
SPP
Powering Progress
MARKETS +
MSC Capacity Building : RA
November 2026
Markets+
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Agenda

1. WRAP History and Program Overview
2. How resource adequacy is defined and enforced in Markets+;
3. WRAP Operations Program: transition plan and work of the Markets+ RA Working Group.

WRAP – History and Overview

WRAP Basic Mechanics

Regional Resource Adequacy From Planning Through Operations



Advance Assessment	Forward Showing Submittal	Operational Assessment	Energy Transaction
2+ years ahead of time	7 Months ahead of Summer and Winter Seasons	7 days ahead though Preschedule Day	In real time

FORWARD SHOWING PROGRAM
Plan for and demonstrate resource adequacy.

OPERATIONS PROGRAM
Respond to actual system conditions

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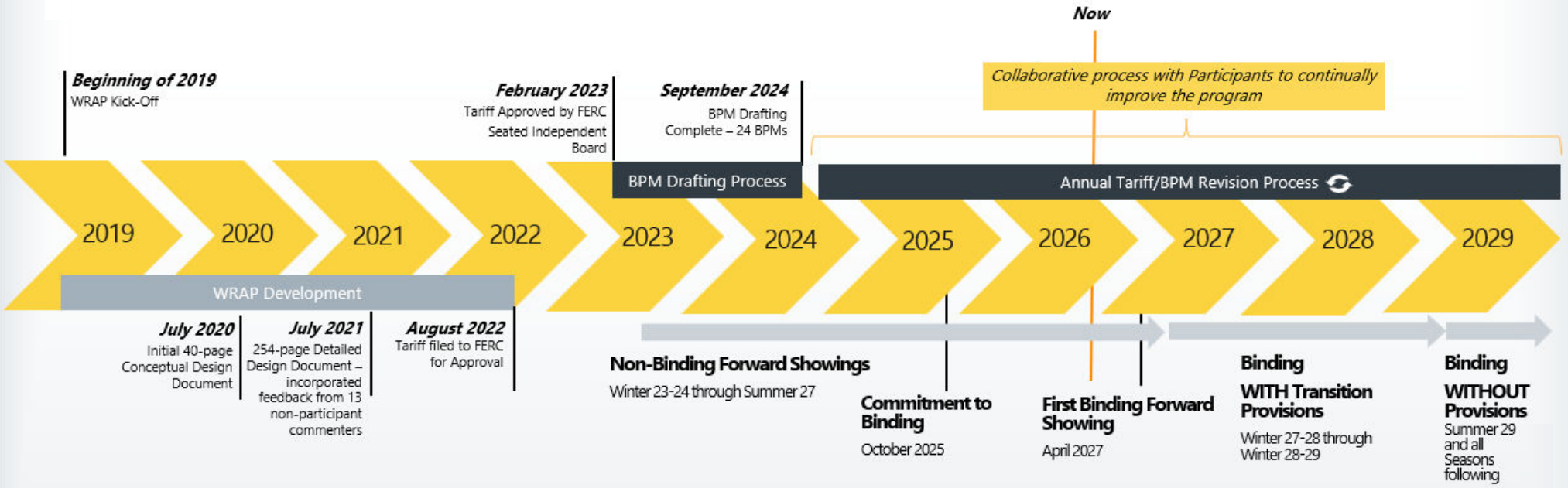
WRAP Evolution

Seven Years of Development Building Toward Binding in 2027



One Year from Today

First WRAP Binding Operations Season Winter 2027-28

NOVEMBER 20, 2027

» WRAP First Binding Operations Season Begins

OCTOBER 2027

» Markets+ Phase One Launch
» All Participants will be in WRAP

WRAP Participants

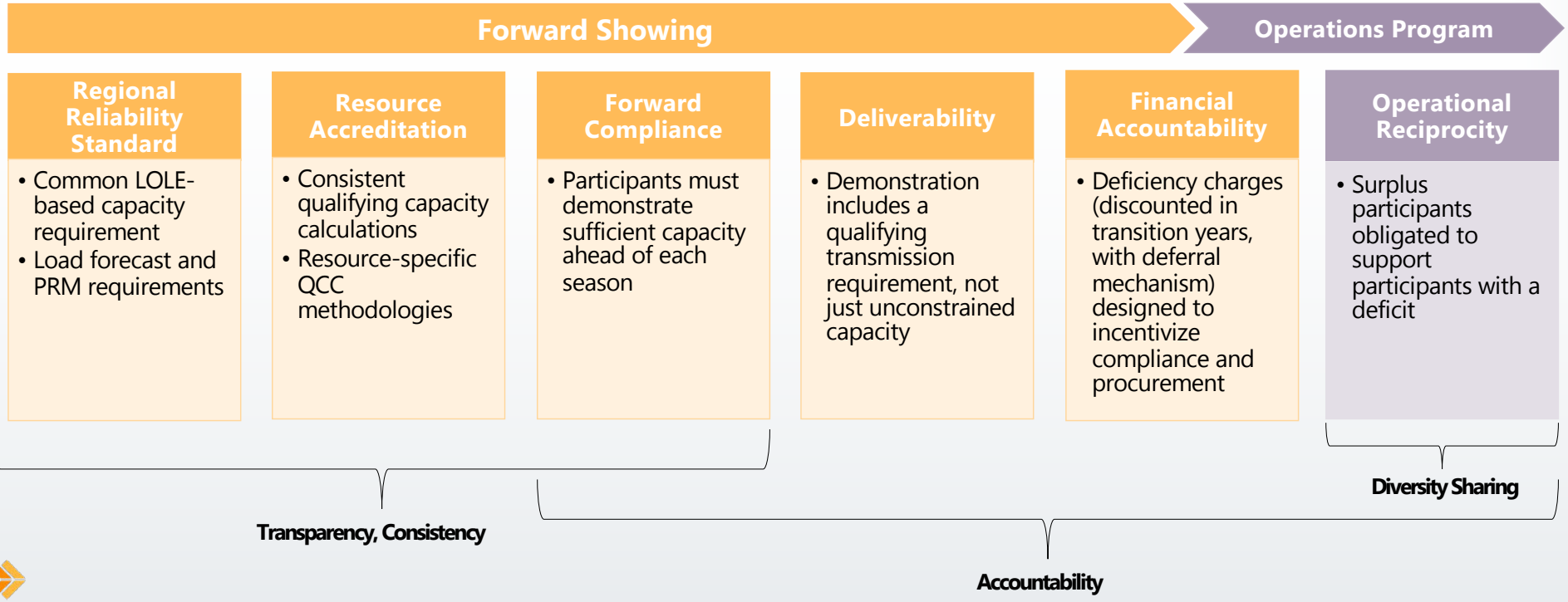
Arizona Public Service
Avista
Bonneville Power Administration
Calpine*
Chelan County PUD
Clatskanie PUD
CORE Energy Services
Eugene Water & Electric Board*
Freeport McMoRan Energy Services
Grant PUD
Idaho Power
NorthWestern Energy
NV Energy*
PacifiCorp*
Portland General Electric*
Powerex
Public Service Company of New Mexico*
Public Service Company of Colorado
Puget Sound Energy
Salt River Project
Seattle City Light+
Tacoma Power
The Energy Authority
Tucson Electric Power

**Entities will exit prior to W 27-28 Binding Season*
+Entities will exit prior to S28 Binding Season



WRAP Core Design Attributes

Resource Adequacy Standards for a Binding Program



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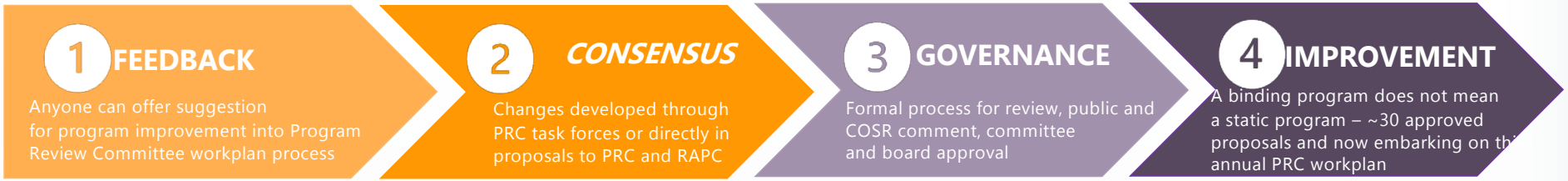
WRAP Continuous Improvement

Governance and Stakeholder Input to Evolve the Program

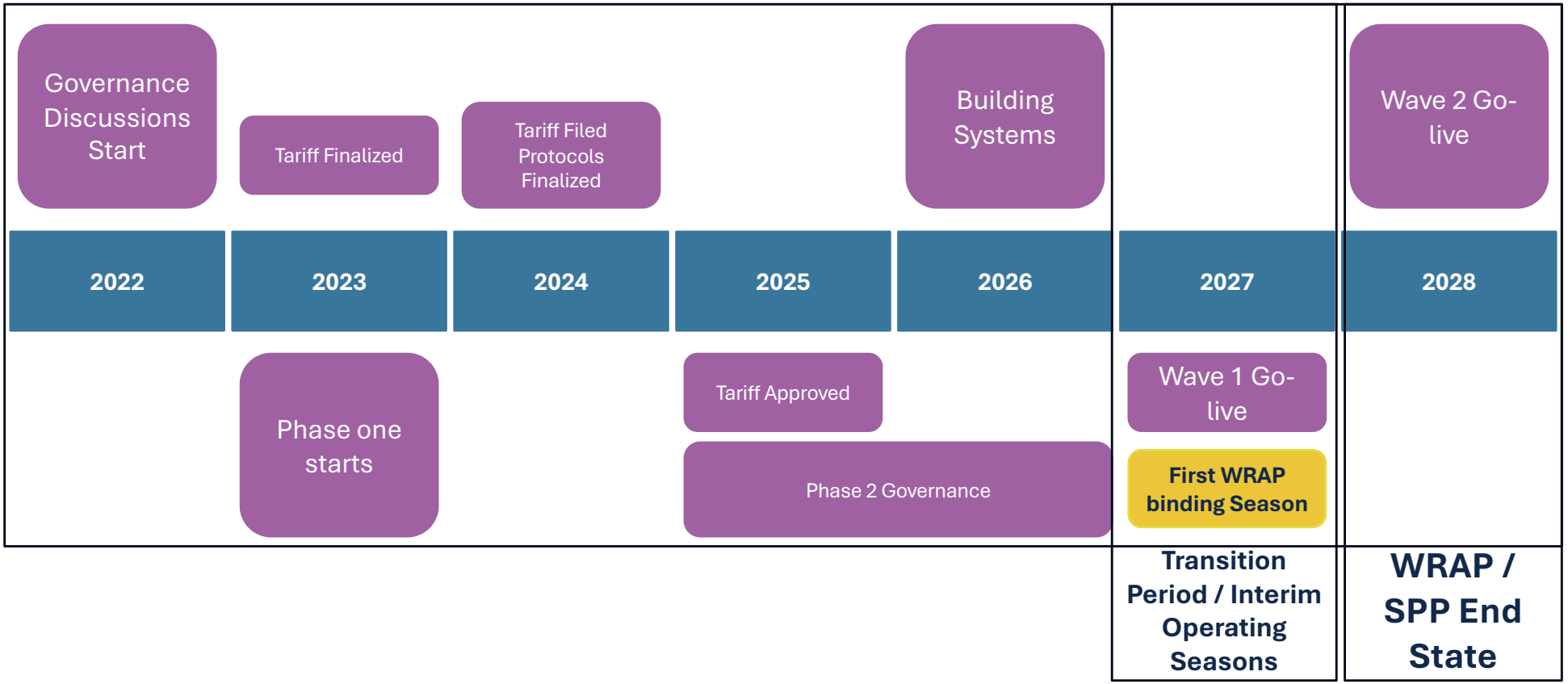
WRAP has a FERC-approved Tariff and 24 approved Business Practice Manuals



WPP has repeatedly evolved while maintaining our commitment to participants and our core reliability obligation.

Proposals adopted or currently under consideration include:	
Transition period deficiency charge discounts	Ongoing ELCC / accreditation work to improve predictability
Deficiency change deferral mechanism	Creation of Rockies subregion
Day Ahead Market Task Force / operations integration	Creation of additional onboarding window
PRM Task Force to provide advance notice, limit volatility	

Program Timeline

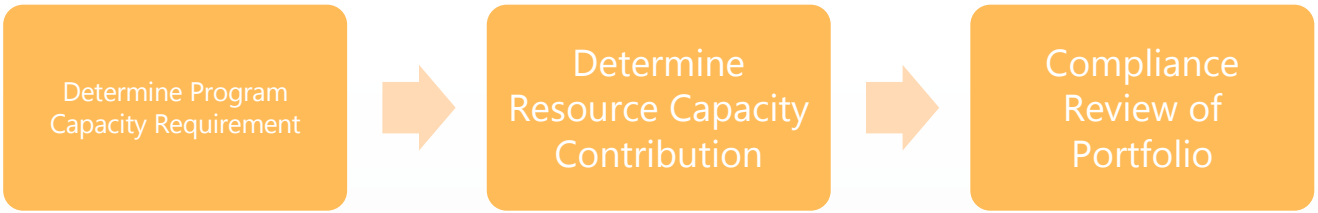


WRAP – FORWARD SHOWING

Resource Adequacy definition and enforcement

Program Design Overview

Forward Showing



- Establishes a **regional reliability metric** (seasonal 1 event-day in 10 years LOLE)
  - Transition away from utility-by-utility RA programs and assumptions
- Registered resources receive a **Qualifying Capacity Contribution** (QCC) in advance of forward showing deadlines (seven months ahead of winter and summer seasons)
  - Resource-agnostic, consistent methodology for assessing capacity contribution
- Non-compliance with forward showing requirements (capacity or transmission) results in a **Forward Showing Deficiency Charge**

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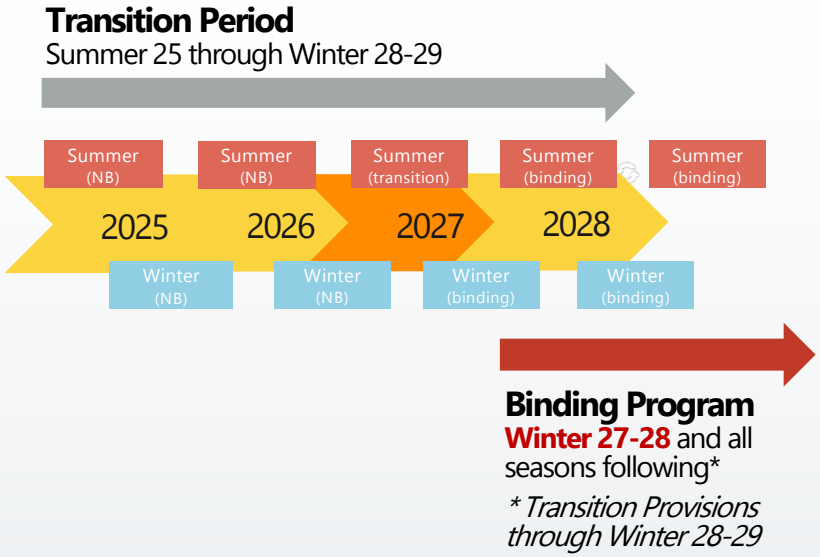
WRAP Transition Period

A responsible, phased-in approach to binding and compliance



1. Existing transition discount provisions

BPM 109 - Table 3. Reduction of Deficiency Charge Based on ETDs

Season	Percentage Value Reduction for Portion of Monthly Capacity Deficiency to Which ETDs Have Been Applied
Summer 2027	75%
Winter 2027-2028	75%
Summer 2028	50%
Winter 2028-2029	50%

2. Newly adopted deferral mechanism

-Support participants actively developing future qualifying resources.
-Preserve incentives to meet Forward Showing obligations.
-Apply only during the WRAP Transition Period.

DEFICIENCY CHARGE DEFERRAL

Timing / Outcome	Total Percentage of Original Forward Showing Deficiency Charge Owed	Rockies-Specific Deferral Amounts (total percentage of original FS Deficiency Charge)		Winter 2027/28 Deferral Timeline	Summer 2028 Deferral Timeline	Winter 2028/29 Deferral Timeline
Initial payment upon deficient Forward Showing	15%	**5%**		Winter 27/28	Summer 28	Winter 28/29
Participant fails next Forward Showing of same Season Type	40%	**20%**		Winter 28/29	Summer 29	Winter 29/30
Participant fails second Forward Showing of same Season Type	70%	**50%**		Winter 29/30	Summer 30	Winter 30/31
Participant fails third Forward Showing of same Season Type *(end of the deferral period)*	100%	**100%**		Winter 30/31	Summer 31	Winter 31/32
Participant exits WRAP before resolution	100%	**100%**		Departs before W31/32 without passing	Departs before Summer 32 without passing	Departs before Winter 32/33 without passing

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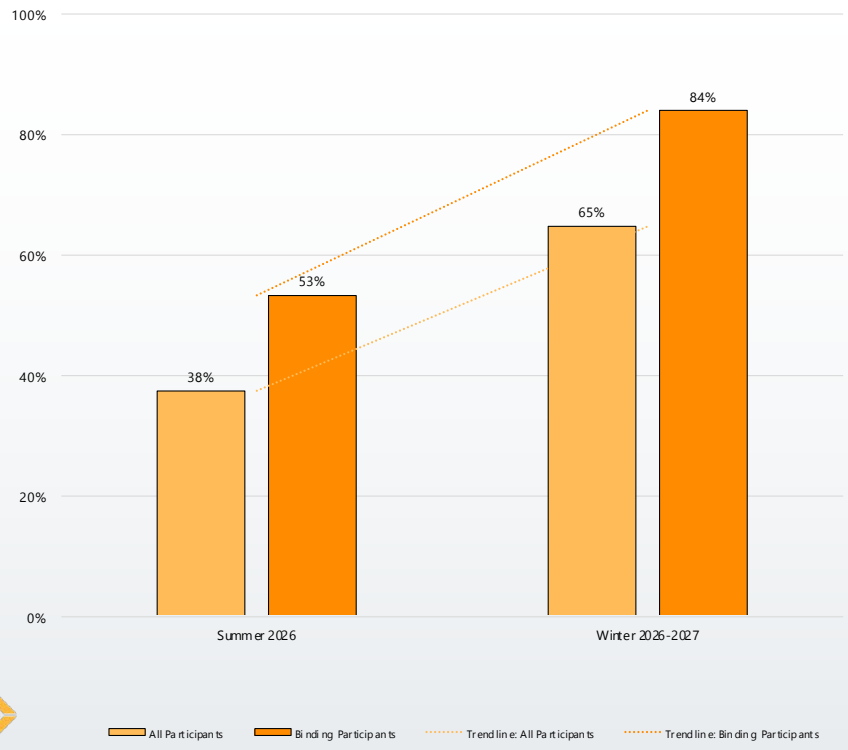
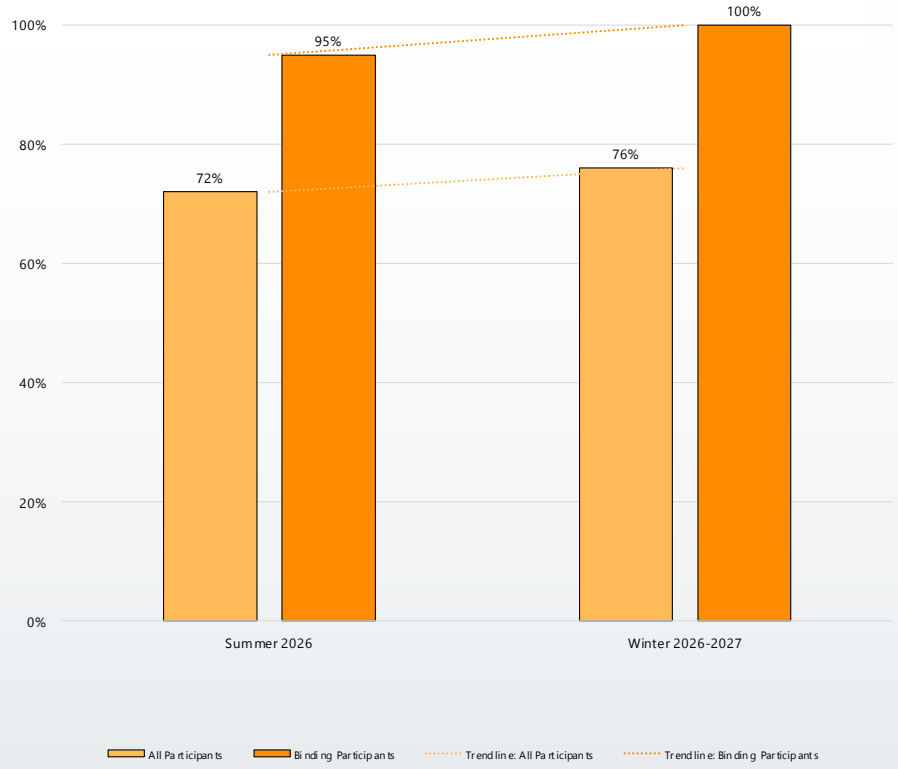
WRAP Changing Behaviors

Binding Pushing Participants Toward Compliance, Influencing Procurement

FS Capacity Requirements Met (Participant-Months)



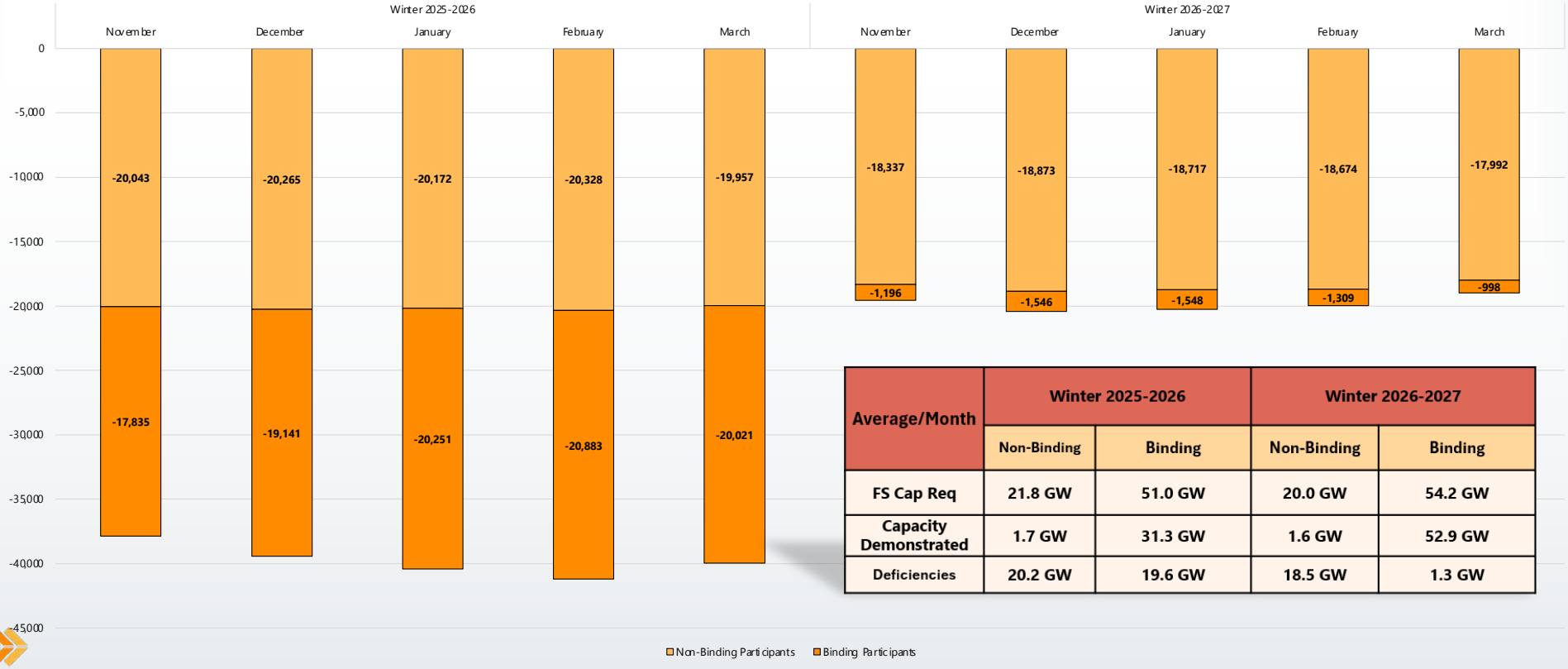
Transmission Requirements Met (Participant-Months)



Winter 2026-2027 Binding Season has 5 months – running November 1 – March 15. *Summer 2026 had 4 months – running June 1 – September 15*

WRAP Changing Behaviors

Binding Participants Trending Upward for Compliance



Average/Month	Winter 2025-2026		Winter 2026-2027	
	Non-Binding	Binding	Non-Binding	Binding
FS Cap Req	21.8 GW	51.0 GW	20.0 GW	54.2 GW
Capacity Demonstrated	1.7 GW	31.3 GW	1.6 GW	52.9 GW
Deficiencies	20.2 GW	19.6 GW	18.5 GW	1.3 GW

Forward Showing compliance is assessed in accordance with the WRAP Tariff and BPMs. Deficiencies may result from insufficient capacity, administrative errors, or incomplete information, and the results presented do not distinguish between the underlying causes of deficiencies.

MUST OFFER OVERVIEW

How resource adequacy is defined and enforced in Markets+ | WRAP Forward Showing and Operations

How are the programs aligned

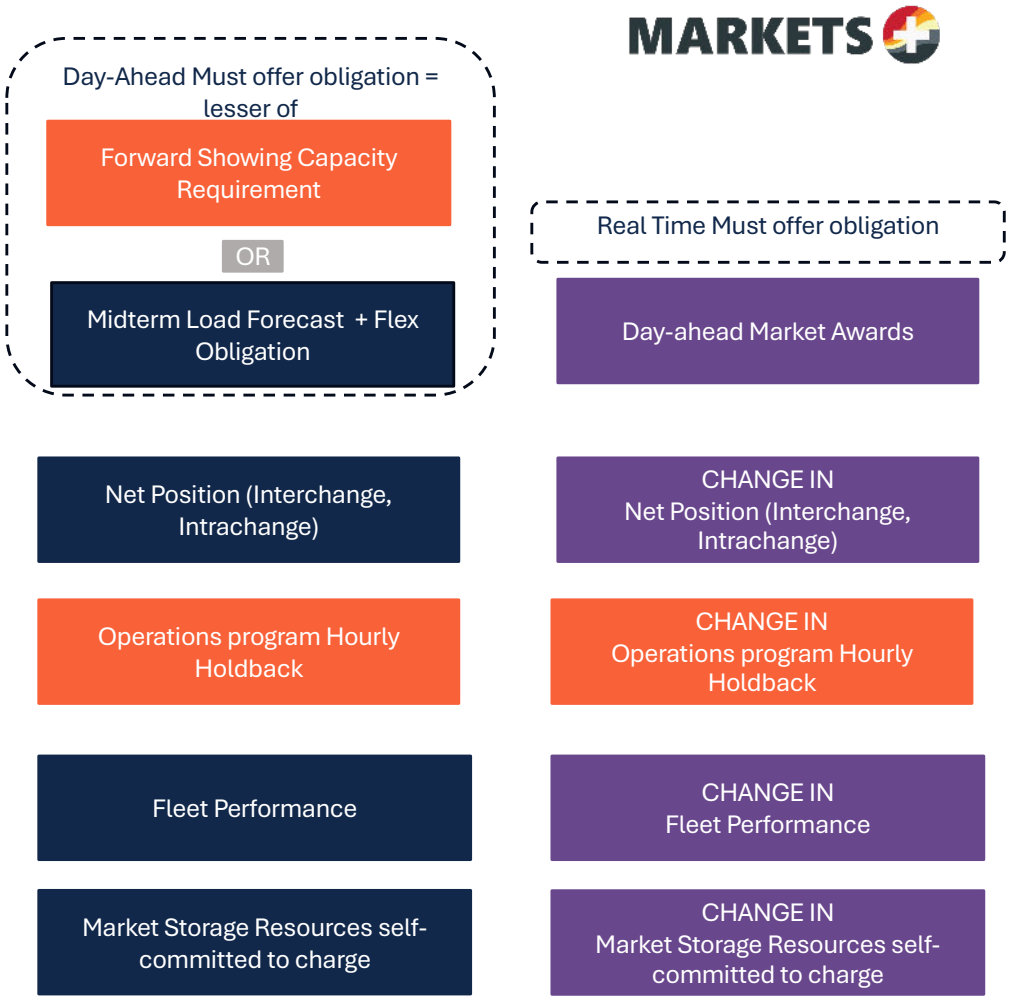
In General:

- For LRES: WRAP is a prerequisite for M+ Participation.
  - All load must be registered in M+, and registered load must be covered by the WRAP tariff (Accomplished via a Markets+ tariff attestation) because we cannot make one tariff subject to another tariff – but we have privity with market participants
- High-Priority Interchange transaction priority established to support WRAP transactions (import and export)
- **Binding season requirements defined by WRAP Forward showing obligations**
- Staff from both programs work collaboratively to stay informed and be proactive



M+ Must Offer overview

- Day Ahead-- Minimum obligation for Load Responsible Entities (LREs) to offer sufficient supply to Day Ahead Market to cover load forecast + flex reserve requirement
  - LREs are provided Load forecast and flex requirement at 6:30 AM PPT
  - Capped at LRE's WRAP forward showing obligation adjusted for WRAP holdbacks
  - Adjusted for purchases/sales
- Real-Time
  - Day-Ahead awards become foundation for Real-Time Must Offer Obligation
  - Adjusted for additional purchases/sales



M+ Must offer penalties

- MPs will be charged a shortfall amount if they have failed to offer the required capacity for an operating hour. During the binding season, the forward showing obligation defines this threshold
- Penalty is an LMP-based charge (LMP * MW shortfall), assessed per market participant
- Any collected penalty revenues are distributed to Market Participants with offered capacity in excess of their must-offer obligation, on a pro-rata basis
- M+ penalty design was intended to work in tandem with any penalties assessed under the WRAP tariff (for both Forward Showing and Operations programs). Program bifurcation may entail revisiting Operations program penalty scaling



TRANSITION PLAN

The WRAP Operations transition plan and work of the Markets+ RA Working Group.

WRAP – OPERATIONS PROGRAM

Diversity sharing and Markets+ transition

Program Design Overview

Operations Program



- Evaluates participants operational situation relative to Forward Showing assumptions
- Obligates participants with calculated surplus to assist participants with a calculated deficit on the hours of highest need
- Surplus Participant that fails to provide assigned Energy Deployment must pay **Energy Delivery Failure Charge**

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Mandated Sharing: Diversity Sharing You can Count on

» Vast majority of economic savings in regional markets/RTOs comes from capacity savings

» Realizing capacity savings depends on:

– Footprint size, resource and load diversity qualities

– **Certainty that your neighbors will share diversity with you**

» WRAP Ops program paradigm balances certainty with operational flexibility

– Requires a MW quantity to share (not specific resources dispatched)

– Charges for non-delivery

– Always enables participants to use capacity to meet their own needs before helping others

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WRAP and Markets+ Alignment

- Partnering with Markets+ to facilitate optimized diversity sharing will unlock greater access to diversity
  - Mitigates uncertainty inherent in setting sharing obligations on Preschedule day
  - Minimizes 'stranded capacity' by optimizing all available resources to serve needs
  - Will benefit M+ and non M+ participants (need not be a participant in M+ to get WRAP diversity benefit)
- Markets+ requirement of WRAP participation helped drive critical mass of binding participation
  - M+ energy economic benefits bring the 'carrot' that enabled many WRAP participants to remain committed to WRAP as it transitions to binding ('sticks')
  - WRAP provides essential level playing field to enable M+ policies and WRAP ops sharing

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WPP Proposal for Program Administration Realignment

	Forward Showing	WRAP M+ Operations
Today:	WPP + SPP	WPP + SPP
Future:	WPP	SPP
Objective:	Planning, modeling, and compliance aligned under one owner.	Operational sharing and delivery aligned with the market engine.

End State:
WPP → Planning & FS Compliance
SPP → Operational Delivery
Clean accountability, Clear separation of roles.

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How will this benefit the footprint?

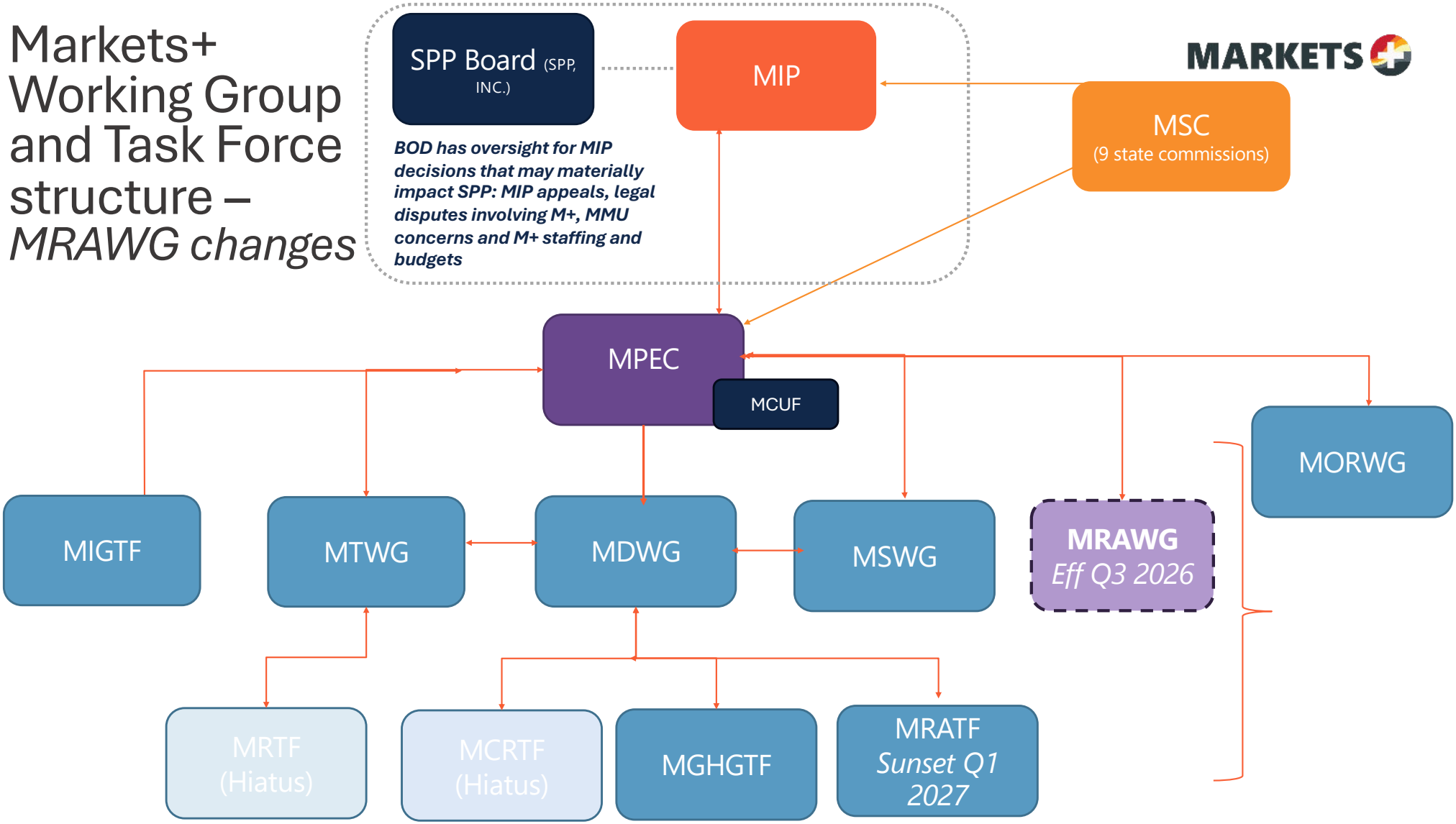
MARKETS+

Benefits of the change	What will not change
• Leverage the market clearing engine for operations program calculations • Potential to refine inputs to the calculation for one source of truth • Timeline of sharing calculation more aligned to the market • Potential to leverage Markets+ concepts like reserve zones to increase the pool of sharable resources to meet load • Potential to reduce the fixed uncertainty calculation (currently 10%)	• We do not expect the forward showing submission to Markets+ will change, therefore the must-offer ceiling, and the way the ceiling is communicated to Markets+, will not change • However, once governance is in place, each program can continue to evolve pursuant to its own separate stakeholder process

How will Markets+ Support This Transition ?

- **First, the necessary governance changes must take place in each program**
  - WHY? The governance for each program is separate right now, and neither program can dictate changes to the other program without assent confirmed through governance
- **Then**, once governance is in place, **tariff changes will be necessary to support the tariff split**
  - Why? The MRATF is a subset of the WRAP binding season participants, and if we make rules in Markets+ that impact the WRAP binding season participants, they should be at the table
  - What types of decisions? For Markets+, all elements of the operations program:
    - How (and when) to affect the sharing calculation in the market system
    - How to assign the sharing calculation to WRAP binding season participants that are not in Markets+, including what transmission is required
    - How to define tariff relationship with WRAP participants that are not in Markets+
    - Settlements for operations program transactions
  - For WRAP:
    - Bifurcation of the tariff and changes to the forward showing program
  - For both programs
    - A standalone coordination agreement to clearly define principles and roles required that will support the transition

Markets+ Working Group and Task Force structure – *MRAWG changes*



Proposed Working Group Change for Markets+

- Binding WRAP participants who are not in Markets+ must sign a participation agreement
  - After go-live, their participation is contemplated under a limited-participation tariff model
  - Markets+ Resource Adequacy Working Group (MRAWG) will stand up in Q3 2026. Markets+ Resource Adequacy Task Force (MRATF) to sunset as early Q1 2027
  - MRAWG features
    - Reports to MPEC directly
    - Roster is only open to WRAP LREs
      - Signed WRAPA is a prerequisite to participation
      - Non-Markets+ WRAPA participants can sign a participation agreement to get access to governance pre-go live. Post go-live, governance for these entities is proposed to be governed by the Markets+ Tariff
    - MRAWG to a limited scope. MRAWG will only set policy related to WRAP and Markets+ overlap, with any residual design issues moving to MDWG (*e.g.*, DR participation)

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