

For Webex Participants

- Notice: Participants will be muted upon entering the Webex meeting
- Due to the current covid-19 situation our DSW personnel are also participating in this meeting remotely
- Throughout the presentation at the end of each section a question and answer session will take place, which will be indicated by a slide with the word "Questions?" in the center
- If you have a question and are logged into the Webex, find your name and click the hand icon to the right of it – this will alert the mod that you have a question and you will be unmuted during the next "Questions?" phase



- After your question has been addressed, please click the hand icon again to lower your hand, failure to do so will mean the moderator will be unable to tell if you have another question
- Please do not put this call on hold or take other calls while participating
- If you have questions and are calling in without a computer, please text 602.859.2304
- Thank you for helping us provide an accessible presentation for all attendees



Intertie & Parker-Davis Project Active Construction Projects Update

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Intertie and Parker-Davis Project Active Construction Projects Update

March 25, 2020

Desert Southwest Region
Phoenix, AZ



Update: FAC-008

- DSW is updating Facility Ratings consistent with NERC Reliability Standard Criteria (FAC-008)
 - In many cases field verifications of equipment is required to ensure drawing information matches field conditions.
 - It is too early in the process to know if any of the rating changes will have any Customer impact.



Questions?



Agenda

- Welcome
- Active Construction Projects Update
- Seed Project Update
- Analysis of Alternatives Studies
- Next Steps



Active Construction Projects Update



Active Construction Projects Update

Project Manager: Roger Wright

- Coolidge-Valley Farms 115-kV Rebuild
- Liberty Series Capacitor Bank Replacement

Project Manager: Michael Garcia

- Kofa-Dome Tap 161-kV Rebuild



Intertie & Parker-Davis Project Active Construction Projects Update

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Active Construction Projects Update

Project Manager: Tony Gagajewski

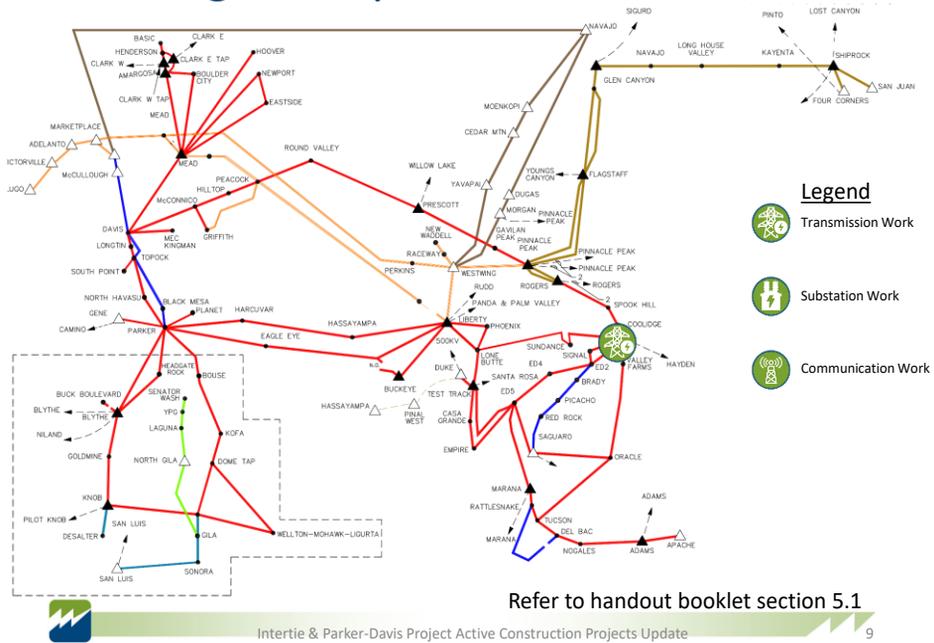
- Dome Tap-Gila 161-kV Rebuild
- Gila-Wellton Mohawk Interstate-8 Crossing Rebuild
- Gila Substation 161-kV Rebuild
- Bouse-Kofa 161-kV Rebuild
- Bouse Upgrade Alternative – Seed Project



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Coolidge-Valley Farms 115-kV Rebuild



Update: Coolidge-Valley Farms

Project Description

- Reconductor and rehabilitate 6.1 miles of transmission line to increase capacity from 88-MVA to 180-MVA to mitigate overload issues

Project Update

- The construction contractor began mobilization December 2019
- Structure and conductor replacement has begun, starting at Valley Farms

Project Schedule

PROJECT MILESTONE	STATUS	DATE
Seed Funded	Completed	Q1 2018
Approved for Funding	Completed	Q4 2018
Design Completed	Completed	Q3 2019
Construction Mobilization	Completed	Q4 2019
In-Service / Energization	Projected	Q2 2020
Financial Closeout	Projected	Q4 2020

Update: Coolidge-Valley Farms



FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENTS	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS
Prepayment	\$ 2,305,000	\$ (856,527)	\$ 1,448,473	\$ 548,179	\$ 900,294
Appropriations	\$ 1,045,000	\$ 49,527	\$ 1,094,527	\$ 1,094,527	\$ -
TOTAL	\$ 3,350,000	\$ (807,000)	\$ 2,543,000	\$ 1,642,706	\$ 900,294

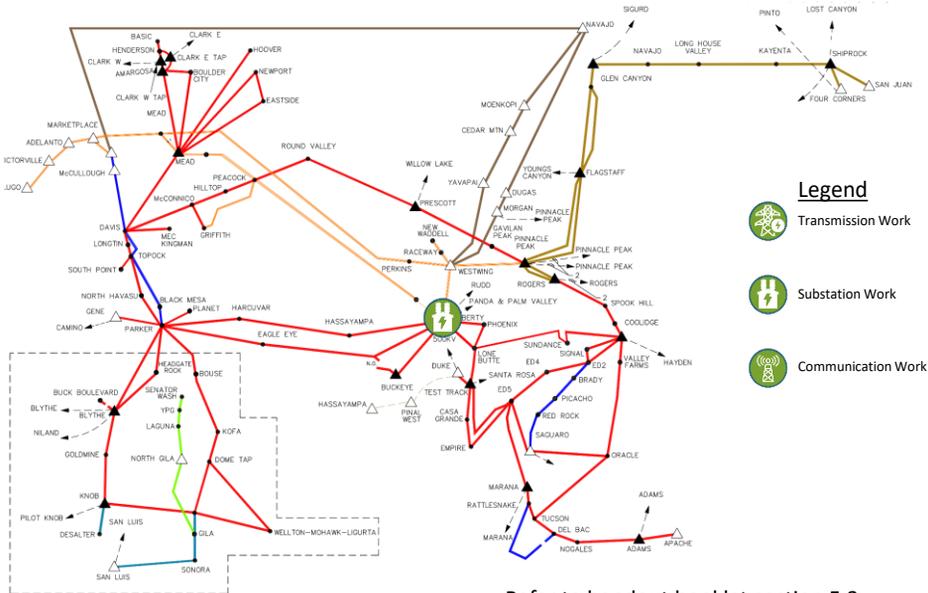
*Cost = All Executions, Obligations, & Commitments Through 12/30/19. Excludes Interest During Construction

Refer to handout booklet section 5.1



Intertie & Parker-Davis Project Active Construction Projects Update
Project Manager: Roger Wright

Liberty Series Capacitor Bank Replacement



Refer to handout booklet section 5.2



Intertie & Parker-Davis Project Active Construction Projects Update
Project Manager: Roger Wright

Update: Liberty Series Capacitor Bank

Project Description

- Furnish and install a new 345-kV series capacitor bank to replace the existing vintage Westinghouse series capacitor bank

Project Update

- The construction contractor re-mobilized in September 2019 under a planned 3 month outage to complete field activities
- Construction activities have finished successfully and project was energized January 17, 2020
- Remaining work to be completed in March 2020

Project Schedule

PROJECT MILESTONE	STATUS	DATE
Seed Funded	N/A	N/A
Approved for Funding	Completed	Q4 2016
Design Completed	Completed	Q1 2018
Construction Mobilization	Completed	Q4 2018
In-Service / Energization	Completed	Q1 2020
Financial Closeout	Projected	Q3 2020

Refer to handout booklet section 5.2



Intertie & Parker-Davis Project Active Construction Projects Update

Project Manager: Roger Wright

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Update: Liberty Series Capacitor Bank



FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENTS	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS
Prepayment	\$ 10,372,000	\$ (6,345,204)	\$ 4,026,796	\$ 3,185,702	\$ 841,094
Appropriations	\$ -	\$ 5,808,204	\$ 5,808,204	\$ 5,636,085	\$ 172,119
TOTAL	\$ 10,372,000	\$ (537,000)	\$ 9,835,000	\$ 8,821,787	\$ 1,013,213

*Cost = All Executions, Obligations, & Commitments Through 12/30/19. Excludes Interest During Construction

Refer to handout booklet section 5.2



Intertie & Parker-Davis Project Active Construction Projects Update

Project Manager: Roger Wright

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Update: Kofa-Dome Tap 161-kV

Project Description

- Replace 7.3 miles of conductor and remaining wood structures with light-duty steel to increase reliability and remediate existing phase to ground clearance violations

Project Update

- The construction contract was awarded February 2020
- All government furnished equipment has been ordered and is anticipated to be received by October 2020

Project Schedule

PROJECT MILESTONE	STATUS	DATE
Seed Funded	Completed	Q4 2017
Approved for Funding	Completed	Q4 2018
Design Completed	Completed	Q4 2019
Construction Mobilization	Projected	Q4 2020
In-Service / Energization	Projected	Q2 2021
Financial Closeout	Projected	Q4 2021

Refer to handout booklet section 5.3



Intertie & Parker-Davis Project Active Construction Projects Update

Project Manager: Mike Garcia

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Update: Kofa-Dome Tap 161-kV



FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENTS	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS
Prepayment	\$ 4,830,000	\$ (192,000)	\$ 4,638,000	\$ 2,056,387	\$ 2,581,613
Appropriations	\$ 500,000	\$ -	\$ 500,000	\$ 317,359	\$ 182,641
TOTAL	\$ 5,330,000	\$ (192,000)	\$ 5,138,000	\$ 2,373,746	\$ 2,764,254

*Cost = All Executions, Obligations, & Commitments Through 12/30/19. Excludes Interest During Construction

Refer to handout booklet section 5.3



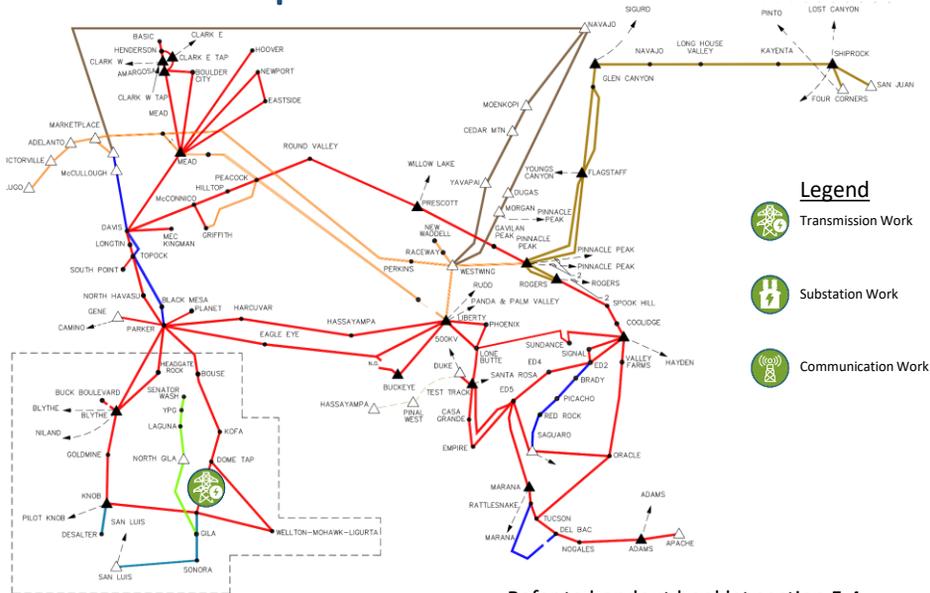
Intertie & Parker-Davis Project Active Construction Projects Update

Project Manager: Mike Garcia

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Questions?

Dome Tap-Gila 161-kV Rebuild



Refer to handout booklet section 5.4

Project Manager: Tony Gagajewski

Update: Dome Tap-Gila 161-kV

Project Description

- Replace 7.6 miles of conductor and remaining wood structures with light-duty steel to increase reliability and remediate existing phase-to-ground clearance violations

Project Update

- Construction began on schedule in October 2019
- Project is on schedule for the projected in-service date

Project Schedule

PROJECT MILESTONE	STATUS	DATE
Seed Funded	Completed	Q4 2017
Approved for Funding	Completed	Q4 2018
Design Completed	Completed	Q1 2019
Construction Mobilization	Completed	Q4 2019
In-Service / Energization	Projected	Q2 2020
Financial Closeout	Projected	Q4 2020



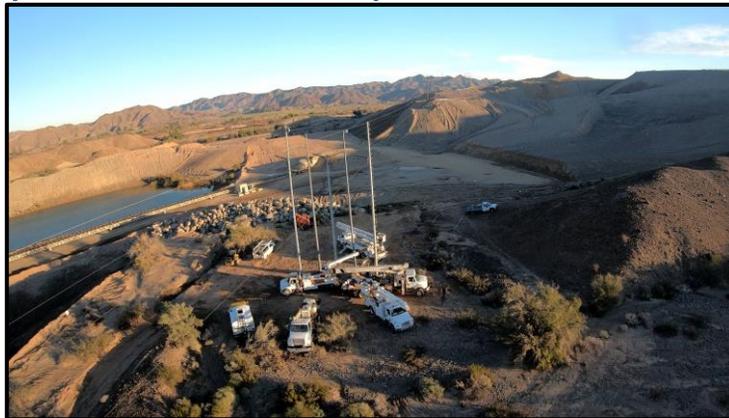
Refer to handout booklet section 5.4

Intertie & Parker-Davis Project Active Construction Projects Update

Project Manager: Tony Gagajewski

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Update: Dome Tap-Gila 161-kV



FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENTS	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS
Prepayment	\$ 7,130,000	\$ (2,000,000)	\$ 5,130,000	\$ 2,400,549	\$ 2,729,451
Appropriations	\$ 500,000	\$ -	\$ 500,000	\$ 360,497	\$ 139,503
TOTAL	\$ 7,630,000	\$ (2,000,000)	\$ 5,630,000	\$ 2,761,046	\$ 2,868,954

*Cost = All Executions, Obligations, & Commitments Through 12/30/19. Excludes Interest During Construction



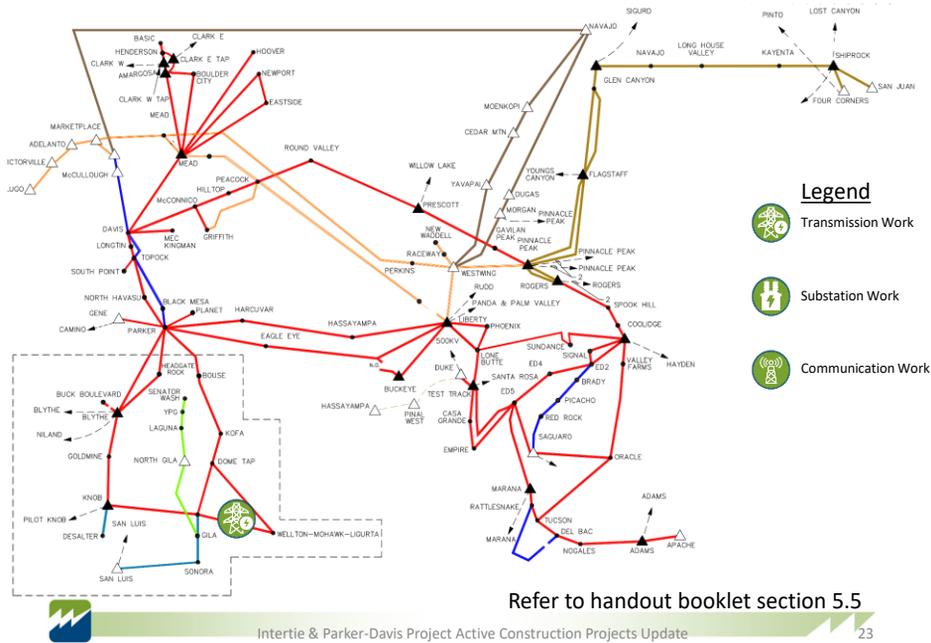
Refer to handout booklet section 5.4

Intertie & Parker-Davis Project Active Construction Projects Update

Project Manager: Tony Gagajewski

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Gila-Wellton Mohawk Interstate 8 Crossing Rebuild



Update: Gila-Wellton I-8 Crossing

Project Description

- Replace a 2.8 mile section of inaccessible transmission line crossing Interstate 8 on the Gila-Wellton 161-kV transmission line. Structure replacements required helicopter installation.

Project Update

- Construction is complete and project is in financial closeout
- First formal seed funded project, executed within ~2% of seed estimate

Project Schedule

PROJECT MILESTONE	STATUS	DATE
Seed Funded	Completed	Q4 2016
Approved for Funding	Completed	Q4 2017
Design Completed	Completed	Q1 2018
Construction Mobilization	Completed	Q3 2018
In-Service / Energization	Completed	Q2 2019
Financial Closeout	Projected	Q1 2020

Refer to handout booklet section 5.5

Update: Gila-Wellton I-8 Crossing



FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENTS	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS
Prepayment	\$ 7,247,137	\$ 34,654	\$ 7,281,791	\$ 7,104,946	\$ 176,845
Appropriations	\$ 273,517	\$ 27,656	\$ 301,173	\$ 295,053	\$ 6,120
TOTAL	\$ 7,520,654	\$ 62,310	\$ 7,582,964	\$ 7,399,999	\$ 182,965

*Cost = All Executions, Obligations, & Commitments Through 12/30/19. Excludes Interest During Construction

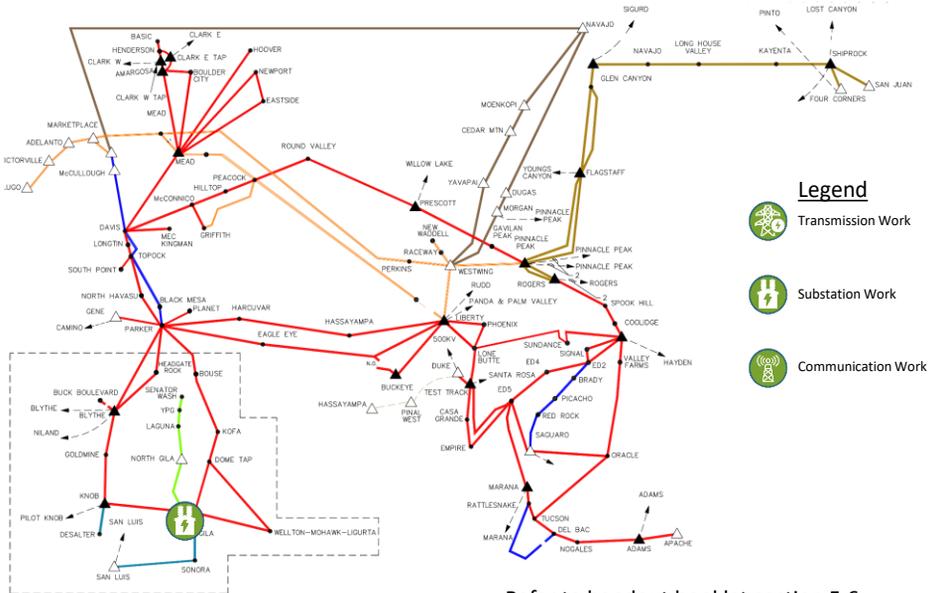


Refer to handout booklet section 5.5

Intertie & Parker-Davis Project Active Construction Projects Update
Project Manager: Tony Gagajewski

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Gila Substation 161-kV Rebuild



Refer to handout booklet section 5.6



Intertie & Parker-Davis Project Active Construction Projects Update
Project Manager: Tony Gagajewski

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Update: Gila Substation 161-kV

Project Description

- Replace aging 161-kV infrastructure at Gila Substation with new equipment built to 230-kV standards and operated at 161-kV

Project Update

- Prepayment reallocation to complete construction was approved in December 2019
- Control building was erected successfully in December 2019
- Remaining construction will continue through July 2020

Project Schedule

PROJECT MILESTONE	STATUS	DATE
Seed Funded	N/A	N/A
Approved for Funding	Completed	Q4 2014
Design Completed	Completed	Q2 2018
Construction Mobilization	Completed	Q4 2018
In-Service / Energization	Projected	Q2 2020
Financial Closeout	Projected	Q4 2020

Refer to handout booklet section 5.6



Intertie & Parker-Davis Project Active Construction Projects Update

Project Manager: Tony Gagajewski

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Update: Gila Substation 161-kV



FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENTS	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS
Prepayment	\$ 12,000,000	\$ 8,602,845	\$ 20,602,845	\$ 17,132,037	\$ 3,470,808
Appropriations	\$ -	\$ 3,681,013	\$ 3,681,013	\$ 3,445,615	\$ 235,398
TOTAL	\$ 12,000,000	\$ 12,283,858	\$ 24,283,858	\$ 20,577,652	\$ 3,706,206

*Cost = All Executions, Obligations, & Commitments Through 12/30/19. Excludes Interest During Construction

Refer to handout booklet section 5.6

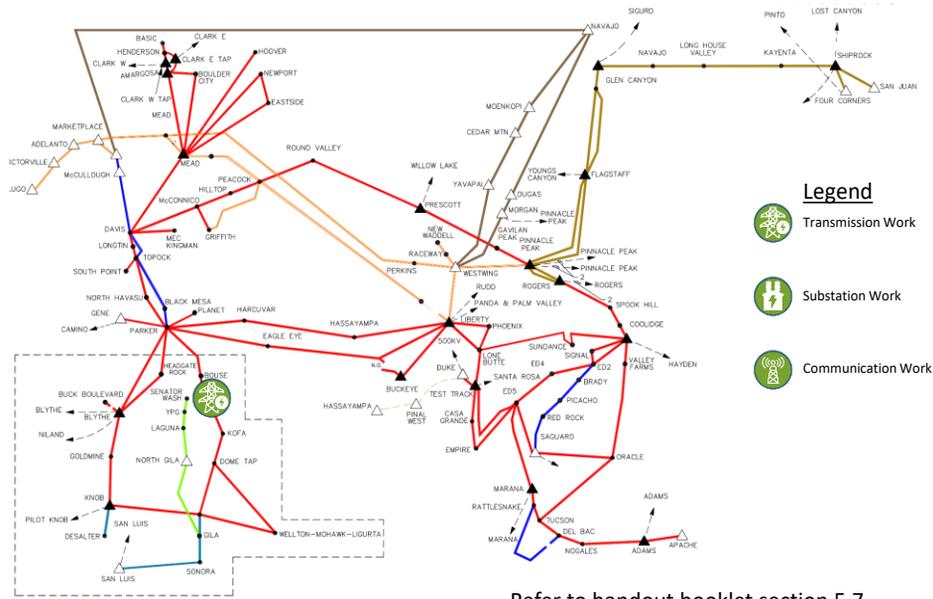


Intertie & Parker-Davis Project Active Construction Projects Update

Project Manager: Tony Gagajewski

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Bouse-Kofa 161-kV Rebuild



Refer to handout booklet section 5.7

 Intertie & Parker-Davis Project Active Construction Projects Update
Project Manager: Tony Gagajewski 29

Update: Bouse-Kofa 161-kV

Project Description

- Replacement of 82 remaining wood structures along the 84 mile transmission line between Bouse and Kofa substation to increase reliability and remediate phase-to-ground clearance violations

Project Update

- Design is in progress and approaching 50% completion
- Aerial LiDAR survey is complete
- Lands and environmental work has begun

Project Schedule

PROJECT MILESTONE	STATUS	DATE
Seed Funded	N/A	N/A
Approved for Funding	Completed	Q4 2018
Design Completed	Projected	Q3 2020
Construction Mobilization	Projected	Q4 2021
In-Service / Energization	Projected	Q2 2023
Financial Closeout	Projected	Q1 2024

Refer to handout booklet section 5.7

 Intertie & Parker-Davis Project Active Construction Projects Update
Project Manager: Tony Gagajewski 30

Update: Bouse-Kofa 161-kV



FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENTS	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS
Prepayment	\$ 26,520,000	\$ -	\$ 26,520,000	\$ 519,260	\$ 26,000,740
Appropriations	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 26,520,000	\$ -	\$ 26,520,000	\$ 519,260	\$ 26,000,740

*Cost = All Executions, Obligations, & Commitments Through 12/30/19. Excludes Interest During Construction



Intertie & Parker-Davis Project Active Construction Projects Update

Project Manager: Tony Gagajewski

Refer to handout booklet section 5.7

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Questions?



Intertie & Parker-Davis Project Active Construction Projects Update

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Seed Project Update

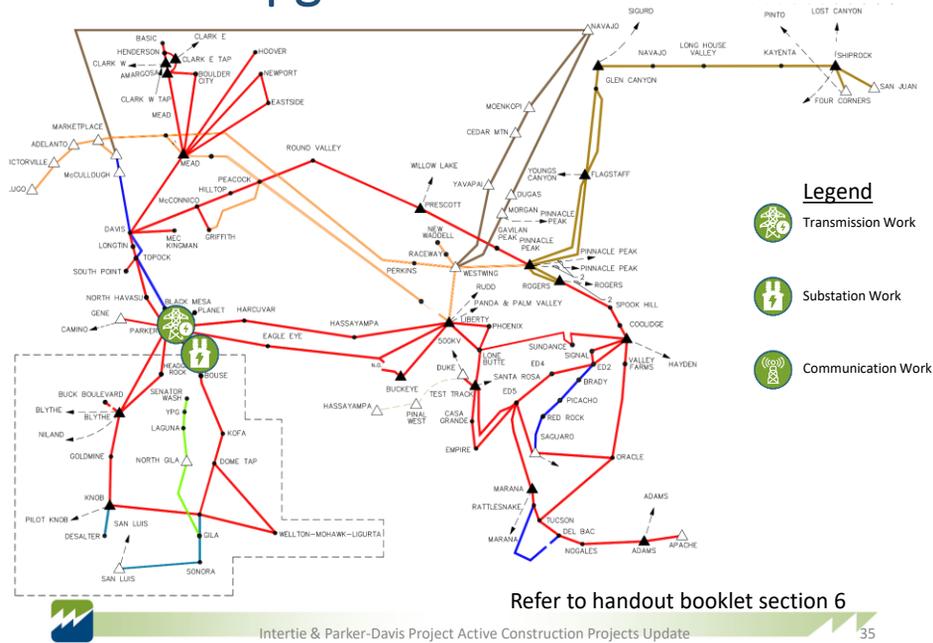


Seed Funding Process

- In collaboration with customers, DSW has implemented a seed funding process for construction projects
- Initial seed funding is used to begin engineering design with the goal of minimizing risk and identifying constraints to construction prior to voting for prepayment funding
- The seed funding process has proven to be an effective method of producing more accurate estimates of construction costs



Bouse Upgrade Alternative



Update: Bouse Upgrade Alternative

Project Description

- Currently undergoing seed funding to explore the feasibility of a design to provide an alternate delivery path from Parker Substation to Bouse and Headgate Rock Substations

Project Update

- Lands and environmental assessments are underway
- Communication with regional stakeholders is ongoing, a more in depth update is anticipated during the Q2 10-Year Plan Meeting

Project Schedule

PROJECT MILESTONE	STATUS	DATE
Seed Funded	Completed	Q4 2018
Approved for Funding	Projected	TBD
Design Completed	Projected	TBD
Construction Mobilization	Projected	TBD
In-Service / Energization	Projected	TBD
Financial Closeout	Projected	TBD

Update: Bouse Upgrade Alternative



FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENTS	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS
Prepayment	\$ -	\$ -	\$ -	\$ -	\$ -
Appropriations	\$ 890,821	\$ 1,208,000	\$ 2,098,821	\$ 949,871	\$ 1,148,950
TOTAL	\$ 890,821	\$ 1,208,000	\$ 2,098,821	\$ 949,871	\$ 1,148,950

**Cost = All Executions, Obligations, & Commitments Through 12/30/19. Excludes Interest During Construction
 ***~\$1M of cost previously executed to date on the canceled 161-kV Parker-Bouse & Parker - Headgate Project will be incorporated on this project.*

Refer to handout booklet section 6



Intertie & Parker-Davis Project Active Construction Projects Update

Project Manager: Tony Gagajewski

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Questions?



Intertie & Parker-Davis Project Active Construction Projects Update

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Analysis of Alternative Studies

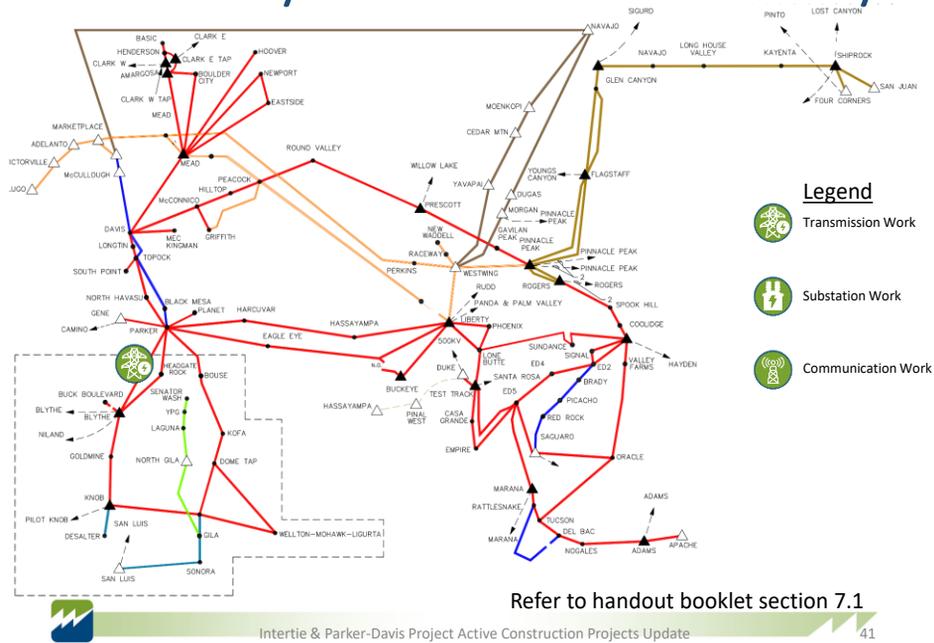


Analysis of Alternative Studies

- DSW has several studies in the preliminary stages of the Analysis of Alternatives process
- Preliminary alternatives to be studied have been identified internally
- DSW is asking for feedback into these proposed alternatives as well as suggestions for additional alternatives to be studied
- Please submit any additional alternatives for consideration to :
DSW_Ten_Year_Plan@WAPA.GOV



Parker-Blythe 161-kV Rebuild Study



Parker-Blythe 161-kV Mission Need

- Degraded wood poles require replacement along 64 mile transmission line
 - 878 out of 920 require repair or replacement
 - 402 of those 878 have serious defects
- Phase-to-ground clearance violations require an engineering fix
- Repair and reclaim right-of-way access
- 20% of the structures (100+) require dozer tow-in for access
- New fiber optic communication capabilities



Intertie & Parker-Davis Project Active Construction Projects Update

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Refer to handout booklet section 7.1

Parker-Blythe 161-kV Image



Refer to handout booklet section 7.1



Intertie & Parker-Davis Project Active Construction Projects Update

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Parker-Blythe 161-kV Alternatives

- Alternative 1 - Status Quo, continue routine maintenance
- Alternative 2 - Rebuild with light duty steel H-Frame structures using 230-kV specifications and standards
 - Originally identified as the recommended alternative prior to this restudy effort
- Alternative 3 - Replace failing wood structures in-kind to 161-kV standards
- Alternative 4 - Replace all wood structures in-kind to 161-kV standards

Note: Alternative 3 and 4 will each be explored with and without the addition of OPGW in place of existing OGW

Refer to handout booklet section 7.1

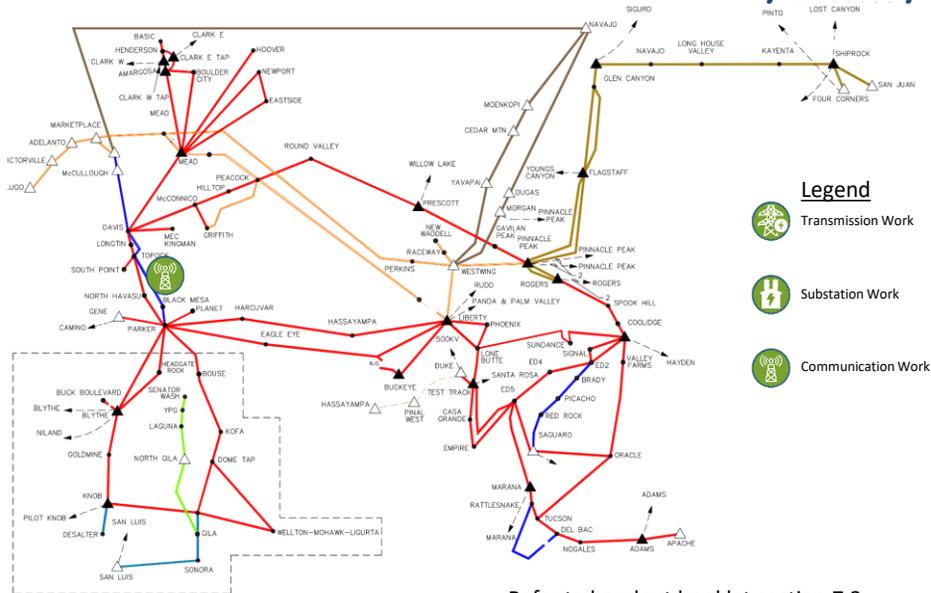


Intertie & Parker-Davis Project Active Construction Projects Update

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Questions?

Crossman Peak Microwave Facility Study



Refer to handout booklet section 7.2

Crossman Peak Mission Need

- WAPA's microwave system operates within a specific frequency band regulated by the Federal Communications Commission
- Legislation was passed in 2010 that reallocates this frequency band to a higher bandwidth range
- Analysis has determined that when the microwave path between Christmas Tree Pass and Metal Mountain is upgraded to the higher frequency band an interruption in the signal will occur from the mountainous terrain in the area, severing the microwave path between these two communication sites
- Alternative locations have been explored with no viable options identified to date



Intertie & Parker-Davis Project Active Construction Projects Update

Refer to handout booklet section 7.2

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Crossman Peak Current Status

- DSW has put Crossman Peak on hold to reassess the most cost effective path forward for an integral part of the communication system
- An addendum to the initial AOA study was requested to explore alternative power sources, as well as continue exploring any potential partnerships in the region



Intertie & Parker-Davis Project Active Construction Projects Update

Refer to handout booklet section 7.2

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Crossman Peak Images



Refer to handout booklet section 7.2



Intertie & Parker-Davis Project Active Construction Projects Update

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Crossman Peak Alternatives

- Alternative 1 - Renewable energy with battery storage
- Alternative 2 - Propane generator
- Alternative 3 - Distribution line (DSW funded)
- Alternative 4 - Distribution line (partner with other regional stakeholders)
- Alternative 5 - New location

Note: Combinations of the alternatives listed above are also being explored, for example solar, wind and propane in tandem

Refer to handout booklet section 7.2



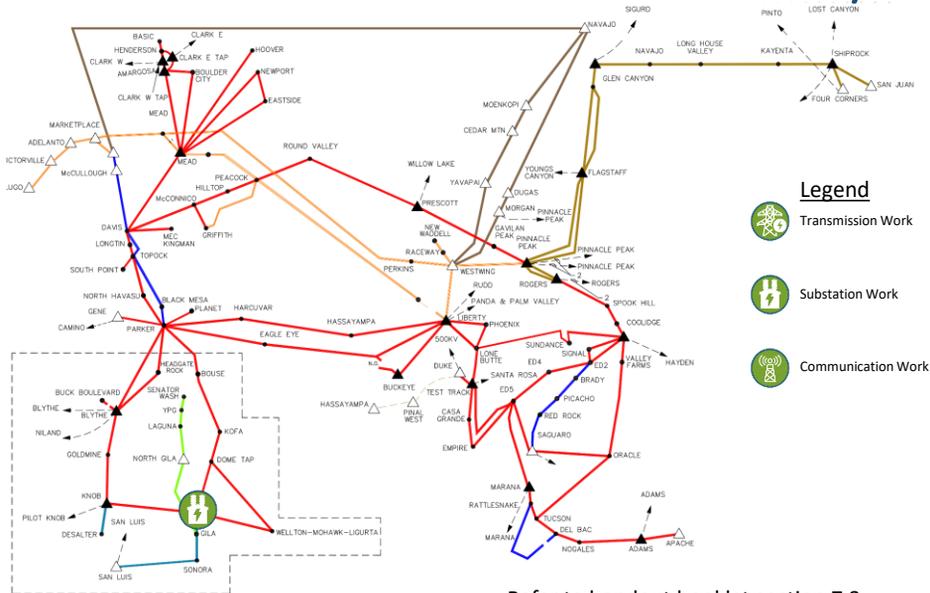
Intertie & Parker-Davis Project Active Construction Projects Update

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Questions?



Gila Substation 69-kV Rebuild Study



Refer to handout booklet section 7.3



Gila Substation 69-kV Mission Need

- The majority of the equipment in the Gila 69-kV Substation is operating beyond its useful service life
- This advanced age has resulted in an increased frequency of failures that are affecting system reliability
- Reliability is impacted due to extended outage times caused by old and worn equipment, for which spare parts have become difficult or impossible to obtain
- Many of the oil-bearing devices are leaking and supports are rusted



Refer to handout booklet section 7.3

Intertie & Parker-Davis Project Active Construction Projects Update

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Gila Substation 69-kV Image



Refer to handout booklet section 7.3

Intertie & Parker-Davis Project Active Construction Projects Update

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Gila Substation 69-kV Alternatives

- Alternative 1 - Status Quo, continue routine maintenance
- Alternative 2 - Replace failing and obsolete equipment in place
- Alternative 3 - Rebuild the 69-kV switchyard in the previous location of the 161-kV yard



Refer to handout booklet section 7.3

Intertie & Parker-Davis Project Active Construction Projects Update

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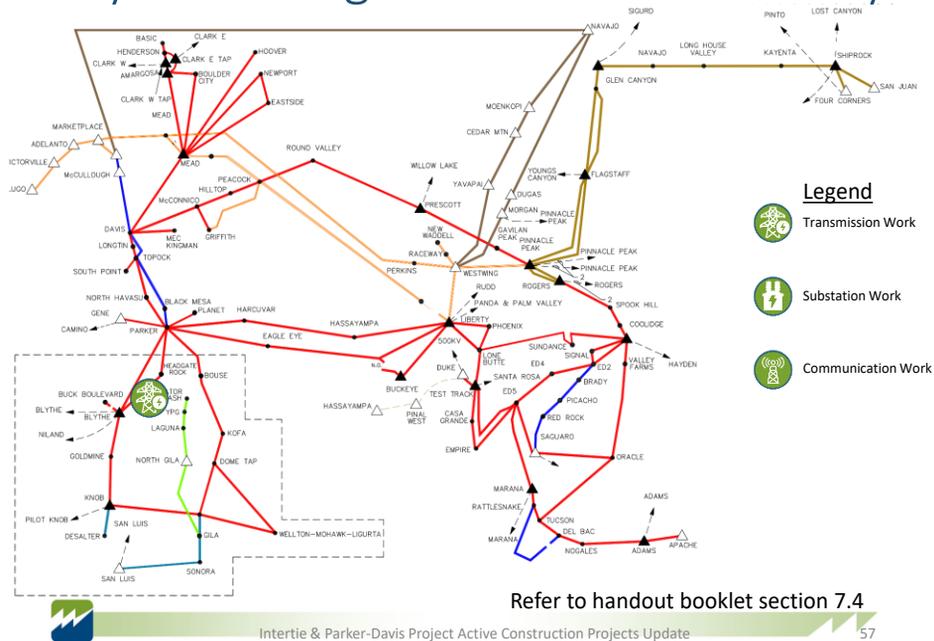
Questions?



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Blythe-Headgate Rock Rebuild Study



Blythe-Headgate Rock Mission Need

- Approximately 50% of the wood H-Frame structures on the transmission line have been replaced with light duty steel H-Frame structures designed for 230-kV to support 1272 kmil ACSR conductor
- Pole replacement projects in 1998 and 2007 installed 172 light duty steel H-Frame structures between Blythe Substation and structure 39-5
- There are 207 wood structures that have not been replaced in the transmission line
- The rebuild of the line was previously put on hold during the Black Mesa reroute project

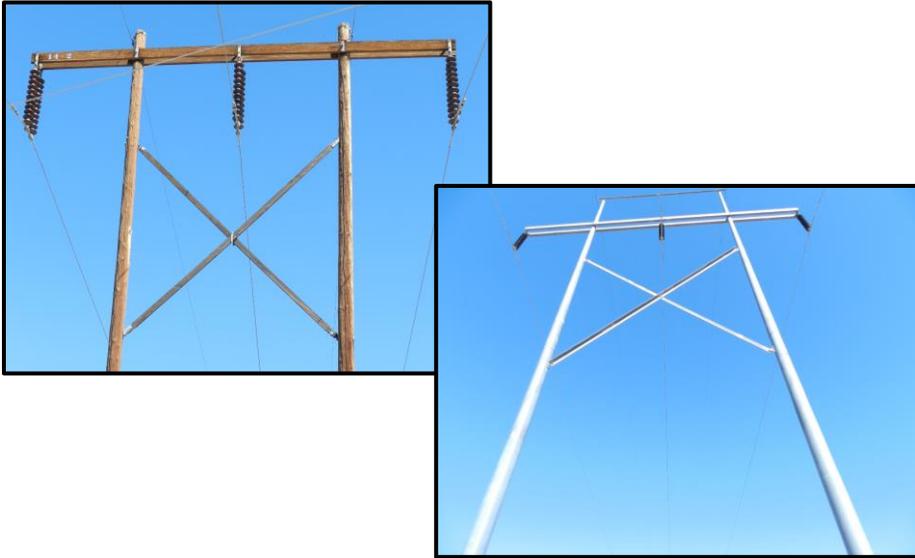


Intertie & Parker-Davis Project Active Construction Projects Update

Refer to handout booklet section 7.4

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Blythe-Headgate Rock Images



Intertie & Parker-Davis Project Active Construction Projects Update

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Blythe-Headgate Rock Alternatives

- Alternative 1 - Status Quo, continue routine maintenance
- Alternative 2 - Rebuild with light duty steel structures using 230-kV standards / operate at 161-kV



Refer to handout booklet section 7.4

Intertie & Parker-Davis Project Active Construction Projects Update

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Questions?



Intertie & Parker-Davis Project Active Construction Projects Update

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Next Steps



Intertie & Parker-Davis Project Active Construction Projects Update

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Next Steps



We are here today



Intertie & Parker-Davis Project Active Construction Projects Update

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Questions?

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Intertie & Parker-Davis Project Active Construction Projects Update

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