

TESTIMONY OF ADMINISTRATOR TRACEY LEBEAU
WESTERN AREA POWER ADMINISTRATION
U.S. DEPARTMENT OF ENERGY
BEFORE THE
SUBCOMMITTEE ON WATER, WILDLIFE AND FISHERIES
COMMITTEE ON NATURAL RESOURCES
U.S. HOUSE OF REPRESENTATIVES
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EXAMINING THE PRESIDENT'S FISCAL YEAR 2024 BUDGET PROPOSAL FOR THE
U.S. BUREAU OF RECLAMATION, U.S. FISH AND WILDLIFE SERVICE, NATIONAL
OCEANIC AND ATMOSPHERIC ADMINISTRATION, AND THE POWER MARKETING
ADMINISTRATIONS

Thank you, Mr. Chairman and Members of the Subcommittee. My name is Tracey LeBeau. I am the Administrator of the Western Area Power Administration (WAPA). I am pleased to speak to you today as WAPA powers forward empowering communities and securing a resilient energy future. Our enduring mission is to safely provide reliable, cost-based hydropower and transmission to our customers and the communities we serve.

WAPA is one of four Power Marketing Administrations (PMAs) within the U.S. Department of Energy (DOE). Our responsibilities are to market and transmit wholesale electric hydropower from 14 multiuse water projects, own and maintain a large integrated transmission system for delivering that power and leverage our \$3.25 billion borrowing authority to finance and support new and expanded transmission and related facilities which is managed through our WAPA Transmission Infrastructure Program (TIP), all to benefit the American public. WAPA markets and transmits hydropower from 57 Federal dams operated by the Bureau of Reclamation (Reclamation), the U.S. Army Corps of Engineers (Corps), and the International Boundary and Water Commission (IBWC). This power benefits rural economies, public power entities, irrigation districts, Indian Tribes, Federal and state agencies, and others who, in turn, serve more than 40 million Americans in the West. Hydropower is an indispensable tool in our clean energy toolbelt. It's a renewable energy source. Hydropower currently accounts for 32% of America's renewable electricity generation. Meanwhile, it helps boost grid reliability and flexibility.

WAPA is among one of the nation's largest transmission owners and providers with a footprint encompassing about 1.3 million square miles of diverse ecosystems and populations, from urban to rural, plains to mountains, and deserts to forests. Spanning 15 states: Arizona, California,

Colorado, Iowa, Kansas, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, South Dakota, Texas, Utah, and Wyoming. The communities we serve have a wide variety of energy interests and needs; for example, we are always cognizant that what works in Montana may not work in California, and customer needs in Arizona differ from those in Colorado.

Communities in WAPA's footprint depend on the power WAPA delivers each day to light and heat their homes, and to power their local economies, manufacturing bases and other economic centers. It is our duty to ensure electricity is available and affordable to those who have come to rely on it for critical basic needs.

In this testimony, I will outline the challenges and obstacles caused by extreme conditions, such as extreme weather and drought. I will describe our financial model and budget requirements to optimize investments in system reliability and improve cost efficiency. I will present opportunities before us in markets and transmission to facilitate solutions, and I will relay what we are doing to protect the grid from bad actors.

Powering WAPA forward to 2030

WAPA's new strategic plan *Power Forward 2030*, published in February 2023, provides a framework to safeguard a sustainable energy future, modernize the grid, and invest in employees. Its purpose carves a clear path through changing environments, new technologies, emerging markets, physical and cyber security threats and societal shifts, while executing the mission. Value propositions identified by customers, stakeholders, and employees during significant collaboration played a critical role in shaping the plan.

Drought

In the last six months, drought conditions improved in the West, but it will take years of similar rain and snowpack to get us out of the deficit we still face. Drought for WAPA and WAPA customers has essentially been a slow-moving natural disaster. Long-term drought reduces hydropower availability for our customers, who are often forced to rely on purchasing power from the market or tasking us to do so on their behalf. And as we are all in the market to purchase that power, in many areas, it is leading to scarcity and pricing volatility. To exacerbate the challenge, WAPA customers impacted serve some of the most economically vulnerable, rural populations in the United States.

Drought threatened WAPA's entire service territory for the first time in 2022 but varied from region to region. The megadrought significantly reduced hydropower production in the river basins from which WAPA markets electrical power. Hydropower production in 2022 was 30% below the long-term average in the Upper Colorado River Basin. Similar results occurred in other Western basins. The northern portion of the WAPA service territory faced challenges but is now well-positioned in 2023 after recent hydrology improvements, but we remain vigilant. Impacts of sustained drought affect the Sierra Nevada (SN) region differently. Power rates are insulated from adverse conditions due to the region's marketing plan structure, which ensures power revenue requirement recovery despite generation output. Drought does impact SN in its ability to respond to bulk electric system disturbances due to limited generating capacity at its

power plants, which in turn, increases the risk to firm power delivery and can negatively affect system reliability. During this past winter, snowpack was considerably above average in SN, so we are expecting a much better summer generation outlook for that system.

Rain and snowpack are better this year to a moderate extent in other WAPA regions. This includes the Colorado River Storage Project (CRSP) Management Center and Glen Canyon Dam at Lake Powell. As a result, inflow to Lake Powell is expected to be 177% above average during the April to July 2023 runoff season in the water-starved Colorado River Basin.¹

However, according to the April 2023 Most Probable 24-Month Study from the U.S. Department of the Interior Bureau of Reclamation (Reclamation), this megadrought will require multiple years of above average hydrology and additional actions to regain the water volume lost in Lake Powell and Lake Mead in our WAPA Desert Southwest (DSW) region. Based on current climate projections, the overall trajectory of the drought will continue.

Customers of the Colorado River Storage Project (CRSP) Integrated Projects where the megadrought is most severe faced steep prices for replacement power on the spot market. Inflation and supply-chain constraints exacerbated these conditions. In response, WAPA raised rates as necessary and cut costs where possible. WAPA worked hard to hold-the-line on expenses in this rising cost environment, while maintaining the integrity of the system. As part of WAPA's efforts to work with partners on persistent drought issues, last July WAPA hosted a dialogue with partners and customers to explore potential long-term solutions to drought impacts on power and transmission. During discussions, key themes emerged: maintaining WAPA's transmission systems; seeking opportunities to optimize transmission to support replacement or supplemental clean power options; system flexibility; grid stability and black start capability among others. The engagement with customers on drought provided a platform from which to listen and we are continuing to actively seek collaborative solutions.

Overall, the benefits of hydropower continue even in times of extreme drought. Despite resource variability, environmental and other challenges, hydropower remains among the lowest cost and cleanest energy resources available.

Purchase Power & Wheeling

Purchase Power and Wheeling (PPW) has proven to be a critical element in sustaining WAPA's mission. The PPW program enables WAPA to fulfill contractual obligations to our customers whenever the generation output from any of the 57 hydroelectric plants in WAPA's portfolio is insufficient. As part of WAPA's Power Marketing Authorities, PPW reserves provide an up-front funding source from which WAPA can purchase replacement power as operationally necessary. This authority is particularly critical during drought.

PPW acts as a financial bulwark against drought. Starting in 2021, WAPA observed marked changes in power reserves due to drought and sought congressional support for additional PPW funding as conditions persisted. The Bipartisan Infrastructure Law and Disaster Relief Supplemental Act of 2023 funding have been critical in allowing us to address the significant

¹ USBR/UC April 2023 24-month study. Found at: https://www.usbr.gov/uc/water/crsp/studies/24Month_04.pdf

drought and rising energy market impacts. It is important to note that all PPW costs incurred are fully recovered from customers through rates.

Most recently, during the first half of fiscal year 2023, WAPA incurred approximately \$538 million dollars in PPW costs. This amount is 40% higher than the PPW costs for the same period in fiscal year (FY) 22 and exceeded WAPA's annual costs incurred during all but seven of the last 30 years. In this challenging operating environment, it is important that WAPA proactively manage risk by seeking to maintain PPW and other reserves at target levels. For perspective, and relative to WAPA's PPW reserve target of \$1.4 billion, WAPA's fiscal-year end PPW reserves are projected to be \$850 million, 39% or \$550 million below target.

I would like to thank the committee as well as all Members of Congress who provided support to WAPA's PPW program during the last few years amid unprecedented drought conditions.

Extreme Weather

WAPA has experienced a marked increase in extreme weather events, including drought, which has presented operational challenges. In particular, extreme microburst monsoons, derecho storms, atmospheric rivers have resulted in transmission infrastructure damage for WAPA and our customers. WAPA maintenance and operations professionals have operated successfully through these challenges but the prospect of increasing extreme weather events like this will begin to present concerning challenges due to supply chain pressures on inventory and timelines as well as the human resources required to respond to mutual aid. These events can also increase the risk of wildfires.

WAPA has performed at the highest level in response to these challenges. We remain vigilant at the risks posed by extreme weather events and deliberating how best to plan and protect our system from impacts.

Transmission Infrastructure Program

The Transmission Infrastructure Program (TIP) manages WAPA's \$3.25 billion borrowing authority, extending WAPA's existing authorities under Reclamation Law, as codified in the Hoover Power Plant Act. The program was established in 2009 when Congress granted WAPA the authority to borrow up to \$3.25 billion from the U.S. Treasury to construct or facilitate the development of transmission, and related facilities, to facilitate the delivery of renewable energy. TIP is uniquely positioned as a standalone line of business within WAPA. TIP provides financing to support transmission and related facilities projects which support important federal, state, and customer goals, including infrastructure expansions and upgrades, grid reliability and resiliency, clean energy integration, decarbonization, and new jobs. In addition, TIP offers risk mitigation to developers and competitive financing solutions to make project rates affordable to end customers.

Since TIP's inception, they have seen three projects to fruition: Electrical District 5 to Palo Verde Hub, Montana-Alberta Tie, and Transwest Express, through a total of \$277 million in loans, either repaid or in good standing.

Currently, TIP stands ready with six agreements for projects in different regions and markets, in various stages of development.

TIP's mission is well-positioned to address the pressing need for additional electric infrastructure as outlined in the draft February 2023 National Transmission Needs Study, conducted by the DOE Grid Deployment Office (GDO). The study estimates that by 2040, regional transmission will increase from 2020 levels, ranging from a modest 2%-5% increase in some regions, and up to a dramatic 54%-221% in others. In addition, the study estimates that by 2040, 5-101 gigawatts of transfer capacity are added in areas including at least one WAPA region.²

In-region and between-region transmission development as well as greater deployment of utility-scale energy storage or pumped hydro will increase the market demand for TIP project development and financing support. Time is of the essence as TIP requires access to long-term, reliable funding ahead of market demand.

Transmission Project Partnerships

A core tenant of WAPA's mission is to provide safe and reliable transmission service. WAPA continuously maintains, rebuilds and upgrades its existing infrastructure as well as builds new transmission lines working collaboratively with local communities, state and Federal agencies, and neighboring utilities. These projects are opportunities to modernize our grid, a goal of *Power Forward 2030*.

One project, Vail-to-Tortolita, demonstrates how to improve reliability without raising rates. WAPA partnered with Tuscon Electric Power (TEP) for a planned upgrade of an existing a 60-mile, 230-kilovolt, double-circuit transmission line. Existing wood pole structures from the 1950s will be replaced with resilient steel monopoles. Construction is set to begin in 2024 and be complete in 2027.

Tied to the Southline Transmission Project, Vail-to-Tortolita sets a precedent for how future large-scale and public-private partnerships could be successful.

Markets

The energy industry has become more and more integrated in the last decade, which has changed not just how we individually operate, but also how we work together with other utilities to reliably serve load, meet clean energy goals and plan and build needed infrastructure. Markets will be a critical tool and platform to enable those goals. WAPA was the first PMA to fully join a regional transmission organization in 2015. Today, WAPA is involved in every major market initiative in the Western Interconnection.

Following four years of effort and hard work to lay critical systems and foundations in place, WAPA is now fully participating in real-time energy imbalance markets:

- Upper Great Plains (UGP), Rocky Mountain (RM) and Colorado River Storage Project (CRSP) offices have been full participants in Southwest Power Pool (SPP) Western Energy Imbalance Service (WEIS) market since it launched in February 2021.

² Pages 96-97 draft U.S. DOE Transmission Needs Study. Found at: [National Transmission Needs Study - Draft for Public Comment \(February 2023\) \(energy.gov\)](#)

- Sierra Nevada (SN) has been participating the California Independent System Operator (CAISO) Western Energy Imbalance Market (WEIM) for more than a year, and Desert Southwest (DSW) went live in the WEIM early last month.

This important milestone reflects the diligent effort of WAPA staff across multiple functional organizations. Real-time markets provide benefits in a changing environment to include reliable delivery of hydropower and facilitating the integration of solar and wind energy resources into the transmission grid.

On the horizon, CRSP, RM and other utilities in the West are exploring full membership in the Southwest Power Pool (SPP) Regional Transmission Organization (RTO) and UGP is evaluating expanding its participation in the SPP RTO into the Western Interconnection. UGP's Western Interconnection transmission facilities are already under the SPP tariff, and its Eastern Interconnection facilities are already in the SPP RTO Integrated Marketplace. WAPA is seeking written public comments from its customers, and stakeholders on the substance of the recommendation and has opened consultation with our Tribal partners who have a stake in the outcome. WAPA anticipates deciding whether to pursue final negotiations with SPP in summer 2023. If an affirmative decision is made, SPP RTO go-live in the Western Interconnection is projected for Spring 2026.

WAPA is committed to keeping pace with changes in the industry to ensure that we, along with our customers, are well positioned for the continued success of our mission to safely provide reliable, cost-based hydropower and transmission to our customers and the communities we serve. To do that thoroughly and proactively, WAPA must also keep the grid secure by protecting its physical and cyber assets.

Physical and Cyber Security

WAPA is responsible for protecting more than 1,900 employees and contractors, four control centers and SCADA systems, over 17,000 miles of transmission lines more than 320 substations and associated critical energy infrastructure. To protect its assets, WAPA developed a data-driven, risk-based approach to protecting its assets and standardized security methodologies and processes.

Although there has not been a specific physical threat to WAPA's assets, we increased our security posture this winter in response to the increased attacks on electric infrastructure across the country. Our protocols include close coordination with the Federal Bureau of Investigations, local law enforcement and other utilities and partners as well as following industry rules and regulations. As you know and have seen, attacks on electric infrastructure are serious crimes that can result in power outages which can disrupt critical life and safety services and negatively impact economic activities. Repairing and replacing damaged equipment also increases costs to electric ratepayers.

WAPA continues to mature its cybersecurity capabilities through a greater understanding of and visibility into each system, reducing its overall risk. Given current trends in the cyber threat environment and evolving regulatory standards, WAPA will continue to invest in protection capabilities.

In addition to executing a Zero Trust Strategy plan to support Executive Order (EO) 14028, WAPA is:

- Subjecting key procurement activities to increased scrutiny via the Supply Chain Risk Management program.
- Integrating control systems data with DOE data sharing and analysis efforts.
- Participating in the Department of Homeland Security Continuous Diagnostics and Mitigation program and deployment of approved hardware and software tools.
- Deploying advanced data analytics tools.
- Enhancing services in WAPA's Secure Enclave Support Center, permitting safe, secure and accountable IT activities in our sensitive enclaves.

In 2022, WAPA's cybersecurity tools detected more than 73,000 suspicious actions that required further investigation. All events were resolved and nearly 99% were resolved within two days. On average, WAPA's cybersecurity tools block 6.7 million actions per day on its firewalls. We will continue to explore enhancements to protect and further harden the federal power system from physical and cyber risks and attacks, including sabotage.

Closing Statement

Staying ahead of extreme conditions, trends, and strategic opportunities extends our ability to reach our strategic goals: safeguarding a sustainable energy future, modernizing the grid, and investing in employees. As we begin to implement *Power Forward 2030*, WAPA remains committed to engaging in robust dialogue, acting swiftly to adapt to change, and relying on its dedicated workforce.

As the energy landscape evolves, WAPA stands ready to address challenges and seize opportunities for the benefit of its customers and the nation. WAPA will continue to empower communities and employees as we work to secure a resilient energy future for generations to come.

Thank you, Mr. Chairman, and members of the Subcommittee, for your attention and consideration. I am available to answer any further questions you may have.