



WESTERN RESOURCE ADEQUACY PROGRAM

September 7, 2022

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SOLVING A PROBLEM

» What WRAP does:

- » Implements a **binding forward showing** framework that requires entities to demonstrate they have secured their share of the regional capacity need for the upcoming season
- » Implements a **binding operational program** that obligates members with calculated surplus to assist participants with a calculated deficit on the hours of highest need
- » Leverages the binding nature of the operational program, together with modeled supply and load diversity, to **safely lower the requirements** in the forward showing and help **inform resource selection** for the region, **driving investment savings** for members and their end use customers

CURRENT PHASE ACTIVITIES

PO collected data from participants

Design refinement and public webinars

PO runs LOLE/ELCC models – *results reviewed by participants*

Showing for Winter 2022-2023 Non-Binding season

Showing for Summer 2023 Non-Binding season

Participant Sign-on for transition December 16 2022

Oct 2021

We are here

Dec 2022

January 1 2023 Requested effective date for WRAP implementation

Design refinements led into tariff drafting

Participant review of tariff in Spring

Draft tariff out for public review and webinar

Filed with FERC August 31

Asking for FERC order prior to sign-up window

PO = Program Operator
 LOLE = Loss of Load Expectation
 ELCC = Expected Load Carrying Capacity

INTEGRATION WITH EMERGING MARKETS

- » A well-designed RA program is foundational to reliable markets
 - WRAP is foundational for the West's continued integration
 - Can enable development of and participation in reliable day-ahead / real-time markets
- » WRAP team is tracking development of emerging markets
 - Participating in discussions, as appropriate; looking forward to working with participants and stakeholders to find solutions
 - No plans have been made, no actions taken
- » WRAP is still conceptual – needs FERC approval, implementation, support from stakeholders, and participation – *this is our focus*

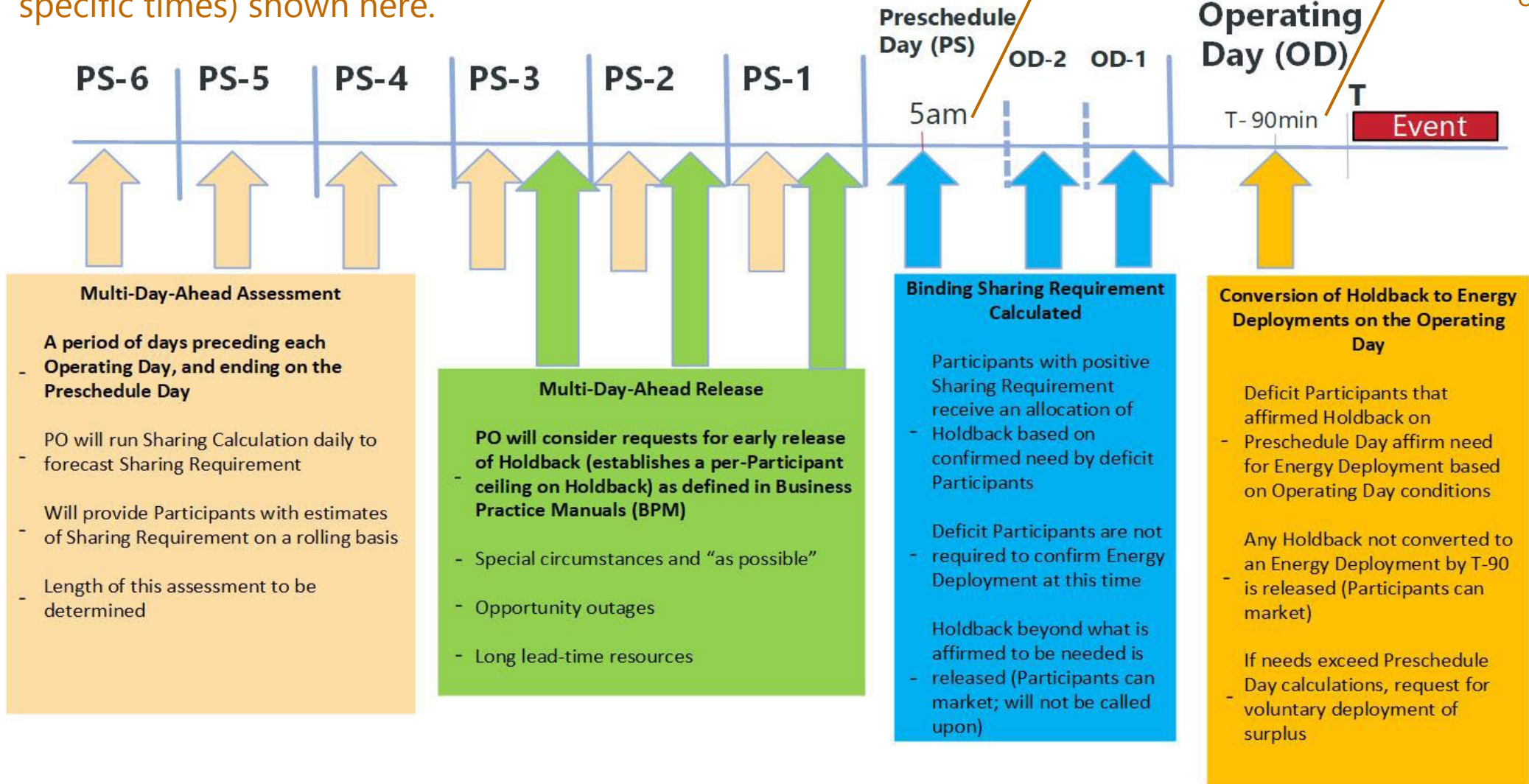
WRAP/DAY-AHEAD MARKET INTEROPERABILITY PRINCIPLES

1. Participation in a day-ahead market should not interfere with or preclude participation in the Western Resource Adequacy Program (WRAP).
2. Day-ahead markets should respect the governance framework and decision-making of the WRAP.
3. Day-ahead markets should preserve the diversity and investment cost savings derived from participation in the WRAP.
4. Day-ahead markets should preserve the supply priority and OATT transmission priority of WRAP forward showing supply to meet WRAP obligations.
5. Day-ahead markets should preserve the delivery of diversity benefits (holdback and energy) in the operational timeframe from one WRAP participant to another, including from WRAP/market participants to WRAP/non-market participants.
6. Day-ahead markets should strive to be an improvement over the WRAP operations program in the reliable and efficient dispatch of WRAP supply.

WRAP / day-ahead market interoperability timelines – requiring additional discussion during WRAP business practice manual development. Intent (though not specific times) shown here.

Holdback obligations are determined prior to running day-ahead markets

Energy deployments are determined prior to running imbalance/real-time optimization



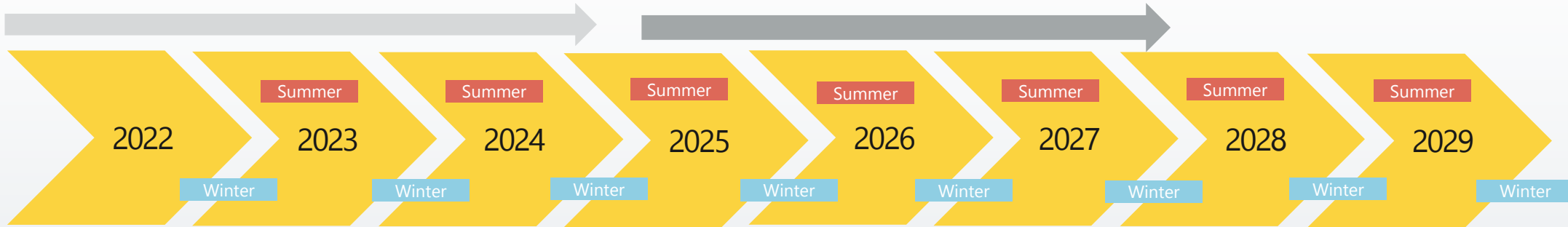
TRANSITION TIMELINE

Non-Binding Forward Showing

Winter 22-23, Summer 23, Winter 23-24, Summer 24, Winter 24-25

Transition Seasons (Ops and FS)

Summer 25, Winter 25-26, Summer 26, Winter 26-27, Summer 27, Winter 27-28



Non-Binding Operations Program

Summer 23 (trial – will include testing scenarios), Winter 23-24, Summer 24, Winter 24-25

Binding Program Without Transition Provisions

Summer 28 and all seasons following



THANK YOU

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Email WRAP@WesternPowerPool.org with general questions

WRAP OVERVIEW APPENDIX

PROGRAM DESIGN OVERVIEW

FORWARD SHOWING PROGRAM

- » Establishes a **regional reliability metric** (1 event-day in 10 years LOLE)
- » Utilizes thoughtful modeling and analytics to:
 - » Determine historical summer and winter **capacity critical hours** (CCHs) data sets for the region
 - » Determine each resource type's **qualifying capacity contribution** (QCC) to the regional capacity needs
 - » Determine a planning reserve margin (PRM) which is applied to peak load forecast based on P50 metric
- » Showing requirement includes **deliverability** component
 - » Firm or conditional firm transmission to meet 75% of P50 + PRM (paired with robust exception framework)
- » Participant compliance obligation (7 months in advance of binding season) = **physically firm resources to meet P50 + PRM**

Determine
Program
Capacity
Requirement



Determine
Resource
Capacity
Contribution



Compliance
Review of
Portfolio

PROGRAM DESIGN OVERVIEW

OPERATIONS PROGRAM



- » Evaluates participants operational situation relative to Forward Showing assumptions (for load, outages, VER performance)
- » Obligates participants with calculated surplus to assist participants with a calculated deficit on the hours of highest need
- » Deficiency forecast on day before Operating Day (Preschedule Day) establishes Holdback Requirement for surplus participants
- » Surplus Participant that fails to provide assigned Energy Deployment must pay Energy Delivery Failure Charge

TRANSITION APPENDIX

TRANSITION TO A BINDING PROGRAM

- » A thoughtful and deliberate transition from a non-binding RA program to a binding program is important for the WRAP's ability to maintain participation, remain viable, and ensure value to the region
- » Key principles:
 - The region greatly benefits from keeping the footprint moving forward together. The program should make reasonable efforts to accommodate any entity that desires to be part of the program
 - The program needs to ensure transition provisions generally maintain the principle of all parties providing a fair share of the region's capacity need. The program does not have the ability or intent to backstop capacity for participants unable to procure it in the market
 - Communication and coordination around the transition plan and impacts is vital.

TRANSITION PROVISIONS

- » When participants sign up to participate in the binding program (and its transition), they will be given the choice as to which transition season they would like to become binding
 - Summer 25, Winter 25-26, Summer 26, Winter 26-27, Summer 27, Winter 27-28, or Summer 28
- » If participants have agreed to participate in a binding manner (beginning in any of the seasons listed), they will be able to participate in the preceding seasons in a non-binding manner

TRANSITION PROVISIONS (CONT.)

- » Participants who cannot quite meet the requirements will be afforded limited accommodations
 - Ability to pay a discounted deficiency charge for limited amounts, meeting specific criteria
 - No deficiency charge for legacy (executed before Oct 2021) unspecified source contracts
- » Participants using these accommodations or remaining non-binding will be placed in a lower 'tier' for access to regional diversity

ETD PROVISIONS

Transition Seasons (Ops and FS)

Summer 25, Winter 25-26, Summer 26, Winter 26-27, Summer 27, Winter 27-28



For each year of the transition (regardless of when a particular Participant elects to go non-binding), the maximum total allowable ETD for each participant will decrease:

S25 and W25-26:

- **up to 75% of a participant's PRM may be excused with an ETD**
- **75% discount from program-calculated seasonal and monthly CONE charges**

S26 and W26-27:

- **up to 50% of a participants' PRM may be excused with an ETD**
- **50% discount from program-calculated seasonal and monthly CONE charge**

S27 and W27-28:

- **up to 25% of a participants' PRM may be excused with an ETD**
- **25% discount from program-calculated seasonal and monthly CONE charges**

ADDITIONAL TRANSITION PROVISIONS

- » In addition to the ETDs and discounted deficiency charges, there are additional provisions for inability to show that legacy contracts (executed before Oct 2021) meet WRAP standards
 - To obtain this transition relief, Participant must attest it made commercially reasonable efforts to execute a Joint Contract Accreditation Form (JCAF) with its legacy contract supplier, but supplier was unwilling to do so
- » Participants will not be levied deficiency charge if the total value of such contracts is less than 25% of the capacity value of their PRM (in MWs)

TRANSITION PROVISIONS

OPERATIONS PROGRAM

- » Participants that paid for ETDs or pay a FS deficiency payment will have their Operations Sharing Calculation modified to reflect the amount of capacity they demonstrated
- » In the Operations Program, during the three-year transition period, WRAP participants will get access to one another's capacity via the tiers shown on the next slide
- » Following the transition period, the 2nd and 3rd tiers will effectively be empty (no more ETDs, no non-binding participants), leaving WRAP participants in Tier 1 and non-participants in Tier 4

TRANSITION PROVISIONS

OPERATIONS PROGRAM

	Who's in it?	What do they get?	What can/must they give
1st Tier	<ul style="list-style-type: none"> – Binding Participants who have passed the FS without use of ETDs or no-JCAF option – Binding Participants who have paid a FS deficiency charge 	<ul style="list-style-type: none"> – Voluntarily offered capacity (additional holdback) from participants – Mandatory hold-back in the Ops Program 	<ul style="list-style-type: none"> – Mandatory holdback – Voluntary holdback
2nd Tier	<ul style="list-style-type: none"> – Binding Participants who utilized ETDs – Binding Participants who exercised the <25% "no-JCAF option" 	<ul style="list-style-type: none"> – Voluntarily offered capacity (additional holdback) from participants not utilized by Tier 1 – Mandatory hold-back in the Ops Program not utilized by Tier 1 	<ul style="list-style-type: none"> – Mandatory holdback – Voluntary holdback
3rd Tier	<ul style="list-style-type: none"> – Non-Binding Participants 	<ul style="list-style-type: none"> – Voluntarily offered capacity (additional holdback) from participants not utilized by Tiers 1 or 2 	<ul style="list-style-type: none"> – Voluntary holdback
4th Tier	<ul style="list-style-type: none"> – Non-Participants 	<ul style="list-style-type: none"> – Any Participant capacity offered outside the program (not otherwise utilized by Participants through WRAP) 	<ul style="list-style-type: none"> – No access through the program