Mountain West Transmission Group

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Balancing Authority of Northern California
Folsom, CA

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Power Marketing Advisor
MWTG

- Goal – Create a single multi-company transmission tariff and explore “Day 2” RTO market alternatives

- MWTG TSPs include: two IOUs, two municipals; two REA G&Ts; two Federal PMA projects

- MWTG members are a sub-set of the WestConnect planning region and are members of the Colorado Coordinated Planning Group (CCPG)

- Includes seven parties with nine transmission tariffs
Participating Transmission Owners*

- Basin Electric Power Cooperative (BEPC)
- Black Hills Corporation (BHC) including its three affiliates
  - Black Hills Power, Inc. (BHP)
  - Black Hills Colorado Electric Utility Company (BHCE)
  - Cheyenne Light Fuel & Power Company (Cheyenne)
- Colorado Springs Utilities (CSU)
- Platte River Power Authority (PRPA)
- Public Service Company of Colorado (PSCo)
- Tri-State Generation and Transmission Association, Inc. (Tri-State)
- WAPA
  - Loveland Area Projects (LAP)
  - Colorado River Storage Project (CRSP)

* Others may join after initial implementation of joint tariff and/or market.
## MWTG 2013 Statistics

<table>
<thead>
<tr>
<th>Transmission Owner</th>
<th>Gross Transmission Plant ($)</th>
<th>Net Transmission Plant ($)</th>
<th>Annual Transmission Revenue Requirement ($)</th>
<th>Miles of Transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheyenne Light Fuel &amp; Power</td>
<td>41,027,108</td>
<td>35,981,808</td>
<td>6,848,030</td>
<td>45</td>
</tr>
<tr>
<td>Black Hills Colorado Electric Utility</td>
<td>333,880,142</td>
<td>146,938,581</td>
<td>12,452,172</td>
<td>581</td>
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<tr>
<td>City of Colorado Springs Utilities</td>
<td>140,898,577</td>
<td>67,284,691</td>
<td>21,957,844</td>
<td>232</td>
</tr>
<tr>
<td>Common Use System (BEPC &amp; BHC)</td>
<td>243,548,935</td>
<td>185,304,004</td>
<td>29,846,727</td>
<td>983</td>
</tr>
<tr>
<td>Platte River Power Authority</td>
<td>348,969,285</td>
<td>266,337,678</td>
<td>38,277,136</td>
<td>370</td>
</tr>
<tr>
<td>Western CRSP</td>
<td>651,271,471</td>
<td>391,945,017</td>
<td>58,386,041</td>
<td>2,325</td>
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<tr>
<td>Western LAP</td>
<td>550,045,450</td>
<td>286,761,337</td>
<td>61,866,058</td>
<td>2,508</td>
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<tr>
<td>Tri-State Generation and Transmission Association</td>
<td>766,276,122</td>
<td>431,085,996</td>
<td>96,781,507</td>
<td>4,660</td>
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<tr>
<td>Public Service Company of Colorado</td>
<td>1,616,197,083</td>
<td>1,265,799,495</td>
<td>208,498,664</td>
<td>3,782</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$ 4,744,241,013</td>
<td>$ 3,096,546,874</td>
<td>$539,450,053</td>
<td>15,694</td>
</tr>
</tbody>
</table>
MWTG - Significant Work to Date

• Strong cooperative effort - group has held over 50 meetings

• Significant success with rate design and cost shift mitigation, despite multiple failed attempts at regional tariffs in the past

• Developed and signed an MOU summarizing work to date

• Developed a Request for Information for RTO response

• Currently conducting a Market Study to evaluate resource side benefits of having a joint tariff or joining an RTO

• Ongoing outreach in various forums
MWTG Benefits – Joint Tariff Option

• De-pancaking of transmission charges
• All load is network load of MWTG
• Single determination of ATC/AFC
• Transition away from contract path to flow-based
• Improved transmission planning and interconnection processes
• Will comply with Order No. 1000
• Avoid duplication of facility investments
• One point of contact for system interconnections
• Additional siting opportunities for new resources
• May assist in addressing future regulatory challenges
MWTG Benefits – RTO Option

- As the rules and regulations associated with operating the system have evolved over time, it has become increasingly complex to optimize the efficiency of the system while concurrently managing reliability.

- An RTO:
  - Manages the operation of the transmission systems and generation resources of multiple electricity providers to optimize the utilization of the assets.
  - Maintains a wide-area view and real-time situational awareness of the entire footprint to monitor and manage the reliability of the system.
  - Serves as the centralized operator for a Day-2 Market for auction-based electricity products including varying combinations of energy, capacity, and ancillary services. The markets include day-ahead unit commitment, reliability unit commitment, and real-time dispatch.
  - Provides market monitoring oversight.
  - Facilitates transmission planning across multiple transmission systems and states.
  - Performs ongoing assessments to ensure generation and transmission resource adequacy in alignment with reliability, economic, and public policy requirements.
MWTG Analyses

- Transmission Cost Study*
- Request for Information from RTOs*
- Market Study*
- Additional evaluations:
  - Staffing
  - IT (Meters, Settlements, EMS, etc.)
  - Ancillary Services
  - NERC Compliance
  - Pancaked Losses
  - Planning Reserve Margin
  - Marketing Plan
  - Reliability Coordinator
  - Governance

*Discussed in following slides.
MWTG Transmission Cost Study

- Network customers pay the zonal rate in which their load sinks
  - Owners in zone retain revenue for zonal network load

- 8 zones
  - Each transmission owner is a zone, except Tri-State
  - Tri-State facilities are split between Western LAP and PSCo zones
  - Cheyenne facilities are not recovered under the Tariff

- Single Regional Through and Out Rate (RTOR) applied to PTP
  - RTOR = Total MWTG ATRR divided by Total MWTG load
  - Revenues allocated based off of ATRR and MW-Mile split, after mitigation

- Cost shifts mitigated through 7 year agreement

- MWTG Agreement for two special arrangements for WAPA
  - Federal Service Exemption (FERC approved for UGP in SPP)
  - Provision for CRSP P2Ps
Request for Information from RTOs

• Issued to SPP, CAISO, MISO and PJM in May
• Obtain information and cost estimates from qualified entities
• Requested that entities provide information on a wide range of services from joint transmission tariff administration to RTO operator
  - TSP services
  - Ancillary services, losses, and other provisions
  - Interconnection processes
  - Planning concepts
  - Market operator
• RFI is one of multiple sources of information to assist the group in consideration of path forward
MWTG Market Study

• Group is conducting a two-phase production cost study

• Executed study agreement, NDA, and completed Phase I

• Study Current Year 2016 (Phase I)
  □ Status quo with nine tariffs
  □ Remove pancaked transmission charges to simulate a joint tariff
  □ Add Day-2 market structure

• Future Year 2024 (Phase II)
  □ Multiple scenarios, evaluation underway
MWTG Outreach (Started and Ongoing)

- WAPA outreach to its preference customers
- Each party’s outreach to its constituents
- Other stakeholder organizations
- State Regulatory Authorities
- FERC
MWTG Decision Timeline (Estimated)

Now through Fall: Analysis

December 2016: MWTG Steering Committee consensus on which option to pursue

Jan-Feb 2017: Proposal to executives/boards within each of the seven organizations

Mar-May 2017: Stakeholder and regulator meetings, comment period

Jun-Jul 2017: Each organization will make a decision on the direction their organization will pursue

Aug 2017 - Early 2018: State and federal regulatory processes

2018/2019: Implementation
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