

Investing in the connected future

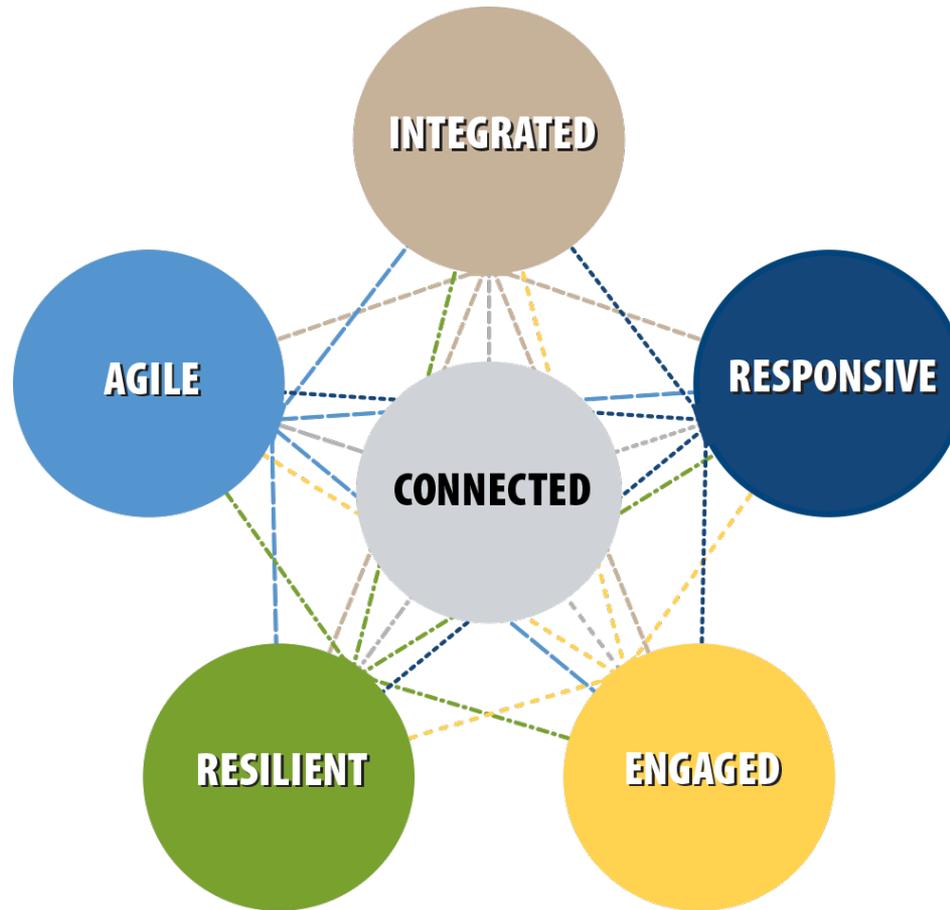
South Dakota Municipal Electric Association

October 9, 2019 | Aberdeen, SD

Lori Frisk

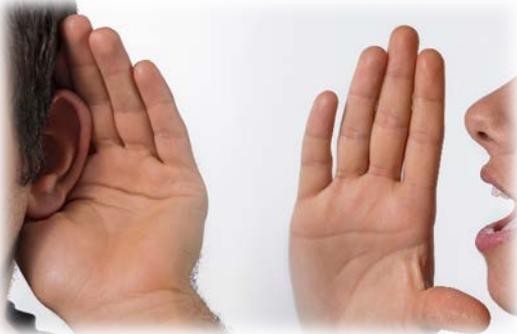
VP of Power Marketing
for the Upper Great Plains Regions

Connected energy future



Core Values

**Listen to understand,
speak with purpose**



Seek. Share. Partner.



**Be curious, learn more,
do better. Repeat.**



**Respect self, others
and environment.**



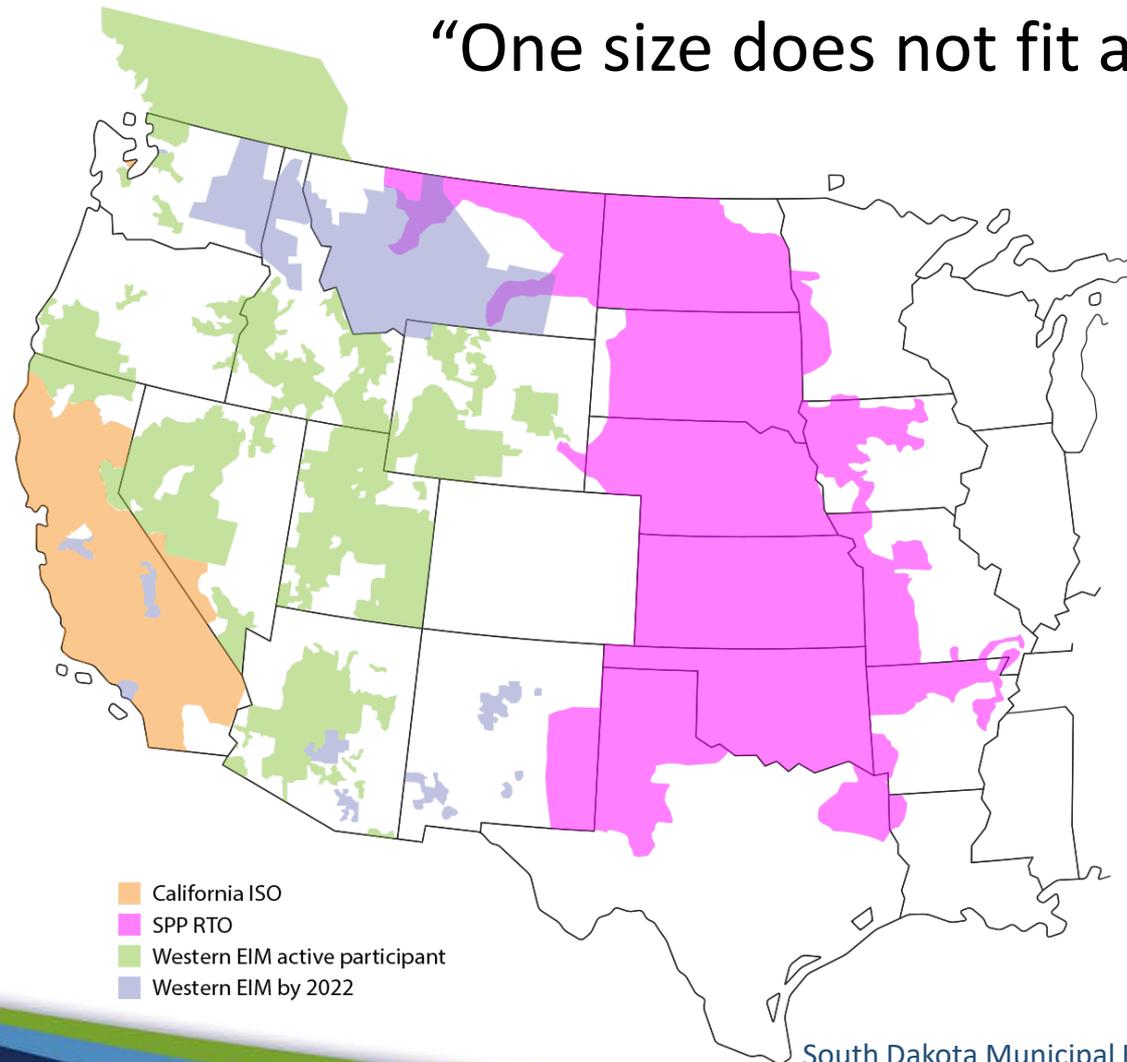
**Do what is right.
Do what is safe.**



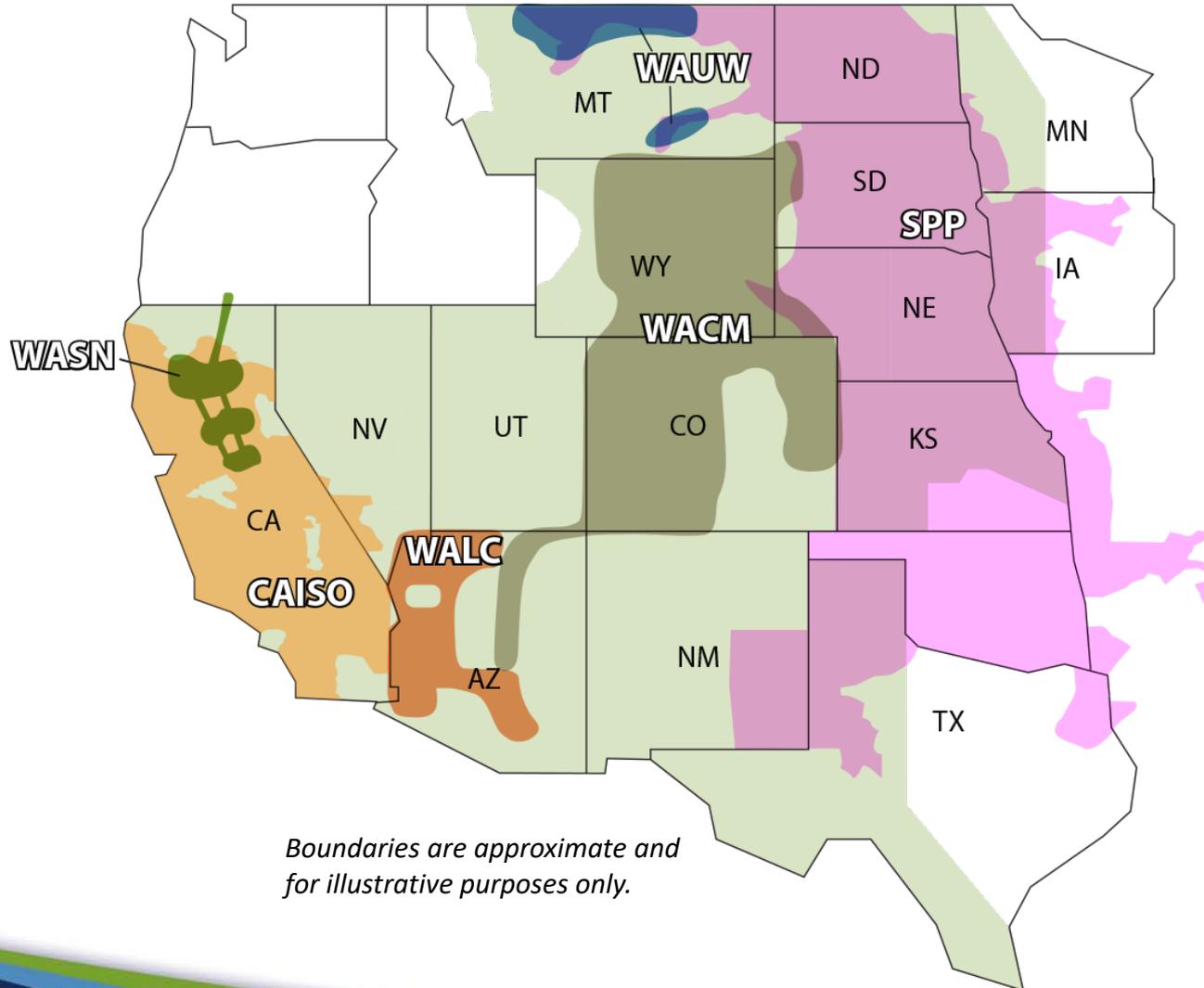
**Serve like your lights
depend on it.**

Energy imbalance market decisions

“One size does not fit all”



WAPA BAs & markets

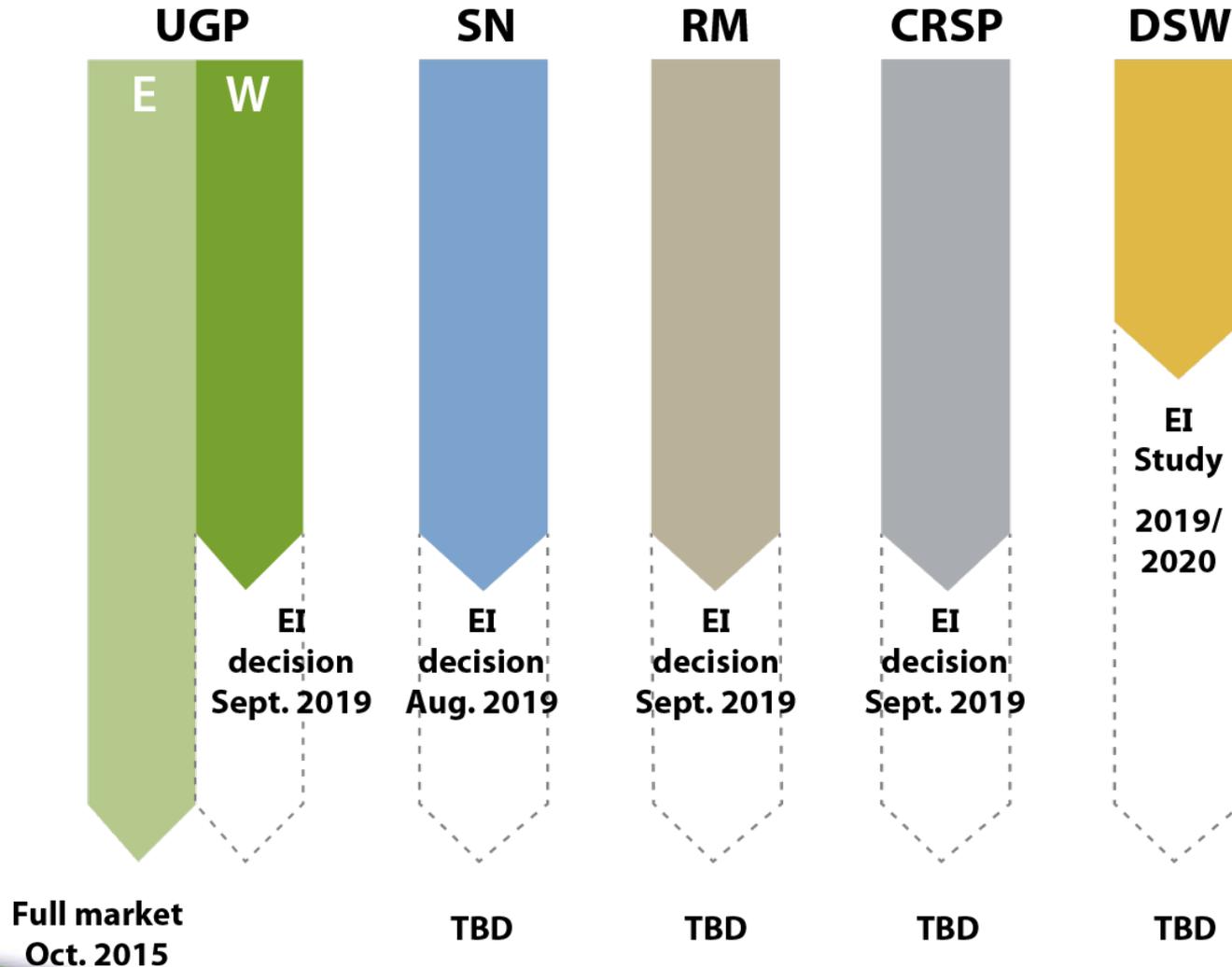


Boundaries are approximate and for illustrative purposes only.

EIM objectives

- Ensure reliable delivery of our hydropower while adjusting to a changing energy mix
- Respond to customer feedback requesting WAPA lead organized market discussions
- Address WAPA BA limitations
- Facilitate integration of renewable resources
- Enable participants who want to optimize their resources

Market status timeline

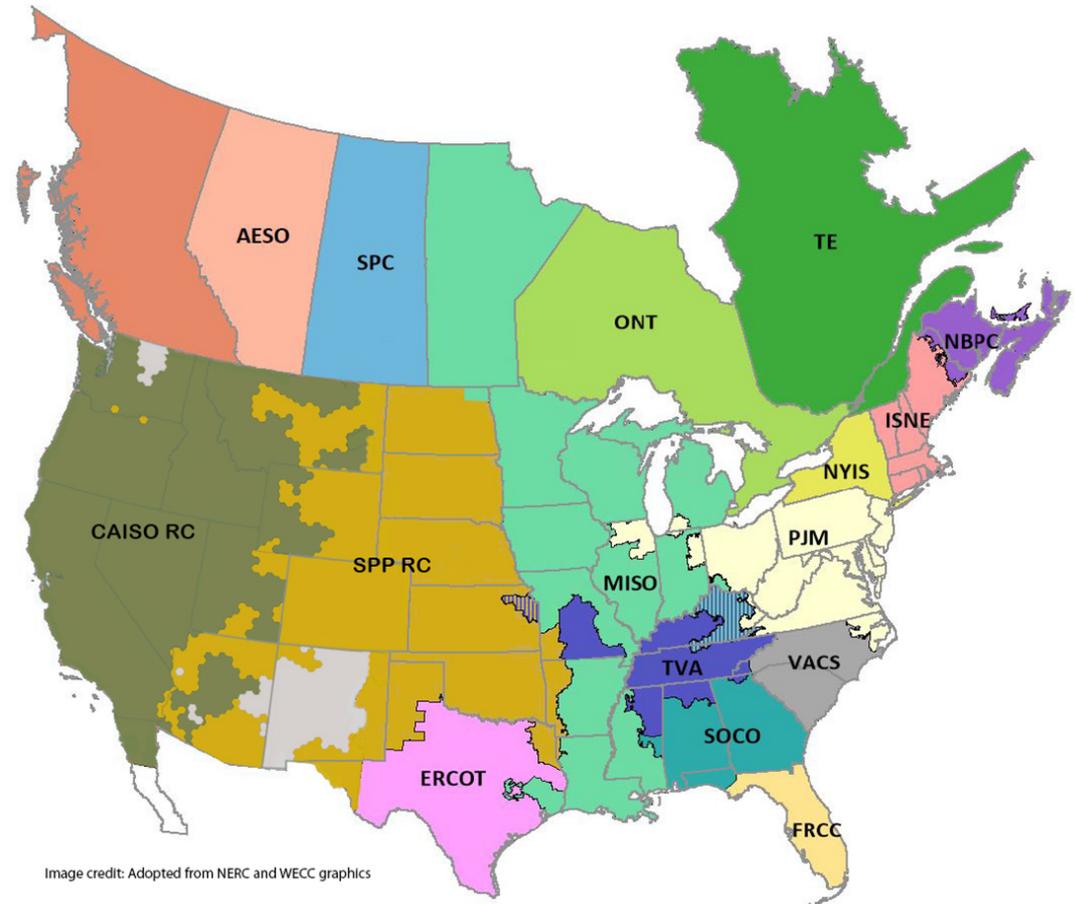


SPP Western Markets Executive Committee (WMEC)

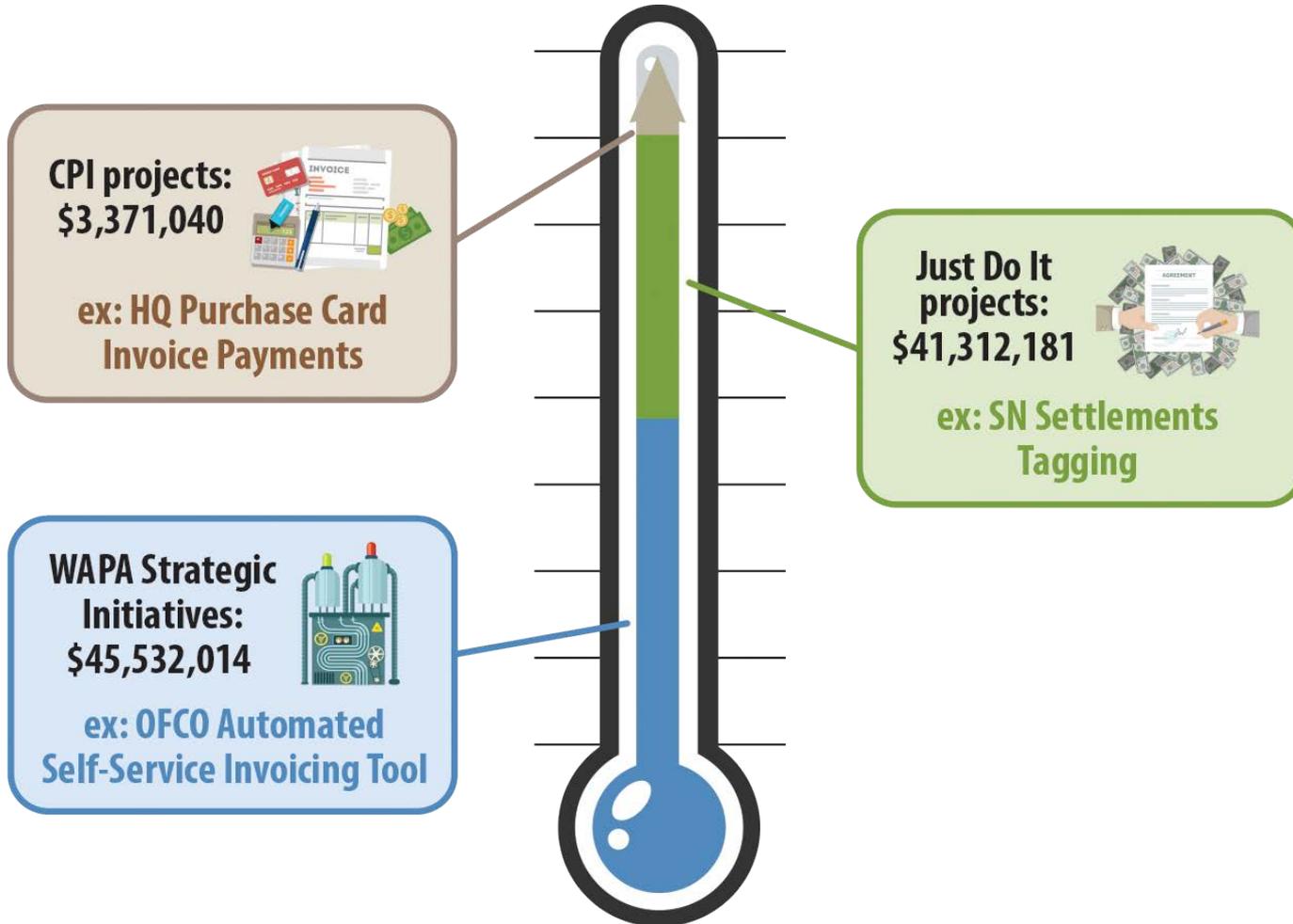
- The Western Markets Executive Committee (“WMEC”) is responsible, through its designated working groups, committees, and task forces, for developing and recommending policies, procedures, and system enhancements related to the administration of the Western Energy Imbalance Service (“WEIS”) market by SPP under the Western Joint Dispatch Agreement (“WJDA”) in the Western Interconnection.
- WMEC First meeting – October 8th
 - WAPA CRSP MC, WAPA RMR, and WAPA UGP
 - Basin Electric Power Cooperative
 - Tri-State Generation and Transmission Association
- <https://www.spp.org/organizational-groups/western-markets-executive-committee/>

Reliability Coordination transition

- UGP-East – SPP
10/2015
- SN – CAISO
7/2019
- DSW/RM/CRSP/
UGP-West – SPP
12/2019



Continuous Process Improvement



WAPA cost savings and avoidance: \$90,215,234 as of June 30, 2019

Helicopter benefits

- Replace 90 miles of dampers on Bears Ears-Bonanza 345-kV
- Options
 - Climbing: >\$1 million
 - Bucket trucks: >\$1 million
 - HEC: \$369,610
- Cost savings: ~\$640,000



Unmanned Aerial Vehicles

- Inspect 25 structures for Ault-Craig spacer replacement
- Options
 - Climbing (3 hours/structure): \$11,250
 - UAS (30 mins/structure): \$2,187.50
- Cost savings: >\$9,000



Common SCADA vendor

- Does not equal one SCADA across WAPA
- Equals one SCADA vendor
- Expected benefits
 - Improve operational flexibility
 - Increase reliability
 - Avoid future support and administrative costs due to cross training and supporting multiple contracts

Physical Security update

- Implementing new remediation validation process
- Tiered security protection levels focus resources on more critical sites
 - 1,000+ tasks reduced to ~450
- ~94 site assessments done in FY 2019
- 84%+ of planned security remediations done in FY 2019
- Conducting assessments in house in FY 2020 will save over \$378,000



Cyber threat environment

- Increasing regulations
- Internet of Things
- Scope and breadth of organization
- Asset management nexus
- Continuous communications



OT/IT convergence

- Lifecycle discrepancy
- “Smart” technology
- Situational awareness
- Data management



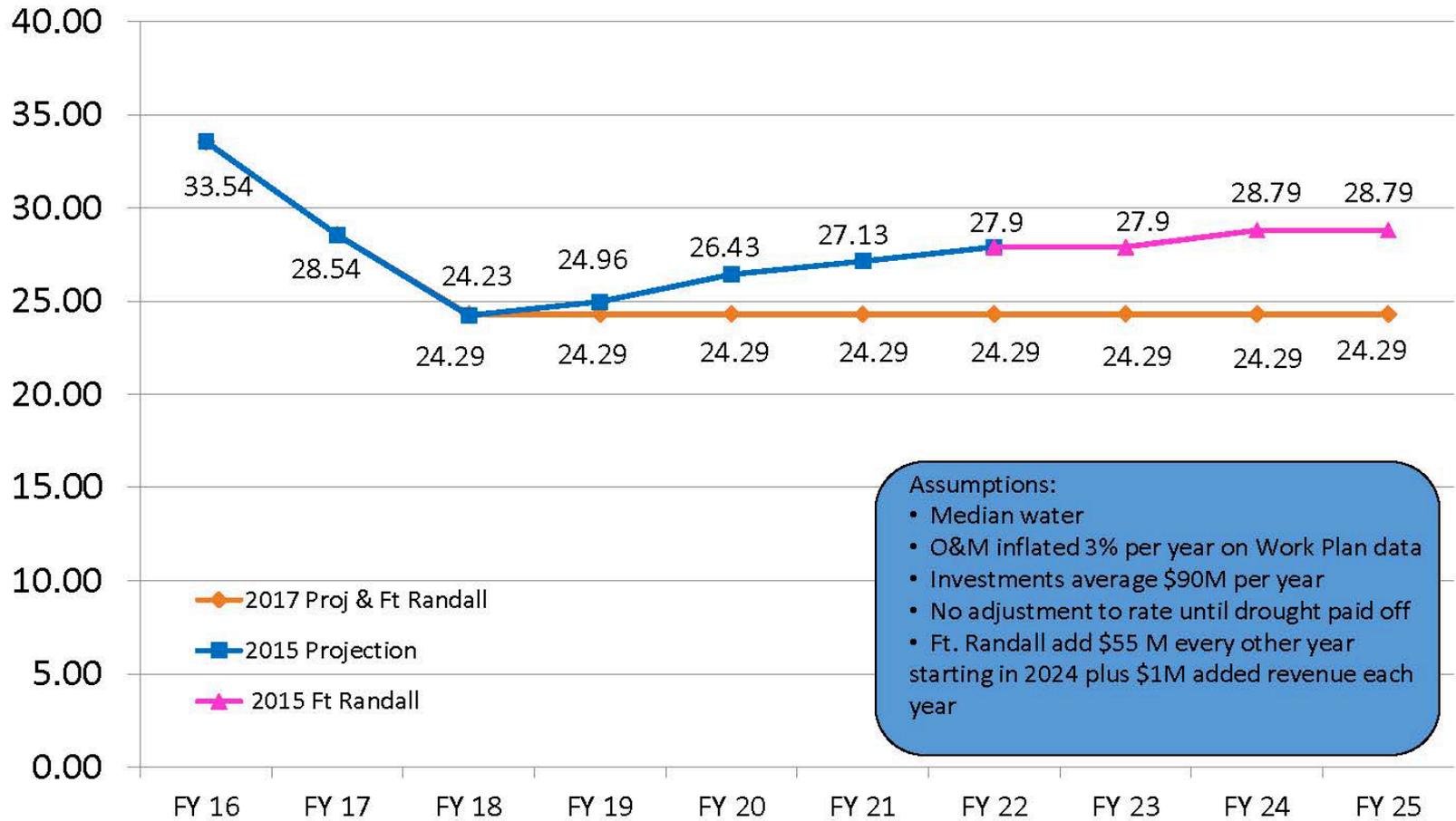
Washington DC update

- Fiber discussions
 - Improved capabilities for utility operations
 - Protect customers' investments
 - Support customer needs for expanded services
- Integrated Resource Plans
- Purchase Power and Wheeling report

Power Purchase and Wheeling report

- Submitted to Congress Sept. 10
- Details authority to use receipts as offsetting collections for PPW
- Proposes common definitions
- Describes risk mitigation strategies
- Demonstrates how PMAs are executing current authority to carry over unobligated balances for PPW
- [Available at The Source](#)

Pick-Sloan composite rate projection



Drought adder schedule for 2019

As detailed in the FRN

- Finalize annual Power Repayment Study (Feb-March).
 - Determine if base rate and/or drought adder needs adjustment via formal rate adjustment.
- Corp snowpack is final—new generation projections April 15.
- Perform preliminary review of drought adder early summer – notify customers of and estimated change to the rate.
- Perform second review of drought adder in September.
- Notify customers in October of drought adder change to be implemented January 2020.

2021 Power Marketing Initiative (PMI)

Tribal contracts update

As of 09/09/2019

- Current Tribal Reserve and Bill Crediting Contracts Expiring December 31, 2020.
To date:
 - 11 of the 25 Tribes have signed a Reserve Contract
 - 1 of the 25 Tribes has their Bill Crediting Arrangements in place
- 70 Tribal Reserve and Bill Crediting Contracts left to sign
- Currently Offering Tribal Reserve and Bill Crediting Contracts.
- Face-to-Face Meetings with Tribes to deliver contract packages
 - Schedule is set to deliver, in person, now through November 1st
 - Bill Crediting participants will receive a carbon copy of offer letter and the contract package
 - Once Bill Crediting Arrangements are signed by the Tribe, the contract package will be sent to the participating regional and local power suppliers for signature
- Goal is to have Contracts signed by all Parties by September 1, 2020.
- Project Manager: Darla Helms, (406) 255-2938

Missouri River Basin 2019 Water Year

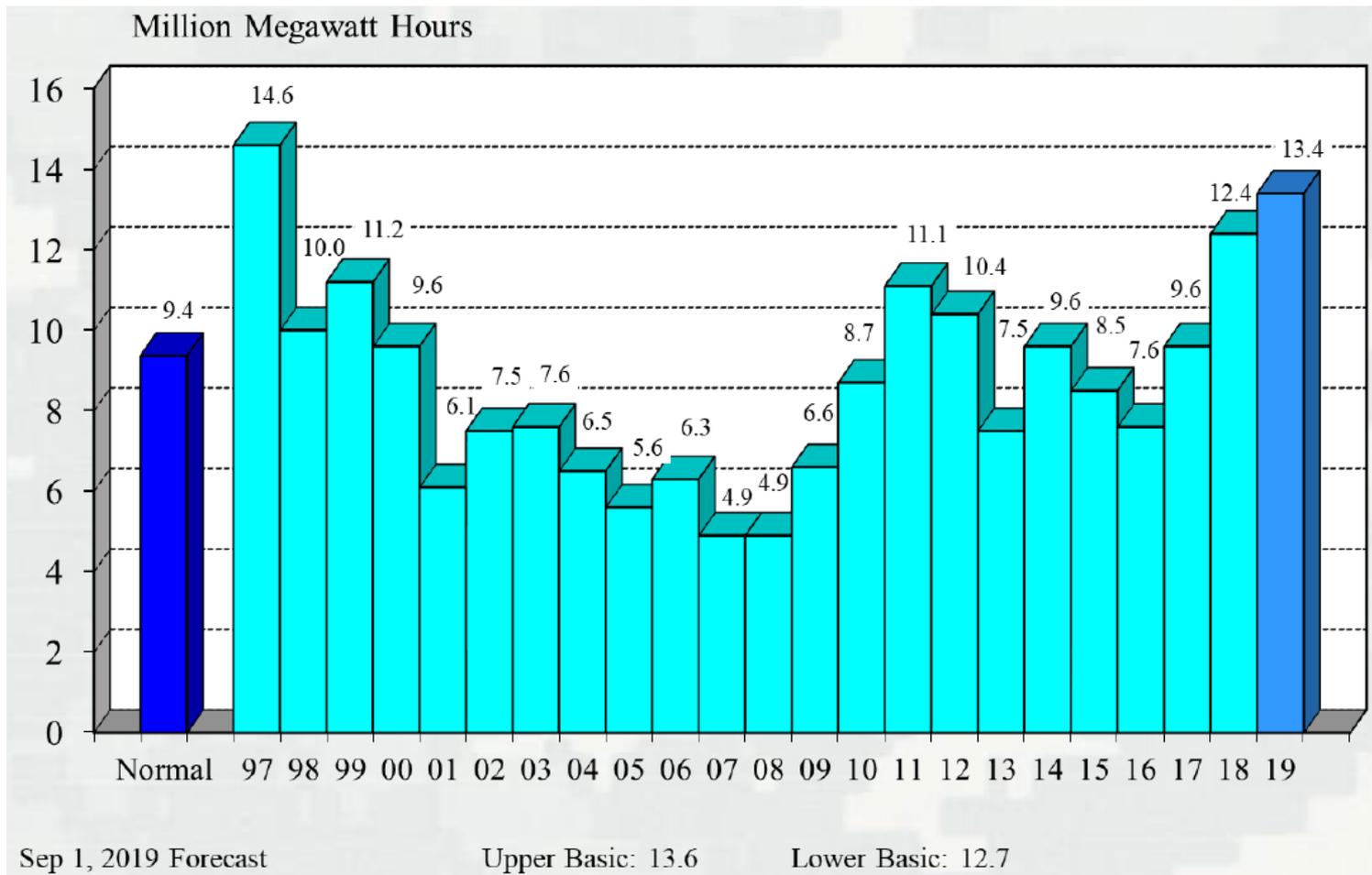
- Runoff above Sioux City is forecasted to be 54.6 MAF (215% of average).
- This would be the second highest in the 121 year period of record
- Set record high 24 hour generation on 8/17/2019
- Projected power production of 13.4 BKWhrs(average is 9.4 BKWhrs)

COE Daily Record generation – Top 20

Record	Date	MWH
1	17 Aug 2019,	51,319
2	14 Aug 2019,	51,318
3	18 Aug 2019,	51,315
4	22 Aug 2019,	51,304
5	23 Aug 2019,	51,283
6	16 Aug 2019,	51,236
7	15 Aug 2019,	51,192
8	24 Aug 2019,	51,186
9	19 Aug 2019,	51,151
10	20 Aug 2019,	51,150
11	25 Aug 2019,	51,091
12	21 Aug 2019,	50,418
13	13 Aug 2019,	50,260
14	13 Oct 1997,	50,217
15	03 Oct 1997,	50,105
16	04 Oct 1997,	49,965
17	26 Oct 1997,	49,864
18	24 Sep 1997,	49,834
19	30 Aug 1997,	49,819
20	12 Oct 1997,	49,767

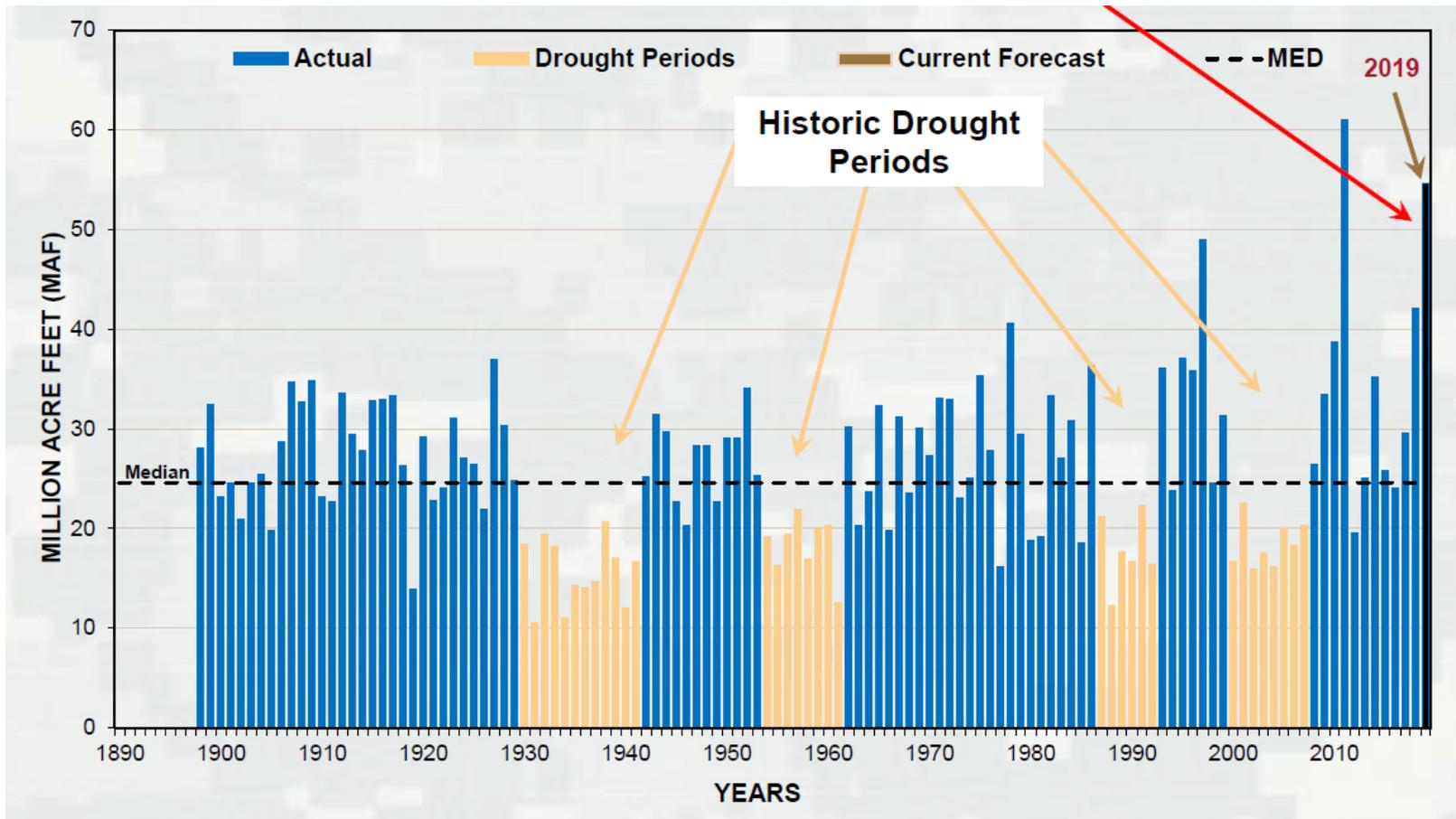
The August 2019 generation of 1.54M-MWh surpassed the previous record of 1.52M MWh set in August 1975.

Mainstem System Generation

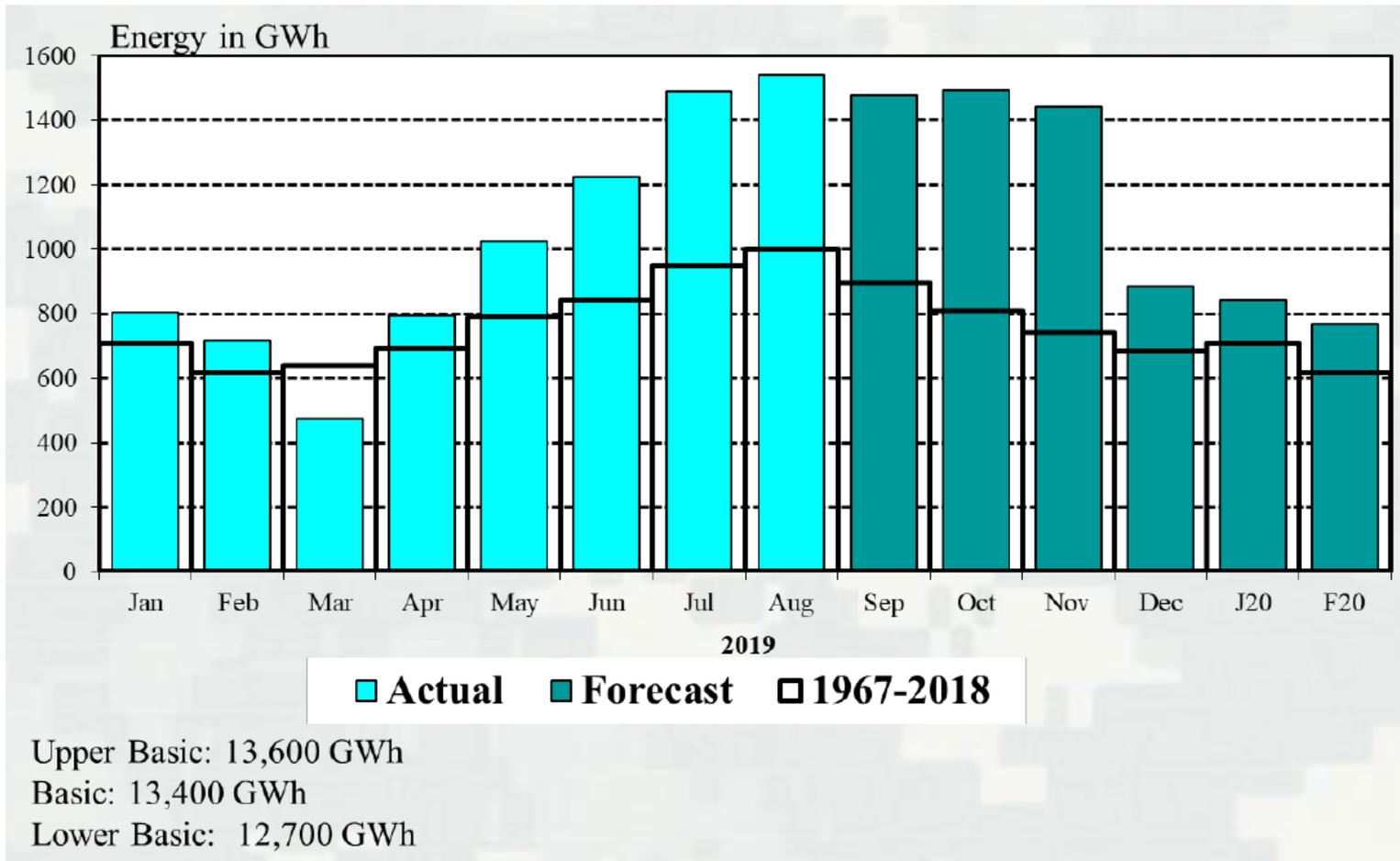


Annual Runoff above Sioux City, IA

54.6 MAF would be the 2nd highest runoff year in 121 years of record keeping.



Missouri River Mainstem System Forecasted Energy Generation



Key takeaways

- Make the best decisions based on regional needs.
- Prepare for and adapt to industry change.
- Leverage partnerships to achieve mission.



Contact/follow me

Lori Frisk

605-882-7580

frisk@wapa.gov



wapa.gov



@westernareapowr



western-area-power-administration



WesternAreaPower1



westernareapower



wapa.gov



Gavins Point