

# NWPP RESOURCE ADEQUACY PROGRAM

LOAD SERVICE INFORMATION FORUM (LIF) MEETING #3

*JULY 14, 2021*



# AGENDA

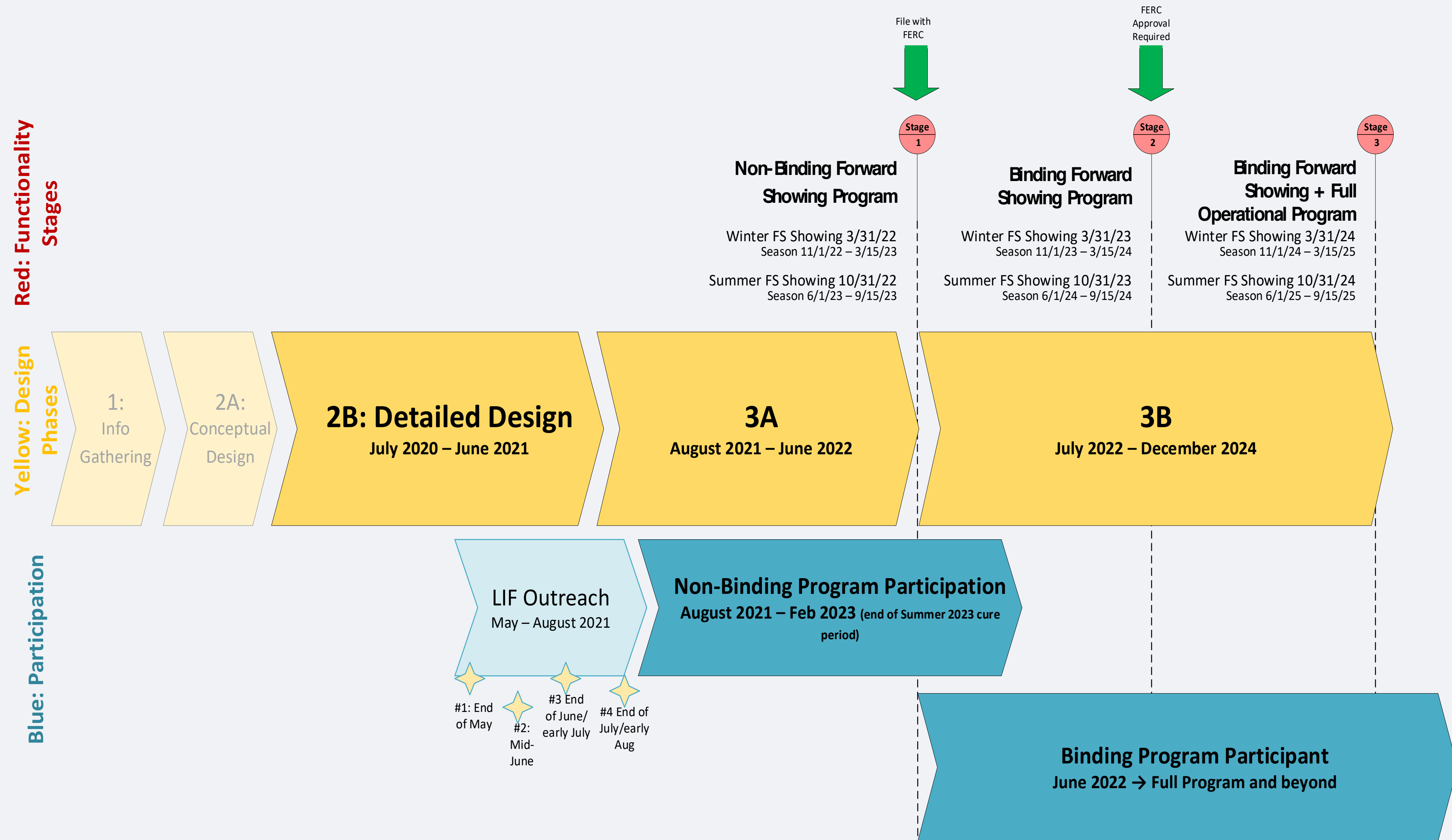
- » Recap of LIF and Timelines
- » Program Design Status Update
- » Transmission
- » Proof of concept PRM/QCC Analysis
- » Governance
- » Next Steps

# RECAP

## LIF OVERVIEW

- **Objective:** Build awareness and understanding of the NWPP RA program under development in order to encourage broad LRE participation in the program beginning in Stage 1
- Series of monthly webinars – May-July/August 2021
- Content will focus on addressing questions LREs have with respect to program design, eligibility, and business case considerations for joining the RA program

# PRELIMINARY TIMELINE



# RECAP

## PROGRAM PARTICIPATION

- Load responsible entities (LREs) hold compliance obligation for RA program
- Voluntary entry (absent any contractual or other regulatory requirements), followed by obligation to comply
- Other option to engage in the RA Program is by contracting with Participants to provide capacity used for Participants' forward showing capacity requirements
- IPPs and LREs (program Participants and those not participating) are all eligible to contract with Participants

## STATUS UPDATE

- » Detailed design document published soon

*This doc will be a starting point of implementation – will not be a “final” design*

- » Inviting LREs from across the NWPP footprint to participate in non-binding stage of program beginning this fall

- » In progress to hire a program operator

- » Stakeholder engagement

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

*1 by 1 outreach to interested entities*



# RECAP

## DESIGN OVERVIEW

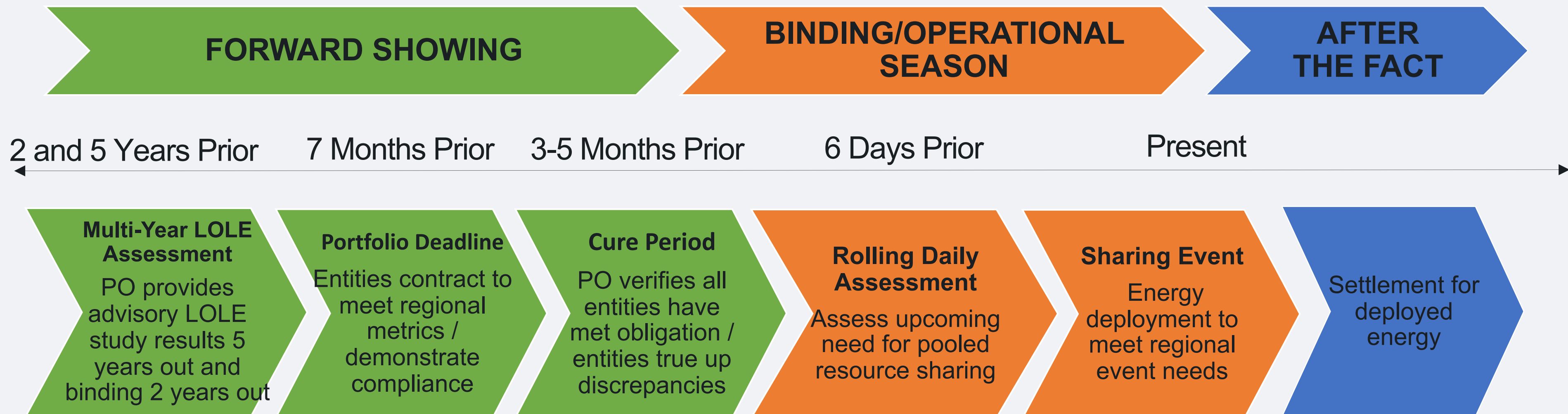
- Developing a capacity program
  - › *Similar programs are available across North America*
  - › *Significant effort to build organizational structure necessary to administer program*
  - › *Capacity will improve reliability in most expedient manner*
- Not building a market – relying on current bilateral structure
  - › *Will not set prices for energy*
  - › *LRE remains responsible for determining which resources are deployed – can meet Operational obligations with whatever economic options they choose*



# RECAP

## PROGRAM FRAMEWORK

### *Two TIME HORIZONS*



*Note: PO refers to Program Operator*



# PRM AND QCC-PROOF OF CONCEPT ANALYSIS

Indicative UCAP PRM		Demand	UCAP PRM @1-in-10
Summer	2023 (NCP)	66,286	9-15%
Winter	2023 (NCP)	65,316	13-19%

## Thermal Indicative QCC

Season	System weighted UCAP
Summer	94-99%
Winter	94-99%

Proof-of-concept analysis is described in appendix G of the detailed design draft

Outcomes from this exercise are not final – *the numbers will change!!*

Exercise meant to validate current design, not determine values or serve as “results” - did not account for transmission constraints, no data validation, incomplete data sets

# PROOF OF CONCEPT: STORAGE HYDRO INDICATIVE QCCs

Month	Nameplate	QCC %
1	49,226	83-89%
2	49,226	80-86%
3	49,226	87-92%
4	49,226	89-94%
5	49,226	81-87%
6	49,226	76-82%
7	49,226	76-82%
8	49,226	76-82%
9	49,226	74-79%
10	49,226	81-87%
11	49,226	78-84%
12	49,226	80-86%

# TRANSMISSION OBJECTIVES

- » Encourage procurement of firm transmission service sufficient to demonstrate deliverability of resources to load, while recognizing the need for flexibility where necessary or appropriate.
- » Enhance overall visibility with respect to deliverability (from generator to load) for resources used for program compliance, supporting situational awareness and regional planning.
- » Support and enhance reliability across the region without supplanting existing responsibilities of Balancing Authorities, LREs/Load Serving Entities (LSEs), and Transmission Service Providers (TSPs), and others.
- » Rely on existing Open Access Transmission Tariff (OATT) frameworks to facilitate transmission-related requirements for demonstration of resource adequacy and sharing of diversity across the NWPP footprint.
- » Respect program participants' OATT rights and responsibilities and Participants' other legal obligations, including contractual commitments and statutory requirements.
- » Design the Program in a manner that achieves deliverability objectives in a manner that is consistent with continued market efficiency in the operational time horizon.



# TRANSMISSION OVERVIEW

- **In Forward Showing:** demonstrate firm/conditional firm transmission for 75% of FS capacity requirements
- **In Operations:** if a sharing event is forecasted, demonstrate on request firm/conditional firm for any additional resources needed to serve load and holdback (e.g., in excess of 75%)
- More details on upcoming slide

# TRANSMISSION

## FORWARD SHOWING

- » At FS deadline, show rights to deliver 75% of FS capacity requirement to load
  - NERC priority 6 or 7 minimum required firmness
  - Transmission rights will be associated with specific resources
  - Use of 6-NN / 7-FN requires demonstration of ability to use network service from applicable TSP
- » Failure to demonstrate required transmission would constitute failure to meet FS requirements (i.e. met with penalty)



# TRANSMISSION

## FORWARD SHOWING

- » Exceptions from meeting the 75% FS requirement will be reviewed by PO
- » Examples of potential exceptions:
  - Demonstration of an enduring constraint – identify a plan to remedy the issue
  - Short-term firm transmission is available but not posted on a long-term basis
  - Excessive outages (temporary)





# TRANSMISSION

## OPERATIONS

If PO forecasts a sharing event (i.e. one or more participant is forecasted to be deficit) on the day before preschedule (PS-1):

*All other participants must secure NERC priority 6/7 transmission for their forecasted load plus forecasted holdback (to share)*

*Participants do not need to re-demonstrate original 75% from FS*

*Participants demonstrate rights from RA resource to their load*



# TRANSMISSION

## OPERATIONS

If sharing is necessary:

*PO will assign energy deployment to participants with positive sharing calculation*

*Energy will be delivered to a central hub ('centroid') on NERC priority 6/7 service*

*Deficit entity will receive energy at the hub and is responsible for transmission to their load*

*Participants can choose to schedule directly with deficit entities (optimize their own transmission)*

*Note: centroid concept to be discussed further – a second hub may be necessary*

# PROPOSED GOVERNANCE APPROACH - OVERVIEW

- › Independent board of directors
- › Participant Committee with certain substantive control
  - › Approve or reject amendments to the RA Program
  - › Approve or reject RA Program rules
  - › ***Subject to stakeholder right of appeal to independent board***
- › Once the initial structure of the board and program is established, the board has authority to hire and fire administration and support; approve budgets; provide direction and set priorities
  - › Recommend amendments to the RA Program member services agreement
- › Some limitations on board authority are permissible



# PROPOSED GOVERNANCE APPROACH – OVERVIEW

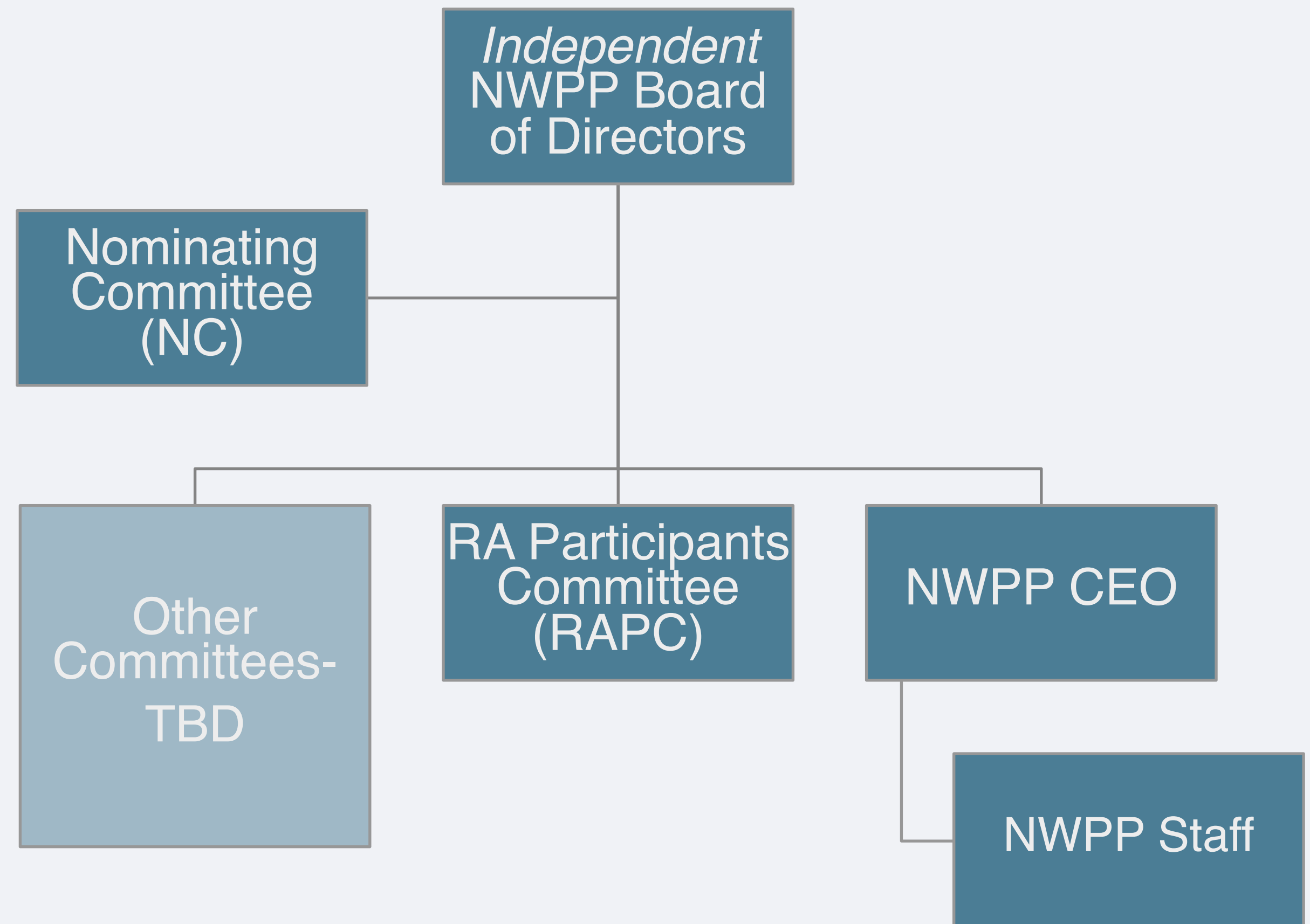
- › Propose a Regulator Committee – meeting through the Summer to refine the role of this committee
- › Nominating committee – the members of the BOD will be selected by a NC comprised of stakeholder representatives.
- › Point of compliance (entity that will have a compliance obligation to the RA Program) at the Load Responsible Entity
- › Proposed governance preserves structures and functions of exiting NWPP programs
- › Independent evaluator – Still considering approach to ensure role is right-sized to balance cost and desire for independent review



# 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*
- PO selection process is underway
  - › *RFQ distributed in early May*
  - › *Short-list notices sent mid-June*
  - › *Contract negotiations in July*
  - › *Will share updates as possible*

# PROPOSED FUTURE GOVERNANCE STRUCTURE



\* Exact committee structure, roles/responsibilities, decision authorities and relationships are still under consideration – this visual is intended to be representative, not definitive.



# NEXT STEPS

Future meeting topics we've identified:

- Data collection requirements
- What else are you interested in?

Next meeting will be held in August

# APPENDIX



# Snapshot of NWPP RA Program

## Preliminary Conceptual 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 and Winter 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
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

## Preliminary Conceptual 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.

**Energy Storage and Energy Storage Resources (ESR) hybrid resources:** Determined by operational testing until higher penetrations show a need for a performance-based methodology

**Customer Side Resources:** Operational testing and historical performance.

### 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

Demonstrates 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

## Preliminary Conceptual Design: Operational Program

### Framework for Accessing Pooled Capacity

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

#### **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

- › Will require modeling to identify any transmission considerations in the operational time frame
- › Recommendations associated with transmission availability in the operational time horizon will be made in Phase 2B