SPP Southwest Power Pool

SPP UPDATE

BEN BRIGHT

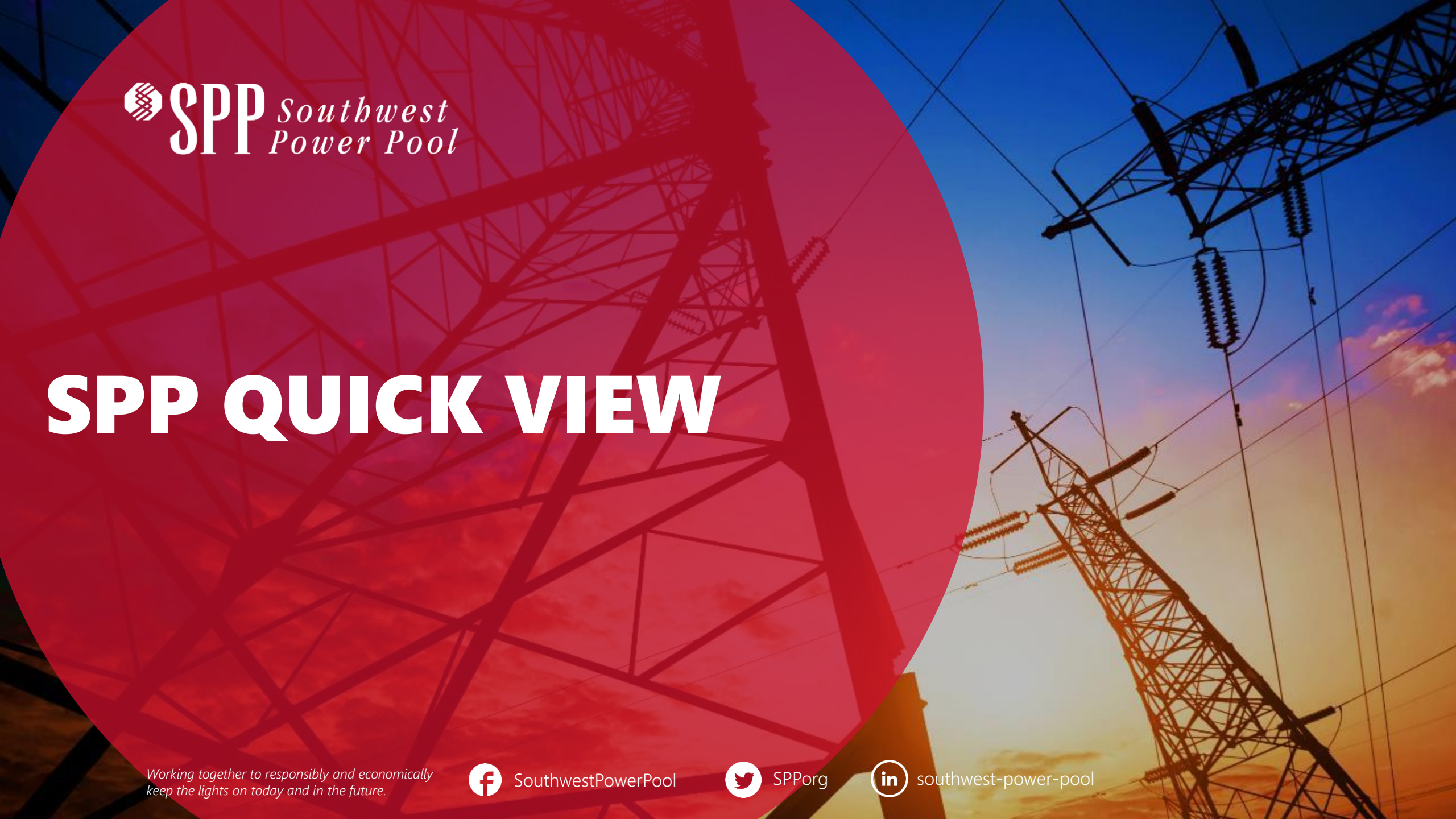
LEE ELLIOTT

Working together to responsibly and economically keep the lights on today and in the future.

SouthwestPowerPool SPPorg southwest-power-pool

TODAY'S PRESENTATION

- SPP
- Ensuring a Reliable Grid
  - Performance Based Accreditation
  - Planning Reserve Margin



SPP Southwest Power Pool

SPP QUICK VIEW

Working together to responsibly and economically keep the lights on today and in the future.

SouthwestPowerPool

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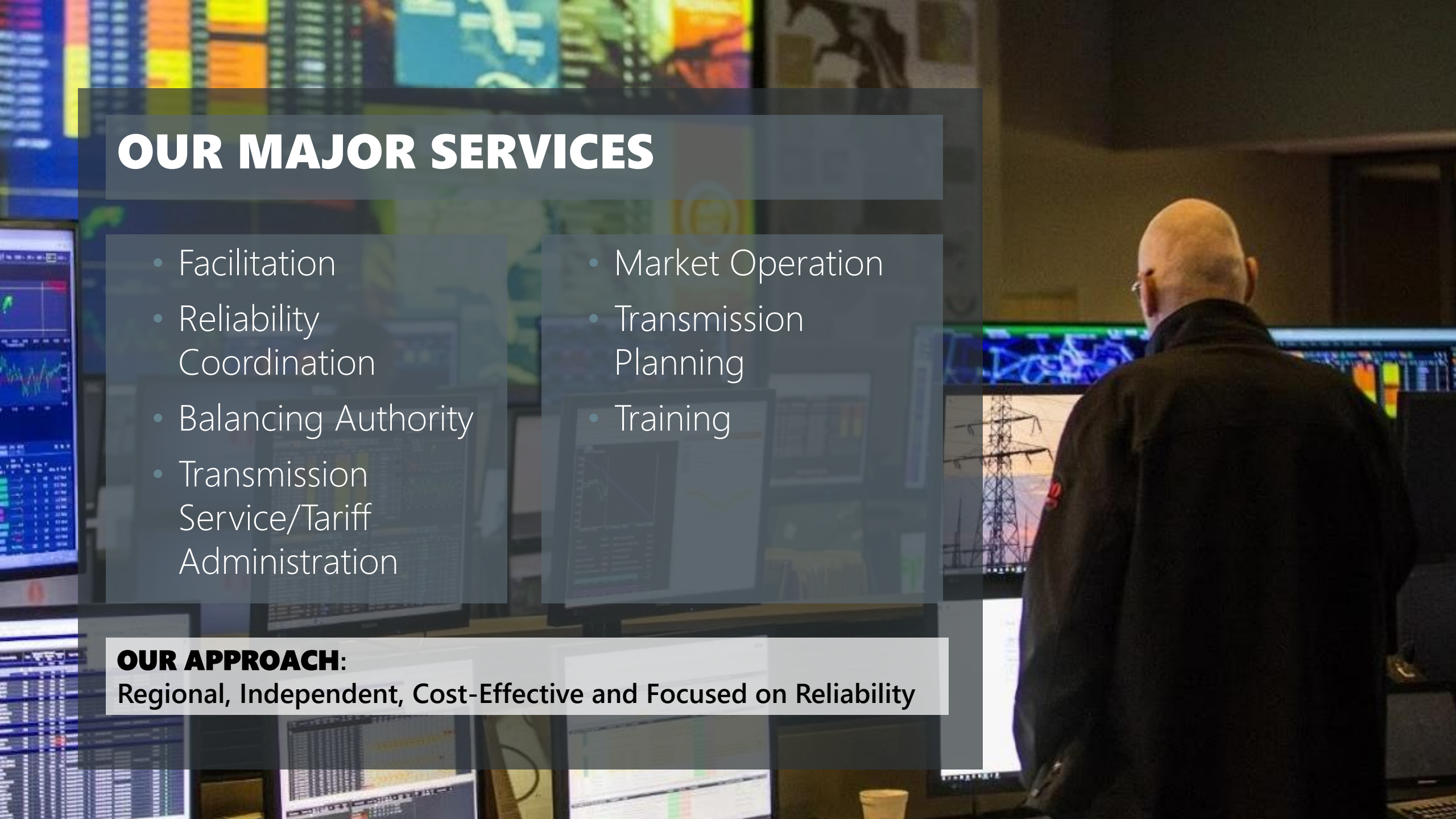
SPP AT A GLANCE

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

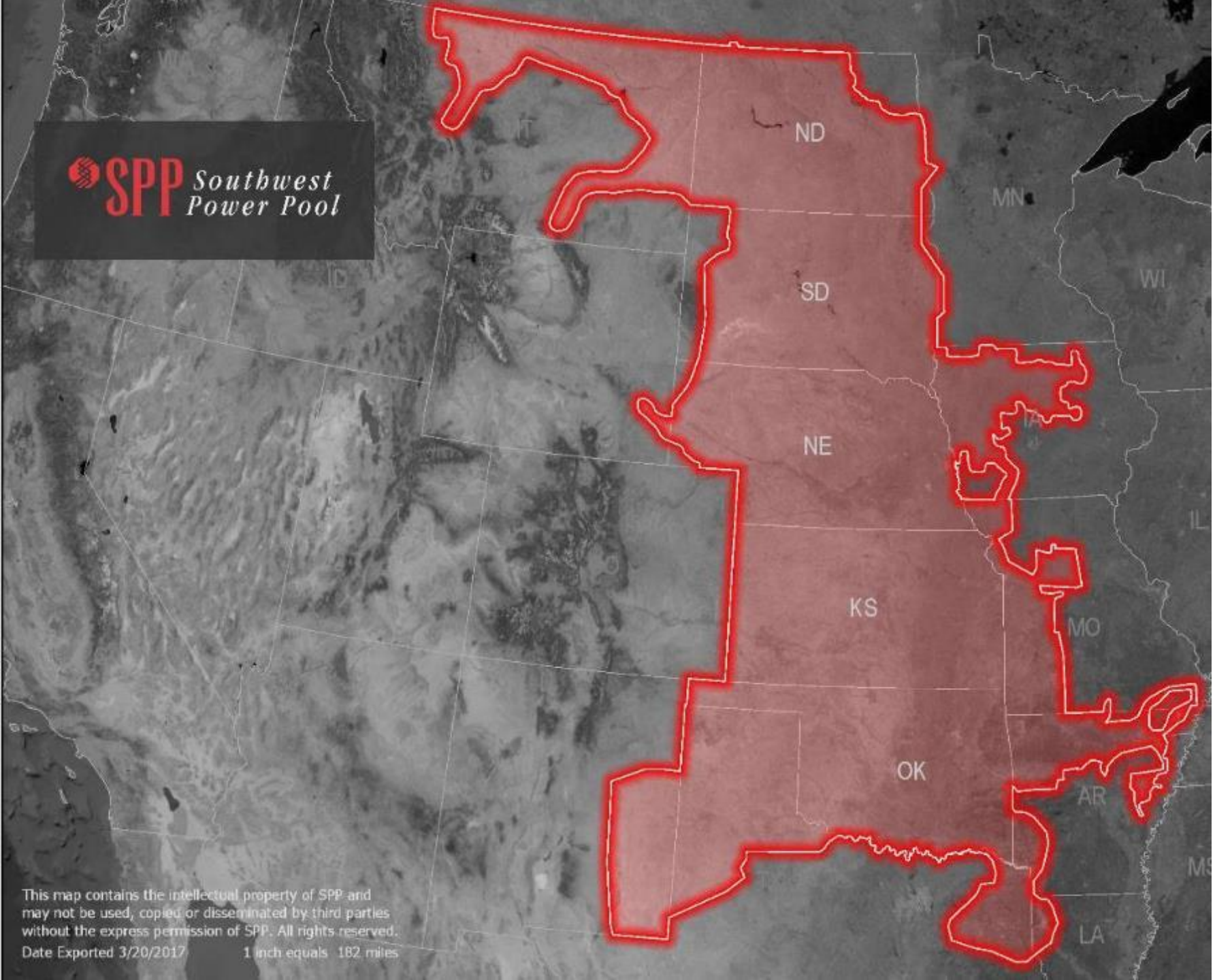


OUR MAJOR SERVICES

- Facilitation
- Reliability Coordination
- Balancing Authority
- Transmission Service/Tariff Administration
- Market Operation
- Transmission Planning
- Training

OUR APPROACH:
Regional, Independent, Cost-Effective and Focused on Reliability

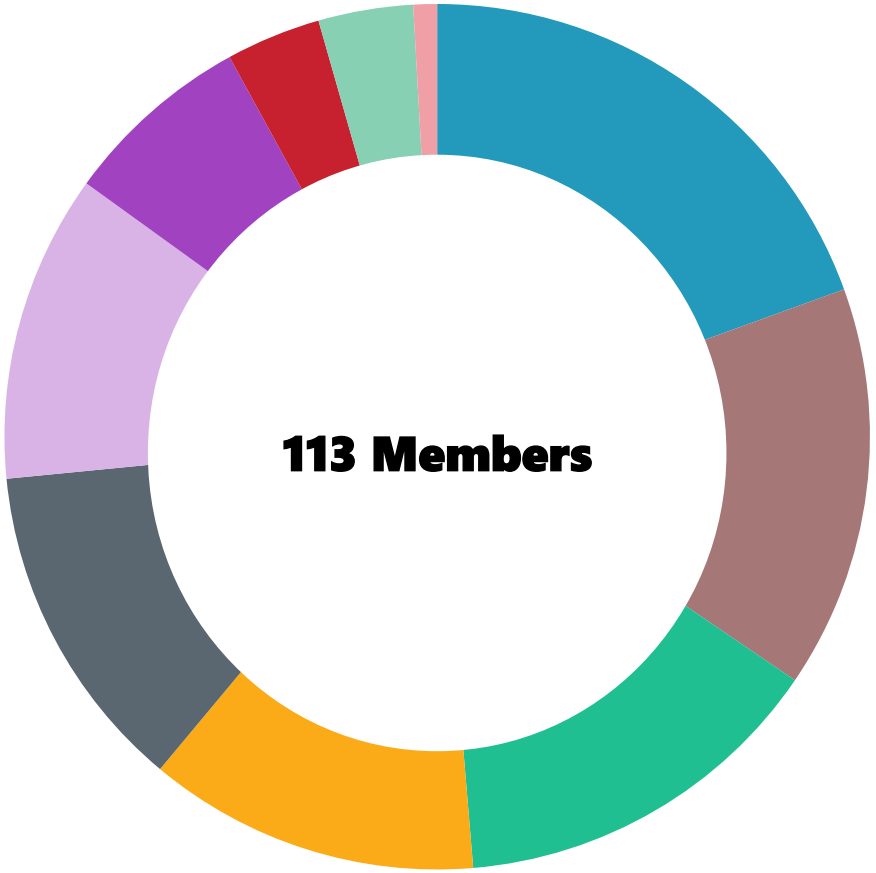
NORTH AMERICAN INDEPENDENT SYSTEM OPERATORS (ISO) AND REGIONAL TRANSMISSION ORGANIZATIONS (RTO)



OPERATING REGION

- Service territory: 546,000 square miles
- Population served: 17.5 million
- Generating plants: over 800
- Substations: over 5,000

SPP'S 113 MEMBERS: INDEPENDENCE THROUGH DIVERSITY



- 22 Generation and Transmission Cooperatives
- 17 Independent Power Producers
- 16 Investor-Owned Utilities
- 14 Municipal Systems
- 14 Independent Transmission Companies
- 13 Power Marketers
- 8 State Agencies
- 4 Large Retail Customers
- 4 Alternative Power/Public Interest
- 1 Federal Agency

2022 REGIONAL STATE COMMITTEE

Randel Christmann, RSC President*
North Dakota Public Service Commission

Andrew French, RSC Vice President
Kansas Corporation Commission

Geri Huser, RSC Secretary/ Treasurer
Iowa Utilities Board

Chuck Hutchison
Nebraska Power Review Board

John Tuma
Minnesota Public Service Commission

Dana Murphy*
Oklahoma Corporation Commission

Jefferson Byrd*
New Mexico Public Regulation Commission

Kristie Fiegen*
South Dakota Public Utilities Commission

Mike Francis*
Louisiana Public Service Commission

Scott Rupp
Missouri Public Service Commission

Ted J. Thomas
Arkansas Public Service Commission

Will McAdams
Public Utility Commission of Texas

** Elected commissioner*

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	12
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	3
Resource Adequacy	Determine the approach for resource adequacy across SPP	4

"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 § 7.2

COST ALLOCATION WORKING GROUP (CAWG) REPRESENTATIVES

Regulatory Agency	Representative
Arkansas (APSC)	Cindy Ireland
Iowa (IUB)	Matt Alvarado
Kansas (KCC)	Shari Albrecht
Louisiana (LPSC)	Lane Sisung
Minnesota (MNPSC)	Hwikwon Ham
Missouri (MoPSC)	Adam McKinnie
Nebraska (NPRB)	John Krajewski
New Mexico (NMPRC)	John Reynolds
North Dakota (NDPSC)	Victor Shock
Oklahoma (OCC)	Jason Chaplin
South Dakota (SDPUC)	Greg Rislov
Texas (PUCT)	Harika Basaran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ENSURING A RELIABLE GRID
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Performance Based Accreditation For Conventional Resources Recommendation

CURRENT ACCREDITATION

SPP Resource Adequacy process applies generation capability testing to conventional generation for accreditation

- One-hour duration during summer season
- Defines and verifies net maximum capability, considering other limitations
- Capability test result is used as accredited capacity

No consideration of performance or contribution to reliability

- Historical outages are assessed in the Loss Of Load Expectation (LOLE) study and factor into Planning Reserve Margin (PRM) calculation

Consideration of performance or availability would

- Quantify each resource's contribution to reliability
- Make resource owners responsible for a portion of forced outages (compared to today – handled in the PRM)
  - Incentivize increased resource performance during peak seasons

WHAT IS PERFORMANCE BASED ACCREDITATION?

Performance-Based Accreditation differentiates generators according to their reliability performance

Does impact different entities differently

Does allocate accreditation according to generator performance

Does not change the total capacity required to meet system reliability

PERFORMANCE-BASED ACCREDITATION BENEFITS

VALUES conventional resources that are reliable and available to perform when needed most

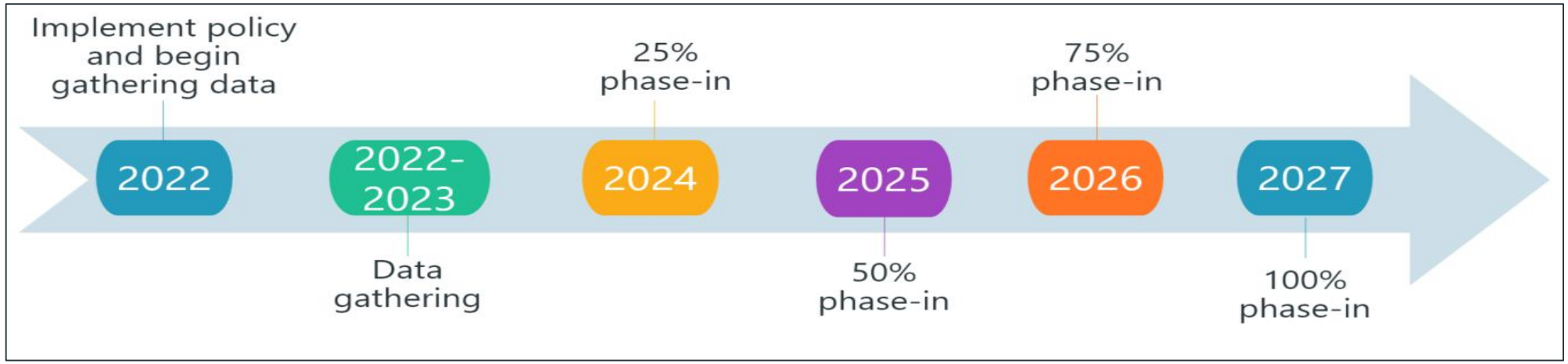
INCENTS underperforming resources to improve

ENSURES appropriate capacity value to calculate PRM

PROVIDES capability to meet system needs

- Natural disasters & unexpected events aren't included in performance-based accreditation

PHASED IN APPROACH



ACTION TAKEN

Move to approve the performance based accreditation methodologies described in the "Performance Based Accreditation Recommendations for Conventional Resources" policy paper with full implementation by the 2027 summer season.

VOTE

- Regional State Committee (membership 1 Commissioner per state for which SPP operate) – Unanimous
- Members Committee – Passed (For 15; Opposed 1; Abstain 4)
- SPP Board of Directors - Passed

Planning Reserve Margin

WHAT IS PLANNING RESERVE MARGIN?

Planning Reserve Margin is designed to determine the amount of generating capacity necessary to reliably serve the forecasted peak demand in a planning horizon to a desired reliability target.

- Reliability target
    - SPP and industry best practice of no more than 1 day in 10 years loss of load

PLANNING RESERVE MARGIN (PRM) TODAY

12% annual PRM requirement:
Measure of capacity required to maintain reliability based on summer peak

SPP uses Loss Of Load Expectation (LOLE) analyses to determine PRM

SPP tariff has enforceable summer requirement (load + PRM)

SPP tariff has winter season obligation without financial enforcement mechanism

DRIVERS & RISKS

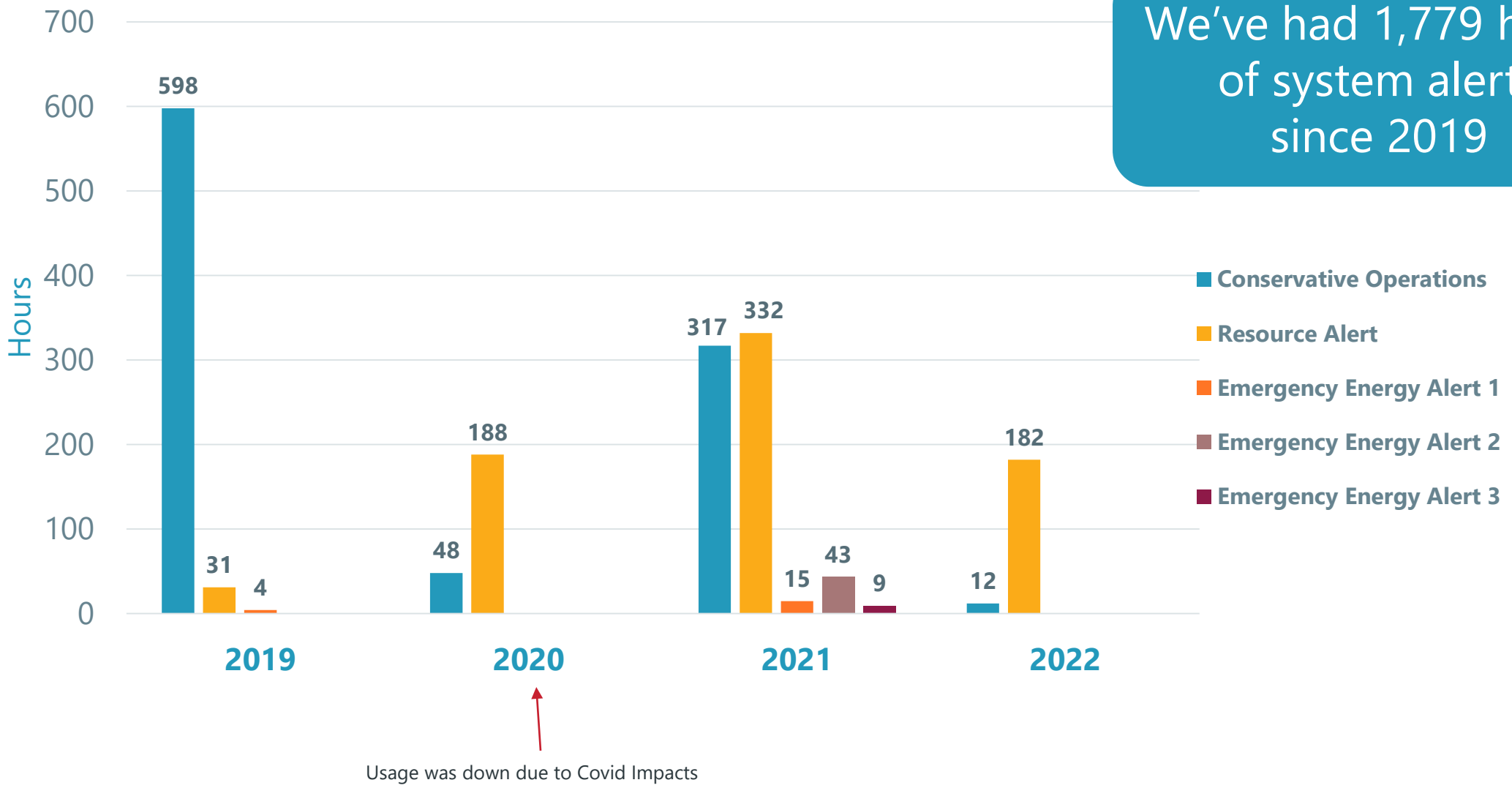
- Influx of renewables & resulting volatility
- Generation retirements
- Increased probability of outages due to extreme temperatures & fuel supply issues
- Changing load shapes & volatility
- Persistent operational issues & capacity shortfalls in recent years

CURRENT PLANNING RESERVE MARGIN SUMMARY

Decreasing PRM is driven primarily by load growth and increasing resource retirements

SYSTEM ALERT HOURS 2019-2022

We've had 1,779 hours of system alerts since 2019



We began using the category "Resource Alert" in late 19. Some 19 "Conservative Operations" would be categorized today as Resource Alerts.

LOLE ANALYSIS AND RESULTS FOR SUMMER OF 2023

- Performed several studies that varied key assumptions;
  - Generation outages
  - Demand response
- PRM Requirement ranges from ~13% - 18%
- Considered current operations and industry trends
  - Increase in operational events associated with scarce capacity
  - Growing deployment of energy limited resources
  - Changing load shapes due to electrification
- General acceptance of 15% PRM Requirement as appropriate
  - Perspectives differ on timing of transition from 12-15% PRM

RSC AND BOARD ACTION

Move to increase the SPP Balancing Authority's Planning Reserve Margin (PRM) from 12% to 15% effective for the 2023 summer season.

VOTE

- Regional State Committee (membership 1 Commissioner per state for which SPP operate) – Unanimous
- Members Committee - Passed (For 10; Opposed 5; Abstain 5)
- SPP Board of Directors - Passed

Questions?

CONTACT INFORMATION

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