MARKETS

DEVELOPMENT UPDATE

April 27, 2022
WELCOME AND OVERVIEW

BRUCEREW
SPP SR. VP, OPERATIONS
# AGENDA

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<td>Kara Fornstrom, SPP</td>
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GOVERNANCE DESIGN TEAM UPDATE

KARA FORNSTROM, SPP
<table>
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<tr>
<th>Stakeholder Leads</th>
<th>Description</th>
<th>Company/Utility</th>
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<tr>
<td>Aly Koslow</td>
<td>Director, Federal Regulatory Affairs and Compliance</td>
<td>Arizona Public Service</td>
</tr>
<tr>
<td>David Rubin</td>
<td>Federal Energy Policy Director</td>
<td>NV Energy</td>
</tr>
<tr>
<td>Joe Fina</td>
<td>Assistant General Counsel</td>
<td>Snohomish County Public Utility District No. 1</td>
</tr>
<tr>
<td>Lea Fisher</td>
<td>Senior Policy Analyst</td>
<td>Public Generating Pool</td>
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<tr>
<th>SPP Support Team</th>
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<tbody>
<tr>
<td>Kara Fornstrom</td>
<td>Director, State Regulatory Policy</td>
</tr>
<tr>
<td>Mike Riley</td>
<td>Associate General Counsel</td>
</tr>
<tr>
<td>Nicole Wagner</td>
<td>Manager, Regulatory Policy</td>
</tr>
<tr>
<td>Patti Kelly</td>
<td>Lead Regulatory Analyst</td>
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MARKETS+ GOVERNANCE OPTIONS

2A
- SPP Independent Board
- Markets+ Participants Executive Committee (MPEC) – Participant Based
- Markets+ Working Group (M2WG) – Sector Based
- Future Joint (with RTO) Work Groups

2B
- Markets+ State Committee
- Markets+ Independent Governing Board
- Nominating Committee (Sector Based)

Add 3?
- SPP By-Laws Modification Board Qualifications?
- SPP CGC Add Markets+ Seat?
SURVEY RESPONDENTS

- Municipal Energy Agency of Nebraska
- Shell Energy North America
- NV Energy
- Interwest Energy Alliance
- Basin Electric Power Coop
- Idaho Power Company
- Western Power Trading Forum
- Powerex Corp.
- Arizona Public Service Company
- Public Service Company of Colorado
- Renewable Northwest
- Western Area Power Administration
- Bonneville Power Administration
- Chelan County Public Utility District
- Public Generating Pool
- Clean Energy Buyers Association
- Western Resource Advocates/Sustainable FERC
- NorthWestern Energy
- Salt River Project
- Northwest Requirements Utilities
- Tacoma Power
- Public Power Council
- Northwest & Intermountain Power Producers Coalition
RESPONDENTS - SECTOR REPRESENTATION

- Ind Power Producer (4%)
- Cooperative (4%)
- Federal Agency (16%)
- Other (44%)
- Public Interest Organization (8%)
- Municipal (4%)
- Investor Owned Utility (20%)
- Other:
  - Competitive Marketer
  - Trade Association
  - Public Utility District
  - Public Power
  - Large Energy Customers
PREFERRED GOVERNANCE OPTION

- Option 2A only (4%)
- Option 2A with 3 (60%)
- Option 2B with 3 (20%)
- Need more information (16%)
TERMS

- Other:
  - Staggering to start
  - One to five years
  - Limit to two terms
  - Minimum of four years

- Three years (50%)
- Four years (15%)
- Other (15%)
TRANSITIONAL?

- Maybe:
  - Shouldn’t be created with an already established phase out
  - Could be dissolved in future, depending on evolution
  - Support for re-evaluating the need

Yes (19%)  No (52%)  Maybe (29%)
MARKETS+ NOMINATING COMMITTEE

- Sectors to be Represented:
  - Independent Power Producer
  - State Regulator
  - Public Interest Organization
  - Cooperative
  - Municipal
  - Federal Agency
  - Investor Owned Utility
  - Competitive Marketers
  - Trade Groups

Transparency of meetings

- Publicly (32%)
- Privately (68%)
GDT FUTURE MEETINGS/SCHEDULE

• April 27:  SPP Webinar: Development Update
  • Design Team Updates
  • Market Monitor Options

• May 13:  WIEB Webinar: SPP Receives State Regulators Feedback

• May 23:  SPP Webinar: Governance Design Team
  • Present Governance Concept Proposal

• June 1-2: In-Person Meeting – Denver
  • Workshop Issues
QUESTIONS/DISCUSSION
# TRANSMISSION AVAILABILITY TEAM

## STAKEHOLDER LEADS

<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Organization</th>
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<tbody>
<tr>
<td>Joe Taylor</td>
<td>Manager, Transmission Access Xcel Energy</td>
</tr>
<tr>
<td>Chris Hofmann</td>
<td>Director Transmission &amp; Generation Operations Salt River Project</td>
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<tr>
<td>Mike Linn</td>
<td>Director, Market Analytics Public Power Council</td>
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## SPP Support Team

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
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<tbody>
<tr>
<td>Steve Johnson</td>
<td>Principal Operations Specialist</td>
</tr>
<tr>
<td>Hamilton Bitely</td>
<td>Senior Operations Analyst</td>
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<tr>
<td>Shari Brown</td>
<td>Manager, Tariff Administration</td>
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TRANSMISSION AVAILABILITY DESIGN TEAM

• Market will leverage flow-based model in day-ahead and real-time
  • Will respect OATT rights and priority
• Collecting transmission revenue data to inform rate recovery need and rate design options to be considered
• Two potential revenue recovery mechanisms
  • Load-based
  • Market-based
TRANSMISSION AVAILABILITY DESIGN TEAM

• First data request sent on April 20th
  • Transmission revenue details
  • Day-Ahead timeline questions

• Initial draft of transmission design white paper posted for review/comment
  • Living document
  • Use to populate service offering
TRANSMISSION AVAILABILITY DESIGN TEAM

• Joint efforts with Market Products and Price Formation Design Team
  • Congestion rents
  • Seams coordination and management
  • Base scheduling
QUESTIONS/DISCUSSION
MARKET PRODUCTS/PRICE FORMATION DESIGN TEAMS UPDATE

JIM GONZALEZ, SPP
# MARKET PRODUCTS AND PRICE FORMATION
## DESIGN TEAM

<table>
<thead>
<tr>
<th>STAKEHOLDER LEADS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeff Spires, Director, Power</td>
<td>Powerex</td>
</tr>
<tr>
<td>Carrie Simpson, Director, Western Markets</td>
<td>Xcel Energy</td>
</tr>
<tr>
<td>Brian Cole, General Manager, Resource Management</td>
<td>Arizona Public Service</td>
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<tr>
<td>Russ Mantifel, Director of Market Initiatives</td>
<td>Bonneville Power Administration</td>
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<tr>
<td>Jim Gonzalez, Manager, Real Time Markets</td>
<td></td>
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<tr>
<td>Micha Bailey, Supervisor, Congesting Hedging</td>
<td></td>
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DESIGN TEAM MEETING 04/26/2022

• Recap of Phoenix Meeting
• DAMKT Timeline Survey Request
• Discussion Items:
  • High-level Market Objectives and Timeline
  • Ensuring Physical Capacity
  • Flexibility Market Product
  • Unit Commitment
UPCOMING

• Virtual Meeting 05/17/2022
  • 10:00 -12:00 CDT

• Tentative Items:
  • DAMKT Timeline Survey Results
  • Price Formation
  • TBD
QUESTIONS/DISCUSSION
GHG DESIGN TEAMS UPDATE

KARA FORNSTROM, SPP
GHG DESIGN ELEMENT

- Leverage existing work by numerous parties in the West
- Invitations to Present Concepts
  - April 20: 12:00-2:00 (Mountain)
  - May 17: 12:00-2:00 (Mountain)
- Written Comment Opportunity
- June 1-2 In Person Discussion
MARKET MONITORING

BARBARA STROOPE, PH.D.

MANAGER DAY-AHEAD MARKET
FERC REQUIRES OVERSIGHT BY MARKET MONITOR

• Market monitors
  • Identify ineffective market rules and tariff provisions
  • Identify potential anti-competitive behavior by market participants
  • Provide the comprehensive market analysis critical for informed policy decision-making
FERC ALLOWS DIFFERENT APPROACHES

• FERC Order 719 allows ISO/RTO markets to be overseen by
  • Internal monitor
    • SPP
    • CAISO
  • External monitor
    • MISO
    • PJM
    • NYISO
  • Hybrid of both
    • NEISO
ROLE OF MARKET MONITORS

- Ensure workable competition
  - Monitor for horizontal and vertical market power
  - Monitor for market manipulation
- Ensure market transparency
  - Produce reports (e.g., Annual State of the Market)
- Advise on market performance issues
  - Engage in stakeholder process
  - Comment on market design flaws
REVIEWS OF MARKET DESIGN

• Review market rules
  • Existing rules
  • Proposed rules

• Recommend proposed rule and Tariff changes
  • Stakeholders
  • SPP
  • FERC
  • State commissions
  • Other as appropriate
REVIEW OF MARKET PERFORMANCE

• Annual State of the Market reports
• Quarterly State of the Market reports
• White papers
• Comments in the stakeholder process
MONITOR FOR MARKET MANIPULATION AND ABUSE

- Market manipulation and abuse
  - Monitor
    - Ongoing data analysis
    - Complaints
  - Investigate
    - Refer to FERC
- Market mitigation
EXTERNAL MONITORING APPROACH

• Administrative complexity: easy to moderate

• Options
  • Limited availability experts without conflicting interests

• Processes
  • Data transfer and security

• Cost: moderate to higher
INTERNAL MONITORING APPROACH

• Administrative complexity: easy
  • Staffed by RTO employees

• Processes
  • Relies on RTO infrastructure

• Cost: moderate
HYBRID MONITORING APPROACH

• Variety of structures
  • Internal staff
  • External consultants
  • Advisor or surveillance committee
  • All report to board

• Divide work of monitoring
  • Example: internal group monitors, external group comments

• Processes
  • Data transfer and security

• Cost: moderate
SPP’S CURRENT MARKET MONITORING APPROACH

- Independent from SPP RTO
  - Reports to SPP Board, not SPP management
- Reviews market data
  - Reports suspected issues to FERC for investigation
- Engages in SPP’s stakeholder process
- Works directly with RTO staff
MARKET MONITORING BUDGETS

• Source: RTO Insider, 06/16/2016

<table>
<thead>
<tr>
<th>Region</th>
<th>Performed by</th>
<th>2016 Budget</th>
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<tbody>
<tr>
<td>CAISO</td>
<td>Internal: CAISO staff</td>
<td>N/A (Refused to Disclose)</td>
</tr>
<tr>
<td>ERCOT</td>
<td>Independent: Potomac Economics</td>
<td>$3.65 million (14.6 million over four years)</td>
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<tr>
<td>ISO-NE</td>
<td>Hybrid: Potomac Economics / ISO-NE staff</td>
<td>$900,000 / $4.7 million</td>
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<tr>
<td>MISO</td>
<td>Independent: Potomac Economics</td>
<td>$6.46 million</td>
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<td>NYISO</td>
<td>Independent: Potomac Economics</td>
<td>$3.1 million</td>
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<tr>
<td>PJM</td>
<td>Independent: Monitoring Analytics</td>
<td>$12.5 million</td>
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<tr>
<td>SPP</td>
<td>Internal: SPP staff</td>
<td>$2.5 million</td>
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QUESTIONS/DISCUSSION
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
FUTURE MEETINGS

• May 11: Transmission Availability Design Team
• May 17: Market Products & Price Formation Design Team
• May 17: GHG Design Team
• May 23: Governance Design Team
• June 1-2: In-Person Denver
MARKETS

DEVELOPMENT UPDATE

April 27, 2022