



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 12<sup>th</sup>, 2017

Lanny Nickell

Vice President, Engineering

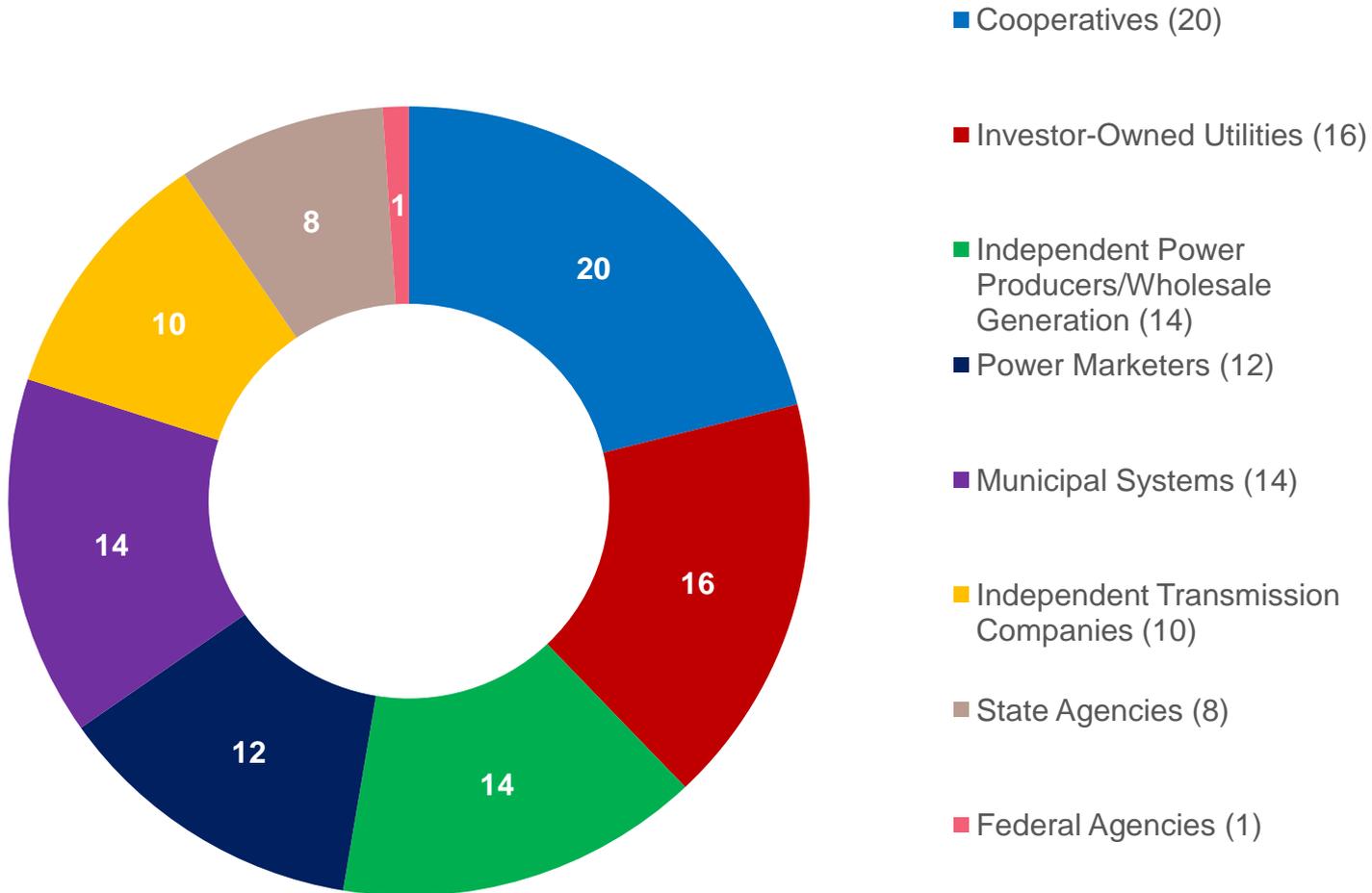
# SPP's MISSION

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

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

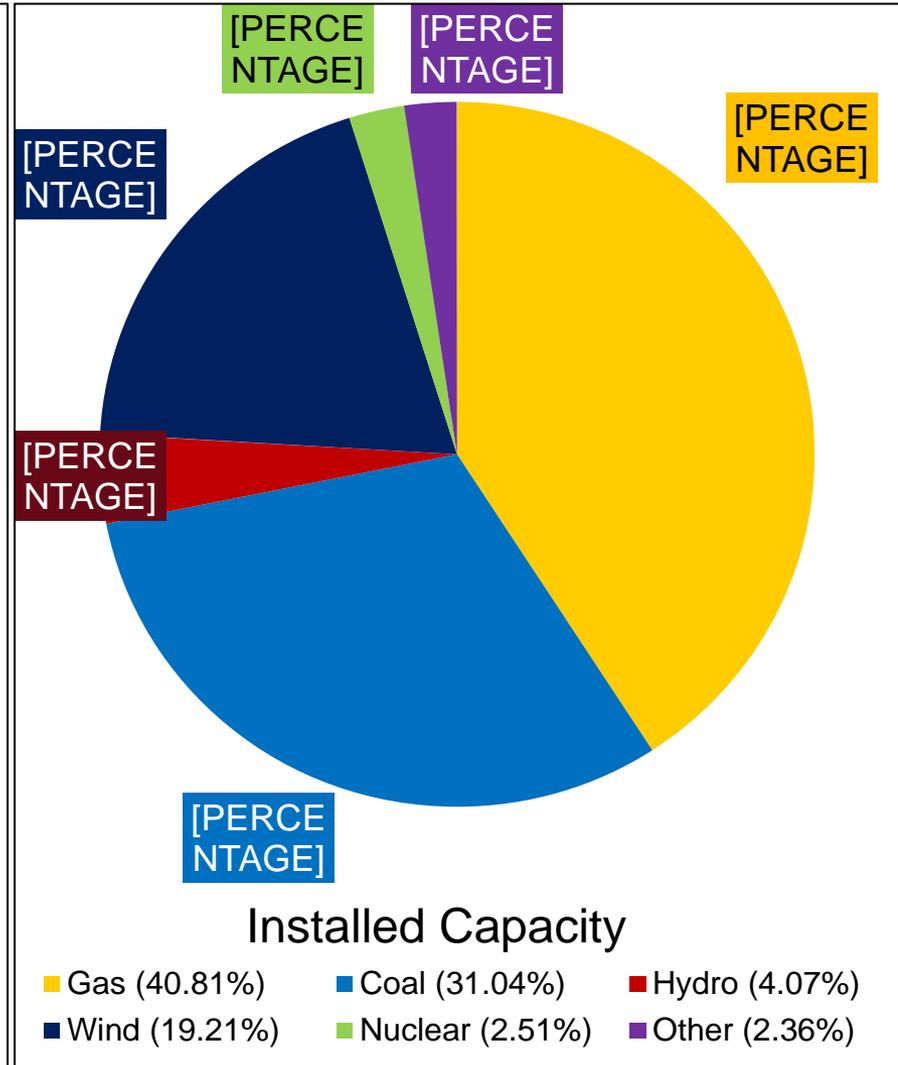
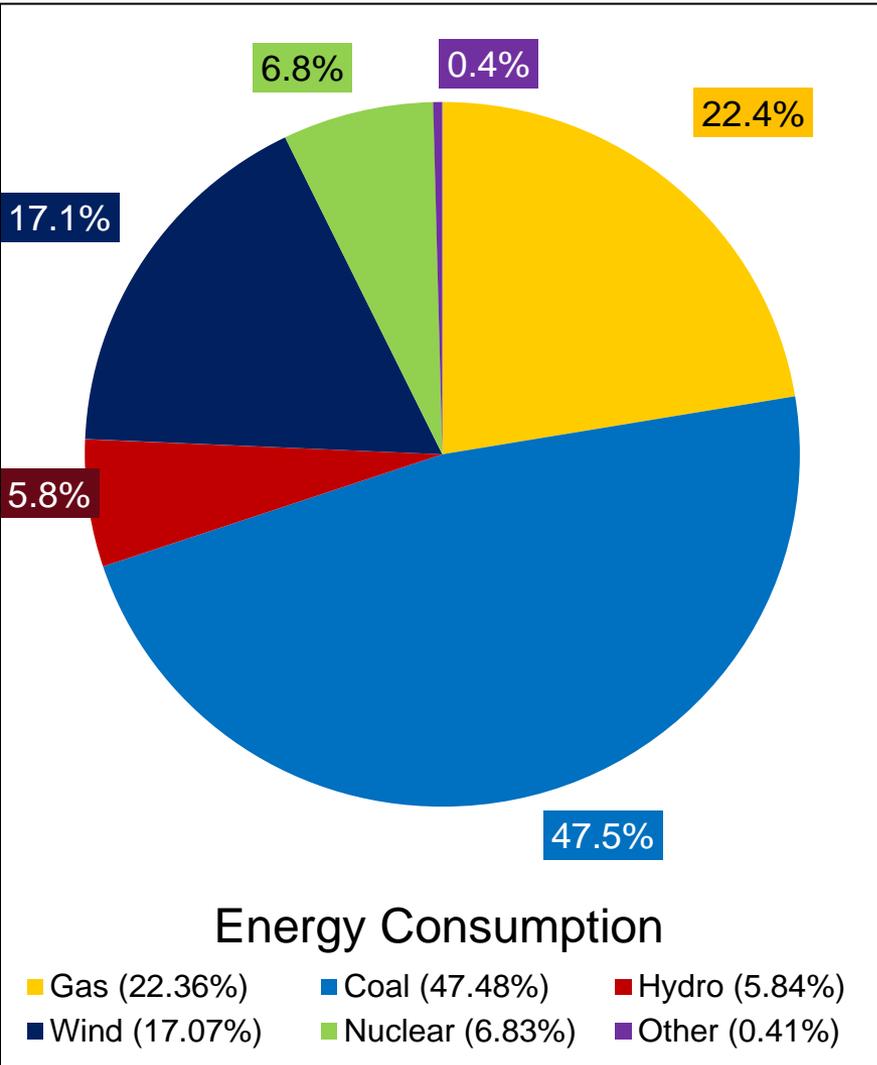


# SPP's 95 Members: Independence Through Diversity

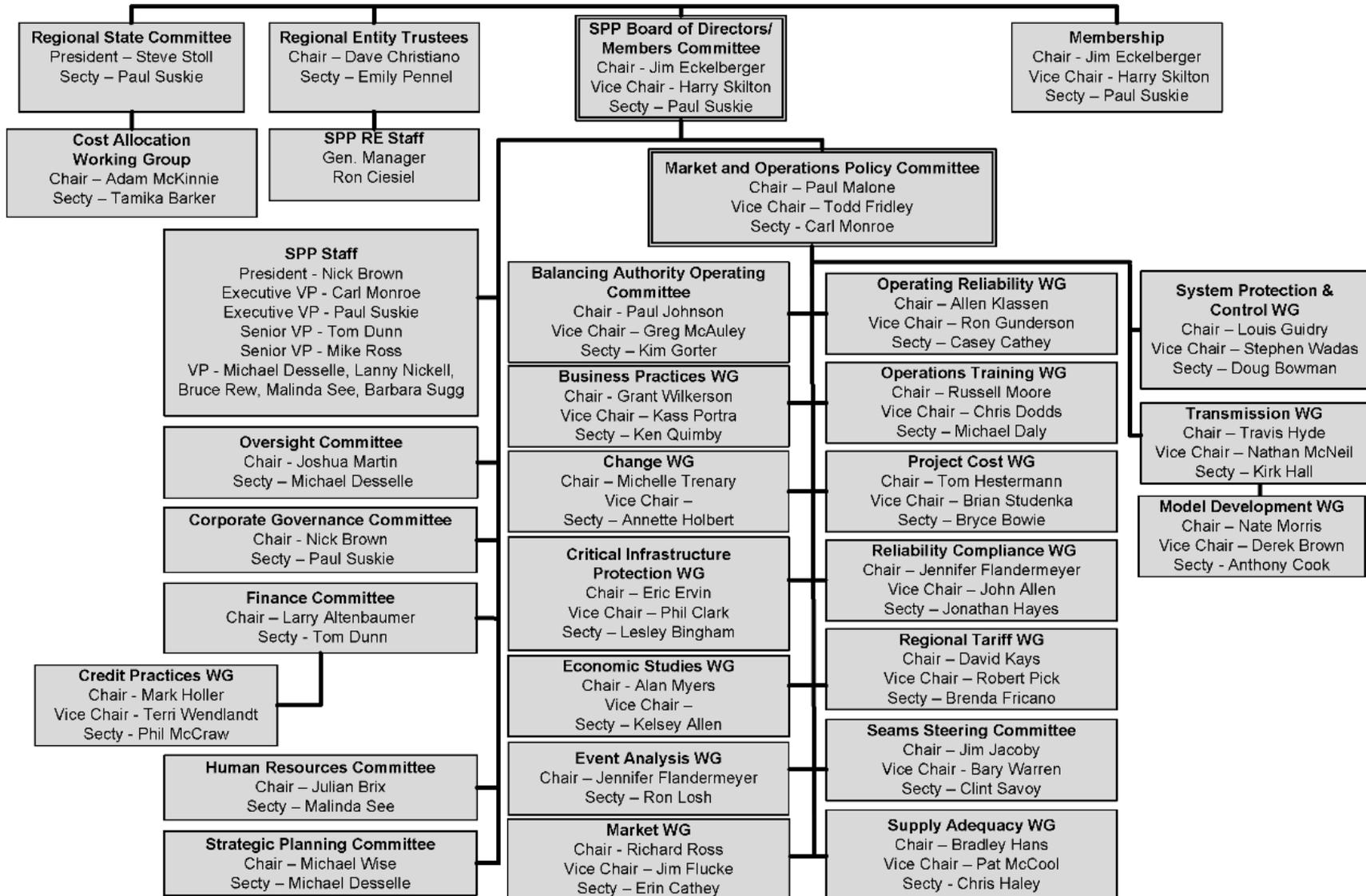


As of April 12, 2017

# SPP's 2016 Energy & Capacity Mix



# SPP Organizational Group Structure



# Regional State Committee

	<b>Stephen Stoll, RSC</b> <b>President</b> Missouri Public Service Commission		<b>Shari Feist Albrecht,</b> <b>RSC Vice President</b> Kansas Corporation Commission		<b>Kristie Fiegen, RSC</b> <b>Secretary/ Treasurer</b> South Dakota Public Utilities Commission
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	<b>Dennis Grennan</b> Nebraska Power Review Board		<b>Libby Jacobs</b> Iowa Utilities Board		<b>Randy Christmann</b> North Dakota Public Service Commission		<b>Patrick Lyons</b> New Mexico Public Regulation Commission
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	<b>Dana Murphy</b> Oklahoma Corporation Commission		<b>Donna Nelson</b> Public Utility Commission of Texas		<b>Kim O'Guinn</b> Arkansas Public Service Commission
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# Authority of the RSC

4 Areas of Authority	Description	Used
<b>Cost Allocation</b>	Whether participant funding will be used for transmission enhancements & whether license plate or postage stamp rates will be used for the regional access charge	<b>8</b>
<b>Financial Transmission Rights (FTRs)</b>	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	<b>3</b>
<b>Planning for Remote Resources</b>	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	<b>1</b>
<b>Resource Adequacy</b>	Determine the approach for resource adequacy across SPP	<b>1</b>

“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

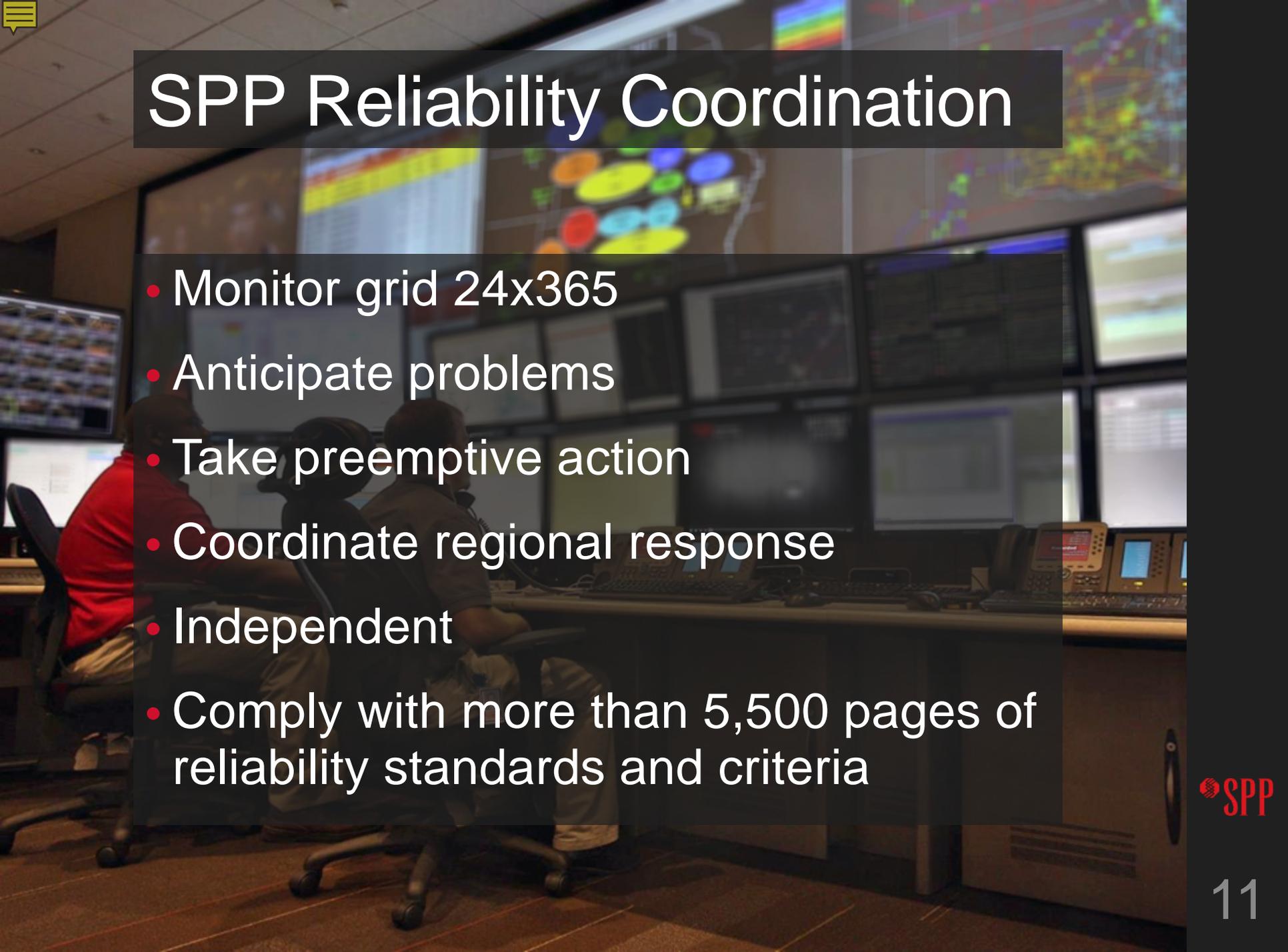
# Our Major Services

- 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

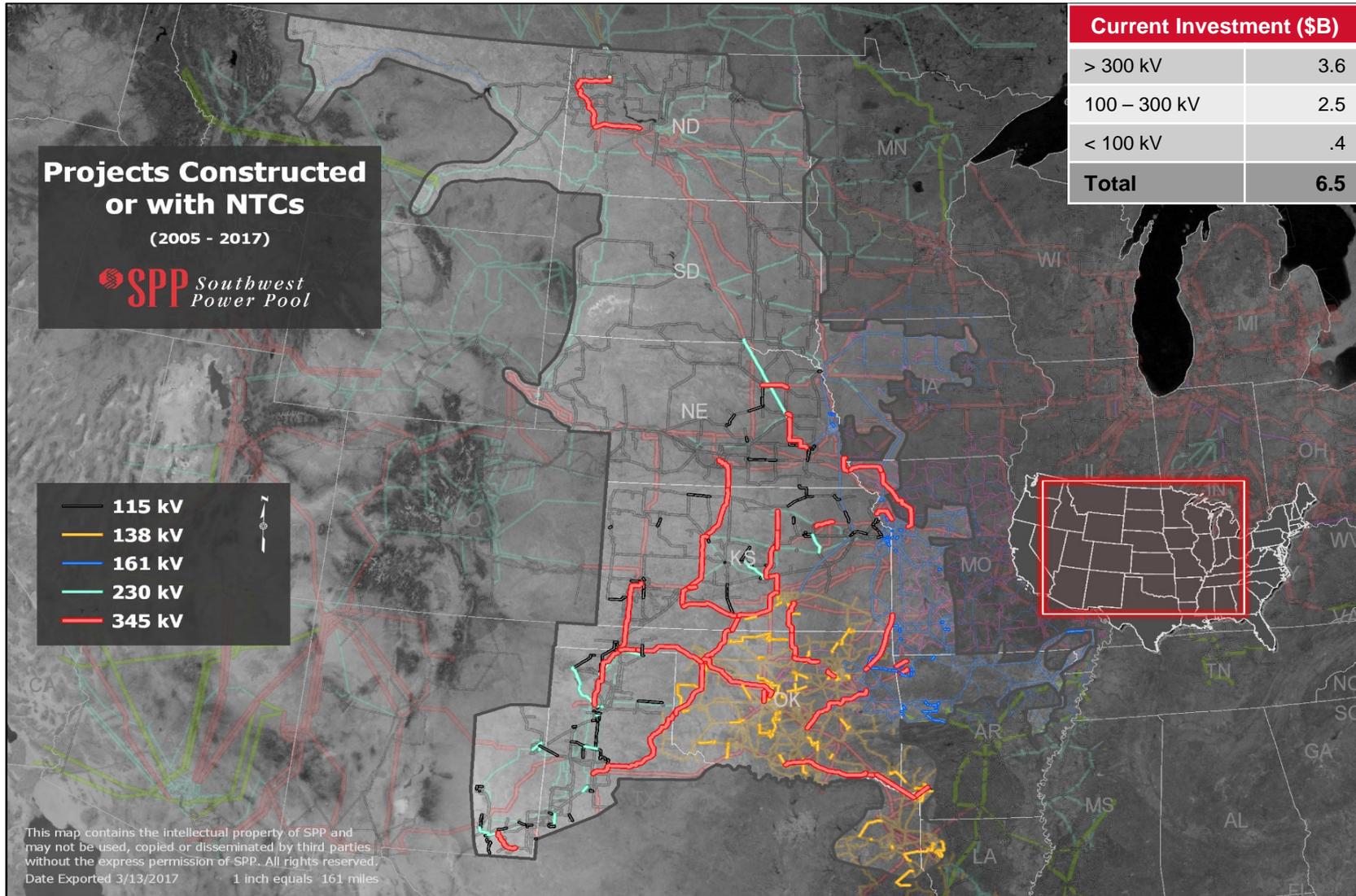
## Stakeholder Driven, Member Funded Studies

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

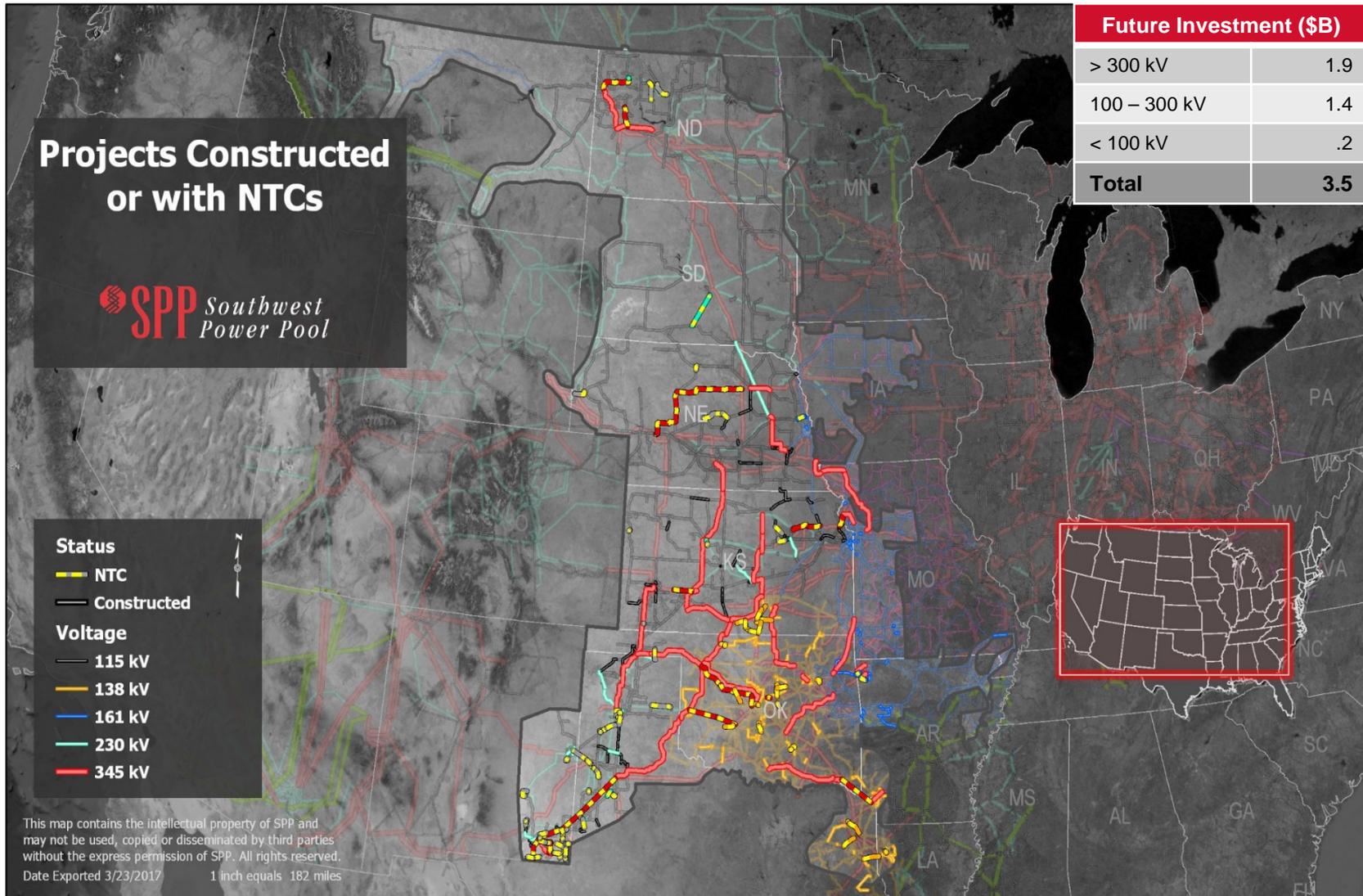
## Customer Initiated, Customer Funded Studies

- Transmission Service
- Generation Interconnection Service
- Sponsored Upgrades

# 2005- 2017 Transmission Expansion

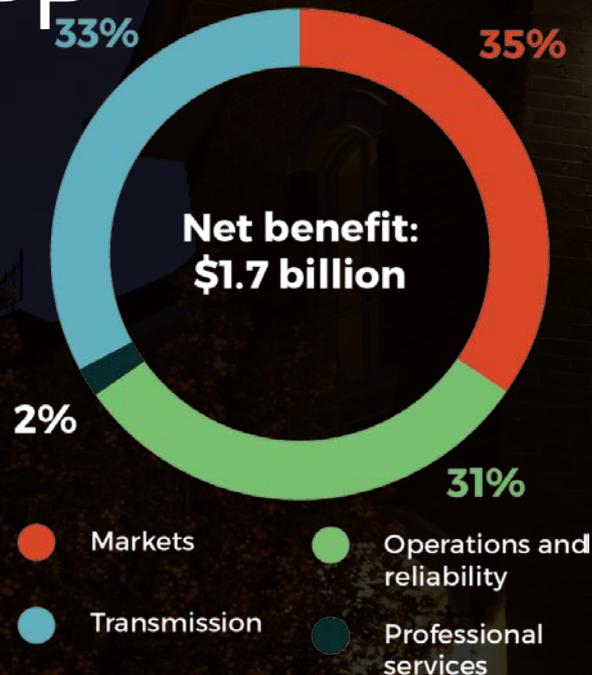


# Future Transmission Expansion



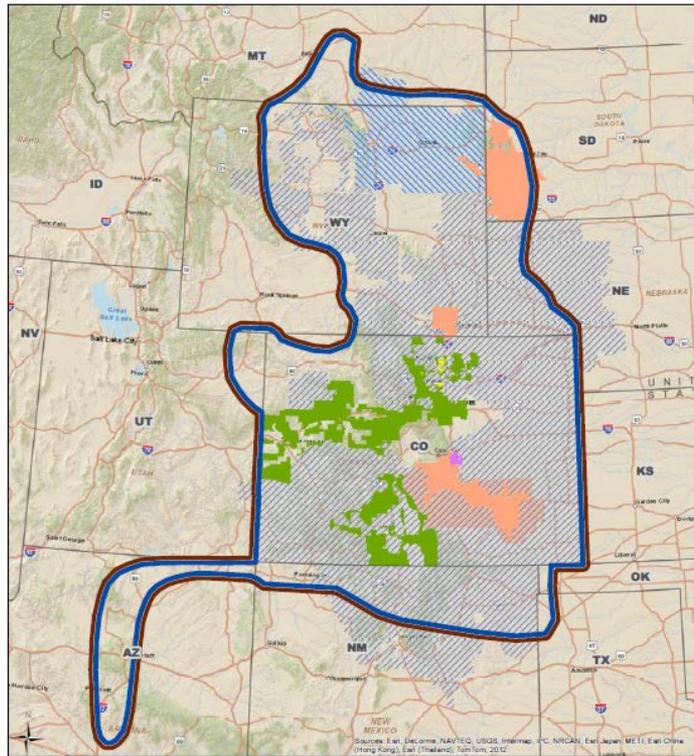
# THE VALUE OF SPP

- 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

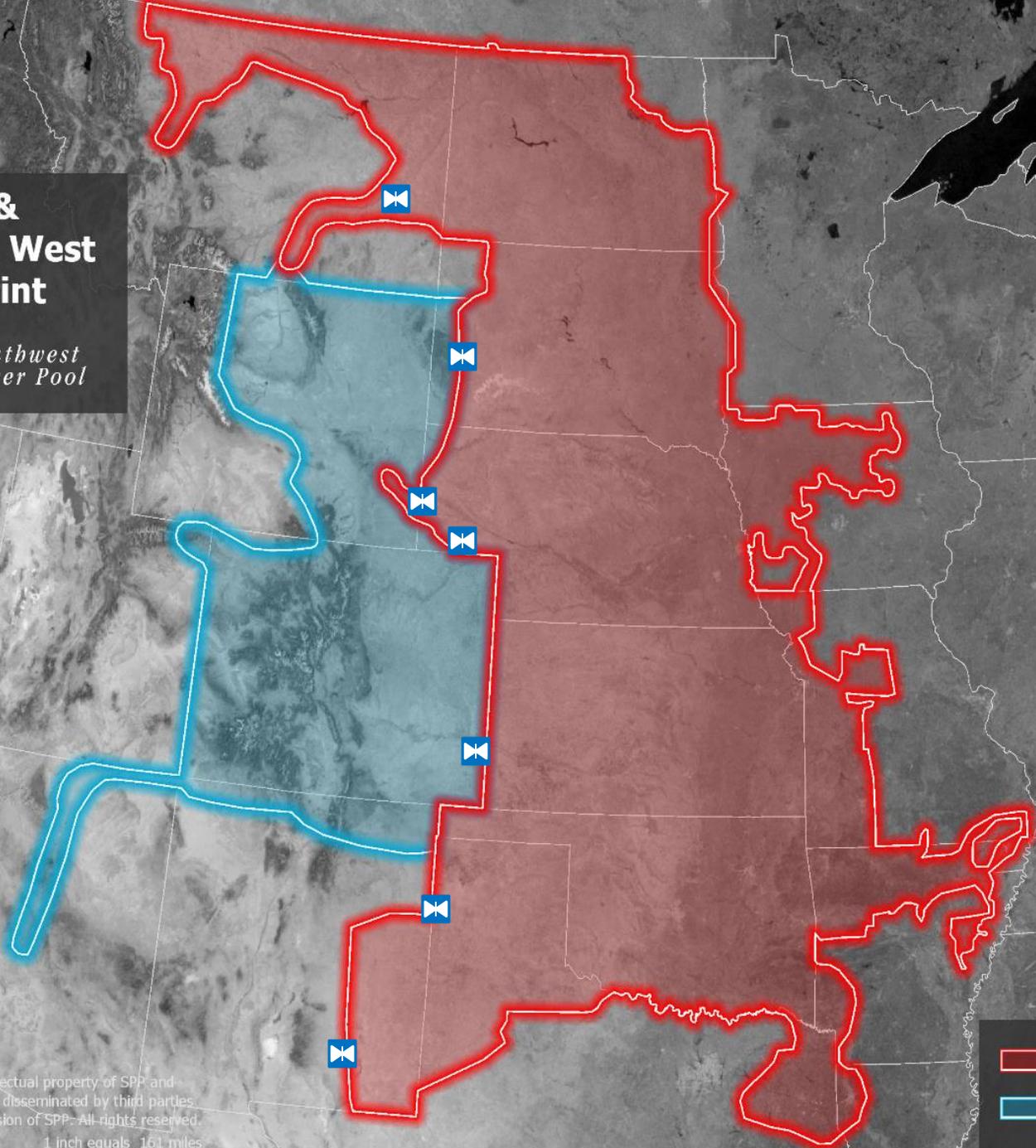


**Mountain West Transmission Group Membership Areas**

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

# SPP & Mountain West Footprint



 SPP

 Mountain West

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

