WELCOME AND OVERVIEW
BRUCE REW
SPP SR. VP, OPERATIONS
# TODAY’S AGENDA

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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/modified 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)
• 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 rate-based 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

Regional State Committee
Cost Allocation Working Group

SPP Board of Directors/Members Committee

Market and Operations Policy Committee
Oversight Committee

User Forums
- Change UF
- Generator Interconnection UF
- Operations Training UF
- Settlements UF
- Transmission Service UF

Working Groups
- Economic Studies WG
- Operations Reliability WG
- Regional Tariff WG
- Market WG
- Project Cost WG
- Supply Adequacy WG
- Transmission WG

Advisory Groups
- Reliability Compliance AG
- Security AG
- Model Development AG
- Seams AG
- System Protection & Control AG

SPP Staff
Corporate Governance Committee
Finance Committee
Credit Practices WG
Human Resources Committee
Strategic Planning Committee
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
- All transmission in, out by exception
- TSP and Planning functions retained, OATT rights respected
- Revenue Recovery mechanism (load vs. market based)
- TSP data collection and analysis
- Base Schedule support
- Revenue distribution methodology
- Working draft of design document
- 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
MARKET PRODUCTS/PRICE FORMATION DESIGN TEAM UPDATE

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

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

Status:
- 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
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<td><strong>DEMAND RESPONSE</strong></td>
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<tr>
<td>Demand response Resources that can physically reduce or shift their electricity usage.</td>
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<tr>
<td><strong>EXTERNAL TO SPP BA</strong></td>
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<tr>
<td>External Resources to the SPP Balancing Authority (BA) that participate in the Integrated Marketplace.</td>
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<tr>
<td><strong>GENERATION</strong></td>
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<tr>
<td>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.</td>
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<tr>
<td><strong>ENERGY STORAGE</strong></td>
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<tr>
<td>A Resource capable of producing Energy by charging and discharging on demand.</td>
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<tr>
<td><strong>VARIABLE ENERGY</strong></td>
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<td>Variable Energy Resources produce Energy intermittently instead of on demand.</td>
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VALID RESOURCE TYPES

DEMAND RESPONSE

- Block Demand Response Resource (BDR)
- Dispatchable Demand Response Resource (DDR)
- External Dynamic Resource (EDR)
- Pseudo-Tied Assets (PSEUDO)

ENERGY STORAGE

- Market Storage Resource (MSR)
  (An ENERGY STORAGE RESOURCE may register as an MSR or one of the GENERATION types)

GENERATION

- Generating Unit (GEN)
- Plant (PLT)
- Combined Cycle (CC)
- Jointly Owned Unit (JOU)
- Multi-Configuration Combined Cycle (MCR)

VARIABLE ENERGY

- Dispatchable Variable Energy Resource (DVER)
- Non-Dispatchable Variable Energy Resource (NDVER)

EXTERNAL TO SPP BA

(MARKETS)
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?

Mitigate
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 Biding
QUESTIONS/DISCUSSION
GHG TRACKING UPDATE

Yasser Bahbaz, SPP
GHG TRACKING UPDATE

• Stakeholder discussions April-July 2022
  • 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
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

- Unspecified Import from GHG Zone to External Area
- Specified-source Import from External Area to GHG Zone
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

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<td>Imports/Exports/Wheel Through</td>
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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
• Compatibility 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
MARKETS

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

SouthwestPowerPool
SPPorg
southwest-power-pool