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SEVENTY-FIVE YEARS OF
RELIABILITY THROUGH RELATIONSHIPS



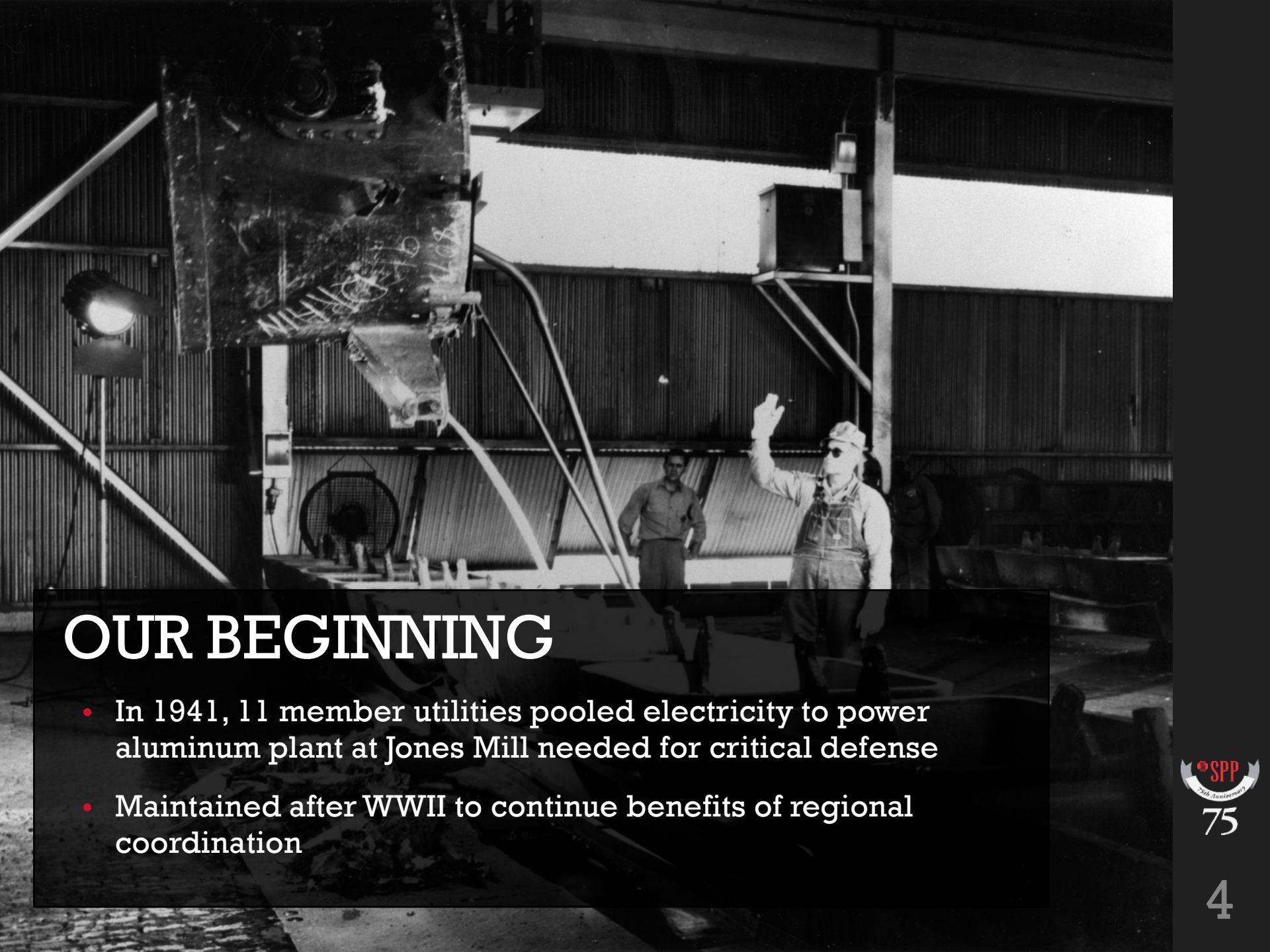
SOUTHWEST POWER POOL

Arkansas Legislative Joint Committee Meeting

September 27, 2016

Our Mission

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



OUR BEGINNING

- In 1941, 11 member utilities pooled electricity to power aluminum plant at Jones Mill needed for critical defense
- Maintained after WWII to continue benefits of regional coordination



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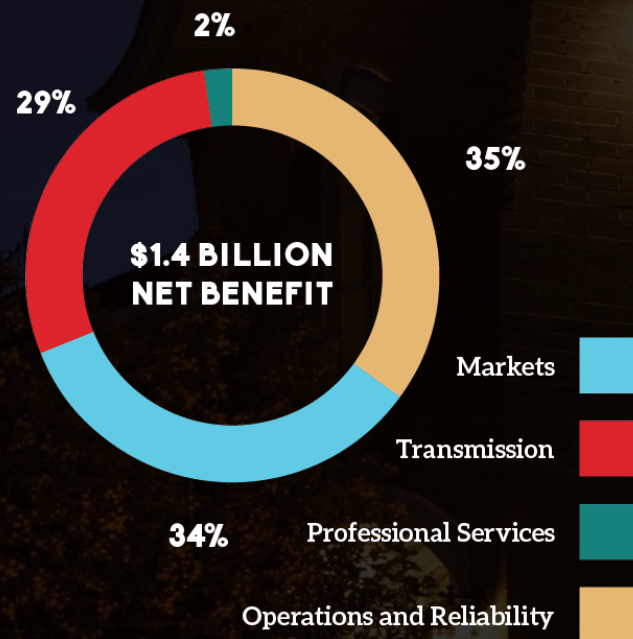
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THE SPP DIFFERENCE

- Relationship-based
- Member-driven
- Independence Through Diversity
- Evolutionary vs. Revolutionary
- Reliability and Economics Inseparable

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 \$1.4 billion annually at a benefit-to-cost ratio of more than 10-to-1.
- For the typical end-use customer using 1,000 kWh per month, a monthly electric utility bill of \$100 would be \$105.65 without the services SPP provides.





MILESTONES

1968 Became NERC Regional Council

1980 Implemented telecommunications network

1991 Implemented operating reserve sharing

1994 Incorporated as nonprofit

1997 Implemented reliability coordination

MILESTONES

- 1998 Implemented tariff administration
- 2004 Became FERC-approved Regional Transmission Organization
- 2007 Launched EIS market; became NERC Regional Entity
- 2009 Integrated Nebraska utilities
- 2010 FERC approved Highway/Byway cost allocation methodology and Integrated Transmission Planning Process



MILESTONES

2012 Moved to new Corporate Center

2014 Launched Integrated Marketplace

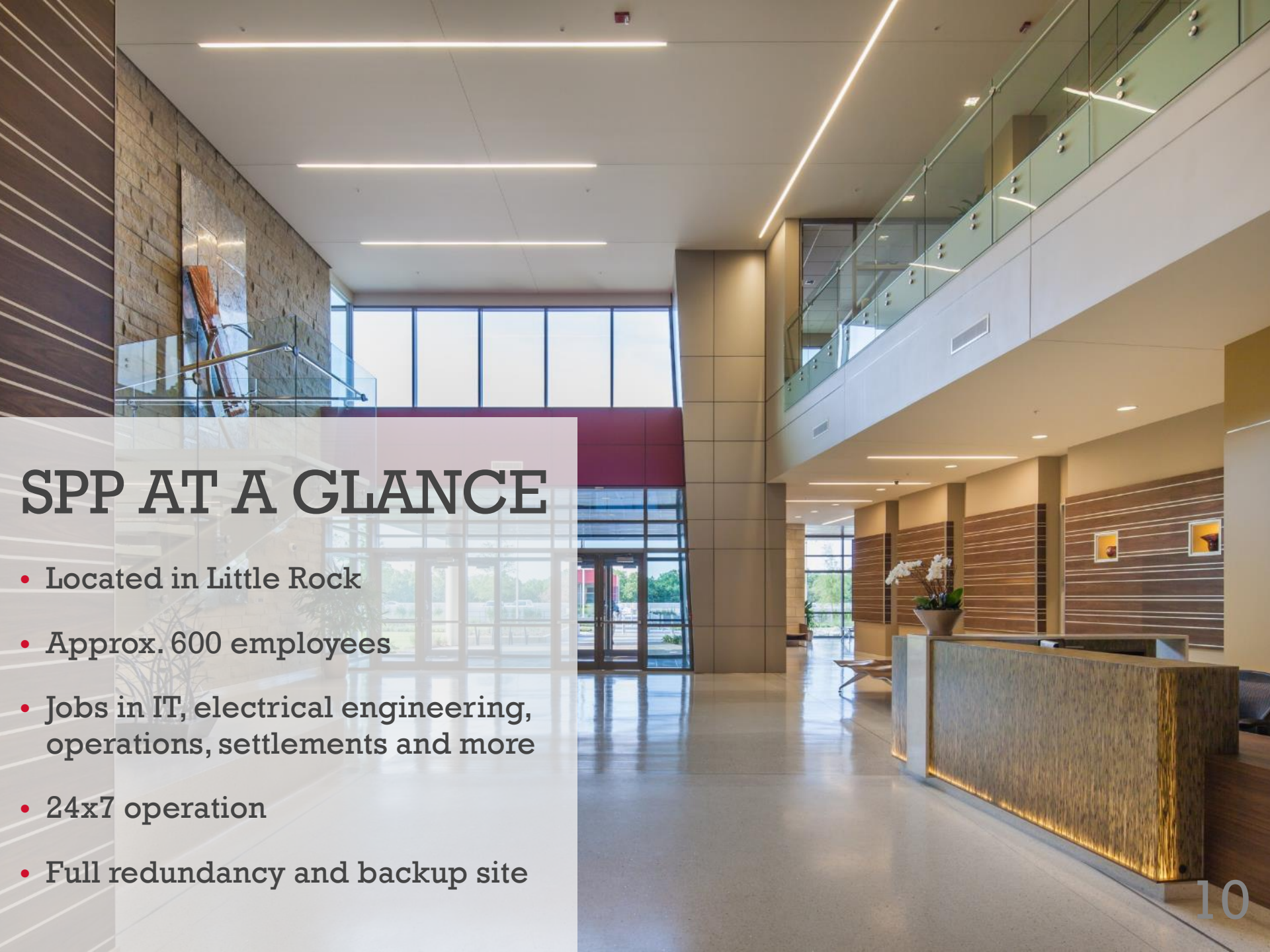
Became regional Balancing Authority

2015 Integrated System joins SPP



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SPP AT A GLANCE

- Located in Little Rock
- Approx. 600 employees
- Jobs in IT, electrical engineering, operations, settlements and more
- 24x7 operation
- Full redundancy and backup site



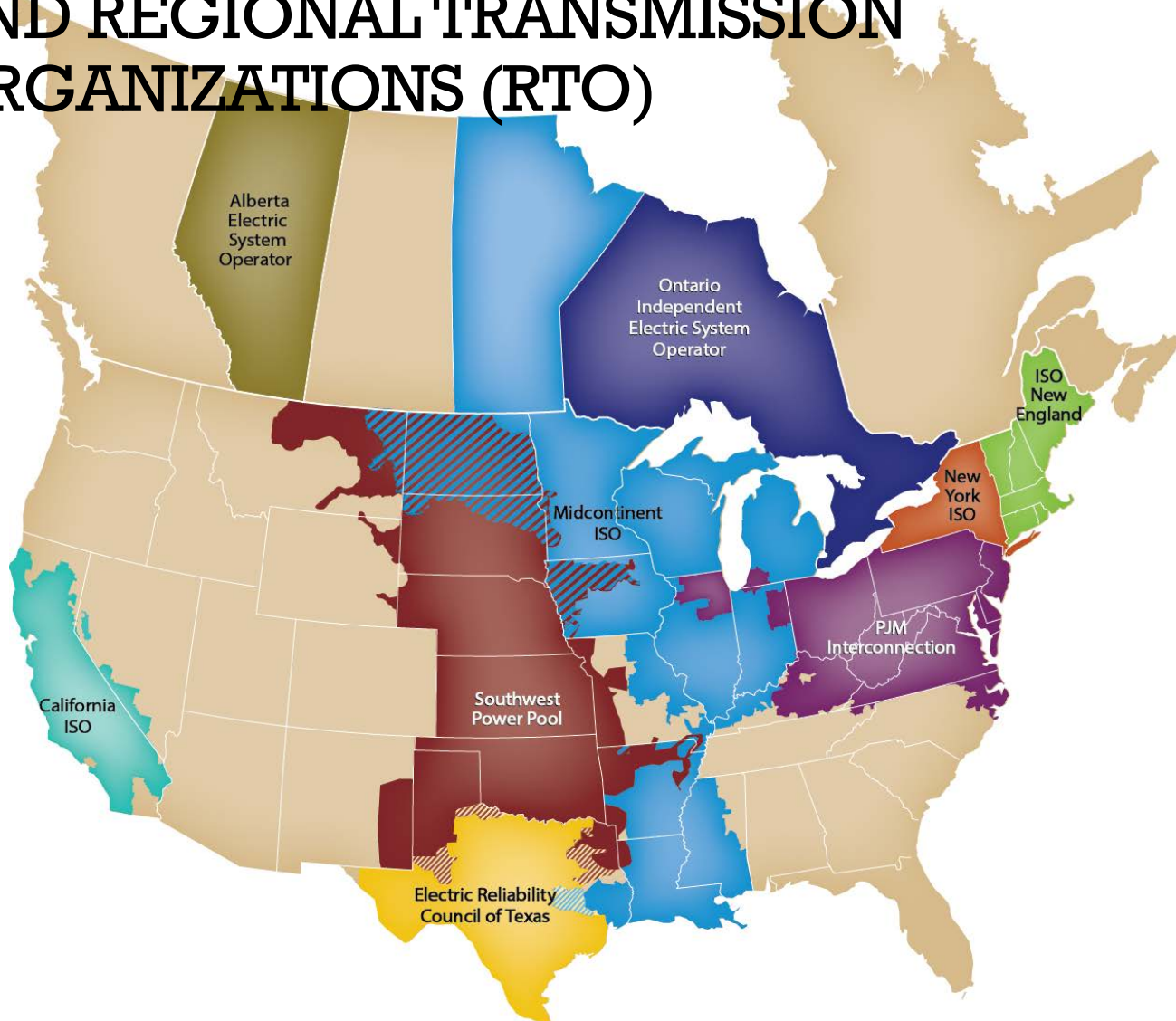
COMMUNITY INVOLVEMENT AND RECOGNITION

- Best Place to Work in Arkansas: 2014 Benchmark Award Winner 2013 Finalist
- Principal Financial Group “Top 10”
- Employee charity involvement:
 - Arkansas Foodbank
 - Girls of Promise
 - Race for the Cure
 - Relay for Life
 - United Way
 - Youth Home
 - More

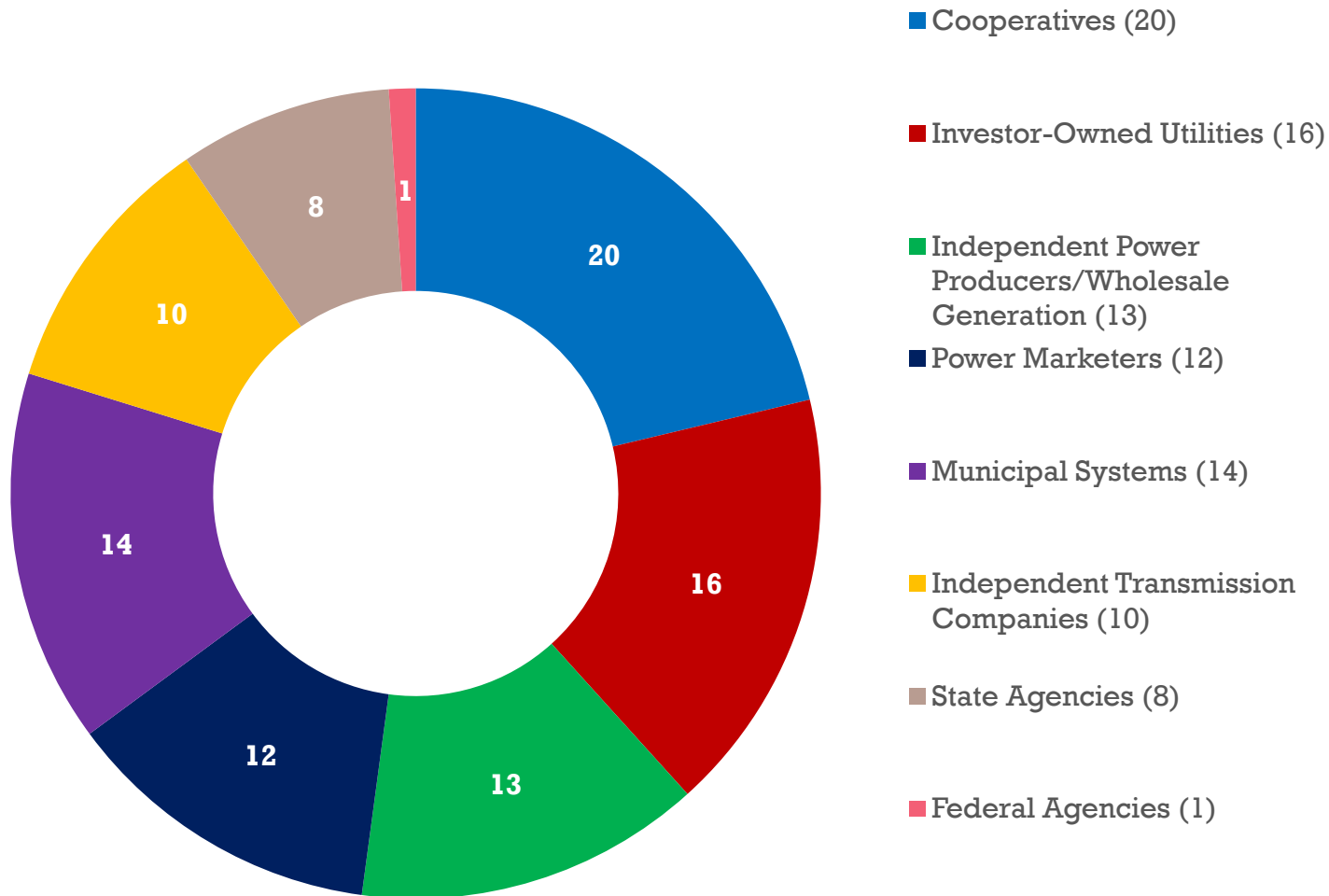
REGULATORY ENVIRONMENT

- Incorporated in Arkansas as 501(c)(6) nonprofit corporation
- Federal Energy Regulatory Commission (FERC)
 - Regulated public utility
 - Regional Transmission Organization
- North American Electric Reliability Corporation (NERC)
 - Founding member
 - Regional Entity

NORTH AMERICAN INDEPENDENT SYSTEM OPERATORS (ISO) AND REGIONAL TRANSMISSION ORGANIZATIONS (RTO)

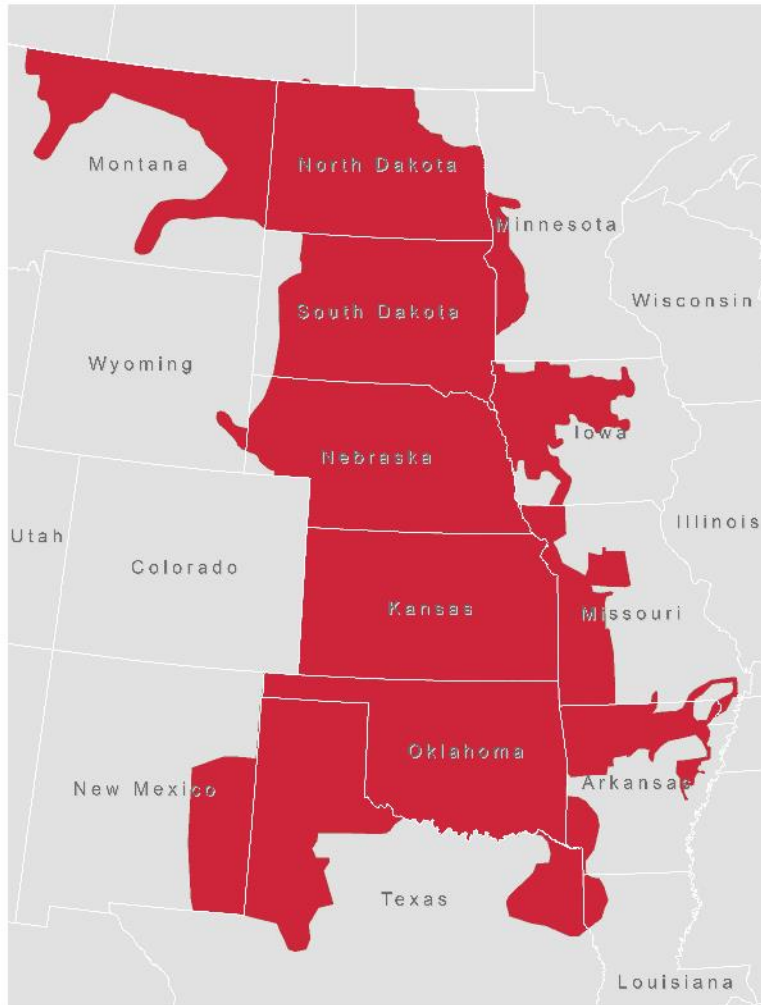


SPP'S 94 MEMBERS: INDEPENDENCE THROUGH DIVERSITY



As of August 11, 2016

THE SPP FOOTPRINT: MEMBERS IN 14 STATES



- **Arkansas**
- **Kansas**
- **Iowa**
- **Louisiana**
- **Minnesota**
- **Missouri**
- **Montana**
- **Nebraska**
- **New Mexico**
- **North Dakota**
- **Oklahoma**
- **South Dakota**
- **Texas**
- **Wyoming**



SPP MANAGES THE GRID IN 5 OF THE TOP 100 CITIES IN AMERICA:

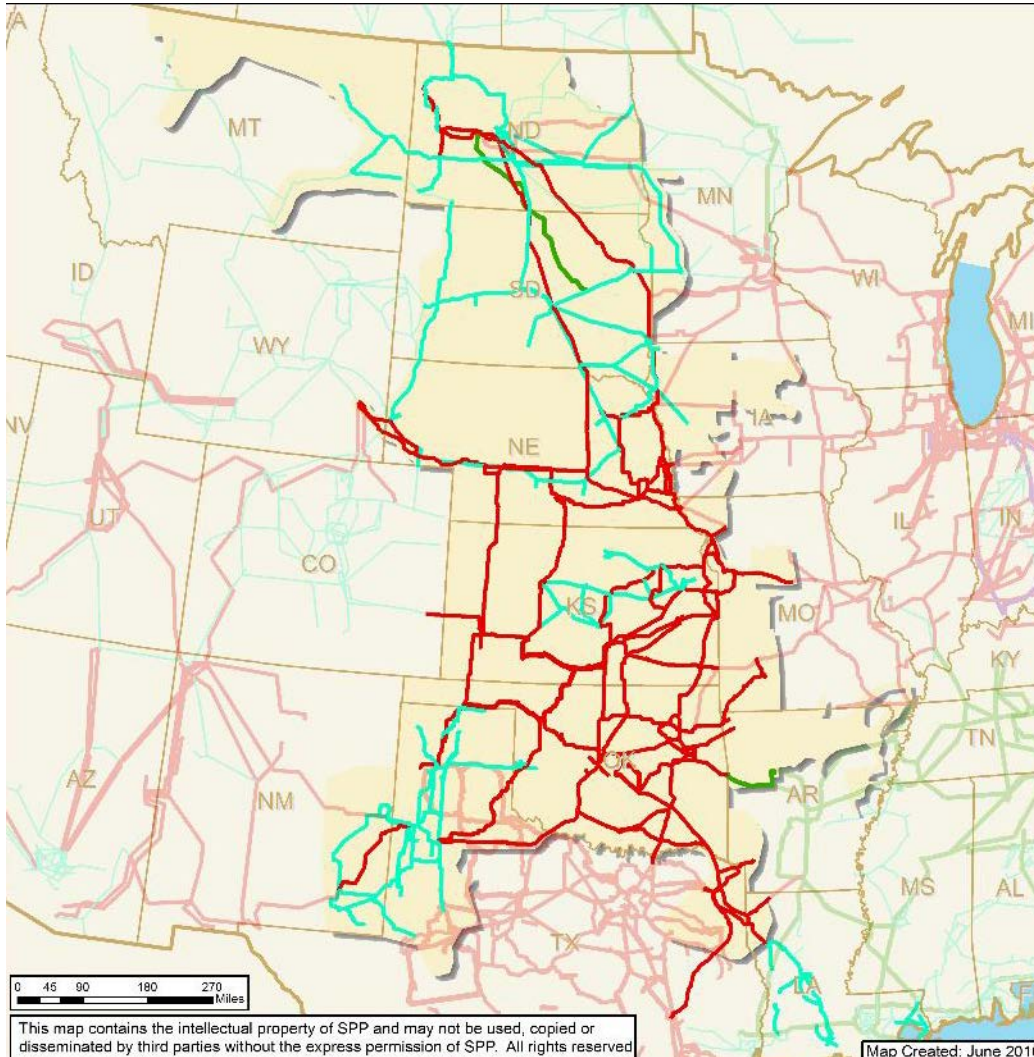
Kansas City, Oklahoma City, Tulsa, Omaha, and Wichita



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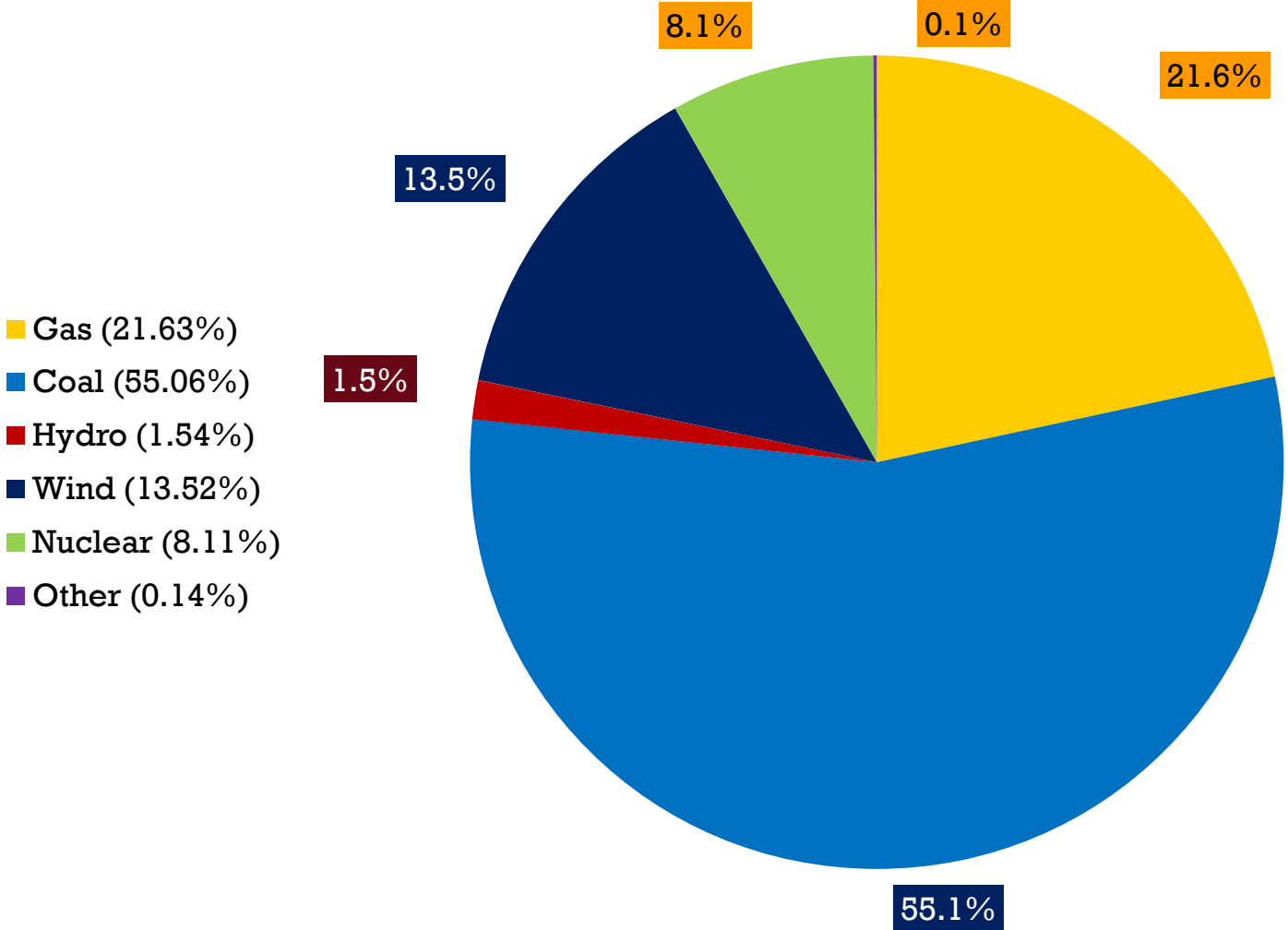
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OPERATING REGION

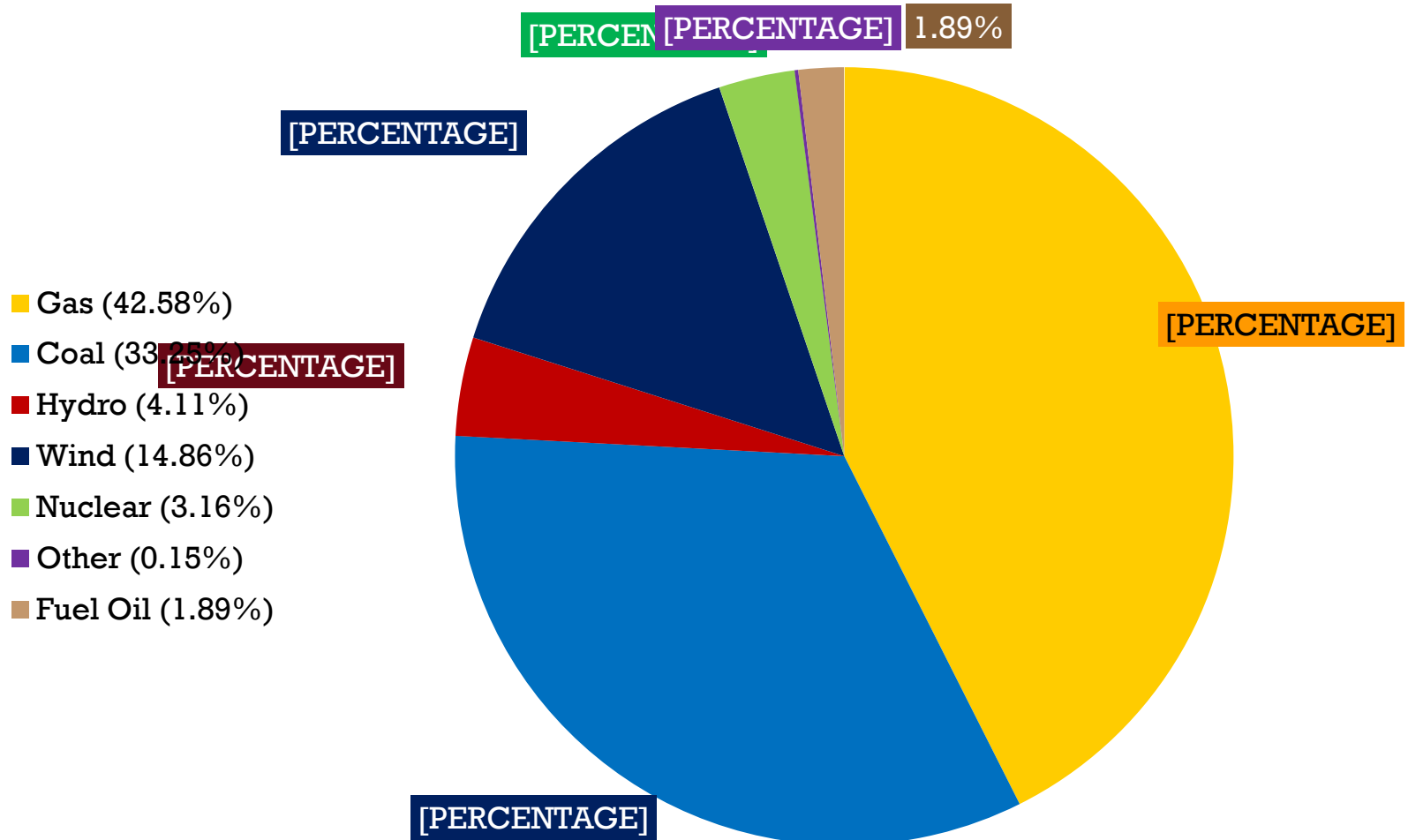


- Miles of service territory: 575,000
- Population served: 18M
- Generating Plants: 756
- Substations: 4,757
- Miles of transmission:
60,944
 - 69 kV 13,532
 - 115 kV 14,269
 - 138 kV 9,117
 - 161 kV 5,647
 - 230 kV 7,608
 - 345 kV 10,772

2015 ENERGY CONSUMPTION BY FUEL TYPE



2015 ENERGY CAPACITY* BY FUEL TYPE



* Figures refer to nameplate capacity

MARKET FACTS

- 166 participants
- 695 generating resources
- 2015 Marketplace Settlements = \$14.6 billion
- 50,622 MW coincident peak load (7/21/16)
- Wind penetration record: 49.17% (4/24/16)

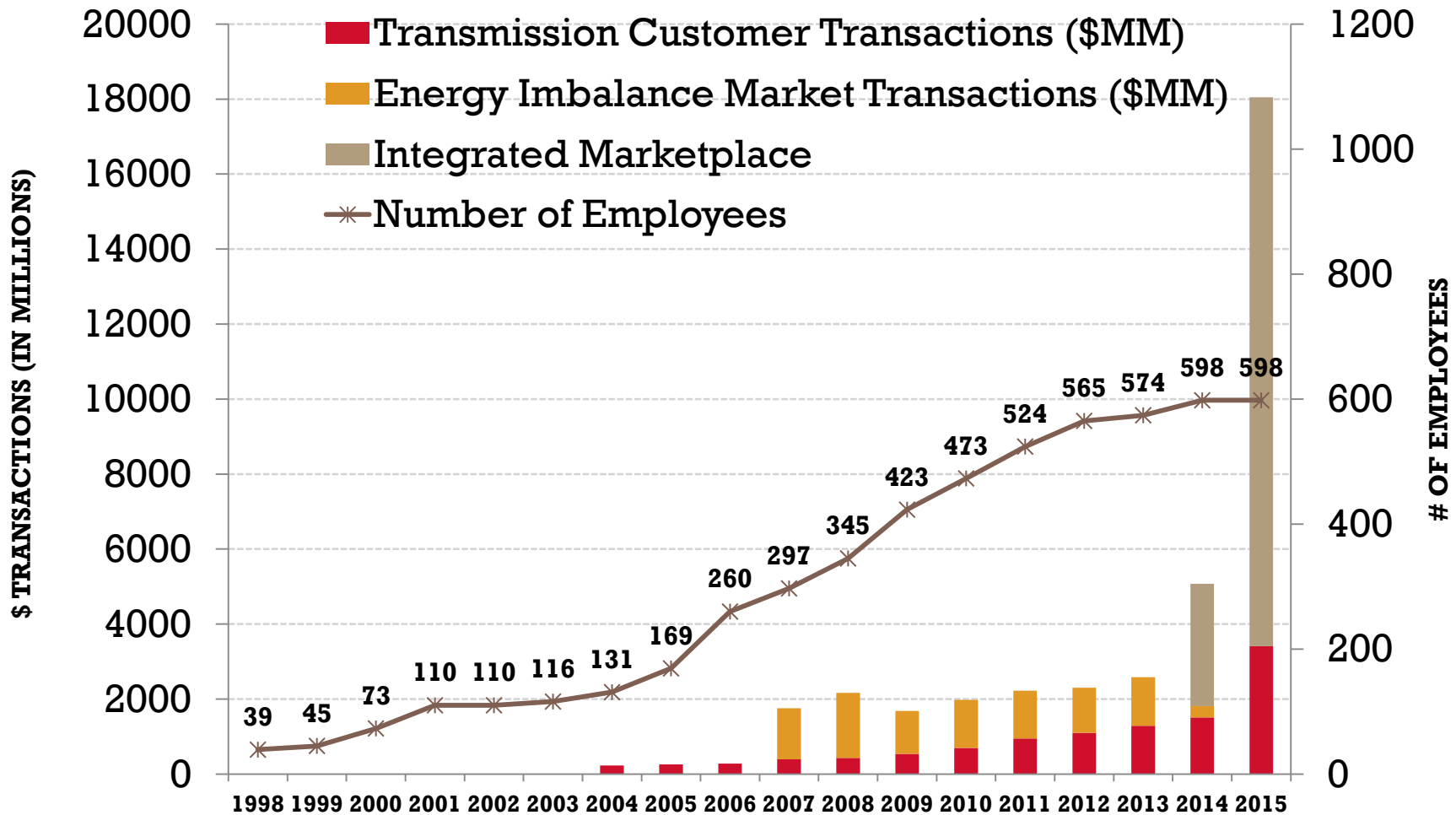
TRANSMISSION IN SPP

- In 2015, SPP members completed 93 transmission projects totaling more than \$856 million.
- More than \$9.7 billion in transmission upgrades were planned and approved from 2004-2016.
- 60,944 miles of transmission lines in SPP's footprint would circle the earth more than twice!

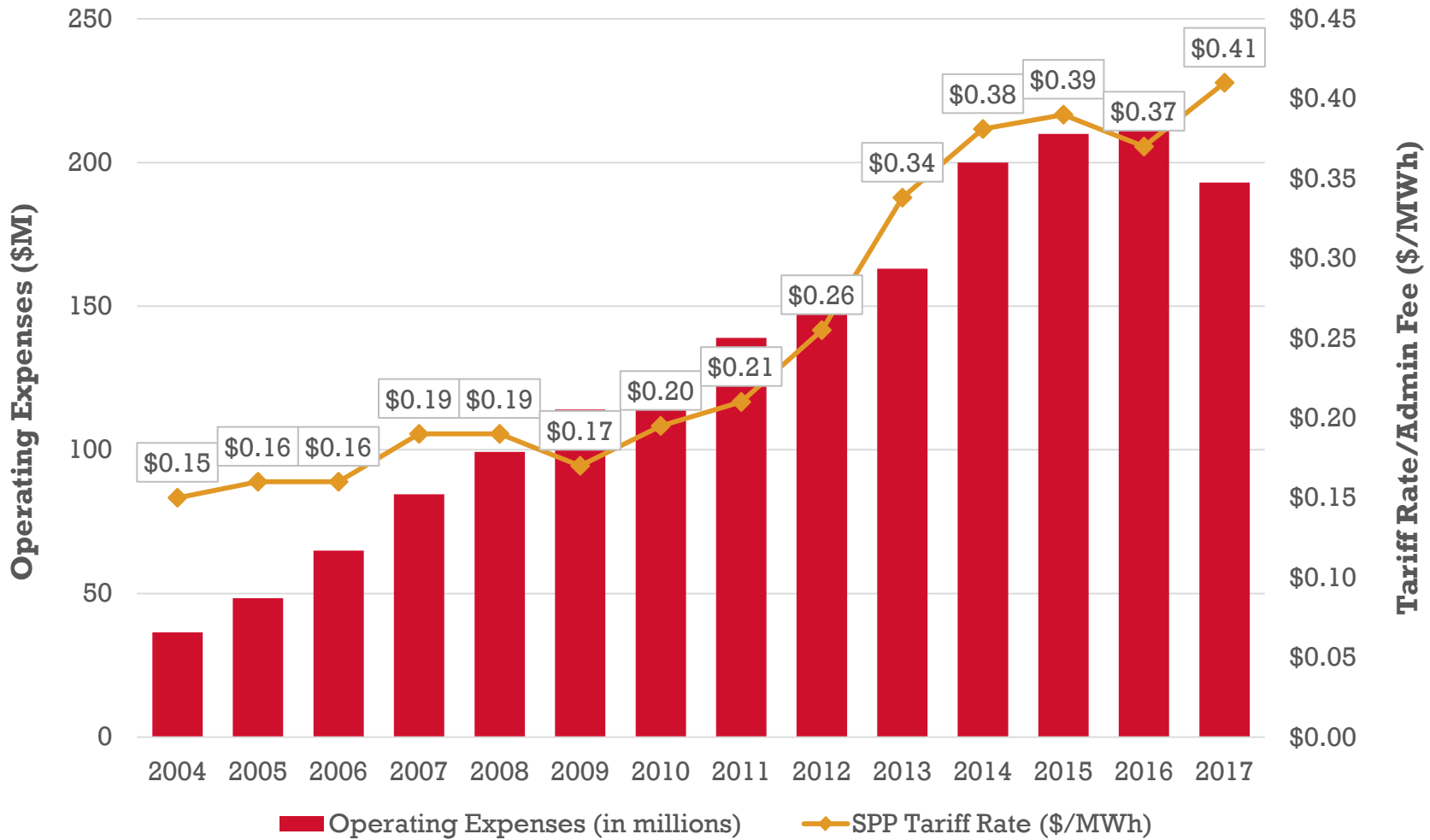
SPP'S IT INFRASTRUCTURE

- 156,000+ data points updated every 4-30 seconds
- Operations model solves 47,150 x 80,548 matrix every two minutes
- Approx. 1,800 servers
- More than 1.9 terabytes of storage

GROWTH IN RESPONSIBILITIES



SPP EXPENSES: 2001-2017



INTERREGIONAL COORDINATION

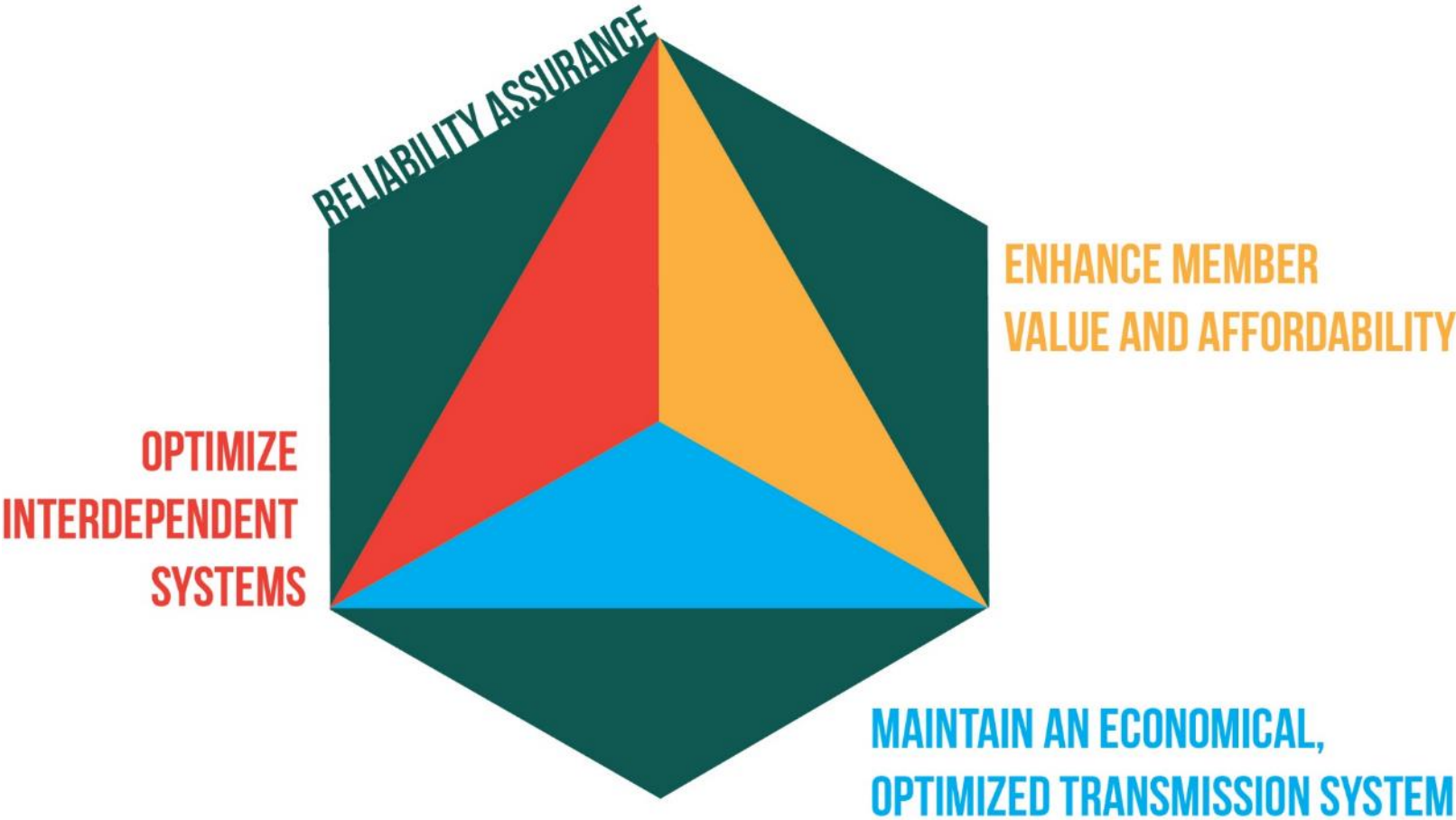
- ISO-RTO Council
- Interregional planning efforts
- North American Energy Standards Board (NAESB)
- National Association of Regulatory Utility Commissioners



CONTRACT SERVICES

- Alternative to RTO membership for Transmission Owners
- Oversight of Transmission Owners' system operations:
 - Reliability Coordination
 - Transmission Planning
 - Tariff Administration
 - Interregional Coordination
- Provides process for assigning cost responsibility for transmission upgrades

OUR STRATEGY



OUR MAJOR SERVICES

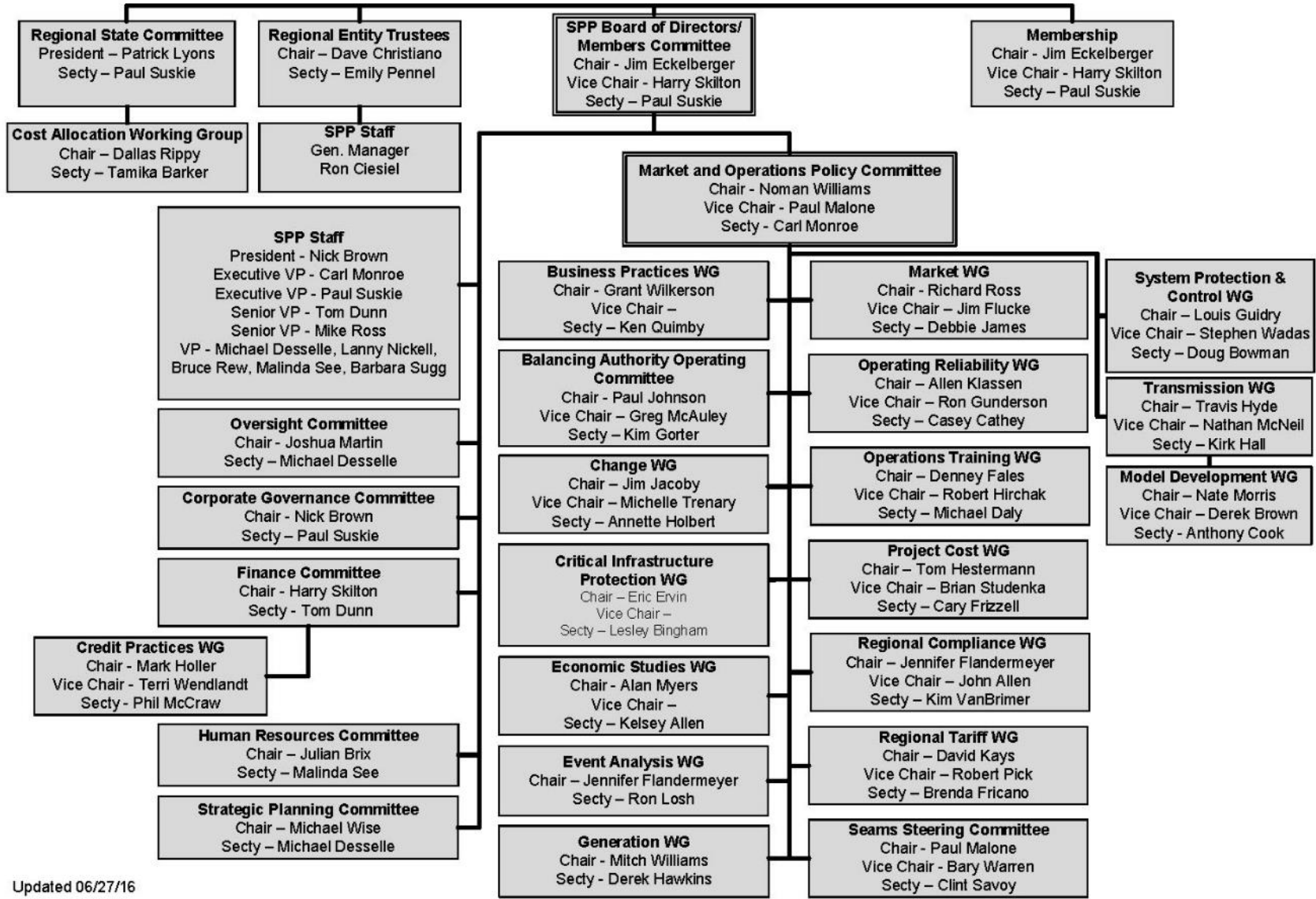
- Facilitation
- Reliability Coordination
- Balancing Authority
- Transmission Service/Tariff Administration

- Market Operation
- Transmission Planning
- Training
- Standards Setting
- Compliance Enforcement

OUR APPROACH:

Regional, Independent, Cost-Effective and Focused on Reliability

FACILITATION



RELIABILITY COORDINATION: AIR TRAFFIC CONTROLLERS OF THE BULK POWER GRID

- Monitor grid 24 x 365
- Anticipate problems
- Take preemptive action
- Coordinate regional response
- Independent
- Comply with more than 5,500 pages of reliability standards and criteria

TRAINING

- In 2015, SPP's training programs:
 - Awarded more than 21,136 continuing education hours to 46 member companies
 - Offered 847 hours of classroom training, resulting in more than 26,000 hours of participant classroom time
- SPP offers:
 - Regional System restoration drills
 - Integrated Marketplace training
 - Regional Emergency Operations sessions
 - Train-the-Trainer classes

THE SPP REGIONAL ENTITY

- Independent and functionally separate from SPP RTO
- Monitors and enforces Registered Entities' compliance with NERC reliability standards
- Assesses and evaluates grid reliability
- Provides regional outreach on compliance issues
- Analyzes system events and develops lessons learned

WHAT KIND OF MARKETS DOES SPP OPERATE?

- **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.