

# WACM BA Customer meeting

October 29, 2019 | Loveland, CO

# Administrative Logistics

Thank you all for joining us today!

## Schedule

Start Time 1300/End Time 1600 (1700 if needed)

Break Around 1430 (10 Minutes)

## Logistics

People signed into WebEx have been asked to sign in with Company and full name

Name tent, Please write your Company and full name

Emergency Exits

Restrooms

If you need to take a call, please step out into the hall

Questions so far?

# WebEx Audience Instructions

To ensure everyone can hear and also participate in the open discussion today, WebEx participants will use the “raise hand” feature – which means all lines will be muted until the Host opens up the line when you raise your hand.

Let’s go ahead and test that feature now, while we’re getting started.

WebEx participants, please click on the “raise hand” next to your name.

Great. Now, please click on the raised hand again to lower it.

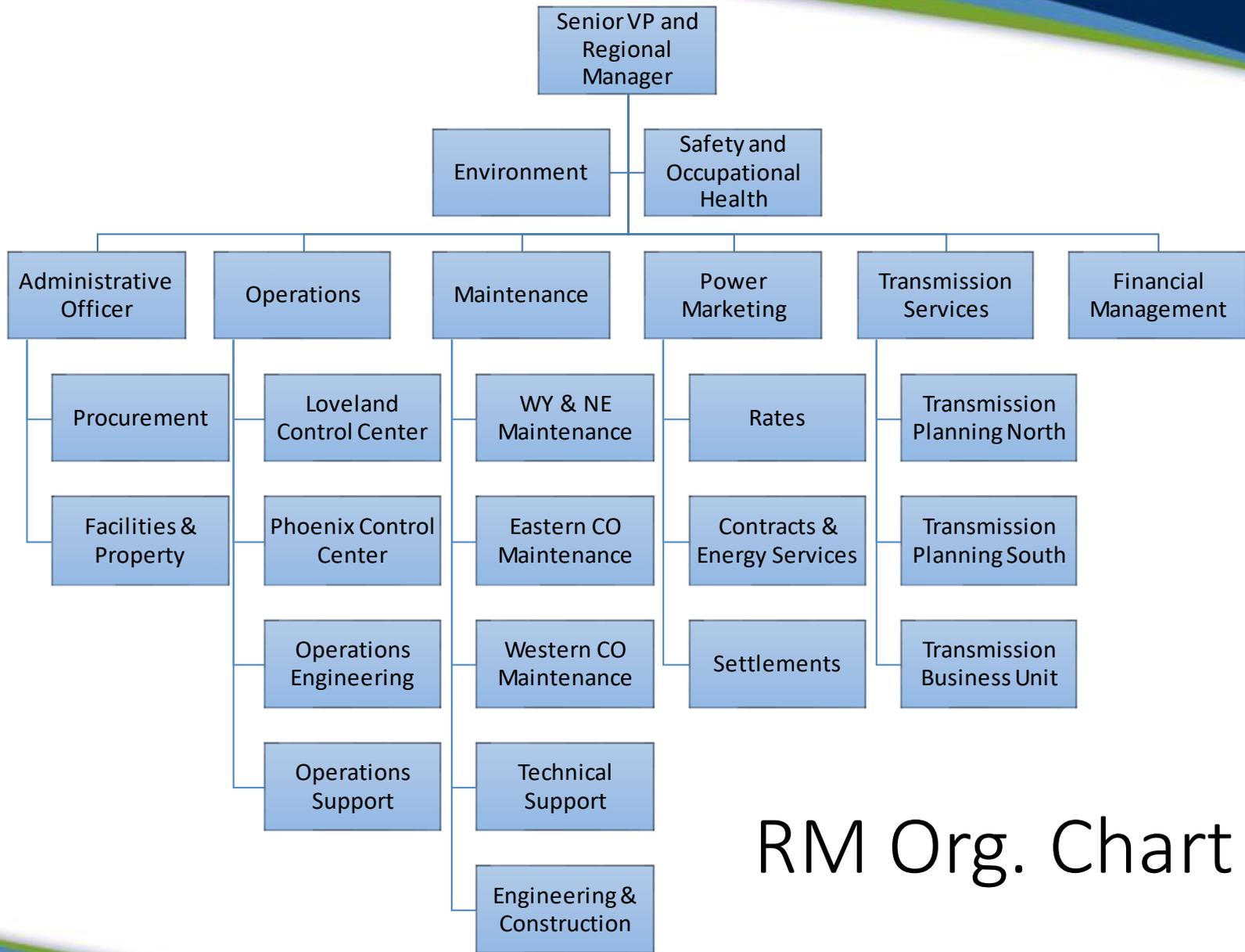
Please check to make sure your phone/audio is associated with your WebEx log in.

Note, if you are only calling-in to WebEx, you will be in listen-only mode for today’s discussion.

As we move into the content, if you have a question or comment, simply raise your hand and Norman will get our attention and unmute your line.

# Agenda for today

1. Refresher overview of the RM – Jonathan Aust
2. Review of the NWPP Effort – Marc Desmarais
3. SPP RC Implementation–Zea Flores
4. Schedule 3: Partial Self-supply Pilot – Parker Wicks
5. BA Service Agreements – Parker Wicks
6. SPP WEIS – Dave Neumayer and Jonathan Aust
7. Rate Process for SPP WEIS – Sheila Cook



# RM Org. Chart

# Northwest Power Pool Review

**Jerry Krebs**

Project Coordinator

**Marc Desmarais**

Balancing and  
Interchange Supervisor

# NWPP: What is it?

- NWPP is a Reserve Sharing Group
- What is a Reserve Sharing Group?
  - NERC definition:
    - A group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply operating reserves required for each Balancing Authority's use in recovering from contingencies within the group.
- So what does that mean?
  - A Balancing Authority must be able to cover its Most Severe Single Contingency (WACM BA LRS 2 or 3 @ 570 MW's) or 3% of total load and total generation whichever is greater MSSC or 3%
- By joining a RSG that requirement can be shared and allocated depending on the companies gen/load or MSSC
- To give you a perspective on cost avoidance for carrying spin
  - For example
    - 1 MW = \$10-\$15/hr
    - 24 MW/day = \$240-\$360/day
    - 8760 MW/year = \$87,600-\$131,400/year

# NWPP Project Background

- WACM became a member of NWPP on September 3<sup>rd</sup> 2019 at noon
- From the time that WACM signed the NWPP contract until implementation was about 3 months
- WACM essentially built an RSG terminal in their SCADA system in those 3 months
- This included data collection, ICCP transfers to/from Sub-entities and multiple complex calculations

# NWPP Training

- NWPP Staff trained WACM dispatchers on overall NWPP system and NWPP terms
- WACM Staff trained WACM dispatchers on SCADA operations
- WACM Training Staff trained customers on NWPP system and NWPP terms

# NWPP Lessons Learned

- Overall NWPP Implementation went very well with the timeline allotted
- Initially broke the project into two aspects NWPP/Sub-Entities (only worked for part of the project because of the need for data)
- Sub-entities were essential in making this timeline and project a success
  - The Sub-entities made their resources available to meet WACM's project demands
  - The Sub-entities were proactive in meeting requirements set by NWPP and the WACM BA
- There were last minute corrections implemented to better automate steps operators would have taken manually
  - Again Sub-entities helped with any changes made and accommodated system needs
- Even with the short timeline operators were given chances to vet the system and make corrections if possible

# NWPP Lessons Learned Cont.

- Timeline was short
- Short timeline put constraints on customer
- Timeline did not leave room for major fixes or the ability to try out different solutions (once we chose a path we kind of had to stick with it)
- RSG reporting was originally convoluted but eventually was streamlined with a new RSG Form

# NWPP Going Forward

- Starting to fine tune SCADA, Customer needs, WACM Dispatcher wants/needs
- Backup Hotline Phone (Microwave Phone) has become a project and might take some time to rectify
- Currently we have bi-weekly customer meetings but will eventually moving to quarterly meetings
- NWPP OC (Jon Aust) and RSGC (Marc Desmarais) WACM representatives are the customers voice when dealing with NWPP topics/issues

# Southwest Power Pool Reliability Coordinator Implementation

**Zea Flores**

Real-Time Engineering Supervisor

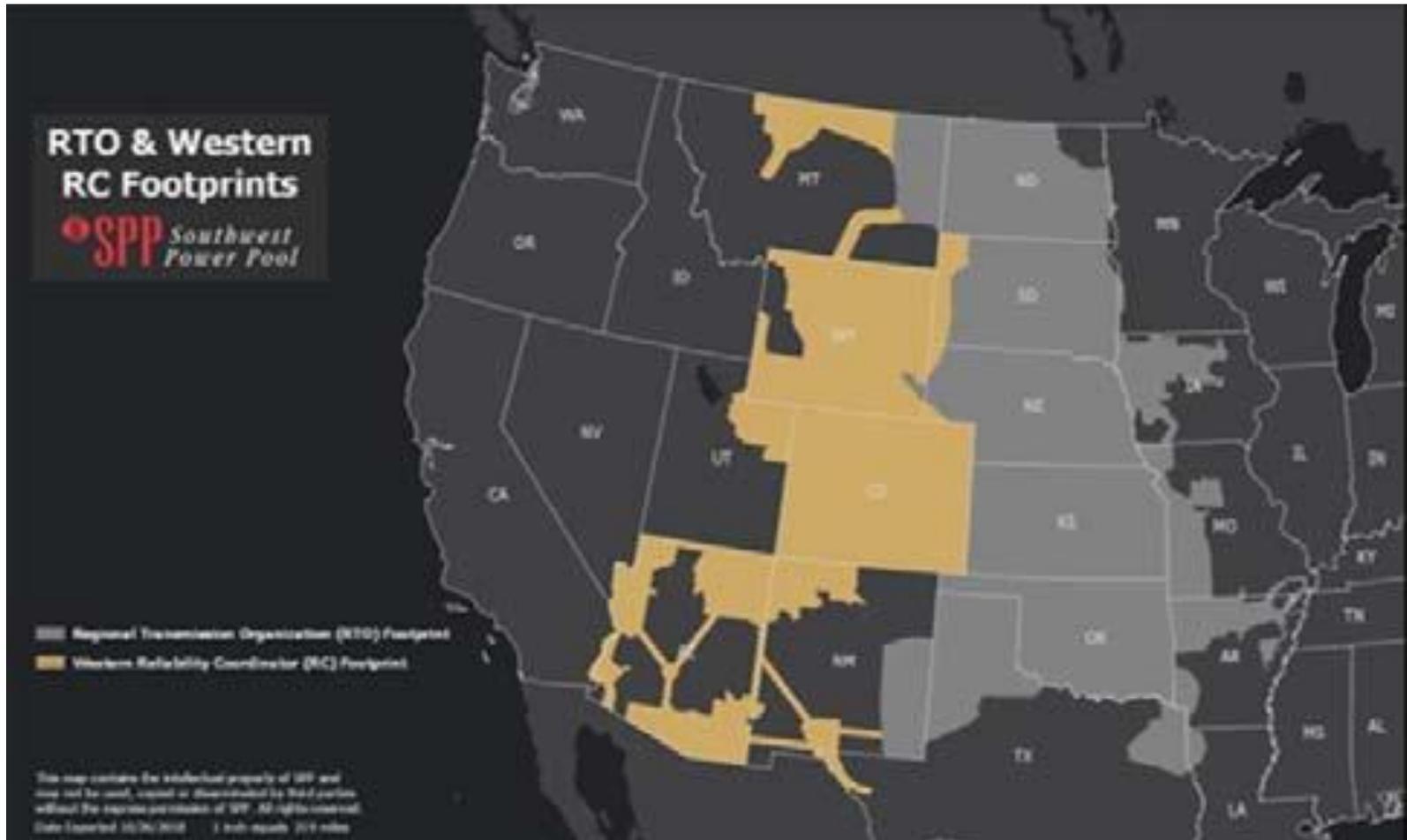
# SPP Reliability Coordinator (RC)

- 2018 Peak Reliability announced shutdown
- 2018 WAPA-RMR selected SPP as new RC kicking off a year long project
  - October 7, 2019 Shadow Operations with Peak leading
  - November 1, 2019 Shadow Operations with SPP leading
  - December 3, 2019 SPP RC becomes the official RC of record

# Western Interconnection RCs



# SPP Footprint



# SPP RC Project

- Overall the project has gone well with some lessons learned along the way
- The project required coordination amongst many companies
  - Western Electric Coordinating Council (WECC)
  - Adjacent RCs of CAISO, Alberta, BC-Hydro
  - Balancing Authorities and Transmission Operators within RC Footprint
- The project had many moving parts that's required contributions from many different departments such as Engineering, IT, Operations, Legal, etc

# SPP RC Project Tasks

- Industry regulatory required SPP actions
  - WIDSA
  - RC Certification as a NERC functional entity
  - RC-RC Coordination/ Seams Agreements
- Infrastructure set-up required to run a RC
  - ICCP to SCADA database
  - Messaging tool
  - Site to facilitate sharing of files
  - West Network Model
  - Coordinated Outage tool

# SPP RC Project Tasks

- Policy, Methodologies, procedures and training developed
  - SOL Methodology
  - Congestion Management Methodology
  - Outage Coordination
  - Blackstart and Restoration
  - Required Data Specification
  - Communications Protocol
  - User Guides
  - On-boarding training

# SPP versus Peak

- Seams agreements become critical along RC area borders
  - ~ 40 points of interconnection with PacifiCorp East (RC West)
- Outage Coordination
  - Submittal time for planned work is 30 days
  - Start and end times are more rigorous (~1 hour)
  - SPP & RMR switching will perform a RT study before executing an outage
  - SPP outage coordination tool now requires manual entry
- Congestion Management Methodology
  - If a SOL exceedance identified in real-time does not have a prior operating plan and reconfiguring transmission does not work the methodology will be used
    - Generation will be re-dispatched pro-rata based upon it's impact
- RC tools validation is on going
  - Model errors and omissions
  - Outage coordination tool errors and omissions.

# SPP RC transition to SPP WEIS

- A RC system transitioned to an energy imbalance system gains efficiency
  - Infrastructure is already in place and can be twofold
  - Relationships have been developed
  - Project lessons learned
  - Project momentum
  - RC and market protocol, procedures, policy do not conflict

# Schedule 3: Partial Self-supply Pilot

**Parker Wicks**

Rocky Mountain Contracts Manager

# Schedule 3: Partial Self-supply Pilot

- WAPA is working to develop a prototype regulation partial self-supply option
- For example a customer would provide WAPA 30 MW of up or down ramp
  - Continue to work through how this will be controlled and tracked
- Customer would be provided a credit on its regulation charges

# Schedule 3: Partial Self-supply Pilot

- It will provide BA with greater flexibility and additional resources
  - Allow the operators to utilize the WAPA resources more effectively
  - Adhere more closely to the cost causation principle
- One year trial period
  - Demonstrate if it works
  - Determine areas that don't
- If successful, may open it up to other entities to offer generation for regulation

# BA SERVICE AGREEMENTS

**Parker Wicks**

Rocky Mountain Contracts Manager

# BA SERVICE AGREEMENTS

- Due to recent industry changes (NWPP, RC, WEIS) WACM needs a BA Services Agreement
- WAPA believes it is beneficial to have all entities within WACM BA, taking BA services, sign a BA Services Agreement
  - Facilitate more accurate and efficient cost causation
  - Allow WAPA to implement necessary BA changes more efficiently
  - Allow greater flexibility to adapt to quickly changing environment
  - Clearly identify services provided by WAPA as BA vs. services provided by WAPA as Transmission Provider

# BA SERVICE AGREEMENTS

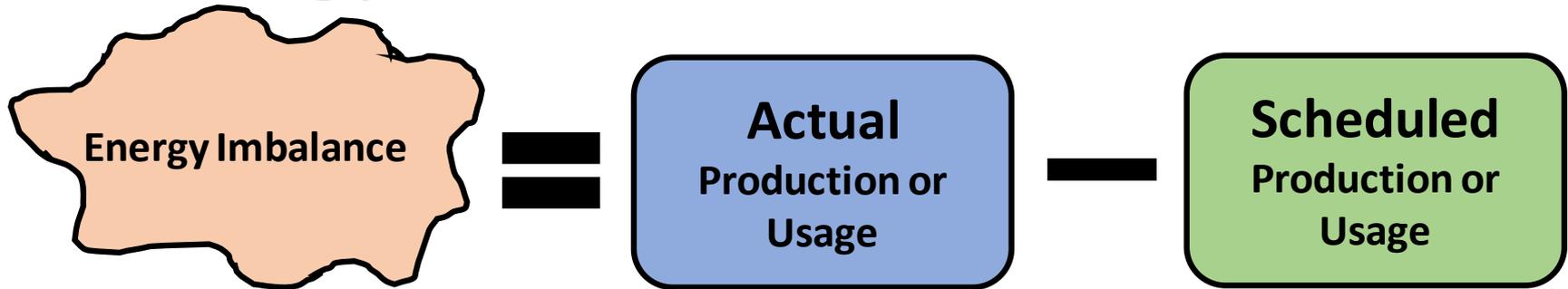
- WAPA needs a standard agreement for all WACM customers
- WAPA plans to engage Customers over the next year to get the agreement in place
  - Begin meetings – Spring 2020
  - Implementation – Need completed prior to WEIS Start (February 2021)
- WAPA will develop a proposed BA Service Agreement
  - Will seek comments from customers and hold meetings to discuss
  - WAPA will consider all comments received

# SPP WEIS in the WACM BA

**Jon Aust**  
Vice President  
of Operations

**Dave Neumayer**  
Vice President  
of Power Marketing

# Energy Imbalance in WACM



Today: RMR handles imbalance for WACM

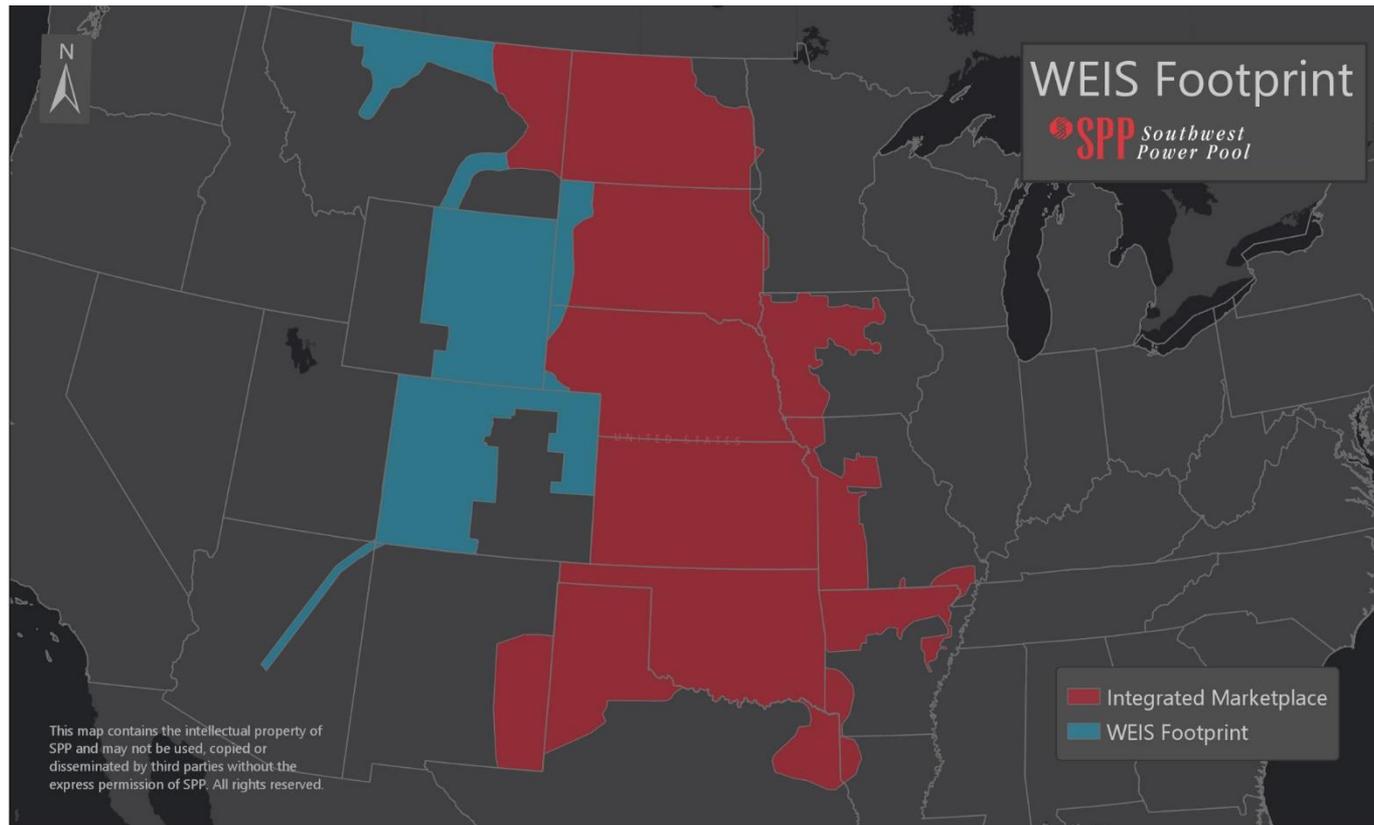
- RMR uses either LAP hydro, or bilateral agreements to handle EI
- EI calculated and priced hourly
- Penalty Bands Cover WAPA Administration Costs
- RMR settles and bills each customer

Tomorrow: Energy Imbalance in a WEIS Environment

- SPP handles imbalance
- SPP optimizes market resources to supply EI
- EI calculated and Locational Marginal priced every 5-minutes
- SPP Admin Cost for all, and WAPA Admin cost for non-MP's
- SPP does some or all settlement and billing

# Southwest Power Pool

## Western Energy Imbalance Service



# WACM Sub-Entities

## Currently Non-Market Participant

- City of Aztec
- Black Hills – (BHP & CLFP)
- Black Hills State University
- City of Page
- Deseret Generation and Transmission (DSGT)
- City of Farmington
- Holy Cross Energy (GI only)
- Kimball Wind LLC (GI only)
- Los Alamos County (GI only)
- Municipal Energy Agency of Nebraska (MEAN)
- Nebraska Public Power District (NPPD)
- Navajo Tribal Utility Authority (NTUA)
- PacifiCorp (PACE)
- Public Service Company of Colorado (PSCo)
- Salt River Project (SRP) (GI only)
- Francis E. Warren Air Force Base
- Wyoming Municipal Power Agency (WMPA)

## Signed WJDA – Market Participant

- WAPA-RM
- WAPA-CRSP (w/Delores&NAPI)
- TriState G&T
- Basin Electric

# Market Participant Vs. Non-Market Participant

## Market Participant:

- Sign WJDA
- WEIS handles EI
- Entity register load/resources
- Able to bid resources into market
- Voting rights on WMEC
- SPP Admin Fee
- SPP settled/billed to MP
- Might use RM as meter agent

## Non-Market Participant:

- Don't sign WJDA
- WEIS handles EI
- WACM registers load/resources
- Not able to bid resources into market
- No voting rights on WMEC
- SPP admin fee passed through
- SPP settled/billed, passed through WAPA to EI customer
- Might use RM as meter agent
- WAPA admin fee

# WAPA's membership in WEIS

- **WAPA-RM joined ... which means:**
  - LAP (the project with load and resources) is an MP
  - LAP Transmission is committed for SPP WEIS use
  - WACM BA is a participating BA in the SPP WEIS
    - SPP Market structure requires WACM to register any “un-registered” load and resource within the BA
- **WAPA-UGP joined ... which means:**
  - PS-ED (west side) (the project with load and resources) is an MP
  - SPP will commit PS-ED west side transmission for SPP WEIS use
  - WAUW BA is a participating BA in the SPP WEIS
    - SPP Market structure requires WAUW to register any “un-registered” load and resource within the BA
- **WAPA-CRSP joined ... which means:**
  - SLIP/CRSP (the project with load and resources) is an MP
  - CRSP Transmission is committed for SPP WEIS use

# Prospective benefits to the BA

- Possible decrease resources needed to run the BA due to less “load following” capacity
- Possible lowering of BA ancillary rate based on lower overall energy cost through SPP’s LMP
- More efficient use of resources across the Market footprint
- Allows the continued integration of more renewables into the BA
  - LAPT and CRMC’s current interconnection queue is sitting at ~2,500MW

# Changes to the BA for non-Market Participating entities

- The WACM BA may be developing a data request based on needs from SPP for WEIS participation
- This data is needed for the SPP to provide the WEIS service regardless of the entities being a MP or non-MP.
  - This structure is the same as the CAISO that requires even non participating resources to be modeled in their EIM system.
- WACM Staff are working to develop the data requirements

# SPP Slides for MPs

- The next six slides are selected slides from SPP presentations during the Oct. 8 kickoff meeting of the Western Markets Executive Committee (WMEC) Meeting.
- SPP set Oct. 25, 2019 as the deadline to sign the WJDA to assure time to integrate MPs for Feb. 1, 2021 Market start. SPP may allow later MP designations on a case by case basis – don't delay!

# REGISTRATION

- **Starts Now!**

- Registration packets to be completed on-site at customer locations.
- Visits to happen by end of October 2019
- Packets complete and signed off by December 1, 2019
- Resources needed to complete registration:
  - BA boundary metering
  - BA load calculation
  - Load ownership between WAPA each of the potential Market Participants
  - Generator capacity, metering, and station service
  - ICCP modeling contact (needed during and after metering discussions)

# ONBOARDING AND RMS

Onboarding will be facilitated by the SPP onboarding specialist and we will use the Request Management System (RMS).

- RMS will be the primary communication tool for onboarding
- RMS allows for secure communication and document exchange
- RMS can be found here:

<https://spprms.issuetrak.com>

- More general information on RMS can be found here

<https://www.spp.org/stakeholder-center/customer-relations/request-management-system/>

# CUSTOMER TRAINING

When	What
Fall 2019	Initial Market Participant Education
Spring 2020	Introduction to SPP's West Energy Imbalance Service (WEIS) Market
Summer 2020	WEIS Market Fundamentals Clinics
Late Summer – Fall 2020	Ad hoc throughout Market Trials as needed

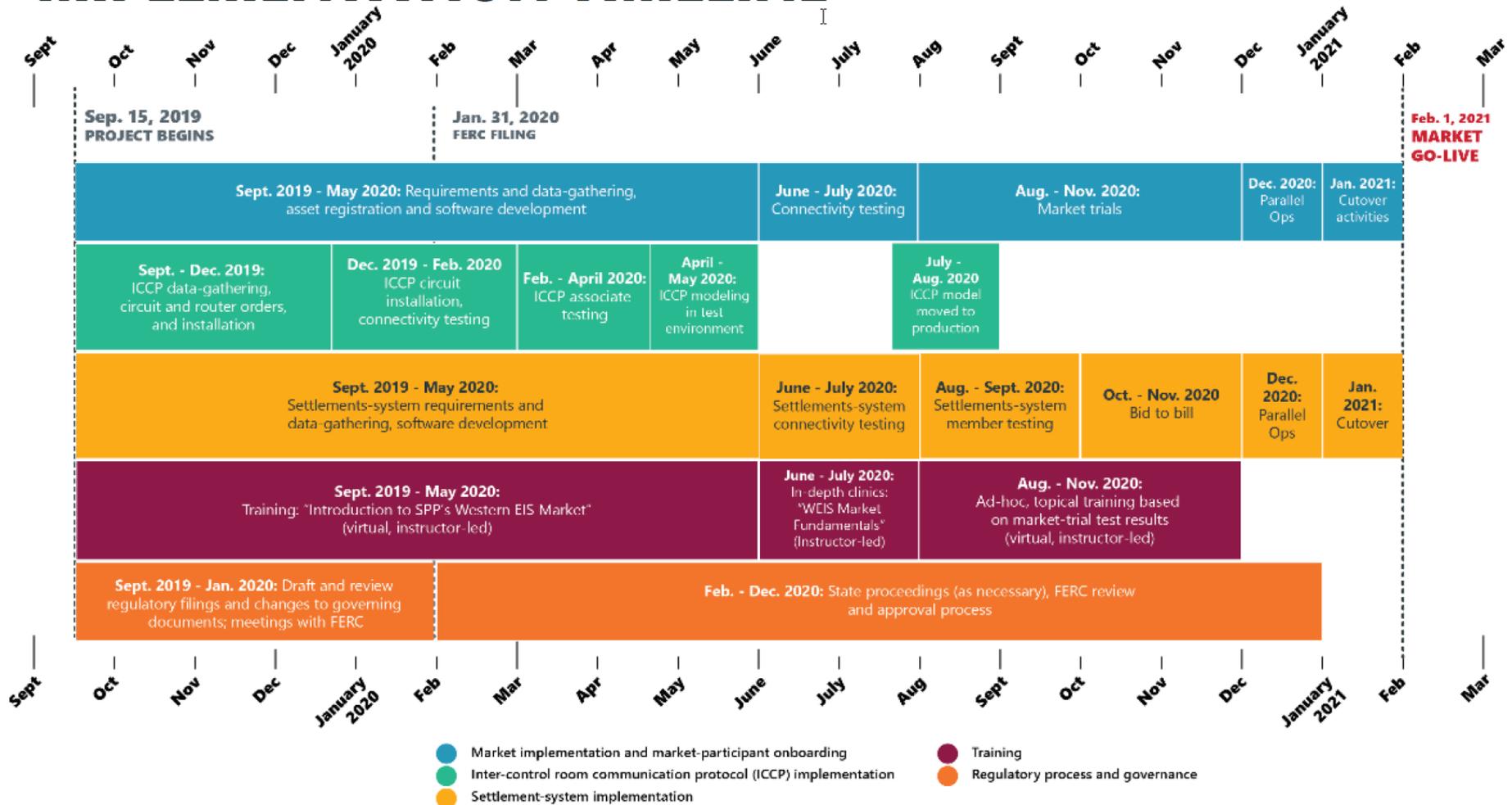
# MARKET PARTICIPANT TESTING

- New ICCP connectivity starts now, 6 month process
- Connectivity Testing – June 2020
- Market Trials – August 2020 to December 2020

## **WORK FROM NOW TO DECEMBER 1, 2019**

- Registration and Onboarding documentation
- Customer Relations will create RMS Onboarding tickets for each Market Participant to track progress and communicate required tasks
- Bi-Weekly project manager meetings starting week of October 14

# IMPLEMENTATION TIMELINE



# Rate Process for SPP WEIS

**Sheila Cook**

Rocky Mountain Rates Manager

# Transmission and Ancillary Services Formula Rates

- Formula Rate designs/rate schedules are approved by the Department of Energy – Assistant Secretary for Electricity for a 5-year period
  - Currently Oct. 1, 2016 to Sept. 30, 2021
- The rate schedules provide for billing of specific charges for services offered under WAPA's OATT and also for the WACM BA
- On an annual basis, we update the charges based on current financial, load, and schedule data
  - Transmission, Losses, Unreserved Use
  - Scheduling, System Control, and Dispatch
  - Reactive Supply and Voltage Control
  - Regulation and Frequency Response
  - Energy & Generation Imbalance
  - Spinning and Supplemental Reserves

# WAPA OATT changes necessary to implement WEIS

- WAPA's OATT will be revised to incorporate required provisions for participation in the WEIS
  - This effort is highly dependent on the finalized SPP WEIS OATT, which is still in development
  - WAPA's preliminary plan:
    - March-May 2020 - finish development of revisions
    - early May - post initial OASIS notifications
    - mid-May - hold customer meeting
    - mid-June - receive stakeholder comments
    - mid-July - provide responses
    - mid-Aug. - finalize OATT revision package
    - early Sept. - file with FERC
    - early Nov. 2020 - revisions effective

# Proposed Rate Adjustment Process

- October 2020 to September 2021 – Conduct Formal Rate Adjustment Process for Transmission and Ancillary Services
  - Initiated after filing WAPA OATT revisions
  - Approximately 1 year to complete the rate process
  - New 5-year rate period – Oct. 1, 2021-Sept. 30, 2026
- SPP WEIS begins Feb. 1, 2021
  - Utilize authority to put short-term rates in place for February-October 2021

# Proposed “Short-term Rates”

- New Rate Schedule for Joint Dispatch Transmission Service at \$0/kW (SPP Schedule 2)
- Revised Rate Schedules for Energy and Generator Imbalance (SPP Schedule 1)
  - Remove existing imbalance formula rates, penalty structures, and pricing
  - New formula rate to include
    - Pass-through of applicable WEIS charges for non-market participant’s embedded load and/or generation in WACM BAA
    - WAPA’s administrative fees associated with providing the imbalance service to those non-MP entities

# WAPA administrative fee for non-MPs

- Discuss potential areas of cost:
  - Operations Reliability – register load and resources, balance, interchange, submit resource plans, load forecasts, ancillary service plans, tagging, metering – submit actual generation and load meter data
  - Operations Real-time Engineering – analyze results, confirm mitigation actions and calculations
  - Settlements
    - Power Billing – weekly invoices consolidated for monthly billing
    - Shadow Settlements – automation tool and verification
  - Rates/Finance – fee calculations and payments
  - Equipment and Software
- Potential Meter Agent Service – separate charge?

# Contact Info

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