation Example	
Component	Value
Assumptions	a. Total Retail Load = 1,000 MW Peak in January (1:2 peak) b. WRAP QCC = 100 MW (Dedicated Resource) c. WRAP PRM = 19% in January d. Contingency Reserves (CR) BPA carrying = 3% for Dedicated Resource d. Contingency Reserves (CR) Customer carrying = 3% for Load
Dedicated Resource Calculation	WRAP QCC = 100 MW unadjusted
Total Retail Load Calculation	1:2 Peak Load with Full PRM adjusted for CRs served by BPA and Customer: = Total Retail Load * (1 + (PRM - CR for Resource - CR for Load)) = 1,000 MW * (1 + (19% - 3% - 3%)) = 1,000 MW * 1.13 = 1,130 MW
Total Retail Load * PRM adj for CRs - Dedicated Resources = WRAP Compliance Obligation 1,130 MW - 100 MW = 1,030 MW	
PNR - WRAP Compliance Obligation = PNR "Gap" 908 MW - 1,030 MW = -122 MW	

Implementation of PNR and the PNR “Gap”

Using the tables above, here are a couple scenarios that further illustrate the ramifications of this “gap” when considering a potential implementation of PNR, particularly on the Slice product.

Under the first scenario, assume that the planned contribution for this month of the Slice product (the customer’s Slice % multiplied by the QCC for the federal system net of off-the-top reserves) is 950 MW. Under the BPA PNR calculation, this would yield a “PNR Surplus” of 42 MW (950 MW Peak Slice minus 908 MW PNR). If BPA were to implement a recall or limitation on Slice of this 42 MW of “PNR Surplus”, the effective capacity contribution of Slice would be 908 MW (950 MW minus 42 MW). However, when compared to the customer’s actual WRAP compliance obligation, with 950 MW of Slice peaking capability, this customer would by contrast show a **WRAP capacity deficit of 80 MW** (950 MW

minus 1,030 MW WRAP compliance obligation). As a Planned Products customer, this customer is responsible for covering this deficit with other non-federal resources. An additional recall or limitation on Slice of *another 42 MW* through implementation of PNR would further exacerbate this deficit to the tune of *122 MW*.

Next, consider a scenario where the planned contribution of the Slice product is 1,050 MW. Under the BPA PNR calculation, this would yield a “PNR Surplus” of 142 MW (1,050 MW Peak Slice minus 908 MW PNR). Again, if BPA were to implement a recall or limitation on Slice of this 142 MW of “PNR Surplus”, the effective capacity contribution of Slice would again be 908 MW (1,050 MW minus 142 MW). As in the prior scenario, when compared to the customer’s actual WRAP compliance obligation, with 1,050 MW of Slice peaking capability, this customer would show a ***WRAP capacity surplus of only 20 MW*** (1,050 MW minus 1,030 MW WRAP compliance obligation). An additional recall or limitation on Slice of *another 142 MW* through implementation of PNR would push this customer from a WRAP capacity surplus position of 20 MW to a WRAP capacity deficit position of *122 MW*. Under this scenario, however, consistent with the Slice customer proposal for PNR attached as Appendix A, if BPA were to demonstrate a WRAP capacity deficit for their Load Following customers, this Slice customer would make their 20 MW of WRAP capacity surplus available exclusively to BPA through a WRAP RA capacity exchange at prevailing market rates.