



Western Area
Power Administration

Annual Customer Meeting

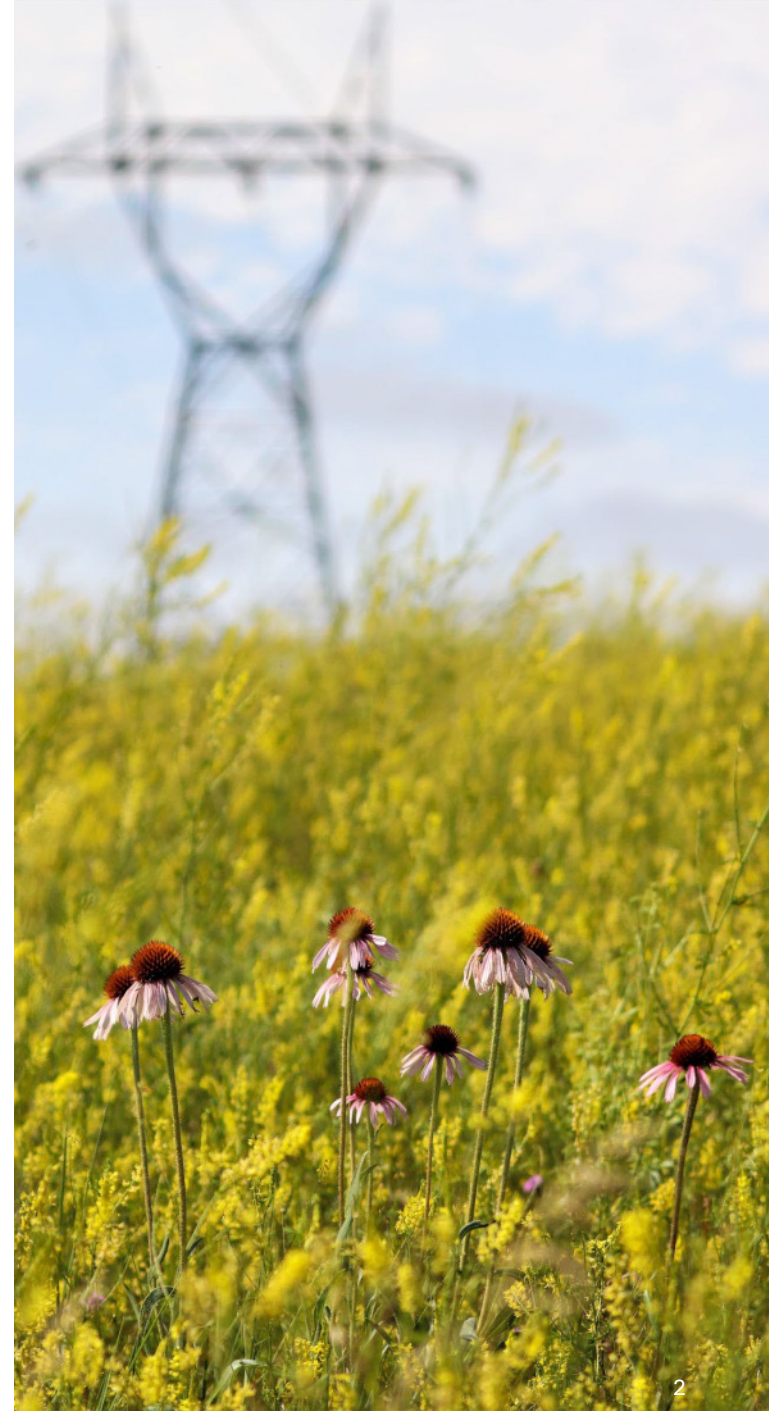
Colorado River Storage Project Region

July 15, 2026



Today's Agenda

- Welcome
- Environmental Updates
- Contracts Update
- RTO Impacts / EMMO
- Break – Lunch
- Bureau of Reclamation Hydrology Updates
- Rates Update
- Break
- WAPA Infrastructure Strategy
- Basin Fund Management
- Significant Capital Projects Pending for CRSP



Environmental Update – LTEMP Experiments

CRAIG ELLSWORTH

Fish Biologist



Lower Basin Updates: Spring 2026

Humpback Chub

“Amazing” increases between 2010 and 2024

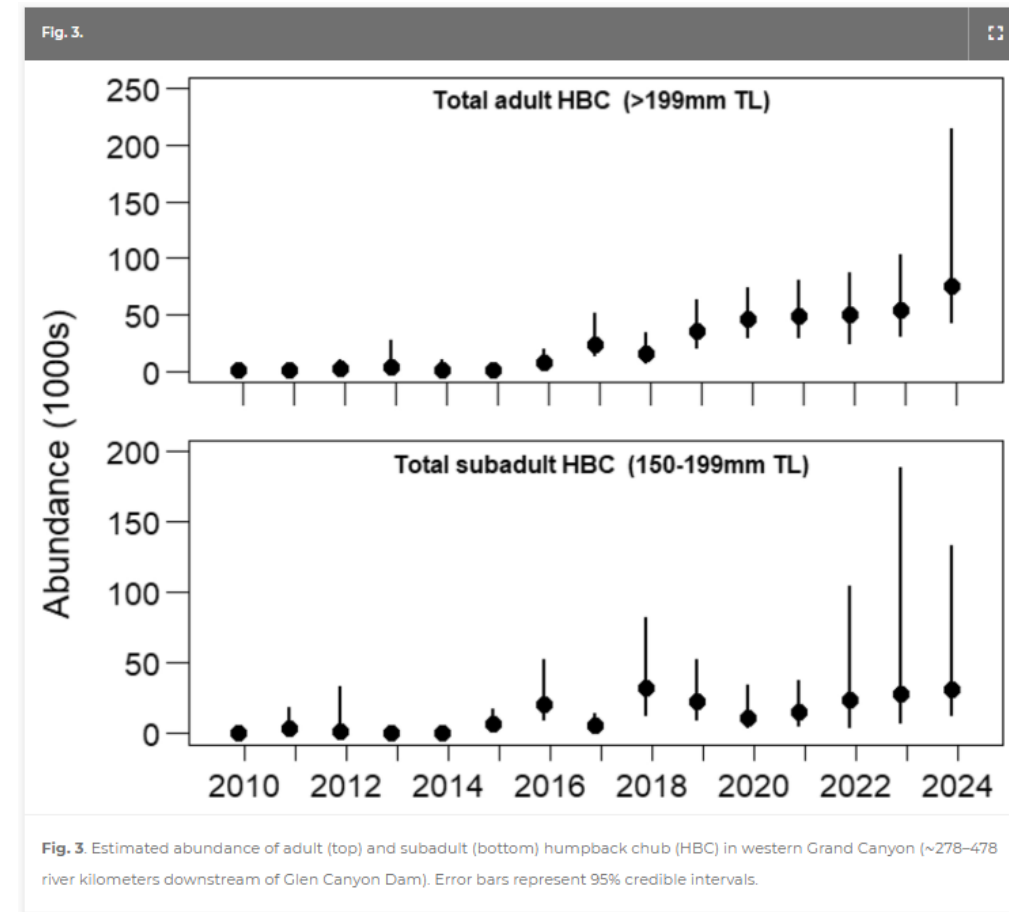
- Little Colorado River: 5,000 adults → 10,000 to 15,000 adults
- Western Grand Canyon: 225 adults → 70,000 to 200,000 adults

160x increase: Higher water temperatures and lack of predators

Humpback chub monitoring in the Little Colorado River



Helping USFWS with humpback chub monitoring in the Little Colorado River, 2026



Dzul et al., 2026, Integrating mark-recapture, catch, and expert habitat assessments to quantify recent increases in humpback chub abundance over a 200 km long river segment of the Colorado River in western Grand Canyon: Canadian Journal of Fisheries and Aquatic Sciences. <https://cdnsciencepub.com/doi/10.1139/cjfas-2025-0169>



2026 LTEMP Experiments

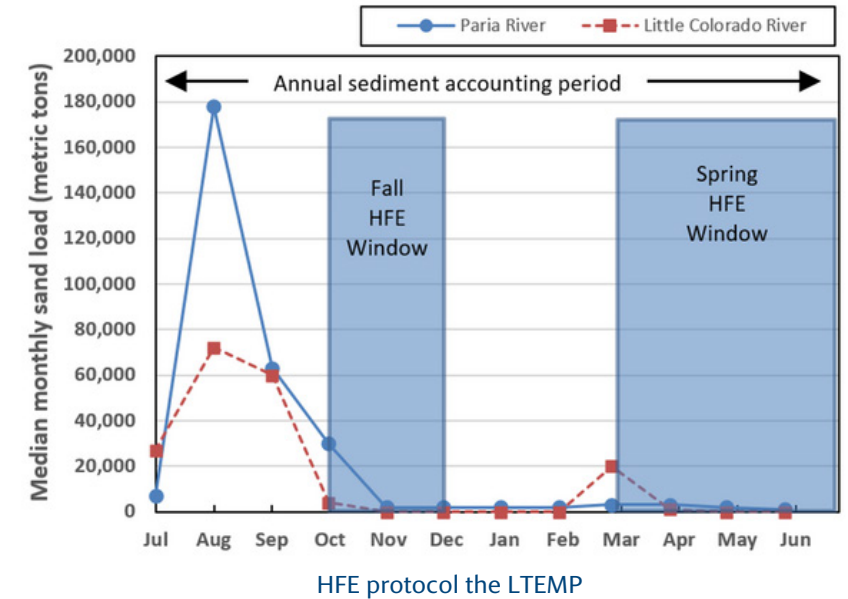
2026 Spring High Flow Experiment (HFE)

Goal is to determine if sandbar building during HFEs exceeds sandbar erosion during periods between HFEs, such that sandbar size can be increased or maintained over several years.

- Recommendation: 32,400 cfs for 12 hours
- June 5, 2026: DOI decided to **not** implement a Spring HFE

Past HFEs

- 2025: triggered, not implemented
- 2024: triggered, not implemented
- 2023: Spring HFE at 39,500 cfs for 72 hours
- 2022: triggered, not implemented
- 2021: triggered, not implemented
- 2020: not triggered
- 2019: not triggered
- 2018: Fall HFE at 38,100 cfs for 60 hours
- 2017: not triggered
- 2016: Fall HFE at 36,000 cfs for 96 hours



Sandbar in Grand Canyon

2026 LTEMP Experiments

2026 Smallmouth Bass Flow Experiment

Goal is to disrupt the establishment of smallmouth bass below Glen Canyon Dam by limiting additional recruitment, which could threaten populations of the threatened humpback chub in Grand Canyon.

- Recommendation: Cool releases to River Mile 15 until October 20
- Expected cost of replacement power: ~\$20M
 - 2024: \$18.97 M
 - 2025: \$6.12 M
- Moderating cost impacts by adjusting on/off ramp dates and how far downstream to target cooler temperatures
- DOI has not yet decided on whether to implement this year
- Implementation would impact the Basin Fund resulting in additional deferred maintenance and/or replacements



Bypass at Glen Canyon Dam



Male smallmouth bass guarding a nest with fry



Why Smallmouth Bass?

Smallmouth bass are a problematic invasive species, especially in the Colorado River basin.

They are an adaptable, sight-oriented predator.

Our native fish are poorly adapted to avoid getting eaten by them.

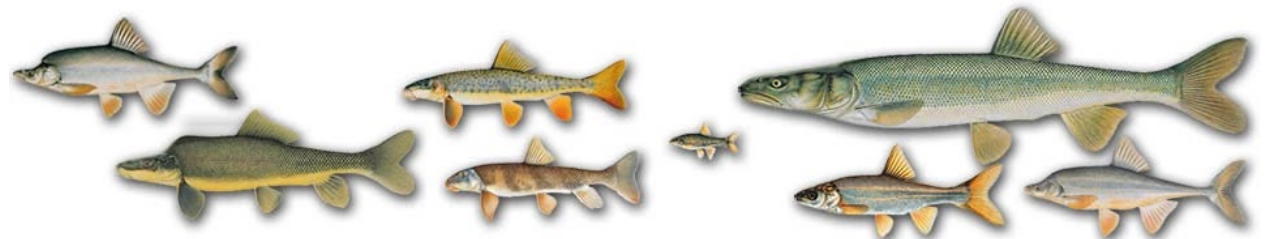
- Meet our native fish
- Native predator: Colorado pikeminnow
- Predator avoidance strategies
 - Physical: Humps and keels
 - Behavioral: Hold still and hide (turbidity)



Little Colorado River during a monsoon flood



Smallmouth bass



Fish native to the Grand Canyon



Risk, Likelihood, Cost, and Uncertainties

Risk

Could be the end of humpback chub in Grand Canyon

Re-consultation on operations at Glen Canyon Dam

Likelihood

Establishment of smallmouth bass at a density that threatens the population viability of humpback chub in the Grand Canyon

Cost

Basin Fund impacts and loss of generation due to bypass

Future control measures and species recovery

Uncertainties

Likelihood of establishment

Consequences if we are wrong

- Most of the remaining humpback chub are found in the Grand Canyon
- Smallmouth bass are a problem for native fish in the Colorado River basin (and elsewhere)
- Smallmouth bass have been present (in low numbers) in the Grand Canyon for +20 years
- Conditions are changing in the Grand Canyon (water temperature, entrainment, barriers, [turbidity])
- The cumulative cost of the experiment has increased stress on the Basin Fund risking required replacements and maintenance, increasing risk to the stability of the electric system.



Smallmouth bass having eaten a large flannelmouth sucker



Thermal Curtain in the Forebay of Glen Canyon Dam

River Connectivity Systems

DOE grant to study the feasibility of installing and operating a thermal curtain at Glen Canyon Dam

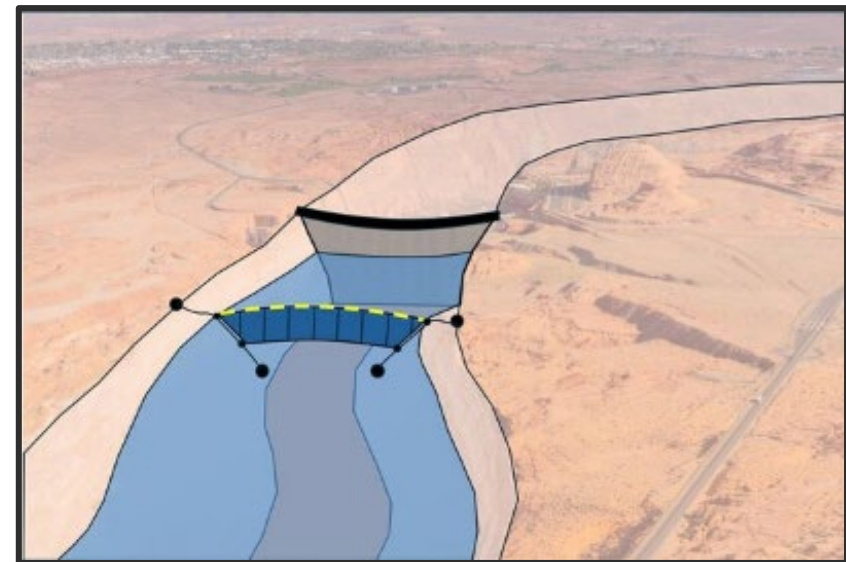
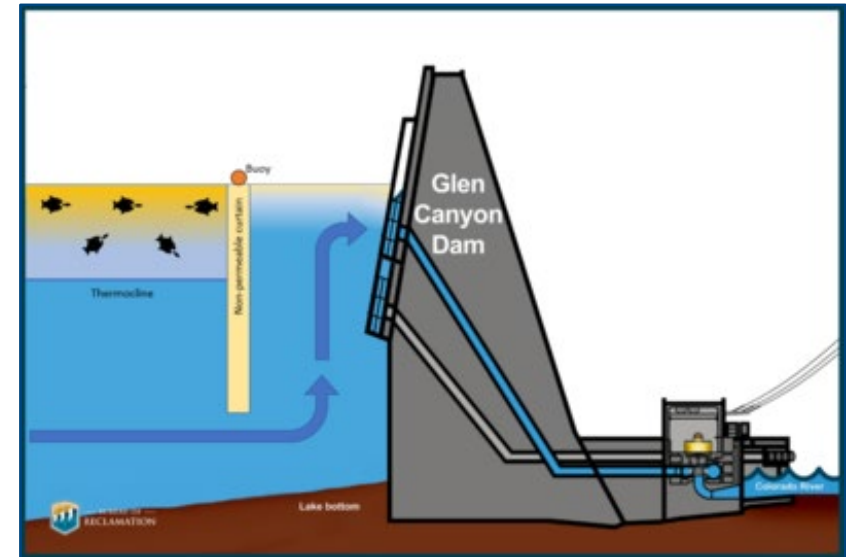
Objectives:

- Reduce release temperatures
- Eliminate entrainment

Investigate whether this would be a cost-effective alternative to bypass

The DOE grant (Water Power Technologies Office) has been awarded, and the study is now beginning

Expected completion of study: May 2028



Depictions of a thermal curtain at Glen Canyon Dam



Environmental Team Roster & Contacts

Environmental Group:

- Jerry Wilhite – Environmental Manager | Wilhite@wapa.gov
- Craig Ellsworth – Fish Biologist | Ellsworth@wapa.gov
- Derek Fryer – Fish Biologist | Fryer@wapa.gov
- Tony Henriquez – Administrative Management Analyst | THenriquez@wapa.gov



Contact WAPA

Craig Ellsworth, Fish Biologist

Ellsworth@wapa.gov

WEBSITE

wapa.gov

LINKEDIN

[western-area-power-administration](https://www.linkedin.com/company/western-area-power-administration)



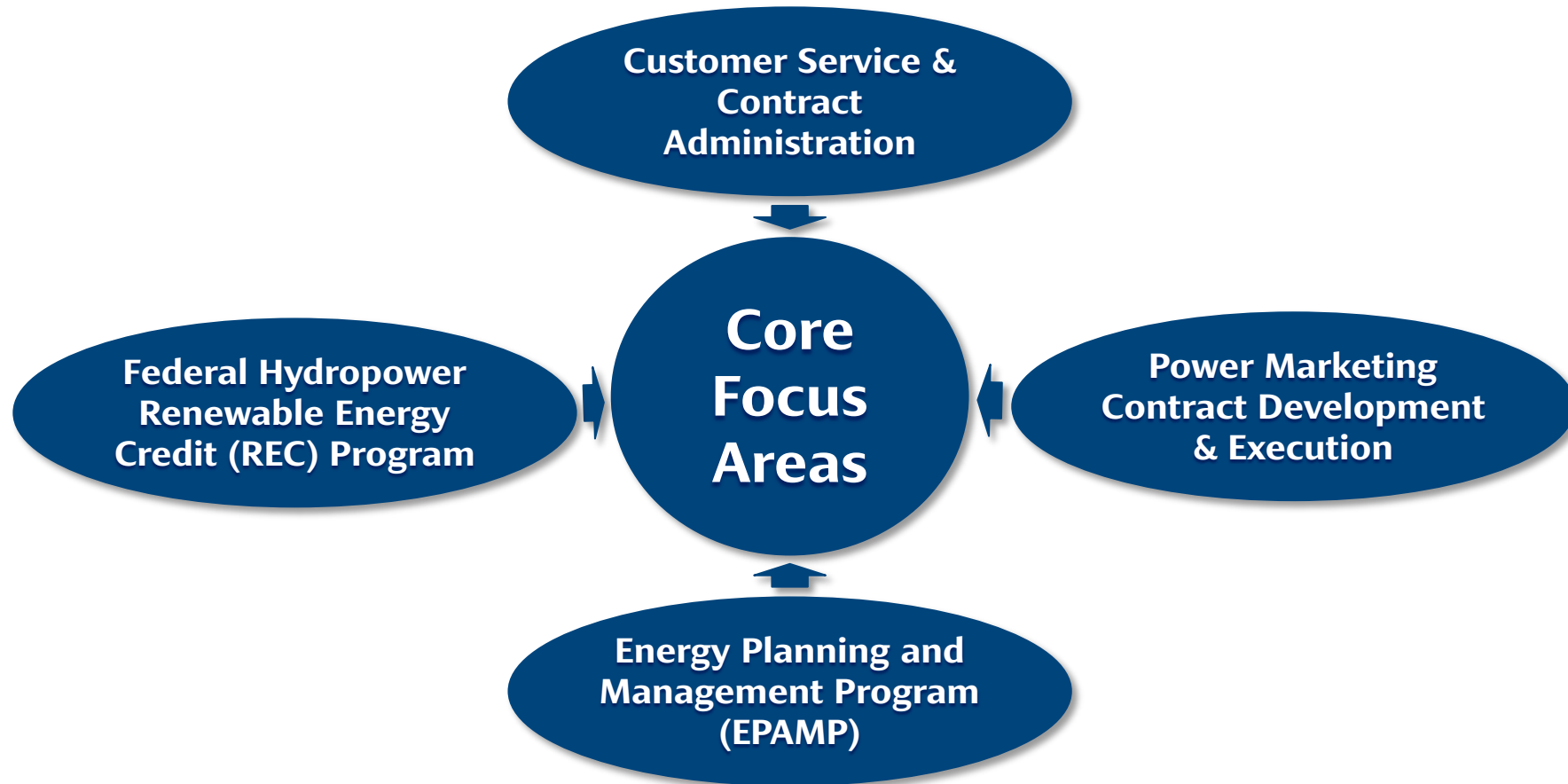
Contracts Update

TASHA MAY

Contracts & Energy
Services Manager



Contracts & Energy Services Primary Responsibilities



Contract Administration Achievements

SABP Updates & RTO Integration

Finalized and implemented new procedures to support entry into the Southwest Power Pool (SPP) market.

Hydrology Data Tool Transition

Successfully launched an online portal replacing legacy, manual hydrology attachments.

FERC

Submitted Electric Quarterly Reports (EQR) using updated FERC procedures.

Desk Procedures

Updated our internal Contract Administration Desk Procedures to ensure consistent team workflows.



Customer Service and Stakeholder Engagement

CRSP Quarterly Exhibit Submission Tool (C-Quest) Implementation

Coordinated the transition of hydrology requests from manual emails to a secure online system.

Proactive Engagement

Led online customer training sessions and provided status updates.

Internal & External Outreach

Conducted FES marketing briefings and strengthened internal relationships.

On-Site Coordination

Organized customer site visits to discuss questions and concerns.



Energy Services Program Management and Support

REC Program

Transition: Moved to a quarterly distribution model and assisted customers with resale contract amendments.

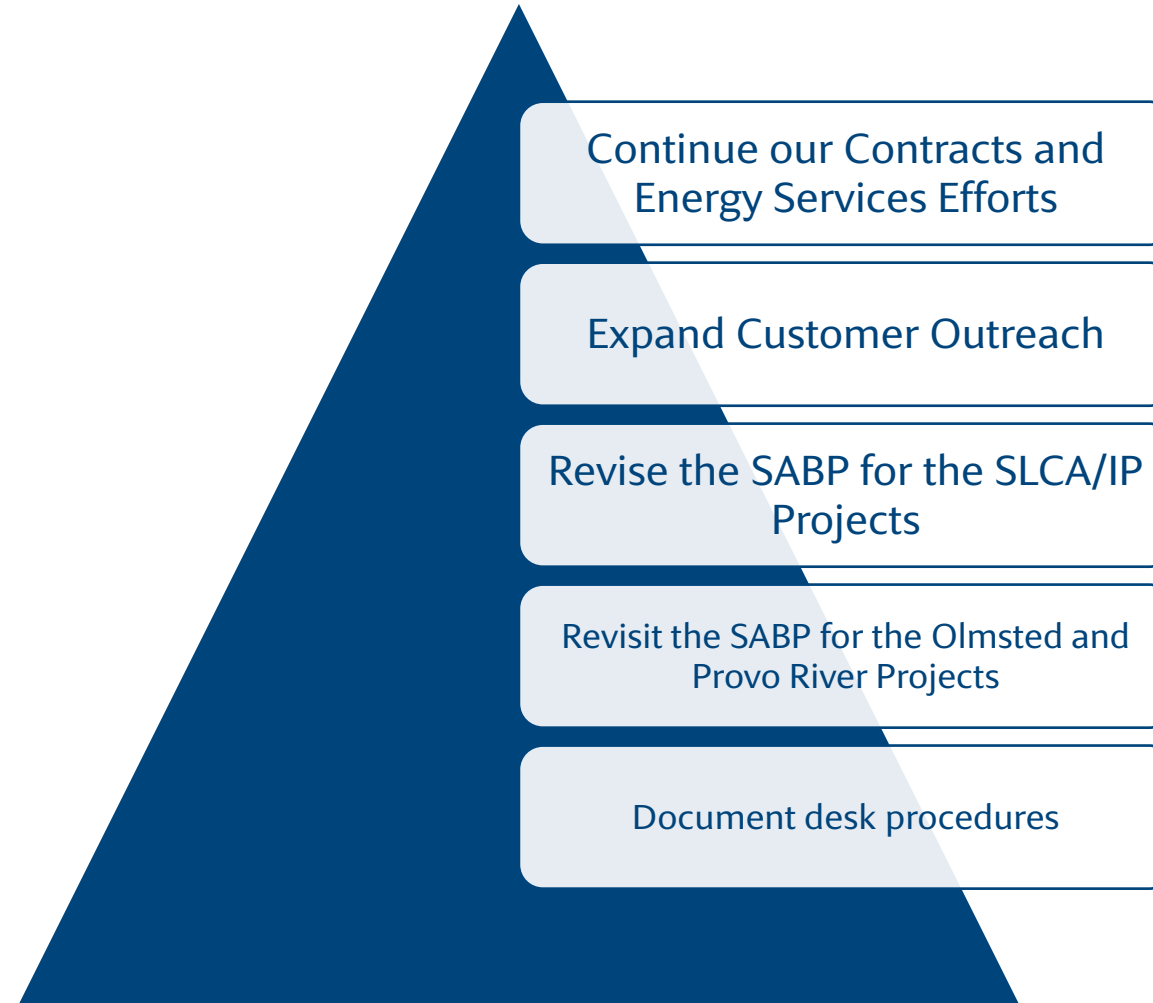
Legislative

Tracking: Monitored relevant federal and state legislation impacting energy programs—such as those impacting Renewable Energy Certificates.

EPAMP Support: Provided support for Integrated Resource Plan (IRP) inquiries and technical reporting.



Upcoming Efforts on the Horizon



Customer Account Representative (CAR)

Your Dedicated Support System

- **Main Point of Contact**
Assigned to specific customer groups for direct support.
- **Issue Resolution**
Your first line of communication to resolve questions and concerns.
- **Liaison Role**
Acts as a direct bridge between customers and WAPA's internal technical teams.



Contracts & Energy Services Team Roster & Contacts

Power Marketing Leadership:

- Brent Osiek – VP of Power Marketing | Osiek@wapa.gov

Contracts & Energy Services Group:

- Tasha May – Contracts & Energy Services Manager | TMay@wapa.gov
- Tim Kutz – Public Utilities Specialist | Kutz@wapa.gov
- Jay Magbitang – Public Utilities Specialist | Magbitang@wapa.gov
- Chris Simon – Public Utilities Specialist (contractor) | CSimon@wapa.gov
- Rashaun Wood – Public Utilities Specialist | RWood@wapa.gov



Contact WAPA

**Tasha May, Contracts &
Energy Services Manager**

TMay@wapa.gov

WEBSITE

wapa.gov

LINKEDIN

western-area-power-administration



CRSP EMMO – SPP RTO Impacts

JONATHAN WILSON

Energy Management &
Marketing Office Manager

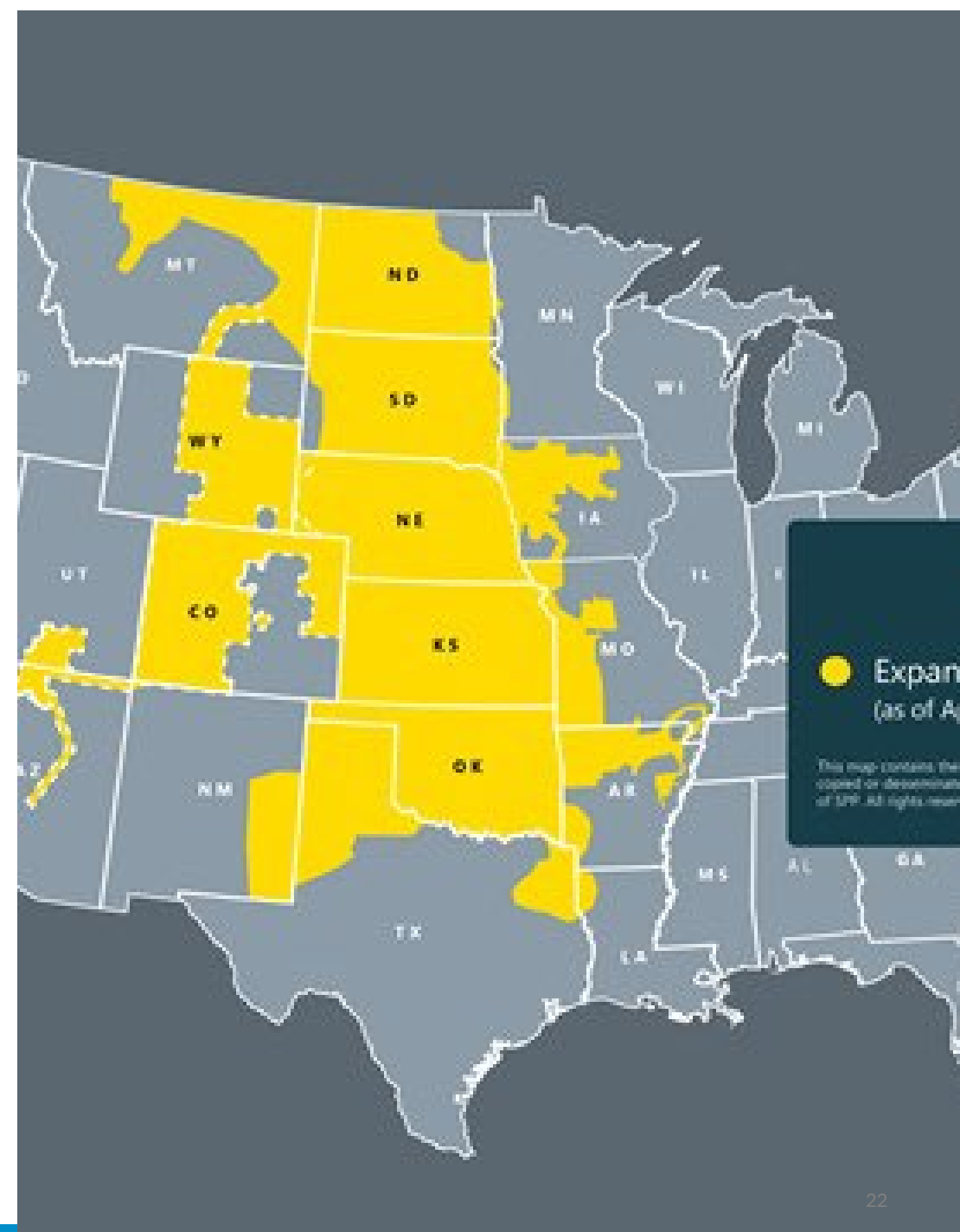


April 1 – SPP RTO “Go Live”

With years of planning and rigorous work within WAPA, CRSP EMMO was able to successfully transition from the SPP WEIS Market to SPP RTO Expansion. In addition, we transitioned CRSP and RMR LAP Projects from the current WACM Balancing Authority to the newly SPP Balancing Authority.

“Nine load-serving utilities led the expansion, which extends SPP’s service territory to include resources and customers of numerous utilities in seven states – Arizona, Colorado, Montana, Nebraska, New Mexico, Utah, and Wyoming. As RTO members and participants in SPP’s wholesale market, they will gain access to the RTO’s vast portfolio of generating resources, innovative planning services, and support in coordinating electric reliability.”

Thanks to all our dedicated staff, vendors, and more importantly you - our customers who we serve - who made this possible.



RTO Impacts

- New rules and regulations to follow such as SPP Tariff and Protocols.
- CRSP customers get Federal Service Exemption (FSE) which gives exemption from congestion and marginal losses in Day Ahead Market window.
- Changes to time zone requirements.
 - Example: SPP Operates in Central Prevailing Time.
- New deadline for tagging requirements. SPP Day Ahead Market Closes at 0930 CPT.
- Changes made to CRSP Scheduling, Accounting, and Billing Procedure (SABP).
- New tools.
 - Example: CRSP/RMR C-Quest portal, MCG upgrades, SPP Portal Access and other important tools inside the RTO Expansion needed to perform essential work.

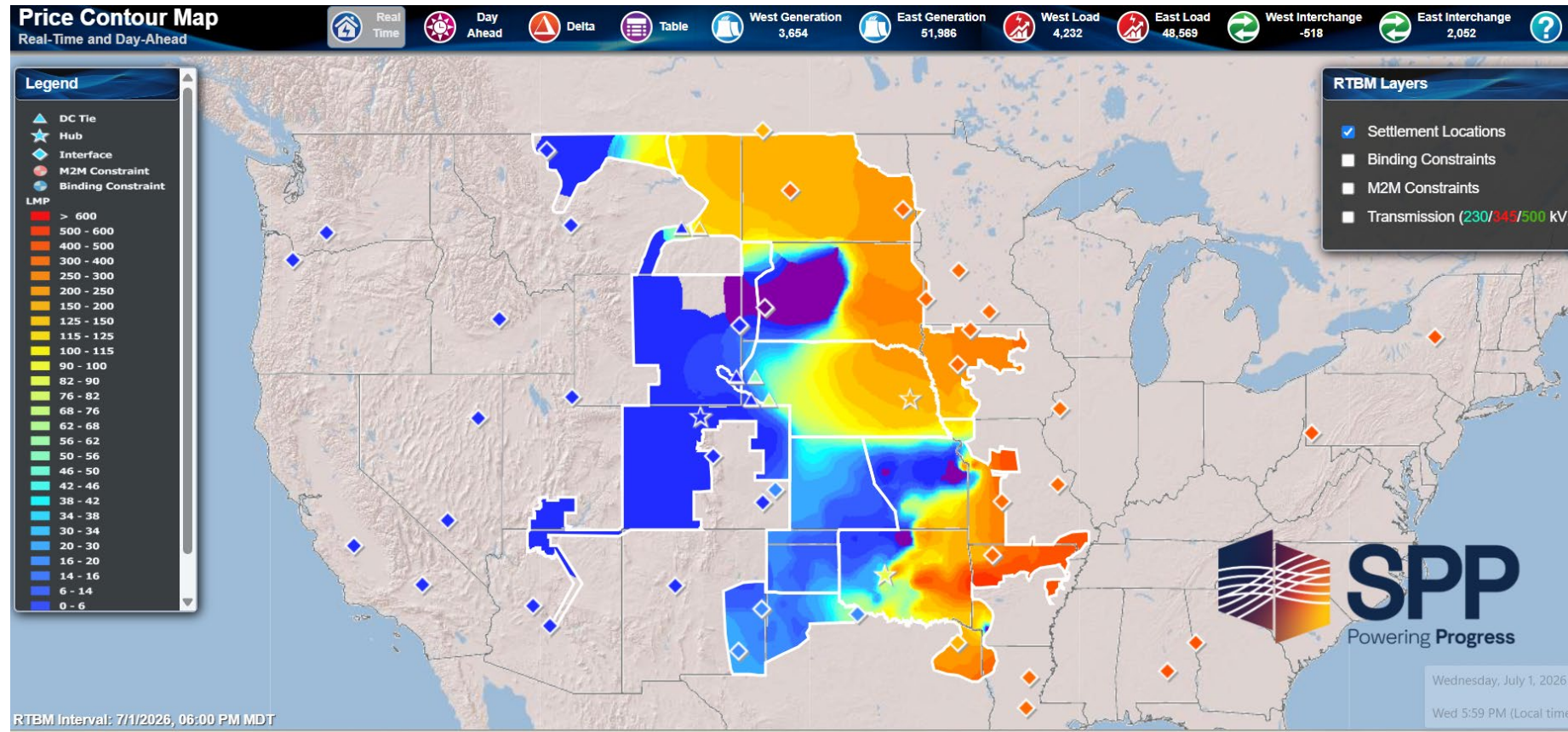


RTO Impacts, continued

- CRSP HUB: Ability for CRSP to purchase replacement energy into SPP RTO footprint when conditions exist.
 - Example: lack hydropower / environmental impacts to serve Firm Electric Service (FES).
- SPP RTBM (Realtime Balancing Market) versus Contractual Agreements with BOR/WACM BA.
 - Example: regulation up and down requirements.
- Outage coordination efforts with SPP.
 - Example: Control Room Operations Window (CROW) tool.
- EMMO displays developed (PI Vision) showing status of generator input/output scheduled to SPP Market.
- Communication efforts between BOR and EMMO increased.
- EMMO reporting BOR info directly to the SPP Market Operators.



How is SPP RTO Performing?



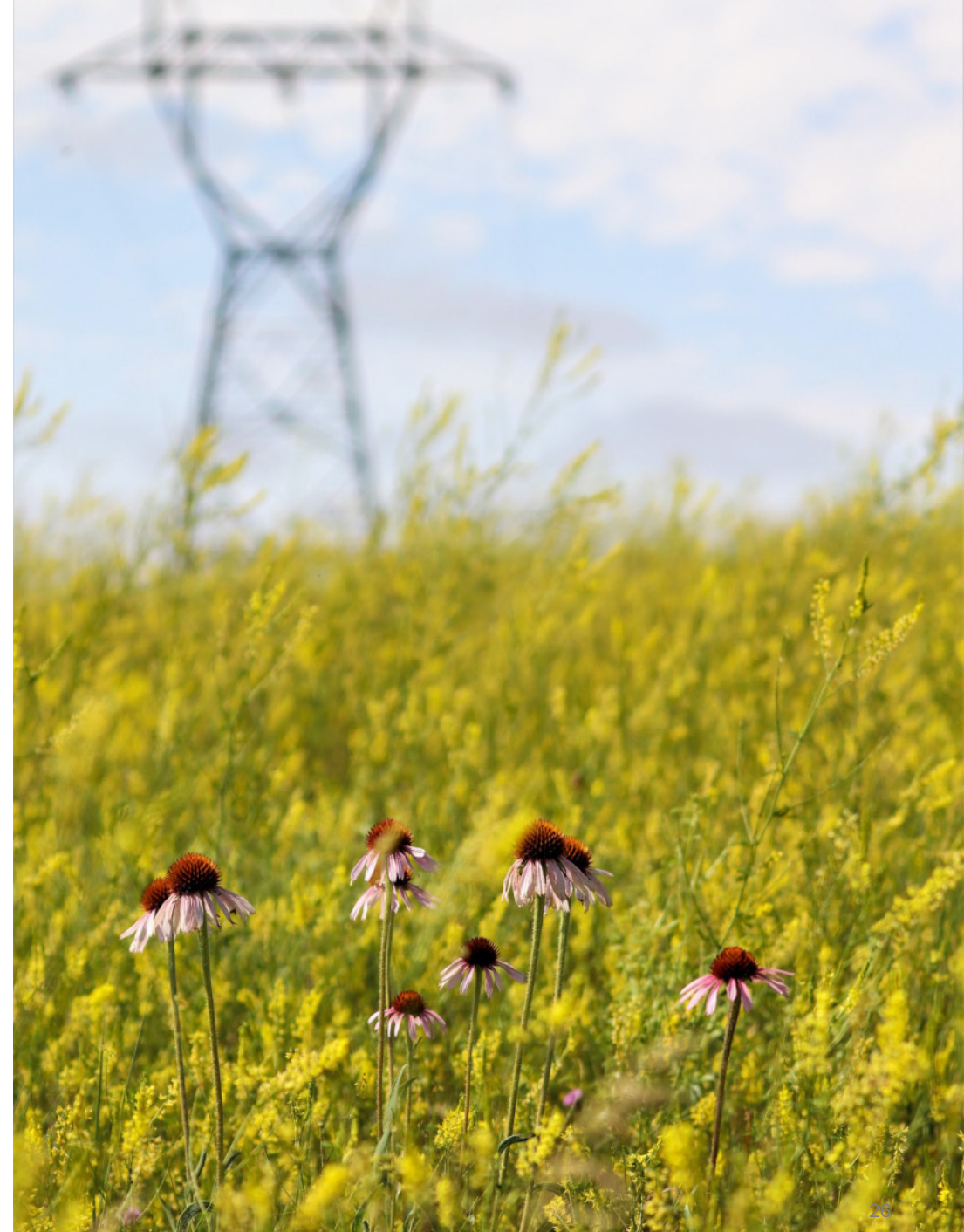
- Considering all the levels of complexity in Full Market, it is best to understand “LMP”.
- Locational Marginal Price. Formula: $MEC + MCC + MLC = LMP$. (Marginal Energy Component + Marginal Congestion Component + Marginal Loss Component)



Locational Marginal Price

The Southwest Power Pool (SPP) defines **Locational Marginal Price (LMP)** as the market-clearing price for energy at a given pricing node (PNode). It represents the exact cost to serve the next incremental megawatt (MW) of demand at that specific location while satisfying all system security and operating reserve requirements.

SPP calculates LMPs every 5 minutes using a **Security Constrained Economic Dispatch (SCED)** algorithm.



Market Prices – CRSP

Average LMP at Glen Canyon Settlement Location:

April SPP average LMP mw/hr: **\$24.11**

May SPP average LMP mw/hr: **\$23.14**

June SPP average LMP mw/hr: **\$23.61**



Looking Back and Moving Forward

Changes are all around us when it comes to Markets.

- May 1, 2026, PacificCorp (PACE) and (PACW) entered CAISO Extended Day Ahead Market known as (EDAM).
- This change along with SPP RTO Expansion had significant changes to a lot our Firm Electric Service customers.
- EMMO made huge efforts to ensure that the SPP Market and the CAISO EDAM configurations transitioned smoothly without implications in Day Ahead e-tagging process.



Looking Back and Moving Forward, continued

- Markets are the wave of the future in West!
- SPP launching Markets+. SPP Day Ahead Market/Realtime Unit commitment and economic dispatch across the West Interconnect. Go Live anticipated to happen October 2027.
- Others are moving towards already in place CAISO EDAM.
- All of which impacts CRSP and our FES customers.
- CRSP Team will continue to provide the customer support during this and other major transitions.
- Thank you for your time today.



Contact WAPA

**Jonathan Wilson,
Energy Management &
Marketing Office Manager**

Wilson@wapa.gov

WEBSITE

wapa.gov

LINKEDIN

western-area-power-administration



HYDROLOGY AND UPDATES

NICK WILLIAMS

Bureau of Reclamation
Upper Colorado Basin
Power Manager



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Colorado River Basin Hydrology and Operations

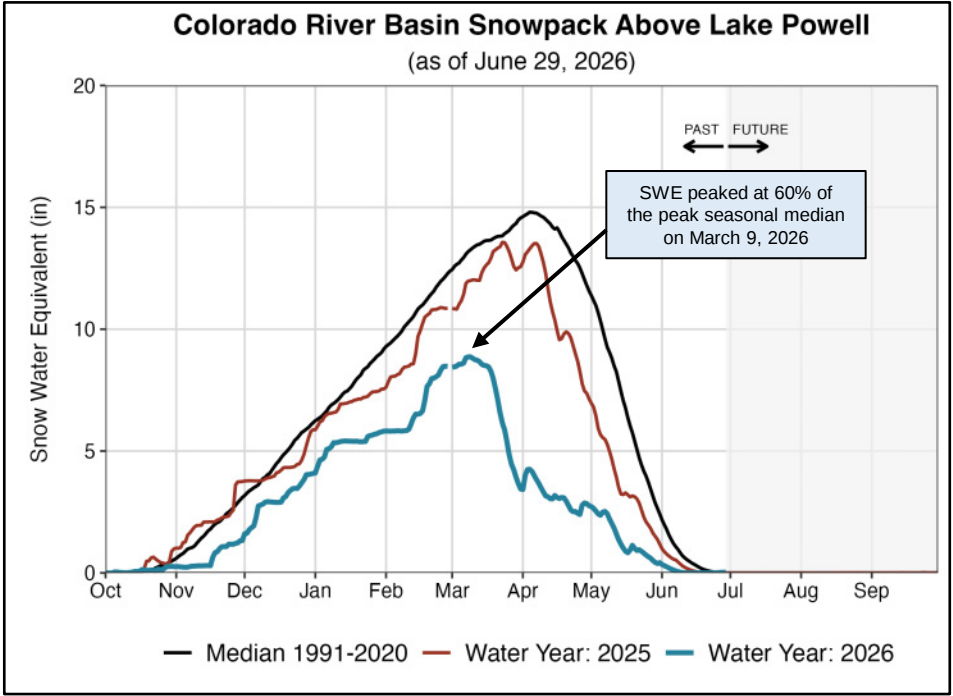
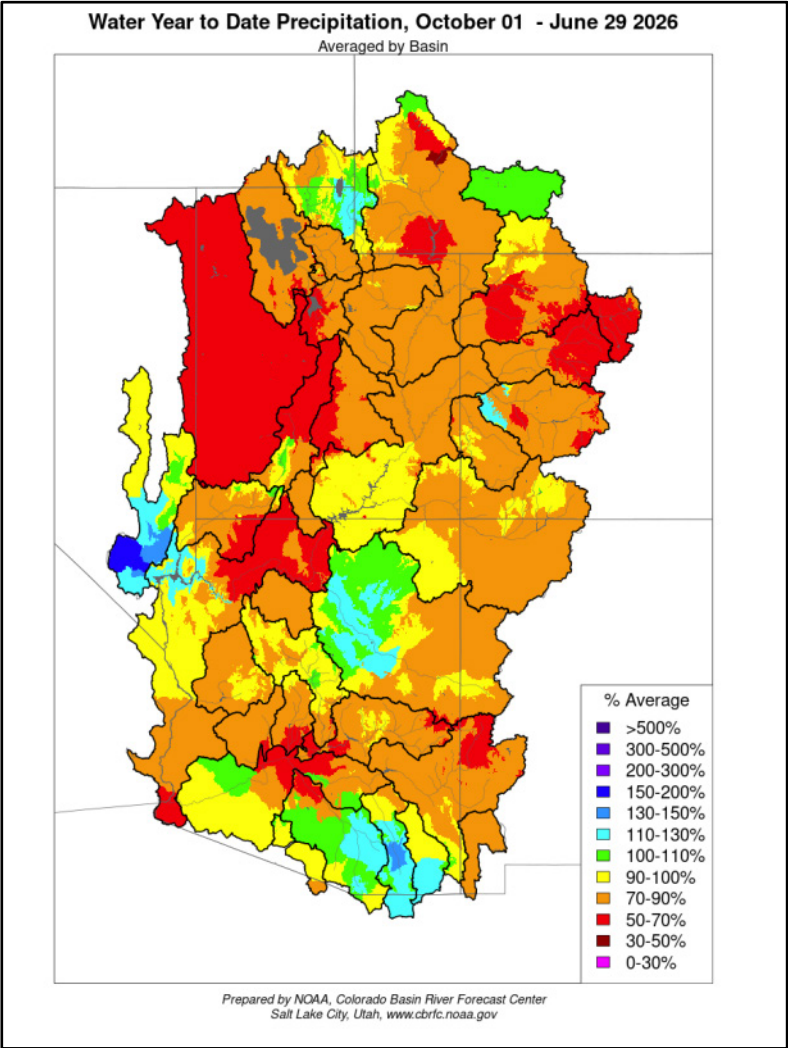
CRSP Management Center
Annual Customer Meeting
July 15, 2026

Water Year Snowpack and Precipitation¹ as of June 29, 2026

Colorado River Basin
above Lake Powell

Water Year 2026
Precipitation
(year-to-date)
80% of normal

Current Snowpack
N/A



Available online at [CBRFC's website](http://www.cbrfc.noaa.gov).



¹Statistics are based on the 30-year period of record from 1991-2020.

Upper Colorado Spring Runoff Forecast

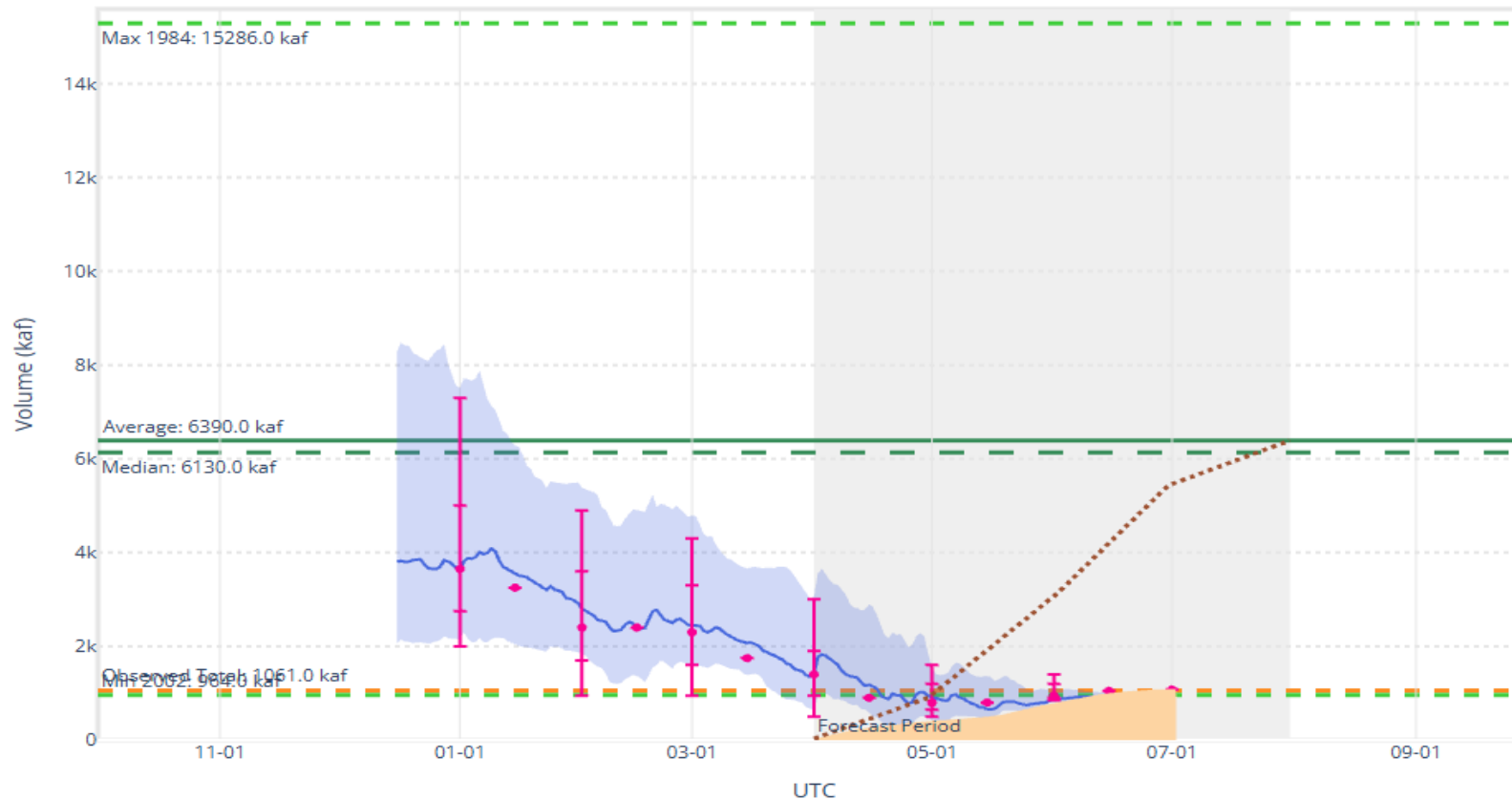
2026 Water Supply Forecast - Colorado - Lake Powell, Glen Cyn Dam, At (GLDA3)

ESP is Unregulated and No Precipitation Forecast Included

Official 50% Fcst (2026-07-01): 1080 kaf (17% Avg, 18% Med), (1% of Yrs Below Fcst, 62 Highest Flow / 62 Tot Yrs)

ESP 50% Fcst (2026-07-02): 1015 kaf (16% Avg, 17% Med), (1% of Yrs Below Fcst, 62 Highest Flow / 62 Tot Yrs)

Observed Volume: 1061 kaf (17% Average, 17% Median)



Recent Spring Runoff Totals (maf):

2020: 3.758

2021: 1.850

2022: 3.751

2023: 10.619

2024: 5.327

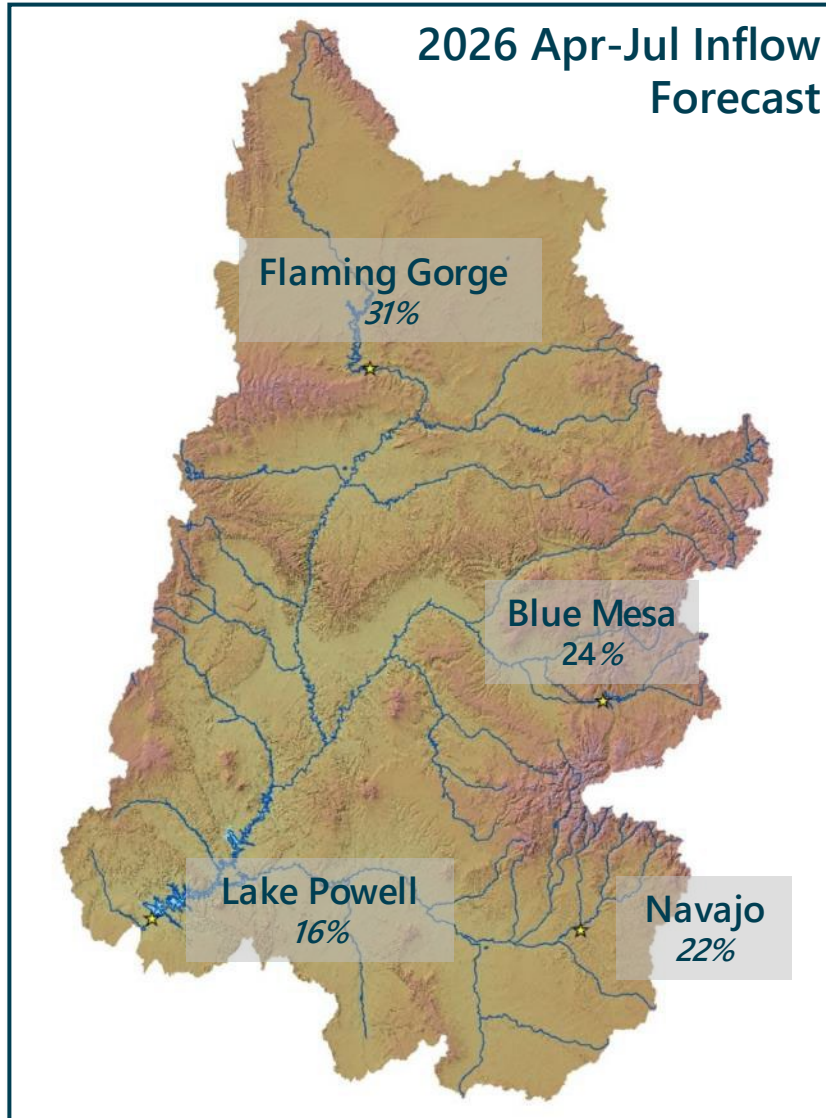
2025: 2.635

2026: 1.080



CBRFC Unregulated Inflow Forecast

Dated June 16, 2026



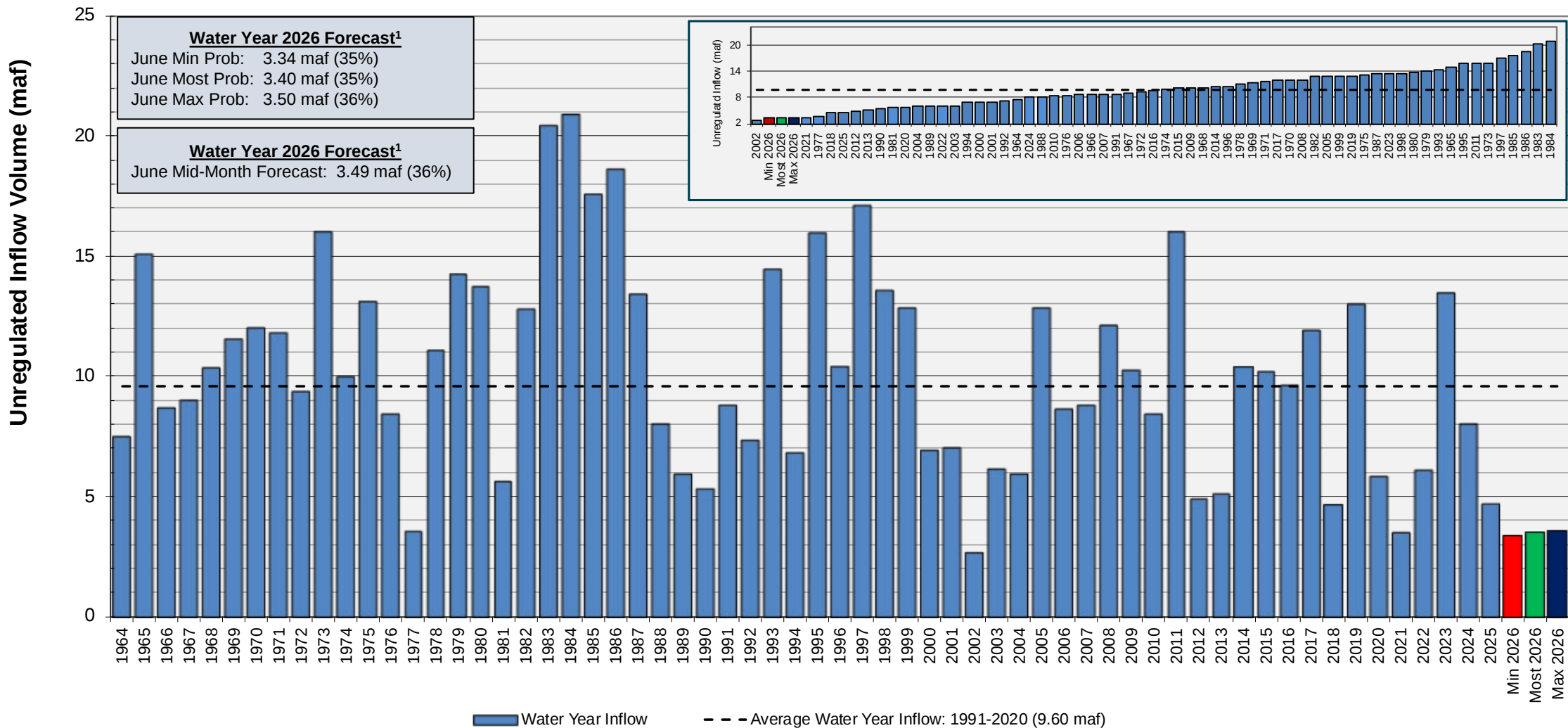
Powell Unregulated Inflow Forecast		
Month/Period	Inflow (kaf)	Percent of Average ¹
May 2026 (Observed)	383	18
Jun 2026	270	11
Jul 2026	25	3
Aug 2026	70	19
Apr-Jul 2026	1,050	16
WY 2026	3,491	36

¹Statistics are based on the 30-year period from 1991-2020.



Lake Powell Water Year Unregulated Inflow

as of June 16, 2026
Comparison with History



¹Water Year statistics are based on the 30-year period of record from 1991-2020.



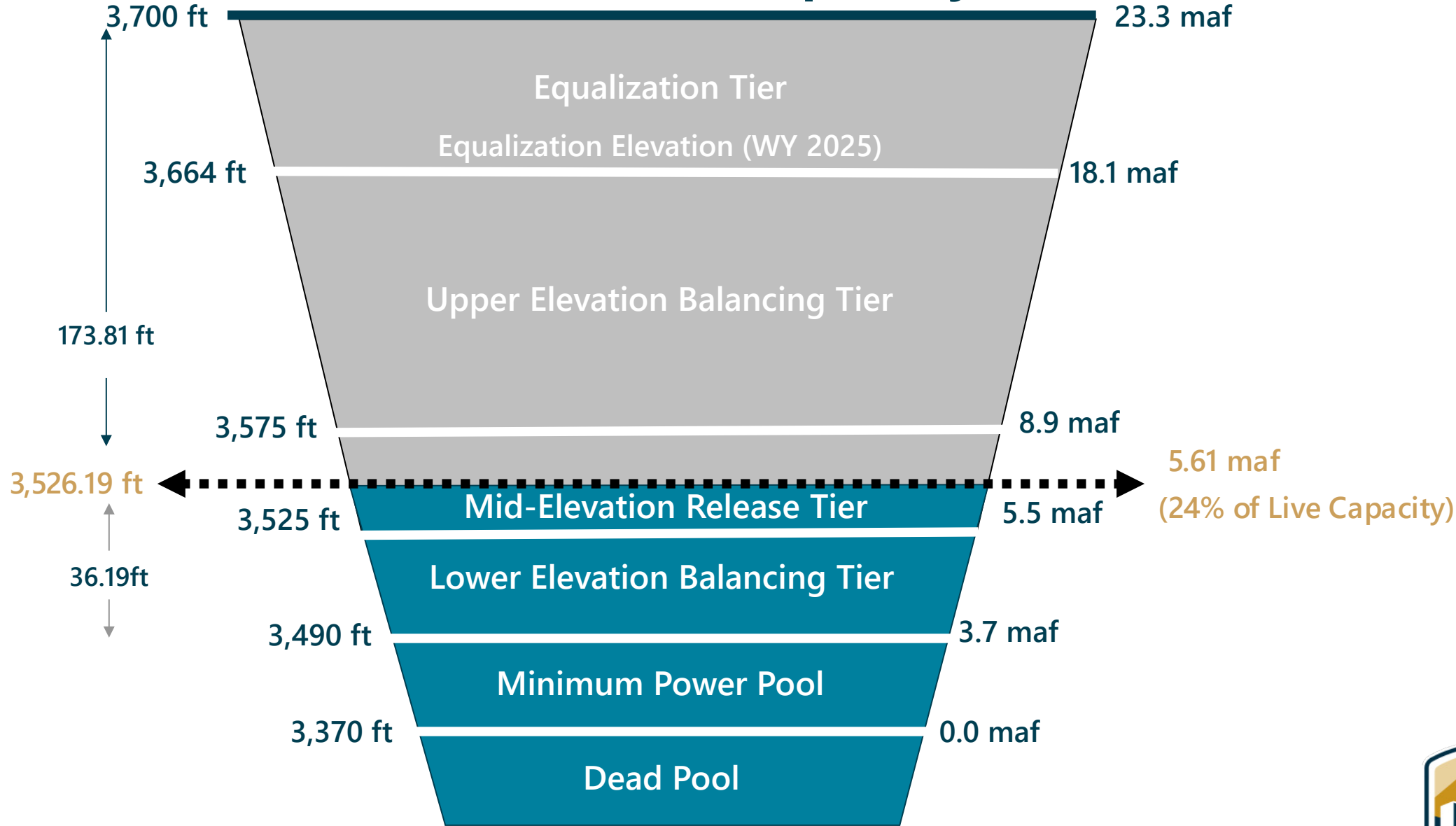


Upper Colorado Basin

Projected Operations for Water Years 2026-2027



Lake Powell Capacity



Not to scale

As of June 28, 2026



Drought Response Operations Agreement (DROA)

- Planning triggered in the July 2025 24-Month Study
- First consideration under DROA is monthly release adjustments at Glen Canyon Dam
- The November 2025 24-Month Study incorporated the monthly adjustments from December 2025 to April 2026
- March 24-Month Study projections indicate additional actions are needed to be implemented this water year
- The exact volume of additional water – or which Upper Initial Unit reservoirs - has not been determined
- Planning, consultation, and coordination with Upper and Lower Basin States, reservoir working groups, and basin partners is underway and will continue



DROA

- Upper Initial Unit Releases:
 - Flaming Gorge: ~660,000 acre-feet to ~1 million acre-feet
 - Blue Mesa: No uncontracted water available; will reevaluate WY 27
 - Navajo: No uncontracted water available; will reevaluate WY 27
- Coordination among DROA Parties
- Implemented April 23
- 2026 Plan available on website at:
 - www.usbr.gov/ColoradoRiverBasin/dcp/droa



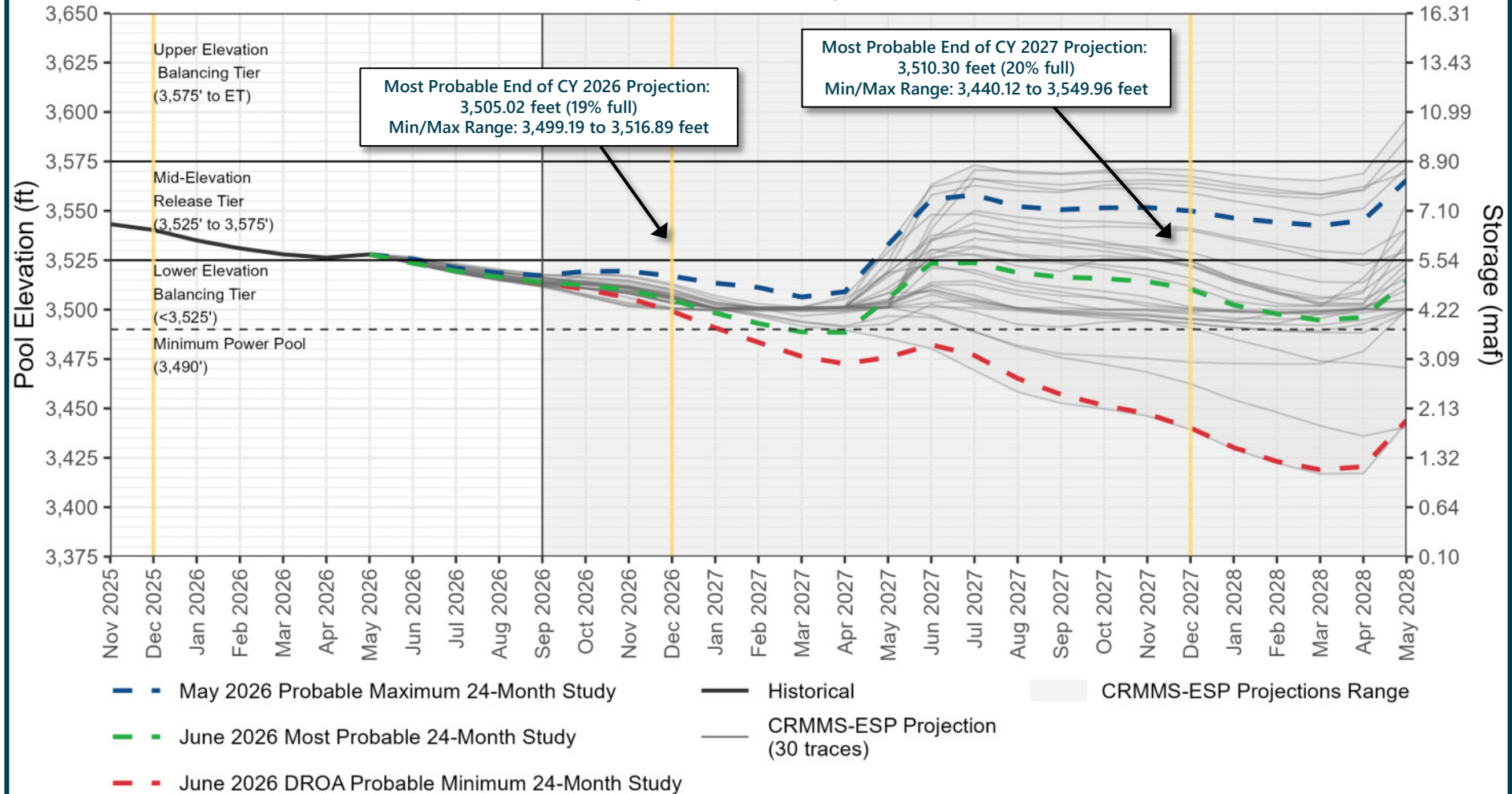
Section 6(E) Coordination

- The September 2025 24-Month Study showed the potential for Lake Powell elevations to go below elevation 3,500 feet within the following 12-month period under the “probable minimum” hydrologic scenario.
- Meets conditions in Section 6(E) of the 2024 SEIS ROD where “the Secretary shall begin planning to reduce releases, as needed, to not less than 6.0 maf from Lake Powell in the Water Year to maintain an elevation of 3,500 feet.”
- Section 6(E) of the 2024 SEIS ROD also specifies that “Reclamation will consider all tools that are available” to keep Lake Powell elevations above 3,500 feet before considering reduced releases.
- SEIS requires Reclamation to coordinate any additional operating decisions made under the 2024 SEIS ROD with representatives from Basin States, Basin Tribes, Mexico, and other Basin partners.
- Reclamation initiated reducing WY 2026 Lake Powell releases from 7.48 maf to 6.0 maf on April 23, 2026.



Lake Powell End-of-Month Elevations^{1,2}

CRMMS Projections from May and June 2026



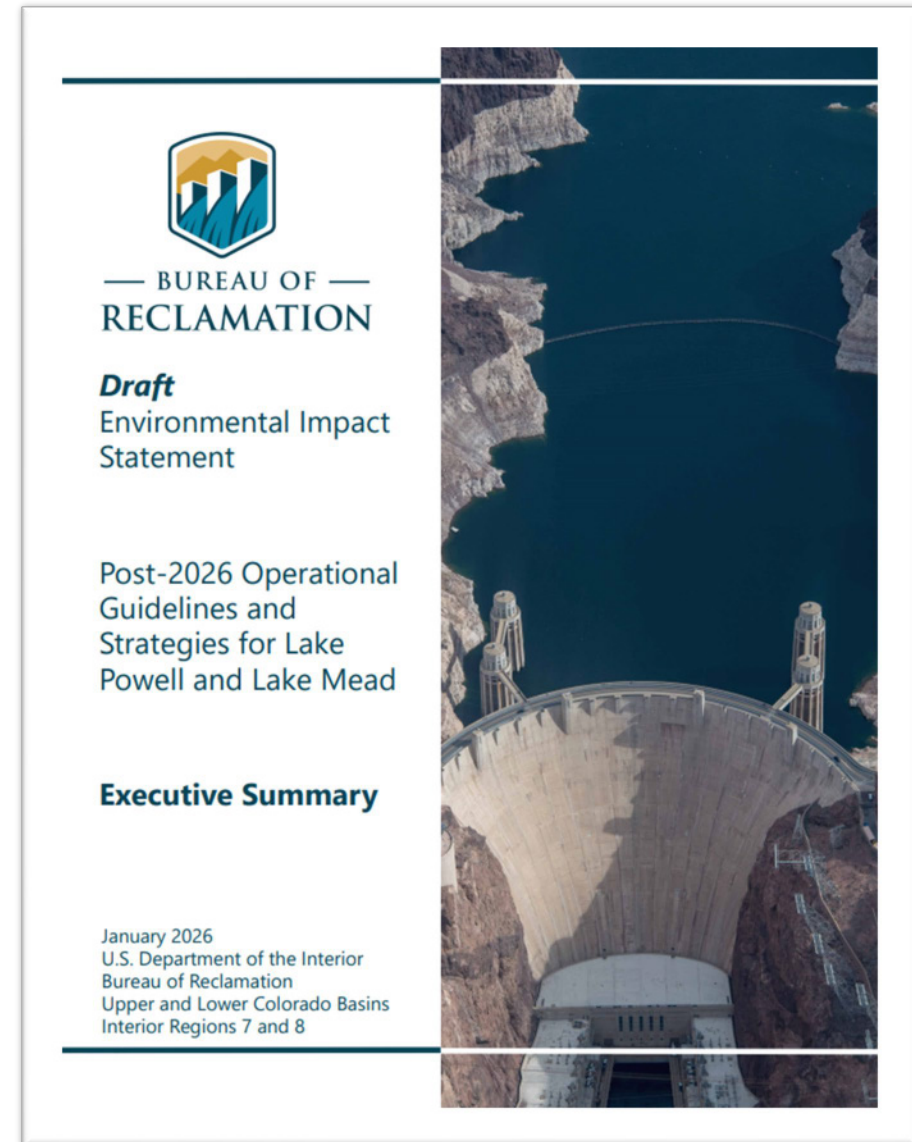
¹For modeling purposes, simulated years beyond 2026 assume a continuation of the 2007 Interim Guidelines including the 2024 Supplement to the 2007 Interim Guidelines (no additional SEIS conservation is assumed to occur after 2026), the 2019 Colorado River Basin Drought Contingency Plans, and Minute 323 including the Binational Water Scarcity Contingency Plan. With the exception of certain provisions related to ICS recovery and Upper Basin Demand management, operations under these agreements are in effect through 2026.

²In water year 2026, Reclamation will reduce the annual release volume from Lake Powell to Lake Mead to 6.0 maf through September 2026 by implementing Section 6.E. of the Supplement to the 2007 Colorado River Interim Guidelines (Interim Guidelines SEIS). Beyond water year 2026, for modeling purposes, this graphic contains existing operational assumptions built into CRMMS that constrain Glen Canyon Dam releases, to prevent Lake Powell from falling below elevation 3,500 feet. As described in Sections 6.E and 7. B of the Interim Guidelines SEIS, Reclamation will consider all tools that are available to avoid Lake Powell elevation declining below 3,500 feet and any actual constraining of Lake Powell releases is subject to appropriate consultation between Reclamation and other Basin partners with respect to the implementation of potential releases. Whereas, the Probable Minimum scenario shows Lake Powell elevations without any Glen Canyon Dam release constraints, beyond water year 2026, so Reclamation and Basin partners can assess the hydrology and be prepared to discuss appropriate solutions.



Draft EIS Publication and Public Engagement

- Published online on January 9, 2026 and to the Federal Register on January 16, 2026
- 45-day public comment period ended March 2
- Available at <https://www.usbr.gov/ColoradoRiverBasin/post2026/draft-eis/index.html>
- Figure viewer
- [CRB Post-2026 Draft EIS Figure Viewer - https://eisviewer.crbpost2026dmdmdu.org/](https://eisviewer.crbpost2026dmdmdu.org/)



Preliminary Preferred Alternative – Background

- The Department is developing this Preferred Alternative at a time of unprecedented risk and uncertainty in the Basin due to continued drought and climate variability with Lake Powell and Lake Mead at historically low levels
- This year the Department took extraordinary action to protect critical infrastructure and maintain system integrity
- Upper and Lower Basins have not reached consensus and there is no Basin-wide consensus on future operating guidelines at this time
- We believe the preliminary Preferred Alternative is the most effective approach to balancing the Basin's need for certainty, reliability and stability under current conditions and absent a consensus proposal
- The Record of Decision will be used to develop operational guidelines to implement the Long-Range Operating Criteria (LROC) through issuance of the Annual Operating Plan (AOP)



Preliminary Preferred Alternative – Overview

- Provides a 10-year framework to be used by the Department to issue operational guidelines at regular intervals - every 2 years - through a defined process
- Includes stated principles and sideboards that will be used to guide the development of the operational guidelines and that would not change throughout the 10-year term
- Allows for the incorporation of consensus recommendation(s) should they arise
- Establishes a defined framework that ensures a transparent and credible process to develop operational guidelines
- Utilizes the NEPA compliance from the Final EIS so long as guidelines operations are within sideboards of the analyzed EIS range





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2026 HFE

- Decision was made to defer June HFE
- Will model and consider an HFE in the fall (October or November)
- HFE protocol allows for carry over of sediment from one year to the next.
- Very likely that sediment trigger will be met in fall.

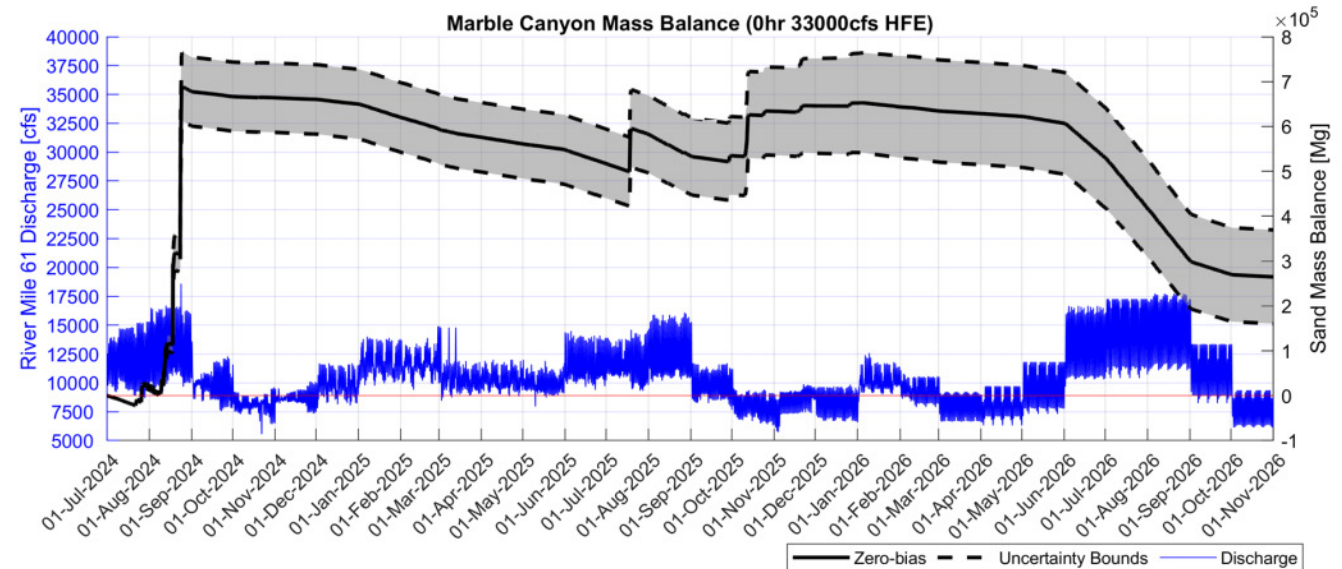


Figure 1. HFE mass balance through the end of the calendar with no HFE.

LTEMP SEIS

- ROD signed July 3, 2024
- Cool mix flows 2024
 - Jul 9 – Nov 18
 - 893,919 af, 372,341 MWh
- Cool mix flows 2025
 - Aug 3-5, 12 – Oct 20
 - 376,119 af, 145,227 MWh
- No observed recruitment of SMB



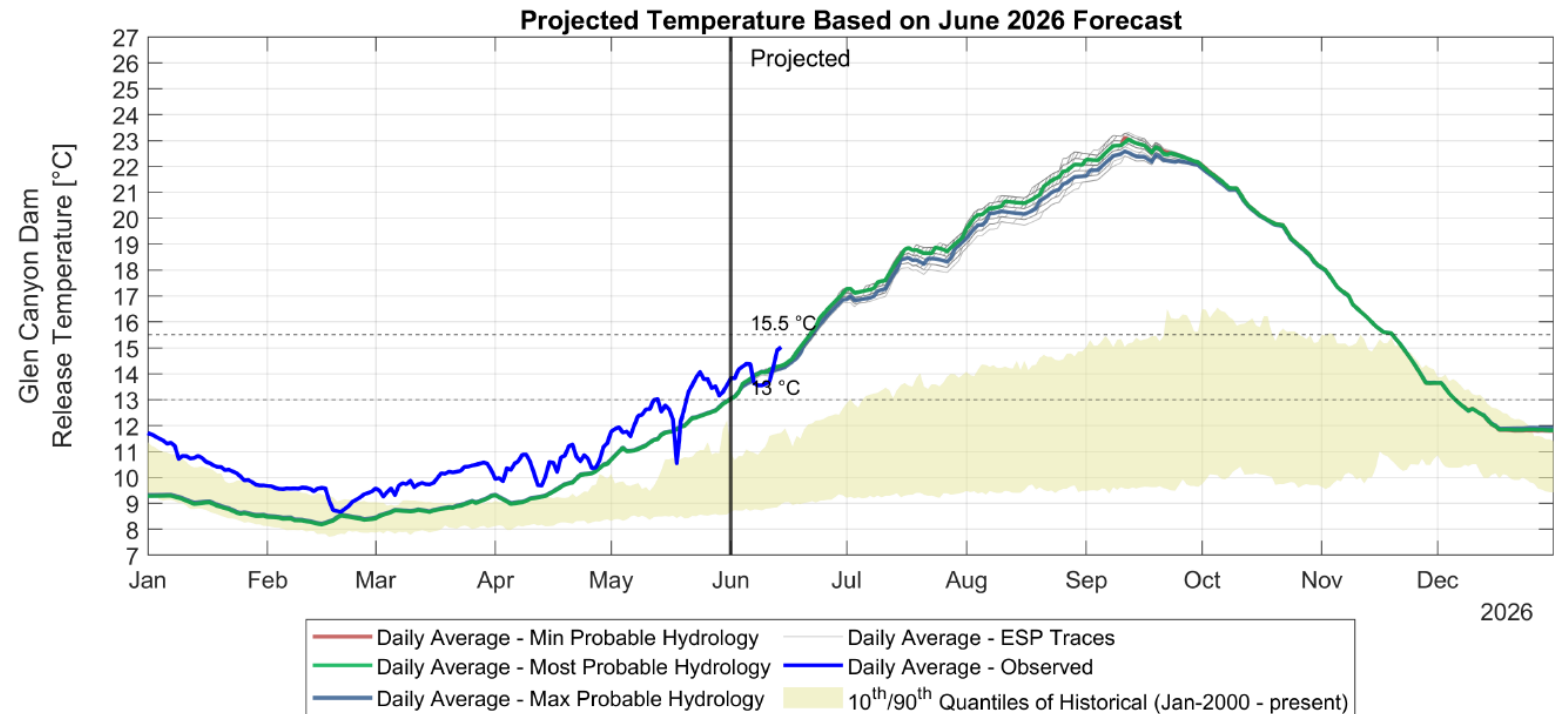


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2026 Cool Mix

Glen Canyon Dam Release - Projected Temperature (*Eppehimer et al, 2024 model)

- 2026 outlook = highest post dam temperatures on record
- As of 07/02 – No decision on Cool Mix Flows.
- Temperatures downstream of GCD exceeded 15.5 beginning mid-June



* <https://doi.org/10.1101/2024.01.23.576966>

Projected release temperatures at Glen Canyon Dam based on the May 24-month study.

Questions?

Nick Williams
nwilliams@usbr.gov
(801)524-3745



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RECLAMATION

RATES UPDATE

TAMALA GHELLER

Rates Manager



2024 SLCA/IP Firm Power Rate

	WAPA-206
Effective:	January 1, 2024
Expires:	December 31, 2028
Timing:	FERC Docket No. EF24-1-000 (June 12, 2024)
Rate Schedule:	SLIP F-13
Work Plan (FY):	2025
Pinch Point Year:	2045
Years to Pinch-point:	22
Composite Rate (mill/kWh):	31.38
Energy Rate:	12.36 mills/kWh
Capacity Rate:	\$5.25/kW-month
Rate Order WAPA-206 webpage https://www.wapa.gov/about-wapa/regions/crsp/rates/rate-order-206/	
CRSP Rates webpageRate Order https://www.wapa.gov/about-wapa/regions/crsp/rates/	



WAPA-206 Rate Schedules

January 1, 2024 – December 31, 2028

Rate Schedules under Rate Order No. WAPA-206	
SLIP-F13	Schedule of Rates for Firm Power Service
SP-SS2	Sale of Surplus Products
Rate Schedules Superseded by Rate Order No. WAPA-220 (as of April 1, 2026) FERC Docket No. - EF24-1-001 NOF	
SP-EI6	Energy Imbalance Service
SP-NF9	Non-Firm Point-to-Point Transmission Service
SP-NW6	Network Integration Transmission Service
SP-PTP10	Firm Point-To-Point Transmission Service
SP-SSR6	Operating Reserves – Spinning and Supplemental Reserve Services
SP-UU3	Unreserved Use Penalties
SP-NFJDT	Joint Dispatch Transmission Service



History of SLIP Rates

Effective Date (CY)	Rate Schedule	Capacity \$/kW	Energy mills/kWh	Composite mills/kWh
1992	F-4	3.54	8.40	18.70
1994	F-5	3.83	8.90	20.17
1998	F-6	3.44	8.10	17.57
2002	F-7	4.04	9.50	20.72
2006	F-8	4.43	10.43	25.28
Step 1 { 2008	F-9	4.70	11.06	26.80
Step 2 { 2009 (FY10)	F-9	5.18	12.19	29.62
2015	F-10	5.18	12.19	29.42
2020	F-11	4.85	11.43	27.45
2021	F-12	5.25	12.36	30.51
2024	F-13	5.25	12.36	31.38





2025 Status of Repayment



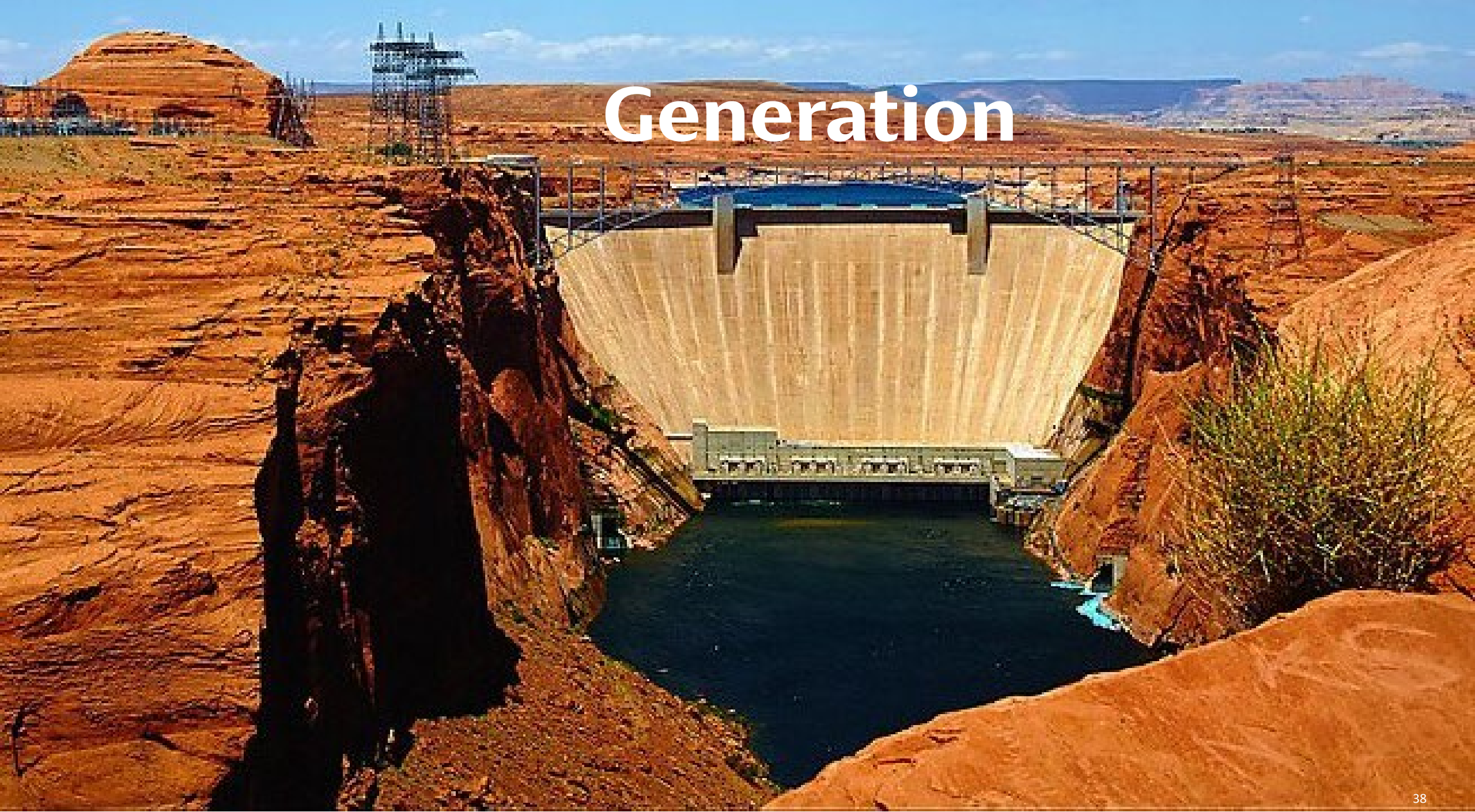
Status of Repayment

SLCA/IP Status of Repayment as of September 30, 2025

FY:	2025 – Final Power Repayment Study			2025 – WAPA-206 Rate-Set Power Repayment Study		
Project	Investment (\$thousand)	Repaid (\$thousand)	% Repaid %	Investment (\$thousand)	Repaid (\$thousand)	% Repaid %
CRSP (Power Only)	1,572,892	1,427,150	90.73%	1,631,542	1,364,231	83.62%
CRSP Irrigation/Aid	890,886	249,686	28.03%	888,411	249,686	28.10%
Collbran	28,509	24,398	85.61%	29,638	24,392	82.30%
Dolores	39,445	39,445	100.00%	39,638	39,304	99.16%
Rio Grande	30,958	26,091	84.28%	37,385	25,328	67.75%
Seedskaadee	14,469	14,469	100.00%	17,428	14,795	84.89%



Generation



SLCA/IP Energy Generated

Percentages Based on FY 2025 Data

	FY 2025 Generated - MWh	FY 2025 % of Generation
Glen Canyon	2,792,334	72.68%
Flaming Gorge	343,896	8.95%
Aspinall	611,547	15.92%
CRSP	3,747,777	97.55%
Dolores	10,293	0.27%
Seedskadee	45,298	1.18%
Collbran	22,072	0.57%
Rio Grande	16,601	0.43%
Participating / Integrated Projects:	94,263	2.45%
Total Generation:	3,842,040	100.00%



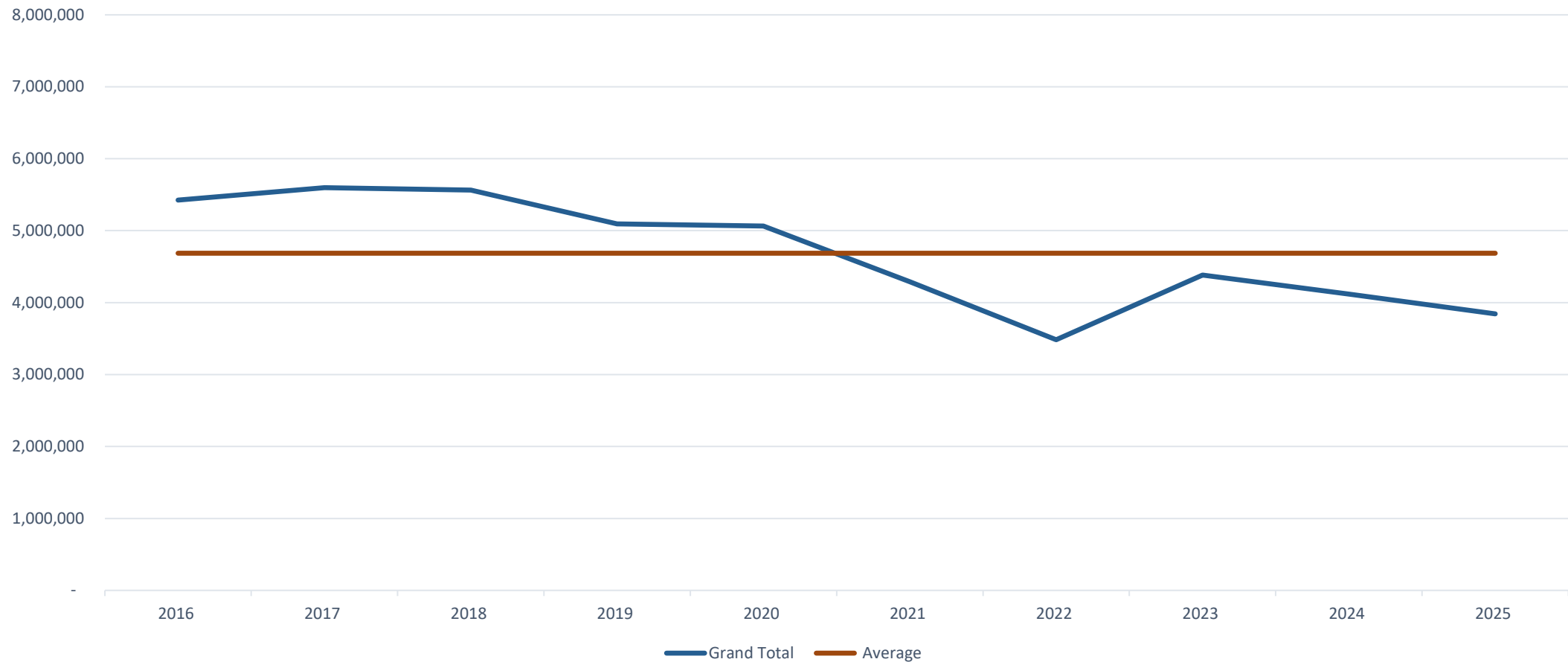
SLCA/IP Energy Generated

10 Year Historical (MWh)

Fiscal Year	Collbran	CRSP	Dolores	Rio Grande	Seedskadee	Grand Total
2016	41,069	5,266,922	22,923	43,433	51,886	5,426,234
2017	37,760	5,459,474	23,200	45,218	31,918	5,597,570
2018	22,796	5,419,880	13,875	39,524	66,662	5,562,738
2019	45,007	4,924,692	21,385	47,702	56,862	5,095,648
2020	32,670	4,891,082	22,187	53,695	64,801	5,064,435
2021	8,874	4,228,623	7,862	14,534	29,724	4,289,617
2022	31,993	3,378,705	8,560	18,241	46,337	3,483,837
2023	50,646	4,208,190	19,097	51,552	53,230	4,382,716
2024	36,010	3,950,595	13,300	57,745	60,278	4,117,927
2025	22,072	3,747,777	10,293	16,601	45,298	3,842,040
Grand Total	328,897	45,475,941	162,683	388,244	506,997	46,862,762



SLCA/IP Energy Generated 10 Year Historical (MWh)



CRSP TRANSMISSION RATE

CINDY TAFOYA
Rates Specialist



Rate Schedules under Rate Order No. WAPA-220

Effective April 1, 2026

CRCMT-ATRR – Annual Transmission Revenue Requirement (ATRR) for Transmission Service under SPP

CRCMT-AS1 – Annual Revenue Requirement for Scheduling, System Control, & Dispatch (SSCD) Service under SPP

CRCMT-PTP – Firm Point-to-Point Transmission Service

- Used to define the revenue requirement for Southern Division reservations from Glen Canyon to Pinnacle Peak

Rate Schedules located at:

CRSP Rates Webpage\Rate Order Index\WAPA-220:

- <https://www.wapa.gov/about-wapa/regions/crsp/rates/>



CRCM OASIS\Rates\2025 WAPA Order 220\Final

- <https://www.oasis.oati.com/CRCM/index.html>

Annual Transmission Revenue Requirement Collected from SPP under Rate Schedule 11

Item	FY26 Final Rate Oct 2025 - March 2026	CRSP ATRR Presented at Protocol	WAPA-CRSP ZONE 103
<u>Net Annual Transmission Revenue Requirement</u>	\$ 110,157,341	\$ 101,475,165	\$ 17,508,811
<u>Transmission System Load:</u>	5,149,134		327.41
<u>Firm Point-to-Point Transmission Rate in \$/kW:</u>			
kW-year	\$ 21.39337		\$ 134.02
kW-month	\$ 1.78278		\$ 11.17
kW-week	\$ 0.41141		\$ 2.58
kW-day	\$ 0.05861		\$ 0.37
mills/kwh	\$ 2.44		\$ 15.30



Annual Revenue Requirement for SSCD Service Collected from SPP under Rate Schedule 1

Description	WAPA-CRSP Zone (CRSPZ)
Cost of Capital (Interest) (\$)	\$ 21,665
O&M (\$)	\$ 3,492,277
O&M Software (\$)	\$ 0
A&G (\$)	\$ 1,032,556
Transmission Exp by Others	\$ 0
Annual Depreciation (\$)	\$ 13,056
Gross ARR (\$)	\$ 4,559,553



ATRR for Firm Point-to-Point Transmission Service

***Used to define the revenue requirement for Southern Division reservations from Glen Canyon to Pinnacle Peak**

Glen Canyon to Pinnacle Peak PTP ATRR		FY2026 PTP under new formula (using FY24 cost data)
GC to PPK ATRR		\$2,545,224
Revenue Credits ^{1/}		\$0
Subtotal		\$2,545,224
Prior-Period True-up		\$0
Net ATRR		\$2,545,224
Transmission System Load (kW)		107,000
kW-month		\$1.98
MW-hour		\$2.72
1/If the GCA is implemented, Revenue Credits will be applied as applicable		



WAPA-CRSP Protocol Schedule

Rate Year

January 1, 2027 – December 31, 2027

Action	Begin	End	Calendar Days from date of Publication
Publication Date		Sept. 1, 2026 *	
Annual Meeting of Interested Parties **Scheduled for September 16, 2026**		Sept. 21, 2026 *	Within 20
Information Request Due Date	Sept. 1, 2026 *	Oct. 15, 2026	~45
Informal Challenges Due Date		Nov. 15, 2026	~75
Final Posting		Dec. 15, 2026 *	~105
Formal Challenge Due Date		Jan. 15, 2027	



FY 2026 CRSP Preliminary Power Repayment Study (PRS)



SLCA/IP FY 2026 Preliminary PRS

Workplans

- WAPA - FY 2028
- Reclamation - FY 2027

FY 2026 Interest Rate for Projected Replacements

- Coupon Rate – 3.196%
 - CRSP
 - Dolores
 - Seedskadee
- Yield Rate – 4.733%
 - Collbran
 - Rio Grande

2026-2030 5-year Generation projections based on the 2026 June CRMMs



Annual Revenue Requirements Comparison Table

(values in 1,000s)

Item	Unit	WAPA-206	FY 2026 Prelim	Change	
		2025 Workplan	WAPA 2028 Reclamation 2027 Workplan	Amount	Percent
Rate Setting Period:					
Beginning year	FY	2024	2026		
Pinchpoint year	FY	2045	2045		
Number of rate setting years	Years	22	20		
Annual Revenue Requirements:					
<u>Expenses</u>					
Operation and Maintenance:					
WAPA	1,000	\$67,954	\$77,128	\$9,174	13.5%
Reclamation	1,000	\$43,594	\$49,933	\$6,339	14.5%
Total O&M	1,000	\$111,548	\$127,061	\$15,513	13.9%
Purchased Power	1,000	\$1,136	\$1,250	\$114	10.0%
Transmission	1,000	\$7,000	\$10,693	\$3,693	52.8%
Integrated Projects requirements	1,000	\$7,501	\$8,602	\$1,101	14.7%
Interest	1,000	\$11,152	\$14,254	\$3,102	27.8%
Other	1,000	\$13,508	\$14,352	\$844	6.2%
Total Expenses	1,000	\$151,845	\$176,212	\$24,367	16.0%
Principal payments					
Deficits	1,000	\$0	\$0	\$0	0.0%
Replacements	1,000	\$13,702	\$8,281	(\$5,421)	-39.6%
Original Project and Additions	1,000	\$936	\$251	(\$685)	-73.2%
Irrigation	1,000	\$13,756	\$10,357	(\$3,399)	-24.7%
Total principal payments	1,000	\$28,394	\$18,889	(\$9,505)	-33.5%
Total Annual Revenue Requirements	1,000	\$180,239	\$195,101	\$14,862	8.2%
(Less Offsetting Annual Revenue:)					
Transmission (firm and non-firm)	1,000	\$19,165	\$29,543	\$10,378	54.2%
Merchant Function	1,000	\$6,797	\$8,585	\$1,788	26.3%
Other	1,000	\$5,043	\$13,875	\$8,832	175.1%
Total Offsetting Annual Revenue	1,000	\$31,005	\$52,003	\$20,998	67.7%
Net Annual Revenue Requirements	1,000	\$149,234	\$143,098	(\$6,136)	-4.1%
Energy Sales	MWH	4,755,255	3,720,798	(1,034,457)	-21.8%
Capacity Sales	kW	1,434,905	1,438,685	3,780	0.3%
Composite Rate	mills/kWh	31.38	38.46	7.08	22.5%
Energy Rate	mills/kWh	12.36	12.94	0.58	4.7%
Capacity Rate	kW-month	5.25	5.50	0.25	4.7%



SLCA/IP Preliminary FY26 - Expenses

(Values in 1,000s)

		WAPA-206	FY 2026 Prelim	Change	
Item	Unit	2025 Workplan	WAPA 2028 Reclamation 2027 Workplan	Amount	Percent
Annual Revenue Requirements:					
<u>Expenses</u>					
Operation and Maintenance:					
WAPA	1,000	\$67,954	\$77,128	\$9,174	13.5%
Reclamation	1,000	\$43,594	\$49,933	\$6,339	14.5%
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Transmission	1,000	\$7,000	\$10,693	\$3,693	52.8%
Integrated Projects requirements	1,000	\$7,501	\$8,602	\$1,101	14.7%
Interest	1,000	\$11,152	\$14,254	\$3,102	27.8%
Other 2/	1,000	\$13,508	\$14,352	\$844	6.2%
Total Expenses	1,000	\$151,845	\$176,212	\$24,367	16.0%



SLCA/IP Preliminary FY 26 - Repayment

(Values in 1,000s)

		WAPA-206	FY 2026 Prelim	Change	
Item	Unit	2025 Workplan	WAPA 2028 Reclamation 2027 Workplan	Amount	Percent
<i>Principal payments</i>					
Deficits	1,000	\$0	\$0	\$0	0.0%
Replacements	1,000	\$13,702	\$8,281	(\$5,421)	-39.6%
Original Project and Additions	1,000	\$936	\$251	(\$685)	-73.2%
Irrigation 3/	1,000	<u>\$13,756</u>	<u>\$10,357</u>	<u>(\$3,399)</u>	<u>-24.7%</u>
Total principal payments	1,000	\$28,394	\$18,889	(\$9,505)	-33.5%

3/ Aid to Irrigation plus aid to Participating Projects



SLCA/IP Preliminary FY 26 - Offsetting Revenues

(Values in 1,000s)

		WAPA-206	FY 2026 Prelim	Change	
Item	Unit	2025 Workplan	WAPA 2028 Reclamation 2027 Workplan	Amount	Percent
Transmission (firm and non-firm)	1,000	\$19,165	\$29,543	\$10,378	54.2%
Merchant Function	1,000	\$6,797	\$8,585	\$1,788	26.3%
Other	1,000	\$5,043	\$13,875	\$8,832	175.1%
Total Offsetting Annual Revenue	1,000	\$31,005	\$44,579	\$20,998	67.7%



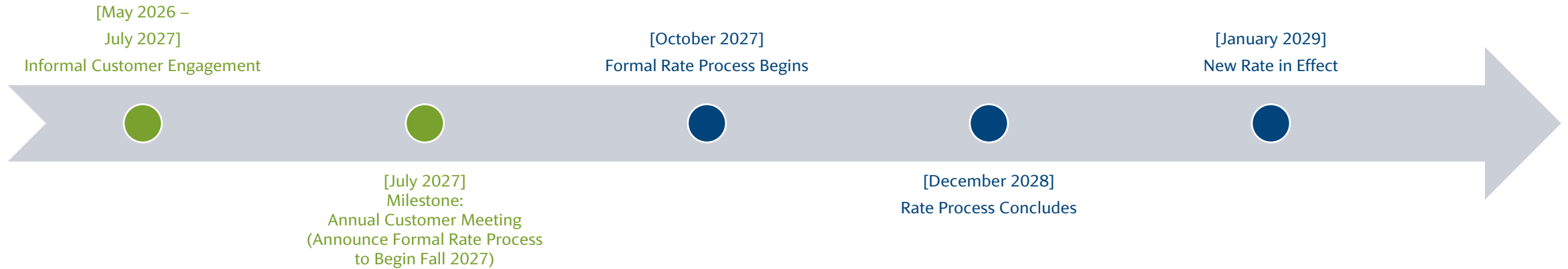
SLCA/IP Preliminary FY 26 – Revenue Requirements

(Values in 1,000s)

Item	Unit	WAPA-206	FY 2026 Prelim	Change	
		2025 Workplan	WAPA 2028 Reclamation 2027 Workplan	Amount	Percent
Total Expenses	1,000	\$151,845	\$176,212	\$24,367	16%
Total principal payments	1,000	\$28,394	\$18,889	(\$9,505)	-33%
Total Annual Revenue Requirements	1,000	\$180,239	\$195,101	\$14,862	8%
Less -Total Offsetting Annual Revenue	1,000	\$31,005	\$52,003	\$20,998	68%
Net Annual Revenue Requirements	1,000	\$149,234	\$143,098	(\$6,136)	-4%
Energy Sales 6/	MWH	4,755,255	3,720,798	(1,034,457)	-22%
Capacity Sales	kW	1,434,905	1,438,685	3,780	0%
Composite Rate	mills/kWh	31.38	38.46	7.08	22.5%
Energy Rate	mills/kWh	12.36	12.94	0.58	4.7%
Capacity Rate	kW-month	\$ 5.25	5.50	0.25	4.7%



CRSP Upcoming Rate Formulation Timeline



Phase 1: Informal Customer Engagement & Collaboration

- **Timeline:** May 2026 – July 2027 (*Current Phase*) – **14 months**
- **Focus:** Gathering customer feedback, hosting preliminary discussions, addressing early concerns, and laying the technical groundwork for the rate adjustment.

Key Milestone: CRSP Annual Customer Meeting

- **Timeline:** July 2027
- **Focus:** Broad project updates and the **official walkthrough / announcement** that the formal rate process will commence in Fall (October) 2027.

Phase 2: The Formal Rate Process

- **Timeline:** October 2027 – December 2028 – **14 months**
- **Focus:** Publication of the Federal Register notice (FRN), public information forums, formal comment and consultation periods, and publication of the final rate order.

Implementation: New Rate in Place

- **Effective Date:** January 1, 2029
- **Focus:** Full implementation and billing execution of the newly approved CRSP rate schedules.



Rate Strategy Committee

Kick-off meeting scheduled for Aug. 10, 2026, 1-2:30 p.m. MDT

Purpose

- Address variables (current, potential)
- Collaboration on rate strategies

Goal

- Establish the most advantageous rate elements to include in the upcoming rate effective January 1, 2029



CRSP Region Rates & Repayment Services

CRSP Rates Webpage:

<https://www.wapa.gov/about-wapa/regions/crsp/rates/>

Customer Information Quick Links:

<https://www.wapa.gov/about-wapa/regions/crsp/rates/quick-links/>



Firm Power

Current and historic SLCA/IP Firm Power Formula Rates & Rate Order documentation



Transmission

Current and historic CRSP Transmission & Ancillary Services Rates & Rate Order documentation



Individual Projects

Information on individual CRSP projects



WRP/CDP

Information on Western Replacement Power / Customer Displacement Power administrative charge



Cost Recovery Charge (CRC)

Information on Cost Recovery Charge



Customer Information Hub

Links to valuable resource data that benefits our customers



Rates Orders Index

Information on Current and Historical Rate Orders listed chronologically



Rates Team Roster & Contacts

Power Marketing Leadership:

- Brent Osiek – VP of Power Marketing | Osiek@wapa.gov

Rates Group:

- Tamala Gheller – Rates Manager | Gheller@wapa.gov
- Cindy Tafoya – Rates Specialist | Tafoya@wapa.gov
- Tiera Jennings – Rates Specialist | TJennings@wapa.gov



Contact WAPA

Tamala Gheller, Rates Manager

Gheller@wapa.gov

WEBSITE

wapa.gov

LINKEDIN

western-area-power-administration



WAPA Infrastructure Strategy

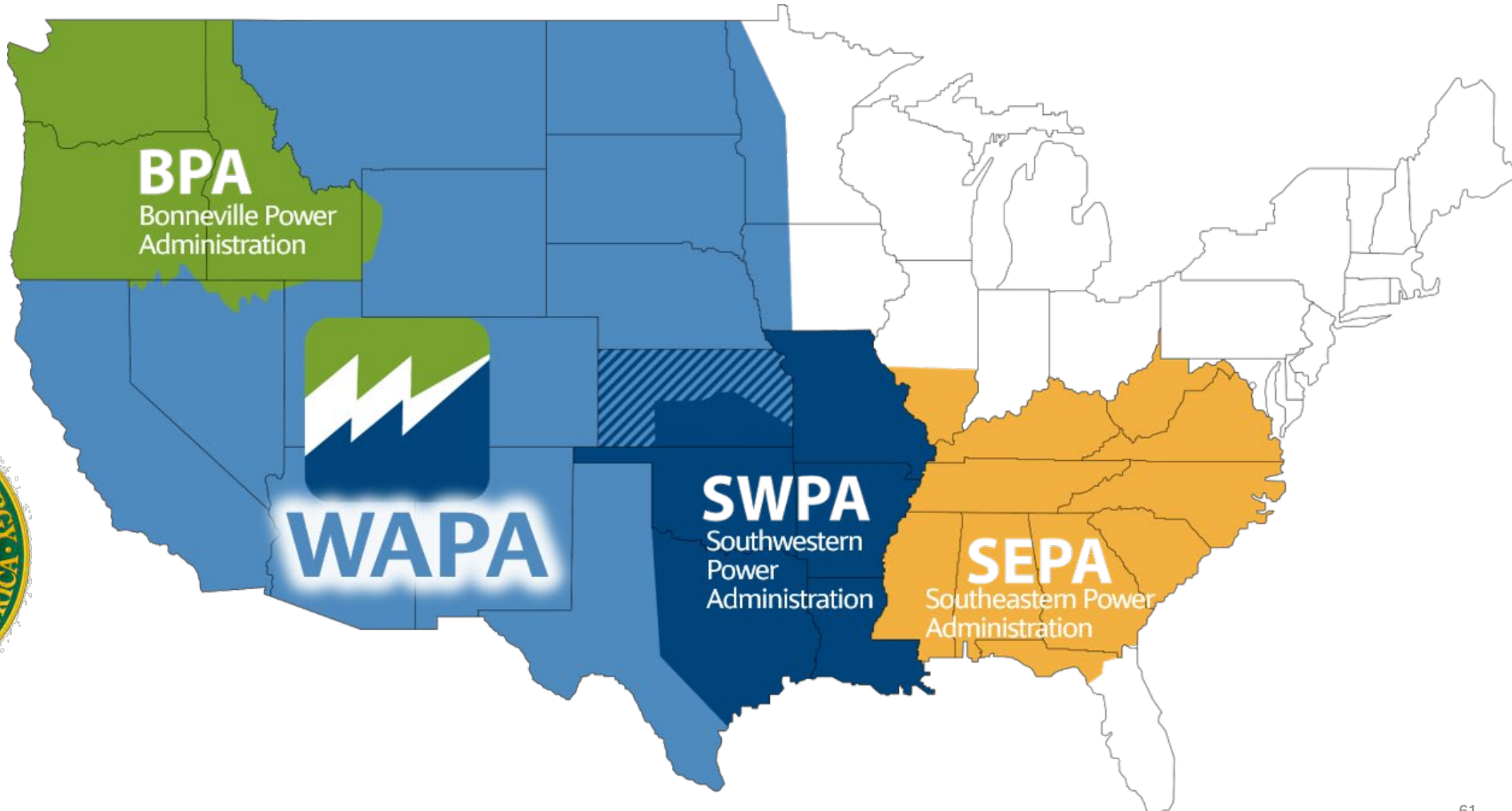
Powering Forward

CHRIS COLSON

Chief Operating Officer
(Acting)



Power Marketing Administrations





Western Area Power Administration

Three Lines of Focus



Federal Hydropower

- Market 10,000 megawatts of power from 57 plants.
- Buy & sell power to provide firm electric service.



Transmission Infrastructure

- Own and maintain 17,000+ miles of transmission lines
- Respond to storms & emergencies.
- Construct, interconnect, and replace transmission system.



Transmission & Services

- Operate >23,000 miles of high voltage transmission.
- 15-state operating region.
- 24/7/365 grid reliability, response, and safety.

Transmission Infrastructure



4.9 billion in assets



231,138 acres of land



17,293 transmission circuit-miles



321 substations



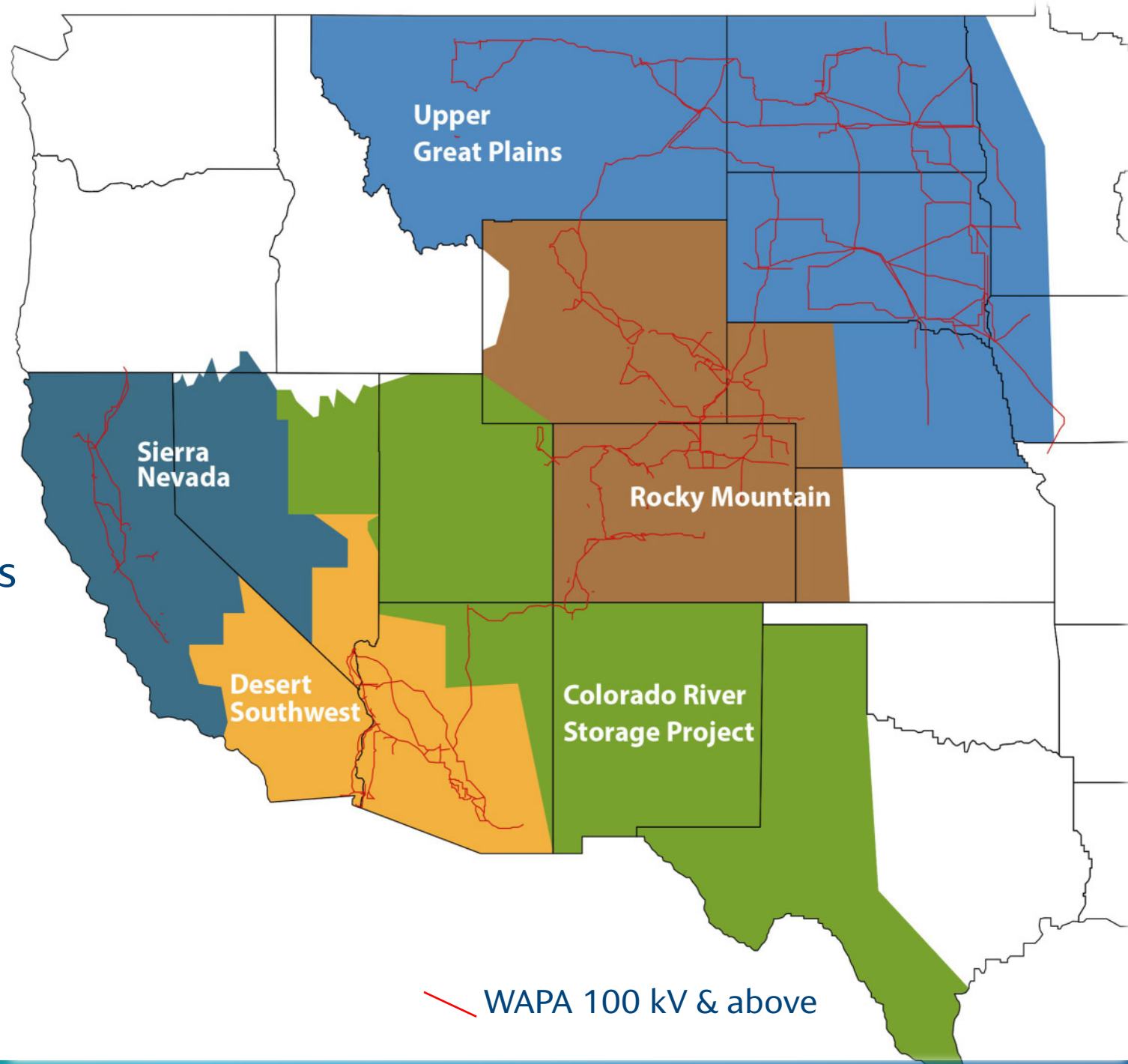
292 transformers



652 buildings



472 communication sites

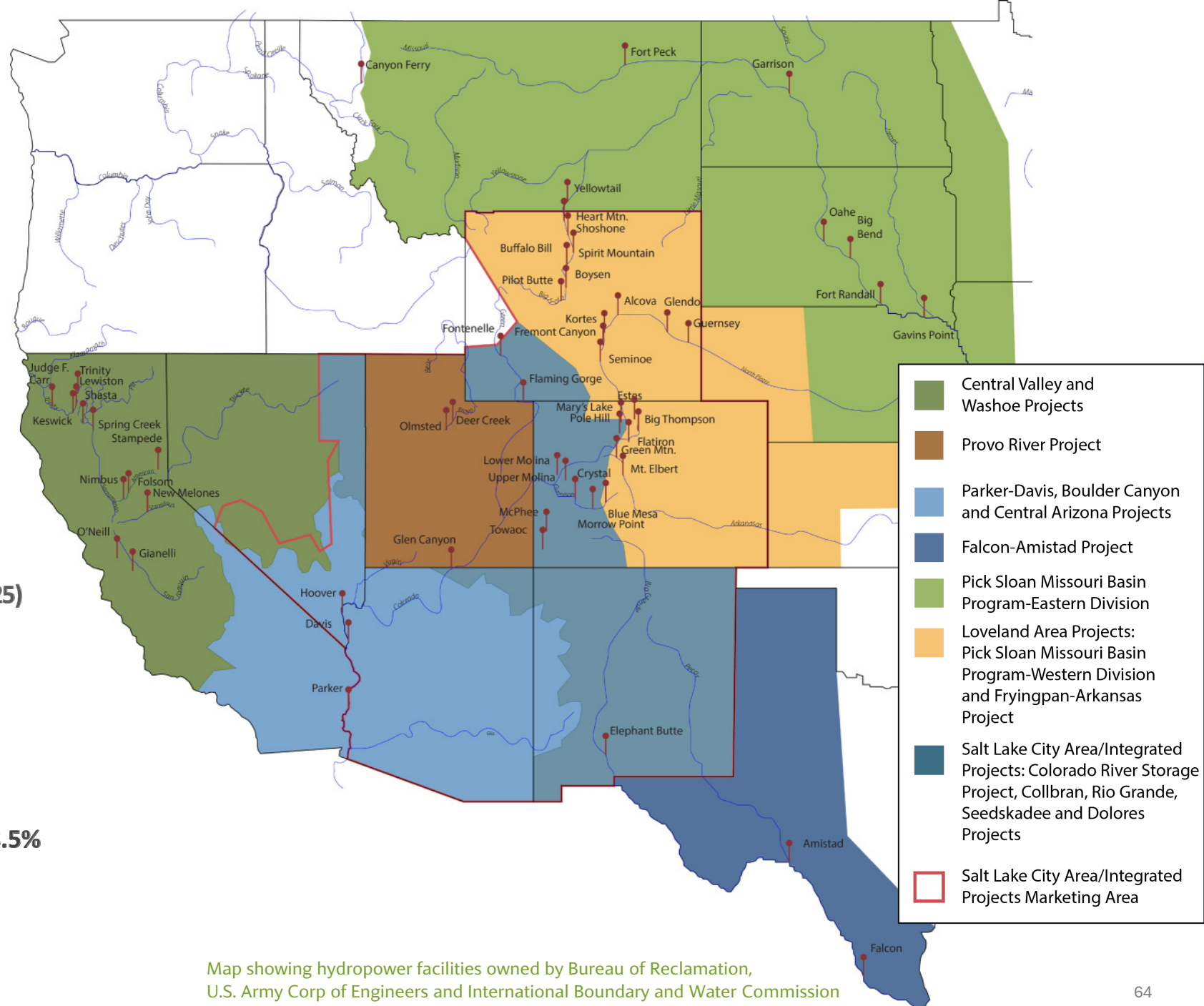
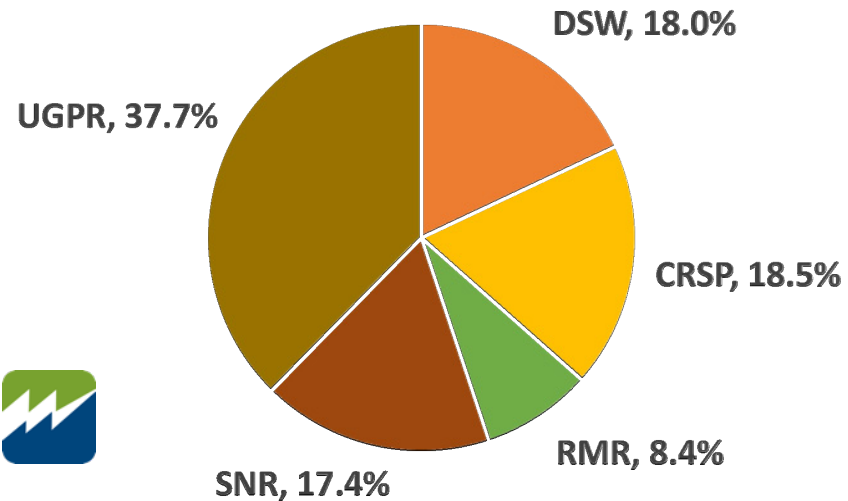


Hydropower Facilities



26,000 GWh
supplied annually

Annual Generation (GWh five year average; 2021-2025)



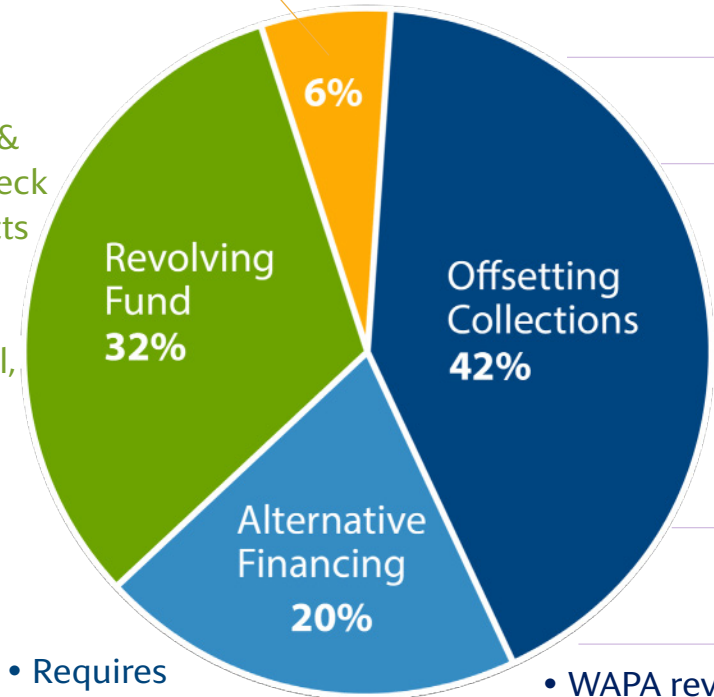
WAPA's financial model

\$1.7 billion
Annual budget

Appropriations

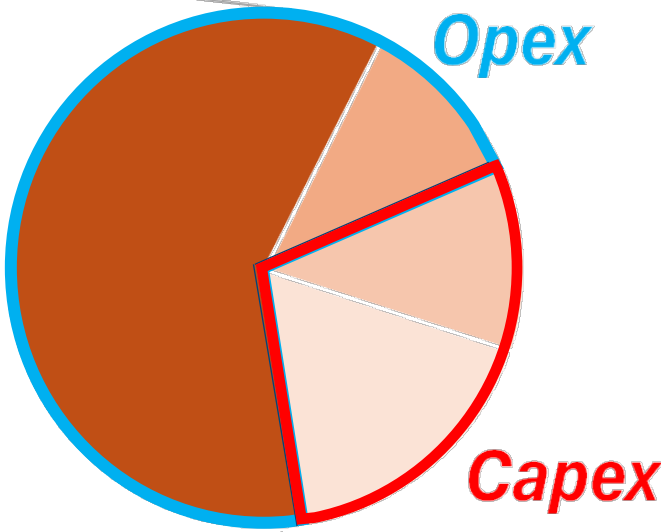
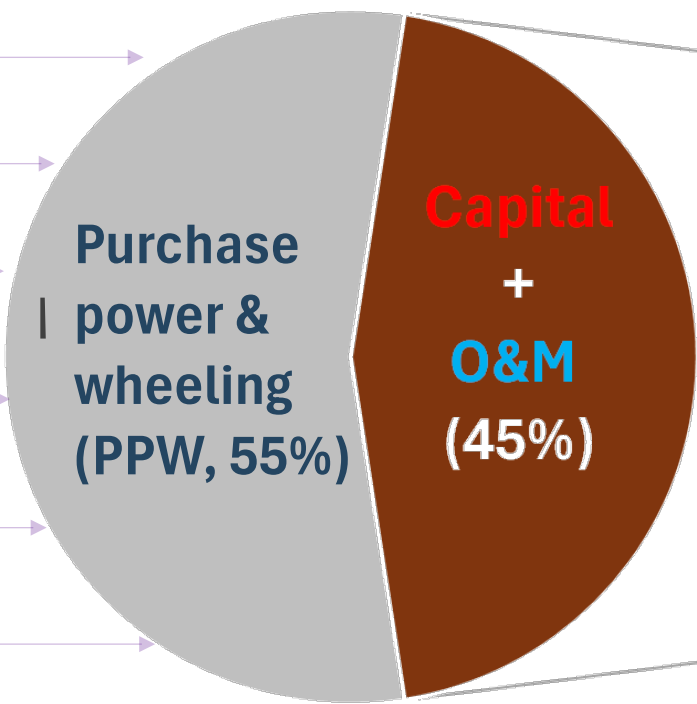
- Prioritized for capital investment
- Repaid to Treasury with interest

- CRSP & Fort Peck projects
- Funds O&M, capital, PPW



- Requires voluntary customer advances
- Funds O&M, capital, PPW

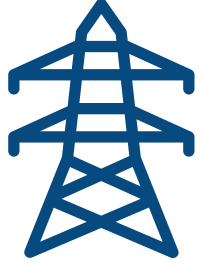
- WAPA revenue
- Funds O&M, PPW



Net-zero
Impact on taxpayers

Cost-based

WAPA Infrastructure Funding



- ≈ 25% (\$1.2B) of WAPA's **transmission** assets fully depreciated & still in service.
- ≈ 20% of large power transformers are in service and beyond their useful life.
- ≈ 50% of circuit breakers are in service and beyond their 20-year useful life.



- WAPA funding authorities do not permit use of collections to invest in capital.
- In absence of appropriations, WAPA relies on voluntary customer contributions.
 - Customers determine how much to contribute, when to contribute, and for which projects.
 - Contributions from our customers must be repaid each year with WAPA revenues.
 - Same customer funding used to support generating agency needs (BOR & COE).



- Our capital-intensive industry requires financing for long-term borrowing & repayment.
- For WAPA, this comes in the form of appropriations.
- Sufficient access to appropriations enables WAPA to address critical reliability & security.
- ***Impact on federal budget is NET ZERO*** with full cost recovery from rate payers.
- Appropriations are repaid with interest.



WAPA Borrowing Authority

Exploring use for emerging WAPA and customer transmission needs

Eligible projects:

- New or upgraded transmission or related facility.
- Deliver or facilitate¹ delivery of new renewable generation.
- One terminus in WAPA service territory.
- Not adversely impact system reliability, operations or other statutory obligations Show a reasonable expectation that proceeds will be adequate to repay its cost.
- Be in the public interest.
- [42 USC 16421a](#) “Western Area Power Administration Borrowing Authority” (not 16421 or 16421(a))



¹ Expanded open-access transmission ensures comparable, non-discriminatory capacity is available to all generation sources that drive down delivered energy costs while strengthening grid reliability and security. All network transmission projects improve grid access and reduce congestion which benefits the entire resource mix.

Manages

\$3.25 billion

REVOLVING FUND
PROGRAM



Pressure on Infrastructure

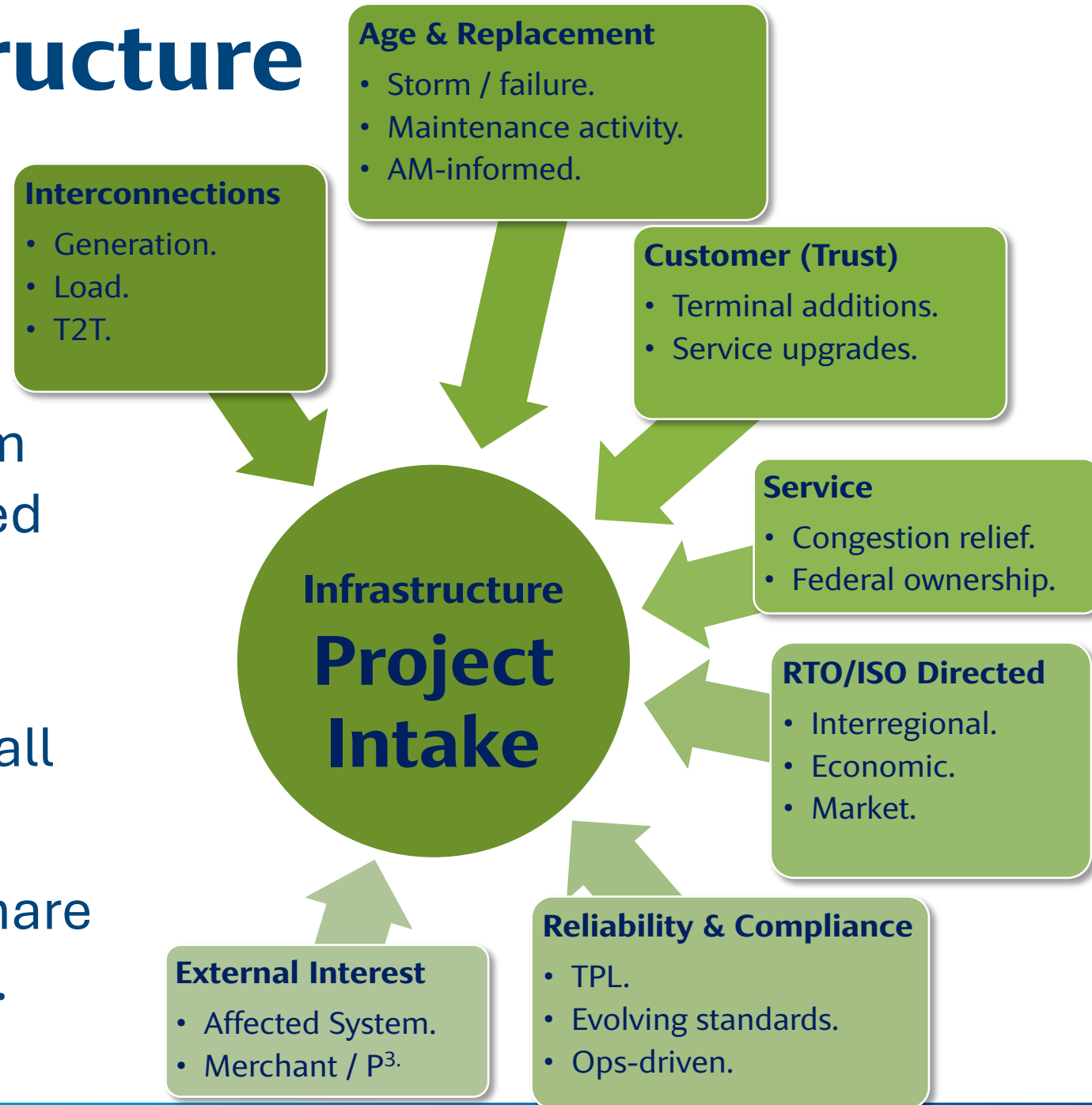
More than replacements

Significant pressure to expand transmission.

Competes with capacity to perform replacements leading to extended equipment in-service lives.

WAPA shared services do not have sufficient capacity to work all regional infrastructure priorities.

Regions are and will continue to share resources for foreseeable future.



SPP RTO Expansion

went live 01 April 2026

Operations and Reliability

SPP operates from a regional perspective.

This reduces costs and required energy reserves and increases efficiency.

Markets

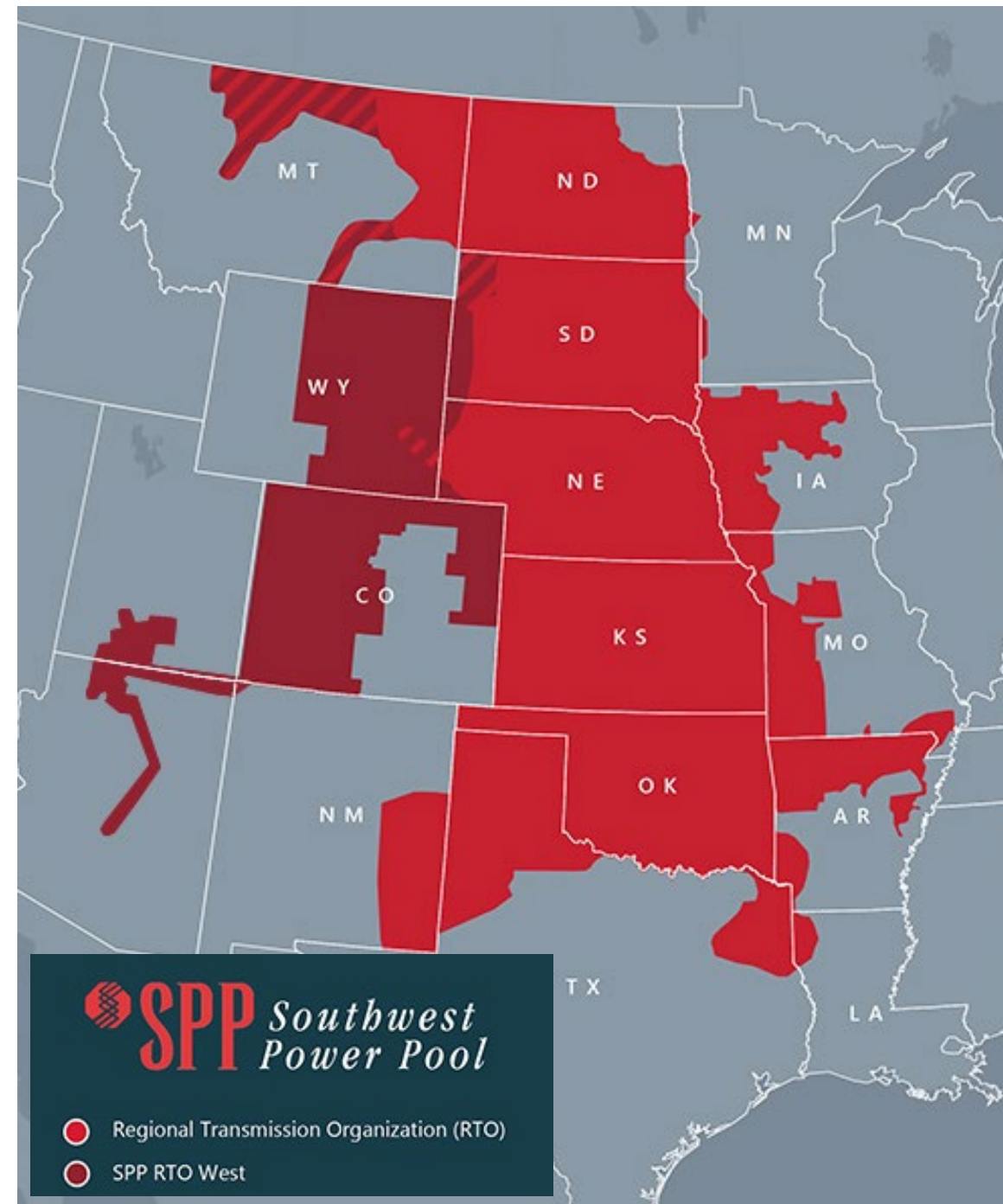
SPP's Integrated Marketplace combines efficient and economic day-ahead, real-time, and transmission markets.

Transmission

SPP's collaborative, stakeholder-driven planning processes result in robust infrastructure and reliably interconnect new generation.

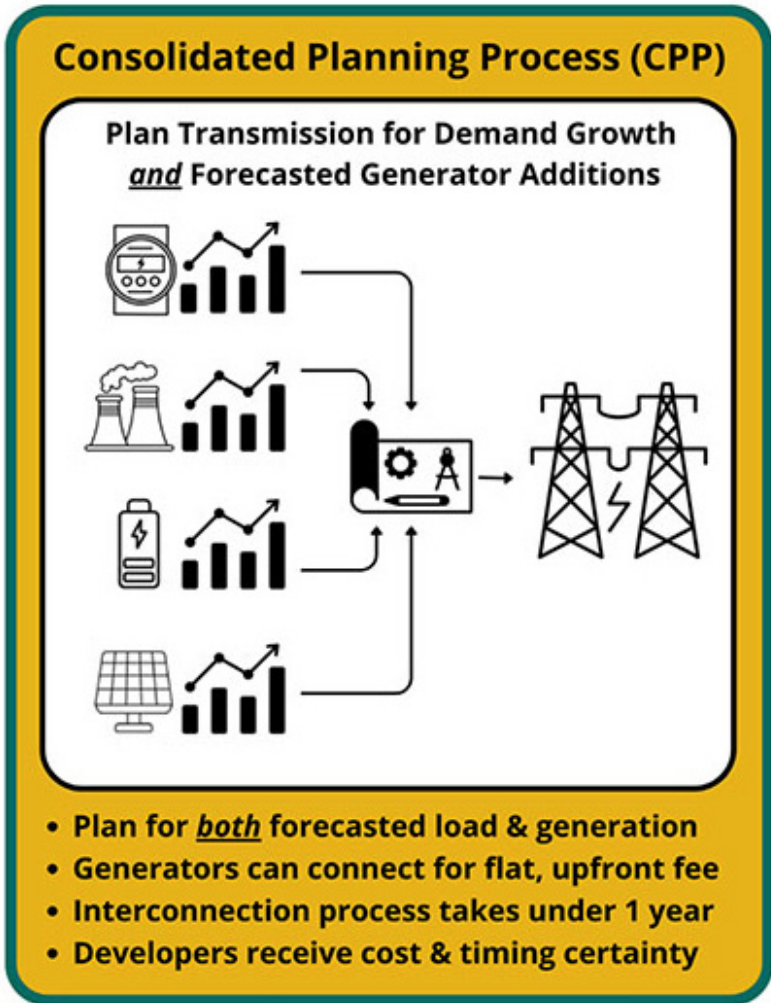
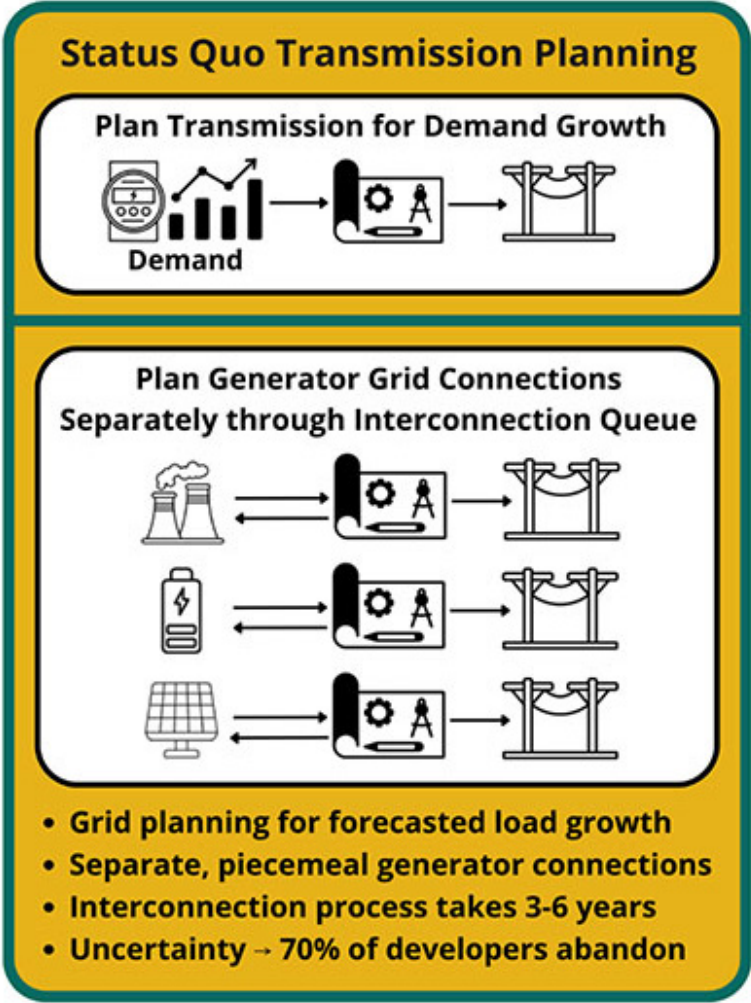
Tariff, Scheduling and Services

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



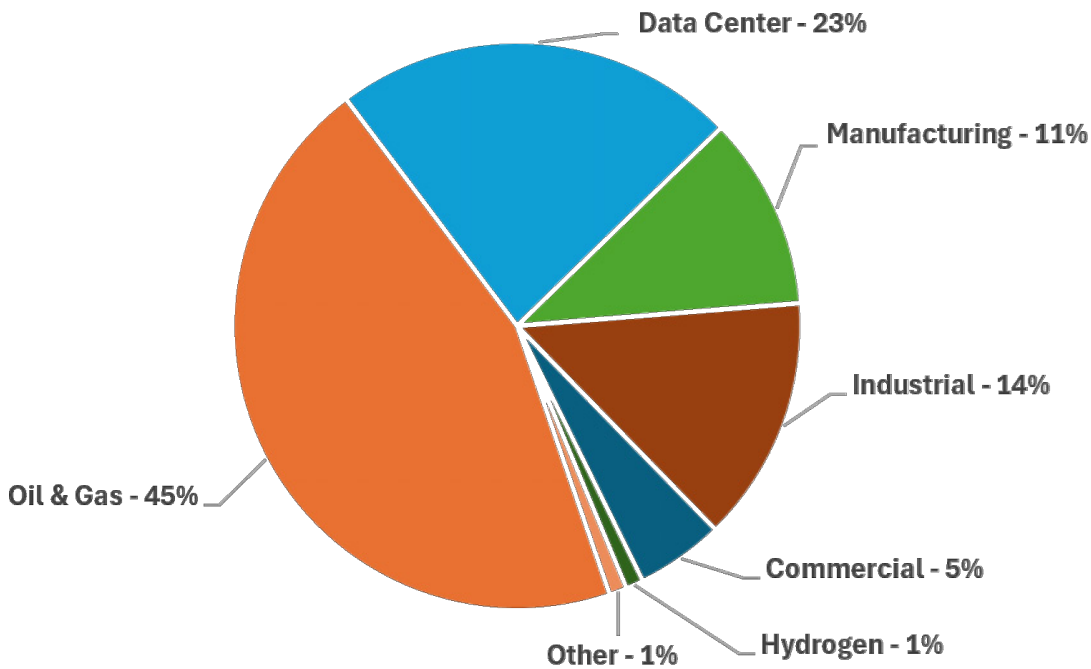
SPP Transmission Planning is Evolving

SPP LGIA & Att. AQ SPP ITP

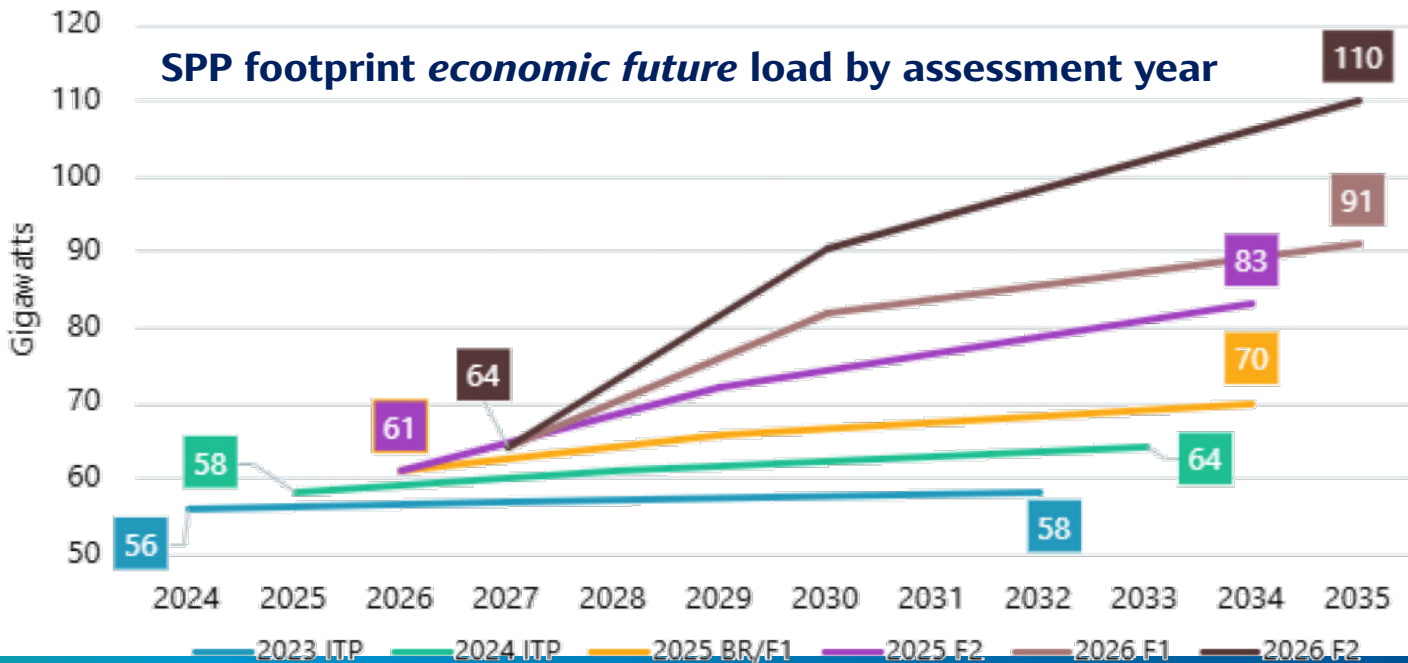
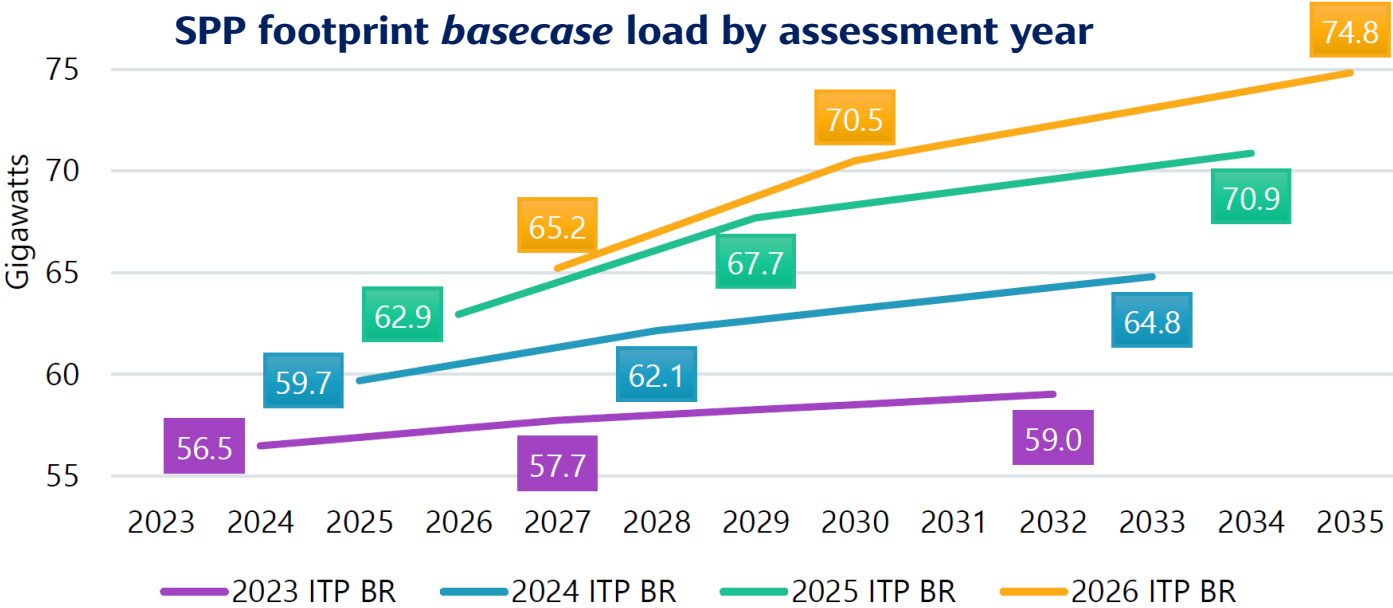


CPP
Cycle 1

Got load?

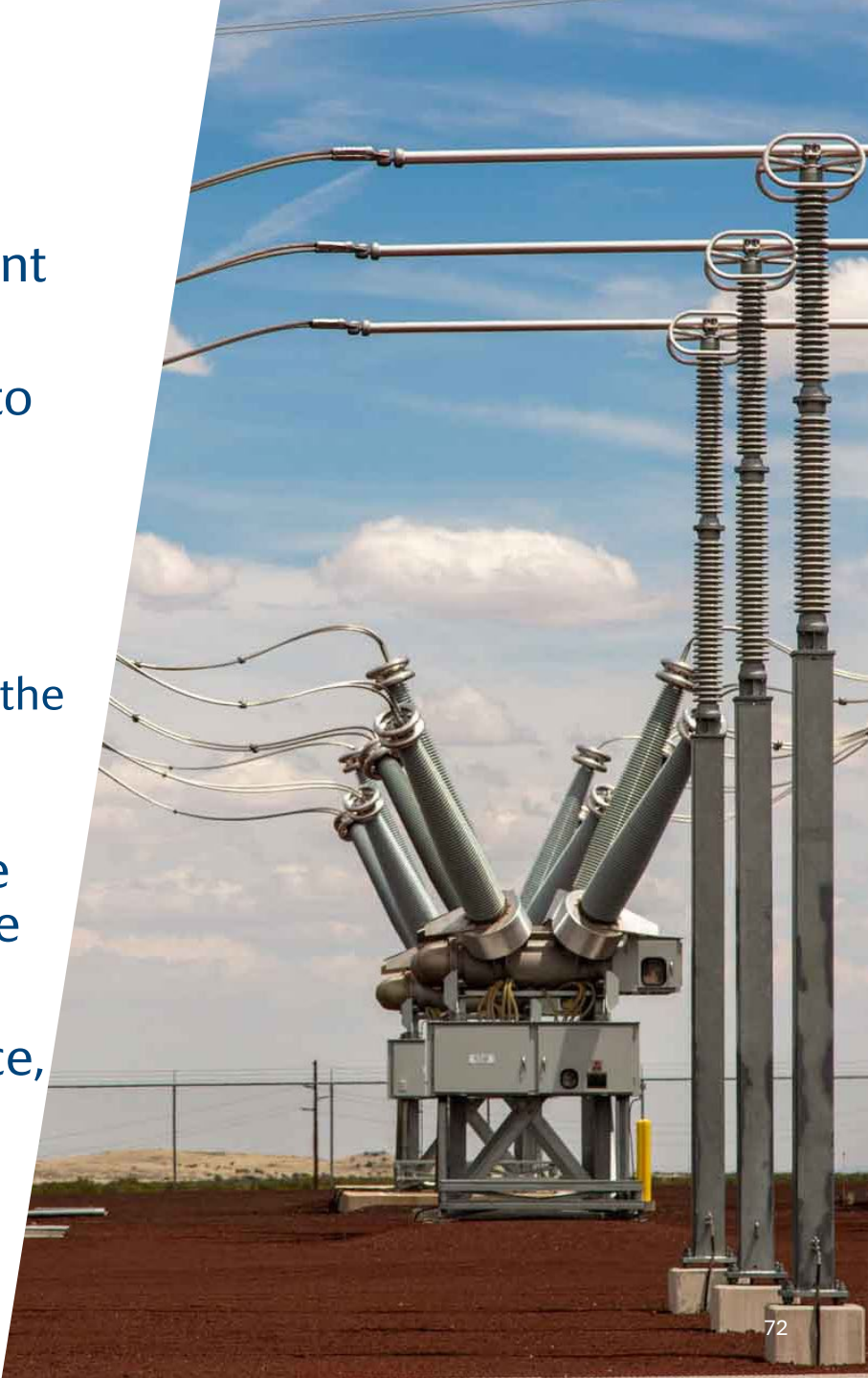


SPP point load constituency
(Y+10: 18.9 GW F1; 29.7 GW F2)



WAPA Infrastructure Outlook

- WAPA has surged existing resources to support infrastructure projects prioritized by WAPA regions to best meet the most urgent milestones.
- Implemented a tactical infrastructure project sequencing effort to accounting upfront for available workforce.
- Crafted a realistic plan to complete milestones for 59 projects in fiscal year 2026.
 - Workforce capacity became available due to faster than expected turnarounds and project efficiencies, 24 projects have been added to the fiscal year 2026 sequence.
- While more than 80 infrastructure projects will meet their milestones for fiscal year 2026, this represents about 60% of the total project workload to meet all planned regional infrastructure projects this year.
- In other words, despite WAPA efficiently maximizing its workforce, the workload exceeds capacity and about 1-in-3 infrastructure projects are commencing with delays of six months or more.



WAPA Workforce

- 1,246 personnel onboard (15 July 2026).
- 82% of authorized FTE.
- About 85% strength for craftspeople.
 - 224 of 267 Linemen & HV substation Electricians
 - 106 of 226 Electronic integrated system Mechanics (meter & relaying, comms, etc.)
- Engineers at critical state (< 65% on-board).
 - Overall WAPA:
 - 117 of 180 Electrical Engineers
 - 31 of 47 Civil Engineers
 - 15 of 25 Electronics Engineers
 - 23% of electrical, civil, and electronics engineer positions vacant in WAPA Engineering & Design dept.



WAPA's increasing workload

	2004	2024	
 Transformer capacity	26,673	47,898	↑ 80%
 Transformers maintained	359	382	↑ 6%
 Substations	292	321	↑ 10%
 Comm. Sites	438	472	↑ 8%
 Full-time maintenance employees	354	371	↑ 5%
 Required training hours	11,661	72,889	↑ 525%
 Hours of overtime	59,938	101,113	↑ 69%

+129 authorized FTE (↑ 9%)

Stop



Contact WAPA

Chris Colson
Acting Chief Operating Officer

Colson@wapa.gov

WEBSITE
wapa.gov

LINKEDIN
[western-area-power-administration](https://www.linkedin.com/company/western-area-power-administration)



Basin Fund Management

JENNIFER HULTSCH

Finance Manager



Basin Fund Status

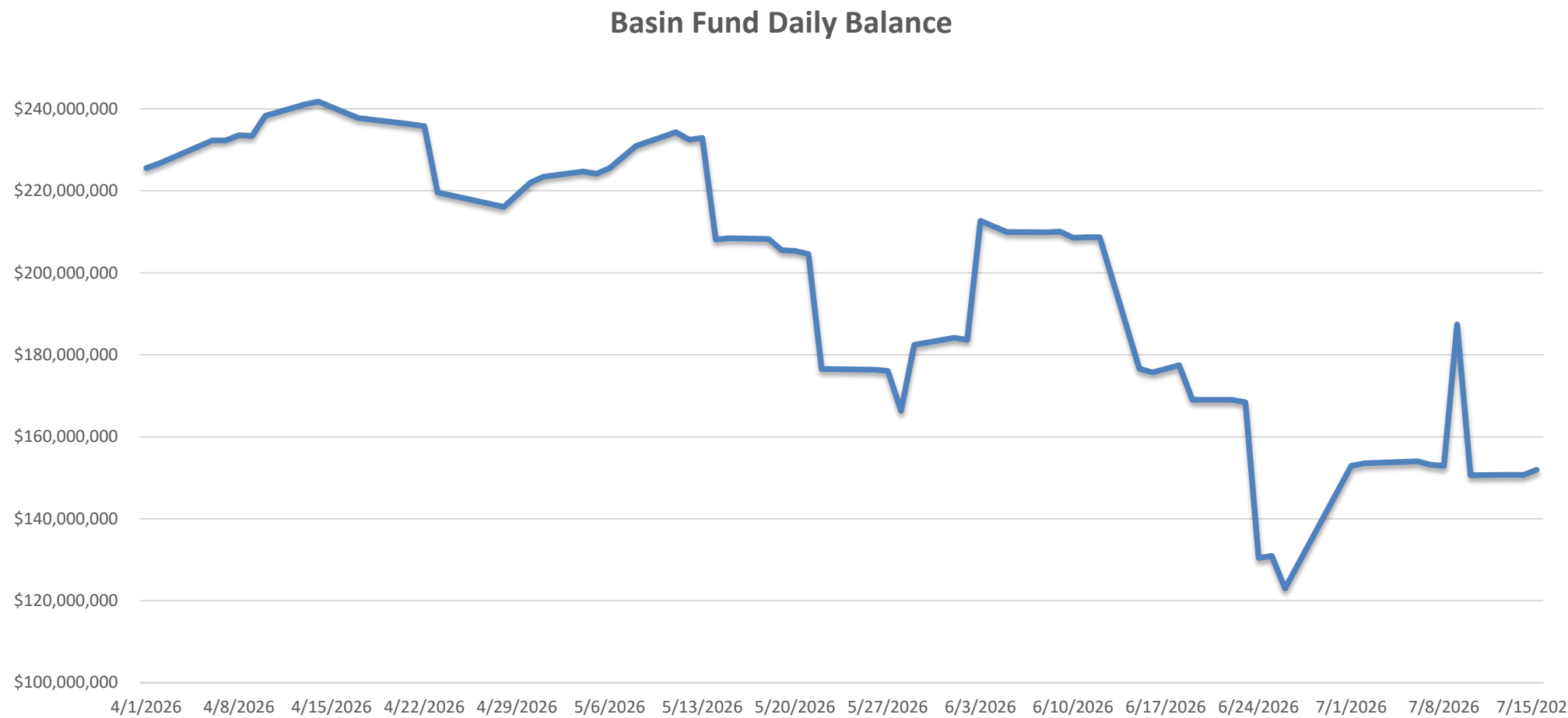


Basin Fund Reserve Target Balance

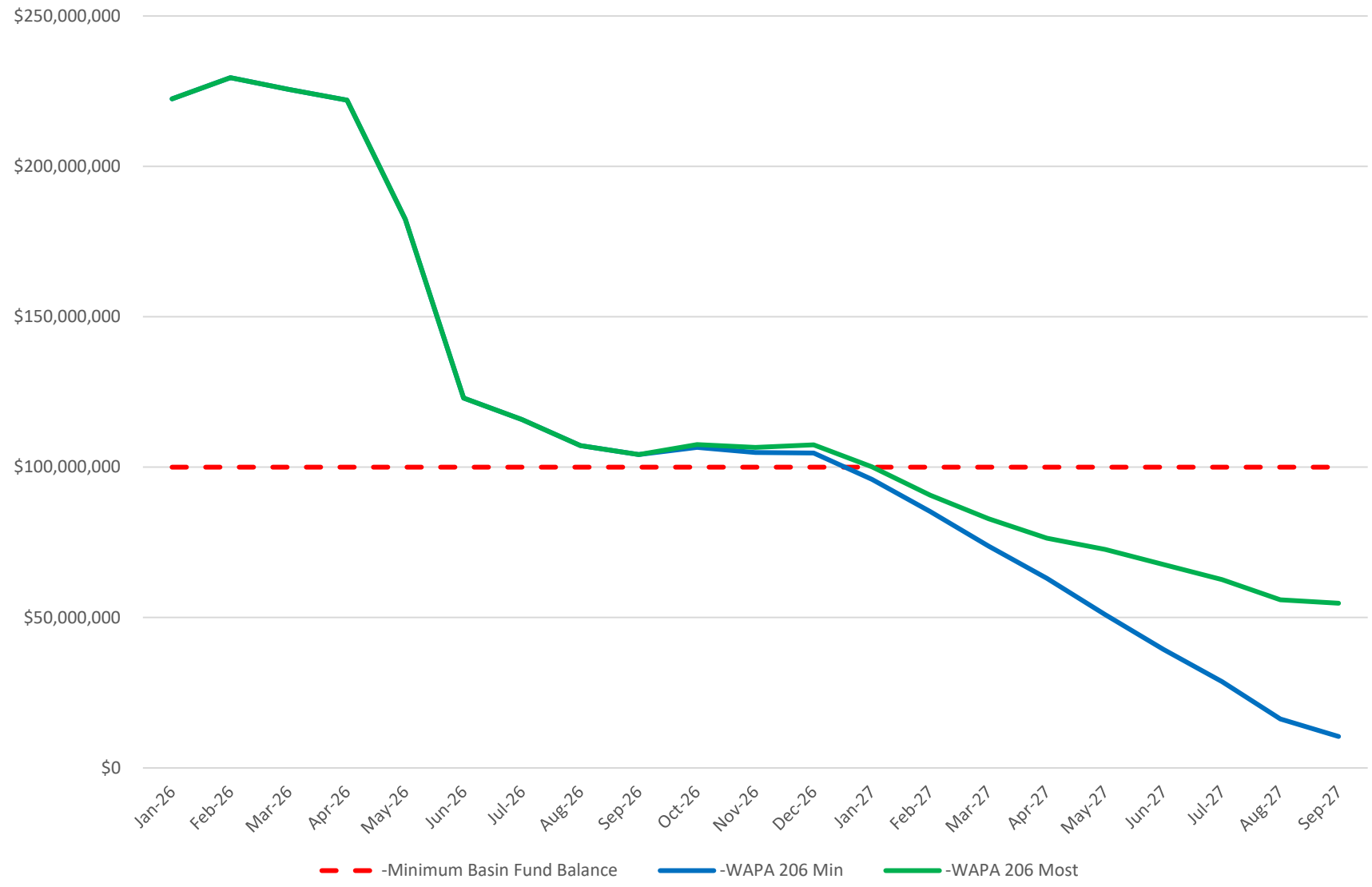
FY2026 Basin Fund Target Balance (in 000s)	Fiscal Year	WAPA (in \$000s)	Reclamation (in \$000s)	Total (in \$000s)
25% Annual O&M		\$17,088	\$19,368	\$36,455
3 Years of Capital	FY27	\$31,880	\$20,231	
	FY28	\$30,210	\$24,617	
	FY29	\$73,536	\$17,262	
	Total	\$135,626	\$62,110	\$197,736
3 Year Purchase Power and Wheeling	FY27	\$35,000		
	FY28	\$35,000		
	FY29	\$35,000		
	Total	\$105,000		\$105,000
Grand Total - All Categories		\$257,714	\$81,478	\$339,191

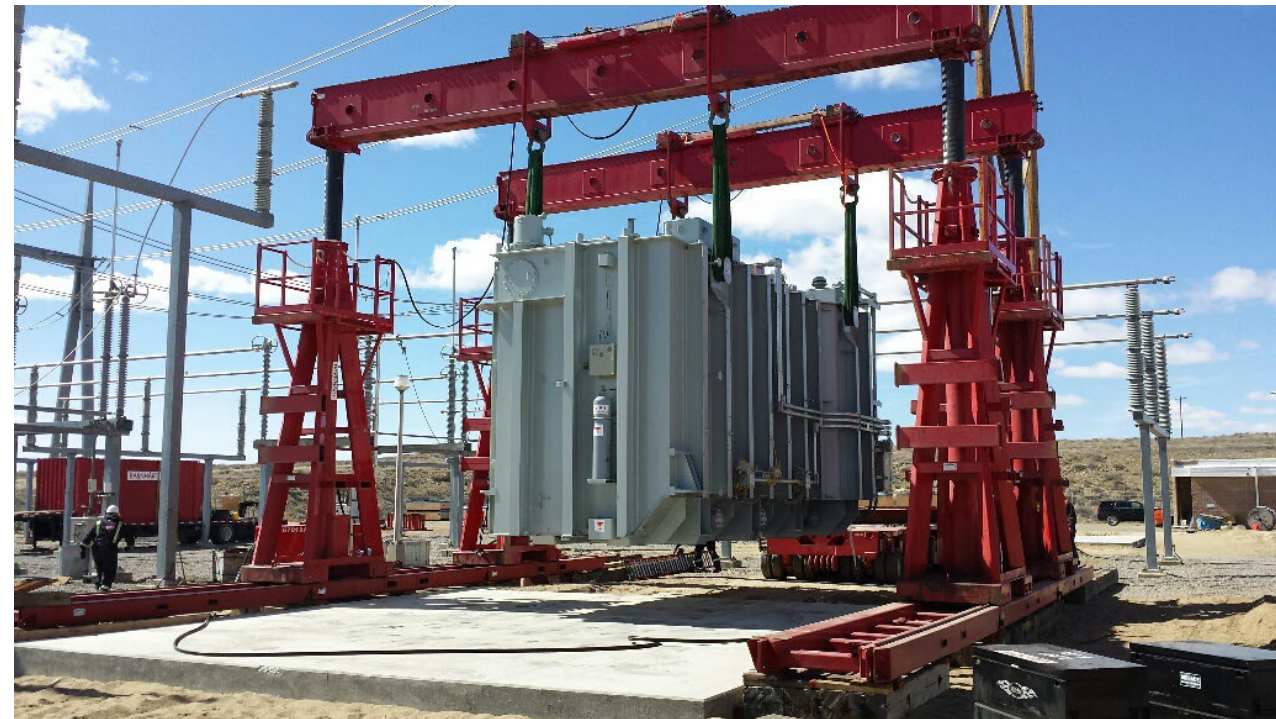


Basin Fund Cash Fluctuation



Basin Fund Projection





Major Replacement Projects \$60M - \$150M each



Finance Team Roster & Contacts

Finance Group:

- Jennifer Hultsch – Finance Manager | Hultsch@wapa.gov
- Nikki Costello – Accountant | Costello@wapa.gov
- Alex Lindstrom – Financial Program Analyst | THenriquez@wapa.gov



Contact WAPA

Jennifer Hultsch, Finance Manager

Hultsch@wapa.gov

WEBSITE

wapa.gov

LINKEDIN

[western-area-power-administration](https://www.linkedin.com/company/western-area-power-administration)



Significant Capital Projects Pending for CRSP

AMY CUTLER

Program & Regulatory Advisor



Significant Capital Projects Pending for CRSP

- Legacy Series Capacitor Banks
- Legacy Phase Shifter at SHR
- FLG-VRN Line Replacement
- Update on SHR-GC Erosion Project



Legacy Series Capacitor Banks Study

Studies Performed: Planning Studies and Series Cap Analysis Report

When: Started in 2024, completed in February 2026

Who did it: Internal planning studies (two studies) and engineering third-party analysis (Burns & MacDonald)

Analyses confirm these projects remain critical for system reliability and stability.

Glen Canyon-Flagstaff-Pinnacle Peak: Four 345-kV series capacitors have reached end-of-life.

Kayenta-Long House Valley: Two 230-kV capacitors have failed and are on long-term outage.



Series Capacitor Banks

- **Voltage Stability Improvement**
By reducing the effective inductive impedance of the line, series capacitors help maintain voltage levels, especially during heavy load conditions or disturbances. This prevents voltage sags and potential voltage collapse, which can cause widespread outages.
- **Increased Power Transfer Capability**
The uncompensated inductive reactance in a transmission line limits the amount of active power than can be transferred. Series compensation effectively shortens the electrical length of the line, allowing more power to flow through it without exceeding stability limits. This can be particularly useful in preventing congestion in the grid.
- **Enhanced Transient Stability**
During faults or sudden changes in load, power systems experience oscillations. Series capacitors can improve the damping of these oscillations, helping the system recover more quickly and prevent cascading failures.
- **Reduced Line Losses**
While not their primary function, by improving power factor and allowing power to flow more efficiently, series capacitors can subtly contribute to reducing I^2R losses on the transmission line.



Study Analyzed if These Legacy Series Capacitors are Still Justified for Current System Dynamics.

Scenario 1: Do Nothing

Operational and reliability impacts would lead to severe line deratings.

Scenario 2: Partial Replacement

Replacing only some of the series capacitor banks is insufficient. All alternatives that do not replace all six units exhibit negative operational and reliability impacts, including reduced voltage stability in the Glen Canyon, Shiprock, and Pinnacle Peak systems, and a 20 percent reduction in line transfer capacity.

Scenario 3: Replace In-Kind

Replacing all six units in-kind provides the necessary transient stability, transfer capability, and voltage support required to satisfy current FES contracts.

The image shows a chalkboard with handwritten mathematical derivations for the derivative of a function $f(x)$ using the limit definition. On the left, a graph shows a curve $y = g(x)$ with a point x and a secant line connecting $(x, g(x))$ and $(x+h, g(x+h))$. The secant line is labeled "Secant Lines" and the tangent line at x is labeled "Tangent Line". The derivative is defined as the limit of the slope of the secant line as h approaches 0:

$$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$

The derivation continues with the example function $f(x) = x^2$:

$$\begin{aligned} f'(x) &= \lim_{h \rightarrow 0} \frac{(x+h)^2 - x^2}{h} \\ &= \lim_{h \rightarrow 0} \frac{x^2 + 2xh + h^2 - x^2}{h} \\ &= \lim_{h \rightarrow 0} \frac{2xh + h^2}{h} \\ &= \lim_{h \rightarrow 0} h(2x + h) \\ &= 0(2x + 0) = 0 \end{aligned}$$

Other partial derivations are visible on the right side of the board, including $f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$ and $f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$.



Planning Studies Conclude

Strategic Recommendation

Replace all series capacitors across both GC-PPK 345-kV lines and the KAY-LHV 230-kV line.

Operational Impact

Ensures full system stability, WECC reliability compliance, and consistently delivers the 1,494 MW TTC on GC-PPK lines.

Project Timeline

Long-term execution requiring 4 to 6 years, including a 12- to 14-month design-build acquisition process.

Financial Estimate

Capital requirement of \$120M to \$150M for all six specialized units.



Legacy Phase Shifter at Shiprock



Shiprock Phase Shifters (PST) KU3A/KU3B

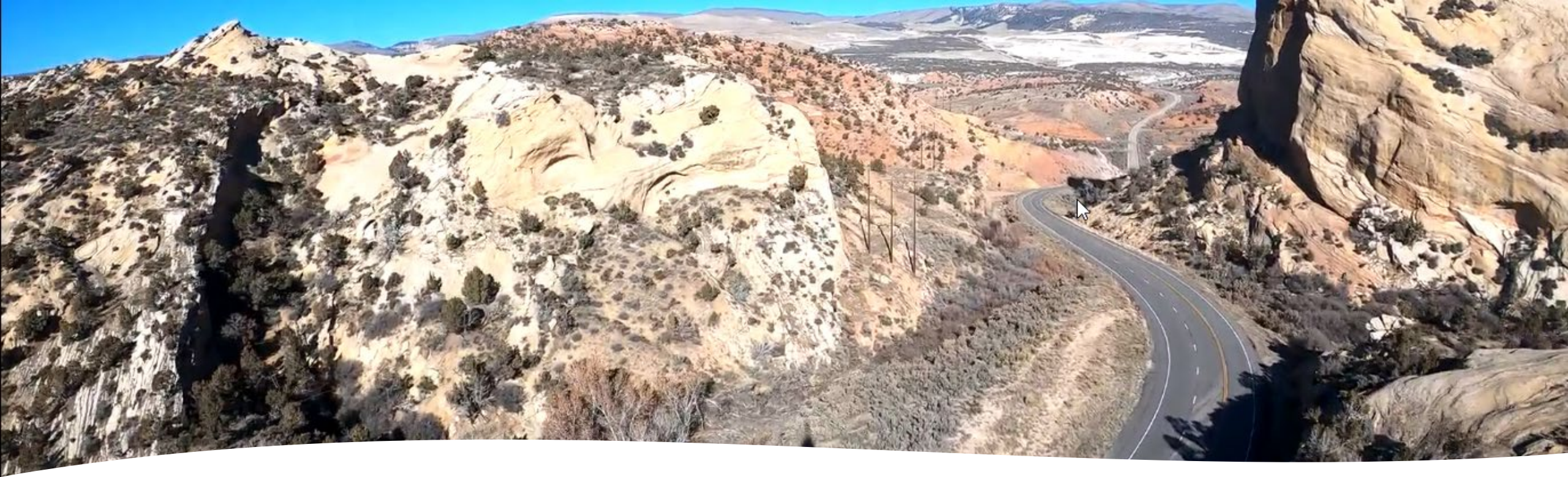
- Vital for the TOT2A WECC transfer path
- Reduces unscheduled power flow across the Western Interconnection
- Minimizes the need for expensive schedule curtailments on TOT2A
- Works in tandem with WAPA's Waterflow 345-kV phase shifters
- CRSP receives an annual mitigation rate for coordinating both units



Alternative Cost Table for the PSTs

Cost Types	Alternative 2: Replace PSTs	Alternative 3: Relocate and Replace PSTs	Alternative 4: Rewind PSTs
Construction Contract	\$4,200,000	\$8,780,000	\$4,200,000
GFE	\$45,460,000	\$45,070,000	\$41,040,000
Labor	\$1,680,000	\$3,510,000	\$1,680,000
Total	\$51,340,000	\$57,360,000	\$46,920,000





Flaming Gorge to Vernal

39 miles of 138-kV wood H-frame transmission line from
Flaming Gorge to Vernal



Age and Line Condition

Scope: Reconstructing/replacing the aging FGE-VNL #1 (39 miles, 1960) and #3 (41 miles, 1963) wood H-frame lines between Flaming Gorge and Vernal, Utah.

Condition: 2025 inspections show severe degradation with 91 percent of Line #1's 351 poles and 96 percent of Line #3's 400 poles rated as "C" (moderate defect) or "D" (severe defect).

Access Challenges: Line #1 traverses rugged Ashley National Forest terrain with inadequate access and restricted permits, severely hindering maintenance.

Risks: Delaying the project threatens imminent structure failures, long-term outages, and severe public safety hazards like forest fires.

Analysis Result: Implement Alternative 4 to replace both lines with a single double-circuit steel pole line along the #1 alignment for an estimated \$134,380,000.



FY26 Planning and Engineering Review Alternatives

Alt 1: Do Nothing

Continued wood deterioration, rising maintenance costs, and high risk of unexpected outages.

Alt 2: Wood Rebuild (\$59.7M)

Rebuild in-kind using Wood-H structures and 477 ACSR.

Alt 3: Steel Rebuild (\$86.0M)

Rebuild as a single-pole steel structure line with 477 ACSR.

Alt 4: Double Circuit Steel (\$134.4M)

Replace lines #1 and #3 with a 41-mile double-circuit steel line along the #1 ROW. (*Alt 4 is the preferred engineering solution*)

Alt 5: Routed Double Circuit Steel (\$157.3M)

Replace lines #1 and #3 with a 48-mile double-circuit steel line using #3 ROW, crossing at Limestone Road to #1 ROW.

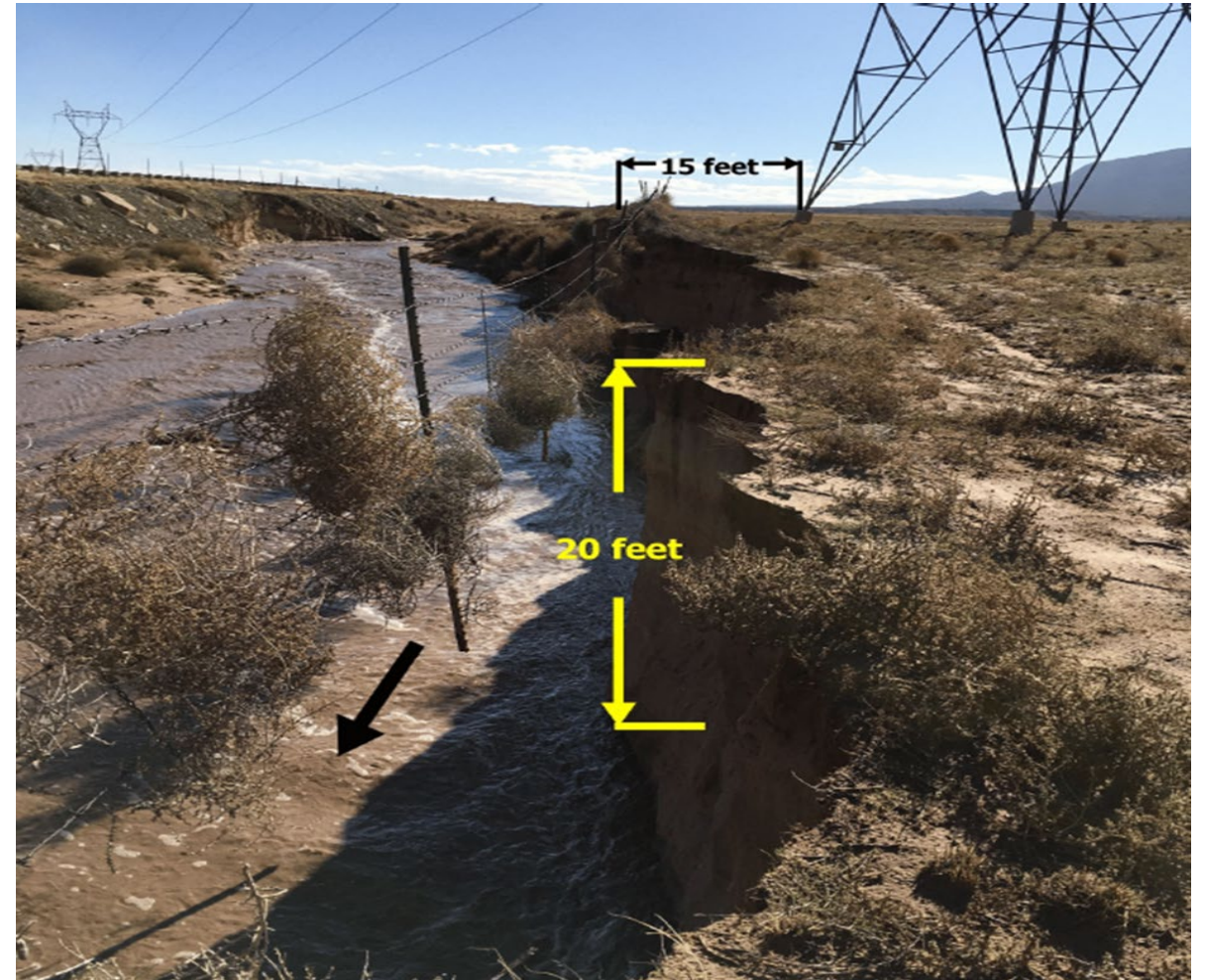
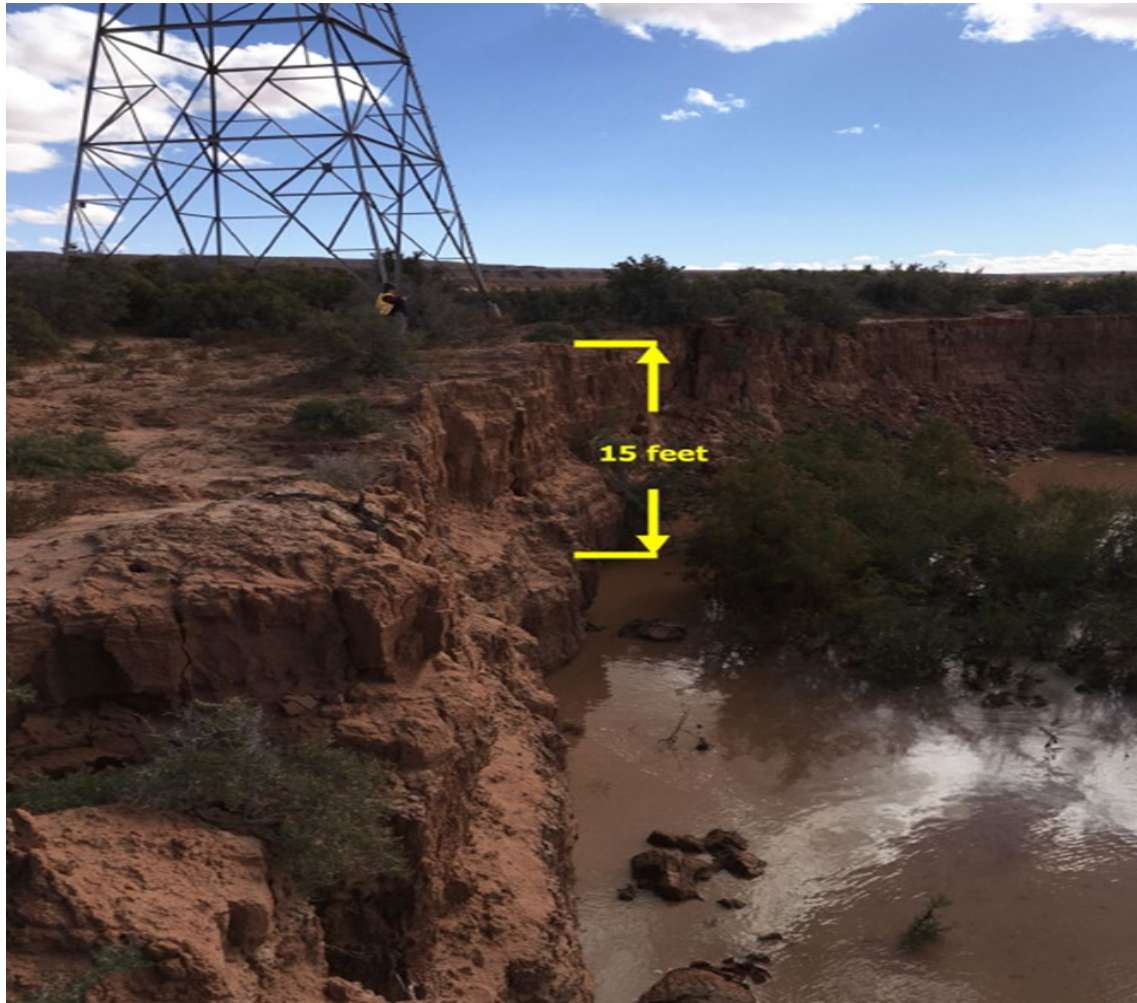




Project Name: Glen Canyon-Shiprock T-Line Structures

Description/Scope: Address large cut-banks adjacent/near four transmission structures on Glen Canyon to Shiprock 230-kV transmission line. Four structures at risk.





Large cut-banks adjacent/near four transmission structures on Glen Canyon to Shiprock 230-kV transmission line.



Glen Canyon to Shiprock Erosion

This is a critical line for CRSP power deliveries and a high-voltage regional transmission line. Failure of this line could result in significant financial impacts to CRSP as well as impact regional electrical reliability.

Risks:

- Safety and emergency repair to address erosion
- Line outage
- financial impacts
- Grid reliability

Structure	Estimated Lateral Bank Erosion (ft)	Date Range
77-1	50'	2019-2023
98-4	53'	1997-2023
99-1	30'	1997-2023
142-4	36'	2005-2023



Same location comparing April 2025 to October 2025 – Showing Rapid Erosion from Flash Flooding



Tower 77-1 in April 2025



Tower 77-1 in October 2025,
footing became exposed



Temporary Fix: October 2025, we
removed failing lattice structure and
installed 2 H-Frames for stabilization

Solution and Next Steps

Structure	Structure to be Installed for Solution
77-1	Delta Steel Structure
98-4	Delta Steel Structure
99-1	Delta Steel Structure
142-4	H-frame Steel Dead-end Structure

Next Steps: Additional soil samples and final design



Contact WAPA

Amy Cutler,
Program and Regulatory Advisor

Cutler@wapa.gov

WEBSITE

wapa.gov

LINKEDIN

[western-area-power-administration](https://www.linkedin.com/company/western-area-power-administration)

