NWPP Resource Adequacy Public Webinar

Frank Afranji, NWPP

September 11, 2020 1:00-2:30 PM

NORTHWEST PowerPool

AGENDA

1:00-1:15 **Status Update**
Frank Afranji, NWPP

1:15-2:00 **Preliminary Program Conceptual Design**
Gregg Carrington, Chelan PUD
Joe Stimatz, Northwestern
Jeff Cook, BPA

2:00-2:15 **E3 Evaluation**
Ray Johnson, Tacoma Power

2:15-2:30 **Questions and Wrap-Up**

NORTHWEST PowerPool

Status Report and Timeline

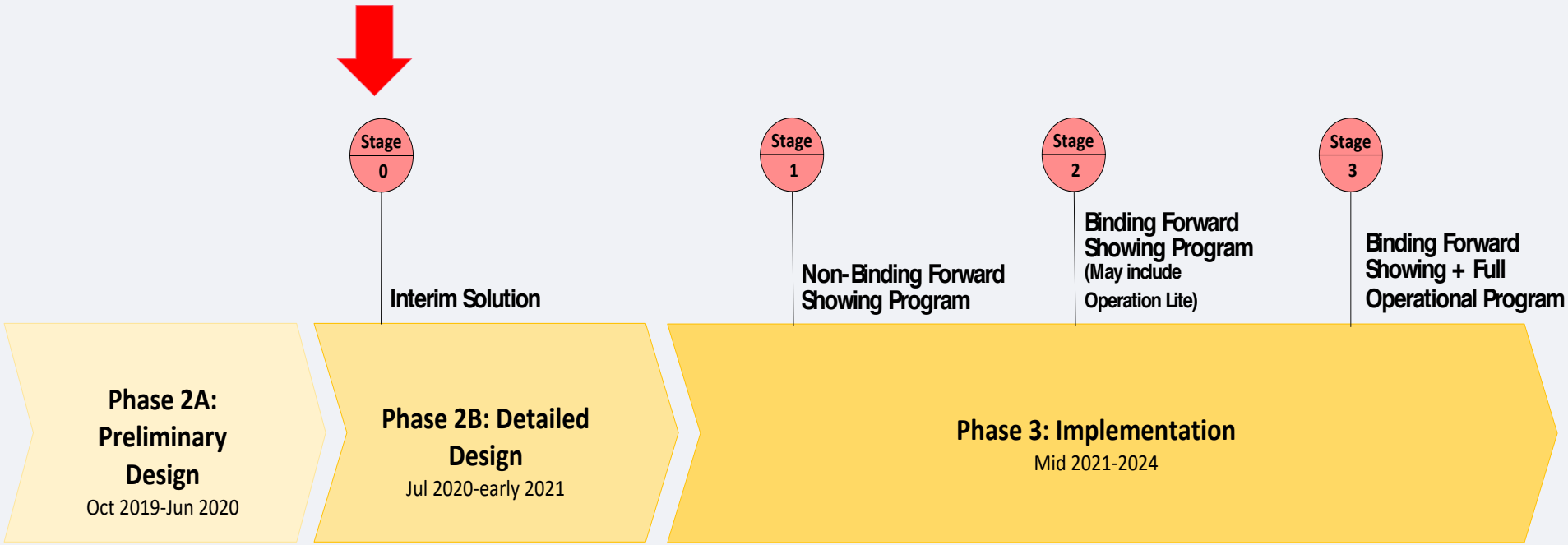
Frank Afranji, NWPP President

NORTHWEST PowerPool

Status Report

- Calpine joined the Steering Committee—19 total participating members
- Completed preliminary program conceptual design
- Hired Southwest Power Pool in Program Developer role
- Completed E3 evaluation
- P99 interim solution go-live
- Phase 2B: Detailed Design phase launched

Overview of Project Timeline



Stakeholder Advisory Committee Feedback

August 21st Meeting

- Would like more information about how the program will account for the capacity value of demand response and energy efficiency
- Interest in better understanding linkages between the future RA program and EIM/EDAM
- Seeking more information and details on governance of the program
  - *What regulatory approvals will be required?*
  - *How will LSE's be treated in the program?*
  - *When should an independent board be established?*

Preliminary Conceptual Design Proposal

Jeff Cook, BPA
Gregg Carrington, Chelan PUD
Joe Stimatz, Northwestern

NORTHWEST PowerPool

Conceptual Design Document Overview

- Background
  - *Project management phases, staged functionality, capacity RA program focus, RA program goals and objectives*
- Forward showing program conceptual design
- Operational program conceptual design
- Legal/Regulatory Considerations

***Focus today is on forward showing program and operational program conceptual design**

Snapshot of NWPP RA Program Preliminary Conceptual Design: Forward Showing Program

Market Structure	Bi-lateral; entities will continue to be responsible for determining what resources and products to procure and from where.
Participation	Voluntary to join; joining commits participants to meeting established requirements or incurring penalties (i.e., not "voluntary" to comply once committed) and to an operational program where they are obligated to deliver diversity benefit when called upon. Process will be established to join or leave the program.
Point of Compliance	For further discussion with stakeholders in Phase 2B: Detailed Design. Currently considering obligations at the LSE level.
Administration	Program Administrator will likely have to be a FERC jurisdictional entity to the extent that it administers program elements that are subject to FERC jurisdictions, which means it will also have to meet federal "public utility" standards for neutrality. Phase 2B will also consider multiple layers of program administration that may not require FERC jurisdiction.
Compliance Periods	Two binding seasons: Summer and Winter. Fall and Spring seasons would be advisory (no penalties for non-compliance, but metrics would be provided).

Snapshot of NWPP RA Program Preliminary Conceptual Design

Forward Showing Period	Forward showing will occur 7 months in advance of binding seasons, with a 2-month cure period.
Planning Reserve Margin	Seasonal Planning Reserve Margins will be determined for summer and winter periods and expressed as a percentage of the 1-in-2-year seasonal peak load forecast.
Resource Capacity Accreditation	Resource Capacity Accreditation will be based on methodologies appropriate to resource type, including: 1. **Variable Energy Resources:** ELCC analysis 2. **Run of River Hydro:** historical data and ELCC analysis 3. **Storage Hydro:** Common hydro model that considers appropriate set of water conditions allowing Program Administrator to verify data. Phase 2A included development of a conceptual storage hydro capacity methodology, which will be further considered as part of Phase 2B: Detailed Design. 4. **Thermal:** UCAP method 5. **Other resource capacity crediting** (e.g., demand-side resource, pump storage, behind-the-meter solar): for further development in Phase 2B: Detailed Design.
Penalty for Non-Compliance	Deficiency payment based on CONE for a new peaking gas plant (e.g., SPP's CONE calculation). Further discussions on deficiency payments are anticipated in Phase 2B.

Snapshot of NWPP RA Program Preliminary Conceptual Design: Operational Program

Framework for Accessing Pooled Capacity	**Accessing Entity:** › Can only call on pool capacity when Load + Contingency Reserves > Forecasted peak load + PRM –forced outages – VER underperformance +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.
Delivery Failures	› No specific recommendations on penalties for delivery failures › Program administrator is responsible for identifying and reporting delivery failures

E3 Evaluation

Ray Johnson, Tacoma Power

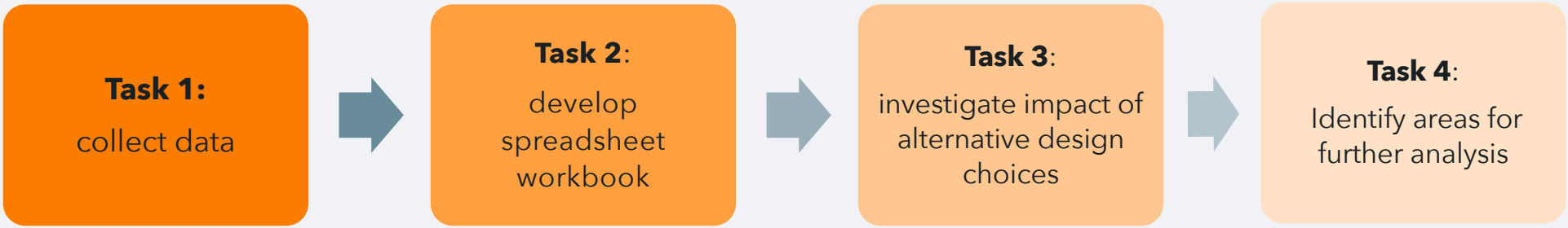
NORTHWEST PowerPool

E3 Scope of Work

E3 developed an excel spreadsheet workbook comprised of load and resource data from each entity and relied upon prior loss-of-load probability modeling in the Northwest to estimate capacity contributions for resources, providing a template for resource qualification

NORTHWEST PowerPool

E3 Excel Workbook



Topics E3 Explored

- The mechanics of calculating capacity needed to achieve the RA target (e.g., the Planning Reserve Margin) – **a PRM was not calculated in this effort**
- Possible methodologies for distributing that capacity need across the participants in the program (e.g., RA allocation)
- The mechanics of assessing capacity contributions of various resource types to count toward the RA capacity need (e.g., qualifying capacity) **– specific capacity contributions for each resource type were not calculated in this effort**
- How imports/exports to other regions impact the region's RA projections
- The benefits of looking at RA as a region vs. individual participants (e.g. diversity benefit)

E3 Evaluation Limitations

The initial evaluation did ***not*** investigate all elements of an RA program

- Did **not** investigate deliverability via transmission-related constraints (both within the internal NWPP and external to other regions), which can significantly impact individual entity obligations and their resource portfolio location
- Did **not** consider variation of capacity contribution for renewable resources located in different parts of the region

E3 Evaluation Limitations

- Did **not** examine a wide variety of potential methodologies for calculating capacity contributions or loss of load probabilities that could be used in RA modeling, and thus **did not suggest capacity contributions** for specific resources
- Did **not** provide an assessment of regional RA capacity situation, estimated PRM, or any other regional adequacy metrics

E3 Evaluation Findings

- The E3 process provided a strong foundation of data collection and understanding for the relationship of different data elements
- Regional capacity requirement reduction of approximately 3% or 1700 MW is available through tapping into the load diversity of the footprint. Additional savings will accrue for supply diversity which will be considered in the next phase of analysis and work

Hypothetical Workbook

- Tool to help stakeholders better understand the mechanics of a resource adequacy program forward showing process and build intuition about possible impacts on their utilities
- Available on www.nwpp.org/adequacy

NORTHWEST PowerPool

Questions and Next Steps

- Questions?
- Conceptual design document can be found here: https://www.nwpp.org/private-media/documents/2020-08-21_RAPDP_PublicCD.pdf
- Next meeting: December 2020