



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE.

SPP and Mountain West

Presentation to Montana Generation and Transmission Working Group

September 12th, 2017

Lanny Nickell

Vice President, Engineering

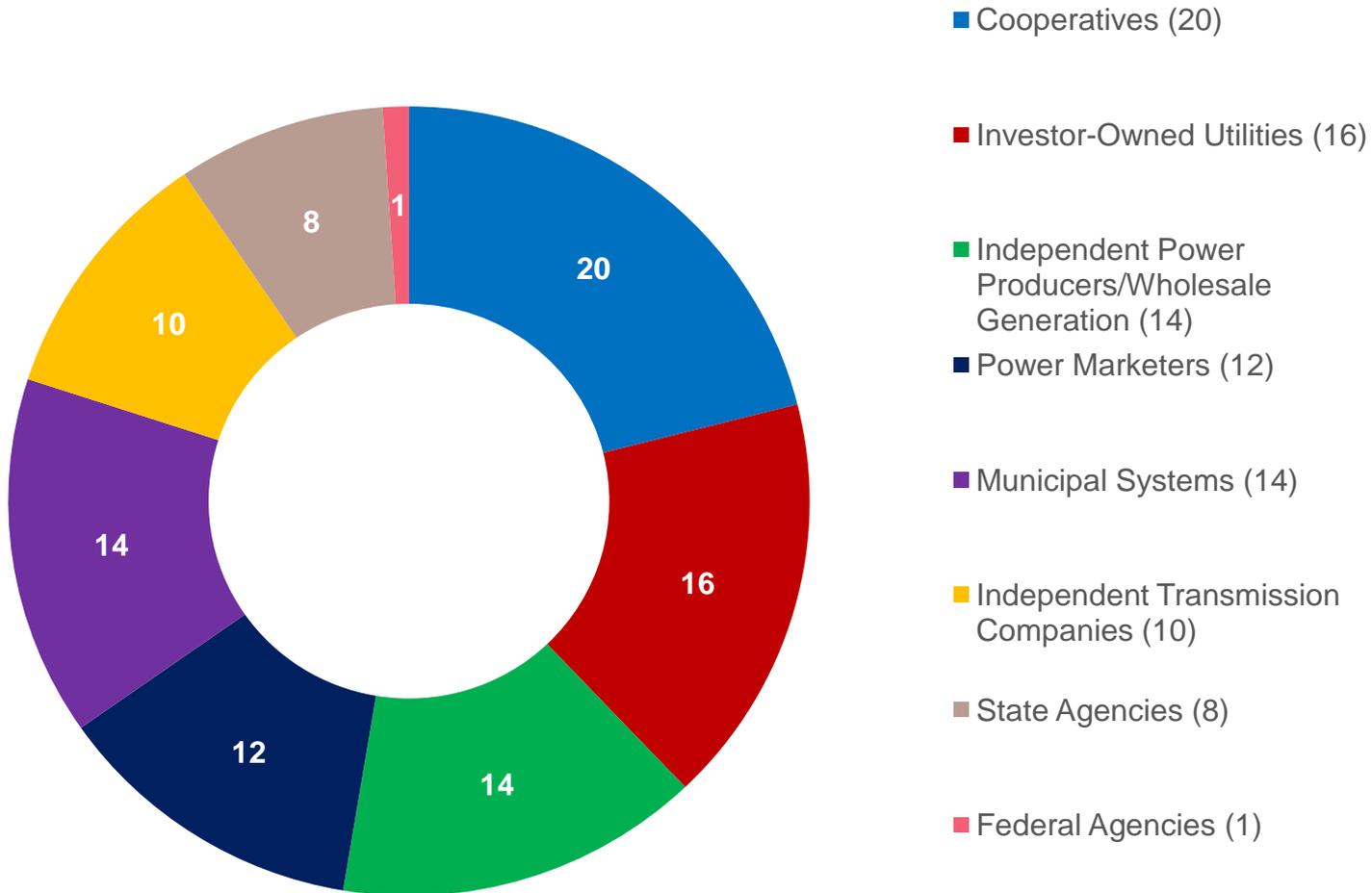
SPP's MISSION

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

Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs)

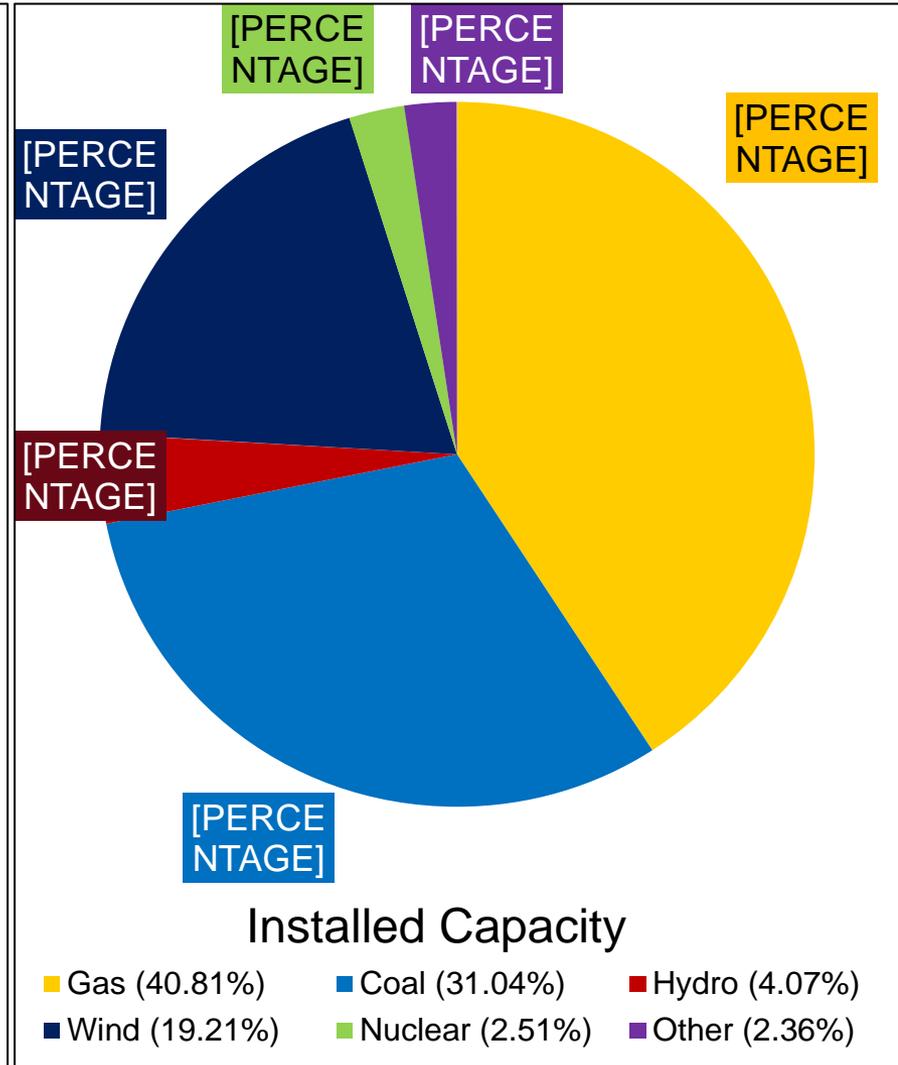
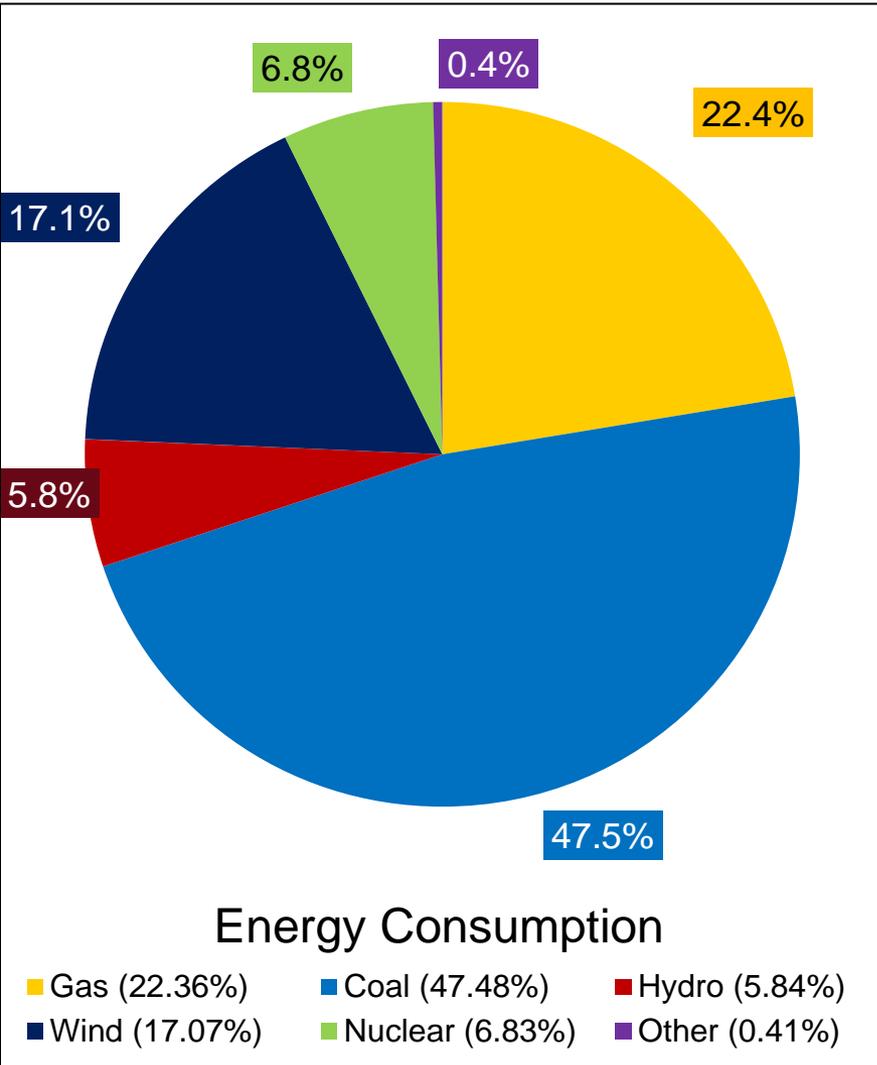


SPP's 95 Members: Independence Through Diversity

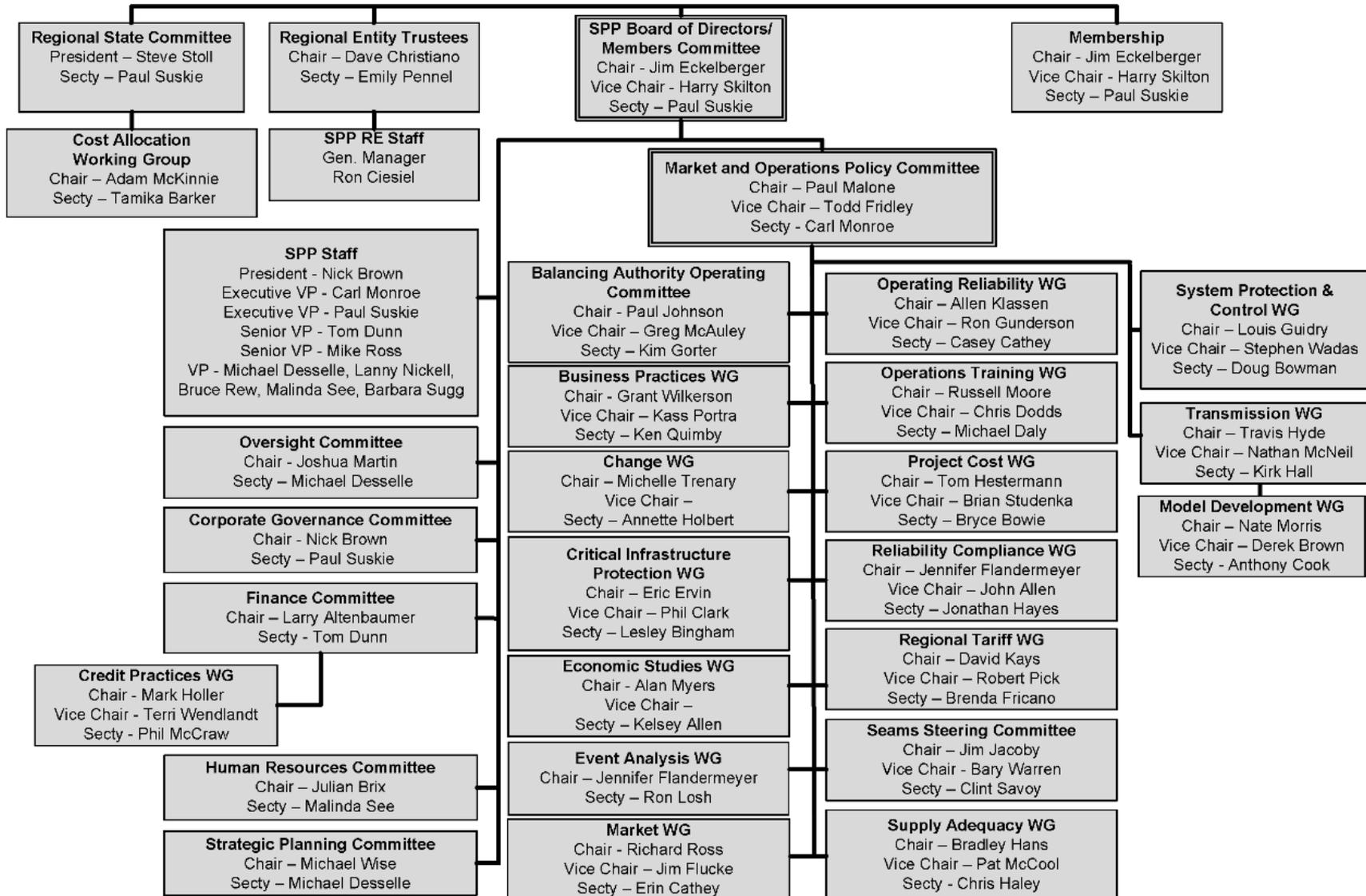


As of April 12, 2017

SPP's 2016 Energy & Capacity Mix



SPP Organizational Group Structure



Regional State Committee



Stephen Stoll, RSC
President
Missouri
Public Service
Commission



Shari Feist
Albrecht,
RSC Vice
President
Kansas
Corporation
Commission



Kristie
Fiegen, RSC
Secretary/
Treasurer
South Dakota
Public Utilities
Commission



Dennis
Grennan
Nebraska
Power Review
Board



Libby
Jacobs
Iowa Utilities
Board



Randy
Christmann
North Dakota
Public Service
Commission



Patrick
Lyons
New Mexico
Public
Regulation
Commission



Dana Murphy
Oklahoma
Corporation
Commission



Donna
Nelson
Public Utility
Commission of
Texas



Kim O'Guinn
Arkansas
Public Service
Commission

Authority of the RSC

4 Areas of Authority	Description	Used
Cost Allocation	Whether participant funding will be used for transmission enhancements & whether license plate or postage stamp rates will be used for the regional access charge	8
Financial Transmission Rights (FTRs)	FTR allocation, where a locational price methodology is used; and the transition mechanism to be used to assure that existing firm customers receive FTRs equivalent to the customers' existing firm rights	3
Planning for Remote Resources	Whether transmission upgrades for remote resources will be included in the regional transmission planning process and the role of transmission owners in proposing transmission upgrades in the regional planning process	1
Resource Adequacy	Determine the approach for resource adequacy across SPP	1

“As the RSC reaches decisions on the methodology that will be used to address any of these issues, SPP will file this methodology pursuant to Section 205 of the Federal Power Act. However, nothing in this section prohibits SPP from filing its own related proposal(s) pursuant to Section 205 of the Federal Power Act.”

– SPP Bylaws

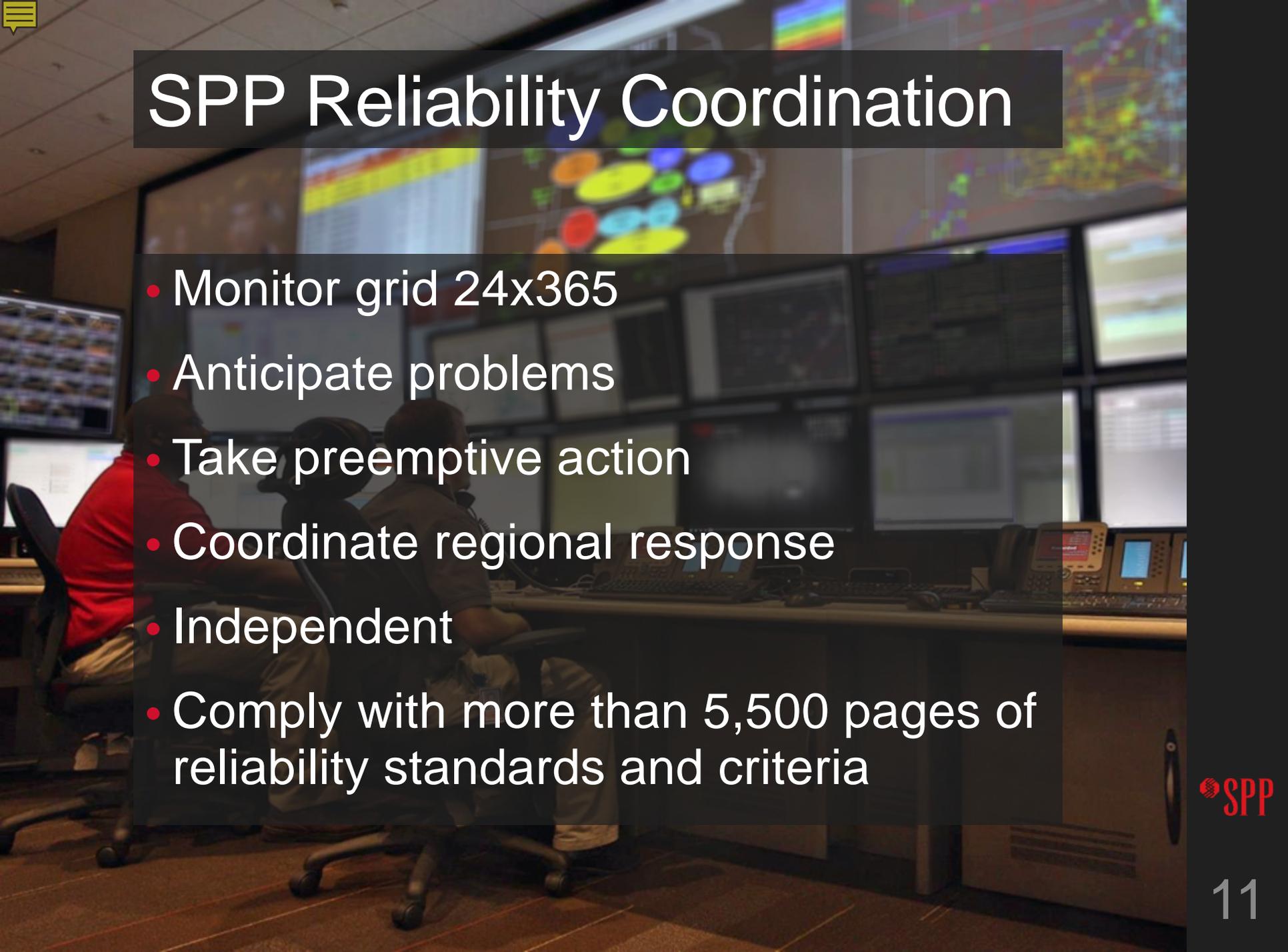
Our Major Services

- Reliability Coordination
- Market Operation
- Transmission Planning
- Transmission Service/Tariff Administration

- Balancing Authority
- Facilitation
- Standards Setting
- Compliance Enforcement
- Training

OUR APPROACH:

Regional, Independent, Cost-Effective and Focused on Reliability



SPP Reliability Coordination

- Monitor grid 24x365
- Anticipate problems
- Take preemptive action
- Coordinate regional response
- Independent
- Comply with more than 5,500 pages of reliability standards and criteria

SPP's Markets

- **Transmission Service**: Participants buy and sell use of regional transmission lines that are owned by different parties.
- **Integrated Marketplace**: Participants buy and sell wholesale electricity in day-ahead and real-time.
 - **Day-Ahead Market** commits the most cost-effective and reliable mix of generation for the region.
 - **Real-Time Balancing Market** economically dispatches generation to balance real-time generation and load, while ensuring system reliability.



Transmission market

- Provides “one-stop shopping” for use of regional transmission lines
- Consistent rates, terms, conditions for all users
- Independent
- More than 4,700 transactions per month on average
- 2016 transmission customer transactions = \$3.879 billion

As a “sales agent,” SPP administers a transmission tariff greater than 5,500 pages in length on behalf of its members and customers.



Integrated Marketplace Overview

KEY COMPONENTS

- Day-Ahead Market
- Centralized Unit Commitment
- Real-Time Balancing Market
- Transmission Congestion Rights Market

PRODUCTS

- Energy
- Operating Reserve (Regulation Up, Regulation Down, Spinning, Supplemental)
- Congestion Rights

SPP's Marketplace Facts

- 185 participants
- 726 generating resources
- 2016 Marketplace Settlements = \$15.8 billion
- 50,622 MW coincident peak load (7/21/16)
- Wind penetration record: 54.22% (3/19/17 @ 00:55)

SPP's Transmission Planning Studies

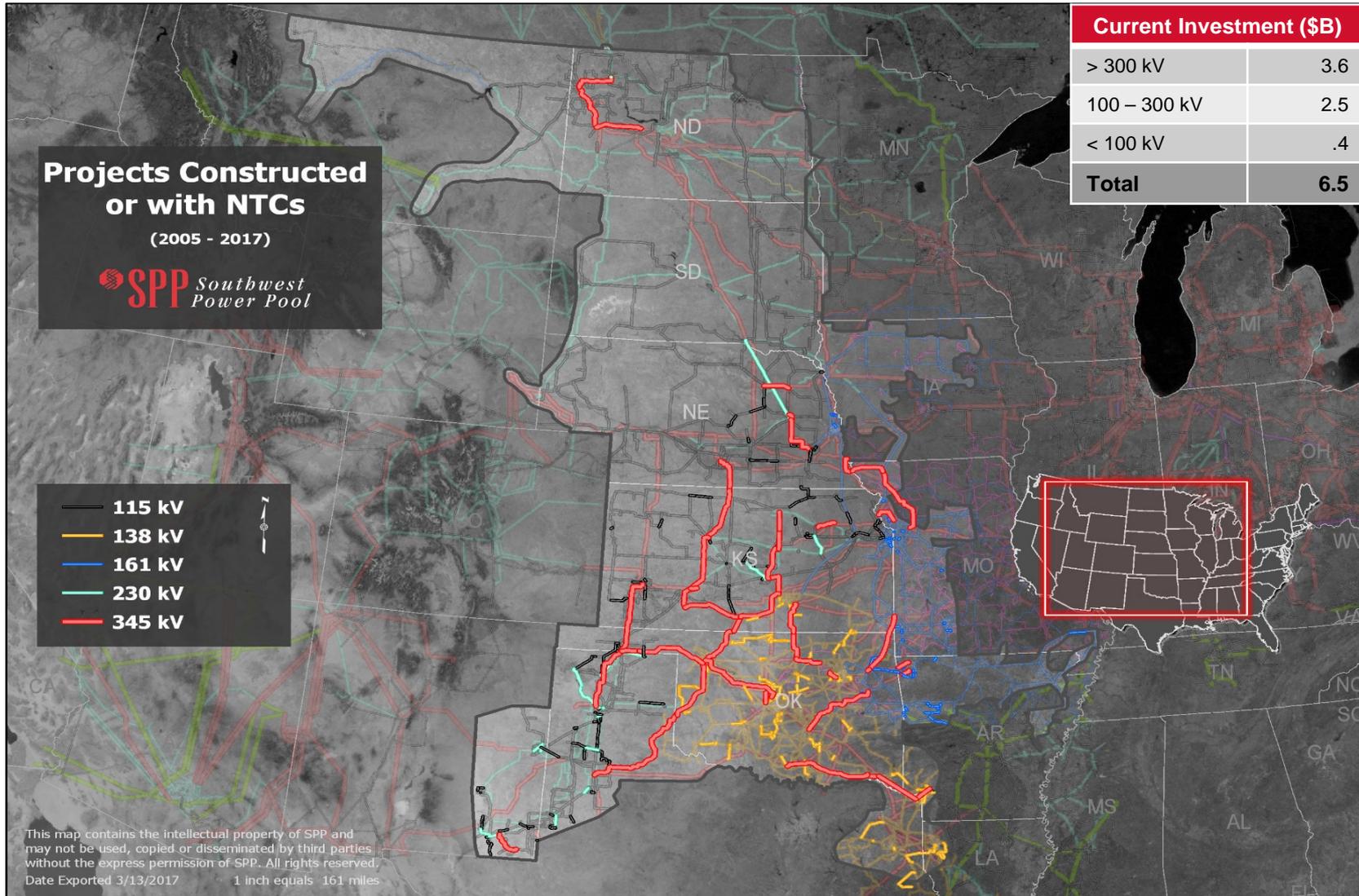
Stakeholder Driven, Member Funded Studies

- Integrated Transmission Planning
- High Priority
- Balanced Portfolio
- Interregional Projects

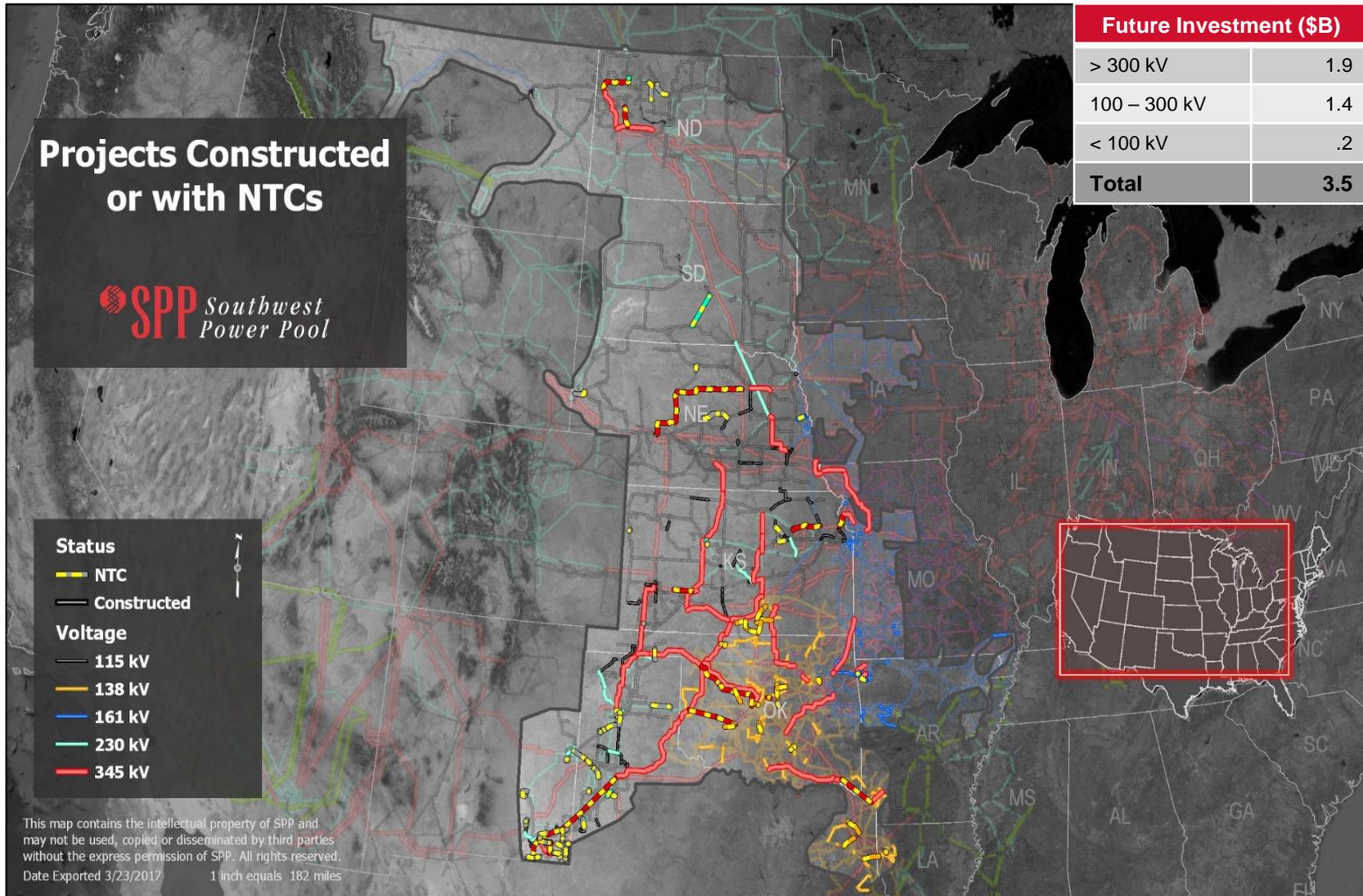
Customer Initiated, Customer Funded Studies

- Transmission Service
- Generation Interconnection Service
- Sponsored Upgrades

2005- 2017 Transmission Expansion

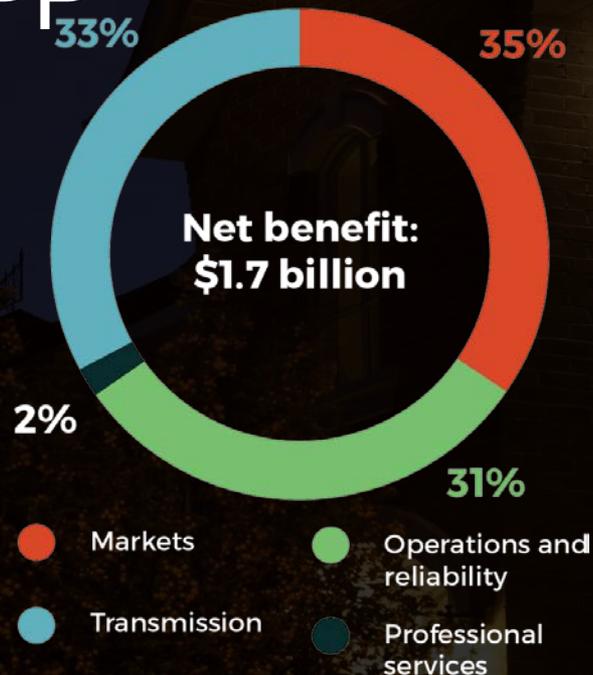


Future Transmission Expansion



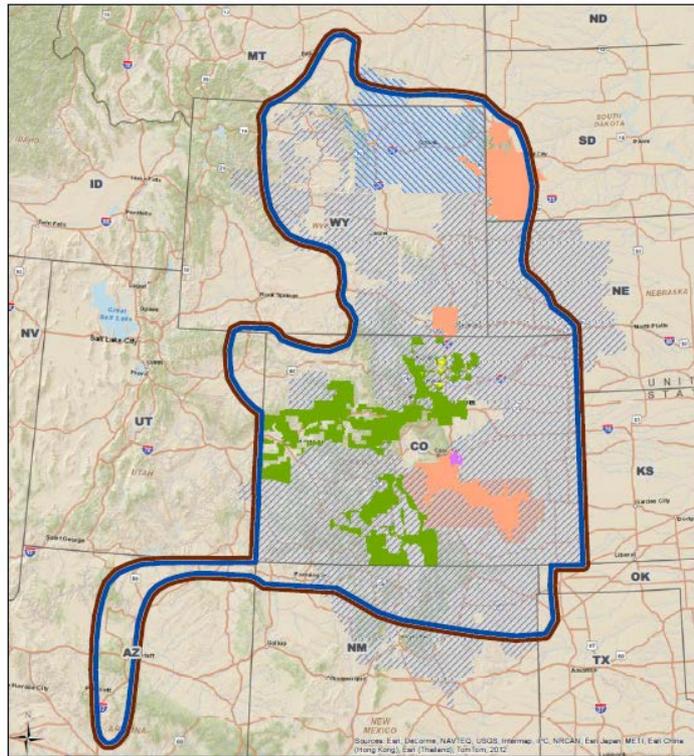
THE VALUE OF SPP

- Transmission planning, market administration, reliability coordination, and other services provide net benefits to SPP's members in excess of more than \$1.7 billion annually at a benefit-to-cost ratio of 11-to-1.
- A typical residential customer using 1,000 kWh saves \$5.71/month because of the services SPP provides.



Mountain West Membership Opportunity

2015 Snapshot

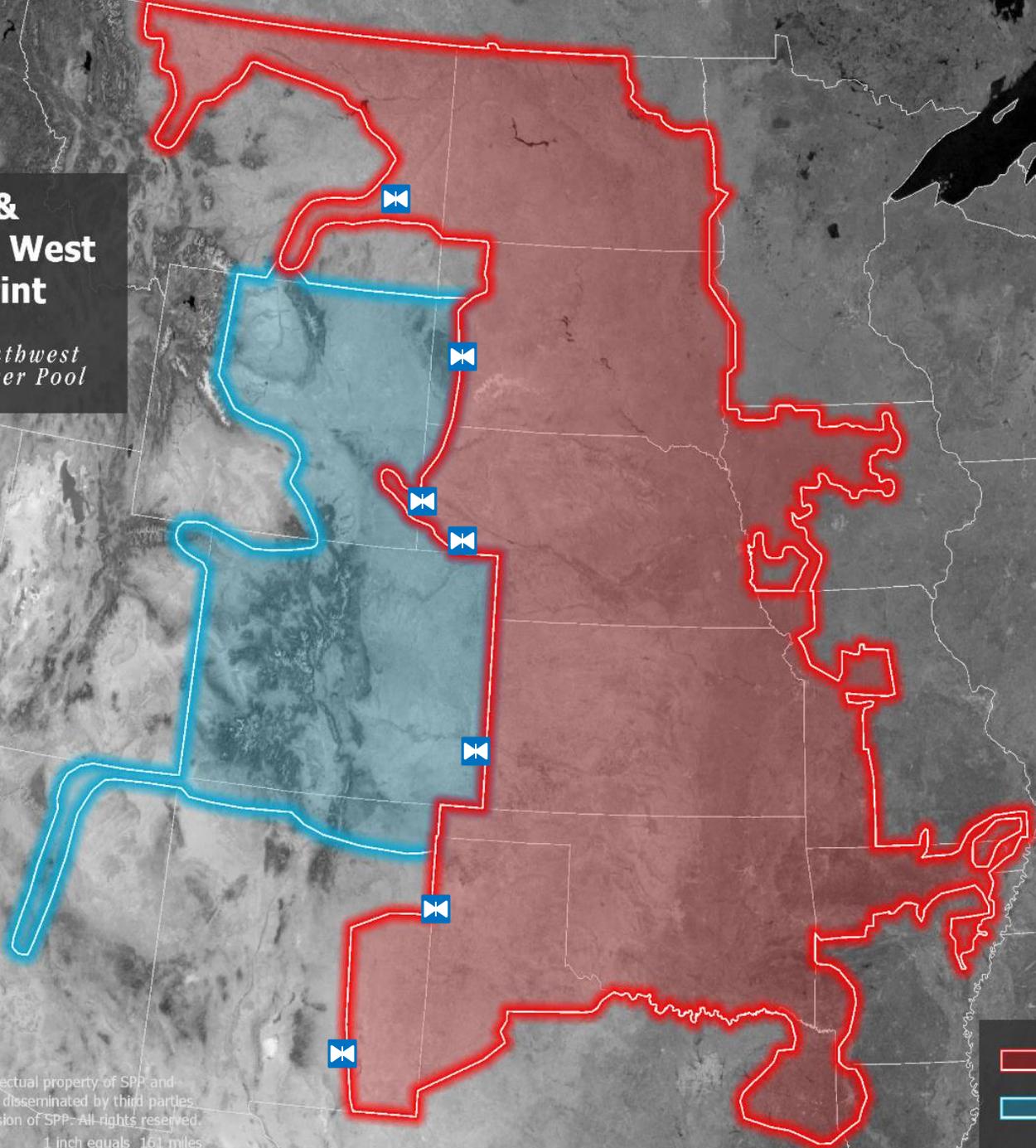


Mountain West Transmission Group Membership Areas

- MWTO Footprint
- MEMBER BY PLANNING AREA
 - Plate River Power Authority
- MEMBER BY MEMBERSHIP AREA
 - Basin Electric Power Coop
 - Tri State Generation & Transmission Association Inc.
- MEMBER BY SERVICE AREA
 - Black Hills Companies
 - Colorado Springs Utilities
 - Public Service Co of Colorado
- WESTERN AREA POWER ADMINISTRATION
 - LAF and CRSP Transmission

Transmission Owner	Annual Transmission Revenue Requirement (\$)	12-month Coincident Peak (MW)	Annual Energy (MWH)
Basin Electric Power Cooperative Westside	8,203,959	110	638,352
Cheyenne Light Fuel & Power	6,848,030	193	1,330,174
Black Hills Colorado Electric Utility	12,452,172	314	1,600,638
City of Colorado Springs Utilities	24,025,218	661	4,374,955
Common Use System (BEPC & BHC)	30,899,530	859	4,892,644
Platte River Power Authority	39,923,267	510	3,251,514
Western CRSP	69,097,743	1,424	5,185,539
Western LAP	65,198,148	710	2,534,139
Tri-State Generation and Transmission Association	117,460,625	1,934	12,607,330
Public Service Company of Colorado	220,662,842	5,680	33,024,691
DC-ties (4 ties in footprint)	18,000,000	710 *	NA
Total	612,771,534	12,395	69,890,856

SPP & Mountain West Footprint



 SPP

 Mountain West

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Date Exported 8/17/2017 1 inch equals 161 miles

