The Source Narrative - Fiscal Year 2021

Introduction

Western Area Power Administration is committed to the safe, reliable and affordable delivery of power and transmission services consistent with sound business principles. Following our Strategic Roadmap’s critical pathway of Business, Technology and Organizational Excellence, we strive to make sound investments and improve organizational alignment while staying current with industry developments and regulations. In this same spirit, we continue to evolve our transparency efforts with our customers, other Executive Branch agencies and members of Congress. Our core values guide our vision, day-to-day activities and decision making.

This document provides context on WAPA’s fiscal year 2021 reported data and describes the primary drivers and variances between FY 2021 and FY 2020 costs.

Our focus areas in FY 2021 included:

- Continuing safety protocols in response to the COVID-19 pandemic through maximizing telework and limiting travel to mission-essential only. WAPA’s COVID-19 response successfully prioritized safety, reliability and continuity of operations.
- Completing energy imbalance management transitions for the Colorado River Storage Project, Rocky Mountain, Sierra Nevada and Upper Great Plains-West and selecting a provider for Desert Southwest.
- Supporting the central U.S. during a historic polar vortex with surplus hydropower and grid services.
- Facing the challenges of drought and high purchase power costs due to adverse operating conditions.
- Developing and implementing operational efficiencies.

The impact of these efforts on rates and staffing included:

- Operations and Maintenance: Decrease of $23 million or 4%.
- Purchase Power and Wheeling: Increase of $304 million or 94.9%.
- Capital investment: In collaboration with our customers, current year plant placed in service was $80 million.
- Authorized full-time equivalents: Did not change from the prior year.
- Power rates: On a weighted average basis, average rates decreased by 5.3% year over year and declined 4.6% per annum over the past five years.

We consistently look for ways to operate more efficiently and effectively while containing costs and making responsible investments. New capabilities in process improvement during FY 2021 have avoided more than $10 million in costs WAPA-wide.

As you review the information provided on The Source, it may be helpful to first read the How-to Guide.
WAPA has contained costs of operations and maintenance and staffing levels while also balancing the needs and safety of our employees, affordability and reliability with environmental and critical system investments.

**Operations & Maintenance** – All O&M activities supported maintaining the safety and reliability of our transmission grid and were largely driven by regulatory requirements and aging infrastructure needs. Costs include replacing aging equipment, removing constraints that would impede power flows and ensuring WAPA’s transmission system is at or above industry standards. Non-rate-impacting costs include mainly reimbursable work done based on specific agreements. The impact of O&M activities on WAPA’s rates decreased by $22.9 million or 4% over the year.

Significant regional O&M variances between FY 2021 and FY 2020 were primarily due to:

- **Colorado River Storage Project Management Center:** Decrease of $12.4 million was primarily due to a $6.8 million decrease in environmental costs and reversal of a prior year charge for the Recovery Implementation Program. In FY 2020, WAPA recorded $6.6 million as environmental operating expense and not as a constructive return as in prior years. This change was due to enacted congressional language (Dingell Act) that indicated WAPA no longer had authority to use power revenues to fund Recovery Implementation Programs and record the transfer to the Bureau of Reclamation as a constructive return. In FY 2021, it was determined these costs could be treated as constructive returns. As a result, the $6.6 million recorded in FY 2020 as environmental operating expense was reversed and recorded as a constructive return.

- **Sierra Nevada:** Decrease of $5.2 million was primarily due to a $2.3 million FY 2019 bankruptcy action that was paid in FY 2021. In addition, there was a decrease of $1.3 million in interest on investments and a $2.3 million decrease in transmission line maintenance cost primarily in integrated vegetation management, aerial mapping and lidar services.

- **Upper Great Plains:** Decrease of $5 million was primarily due to a $1.5 million decrease in interest on long-term liabilities, mainly related to the change in the interconnection network upgrade agreement with Grande Prairie. In addition, plant depreciation and interest on investment expense both decreased by $1.9 million.

**Purchase Power & Wheeling** – This program allows WAPA to meet energy obligations to customers during variable hydrological or drought conditions. When hydrology is low, WAPA purchases power for customers using strategic means to keep costs low, such as leveraging reservoir storage to buy during periods of low energy prices or in greater quantities, taking advantage of economies of scale. When there is sufficient power generated by the dams, WAPA uses its authority to create reserve balances to use during drought years. Non-rate-impacting costs include purchasing power for customers who directly pay for costs incurred. The impact of PPW costs on WAPA’s rates increased by $304.4 million or 94.9% over the year.
Significant regional PPW variances between FY 2021 and FY 2020 were primarily due to:

- **Colorado River Storage Project Management Center**: Increase of $68.2 million is primarily due to FY 2021 being one of the driest years on record, which resulted in significant reductions in generation. The reduced generation caused WAPA to purchase additional power on the market at substantially higher prices to serve customer loads.

- **Rocky Mountain**: Increase of $65.8 million is due primarily to increased energy imbalance costs of $45 million and purchased power of $17.4 million. By joining Southwest Power Pool’s energy imbalance market, WAPA had to gross up costs to record both the liability and offsetting revenue associated with power purchases for the balancing authority. WAPA also incurred additional financial costs to purchase power to cover transmission losses previously settled in kind.

- **Sierra Nevada**: Increase of $12.5 million is primarily due to an increase of $9.7 million in purchased power and an increase of $2.5 million in Path-Operator Transmission Access Charges. Increased purchased power was primarily due to reduced base resource as a result of the Shasta warm-water powerplant bypass used to preserve cold water for fish spawning. Also, drought conditions paired with increased demand due to extreme weather conditions resulted in higher costs for purchased power.

- **Upper Great Plains**: Increase of $158 million is primarily due to the Polar Vortex in February 2021. In February 2021, UGP not only experienced negative pricing, but also increased costs for energy purchases.

### Capital Investments

Capital investments ensure the safe, reliable and affordable delivery of power to wholesale customers while meeting their changing needs. WAPA collaborates with customers on 10-year capital investment plans to ensure we are making the right investments at the right time and in the right place. Key drivers of WAPA’s capital plan include asset management strategies, rebuilding parts of the transmission system across our service territory, public safety, statutory and regulatory compliance, cost predictability and cost containment.

Regional plant placed-in-service during FY 2021 included:

- **Desert Southwest**: $19 million consisted of $3.8 million for various upgrades to the Phoenix Service Center; $3.2 million in various communication system upgrades, of which $2 million was for radio system upgrades; $2.7 million in the partial completion of the Whitehills Projects; $2.1 million in security system upgrades; $2.1 million in relay upgrades; $1.1 million in moveable property; $1 million in power circuit breaker replacements; $1 million in the Glen Canyon warehouse/workspace project; and $2 million in various replacements, retirements and additions projects.

- **Rocky Mountain**: $9.6 million consisted primarily of $3.5 million for capitalized moveable equipment, $2.5 million final costs for the Granby Pumping Plant, $1.1 million for the Casper
115-kilovolt breaker replacement and $1.5 million for a storage building and roof at the Montrose Power Operations Center.

- Sierra Nevada: $9.5 million consisted of $2.5 million for the completion of the Energy Imbalance Market Software development, $2 million for the completion of the Relay Replacements projects at Dos Amigos and San Luis Joint Use Facilities, $2 million for the completion of the VHF fixed radio systems upgrades, $1 million for the completion of Physical Security Remediation Program upgrades to facility access at four locations across the region and $2 million for capital movable equipment.

- Upper Great Plains: $31.4 million consisted of $4.3 million for additions at Martin Substation, $1.1 million for 115-kV Cap Bank at Miles City 2; $3.3 million for a control building and panel replacements at Shelby, $2 million for Crow right of way, $1.3 million for land purchase for the Rapid City Maintenance Building, -$12 million for the Grand-Prairie Switching Station assets reclassified to contributed plant, $6.1 million for transformer replacements at Jamestown and Mt. Vernon and $25.3 million for routine line and substation equipment replacements.


The majority of non-rate-impacting investments, approximately $407,000, are a result of non-reimbursable funding primarily for replacements required by legislation. This investment resulted in zero costs to customers and is not included in the above regional investments.

We forecast investing $2 billion in our assets over the next decade, approximately 78% of which will go toward transmission lines and substations.

Full-Time Equivalent Employee Positions

Our authorized full-time equivalent positions ensure we have adequate staff to meet critical needs and requirements facing the organization. During FY 2021, WAPA’s authorized and actual FTE employee positions remained consistent with the prior year. WAPA’s internal budget guidance through FY 2024 anticipates flat FTE with an expectation to reallocate internally as needs change.

Rates

WAPA collaborates closely with customers to establish and administer rates for its 10 rate-setting projects, which are made up of 14 multipurpose water resource projects and three transmission projects. Each project has its own authorizing legislation that requires the U.S. Treasury to be repaid by those who benefit from federal investments in these projects. Many of WAPA’s customers have experienced stable or decreased rates in FY 2021.

- Colorado River Storage Project Management Center: Salt Lake City Area/Integrated Projects customers experienced lower energy and capacity rates, 5.5% and 6.4%, respectively. The
transmission rate increased 9.1%, due to a prior year Annual Transmission Revenue Requirement true up of approximately $2.87 million and expiration of transmission contracts. There will be an 8% increase to the energy and capacity rate in FY 2022 due to drought in the west.

- Desert Southwest: The base charge for the Boulder Canyon Project decreased 1.5% while the energy and capacity rates increased slightly due to decreased forecasted energy and capacity. The transmission rates for the Central Arizona Project and the Pacific Northwest-Pacific Southwest Intertie Project remain unchanged. The Parker-Davis Project power and firm transmission rates increased 5.1% and 4.2%, respectively, primarily due to a larger allocation of the O&M workplan on generation, increased principal and interest expenses and a decrease in transmission reservations.

- Sierra Nevada: The Central Valley Project’s Power Revenue Requirement increased less than 1% per year on average since 2008, largely due to revenue from transmission sales and cost containment initiatives. However, in FY 2021, the CVP PRR increased by 5.8% to $72.8 million, primarily due to California-Oregon Transmission Project participation costs for upgrades and interest on WAPA investments. Additionally, CVP power customers are required to pay their contractual share of the PRR regardless of the amount of base resource delivered. The effective rate varies based on the amount of base resource delivered and Restoration Fund assessments. Drought significantly impacts these two variables when comparing SN’s effective rate to market rates.

- Upper Great Plains and Rocky Mountain: Power rates for the Loveland Area Projects and the Pick-Sloan Missouri Basin Program – Eastern Division remained stable in FY 2021 for a fourth consecutive year after experiencing 14% and 15% decreases respectively in January 2018.

Funds Returned to Treasury

WAPA is responsible for returns to the U.S. Treasury for all power projects within its 15-state marketing area, except for the Boulder Canyon and Central Valley projects’ project-use O&M collections prior to FY 2014. Returns to Treasury fluctuate based on net cash flow from operations and use of receipts. A significant contributing factor is hydrological conditions, which impact purchase power costs. For the 14 years ended Sept. 30, 2021, WAPA has returned $4.2 billion, and the Bureau of Reclamation has returned $322.4 million to the U.S. Treasury. During FY 2021, WAPA returned $298.1 million to the U.S. Treasury.

Reserve Balance Action Plans

Summary of Reserve Balance Strategy Targets
WAPA has four primary purposes for its reserve balance strategy:

- Annual operations and maintenance expenses.
- Capital investments.
- Purchase power and wheeling expenses.
• Other for generating agency annual and capital requirements.

Balances are primarily from receipts and customer advances; very little is appropriated funding.

Annual – Reserve annual O&M funds roughly three months to sustain operations during emergencies, continuing resolutions, or lapses in appropriations. The reserve strategy for fiscal year-end 2021 supports annual reserve balances of $95 million.

Capital – Reserve capital funds are necessary to provide multiyear capital construction project startup funding and provide flexibility with schedule and priority changes. The strategy supports reserves up to three years of the capital planning requirement; that’s $579 million for FYE 2021 capital reserves.

PPW – Reserve PPW funds improve both WAPA and customer cash management of the highly volatile PPW program needs during short- and long-term drought conditions. WAPA’s PPW FYE reserve balance strategy is based on an anticipated three-year PPW program shortfall of $393 million for WAPA’s main appropriated account (CROM) and $84 million for WAPA’s revolving fund account (CRBPMF).

Note – The PMAs’ PPW reserve strategies are discussed and expanded upon in a September 2019 Department of Energy Report to Congress titled, “Power Marketing Administrations Execution of Current Receipt Authority for Purchase Power and Wheeling Expenditures.”

Other – Reserve component mitigates risk for the generating agency annual and capital program requirements that rely solely on transfers from WAPA’s CRBPMF balances. WAPA offsets this annual reserve component by the balances on hand at the generating agency. For FYE 2021, no balances were required to support the strategy.

For the above reserve purposes, WAPA’s reserve strategy supports balances up to $1.2 billion.

Non-Reserve Balances
In addition to the reserve strategies, WAPA has balances associated with non-reserve activities. WAPA does not develop a strategy objective for these balances as the balances are primarily driven by stakeholders. For full disclosure, WAPA includes these non-reserve balances in the total results.

The non-reserve balances are primarily related to:

• Reimbursable work for others.
• Congressionally directed funds and earmarks.
• Other WAPA accounts (Transmission Infrastructure Program, Falcon-Amistad, Emergency).
• Proposed budgetary offsets (i.e., rescission, sequester, and use of prior year balances).

Reserve Actions Taken
Annual – A $15 million offset to annual reserves was included in the FY 2021 enacted budget to keep balances within target levels.
Capital – No actions necessary; regional balances were within target levels.

PPW – Drought conditions, market pricing and the polar vortex weather event exhausted a significant portion of WAPA’s reserves in both the CROM and CRBPMF balances during FY 2021. WAPA has taken several actions to address the reserve depletion:

- Requested additional PPW receipt authority in FY 2022 to begin restoration of the CROM account reserves.
- WAPA received appropriation of $500 million for PPW in the Infrastructure Investment and Jobs Act to provide for PPW for both CROM and CRBPMF accounts.
- In collaboration with customers, WAPA initiated a new rate order for Salt Lake City Area/Integrated Projects to reduce purchase power requirement and/or improve timing of purchase power expense recovery. Beginning December 2021, the new rate order will help ensure purchase power costs do not continue to adversely deplete reserves through FY 2022 and FY 2023.

Other – No actions necessary; balances were within target levels.

Results
WAPA made continuing progress executing the reserve strategies in each of the primary purpose areas.

Annual – FYE 2021 annual reserves are in line with the strategy. FYE 2021 balances at $79 million were $16 million below the annual reserve target of $95 million due to the planned use of $15 million of reserve balances.

Capital – FYE 2021 capital reserves are in line with the strategy. FYE 2021 balances at $239 million are less than the capital reserve cap of $579 million.

PPW – FYE 2021 PPW reserves suffered a setback due to drought conditions, market prices and the polar vortex weather event. WAPA will continue to seek progress in this area to ensure the risk of high PPW cost variability is appropriately mitigated for both the CROM and CRBPMF accounts.

- FYE 2021 CROM PPW reserves at $222 million were $171 million short of the FY 2021 $393 million target, a shortfall of 44%.
- FYE 2021 CRBPMF PPW reserves at $7 million were $77 million short of the FY 2021 revised $84 million target, a shortfall of 92%.

Other – Reserve balance of $0 in current CRBPMF reserves allocated to “Other” is in line with strategy.

WAPA’s combined reserve balances at $546 million provide for roughly 46% of the $1.2 billion risk mitigation level WAPA is targeting.

For full disclosure, WAPAs overall FYE 2021 unobligated balances, including non-reserve balances of
$126 million, totals $673 million.

WAPA relies 100% on cash to manage its business. Without a borrowing mechanism, cash reserves are critical for operating during emergencies, droughts or other abnormal business conditions. Read more about WAPA’s reserve funding strategy [here](#).

**Summary**

In line with our mission to safely provide reliable, cost-based hydropower to our customers and the communities we serve, WAPA remains committed to enhancing programmatic and financial transparency at WAPA, both with customers and other branches of government, and remaining laser focused on our mission and the state of the industry. Continuing to enhance financial information sharing and program collaboration with customers aligns with our core value to “Be curious, learn more, do better. Repeat.” As we build and develop this site based on feedback from you, we will provide detailed cost information and narrative summaries annually. If you have questions or comments about this site, email [thesource@wapa.gov](mailto:thesource@wapa.gov).

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