

# SPP WESTERN OPERATIONS

MONTANA ENERGY & TELECOMMUNICATIONS  
INTERIM COMMITTEE

Bruce Rew, SVP Operations



## RTO West

- 9 organizations joining RTO in 2026; expected \$49M annual savings for new & existing members

## Western Energy Imbalance Service (WEIS) Market

- Launched Feb. 2021; 3 new members joined in 2023 bringing load to 13.5GW

## Markets+

- New real-time/day-ahead market in development with western parties

## Western Reliability Coordination Service

- Maintaining reliability for 13 western transmission operators

## Western Interconnection Unscheduled Flow Mitigation Plan

- Helping 6 western organizations manage grid congestion

## Western Resource Adequacy Program Operator

- Partnering with Western Power Pool to ensure resource adequacy

Maintain  
resource  
adequacy

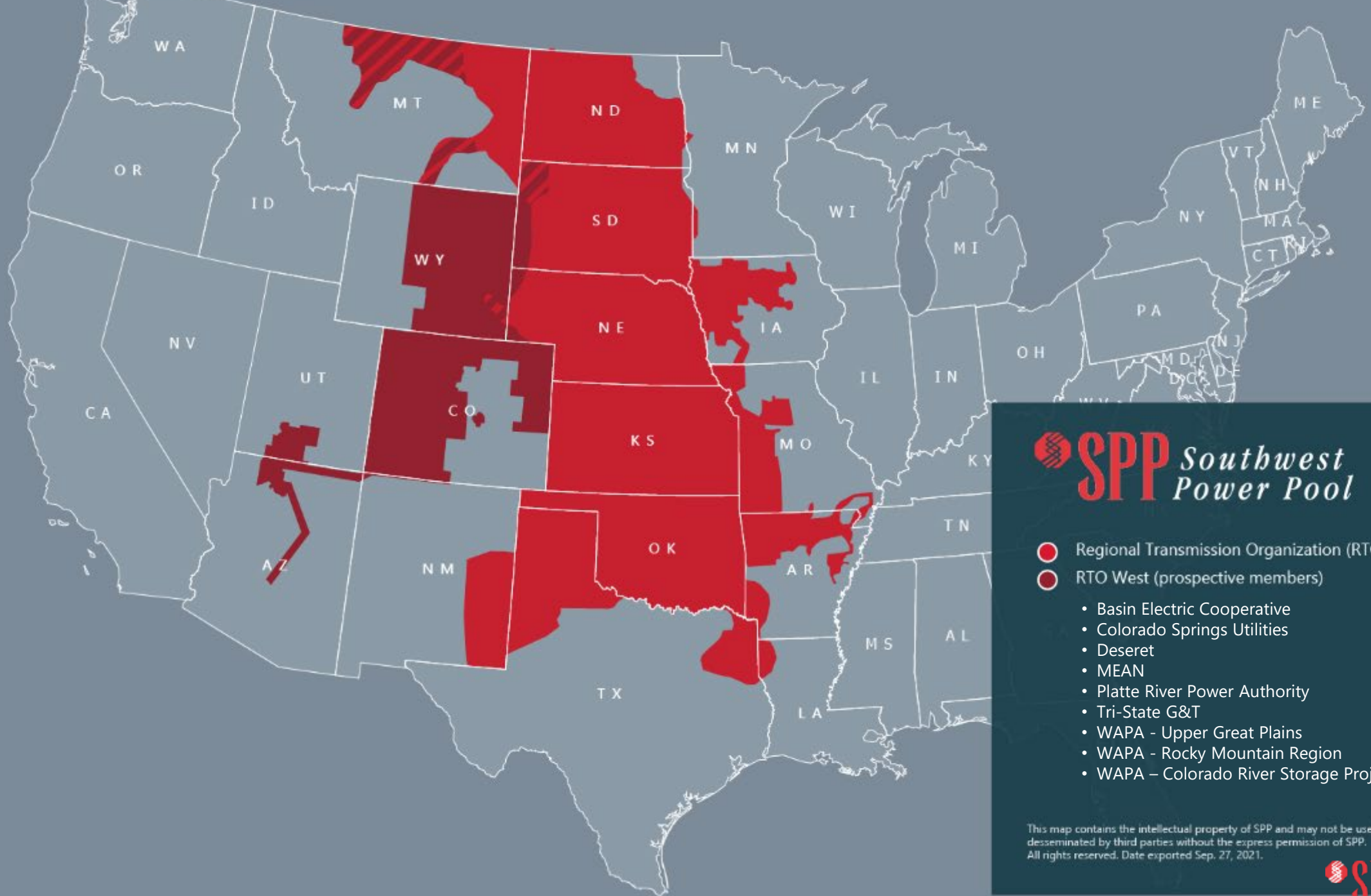
Reinforce  
system  
reliability

Provide  
economic  
benefits

New  
opportunities  
to trade low-  
cost power

# **SPP RTO EXPANSION INTO THE WEST**





This map contains the intellectual property of SPP and may not be used, copied or disseminated by third parties without the express permission of SPP. All rights reserved. Date exported Sep. 27, 2021.

# RTO EXPANSION INTO THE WESTERN INTERCONNECT

In Nov. 2020 received letters of commitment to investigate RTO membership and expansion in Western Interconnection

Initially six entities with facilities in the Western Interconnection, Nine committed

New members goal was to place Western facilities under RTO with minimal changes

SPP Board approved initial Terms & Conditions in July 2021

SPP Board approved DC tie Terms and Conditions in July 2022

Current information at [spp.org/western-services/rto-west/](https://spp.org/western-services/rto-west/)

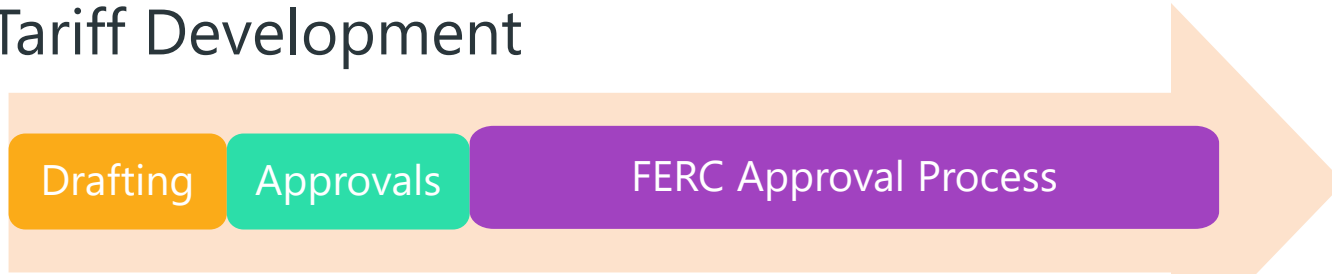
# PROGRAM OVERVIEW

- RTO Membership expansion into the Western Interconnection
  - Basin Electric Cooperative
  - Colorado Springs Utilities
  - Deseret G&T Cooperative
  - Platte River Power Authority
  - MEAN: Municipal Energy Agency of Nebraska
  - Tri-State G&T
  - Western Area Power Administration: CRSP, RMR, UGP
- **Governance**
  - Single RTO using existing Tariff
  - Equal Representation on Committees, Task Forces, and Working Groups

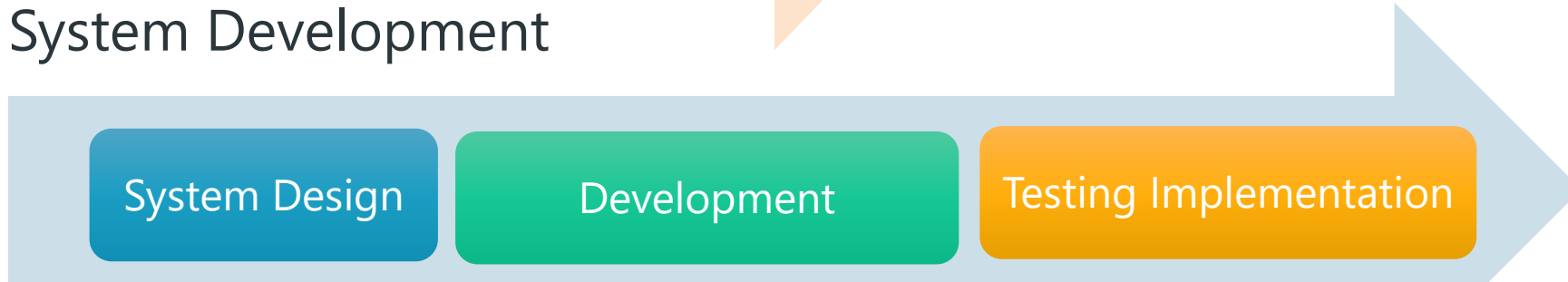
# WESTERN MARKETS SCHEDULE



## Tariff Development



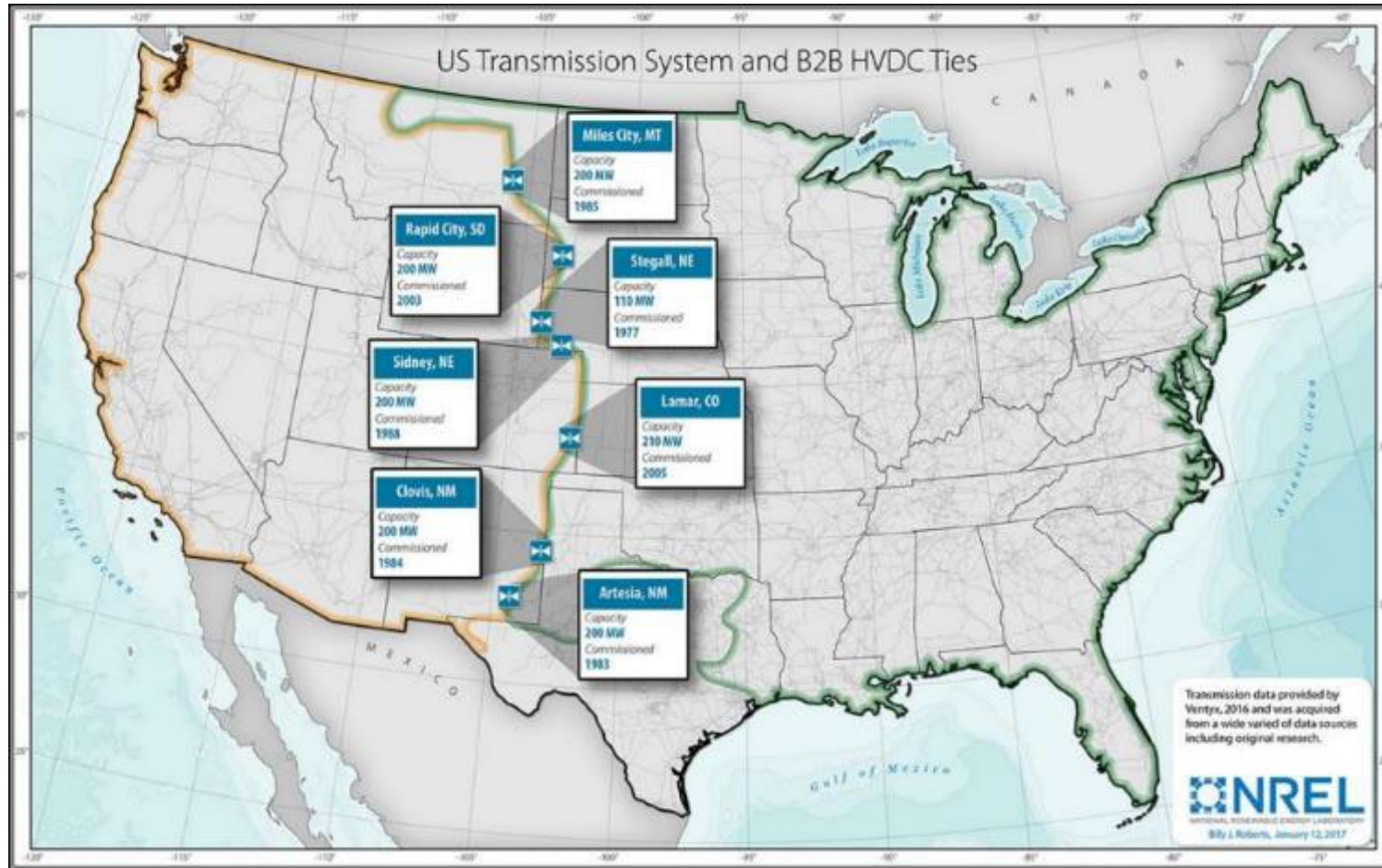
## System Development



## Balancing Authority (BA) Testing and Go-Live



# WEST/EAST DC TIES

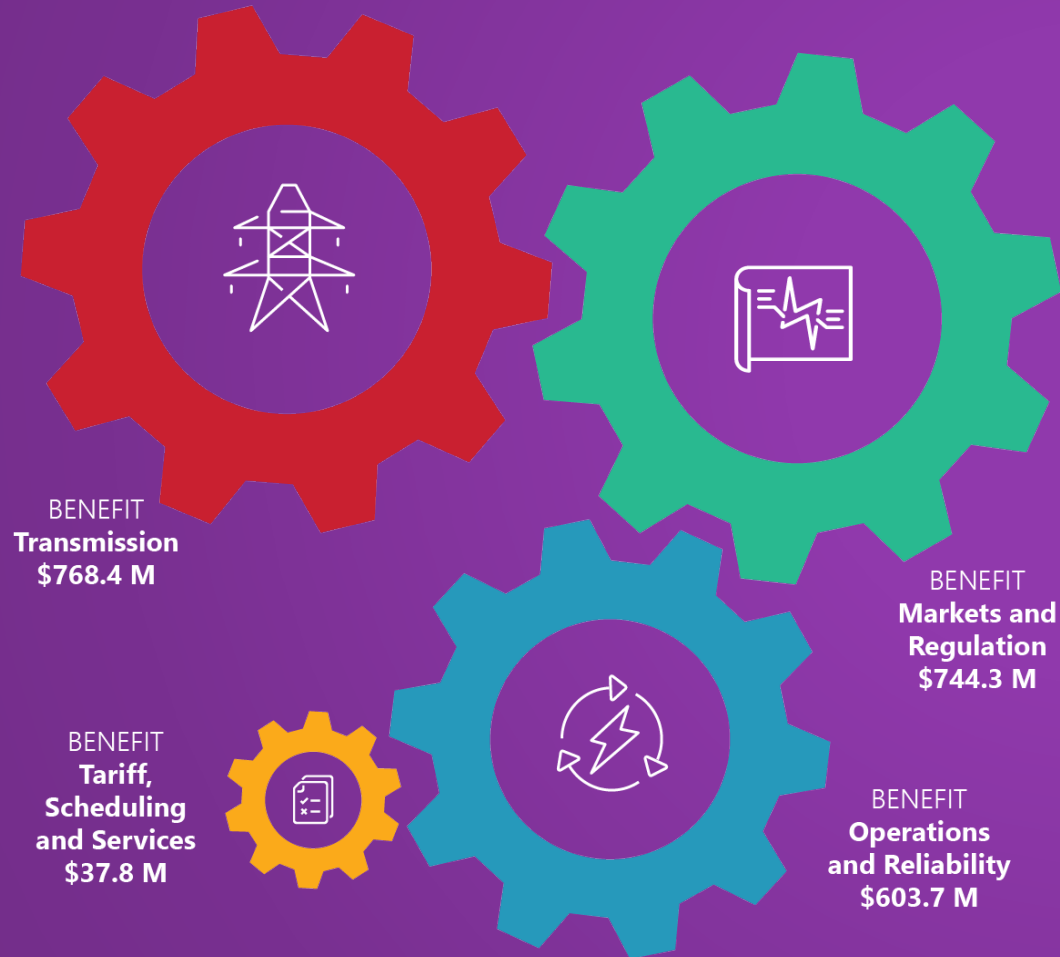


1,320 MW transfer capability between Eastern and Western Interconnections



# \$2.14 BILLION

## ANNUAL SAVINGS AND BENEFITS



### Operations and Reliability: \$603.7 million

SPP operates the grid from a regional perspective. This reduces costs and required energy reserves and increases efficiency.

### Markets: \$744.3 million

SPP's Integrated Marketplace combines efficient and economic day-ahead, real-time and transmission markets.

### Transmission: \$768.4 million

SPP's collaborative, stakeholder-driven transmission planning processes result in robust infrastructure and have rapidly and reliably integrated renewables.

### Tariff, Scheduling and Services: \$37.8 million

SPP's industry-leading services and training meet the compliance, settlements, engineering, tariff and scheduling needs of our customers on a regional scale.

# **WESTERN ENERGY IMBALANCE SERVICE**

WEIS

# WESTERN ENERGY IMBALANCE SERVICE (WEIS)

Contract provides Real-Time Energy Imbalance Market with three Balancing Authorities and eight Market Participants

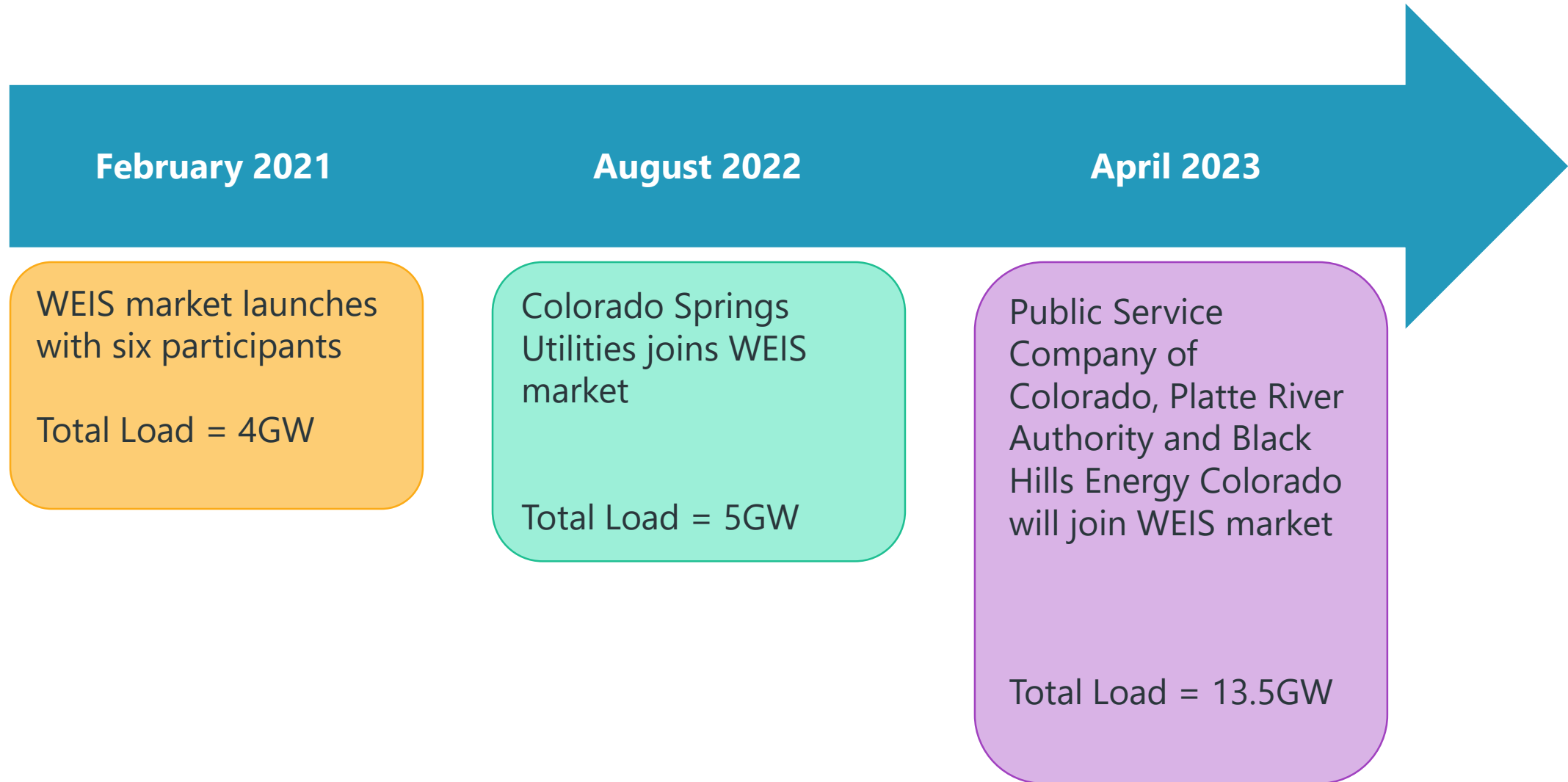
- "WACM" – Western Area Power Administration, Colorado-Missouri, "WAUW" – Western Area Power Administration, "PSCO" – Public Service Colorado

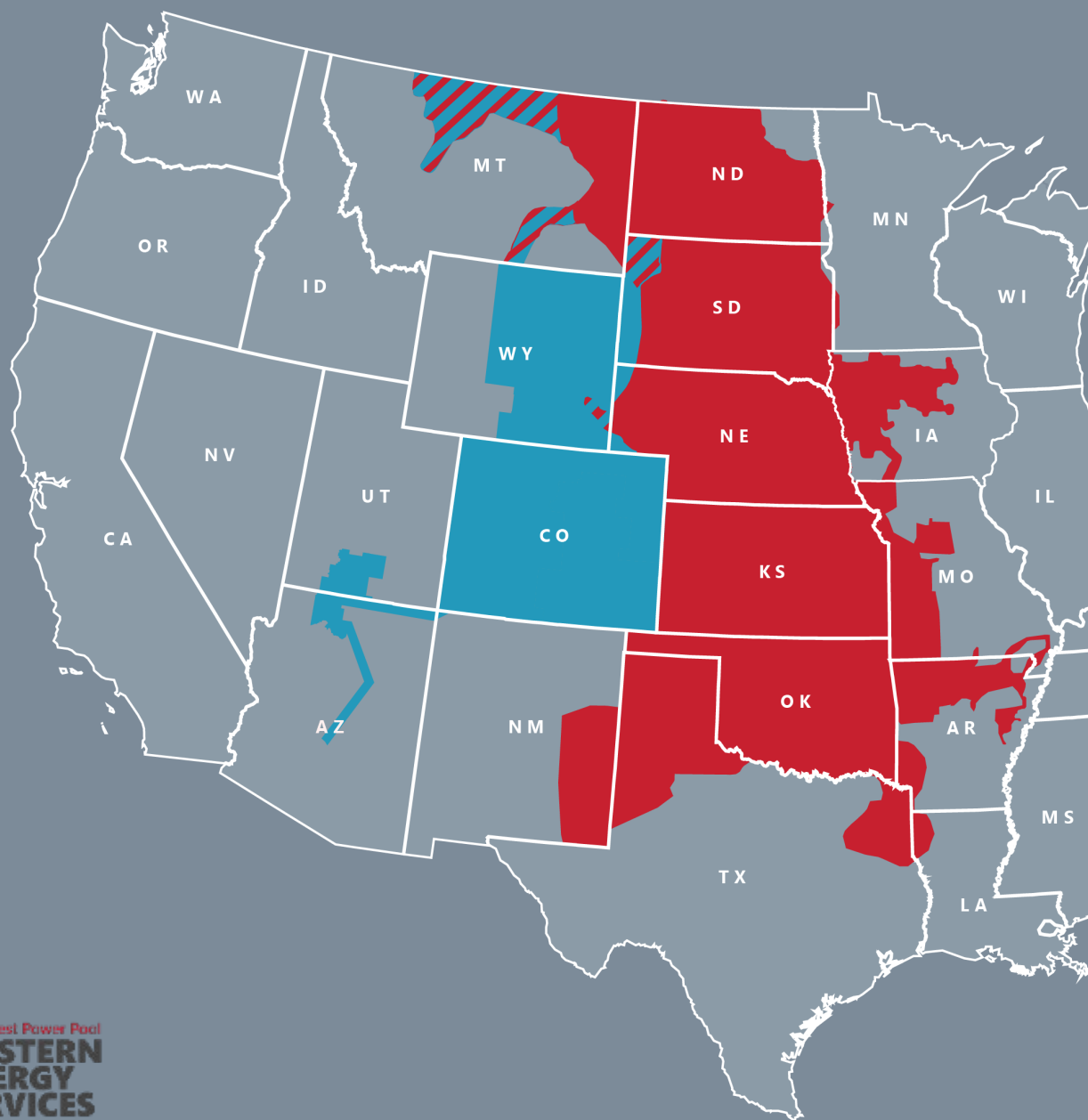
Provides efficient real-time energy dispatch and savings

Second market to operate in the Western Interconnection

Added Colorado Springs, PSCO, Black Hills CO, and PRPA

# WEIS MARKET GROWTH





Regional Transmission Organization (RTO)

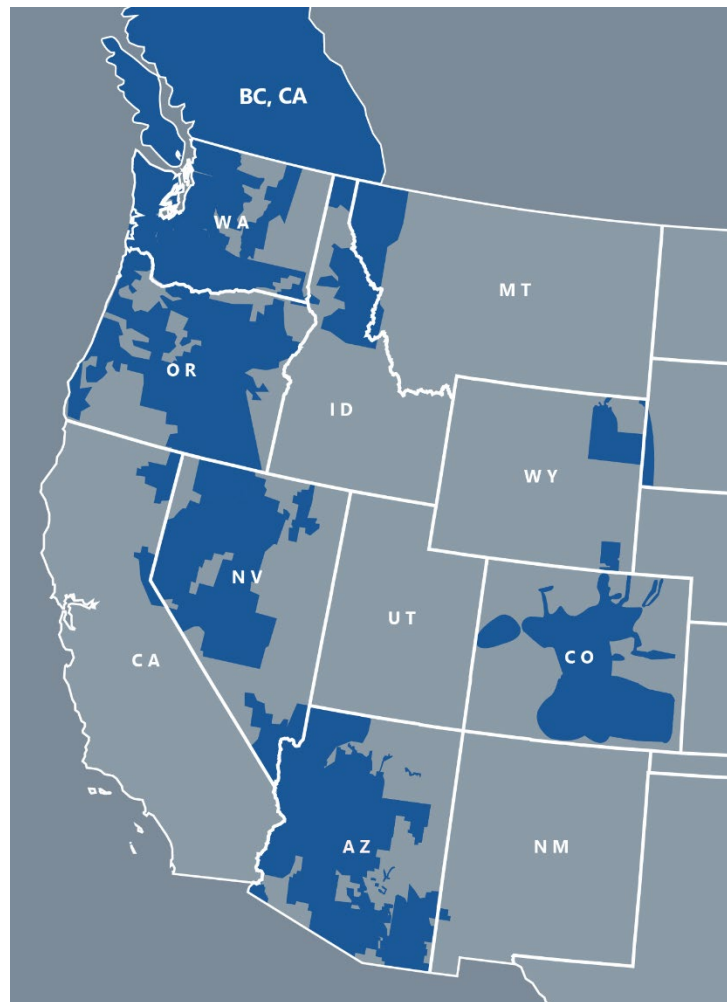
Western Energy Imbalance Service (WEIS)

This map contains the intellectual property of SPP and may not be used, copied or disseminated by third parties without the express permission of SPP. All rights reserved. Date exported April 10, 2023.



# MARKETS+

# MARKETS+ PHASE ONE PARTICIPANTS



*Reflects agreements executed by May 1, 2023.*

- Advanced Power Alliance
- American Clean Power Association
- Arizona Electric Power Cooperative, Inc.
- Arizona Public Service
- Black Hills Colorado Electric, LLC
- Black Hills Power, Inc.
- Bonneville Power Administration
- Chelan County Public Utility District
- Cheyenne Light, Fuel and Power Company
- Clean Energy Buyers Association
- Colorado Independent Energy Association
- Grant County Public Utility District
- Interwest Energy Alliance
- Liberty Utilities (CalPeco Electric), LLC
- Municipal Energy Agency of Nebraska
- Natural Resources Defense Council
- Northwest Energy Coalition
- Northwest & Intermountain Power Producers Coalition
- NV Energy, Inc.
- Pattern Energy
- Powerex Corp.
- Public Generating Pool
- Public Power Council
- Puget Sound Energy
- Renewable Northwest Project
- Salt River Project
- Sierra Club
- Snohomish County Public Utility District
- Tacoma Power
- The Energy Authority
- Tri-State Generation & Transmission Association
- Tucson Electric Power Company
- Western Area Power Administration - Desert Southwest
- Western Energy Freedom Action
- Western Power Trading Forum
- Western Resource Advocates
- Xcel Energy – Colorado

# DESIGN ISSUES BEING EXPLORED: **MARKETS+**

Governance

Market monitoring  
and oversight

Efficient “peer-to-  
peer” seams  
management with  
external markets

Transmission  
availability (and  
protection from  
cost shifts)

Congestion rent  
allocation

Market products  
(energy, capacity,  
flexible reserves)

Accurate price  
formation

GHG treatment

# PARTICIPATION PHASES – INCREMENTAL APPROACH

## Phase 1: Funded Investigation

Supportive entities that want to design Markets+ market operations and draft governing documents (FERC submittal)

Commit a non-refundable amount

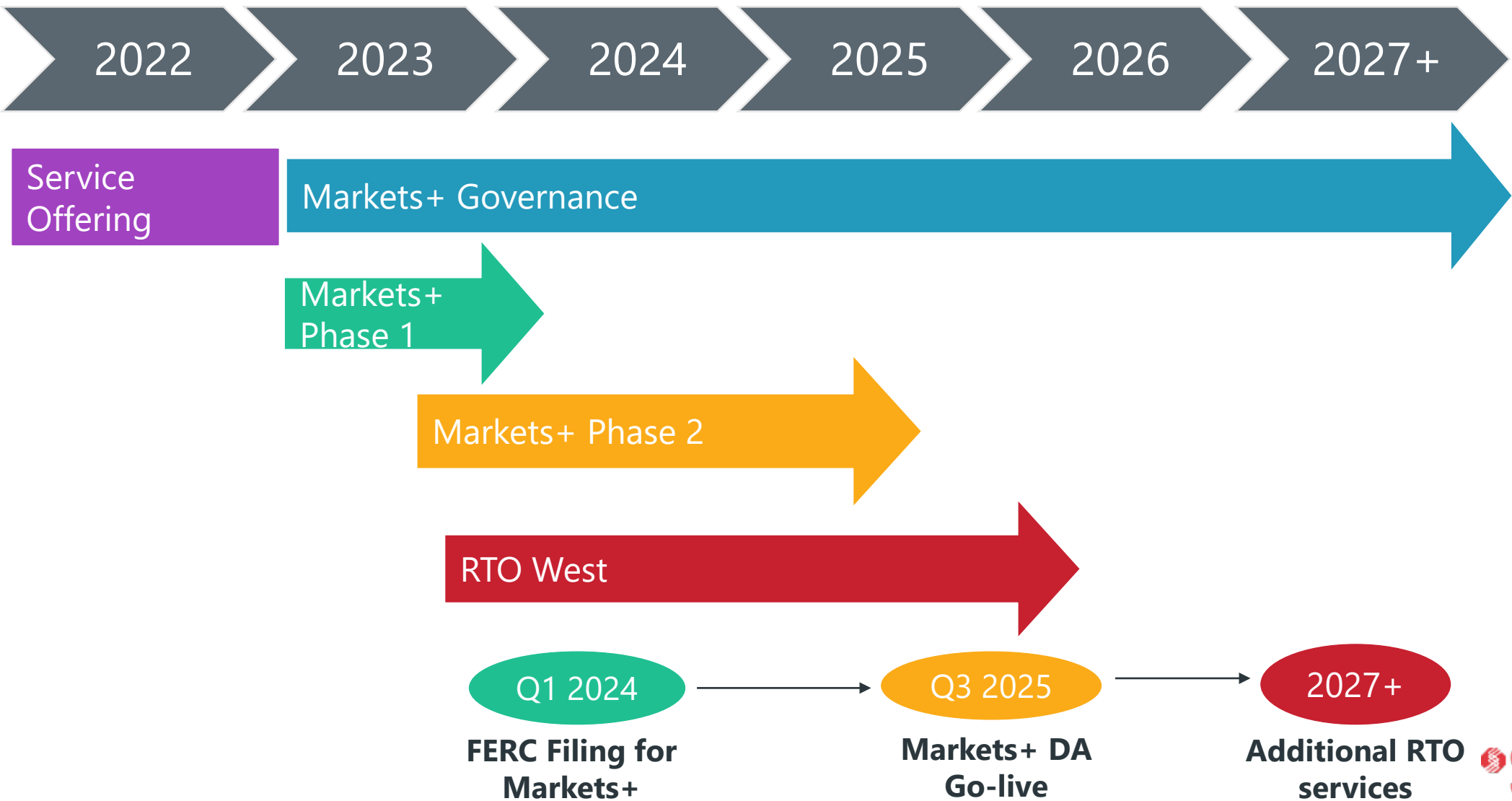
## Phase 2: Implementation

Upon FERC approval, SPP acquires/modifies necessary software, hardware and related processes

Participating entities fully commit to fund efforts

Entities integrated into the system

# MARKETS+ DRAFT EXPEDITED TIMELINE

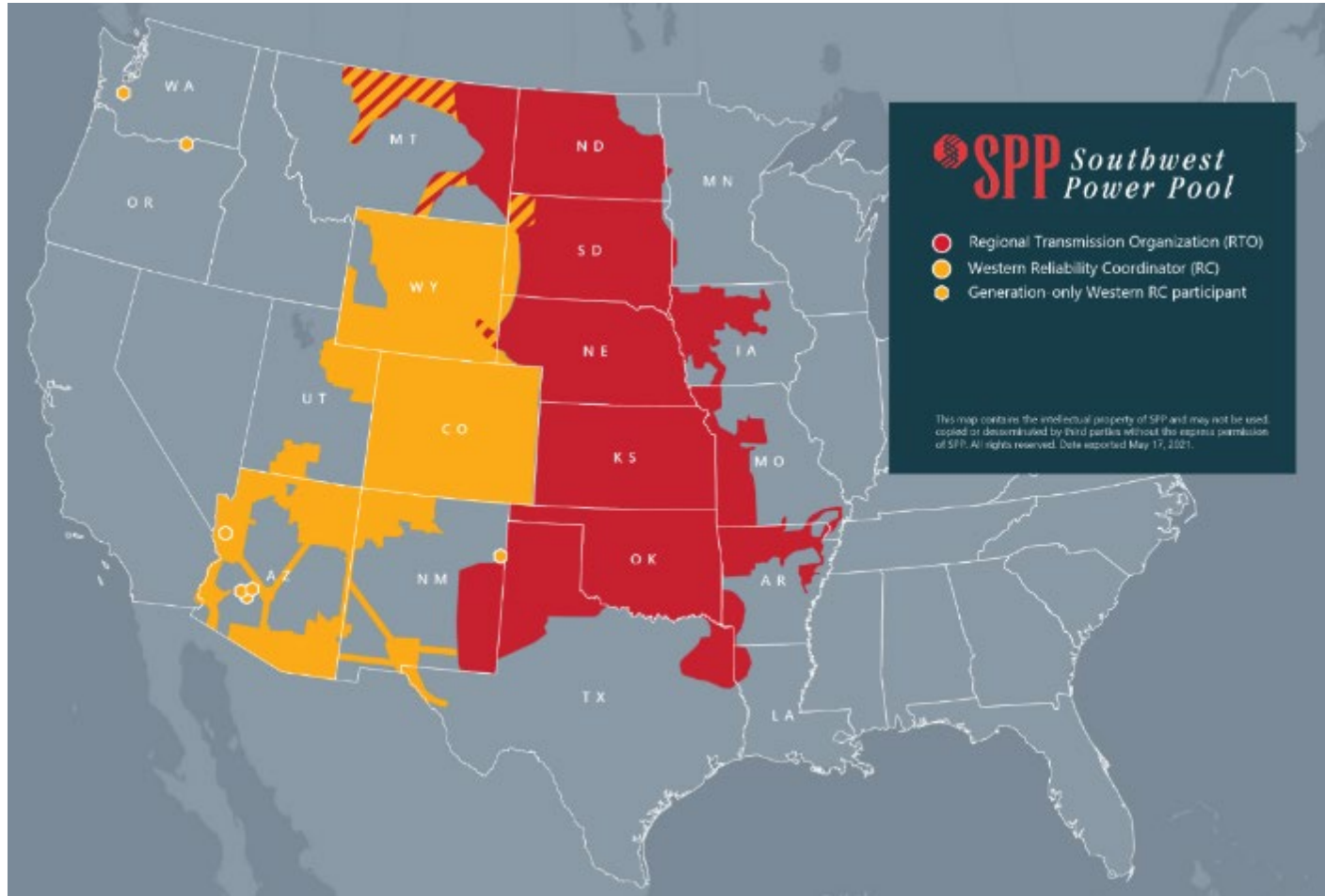




# **SPP WESTERN RC SERVICES**

# WESTERN RELIABILITY COORDINATION SERVICE

## SPP-provided RC service launched December 2019



### CUSTOMERS

- Arizona Electric Power Cooperative, Inc.
- Black Hills Energy's three electric utilities: Black Hills Power, Inc., Cheyenne Light, Fuel and Power Company, and Black Hills Colorado Electric, Inc.
- City of Farmington, NM
- Colorado Springs Utilities
- El Paso Electric Company
- Intermountain Rural Electric Association
- Platte River Power Authority
- Public Service Company of Colorado (Xcel Energy)
- Tri-State Generation and Transmission Association
- Tucson Electric Power
- Western Area Power Administration (WAPA) Desert Southwest Region, WAPA Rocky Mountain Region, and WAPA Upper Great Plains – West
- GridForce Energy Management

# **WESTERN RELIABILITY COORDINATION STAKEHOLDER GROUPS**

Western Reliability Executive Committee (WREC)

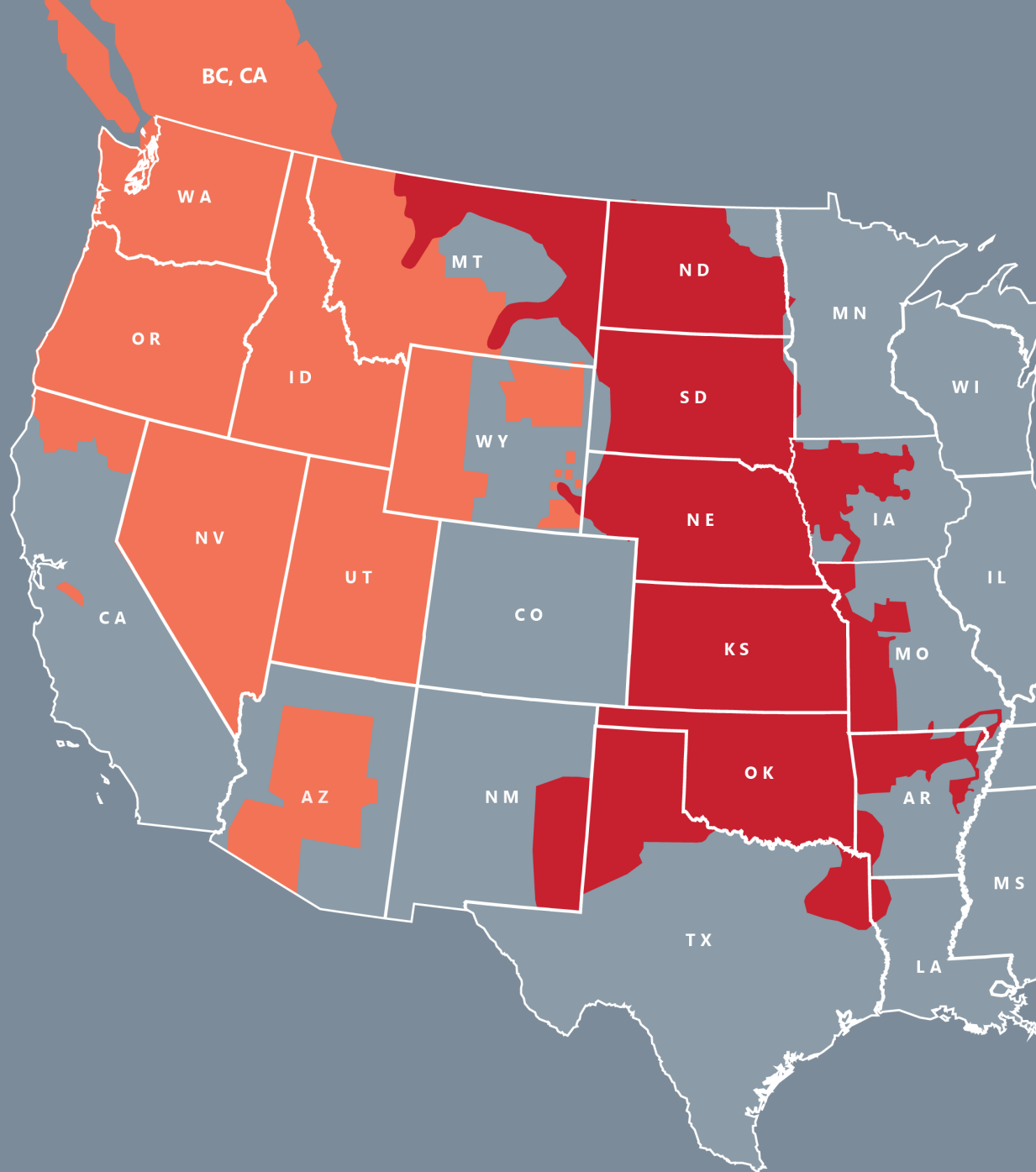
Western Reliability Working Group (WRWG)

**West Modeling Task  
Force**

**RC Readiness Task Force**

**Congestion  
Management and Seams  
Task Force**

# **WESTERN RESOURCE ADEQUACY PROGRAM (WRAP)**



- Regional Transmission Organization (RTO)
- Western Resource Adequacy Program

This map contains the intellectual property of SPP and may not be used, copied or disseminated by third parties without the express permission of SPP. All rights reserved. Date exported April 10, 2023.



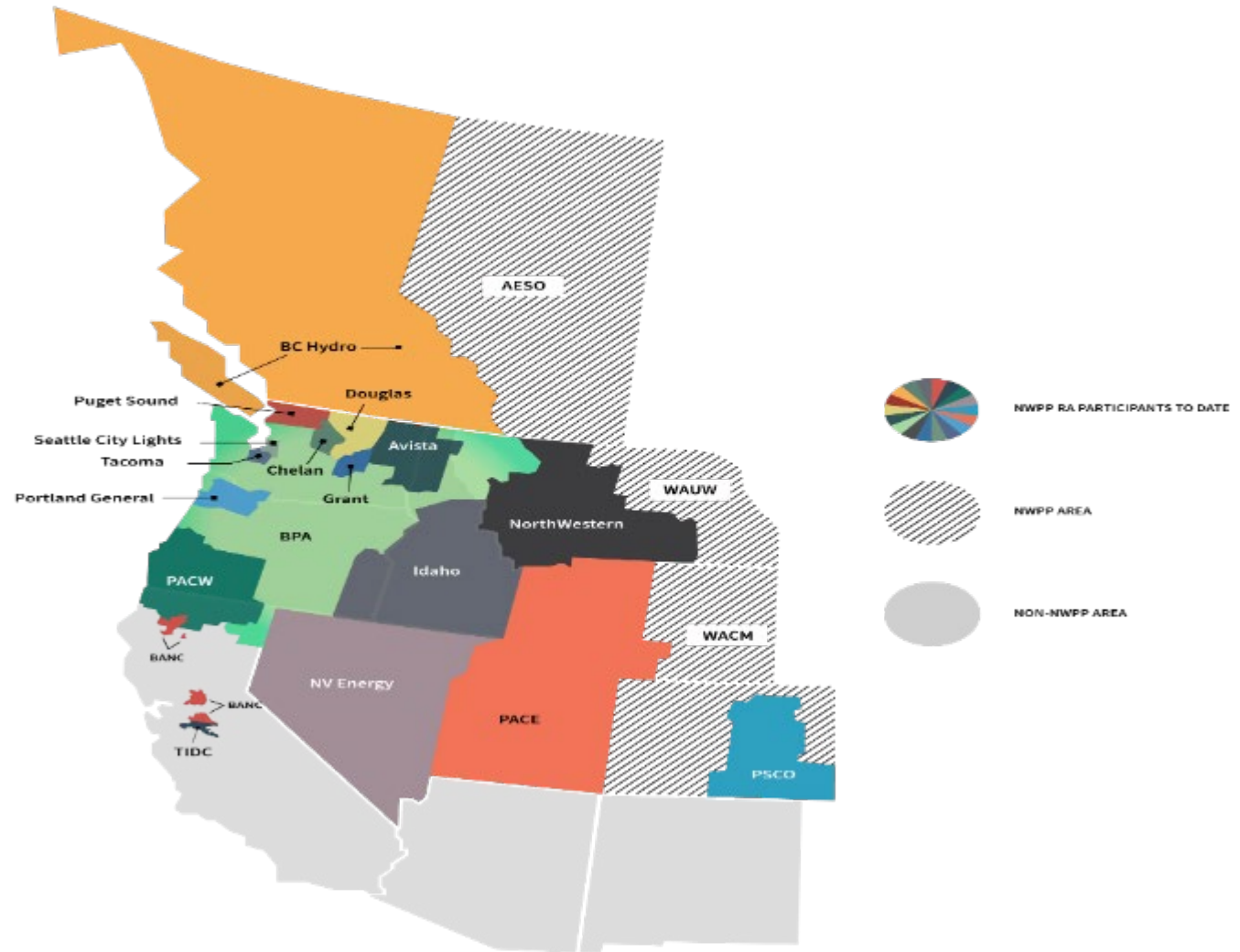
# WHAT IS WRAP?

Western Power Pool (WPP) Corporation helps member companies achieve benefits of coordinated operations

WRAP developed by WPP; **SPP chosen to serve as WRAP Program Operator**

WRAP currently under a phased-in development process

Two key horizons: operational and forward-showing



# WRAP: PROGRAM OPERATOR RESPONSIBILITIES

Perform loss-of-load expectation studies and set planning reserve margin

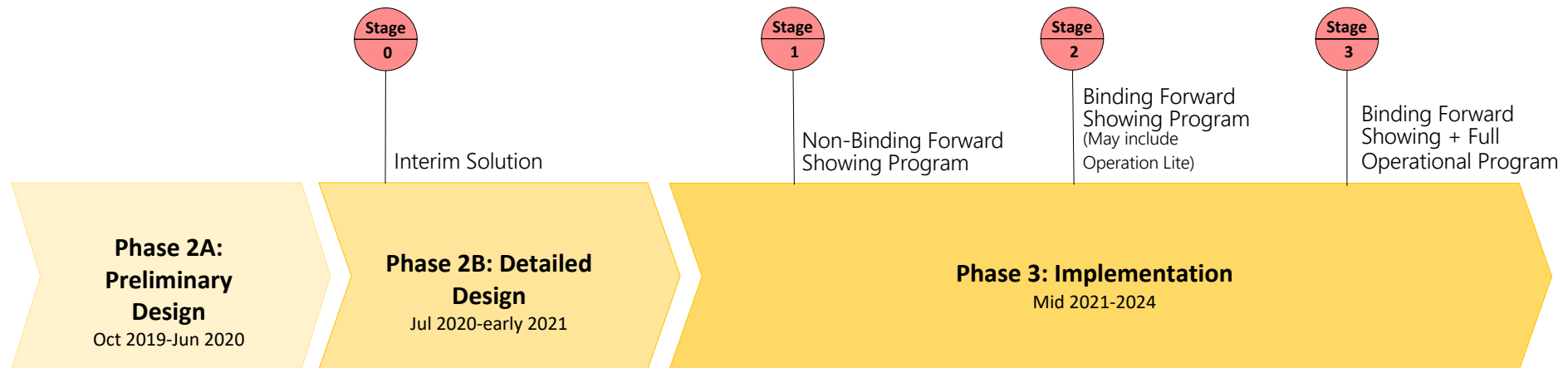
Calculate cost of new entry

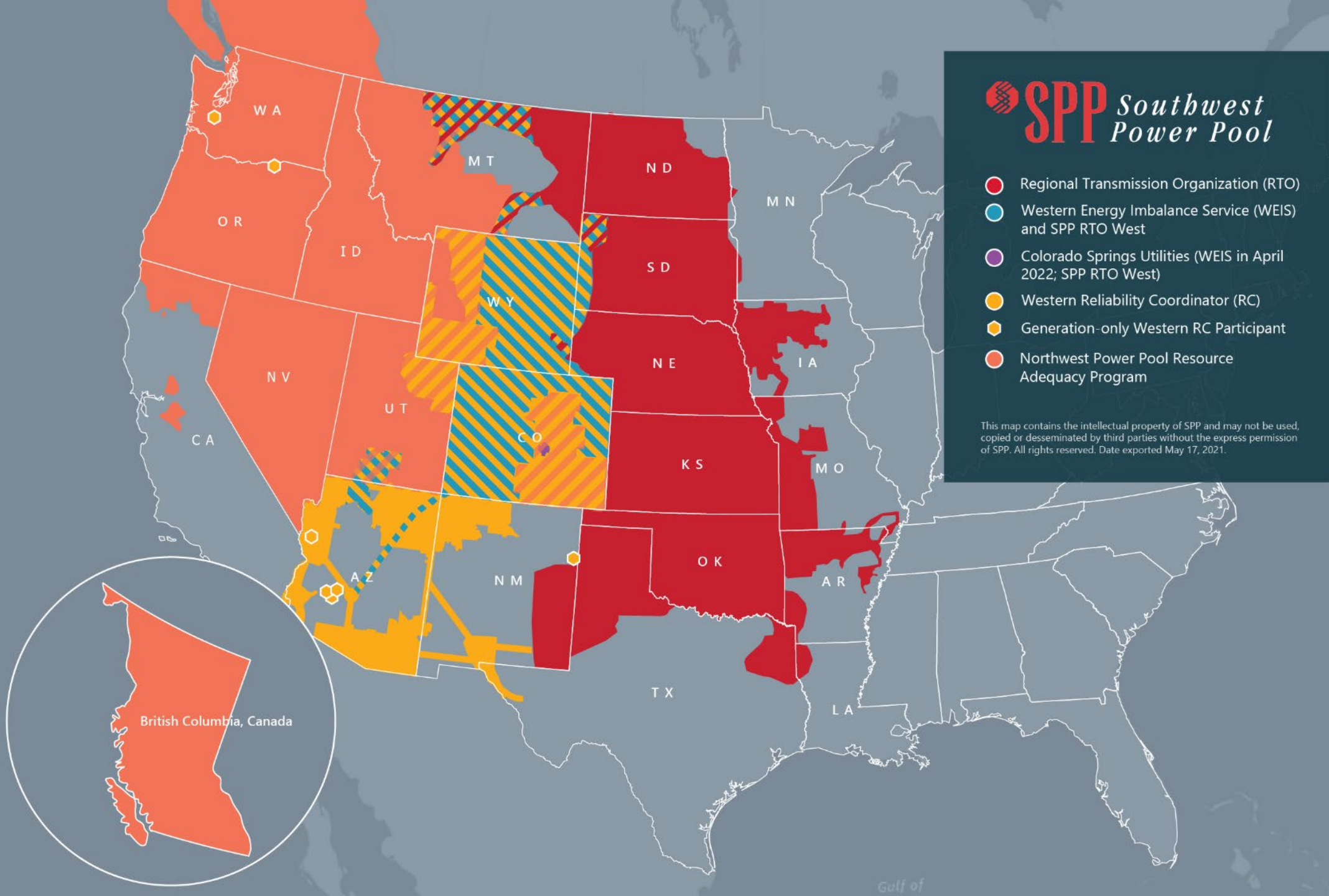
Administer forward-showing and operational programs

Evaluate and determine qualified capacity contribution of resources

Maintain high reliability and security requirements

# PROGRAM SCHEDULE





# QUESTIONS

BRUCE REW

SENIOR VICE PRESIDENT, OPERATIONS

BREW@SPP.ORG