



Western Area
Power Administration

Ten-Year Plan Supplemental Meeting

Desert Southwest Region | Phoenix, Arizona

June 17, 2026



Agenda

- Last Meeting Recap
- Budget Categories, Challenges, and Emphasis
- Project Budget Review
- Annual Meeting Cycle
- Next steps



Last Meeting Recap

- Last meeting DSW presented challenges facing the electric utility industry that have resulted in project budget increases and schedule delays for the following:
 - Parker-Blythe 161kV #2 Rebuild (2020)
 - Gila Substation 69kV Rebuild (2021)
 - Oracle-Tucson 115kV Rebuild (2023)



Budget Categories

Administrative

- Labor for oversight of all project phases; includes project management, inspection, finance, contract administration, and procurement

Design

- Labor for electrical, civil, structural, communication and protection design

Commissioning

- Labor, equipment, diagnostic testing for protection and controls, SCADA, communications and fiber optics

Environmental

- Labor for NEPA, cultural, biological, hazardous materials and other applicable compliance



Budget Categories

Lands and Land Rights

- Labor for acquisitions, legal descriptions, permitting, right-of-way and landowner coordination

Materials

- Equipment purchased by government or provided by contractor

Construction

- Construction contract, contractor furnished materials



Budget Challenges

Industry Cost Trends

- Construction material costs have increased over 50% since 2019¹
- High-voltage transformers and breakers have increased up to 50% since 2021²
- Pole, conductor, and insulator costs have risen over 70% since 2021²
- Phoenix construction labor costs increased 5.6% on average, building materials rose 9.1% year-over-year³

WAPA Cost Trends

- Labor rates and contract costs have increased
- Reliant on A-E firm for design and engineering support due to HQ and DSW resource constraints



1. U.S. Bureau of Labor Statistics, Construction Materials Producer Price Index (1-1-2019 to 4-1-2026)

2. APS Procurement Data, 2026 APS Rate Case — Rising Costs for Common Grid Materials (transformers, poles, wire, insulators)

3. Mortenson Nonresidential Construction Cost Index Phoenix Q4 2025

Project Budget Emphasis

Categories

- Emphasis on budget categories that increased significantly in both cost and percentage of total budget
- The categories that consistently increased, include:
 - Construction
 - Materials
 - Environmental
 - Administrative
- The approved budget for each project is provided by category along with the proposed increases



Project Budget Review

Shawn Berkram
Project Manager



Parker – Blythe 161kV #2 Rebuild



Structure 48-1



Parker – Blythe 161kV #2 Rebuild

Description and Background

- Constructed in California in 1969 the primarily H-frame wood structures are located just west of the Colorado River, spanning between the Parker Substation near Parker Dam and Blythe Substation west of the city of Blythe
- The 100-foot-wide right-of-way crosses approximately 64 miles
 - Mostly BLM lands, approximately 8 miles across Tribal lands, and some private lands
 - Circuit abuts Big Maria Mountains and Riverside Mountains Wilderness Areas
- Some sensitive species include the Desert Tortoise, Southwestern Willow Flycatcher, Western yellow-billed cuckoo, desert kit fox, and burrowing owl
- Significant cultural resources located throughout the project area



Parker – Blythe 161kV #2 Rebuild

Scope

- Replace 522 degraded wood structures and aged hardware in three phases
- Dead-end structures will be placed at least every 10-miles to prevent cascading failures by terminating line tension at regular intervals
- Remediate phase-to-ground NERC clearance violations
- Add 48-count OPGW to establish communication redundancy and capacity
- Approximately 110 miles of access roads will be cleared
- AOA study was completed in 2020
- Project separated into three phases to mitigate rate impacts



Parker – Blythe 161kV #2 Rebuild

Budget				
CATEGORY	APPROVED (2020)*	PROPOSED (2026)	DIFFERENCE (\$)	DIFFERENCE (%)
Administrative	\$4,890,000	\$9,080,000	\$4,190,000	86%
Design	\$480,000	\$680,000	\$200,000	42%
Environmental	\$4,870,000	\$9,410,000	\$4,540,000	93%
Lands and Land Rights	\$270,000	\$170,000	(\$100,000)	-37%
Materials	\$1,000,000	\$1,300,000	\$300,000	30%
Commissioning	\$1,480,000	\$1,550,000	\$70,000	5%
Construction	\$28,970,000	\$46,900,000	\$17,930,000	62%
Total	\$41,960,000	\$69,090,000	27,130,000	65%

Notes:

- All numbers rounded to nearest ten thousand dollars
- *Pivot project study budget allocation adjusted by Project Management prior to customer vote



Parker – Blythe 161kV #2 Rebuild

Administrative (+86%, +\$4.2m)

- Level of effort increased for scoping, coordination, financials, procurement, and schedule delays
- Schedule delays now project circuit energization in 2031 versus 2028

Design (+42%, +\$200k)

- Original scoping did not include design work for protection and communication requirements

Environmental (+93%, +\$4.5m)

- NEPA level of effort has increased to reflect the discovery of resources; requiring extensive biological and cultural monitoring



Parker – Blythe 161kV #2 Rebuild

Materials (+30%, +\$300k)

- Protection and communication equipment cost increases

Construction (+62%, +\$17.9m)

- Cost increases consistent with industry inflation since 2021
- Wood pole prices have increased over 71% from 2021-2025
- Insulator, hardware, and cross arms prices have increased 90-110%
- Remote location results in higher transportation and travel costs



Parker – Blythe 161kV #2 Rebuild



North view of Structure 2/6



Northeast view of Structure 8/4



Questions or Comments?



Gila Substation 69kV Rebuild



East view of Gila Substation



Gila Substation 69kV Rebuild

Description and Background

- Constructed in 1942 in Yuma County, Arizona, approximately 10 miles southeast of the city of Yuma to supply power to the Yuma Mesa Pumping Plant
- Support structures for electrical equipment was temporarily constructed on wood structures during World War II and upgraded to steel in the late 1940s following the end of the war
- Wellton-Mohawk Irrigation Drainage District expansion followed helping bring water from the Colorado River and local groundwater pumps to thousands of acres of desert farmlands by the late 1950s
- Today the Yuma area agricultural industry generates an estimated \$4B in local economic impact



Gila Substation 69kV Rebuild

Scope

- Rebuild the 69kV switchyard in a 4-bay breaker-and-a-half configuration in the footprint of the decommissioned 161kV yard
- Remove all 161kV equipment and concrete foundations in compliance with proper disposal of environmental contaminants
- Install two new 69/34.5kV, 20 MVA Transformers
- Install new 16.2 MVAR Shunt Capacitor Bank
- Install 15 panels with controls, relays, and communication equipment in control building
 - Includes five 34.5kV panels to accommodate and streamline the Gila 34.5kV Rebuild
- Transfer North Gila, Sonora, and Araby 69kV transmission lines to new 69kV switchyard



Gila Substation 69kV Rebuild

Budget				
CATEGORY	APPROVED (2021)*	PROPOSED (2026)	DIFFERENCE (\$)	DIFFERENCE (%)
Administrative	\$3,370,000	\$3,360,000	(\$10,000)	-0.3%
Design	\$980,000	\$1,220,000	\$240,000	24%
Environmental	\$290,000	\$140,000	(\$150,000)	-52%
Lands and Land Rights	\$10,000	\$10,000	\$0	-
Materials	\$4,150,000	\$7,850,000	\$3,700,000	89%
Commissioning	\$1,700,000	\$2,180,000	\$480,000	28%
Construction	\$7,400,000	\$13,780,000	\$6,380,000	86%
Total	\$17,900,000	\$28,540,000	\$10,640,000	59%

Notes:

- All numbers rounded to nearest ten thousand dollars
- *Study budget allocation adjusted by Project Management prior to customer vote



Gila Substation 69kV Rebuild

Design (+24%, +\$240k)

- Additional work required for 34.5kV control panels and approach spans for existing line terminations

Environmental (-52%, -\$150k)

- Environmental categorical exclusion in place

Materials (+89%, +\$3.7m)

- Breaker and transformer costs have increased 60%
- Protective relays and control panel costs have increased by 57%
- Structures have increased by 142% primarily due to material costs



Gila Substation 69kV Rebuild

Commissioning (+28%, +\$480k)

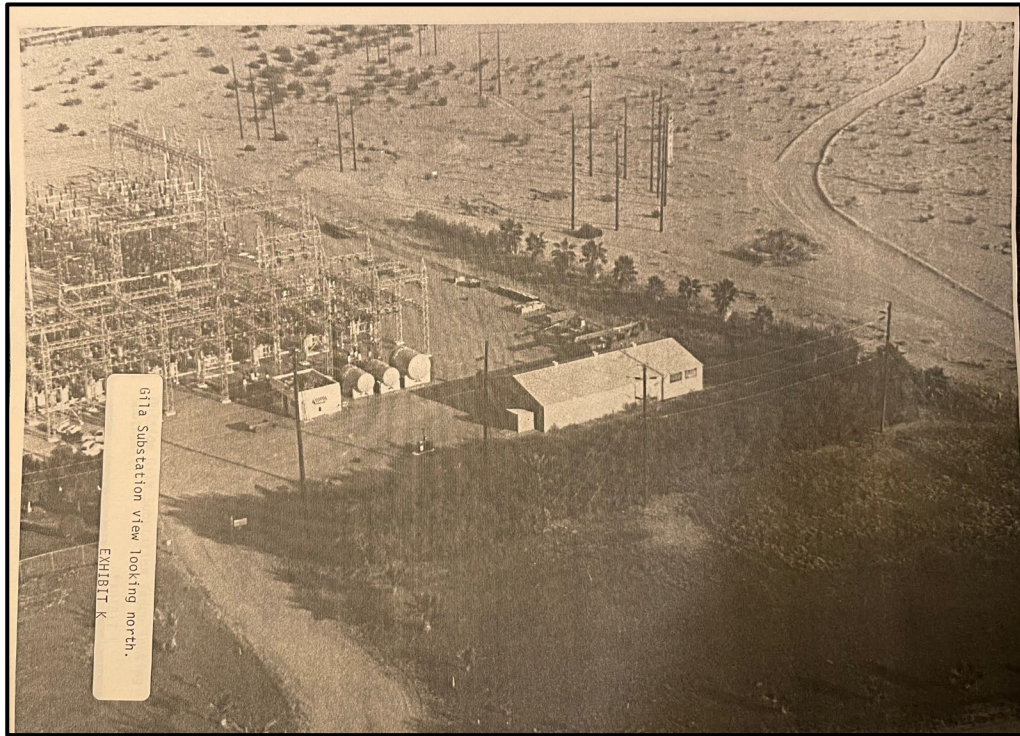
- Cost increase attributed to expanded scope requirements

Construction (+86%, \$6.4m)

- Electrical construction labor cost increases of up to 40% since 2021 in the greater Phoenix market
- Metal costs remain elevated relative to other materials with a recent trend increase – Copper is up 32% year-over-year as of Spring 2026³
- Project sitework and concrete estimates increased 170%
- Control cabling work estimate has increased 190%



Gila Substation



North view Gila Substation in 1983



North facing view in 2021



Questions or Comments?



Project Budget Review

Mike Garcia
Project Manager



Oracle – Tucson 115kV Rebuild



North view at Tangerine Road



Oracle – Tucson 115kV Rebuild

Description and Background

- Constructed in 1943, spans approximately 25 miles with the northern half (wood H-frame and single pole) running through mostly undeveloped desert and residential areas and the southern half (steel double-circuit with TEP) crossing suburban and urban areas
- Northern half consists of aging 4/0 copper conductor; southern half includes mixed 954 ACSR, 795 ACSR, and some copper
- Environmental considerations include biological and cultural resources requiring surveys, avoidance buffers, and monitoring



Oracle – Tucson 115kV Rebuild

Scope

- Replace approximately 75 wood structures in-kind and all associated hardware such as crossarms, braces, and suspension
- Install approximately 15 miles of 954 ACSR conductor to replace non-contiguous conductor types
- Install 25 miles of 48-count overhead optical ground wire and overhead ground wire
- Clear access roads and structure pads
- Remediate phase-to-ground NERC clearance violations
- Upgrade protective relaying and modify settings to match new configuration



Oracle – Tucson 115kV Rebuild

Budget				
CATEGORY	APPROVED (2023)	PROPOSED (2026)	DIFFERENCE (\$)	DIFFERENCE (%)
Administrative	\$1,800,000	\$2,250,000	\$450,000	25%
Design	\$460,000	\$1,170,000	\$710,000	154%
Environmental	\$1,370,000	\$770,000	(\$600,000)	-44%
Lands and Land Rights	\$50,000	\$40,000	(\$10,000)	-20%
Materials	\$2,000,000	\$2,200,000	\$200,000	10%
Commissioning	\$430,000	\$500,000	\$70,000	16%
Construction	\$5,020,000	\$7,050,000	\$2,030,000	40%
Total	\$11,130,000	\$13,980,000	\$2,850,000	26%

Notes:

- All numbers rounded to nearest ten thousand dollars



Oracle – Tucson 115kV Rebuild

Administrative (+25%, \$450k)

- Level of effort increased for scoping, coordination, financials, procurement, and schedule delays
- Inspection costs increased to facilitate multiple construction crews

Design (+154%, \$710k)

- Overall increase associated with external A-E design

Environmental (-44%, -\$600k)

- Resource survey results indicate a shorter duration of work in sensitive areas



Oracle – Tucson 115kV Rebuild

Construction (+40%, +\$2.03m)

- Conductor cost increased over 65%
- Insulator cost increased over 75%
- Cost increase is consistent with industry inflation since 2023



Questions or Comments?



Proposed Project Budgets

PROJECT NAME	APPROVED BUDGET	TOTAL REMAINING*	PROPOSED	INCREASE (%)	APPROVED
Parker – Blythe 161kV #2 Rebuild Phases 1-3	\$41,960,000	\$39,034,000	\$69,090,000	65%	2020
Gila Substation 69kV Rebuild	\$17,900,000	\$13,640,000	\$28,540,000	59%	2021
Oracle – Tucson 115kV Rebuild	\$11,130,000	\$10,415,000	\$13,980,000	26%	2023

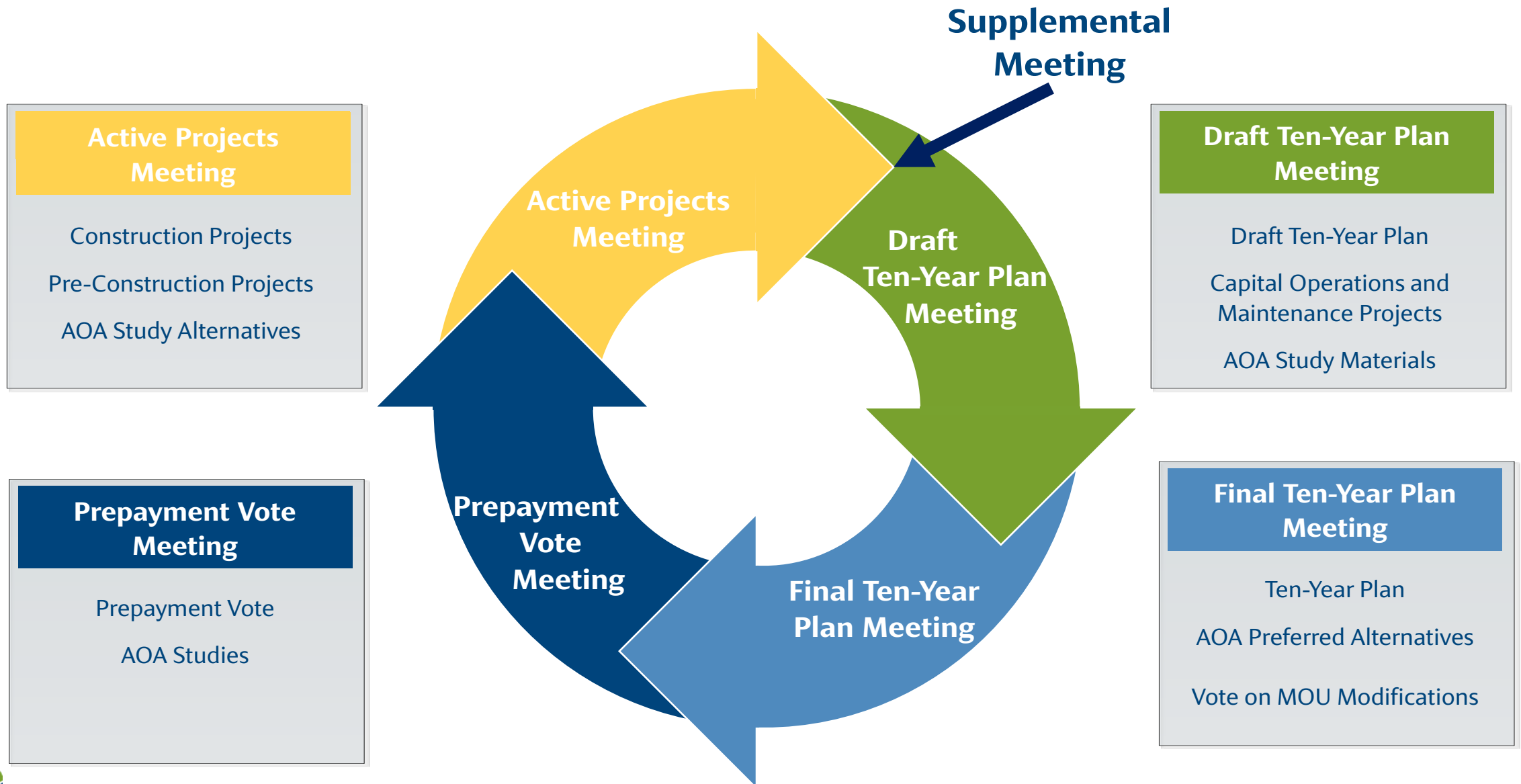
Notes:

- All financials through January 2026, rounded to nearest ten-thousand



Annual Meeting Cycle





Next Steps

- Proposed budget increases for these projects will be included in the Ten-Year Plan along with the other active projects
- Next meeting (Q2) expected to be held late July to early August
- DSW's Draft Ten-Year Plan and Capital O&M program will be presented for consideration
- Planning on a forum to discuss customer feedback on proposed changes to Prepayment MOU



Questions or Comments?



Contact WAPA

Ten-Year Plan

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[DSW Ten-Year Capital Plan](#)

