

CUSTOMER

SUMMER 2017

# Circuit

WESTERN AREA POWER ADMINISTRATION



## Investment and Planning

### inside

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**2** Letter from the CFO

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**3** Understanding budget vs. rates and repayment

---

**5** Technology for managing outages

---

**6** Asset Management supports capital projects

---

**7** Budgeting for the future



## LETTER FROM THE CFO

**H**ello, everyone. My name is Dennis Sullivan. I became WAPA's permanent chief financial officer in June after acting in the role since October 2016. What made this job so appealing to me is the passion WAPA's employees have for executing our mission in support of WAPA's customers. That passion, coupled with the powerful customer partnerships, make WAPA a great place to work. When you have passion and when you have great partnerships, much can be accomplished together. I look forward to contributing to the great work WAPA does on behalf of customers.

As I make my rounds visiting with customer groups, your representatives and other stakeholders, several common themes continue to come up:

■ **Opportunities to further educate each other:**

Our financial model is complex. We have 10 rate-setting power systems and we fund our programs through a combination of receipts, alternative financing arrangements, annual appropriations and a revolving fund. Our capital plans and annual budgets highlight how and when we intend to execute these dollars. I find it's not commonly understood how each of these components work together with customer rates.

■ **Building on our financial transparency efforts:**

Enhancing our already considerable financial transparency efforts is one way to ensure we all have a common understanding. Continuing our regional and WAPA-wide capital planning discussions, enhancing our current HQ 10-year planning dialogue, providing more insight into annual budgets, implementing the proposed Transparency Act and fully using The Source are all part of our near-term plans.

■ **Delivering value for our customers is paramount:** WAPA is disciplined and thoughtful regarding the investments we make, and we do a good job explaining what we intend to do and when we will do it. We can enrich our conversations with you by being more deliberate about the value our investments bring to marketing and delivering clean, renewable, reliable, cost-based federal hydroelectric power and related services.

These are not new themes and will always be important. However, what I believe is behind this renewed interest—which is reasonable—is the fact that our Headquarters' share of the budget has grown over the past several years. There are business reasons for this growth. Two main reasons are:

- Functional organizational realignments, such as Information Technology and Security, are designed to help us plan across WAPA to better meet growing compliance requirements and mitigate cyber and physical security risks. This has resulted in some growth, but has mostly resulted in a budget shift from the regions to HQ.
- Standing up new capabilities, such as Asset Management, Continuous Process Improvement and Internal Audit and Compliance. These programs are designed to support all of WAPA, enhancing how we manage our organization, helping us become more efficient and contain costs for our customers. This is real growth that delivers value, such as the \$34 million in cost avoidance and savings so far through CPI.

As we have made these changes, some related processes—such as the HQ 10-Year Capital Plan—and increased customer interactions have been implemented. In the spirit of business, technology and organizational excellence, one of my top priorities is to continue to work closely with customers to learn from each other, further enhance our transparency efforts and demonstrate the value delivered from the investment choices we make.

In this issue, you will read stories that help enhance your understanding of our complex financial model, demonstrate WAPA's commitment to transparency and highlight some of the investments that benefit our regions and our customers.

# How does WAPA work?

## Budget vs. rates and repayment

**U**nderstanding how WAPA is set up and funded is complex, but it does not have to be difficult. Are there a lot of technicalities and legislation? Yes. That's par for the course in understanding what money goes where and the purposes for which the money is used.

The simplest way to break it down is to understand:

- How rates and repayment work
- How the annual budget is developed
- The difference between rates and budget

### Repayment set in legislation

WAPA, with its 10 rate-setting power systems, follows the unique legislation that directs how each project repays the investment of building and maintaining the powerplants and transmission infrastructure that are used to deliver federal hydropower.

The rate recuperates the investment money and repays the Department of Treasury.

The basic principle is: Rates are set, at cost, to repay annual expenses, certain non-power costs like aid to irrigation, and federal investment in the hydropower and transmission facilities constructed by the government, with interest. The costs must be repaid within the established repayment periods.

Repayment calculations include initial capital investment costs and estimated future costs for maintaining the project, as well as projected revenues from other sales and services. The revenues received are applied to project-related costs using the power repayment study in the following order:

- Annual expenses (actual)
  - Operation and Maintenance
  - Purchase Power and Wheeling
  - Interest
- Unpaid deferred annual expenses, if any
- Capital investment
  - Within applicable repayment periods
  - Applied as principle payments, normally to the highest-interest-bearing investments first

### A note from history

**T**he Reclamation Project Act of 1939 specified the role of WAPA's power customers in repayment. Section 9(c) in part:

*"Any sale of electric power...in connection with the operation of any project or division of a project, shall be...at such rates as...will produce power revenues...to cover an appropriate share of the annual operation and maintenance cost, interest on an appropriate share of the construction investments...and such other fixed charges as...deemed proper."*

### Similar to a home investment

This is similar to using a certain type of loan to purchase a home. The purchaser borrows money from the bank to make an investment in a home with a balloon payment mortgage, which includes interest. Then the homeowner establishes a home equity line of credit, or HELOC, and uses the financing to make continuous updates to the property, which are paid off over time rather than upfront. The payment in this scenario is sufficient to meet the balloon payment obligation plus the HELOC according to the requirements of each financial arrangement.



*continued on Page 4*

## Developing an annual budget

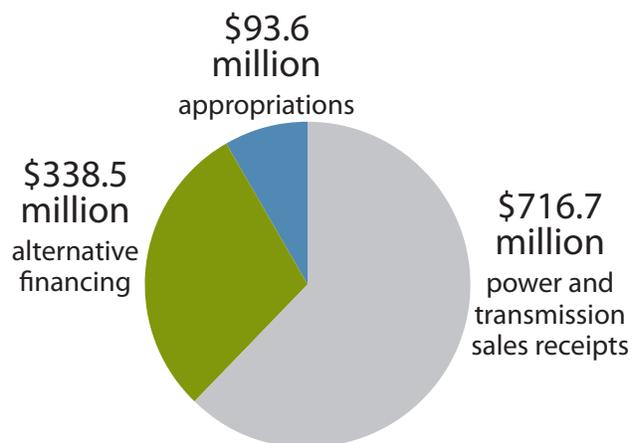
WAPA's annual budget is separate from rates and repayment. Finance develops the budget two years in advance and routes it through government before it is authorized by Congress.

Even though its program exceeds \$1 billion per year, WAPA is unique as a federal organization in that less than 10 percent of its budget comes from traditional appropriations. WAPA uses receipts from power marketing and transmission sales to offset annual expenses and receives alternative financing for projects to improve facilities and maintain reliable energy delivery.

For example, a breakdown of the Construction, Rehabilitation, Operation and Maintenance account portion of WAPA's Fiscal Year 2018 budget request includes three areas:

- Operations and Maintenance: \$39.6 million in net appropriations, \$0 in alternative financing, \$25.5 million in receipts and the Colorado River Dam Fund, and \$7.3 million from use of prior year balances.
- Construction and Rehabilitation: \$11.8 million appropriations and \$40.5 million in alternative financing. There are 23 priority projects planned for FY 2018 funding.

## WAPA FY 2018 Budget Request\*



\*Budget request excludes Transmission Infrastructure Program

- Purchase Power and Wheeling: \$0 in appropriations, \$289.1 million in alternative financing and \$308.9 million in receipts.

The remaining \$42 million in net appropriations will support WAPA's program direction, which funds salaries and support services; program direction is also expected to receive \$8.1 million in alternative financing, \$158.1 million in receipts and the Colorado River Dam Fund and \$27.5 million from use of prior year balances.

## Rates, budget: What's the difference?

Rates and budget are not interchangeable. Although there are terms under both repayment and budget that are the same, the program functions are, in fact, very different. Here are some differences between the two:

	Rates (for repayment)	vs.	Budget
<b>Formulation</b>	Calculated to ensure projects are repaid under authorizing legislation, policy and cost-based rate-making procedures.		Formulated to provide funding for WAPA's program obligations.
<b>Calculation</b>	Repayment calculations include annual costs, certain non-power costs, an amortized portion of capitalized projects and interest.		Obligations include both annual costs and the costs of construction projects that will be capitalized when completed.
<b>Time frame</b>	Formulated to recover historic and future costs for between 50 and 100 years into the future.		Centered on program obligations for a single year.
<b>Other</b>	Unless otherwise authorized, revenue must be forwarded to Treasury.  Repayment applies revenues toward costs within the PRS.		WAPA is authorized to use receipts to finance its programs, such as "net-zero" for annual expenses, Purchase Power and Wheeling and alternative financing.  Appropriations are used for construction.

# Value in Action

## Using technology to coordinate grid maintenance

Computer monitors and schematic-like display boards of the grid light the control center where Charles “Van” Stickels, a power system dispatcher, begins to coordinate an outage for WAPA’s Sierra Nevada region.

A few computer clicks later, Stickels submits the request for an outage so WAPA maintenance crews can begin replacement of a conductor on the Cottonwood-to-Olinda 230-kilovolt transmission lines.

“We looked at the ratings on the two lines and recognized that if one of the lines failed, we didn’t have enough capacity on the other line to make up for that loss,” Stickels said.

Maintaining reliable service for the communities in northern California, and across the organization’s service territory, means WAPA Operations staff thinks through “what-if” scenarios and plans for how to handle unexpected failures. Stickels explained, “To make sure we have enough capacity on the transmission system to serve the area, we needed to schedule an outage so that our maintenance staff could string a bigger conductor across the lines.”

Scheduling an outage takes a lot of coordination. Stickels coordinated the planned outage with the Bureau of Reclamation, the California Independent System Operator, Pacific Gas and Electric, the City of Redding and the regional reliability coordinator using the Transmission Outage Application, or iTOA, tool.

“We have to coordinate outages no matter what tool we use,” Stickels said. “We use iTOA every day to make all of that happen, because it streamlines some of those procedures. By making it easier to coordinate with systems of non-WAPA entities and provide updates for changes about the outage along the way, we know we have the same message across all of these different entities and their scheduling services.”

The process for coordinating outages is a standard utility practice to maintain the health of the transmission



system without negatively affecting the flow of power on the integrated grid.

Without the iTOA tool, WAPA staff would have to find another way to track outages, the associated communication and coordination, and outage assignments. “It really saves our staff time by doing all that coordination and sending automated updates with one tool,” said Stickels. Additionally, the tracked process eases the amount of documentation required to show that WAPA is meeting North American Electric Reliability Coordination standards for coordinating and communicating outages.

In July, WAPA completed its effort to standardize the software that manages transmission outages across its 17,000-mile transmission system. By expanding the use of a tool for its entire footprint, WAPA avoided more than \$800,000 in Fiscal Year 2017 software

### Value in action

**Tool:** iTOA

**Purpose:** Track outage assignments

- ✓ \$800,000 in avoided costs (FY 2017)
- ✓ Meets compliance requirements
- ✓ Streamlines outage coordination with other utilities

*continued on Page 6*

maintenance and staff costs compared to maintaining different software applications and support staff that perform the same tasks.

“By leveraging Information Technology software and tools, we are streamlining system-to-system communication, strengthening our cybersecurity and empowering our staff to focus on the analysis and actions needed to operate the grid,” said IT Operations and Maintenance Supervisor Will Slinkard.

Now the vendor-supported, common tool coordinates scheduled and unscheduled outages with neighbor-

ing utilities to ensure reliability and meet compliance requirements. WAPA anticipates that replacing the in-house-built legacy systems will result in an additional \$1.2 million cost avoidance, annually.

“We are committed to using the right tools for the job and keeping our costs in check to make sure customers receive the best value from the wholesale, cost-based hydropower we market and our ancillary services,” said Supervisory Power System Dispatcher Dan DeGracie.

## Tucson Substation: Asset Management health assessment takes capital project from planned to realized

**N**estled between five mountain ranges and situated in the Sonoran Desert, Tucson has a small-town feel for a sprawling metropolis of more than 750,000 residents who all need electricity to light their offices, cool their homes and support their community. WAPA’s Tucson Substation has been

delivering power to meet the area’s growing energy demands since 1952. Keeping the backbone of our interconnected power system in good shape requires proactive maintenance and capital.

In 2006, WAPA identified the need to rebuild the substation and its assets, most of which were original. As all the assets had exceeded their respective lifecycles, WAPA added the substation rebuild to the 10-year capital plan in 2012 and Maintenance crews replaced breakers periodically as a temporary fix while the construction project was submitted for customer approval and funding.

Although customers recognized the project as a key component of the Parker-Davis system, the changing system dynamics and the proposed Southline Project delayed approval of the substation rebuild.

With government-furnished equipment purchased and on-site to rebuild the old substation, the project waited for more compelling data to ensure approval.

### Value in action

**Tool:** Asset Management health assessment

**Purpose:** Quantify asset health, risks, and life expectancy

- ✓ Clarified system upgrade needs
- ✓ Improved Operation’s alternatives studies
- ✓ Increased system’s overall health and reliability

continued on Page 8





## Budgeting for the future

# Customers: Part of 10-year capital planning

by Colin Marquez, VP of Budget & Analysis

In September 2016, WAPA held its first Headquarters 10-Year Capital Plan meeting with its customers to provide greater visibility of our investment plan and allow for customer input. In the spirit of continuous process improvement and based on feedback provided by our customers, WAPA is adding meaningful enhancements to the September 2017 HQ 10-Year Capital Plan meeting.

First, WAPA will provide information about projects that are \$1 million or greater to dialogue with customers about these investments. Representatives from Maintenance, Operations, Power Marketing and other WAPA-wide program areas are on the HQ Capital Planning Committee to review the investment plans and provide their perspectives as regional program leaders that require these investments. Those WAPA representatives will be available during the HQ 10-Year Capital Plan meeting to help answer questions and

expand on the value received from these investments within WAPA and for our customers. During the HQ 10-Year Capital Plan meeting, WAPA will also introduce the Fiscal Year 2020 Administrator's Budget Guidance to give customers an opportunity to provide input regarding the formulation of the FY 2020 work plan.

WAPA is also working with customers to develop more meaningful budget reports that provide greater insight regarding our annual work plan. Reporting enhancements will include more detail of HQ operating costs, greater visibility of how costs are distributed among our rate-setting projects and more opportunities to interact with WAPA program managers to hear how we are creating value for our customers and throughout the organization.

WAPA is excited to share the upcoming enhancements to its HQ 10-Year Capital Plan and annual work plan with its customers.



Fortunately, around the same time, WAPA launched its Asset Management Improvement Project to stand up a program that checks the system's overall health and scores asset health and life expectancy.

One of the first reports WAPA presented to customers in August 2014, showed the equipment health scores for 2012-2013. In the same month, the Desert Southwest 10-year capital planning team first revealed the condition of assets to DSW customers.

The meeting educated customers on the overall program and visually disclosed at-risk breakers and transformers on scatter charts. "It clearly showed several breakers and a transformer at the substation at high risk, making Tucson Substation the greatest risk for all of WAPA, by a very large margin," said DSW Asset Management Specialist Valerie Berk. "This was finally data-driven analytics supporting information WAPA already knew about the substation's assets."

The system health analysis resulted in a two-fold effort. First, the Tucson Substation risk information was included in the Analysis of Alternatives study, to make sure Operations staff knew the limitations of the aged infrastructure. Since then, the project has been used for all analyses of alternatives studies.

"Second, this data helped to reactivate the project," said Berk. WAPA kicked off the Tucson rebuild construction in January 2016, and anticipates the substation will be complete in winter 2018.

"In the meantime, DSW has a contingency plan in place in case an asset fails before the newly built substation is energized," said Berk.

Once the rebuild is complete, Tucson and the surrounding areas will have reliable, updated assets to continue supporting the community's strong growth and energy needs.

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