



Western  
Area Power  
Administration

# Parker-Davis Project

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June 10, 2019

Fiscal Year 2020 Charges  
Phoenix, Arizona



# Agenda

- Standard Calculation Parameters
- FY 2018 Summary
- FY 2019 Calculation of Charges
- FY 2020 Generation Charge Determinates
- FY 2020 Transmission Charge Determinates
- Preliminary FY 2020 Charges
- Flexibility of Repayment (Mitigation Techniques)
- Next Steps and Contact Information



# Standard Calculation Parameters

- Actual work plans are used to project O&M expenses when available. Work plans are escalated for inflation in remaining years of cost evaluation period (rate window).
- Ten-Year Plan information from WAPA and Reclamation is used to project capital costs
- Costs not readily identified as generation or transmission are allocated via the Cost Apportionment Study
- Transmission sales projections are based on contractual values, adjusted for known and measurables
- Deficits occur when revenues and carryover are insufficient to cover annual expenses and required investment payments



# FY 2018 Summary

- Fiscal Year (FY) 2018 revenues were slightly higher than projected
- Purchase Power and Wheeling (PPW) costs were higher than projected
- Principal payments were higher than projected due to difference in estimated vs actual dates assets entered repayment status
- FY 2018 expenses exceeded revenues and available carryover by \$9.5M resulting in a deficit
- The deficit must be repayed within 10 years



# FY 2018 Summary

	<u>Estimates</u>		<u>Actuals</u>		<u>Variance</u>
<b>Revenue</b>					
<b>Energy</b>	\$ 16,459,270		\$ 16,456,568		\$ (2,702)
<b>Transmission</b>	41,287,474		44,860,097		3,572,623
<b>Other Revenue</b>	<u>7,752,182</u>		<u>7,076,048</u>		<u>(676,134)</u>
<b>Revenue Total</b>		\$ 65,498,926		\$ 68,392,713	\$ 2,893,787
<b>Expenses</b>					
<b>Total O&amp;M</b>	\$ 46,805,725		\$ 47,985,394		\$ 1,179,669
<b>PPW</b>	3,580,000		12,115,221		8,535,221
<b>Other</b>	(1,424,467)		911,545		2,336,012
<b>Total Interest</b>	22,824,459		23,076,380		251,921
<b>Principal Payments</b>	<u>3,030,000</u>		<u>5,379,639</u>		<u>2,349,639</u>
<b>Expense Total</b>		\$ 74,815,717		\$ 89,468,179	\$ 14,652,462
<b>Prior Year Adjustment</b>				(2,440,182)	(2,440,182)
<b>Net</b>		\$ (9,316,791)		\$ (18,635,283)	\$ (9,318,492)
<b>Carryover</b>		9,316,791		9,107,808	(208,983)
<b>Carryover / (Deficit)</b>		\$ 0.0		\$ (9,527,475)	\$ (9,527,475)



# FY 2019 Calculation of Charges

## Generation Charges

- A reduction in the amount of carryover (unapplied revenues) anticipated to be available to offset costs resulted in an 8% increase to the composite generation charge for FY 2019

## Transmission Charges

- Reductions in the amount of other revenue and carryover projected to be available to offset costs resulted in an increase to the transmission charge
- We reduced a 16% transmission charge increase to 7% by deferring principal payments to future years



# Drivers of FY 2020 Calculations

## Upward Pressure

- Increased Purchase Power & Wheeling (Gen)
- Increased Principal & Interest (Gen & Tran)
- Decreased Other Revenue (Tran)
- Decreased Carryover

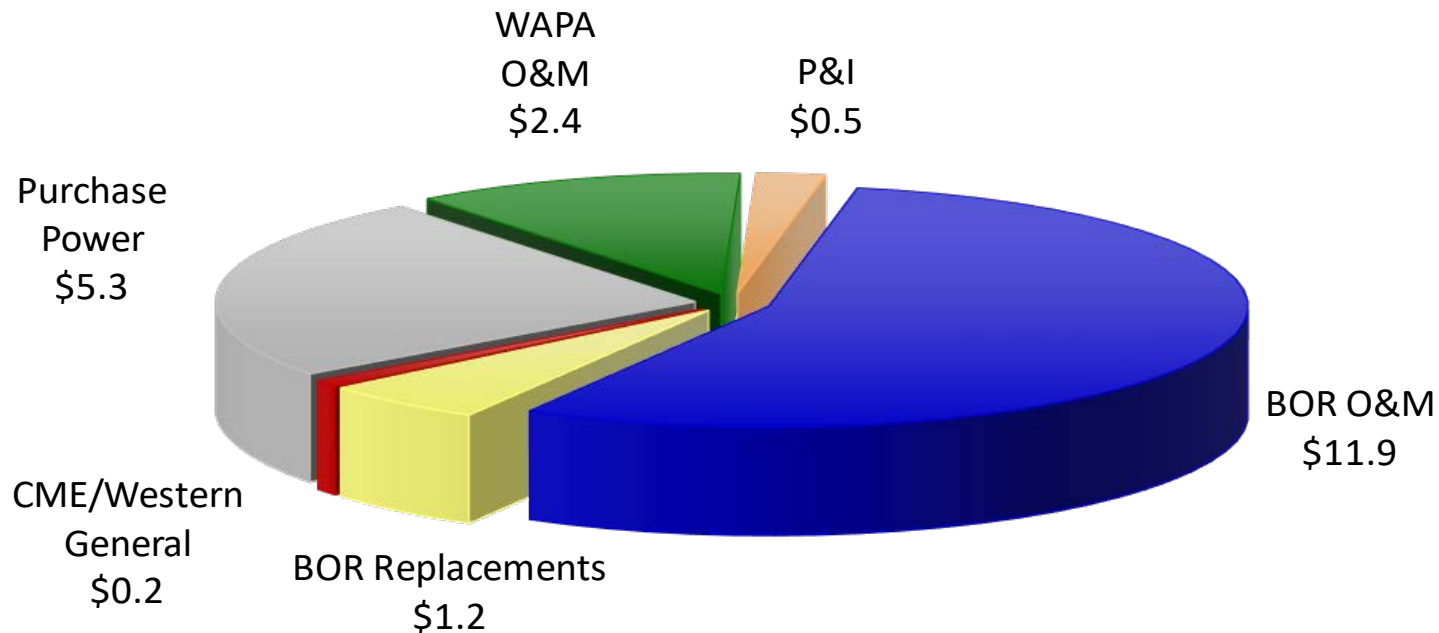
## Downward Pressure

- Flexibility of Repayment
  - Reclamation Replacements (Gen)
  - Principal & Interest (Tran)
  - Leveling (Gen & Tran)



# FY 2020 Generation Charge Determinates

Average Annual Expenses (in millions)





# FY 2020 Generation Charge Determinates

- In FY 2017, we agreed to increase purchase power projections by \$340k per year until \$3m is reached in FY 2022

	2017	2018	2019	2020	2021	2022
Annual PPW	\$1.3m	\$1.7m	\$2.0m	\$2.4m	\$2.7m	\$3.0m
5-Yr Avg in Rate	\$2.0m	\$2.4m	\$2.6m	\$2.8m	\$3.0m	\$3.0m

- When setting the annual charges, WAPA projected that available carryover would cover the amount by which expenses exceeded revenues
- P-DP regularly uses carryover during the 5-year rate window to smooth changes in annual charges



# FY 2020 Generation Charge Determinates

## Purchase Power & Wheeling

Fiscal Year	Generation
<b>Actuals</b>	
2014	\$3.3m
2015	\$5.2m
2016	\$3.6m
2017	\$7.7m
2018	\$6.5m
<b>Ratebase</b>	
2019	\$2.6m
<b>Prelim 2020</b>	<b>\$5.3m</b>



# FY 2020 Generation Charge Determinates

## Principal & Interest

Fiscal Year	Generation
<b>Ratebase</b>	
2015	\$0.1m
2016	\$0.1m
2017	\$0.1m
2018	\$0.1m
2019	\$0.1m
<b>Prelim 2020</b>	<b>\$0.5m</b>



# FY 2020 Generation Charge Determinates

Average Annual Expenses (in millions)

	FY19-23	FY20-24	Change
Reclamation O&M	\$11.6	\$11.9	\$0.3
WAPA O&M	\$2.6	\$2.4	\$(0.2)
CME/WAPA General Expense	\$0.2	\$0.2	\$0.0
Purchase Power/Wheeling	\$2.6	\$5.3	\$2.7
Reclamation Replacements	\$1.3	\$1.2	\$(0.1)
P&I	\$0.1	\$0.5	\$0.4
<b>Total</b>	<b>\$18.4</b>	<b>\$21.5</b>	<b>\$3.1</b>



# FY 2020 Generation Charge Determinates

Average Annual Other Revenue, Carryover, and Reservations  
(\$ in millions)

	FY19-23	FY20-24	Change
Other Revenue	\$0.3	\$0.3	\$0.0
Carryover	\$0.3	\$0.0	\$(0.3)
Total	\$0.6	\$0.3	\$(0.3)

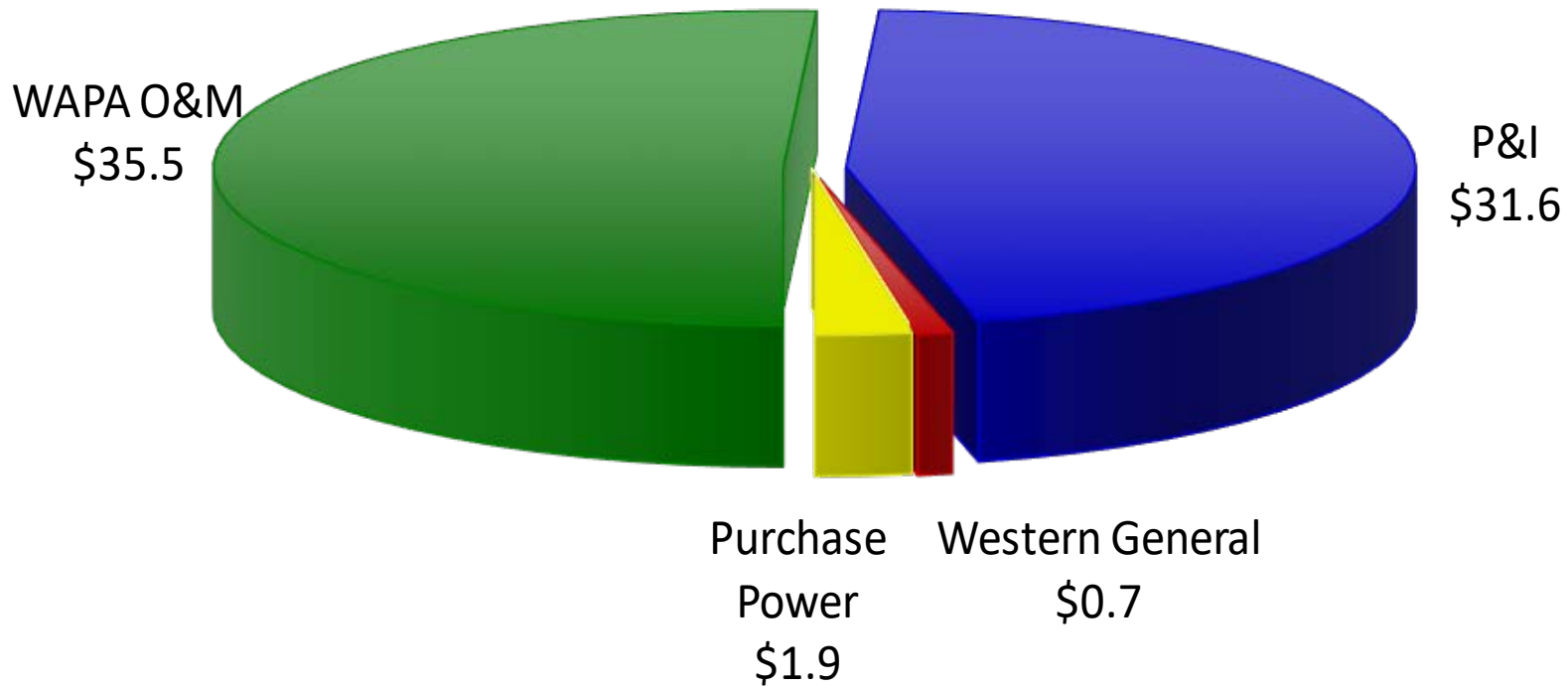
Revenue Requirement	\$17.8	\$21.2	\$3.4
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Reservations (GWh)	1,425	1,425	-
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# FY 2020 Transmission Charge Determinates

Average Annual Expenses (in millions)



# FY 2020 Transmission Charge Determinates

## Principal & Interest

- In recent years, WAPA has deferred making principal payments to moderate charge increases. The FY 2020 charge includes a return to full principal payments.
- While replacing aging infrastructure puts significant upward pressure on the charge, WAPA is collaborating with its customers, through the Ten Year Planning process, to identify the projects and priority needed to keep the transmission system safe, secure and reliable
- Capital costs account for approximately 50% of the transmission charge



# FY 2020 Transmission Charge Determinates

## Principal & Interest

Fiscal Year	Transmission	Deferred	Impact
<b>Ratebase</b>			
2015	\$27.3m		
2016 <sup>1</sup>	\$22.5m	\$5.4m	(11%)
2017 <sup>2</sup>	\$27.4m	\$3.1m	( 5%)
2018 <sup>1</sup>	\$23.7m	\$6.0m	(10%)
2019 <sup>1</sup>	\$25.2m	\$5.4m	( 9%)
<b>Prelim 2020<sup>3</sup></b>	<b>\$31.6m</b>		

<sup>1</sup> Principal payments deferred 100%

<sup>2</sup> Principal payments deferred 50%

<sup>3</sup> Principal payments not deferred





# FY 2020 Transmission Charge Determinates

## Other Revenue

Fiscal Year	Other Revenue
<b>Actual</b>	
FY 2015	\$7.4m
FY 2016	\$5.7m
FY 2017	\$4.6m
FY 2018	\$6.8m
<b>Ratebase</b>	
FY 2019	\$9.0m
<b>Prelim FY 2020</b>	<b>\$5.5m</b>



# FY 2020 Transmission Charge Determinates

## Carryover

- Carryover is unapplied revenues from prior periods available to offset total expenses in future year calculations
- Charges are formulated to use carryover annually to both reduce and level costs across each rate window
- When unanticipated changes in costs or revenue occur, it affects the amount of carryover available
- In FY 2018, the prior year carryover was smaller than anticipated and costs were higher. This depleted the carryover available to offset FY 2020 expenses.



# FY 2020 Transmission Charge Determinates

## Average Annual Expenses (in millions)

	FY19-23	FY20-24	Change
WAPA O&M	\$34.5	\$35.5	\$1.0
WAPA General Expense	\$0.8	\$1.3	\$0.5
CME & Multi-Project	\$(0.9)	\$(0.6)	\$0.3
Purchase Power/Wheeling	\$1.9	\$1.9	\$0.0
P&I	\$25.2	\$31.6	\$6.4
<b>Total</b>	<b>\$61.5</b>	<b>\$69.7</b>	<b>\$8.2</b>



# FY 2020 Transmission Charge Determinates

## Average Annual Other Revenue, Carryover, and Reservations (\$ in millions)

	FY19-23	FY20-24	Change
Other Revenue	\$9.0	\$5.5	\$(3.5)
Carryover	\$0.9	\$0	\$(0.9)
Total	\$9.9	\$5.5	\$(4.4)

Revenue Requirement	\$51.6	\$64.3	\$12.7
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Reservations (MW)	2,758	2,663	(95)
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# Preliminary FY 2020 Charges

	FY 2019 (current)	FY 2020 (baseline*)	Change	
Energy (mills/kWh)	6.25	7.45	1.20	19%
Capacity (kW-Month)	\$2.74	\$3.26	\$0.52	19%
Composite w/o Transmission (mills/kWh)	12.50	14.89	2.39	19%

Firm Transmission (kW-Month)	\$1.56	\$2.01	\$0.45	29%
NITS Revenue Requirement	\$48.2m	\$62.8m	\$14.6m	30%

\* Baseline does not include mitigations shown in later slides



# Flexibility of Repayment – Gen

- The concept of amortizing Reclamation replacements was introduced last year
- Amortizing replacements would reduce the increase of the FY 2020 generation charge by 6%; from 19% to 13%
- To facilitate the Advancement Of Funds contract, Reclamation replacements have historically been recorded in the PRS with a 1-year repayment period



# Flexibility of Repayment - Gen

Although we choose to repay the replacements immediately, they are actually due at the end of their 40-year service life (50-years for irrigation assets)

## Comparison of Full Cost (1-year) and Amortized Repayment

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Single Year	\$1,800,000	\$1,700,000	\$1,200,000	\$800,000	\$ 500,000
Amortized	\$27,422	\$53,916	\$73,374	\$87,170	\$96,709



# Flexibility of Repayment - Gen

	FY 2020 Charge Full Cost (1-yr)	Change from FY 2019		FY 2020 Charge Amortized	Change from FY 2019	
Energy (mills/kWh)	7.45	1.20	19%	7.08	0.83	13%
Capacity (kW-Month)	\$3.26	\$0.52	19%	\$3.10	\$0.36	13%
Composite w/o Transmission (mills/kWh)	14.89	2.39	19%	14.16	1.66	13%





# Flexibility of Repayment - Trn

- Deferring principal payments would reduce the transmission charge increase by 13%; from 29% to 16%
- In the last few years we have restructured (deferred) our principal payments since project repayment is ahead of schedule
- Deferring FY 2019 principal payments reduced the anticipated transmission charge increase by 9% for a minimal increase in interest costs
- We can continue to restructure our repayment to moderate increases, but should do so cautiously



# Flexibility of Repayment – Gen & Trn

- In addition to the moderation techniques described above, WAPA proposes another option in which the generation and transmission charge increases are leveled over several years
- Rather than a large initial increase in the charge followed by smaller increases, the leveled option will offer stability and more predictability to the customers
- The generation charge will be 4% compared to 13% for FY 2020 and the transmission charge will be 6% compared to 16%



# FY 2020 Charges – Options

Generation (Mills/kWh)						
Fiscal Year	Option #1 (Baseline)		Option #2 (Mitigated*)		Option #3 (Level)	
<b>2019</b>	<b>12.50</b>	<b>△</b>	<b>12.50</b>	<b>△</b>	<b>12.50</b>	<b>△</b>
2020	14.89	19%	14.16	13%	13.05	4%
2021	14.88	0%	14.34	1%	13.60	4%
2022	14.91	0%	14.63	2%	14.15	4%
2023	15.10	1%	14.86	2%	14.70	4%
2024	15.26	1%	15.05	1%	15.25	4%
2025	15.36	1%	15.03	0%	15.80	4%

\* Mitigation includes amortizing Reclamation replacements



# FY 2020 Charges – Options

Transmission (\$/kW-Yr)							
Fiscal Year		Option #1 (Baseline)		Option #2 (Mitigated*)		Option #3 (Level)	
<b>2019</b>		<b>\$ 18.72</b>	<b>△</b>	<b>\$ 18.72</b>	<b>△</b>	<b>\$ 18.72</b>	<b>△</b>
2020		\$24.12	29%	\$21.72	16%	\$19.80	6%
2021		\$24.48	1%	\$22.08	2%	\$20.76	5%
2022		\$24.72	1%	\$22.44	2%	\$21.72	5%
2023		\$24.96	1%	\$23.16	3%	\$22.68	4%
2024		\$25.20	1%	\$24.24	5%	\$23.64	4%
2025		\$25.44	1%	\$25.20	4%	\$24.60	4%

\* Mitigation includes deferral of principal payments for all years in the rate window



# Questions/Thoughts



# Next Steps

- Information regarding the FY 2020 charges will be posted on WAPA's website:

<https://www.wapa.gov/regions/DSW/Rates/Pages/Parker-Davis-rates.aspx>

- Generation costs finalized at Advancement of Funds Annual Funding Board – July 2019
- Proposed charges will be finalized in August and become effective for the October 2019 service month



# WAPA Contacts

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