

WESTERN RESOURCE ADEQUACY PROGRAM UPDATE

BPA PUBLIC MEETING

AUGUST 25, 2021



AGENDA

- » Status Update
 - Program Operator
 - Project timeline
 - Interim RA program
- » Overview of Phase 2B Design
 - Governance
 - Forward Showing
 - Operations
- » Non-binding program details
 - Timeline
 - Data sharing
 - Cost structure and allocation
- » Next Steps

STATUS UPDATE

- » Detailed design document published and available here: <https://www.nwpp.org/resources/2021-nwpp-ra-program-detailed-design>

Comments will be taken through September 15th

- » Re-branding from NWPP RA Program to Western Resource Adequacy Program provided by NWPP
- » SPP selected to provide Program Operator (PO) services

Forward Showing (including data collection and validation), modeling/analytics, and compliance reviews

Operations/real-time program operations and auditing

Manages continual technical and processes improvement

IT Systems

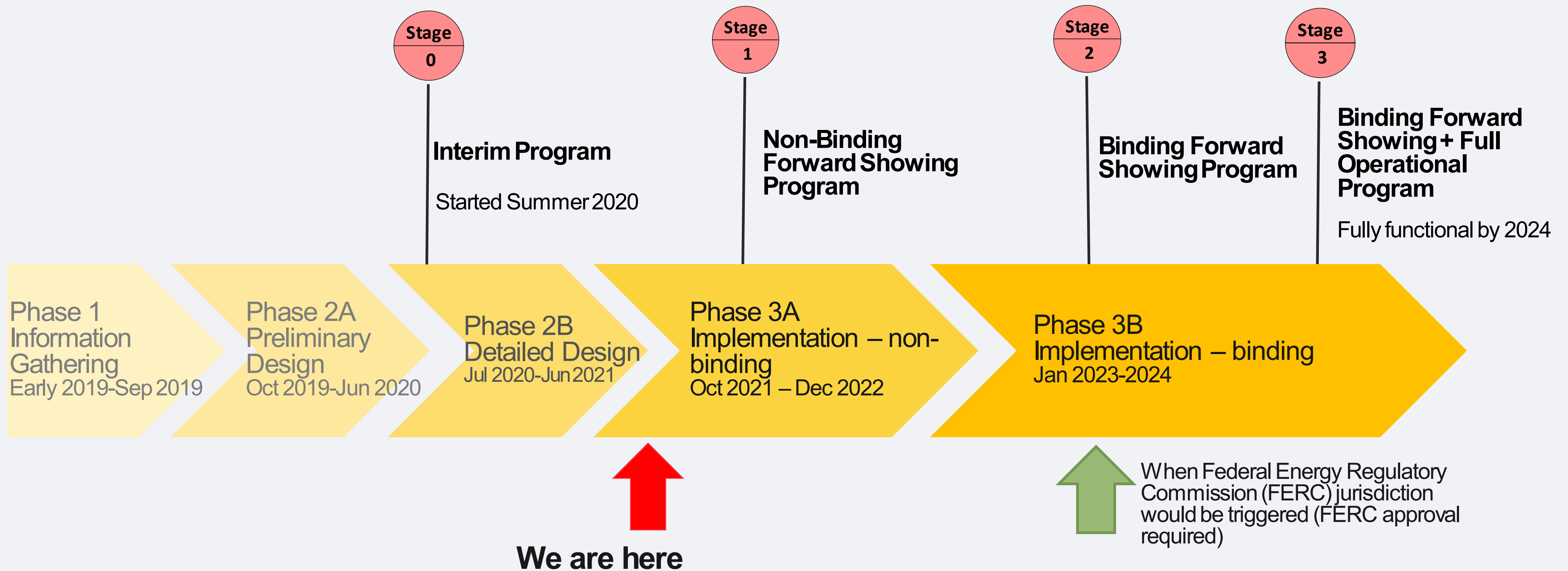
- » Stakeholder engagement

Stakeholder advisory committee, State Regulator outreach, Load Service Entity Outreach

1 by 1 outreach to interested entities



OVERVIEW OF PROJECT TIMELINE



Interim RA Program

Also called Winterim and Summerim for Winter and Summer, respectively

- The Interim RA Program began in Summer 2020 and has run in Winter 2020-2021 and Summer 2021
- Light touch program – provides a matching service for short entities and long entities
- Low-cost solution until the full RA Program is stood up
- Has been successfully utilized 4 times so far this summer – *already providing value to the region*
- *Can only be used for reliability – designed to be used infrequently and only when absolutely needed for reliability*

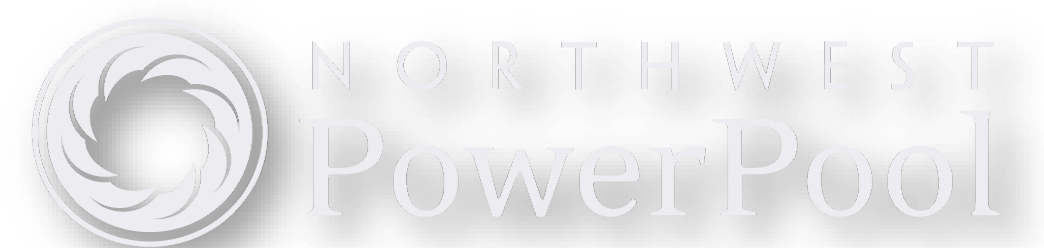
STAGE 0

Interim RA Program

	Date of Request	Number of Requestors	Number of Providers	MW Delivered by the Program	Remaining Shortfall
June	6/25/2021	3	2	100	125
	6/28/2021	1	1	50	0
July	7/28/2021	2	1	150	0
	7/29/2021	1	1	97	0

DETAILED DESIGN DOCUMENT

- » The Detailed Design Document will be a starting point of implementation – *will not be a “final” design*
- » Provides a framework for the RA Program
- » Detailed governance proposal
- » Forward showing design including modeling design details
- » Operational program design



PROPOSED GOVERNANCE APPROACH - OVERVIEW

Independent **Board of Directors** (BOD)

- › Once the initial structure of the board and program is established, the board has authority to approve budgets; provide direction and set priorities
 - › *Some limitations on board authority are permissible*
- › Point of compliance (entity that will have a compliance obligation to the RA Program) at the Load Responsible Entity (LRE)
- › Proposed governance preserves structures and functions of existing NWPP program

Participant Committee (RAPC) with influence

- › Substantive authority to modify amendments to the RA Program
- › Substantive authority to modify RA Program rules
- › **Subject to stakeholder right of appeal to independent board**

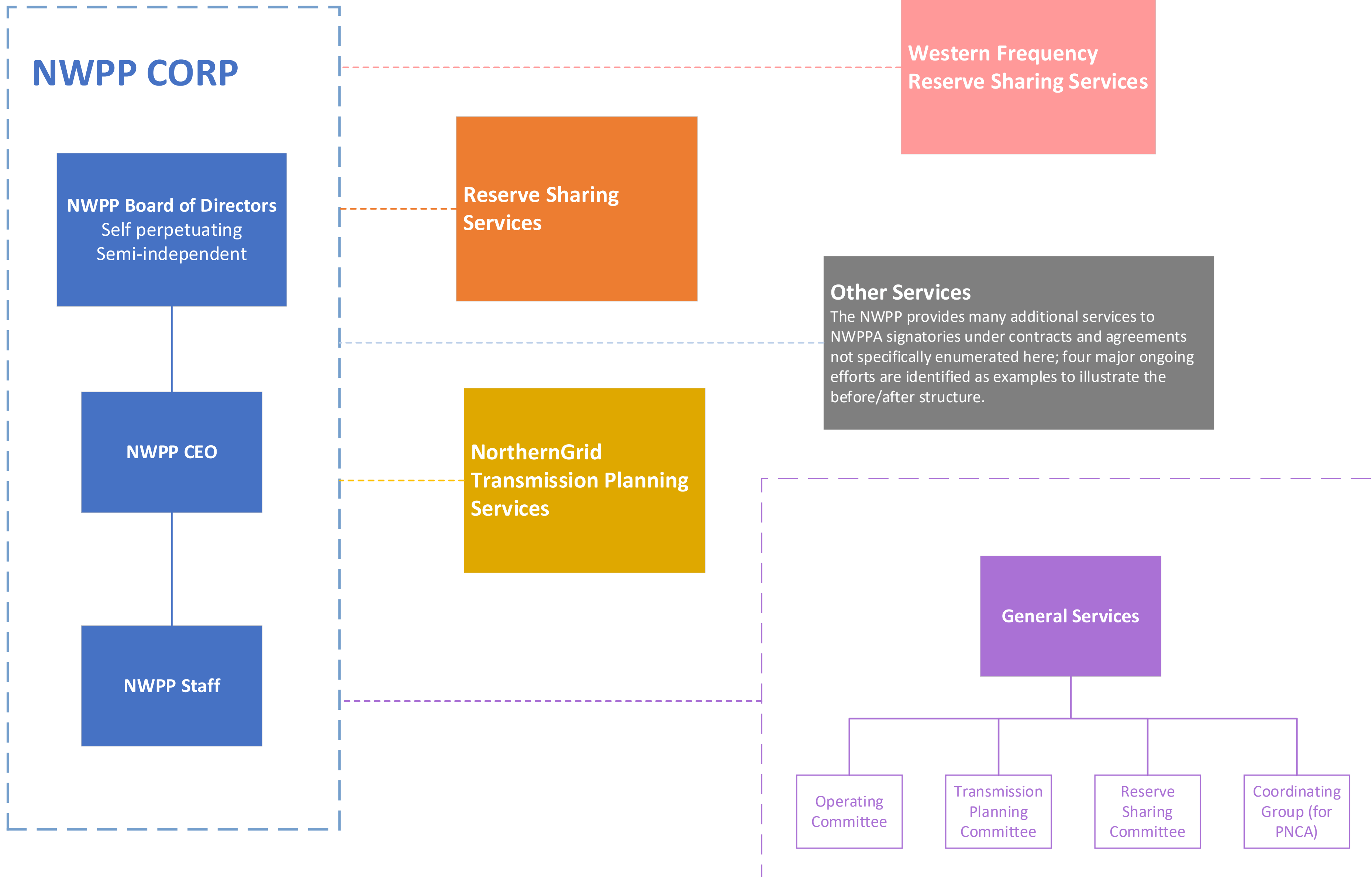
PROPOSED GOVERNANCE APPROACH - OVERVIEW

- › **Committee of States (COS)**– meeting through the Summer to refine the role of this committee
- › **Nominating Committee (NC)** – the members of the BOD will be selected by a NC comprised of multi-sector representatives
- › **Program Review Committee (PRC)** – future changes to the program rules will be recommended through a multi-sector committee
- › **Independent Evaluator (IE)** – Reports to BOD for annual review of program

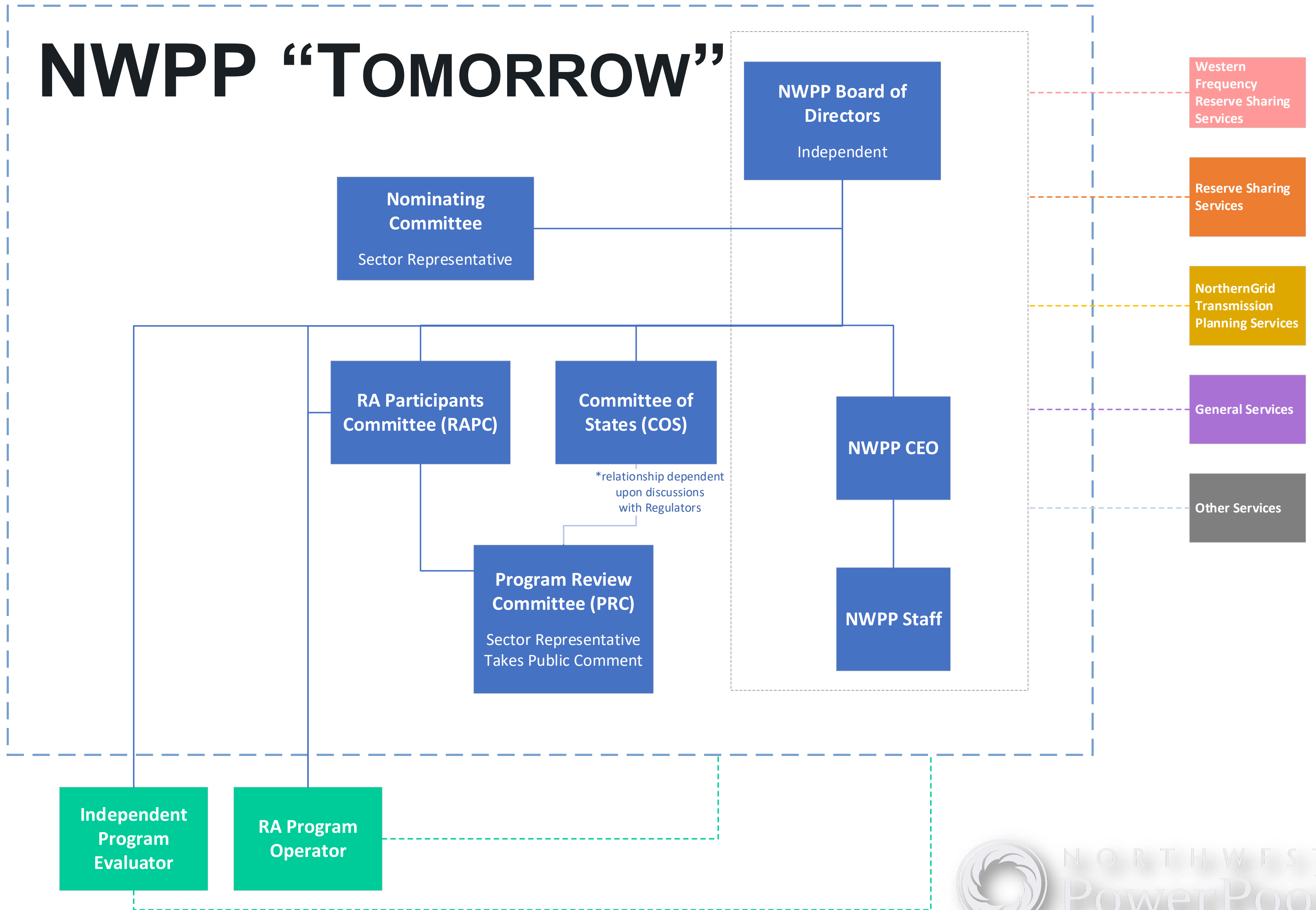
ROLE OF THE NWPP

- » NWPP will house the governance of the program
 - Independent board
 - Facilitate and support committees (including participants, regulators, stakeholders)
 - Provide services in line with strengths currently established (coordination, facilitation, training, etc.)
- » Current NWPP CORP/board does not meet FERC 'independence' requirements – transition plan includes:
 - Updates to bylaws
 - Updates to board membership, selection process
 - Registration as a 'public utility'
- » Considerations include:
 - Preserving existing NWPP functions / existing board's fiduciary duties under the Corporation agreements
 - Include existing board members on new board for two terms
 - Include NWPP CEO on board
 - Capitalize on economies of scale and strengths already identified – hire technical capabilities not easily/affordably green-fielded

NWPP TODAY



NWPP “TOMORROW”



NOMINATING COMMITTEE

- » The members of the BOD will be selected by an NC comprised of certain stakeholder representatives
- » The NC is responsible for nominating and selecting BOD members and recommending compensation for the BOD
- » The NC will be comprised of 13 individuals from stakeholder sectors
- » Proposed sectors include:
 - Participants/RAPC, ensuring appropriate representation among these different types of participants*
 - Independent power producers/marketers*
 - Public interest or customer advocacy groups*
 - BOD (a member who is not rolling off)*
 - COS (chair or vice chair)*
 - NWPP member (not on RAPC)*

PROGRAM OPERATOR

- Technical administration needs will be contracted to an entity already possessing these capabilities / experience:
 - › *Perform Forward Showing (including data collection and validation), modeling/analytics, and compliance reviews*
 - › *Operations/real-time program operations, audit, and after-the-fact compliance*
 - › *Manages continual technical and processes improvement*
 - › *IT Systems*
- Program Operator (PO) services will be provided by Southwest Power Pool (SPP) – in final stages on contract negotiation

INDEPENDENT EVALUATOR

- » The day-to-day operation of the program by the NWPP and PO should be separate from the oversight and evaluation of the program by the IE in order to meet FERC's independence requirements
 - To be effective, independent program monitoring and evaluation must be transparent. Every effort should be made to aggregate data in order to preserve confidentiality, while still effectively communicating program results to stakeholders
- » The IE is charged with the following responsibilities and limitations:
 - Analyzes operations, accounting/settlement, and design of program and makes recommendations for changes;
 - Does not monitor program participants
 - Does not have decision-making authority; and
 - Reports their findings to the BOD
- » Still considering details around the role/responsibilities of IE, more to come

STATES ENGAGEMENT PROCESS

- › Partnering with Maury Galbraith of WIEB/WIRAB to engage with state regulators on governance
- › Series of meetings with state regulators
 - *Began June 25th*
 - *Sessions planned for July 16th and August 6th*
 - *Additional sessions will be held through the fall as needed*
- › LREs will need the support of their state commissions to participate in the regional RA program
 - *While it is not currently the case that any LRE needs explicit state approval to join, any LRE that experiences incremental costs or other changes to operations will need ongoing state support, otherwise the LRE risks negative outcomes in future PUC proceedings*
- › State buy-in and engagement for the regional RA program is critical to its success



PROGRAM REVIEW COMMITTEE

- » The Program Review Committee (PRC) is a sector representative group charged with receiving, considering, and proposing design changes to the RA Program.
- » Clearing house for all recommended design changes not specifically identified as time-sensitive or of high RAPC priority
- » These recommended changes could come from Participants, the BOD, other committees, stakeholders, the public, etc.
- » The PRC will be staffed with facilitation support from the NWPP and program design/technical support from the PO
- » The PRC will establish a process and criteria for receiving design update recommendations

Snapshot of NWPP RA Program

Detailed Design: Forward Showing Program

Program Structure	Bilateral - Participants will continue to be responsible for determining what resources and products to procure from other Participants or suppliers
Compliance Periods	Two binding seasons: Summer (June 1 – Sept 15) and Winter (Nov 1 – Mar 15) Fall and Spring seasons would be advisory (no penalties for non-compliance)
Forward Showing Deadline	Participants will demonstrate compliance with FS reliability metrics seven months in advance of the start of the binding seasons - if notified of deficiency by the PO, entities will cure issues by three months prior to the start of the binding season
Reliability Metric	FS Program is designed to identify the capacity needed to meet a 1 day in 10 years loss of load expectation (LOLE) target for each season
Load Forecasting	Entities will forecast their own loads, working with the PO to use acceptable forecasting methodologies. PO will use load forecasts and historical data to identify a P50 (1-in-2) peak load for each month in the binding season - the highest monthly P50 will be used for all months of that season.
Planning Reserve Margin	Seasonal PRM will be determined for Summer and Winter seasons and expressed as a percentage of each Participant's identified seasonal P50 load forecast

Snapshot of NWPP RA Program

Detailed Design: Forward Showing Program

Resource Capacity Accreditation

Wind and Solar Resources: Effective Load-Carrying Capability (ELCC) analysis.
Run-of-River Hydro: ELCC analysis.
Storage Hydro: NWPP-developed hydro model that considers the past 10 years generation, potential energy storage, and current operational constraints.
Thermal: Unforced capacity (UCAP) method.
Short Term Storage: ICAP Testing – ability of the resource to maintain the value over the specified duration represents its capacity value.
Hybrid Resource: “Sum of parts” method where energy storage resource will use ICAP Testing and generator will use appropriate method as outlined above.
Customer Side Resources: Can either register as a load modifier or as a capacity resource.

Transmission

- › Rely on existing OATT frameworks to facilitate transmission-related requirements in FS and Ops - will not infringe on TSPs’ and BAs’ responsibilities, nor diminish Participants’ OATT responsibilities.
- › Demonstrate deliverability of resources claimed in the FS on NERC priority 6 or 7 transmission (firm, conditional firm, network service – in some conditions) - demonstrate at FS deadline having procured or contracted for transmission rights to deliver at least 75% of the resources (or contracts) claimed in the FS portfolio from source to load.
- › When sharing is forecasted in the Ops program, prepare to demonstrate firm transmission for resources not previously shown to have NERC priority 6/7 transmission.

Penalty for FS Non-Compliance

Deficiency payment based on cost of new entry (CONE) for a new peaking gas plant.

Snapshot of NWPP RA Program

Detailed Design: Operational Program

Sequentially comparing forecasts to the FS metrics beginning six days before the preschedule day, identification of sharing events and required capacity holdback on the preschedule day, and energy deployments on the operating day

Framework for Accessing Pooled Capacity

Accessing Entity:

- › Can only call on pool capacity when $\text{Load} + \text{Contingency Reserves} > \text{Forecasted peak load} + \text{Planning reserve margin (PRM)} - \text{forced outages} - \text{VER underperformance} + \text{VER over-performance}$
- › Participants can only access pooled capacity equal to the amount of load over their reliability metric

Providing Entity:

- › Administrator will ask those not experiencing loads over their RA obligations assist
- › Could request the difference between their RA obligations and forecasted load

Transmission and Deliverability

- › If PO forecasts a sharing event (i.e., one or more Participant is forecasted to be deficit), Participants will be expected to have sufficient firm or conditional firm transmission rights (or as applicable, 6NN transmission rights at the TSP's discretion) to meet their expected load plus their expected sharing requirement.

NON-BINDING PROGRAM DETAILS AND SIGN-UP INFORMATION



SIGN-ON TIMELINE NON-BINDING PROGRAM

- Signing participation agreements (as soon as 8/16)
 - › *Inviting LREs from across the West to participate in the next phase (“3A”) – this is an expansion of participation as compared to past project phases*
 - › **Signing window: August 16 – September 30**
- Those signing on would also be requested to sign an NDA

HOW TO SIGN UP FOR 3A: NON-BINDING

- Between August 16th and September 30th send an email to inquiries@nwpp.org indicating interest in joining the program – you will be sent a packet with more information and instruction
 - › *Sign Work Order (includes not-to-exceed funding commitment), NDA, and General Services Agreement (if not a signatory of any current NWPP agreements)*
 - › *Provide contract info for a designated rep for the RAPC*

PROGRAM COSTS

Participation costs will cover the following:

- Setting up NB
- NB data validation
- NB modeling
- Stakeholder engagement
- Legal work for FERC filing*
- NWPP Board transition*

**These costs can be “opted out of” by entities wanting to experience program participation with less financial and resource commitment and a smaller role in program design and implementation. Again, this forfeits the right to serve of any RAPC subcommittee*

Costs will be split by all participants on a “House and Senate” basis

- 50% split pro-rata
- 50% split based on %P50 load

(P50 is the Participant load forecast that has a 50% probability of not being exceeded during the season for which it is applicable; the higher of a Participant’s two seasonal P50s will be used)

VERY APPROXIMATE EXAMPLE COST ALLOCATION

Phase	3A (Oct 2021 – Dec 2022)		3B (Jan 2023 – Sept 2025)	
Total Program Load	80,000 MW	60,000 MW	80,000 MW	60,000 MW
Approximate # of Participants	28	20	28	20
Large (~10000 MW)	\$800K	\$1.1M	\$1.5M	\$1.9M
Medium (~3500 MW)	\$395K	\$580k	\$735K	\$1M
Medium (~1000 MW)	\$240K	\$330K	\$445K	\$615K
Small (~100 MW)	\$185K	\$257k	\$340K	\$475K

- These are extremely approximate ranges – not exact numbers
- Meant to show an order of magnitude
- Allocation of costs will depend completely on how many entities sign up and what their P50 loads are
- Costs are by phase – not annual

VERY APPROXIMATE 3A PAYMENTS

Phase	2021				2022			
	Total Program Load	80,000 MW		60,000 MW		80,000 MW		60,000 MW
Approximate # of Participants	28		20		28		20	
Payment Dates	Due at signing (10/2021)	Remaining NTE*	Due at signing (10/2021)	Remaining NTE*	Due 1/2022	Remaining NTE*	Due 1/2022	Remaining NTE*
Large (~10000 MW)	\$144K	\$55K	\$195K	\$75k	\$430K	\$170K	\$580k	\$225k
Medium (~3500 MW)	\$71K	\$30K	\$95K	\$40K	\$213K	\$80K	\$290k	\$115k
Medium (~1000)	\$43K	\$17K	\$60K	\$25K	\$130K	\$50K	\$180K	\$70K
Small (~100 MW)	\$33K	\$13K	\$46K	\$20K	\$100K	\$39K	\$140K	\$55K

- *NTE = not to exceed; this budget covers things like prep for the FERC filing. These costs will be billed monthly as they are accrued. These costs can be opted out of, but participants who take this option lose the ability to sit on work groups/sub-committees.
- These are extremely approximate ranges – not exact numbers
- Meant to show an order of magnitude
- Allocation of costs will depend completely on how many entities sign up and what their P50 loads are
- Costs would be lower for those opting out of RAPC subcommittee work

OPTION FOR LOWERING COSTS

There are two options for lowering costs:

- Paying only for non-binding cost of operations

- › *Pro: Would not pay for binding program set up, only non-binding cost of operations*
- › *Con: Forfeits the right to sit on any RAPC subcommittee*
- › *Con: Less influence on future program*

- Aggregating loads

- › *Pro: Lower cost overall since you would only pay for one “Senate” seat (see next slide)*
- › *Con: Less influence in governance/decision making (only one “Senate” seat split between all aggregated loads)*
- › *Con: Only one set of metrics provided on the aggregated load in 3A*
- › *Con: Considerations for operations program participation – how participants access diversity when aggregated (needs further discussion)*

EXAMPLE ONLY

8 PARTICIPANTS, 1100 MW AGGREGATE LOAD

	Phase 3A	Phase 3B	Phase 4ever	House Votes (in total)	Senate Votes (in total)
Individual Participation	\$1,110,000	\$2,850,000	\$800,000	1.3%	8
Aggregated <i>(with no binding prep costs)</i>	\$224,727	\$580,000	\$160,000	1.3%	1
Aggregated <i>(including binding prep costs)</i>	\$310,000	\$580,000	\$160,000	1.3%	1

THRESHOLD FOR FUNDING

- Program will only proceed if enough participants (with large enough load) are signed on
- Will provide a maximum cost of the agreement prior to signing
- If too few join, we will need to reevaluate path forward and funding commitments

PARTICIPATION IN NON-BINDING PROGRAM

- Choosing to participate in RA Program
- Commit to submitting data on time with defined schedule
- Sit on RA Participant Committee (RAPC)
 - › *Decision-making body - approves design changes*
 - › *Lead's their organization's engagement in all RA Program requirements (data submittal, showing, etc.)*
- Sit on Subcommittees (~10-12 hours/week of a senior resource) – *can opt out**
 - › *Operating Committee (RAPC OC)*
 - › *Additional subcommittees will be stood up to address the following and more:*
 - Prep for FERC Filing*
 - Consult on NWPP updates*
 - Aid in PO management and direction*
 - Facilitate implementation/business practice development*

*Participants can opt for a lower financial commitment and forfeit rights to participate on subcommittees

Immediately following 3A Agreements:

- » Collecting and validating data from 3A participants

Necessary to run modeling for adequacy metrics (PRM and resources' qualified capacity contributions)

Example of the type of data we will need from Participants

(not a complete list, but indicative)

- » Generating unit information (nameplate, generator type, fuel type, start/stop time etc.)
- » Historical generation for VERs
- » Historical load
- » Historical temperature/weather (I believe this was included but will confirm)
- » Load forecast
- » Hydro QCC
- » GADS data for calculating effective forced outage rates
- » Contracts (imports/exports both within and outside of the footprint)
- » Transmission rights (what will be used to get resources to load)
- » Testing information for resources without historical performance data

- » Some data will be available as a result of the Forward Showing modeling

What data is available to be shared (and with whom) and what is confidential is still under consideration

Example of the type of data anticipated to be outputs of the non-binding program (either by PO modeling or through PO work with participants)

- » Regional PRM
- » Qualified Capacity Contributions by resource type and zone for all resources
- » Effective Load Carrying Capacity Curves for VER resources
- » Validation of Individual Commercial Transactions (purchases and sales)
- » Preparation of a non-binding FS Portfolio for Winter 2022-2023 and Summer 2023
- » CONE penalty calculation
- » Net Program Import/Exports

NEXT STEPS

Moving into Phase 3A (beginning implementation)

- October 2021-December 2022
- Stage 1: Non-Binding Forward Showing Program
 - › *Perform 2 Forward Showings (turn portfolio in to Program Operator): Winter 2022-2023, Summer 2023*
- Preparation for later phases
 - › *Prepare for FERC filing (filing targeted for March 2022)*
 - › *Prepare for NWPP independent board (transition in 2023)*
 - › *Work through outstanding design considerations for Operations program*