

BPA and the NWPP Resource Adequacy Program

August 25, 2021

9 a.m. to noon



Agenda

Time	Topic	Presenter
9:00-10:00 a.m.	NWPP Resource Adequacy Program Update	Guest Speakers: Gregg Carrington and Robb Davis
10:00-10:05 a.m.	Safety Moment and Introduction	Suzanne Cooper
10:05-10:15 a.m.	BPA's Customer Engagement and Decision Making	Rachel Dibble
10:15-10:30 a.m.	July 29 Public Meeting Comment Summary	Rachel Dibble
10:30-10:40 a.m.	BREAK	
10:40-11:10 a.m.	Opportunity for Clarification: Draft Letter to the Region	Panel: Steve Bellcoff, Edison, Elizeh, Ryan Egerdahl, Tim Johnson
11:10-11:25 a.m.	Business Case Update	Steve Bellcoff, Ryan Egerdahl, Edison Elizeh
11:25-11:40 a.m.	Unspecified Resource Amounts - New Large Single Load	Steve Bellcoff, Emily Traetow, Tim Johnson
11:40-12:00 p.m.	Q & A and Next Steps	Rachel Dibble

NWPP Resource Adequacy Program Update

Guest Speakers:

Gregg Carrington, Chief Operating Officer,
Northwest Power Pool

Robb Davis, Attorney, Chelan Public Utility District





Safety Moment and Introduction

Suzanne Cooper, Senior Vice
President of Power Services



Labor Day Safety

Labor Day Weekend is a patriotic holiday dedicated to honoring those hard workers who have contributed to our country's prosperity.

For many, it is a much needed day off work. For others, it's a time to celebrate with family and friends, to close out another summer and usher in a new autumn season. For many students, it marks the end of another summer vacation and the beginning of a new school year.



Driving Tips



- Buckle up and obey speed limits.
- Don't Drink and Drive. Plan for a designated driver.
- Stay Alert. No distracted driving.
- Be Patient. Allow plenty of time.
- Don't cut in front of large trucks and be aware of their blind spots.
- Use a map or GPS. Know your route.

Sun Safety

- **Limit time in the midday sun.** Limit exposure to the sun between 10 a.m. and 4 p.m, even in winter and especially at higher altitudes.
- **Seek shade.** Shade is a good source of protection. However, keep in mind that trees, umbrellas and canopies do not offer complete sun protection.
- **Use extra caution near water, snow and sand.** These three materials reflect the damaging rays of the sun, which can increase your chance of sunburn.
- **Wear protective clothing.** Wide brimmed hats can protect eyes, ears, face and neck. Sunglasses that provide 99 to 100% UVA and UVB protection will greatly reduce eye damage from sun exposure.
- **Always use sunscreen.** Apply a broad-spectrum sunscreen with a SPF of 30 or higher on all exposed skin 20 minutes before going outside.



Introduction

- July 29th public meeting had 200+ attendees with good questions and engagement from stakeholders.
- Today, continuing the discussion for pursuing participation in the non-binding phase of the NWPP RA program (Phase 3A)
 - “Test-run” forward showing period
 - No financial or operational consequences (beyond committed 3A costs) with participation

BPA's Customer Engagement and Decision Making

Rachel Dibble, Director of Market
Initiatives



BPA Milestones

Close Out Phase 2B/ Phase 3A Implementation Planning

BPA Customer Engagement

Decision on Non- Binding Forward Showing

Non-Binding Forward Showing Winter (2022/23) and Summer (2023)

Decision on Binding Phase of NWPP RA Program (Fall/Winter 2022) and BPA Customer Engagement

- BPA Staff/Executive resources participate in NWPP RA Workgroups
- Finalize Phase 2B deliverables
- Develop implementation plan for Phase 3A

- July 29 – Share BPA perspective on program details and implementation issues
- Aug 20 – Publish draft letter to the region (Aug 20-Sep 3)
- Aug 25 – Public meeting to provide clarification on issues in draft letter

- By September 30 - Final letter to the region with decision on participation in NBFS phase of NWPP RA program

- NWPP hires Program Operator
- Complete program and governance design
- Submit data for detailed modeling to establish Resource Adequacy value and PRM
- FS submittal to Program Operator
 - March 31, 2022 for Winter
 - October 31, 2022 for Summer
- Refine design/modeling requirements based on continued learnings
- ***Continue engagement with BPA customers/stakeholders***

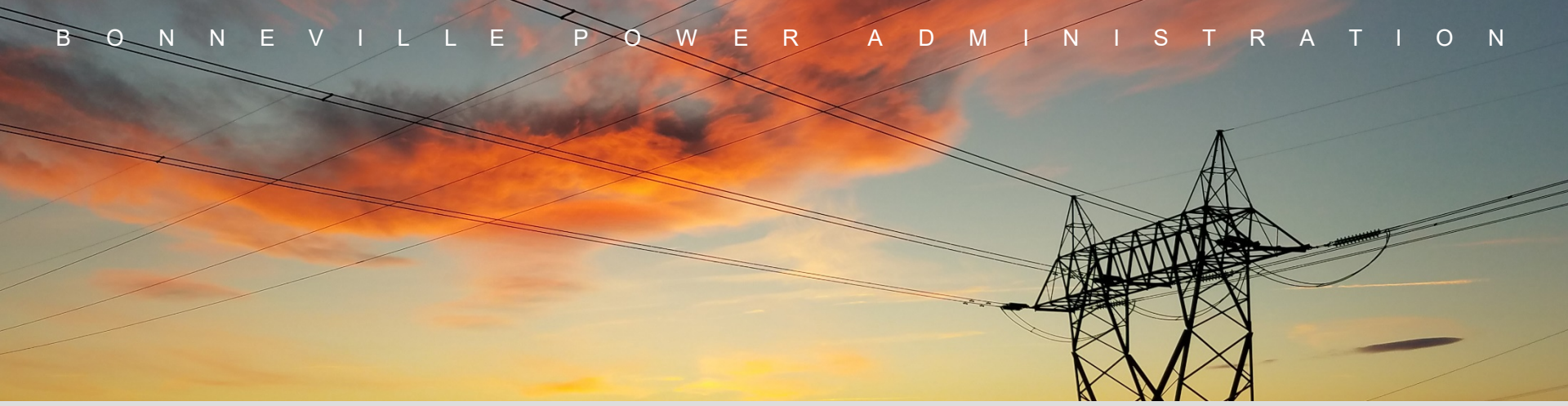
- Public Process - BPA customer review and input prior to decision
- Consider lessons from NBFS and program/governance design
- Evaluate ability to meet BPA's NWPP RA Participation Principles

NWPP RA Participation Principles for Binding Program

1. BPA's participation is consistent with its statutory, regulatory and contractual obligations.
2. BPA will maintain reliable delivery of power and transmission to its customers.
3. BPA's participation is consistent with a sound business rationale.
4. BPA's participation is consistent with the objectives of Bonneville's Strategic Plan.
5. BPA's evaluation of NWPP RA participation includes transparent consideration of the commercial and operational impacts on its products and services.

Stakeholder Engagement Plan - Phase 3A

- Continue using existing forums
- BPA hosted meetings after the following Phase 3A milestones are reached:
 - PRM, LOLE, and QCC values
 - After winter season 2022/2023 Forward Showing submittal
 - After summer season 2023 Forward Showing submittal
- After NWPP-hosted public meetings to discuss information shared
- Proposal for stakeholder engagement on transmission topics will be developed in Phase 3A



Comment Summary

July 29 BPA Public Meeting

**Rachel Dibble, Director of Market
Initiatives**



Comment Summary will be provided prior to the August 25th BPA Public Meeting

BREAK

Opportunity for Clarification: Draft Letter to the Region

Panel:

Steve Bellcoff
Ryan Egerdahl
Edison Elizeh
Tim Johnson





Business Case Update

Steve Bellcoff

Ryan Egerdahl

Edison Elizeh



BPA Planning Responsibility

- BPA is responsible to plan in the long term, short term, and in real-time, to assure an adequate power supply to meet its contractual obligations, given operational uncertainties.
 - Load Following Deliveries on a real time basis
 - Block Deliveries under the planned fixed monthly shape
 - Other Contract Deliveries under the planned delivery shape

Responsibility under NWPP RA Program

- BPA remains responsible to plan to assure an adequate power supply to meet its contractual obligations, as well as uncertainty of loads and resources (PRM) in the Forward Showing and Operational Periods
 - Load Following Deliveries on a real time basis
 - Block Deliveries under the planned fixed monthly shape
 - Other Contract Deliveries under the planned delivery shape

Resource Adequacy – Capacity

- A capacity RA program ensures there is adequate generating capacity available and known transmission agreements in place for deliverability
 - To meet a region’s forecasted peak hourly demand (plus required reserves), with a high level of confidence
- Capacity RA requirements are set by:
 - Determining a region’s forecasted peak hourly demand in a year, season, or month
 - Using a pre-determined peak hourly load forecasting methodology
 - Having a defined threshold for firm transmission rights, to move the generation to load

Resource Adequacy – Phase 3

- Phase 3A begins in fall of 2021:
 - Finalize design and build functional and operating models for program (QCC, LOLE, PRM, etc.)
 - First (non-binding) Forward Showing period in the spring of 2022
 - Establish the overall program governance structure
 - Submit the program for FERC approval
- The initial implementation phase (3A) will be a non-binding FS program to allow finishing of the program design, participants to gain first-hand knowledge and experience in the RA program, and evaluation of the program’s potential benefits. This will inform participants’ decisions on whether to move forward into the Binding Program (FS and operational period).
- Full Binding phase (3B) of the program is currently scheduled to begin in 2023, with both a binding FS and binding operational program in 2024.

Annual Assessments

- Annual Assessment process establishes;
 - Effective Load-Carrying Capability (ELCC) of various resources
 - Qualifying Capacity Contribution (QCC) for resources
 - Calculates a modeled 1 day in 10 year (season) Loss of Load Expectation (LOLE)
 - Established regional Planning Reserve Margin (PRM)
 - Establishes transmission capacity set a side for deliverability of resources to load
- Data required for Annual Assessment Process;
 - 10 years of historical Total Retail Loads (TRL)
 - 10 years of historical generation by resource
 - Historical outage factors (generation & transmission)
 - Showing of transmission agreement to meet 75% of resource requirements

Forward Showing (FS)

- FS Program ensures the region has enough demonstrated capacity well in advance of a season (winter and summer).
- FS Program should provide reliability benefits while working within existing systems and bi-lateral market frameworks to the extent possible.
 - Provides increased visibility
 - Allows for transparency across participants
 - Provides consistent application of metrics and methodologies
 - Sets deliverability expectations for participants
- FS Program establishes a FS Capacity Requirement by adding the calculated Planning Reserve Margin (PRM) to the forecasted P50 peak load forecast for each participant

Operational Period

- The Operational (Ops) Program is designed to provide the required framework to unlock the region's diversity in an equitable and reliable manner.
 - Program Operator (PO) determines when a participant may not have sufficient capacity to cover the projected demand by monitoring participants forecasted load, uncertainty and reserve requirements as well as forced outages and Variable Energy Resource (VER) performance.
- When a participant is forecasted to be deficient in Ops (relative to FS), the PO would initiate a sharing event and call on participants that have forecasted positive positions (relative to FS) to hold back capacity and deliver energy to the deficient Participant(s).
 - FS Program established baseline values for components of the sharing calculation (e.g., P50+PRM, baseline forced outage rate, etc.).
 - Ops Program determines the real-time differences in these values to initiate a qualifying sharing event.
- Operational RA program is expected to go-live in 2024 as a component of the Phase 3B Binding program, and is expected to coordinate with ongoing regional wholesale power initiatives and other current market requirements, such as the Energy Imbalance Market (EIM).

What BPA is Deciding at this Time

- BPA is evaluating joining the non-binding forward showing program of the NWPP RA program, or phase 3A. In order to evaluate:
 - BPA will look at the expected benefits of a fully functioning RA program
 - BPA will look at the indicative/proof-of-concept results from the Phase 2B work performed under the NWPP RA program by the Program Operator
 - BPA will look at the expected cost to continue participation in Phase 3A of the NWPP RA program
- BPA expects that experience gained in the non-binding program will be used to inform future decisions on whether to join the binding program, and that BPA will continue to be able to help shape the NWPP RA program so that it is beneficial for BPA, Preference Customers, and the region.

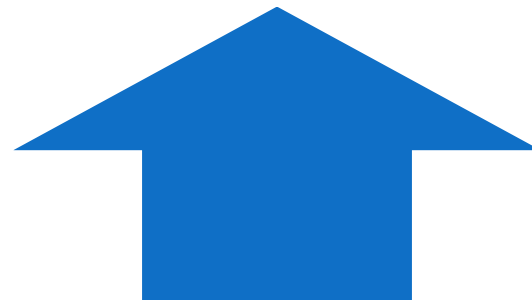
The Balance



- Standardized reliability methodology
- Diversity benefits (holding less capacity)
- Resource planning with visibility across the region
- Increased options for power operations/commercial choices
 - Situational awareness/reliability
- Information to inform future investments



- NWPP RA Program fees and charges (administration and management)
 - BPA staffing and systems costs
- Operational changes (How we do business today)
 - Compliance costs (Deficiency payments)
- Governance implications and exposure to FERC jurisdiction



Proof-of-Concept – Diversity Benefit

- NWPP RA Program benefits its participants by lowering the cost the entity would otherwise incur to meet a planning metric entirely on its own. The benefits are primarily derived through diversity of load and diversity of resources.
 - Absent an RA program an entity would need to carry enough capacity to meet its own peak load plus a Planning Reserve Margin (PRM) to deal with uncertainty.
 - The PRM can be reduced because of diversity in both load and resources across the footprint of the participants.
 - Load diversity benefits are realized through planning the system to a regional coincident peak rather than the sum of utility non-coincident peaks.

Proof-of-Concept – Diversity Benefit

- Regional Proof-of-Concept found:
 - Forecasted non-coincident peak demand for the participants in the design process for 2023 was found to be 61,351 MWs in the summer and 60,635 MWs in the winter.
 - Analysis shows approximately a 3.5 percent savings to the PRM for participants through the diversity of utilizing the regional coincidental peak rather than individuals.
 - PRM values for 2023: summer between 9-15%, winter between 13-19%.
- Applying NWPP RA Program’s Proof-of-Concept to BPA’s Forward Showing Load:
 - 3.5 percent change in PRM results in about 300 MW difference in Forward Showing Capacity Requirement. This reduction could be seen as the savings of an acquisition cost to purchase additional resources, or the potential opportunity for additional sales.

NWPP RA Program Costs (for Fees and Charges)

- Phase 3A has two primary cost pools that contribute to the non-binding program:
 - **Program Administration:** NWPP is expected to serve this role. Costs would be associated with the administration and standing up of the RA program, including staffing, restructuring, contracting, etc.
 - **Program Operator:** SPP has been contracted by NWPP to perform this function. Costs include system and model development, conducting modeling, annual assessments, and Forward Showing analysis.
- Specific RA Program cost information is still under discussion among external parties and is subject to a confidentiality agreement.
 - Costs are expected to be shared among participants
 - NWPP is expected to propose a cost allocation method in the next few weeks
- It is BPA's estimate, based on what we know today, that our total NWPP RA program costs to participate in phase 3A (non-binding forward showing) program will be in the range of \$1M. Phase 3A spans 15 months across two fiscal years. A final cost will be known for the final decision.
 - Estimated costs are dependent on number of participants in the program. Current estimate assumes Phase 3A includes same participant pool as Phase 2B.
- NWPP will provide specific program costs and allocation methods prior to BPA's final decision to join the 3A program

BPA Staffing and System Costs

- At this time BPA expects that current FTE are adequate for implementation of phase 3A. BPA will make further assessment to FTE needs for a binding program.
- Incremental system costs are not necessary for phase 3A.



Unspecified Resource Amounts New Large Single Load

Steve Bellcoff
Emily Traetow
Tim Johnson



Unspecified Resource Amounts

- Under RD contracts customers have the right to use Unspecified Resource(s) (megawatt amounts) to serve their loads and have no obligation to identify an associated resource and thus are *not specified* 7 months in advance for BPA to receive credit for the capacity from these resources in the FS period of the RA Program.
- Unless customers agree to provide that information ahead of the Forward Showing period, BPA will be responsible to have capacity available to cover all Unspecified Resource Amounts as part of the Forward Showing data submittal.
- A resource associated with producing the Unspecified Resource MW amounts will become identified (specified) in the Operations timeframe when it is scheduled (*specified*) and actually serves the associated load.

Resources Serving New Large Single Load (NLSL)

- Resources serving NLSL are not necessarily known at the Forward Showing time period (7 months in advance of the season).
- As part of the Forward Showing data submittal, BPA would be responsible to have capacity available to serve the TRL of it's Load Following customers, including that NLSL.
- Unless customers provide resource information related to the services of NLSLs ahead of the Forward Showing period, BPA would be responsible to have capacity available to serve the NLSL as part of the Forward Showing data submittal.
- Traditionally the resources serving the NLSL are scheduled in the Operations timeframe, and essentially become specified. Taking that traditional process into account, that scheduled (*specified*) resource then actually serve the associated NLSL, and not BPA's system.

Customer Resources which Serve Load

- BPA will need to evaluate whether a cost is being incurred as a result of how unspecified resource amounts and resources serving NLSLs have traditionally been identified
- Early thoughts are that resources for which a customer is responsible, but that are not identified at the Forward Showing period, may be receiving a benefit from the Federal System which may have an associated cost

Potential Solutions

- Voluntary submittal of known unspecified/NLSL resources – simple submission of the needed information to account for the capacity need of resources serving unspecified and NLSL
- To the extent a cost is determined to exist, BPA could design and propose that a service charge be applied to those resources or loads similar to:
 - Energy Shaping Service for NLSLs Charge
 - NR Resource Flattening Service Charge
 - Transmission Schedule Service and Transmission Curtailment Management Service Charge

QUESTIONS?

Next Steps

- Please submit your feedback on the Draft Letter to the Region @ www.bpa.gov/comment by September 3, 2021
- Post Final Letter to the Region by September 30, 2021