A photograph of a city skyline at night, with several tall buildings illuminated and their lights reflecting in a body of water in the foreground. The sky is a deep blue, and the overall scene is serene and modern.

Helping our members work together to keep the lights on...
today and in the future

 **SPP** *Southwest
Power Pool*

The SPP Difference

- **Relationship - Based**
- **Member - Driven**
- **Independence Through Diversity**
- **Evolutionary vs. Revolutionary**
- **Reliability and Economics Inseparable**



66 SPP Members

■ Cooperatives

■ Municipals

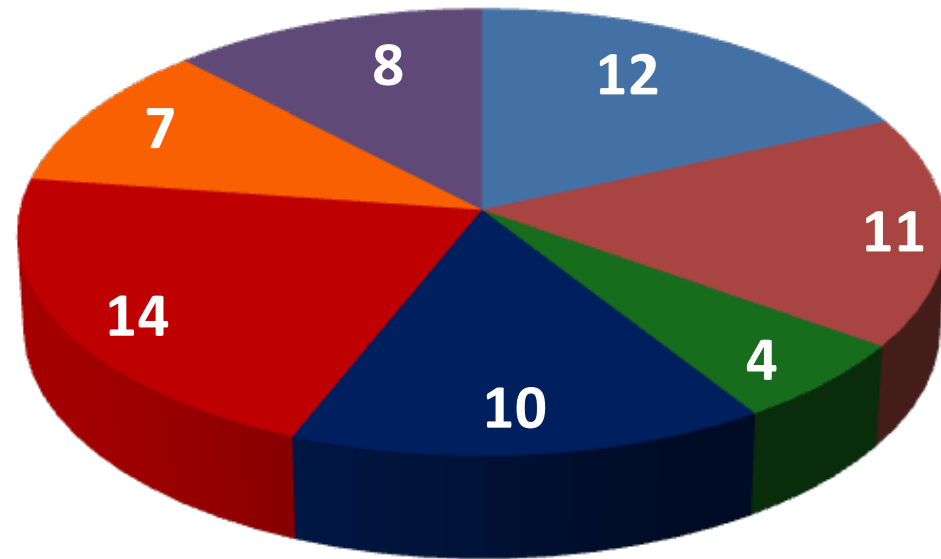
■ State Agencies

■ Marketers

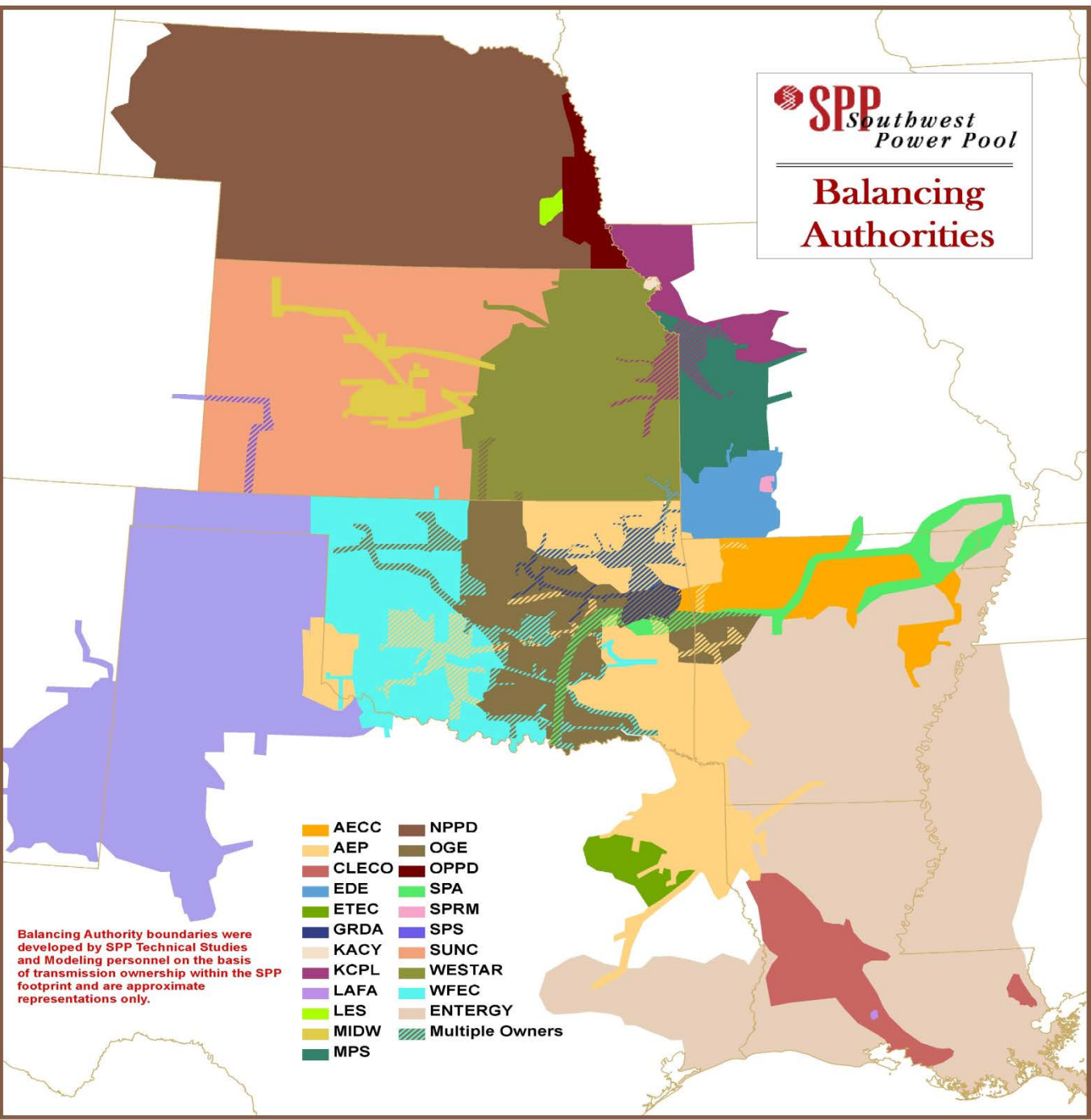
■ Investor-Owned

■ Independent Transmission Companies

■ Independent Power Producers / Wholesale Generation



SPP Southwest Power Pool
Balancing Authorities



What is “SPP EIS” Market?

- **The SPP EIS Market provides asset owners the option to offer their resources into the marketplace for use in providing Energy Imbalance.**
- **SPP owns the responsibility to account for and financially settle all EIS amounts. (SPP remains revenue neutral)**
- **The SPP EIS market doesn't supersede any MP's obligations to any other capacity or ancillary service obligations.**
 - **Balancing Authorities (BA) and asset owners will continue to use the same procedures used today to manage capacity adequacy, reserves, and other reliability-based concerns.**
- **All MPs with load and/or resources must register with the SPP Market footprint and are subject to EIS under this market.**

PUC TF EIM vs. Day 2 RTO Market

| Capability | PUC TF EIM | Day 2 RTO Market |
|---|---|---|
| <u>Transmission</u> | | |
| • Reservations | ✓ | ✓ |
| • Scheduling (internal/external) | All Reservations 20 Minutes prior to Start | Across the Seams Hourly/Daily? |
| • Congestion Management | UFMP & Scheduling | Payment of Congestion & Transmission Congestion Hedges |
| <u>Energy</u> | | |
| • Bilaterals | ✓ | Day-ahead Reduces Bilaterals |
| • Day-Ahead Market | | ✓ |
| • Real-Time Balancing Market | ✓ | Settlement based on Day-ahead |
| <u>Uplift</u> | Small and assigned to causer | Larger and less allocated to causer |
| <u>Unit Commitment</u> | Self-Commitment | Centralized Commitment |
| <u>Operating Reserve (Regulation, Spinning, Supplemental)</u> | Self-Designated Multi-Reserve Sharing Groups | Market |
| <u>Balancing Authority</u> | Multiple | Single |

Benefits of the SPP EIS Market

- **Reliability**
 - More generation for faster response to reliability, for thermal, stability, and voltage limits or issues
 - Faster market system reaction to sudden changes on the system
 - Increased RC information and tools to eliminate slow resource response in provided needed relief
 - Increased visibility for RC or MO to identify resources contributing to ACE excursions and loading of transmission
 - Reduced BA reserve requirements for Schedule or Load ramping
 - More effective management of congestion on local areas including those that have little to no tagged transaction impacts (Nodal generation level congestion management)

Benefits of the SPP EIS Market

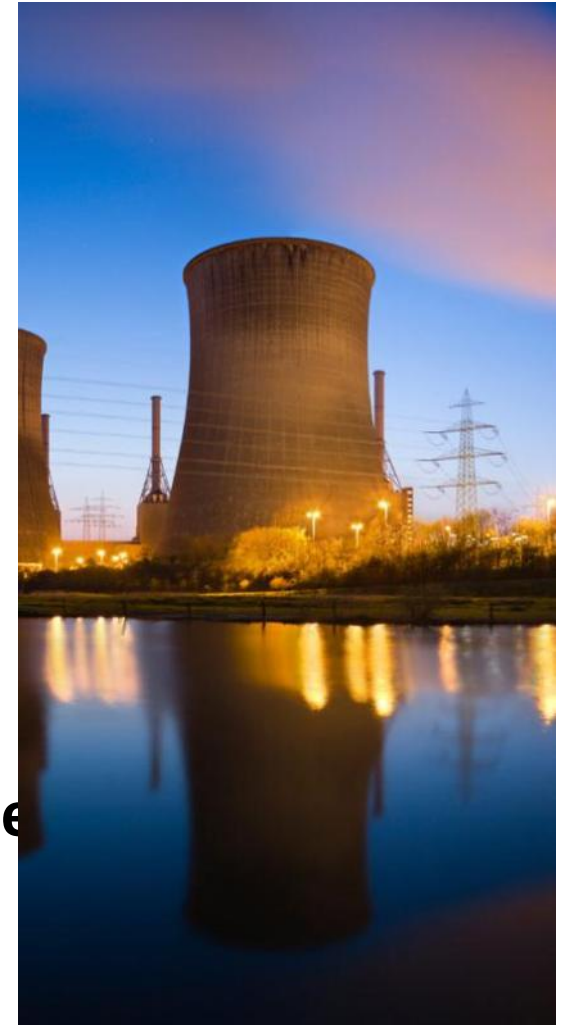
- **Reliability Adjuncts**
 - Effectively manage congestion on multiple flow gates at the same time and resolve complex congestion situations that have resources that are incremental and decremental to different constraints
 - Identifies and encourages non-dispatchable resources to provide relief
 - More accurate and equitable relief obligations
 - Can effectively and automatically provide relief on external flow gates if needed
 - Ability to “Sell” Non-Firm energy during potential EEA situations
 - Transmission Planning learns from 5 minute dispatch pricing (Valiant-Lydia corridor & NW Texarkana are great examples)
 - Enhances Outage Coordination

Benefits of the SPP EIS Market

- **Economic**
 - **Owners benefit from pooling their resources and gaining access to lower, more transparent pricing.**
 - **Generators get benefit by reducing their generation and buying lower cost energy from the SPP market, and by offering their generation into the marketplace for exposure to an increased customer base. Generators can operate more closely operate to their economical efficiency point.**
 - **LSEs benefit from more efficient competition among suppliers (generators) which should lower spot energy prices.**
 - **Sets Market Price for Imbalance Energy**
 - **Transmission system capacity is used with greater efficiency**

2011 Wholesale Energy Market

- **37 participants**
- **438 generating resources**
- **2011 transactions = \$1.28 billion**
- **48 GW coincident peak load**
- **229.7 TWh energy consumption**
- **16 Balancing Authorities**
- **~1,500 MW wholesale demand response**
- **\$173MM Benefit**



Designed Specifically for the West

- **Start with SPP EIS Market Design**
- **WECC is Reliability Coordinator and provides**
 - State Estimator Solution
 - Real-Time Data
- **Maintains current and support intra-hour scheduling**
- **Maintains existing Reserve Sharing Groups**
- **Organization for Governance not included, but cost for facilitation included (Include a role for Western PUCs)**
- **Add-ons**
 - Imputed Transmission Service for Market
 - Validate Ramp Sufficiency

Areas of Continued Discussions

- **How do the participants want Congestion Management to change?**
- **Seams Agreements, including with CAISO Day 2 Market?**
- **WECC Reliability Coordinator role in dispatch?**
- **Forecast coordination with WECC and participants?**

Basis of the Estimate

- **Reliability functions are performed by the current parties**
- **Impacts of the reliability actions are communicated to the EIM systems for inclusion in subsequent results**
- **Existing systems for reserve sharing, energy management, scheduling, etc. will continue**
- **Organizational groups will be established and facilitated for design and implementation processes**
- **Separate Tariff maintained by EIM Operator or standard tariff changes for all transmission providers**
- **Separate systems will be established based on the current SPP imbalance market**

Overall Costs (\$Millions)

| | Startup Costs | 1 st Operating Year | Ongoing Operating Year |
|----------------------------------|---------------|--------------------------------------|---------------------------|
| Market Operations | \$61.1 | \$26.7 | \$26.2 |
| Working Group Support | \$3.3 | \$1.8 | \$1.8 |
| Grand Total | \$64.4 | \$28.5 | \$28.0 |

Alternative Start-ups

- **SPP and a number of other entities are talking about how start-up can be provided**
- **Estimate was provided on request of the PUC TF for a conservative cost for use with their determination of benefits.**
- **Looking at providing the services on a transactional basis and reexamining the costs**