

MARKETS



Development Update
July 6, 2022



*Working together to responsibly and economically
keep the lights on today and in the future.*



SouthwestPowerPool



SPPorg



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Southwest Power Pool
**WESTERN
ENERGY
SERVICES**

WELCOME AND OVERVIEW

BRUCE REW

SPP SR. VP, OPERATIONS

TODAY'S AGENDA

Welcome and Overview	Bruce Rew
Design Team Updates Governance Transmission Availability Market Products/Price Formation Other Design Elements GHG Tracking Market Monitor	Kara Fornstrom Steve Johnson Jim Gonzalez Yasser Bahbaz Kara Fornstrom
Questions/Discussion	Facilitated by Bruce Rew
Portland Meeting Details	Bruce Rew
Next Steps/Schedule Draft Service Offering Future Webinars	Bruce Rew

DESIGN TEAM UPDATES

GOVERNANCE DESIGN TEAM UPDATE

KARA FORNSTROM, SPP

GOVERNANCE DESIGN TEAM ACTIVITY SINCE DENVER MEETINGS

June 23: WIEB Webinar

- SPP provided side-by-side comparison on State Representative requests and the Straw Proposal and Revised Straw Proposal

June 24: SPP Webinar

- SPP described revisions to the May Straw Proposal
- Issued Governance Revised Straw Proposal
- Request for Written Comments

STRAW PROPOSAL – BALANCING INTERESTS

- Include consensus views from meetings and written comment responses to the maximum extent possible
- What FERC will approve
- SPP best practices
- Minimize impacts to SPP, Inc.





PARTICIPATION PHASES – INCREMENTAL APPROACH

Phase 1: Funded Investigation

Supportive entities that want to design Markets+ market operations and draft governing documents (FERC submittal)

Commit a non-refundable amount

Phase 2: Implementation

Upon FERC approval, SPP acquires/modifies necessary software, hardware and related processes

Participating entities fully commit to fund efforts

Entities integrated into the system

REVISED STRAW PROPOSAL

- General Clean-up
- MIP - Section 3.2:
 - Clarification of Appeals Process to SPP Board
 - Edited Enumerated Purposes (1, 2 and 6)
- MPEC:
 - Section 3.3.1 - Clarification of relationship to the MIP
 - Section 3.3.1.1 - Clarify affiliate participation
 - Section 3.3.1.4 – Voting Provision Removed for further discussion of options (future slide)

REVISED STRAW PROPOSAL

- **MSC – Section 3.3.2.1:**
 - Changed “commissioner” to “representative”
 - Representative appointed by state utility commission
- **Standing Working Groups and Task Forces:**
 - Expanded process for selecting members
 - Received early feedback about standing working groups (i.e. Operations and Reliability Working Group)
- **Appeals to the MPEC and the MIP – Section 3.7:**
 - Any MMP or MMS may appeal WG/TF decisions to the MPEC
 - Any MMP or MMS may appeal MPEC decisions to the MIP

Markets+ Independent Panel Revisions to Section 3.2.1

- Clarified Appeal Process:

“Based on historic practice, upon review, should the SPP Board determine there is not sufficient consensus supporting the MIP’s decision, the SPP Board may remand the issue to the MIP and/or the appropriate Markets+ Working Group for further consideration.”

- Edited Enumerated Purposes: 1, 2 and 6 (Per State Comments)

Markets+ Participants Executive Committee Revisions

- Clarification of relationship to the MIP (Section 3.3.1)
- Clarified Affiliate Participation (Section 3.3.1.1)
- Removed Voting Structure (Section 3.3.1.4)
 - Options to Consider for Written Comment

MPEC VOTING OPTIONS TO CONSIDER

NIPPC Proposal: Three equally weighted sectors: (Unicameral)

- *Investor-owned utilities:* All Participants within this sector are “public utilities” under the Federal Power Act, are regulated by a state regulatory commission, and have a fiduciary responsibility to investors to earn a rate of return on ratebased assets.
- *Public power:* Participants in this sector would include publicly-owned utilities, electric cooperatives, power marketing administrations, and perhaps Powerex (as a subsidiary of BC Hydro – a Canadian Crown Corporation).
 - Given the significance of BPA, WAPA, and Powerex as wholesale marketers within the same sector as retail utilities, the sector may want to reserve a portion of the vote (for example, 30-50%) to those three entities or, alternatively, weight votes within the sector by load responsibility.
- *Independent:* Independent power producers, marketers, transmission developers, and end-users. This sector is purposefully a “catch-all” for Participants who aren’t utilities or publicly owned marketers. The presence of end-users within the sectors reflects uncertainty about the extent to which those entities will elect to become Participants while still reserving them a sector for purposes of MPEC voting.

Other Weighted Voting Option (Unicameral)

Upon execution of a Participants Agreement, a Participant shall be assigned to one of two Membership sectors for the sole purpose of voting on matters before the Markets+ Participants Executive Committee: Balancing Authority Participants (BAP) or Other Participants.

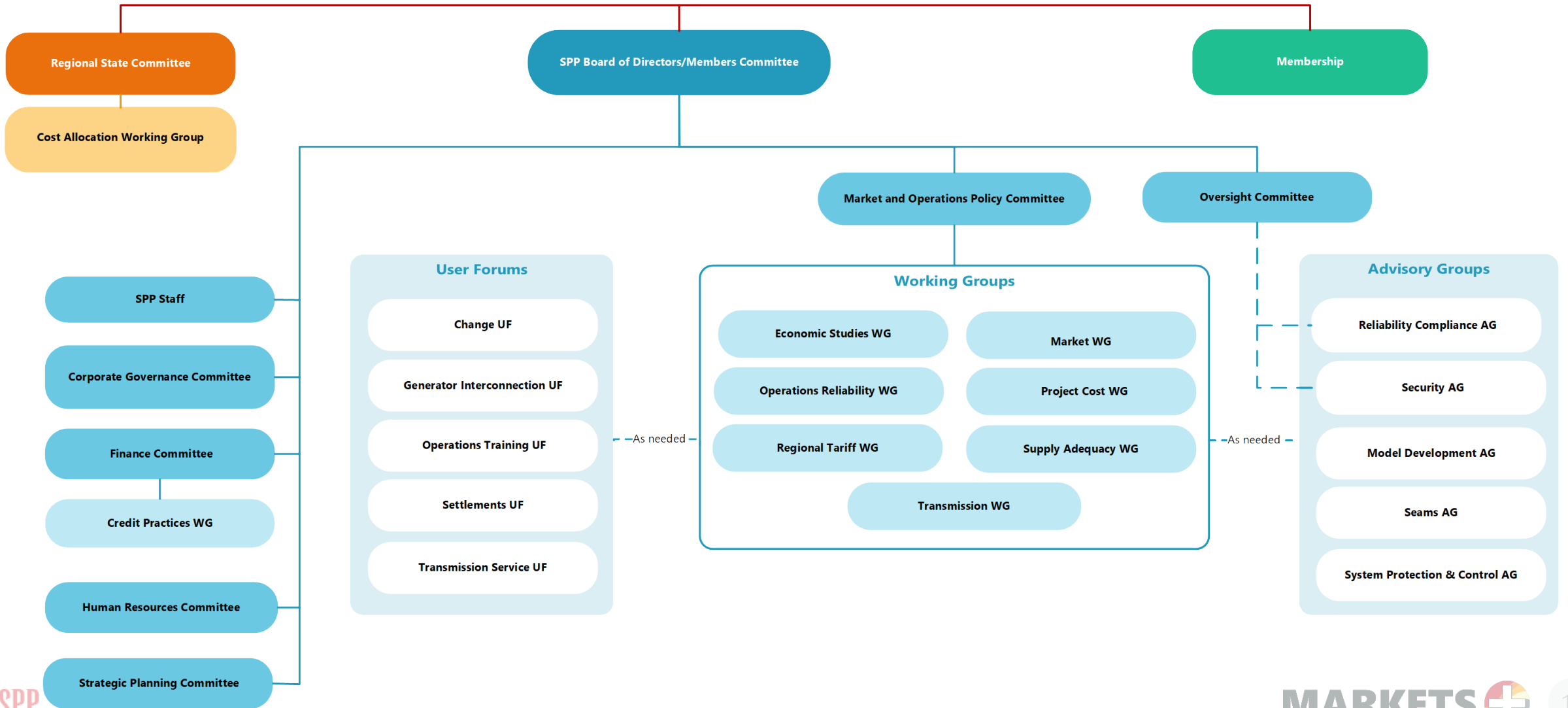
Each sector votes separately with the result for that sector being a percent of approving votes to the total number of Participants voting. The BAP sector represents 50% of the vote and the Other Participants sector represents 50% of the vote.

An action is approved if the average of these two percentages is at least 66%.

Standing Working Groups and Ad Hoc Task Forces Revisions

- Expanded Process for Selecting Members (Sections 3.4.1.1 and 3.4.2.1)
- Received early feedback about standing Working Groups (i.e. Operations and Reliability Working Group)

FACILITATION



Markets+ State Committee Revisions to Section 3.3.2.1

- Changed “commissioner” to “representative”:
 - “One representative from each state in which a Markets+ Market Participant has generation or load participating in the Markets+ market in that state, may participate as a member of the MSC.”
- Representative appointed by state utility commission:
 - “Each state representative will be appointed by the utility regulatory commission of that state.”

Appeal Process

Revisions to Section 3.7

- Any Markets+ Market Participant, Markets+ Market Stakeholder **or the MSC** may appeal any Working Group or Task Force Decision to the MPEC
 - Notify MPEC Staff Secretary within seven days
 - Submit alternative recommendation
- **Any Markets+ Market Participant, Markets+ Market Stakeholder or the MSC may appeal any MPEC decisions to the MIP.**
 - Notify MIP Staff Secretary within seven days
 - Submit alternative recommendation

REQUEST FOR WRITTEN COMMENT

COMMENTS DUE JULY 15

GOVERNANCE DESIGN TEAM SCHEDULE

- July 15: Written Comments Due
- July 22: Governance Design Team Webinar
 - SPP to summarize written comments received
- August 9-10 In Person Meeting – Portland
 - Workshop Format
- August 17 Portland Summary Webinar

QUESTIONS/DISCUSSION

TRANSMISSION AVAILABILITY DESIGN TEAM UPDATE

STEVE JOHNSON, SPP

MARKETS+ MARKET DESIGN UPDATE

- Current Scorecard
- Summary of 6/15 and 6/29 meetings
 - Transmission Design Elements
 - Congestion Hedging
- Future Webinars

TADT DASHBOARD

Revenue Recovery Amount

Revenue Recovery mechanism (load vs. market based)

Revenue distribution methodology

All transmission in, out by exception






TSP data collection and analysis

Working draft of design document

TSP and Planning functions retained, OATT rights respected

Base Schedule support

Flow-based operations DA and RT

-  Ongoing Discussions/work
-  Future Discussion
-  Nearing Comment Phase
-  Ready for comment
-  Ready for Offering

TRANSMISSION DESIGN ELEMENTS

- Continued discussions on
 - Amount of revenue to collect for initial period
 - Methodology to determine collection amount after initial period
 - Distribution Methodology
 - Tagging and scheduling
 - Market use of transmission based on “all in” concept
 - Normal OATT processes after market run

CONGESTION HEDGING

- Allocation of Day-Ahead Market rents
 - TSR Eligibility
 - All TSRs vs Desired TSRs
 - What is the minimum duration for TSR inclusion?
 - Monthly, Weekly, Daily?
 - Conditional Firm
 - How to consider it relative to Firm service
 - TSR Submission Timelines
 - Dependent upon TSR minimum duration

FUTURE TRANSMISSION AVAILABILITY DESIGN TEAM WEBINARS

07/20/2022 10:00-Noon Mountain

- Transmission Design Examples
- Design concepts draft review

08/03/2022 10:00-Noon Mountain

- Congestion Rents

QUESTIONS/DISCUSSION

MARKET PRODUCTS PRICE FORMATION DESIGN TEAM UPDATE






JIM GONZALEZ, SPP

MARKET PRODUCTS/PRICE FORMATION DESIGN TEAM UPDATE

- Current Scorecard
- Summary of Last Meeting
 - Participation Model
 - Mitigation Logic
- Future Webinars

DECISION SCORECARD CURRENT

Market Timelines	Losses	Congestion Hedge	Market Products
Congestion Management	Dispatch	Unit Commitment	Physical Sufficiency
Uplifts	Bilateral Transactions	Physical Deliverability	Mitigation
Participation Models	Price Formation	Virtuals	GHG/Carb

-  Ongoing Discussions
-  Future Discussion
-  Nearing Feedback Request
-  Feedback Requested
-  Ready for Offering

PARTICIPATION MODEL

WHO CAN PARTICIPATE IN MARKETS+?

An entity that:

- Generates
- Transmits
- Distributes
- Purchases or Sells

Electricity within, into, out of or through the Markets+ Footprint.

Participation includes:

- Wholesale Energy Settlement with SPP
- Asset Registration and Participation
- Market Participant Obligations necessary for effective and efficient market
 - Metering, credit, data requirements, etc.

RESOURCE PARTICIPATION MODEL

RESOURCE ASSET REGISTRATION TYPES

DEMAND RESPONSE

Demand response Resources that can physically reduce or shift their electricity usage.

EXTERNAL TO SPP BA

External Resources to the SPP Balancing Authority (BA) that participate in the Integrated Marketplace.

GENERATION

Individual (single) generation unit consisting of physically connected generator(s), reactor(s), boiler(s), combustion turbine(s) or other prime mover(s) operated together to produce electric power.

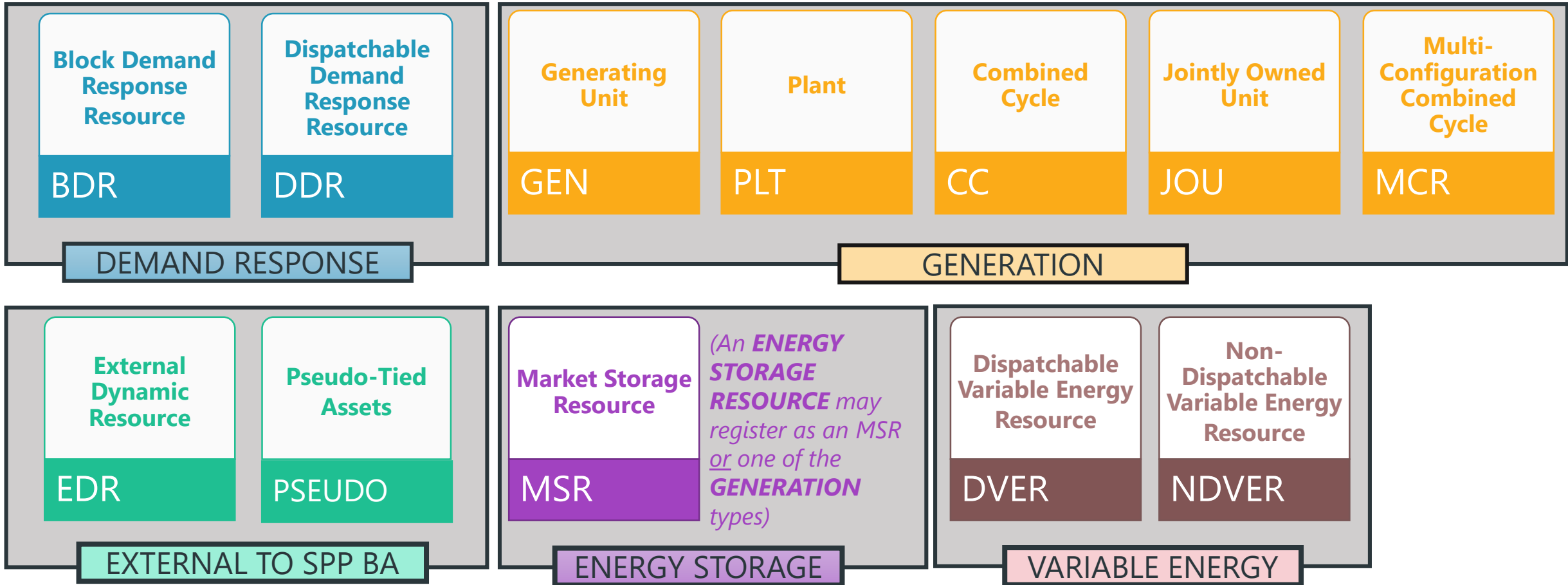
ENERGY STORAGE

A Resource capable of producing Energy by charging and discharging on demand.

VARIABLE ENERGY

Variable Energy Resources produce Energy intermittently instead of on demand.

VALID RESOURCE TYPES



MARKET MITIGATION

MARKET POWER

- No market participant (MP) should have the ability to unduly influence the market price through its individual actions
 - Only true if high liquidity exists with a large number of participants to where no single entity controls too much of the supply or demand (~perfect competition)
- Market designers want perfect competition in order to:
 - Ensure the marginal price is equivalent to the marginal value of goods for consumers
 - Lead to greater efficiency

MARKET POWER (CONTINUED)

- MPs that can influence the market (Ex: control too much of the market)
 - Are said to have “Market Power”
- With Market Power, an entity can manipulate the price via strategies such as:
 - Physical withholding → withholding MWs from the market
 - Economic withholding → increasing their offers into the market

SPP MITIGATION

- Runs fully “inline” with the clearing engine and conducts 3 tests:
 - Conduct, Structure, and Impact
 - Done in all studies, but RTBM used here as the main example

SPP MITIGATION



Conduct

- Offer more than cost-based/reference offer
- Did the Resource Offer too much?

Structure

- Electrical Location
- Can the Resource influence price based on lack of competition?

Impact

- Comparison of prices between normal offer and cost-based/reference offer
- Did prices change?

PERFORMANCE IMPACTS

- This “inline” process was adopted in order to automate the mitigation process and reduce the manual actions needed to be taken by SPP’s independent market monitor
 - It is well liked by the SPP MMU and FERC
- The RTO recognizes both the value and the drawbacks
 - The additional solves are a significant performance burden

FUTURE MP/PF DESIGN TEAM WEBINARS

- 07/14/2022 9:30-11:00 Mountain
 - Fast Start Pricing Deep-Dive
- 07/19/2022 9:00-11:00 Mountain
 - Virtuals | Uplifts and Settlements Intro | Physical Sufficiency & DAMKT Unit Commitment Intro
- 07/21/2022 9:30-11:00 Mountain
 - Co-optimization Deep-Dive
- 07/25/2022 9:30-11:00 Mountain
 - Virtuals & Convergence Bidding

QUESTIONS/DISCUSSION

GHG TRACKING UPDATE

YASSER BAHBAZ, SPP

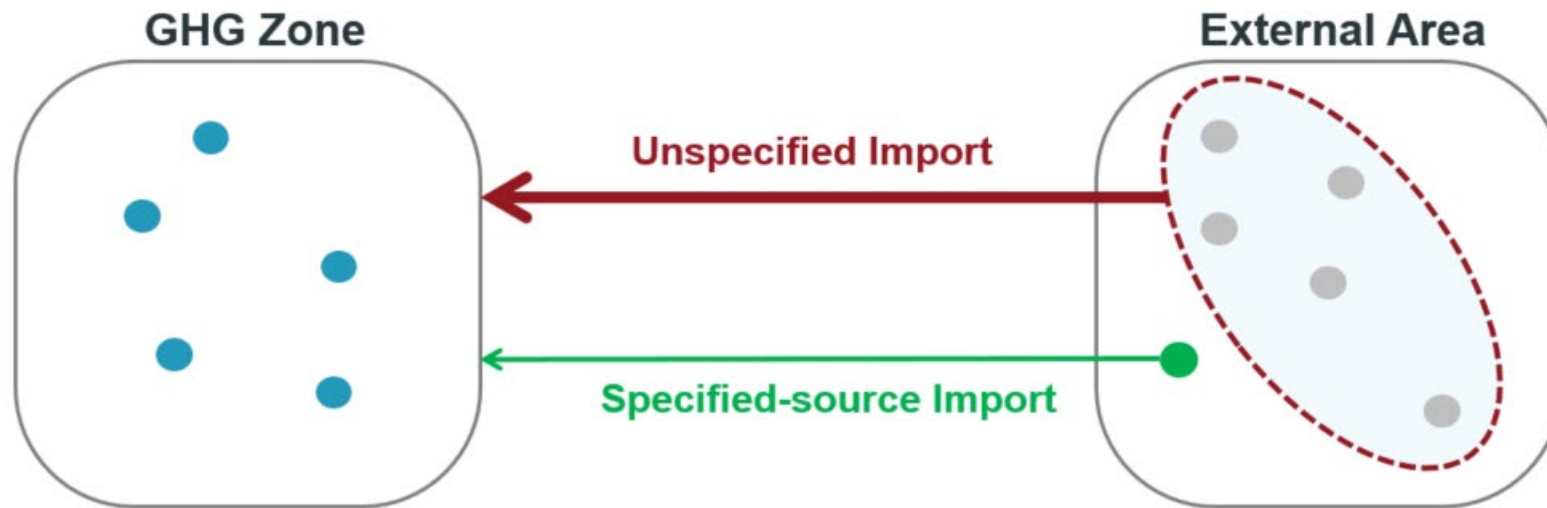
GHG TRACKING UPDATE

- Stakeholder discussions April-July 2022
- SPP Internal Discussions
 - Reached consensus on key principles discussed during stakeholder meetings
 - Discussed alternative design options to verify that the current approaches being discussed made the most sense
 - Documented the key challenges
- Next steps are to get some examples illustrating different solution options
- Goal is to reach a solution that has minimal to no market impacts outside of Washington while providing necessary data to comply with State tracking requirements

PHILOSOPHY/PRINCIPLES

- Resources within the GHG Zone (Ex: Washington state) must model the GHG cost-adder based off of something like (the cost coming from obtaining allowances from cap-and-trade, the direct tax....etc)
- Resources outside the GHG Zone want minimal to no market impacts from the carbon programs of other states
 - As a result, the MWs entering GHG Zones are subject to cost-adder rules, but not the MWs serving everything outside the GHG Zone
 - What is the best method for separating the two?
- Reduce price leakage
- States with GHG emissions rules need tracking/accounting of the emissions
 - Don't want this to interfere with least-cost dispatch
 - Not just an accounting exercise though, needs to be part of SCED

SPECIFIED SOURCE IMPORTS



POTENTIAL METHODOLOGIES

- SPP is discussing a variety of alternative methods to brainstorm and determine if new possibilities exist:
 - Reserve Zone & Product Method
 - Tie-Line Modeling Method
 - Power Balance Method
- Existing Method in the West
 - We think this or a Modified version will be the most likely choice of Stakeholders

KEY CHALLENGES

- Addressing issues with leakage and bleeding of carbon “tax” onto LMPs outside of the GHG zones
- Satisfying conflicts with a specified resources’ obligation to serve load in Washington and the market dispatch
 - Ex: Resource has base schedule into Washington, but not in the money for dispatch (i.e. economical for Washington, but not the M+ market as a whole)
- Developing appropriate settlements

QUESTIONS/DISCUSSION

MARKET MONITORING

KARA FORNSTROM, SPP

MARKET MONITORING UPDATE

- SPP Webinar – April 27
 - Presentation by Barbara Stroope, Ph.D., Manager, Day-Ahead Markets
- Denver Meeting: June 1st General Session
- Request for Written Comments - Template
 - Comments Due July 15

QUESTIONS/DISCUSSION

PORTLAND MEETING DETAILS

PORTLAND MEETING: AUGUST 9-10

- **Schedule (Pacific Time)**
 - August 9: 1:00-5:00 (Reception upon Adjournment)
 - August 10: 8:30-5:00
- **Hotel: Embassy Suites Airport**
- **Registration Open at spp.org**
- **Workshop Format – Six Sessions**
 - Meeting Materials Available
- **In-Person Only**
 - Capacity Limit Increased
 - August 17th Webinar – Summary of All Workshops

PORTLAND TENTATIVE AGENDA TOPICS

General Sessions	
Resource Adequacy	Congestion Rent
Functional Responsibilities	Market Monitor
Settlements	GHG Tracking
Breakout Sessions	
Governance (2 or 3 sessions)	ATRR
Unit Commitment	Imports/Exports/Wheel Through

NEXT STEPS SCHEDULE

2022 MARKETS+ GOAL AND SCHEDULE

- Draft Service Offering – End of September
 - Written Comment Period
- Final Service Offering – Mid-November
 - Will Not Include: Market Protocols and Tariff Language
- Commitment to Investigate – Q1 2023
 - Financially Binding to Scope Implementation
- Stakeholder Process to Develop Market Protocols and Tariff Language
- Participant Agreement Execution – Fund Implementation

MARKETS+ DRAFT SERVICE OFFERING

Governance

- Balanced Approach and Participation
- Organizational Structure: MIP, MPEC, MSC, Working Groups, Task Forces, MIP Nominating Cmte and Forum

Market Design

- Responsibilities: Participants and Operator
- Key Features: Products; Timeline/Processes; Resource Registration Types; Price Formation; Centralized Unit Commitment; Centralized Unit Dispatch; Robust Physical Sufficiency; Flow-based Market Operations; Virtuals; In-line, Impact-based Mitigation; Marginal Losses; GHG Pricing/Settlement
- Compatability with Existing Constructs: Scheduling Activities; Coordinated Congestion Management; Congestion Hedge; GHG Tracking; Resource Adequacy; RSG; Division of Responsibilities

Transmission

- ATRR: Eligible for Recovery and Recovery Mechanism
- Transmission Revenue Distribution Methodology
- Base Schedule Methodology
- Flow-Based Operation

MARKETS+ DRAFT SERVICE OFFERING

Market Settlements

- Net Settlement
- Uplifts
- Timelines
- Dispute Process

Market Monitor

- Model
- Market Power Mitigation

Other Sections

- Resource Adequacy
- Potential Future Market Enhancements
- Stakeholder Relations
- Implementation: Development and Launch Timeline

QUESTIONS/DISCUSSION

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