

# CUSTOMER **Circuit**

FALL 2016

WESTERN AREA POWER ADMINISTRATION

## Year in Review

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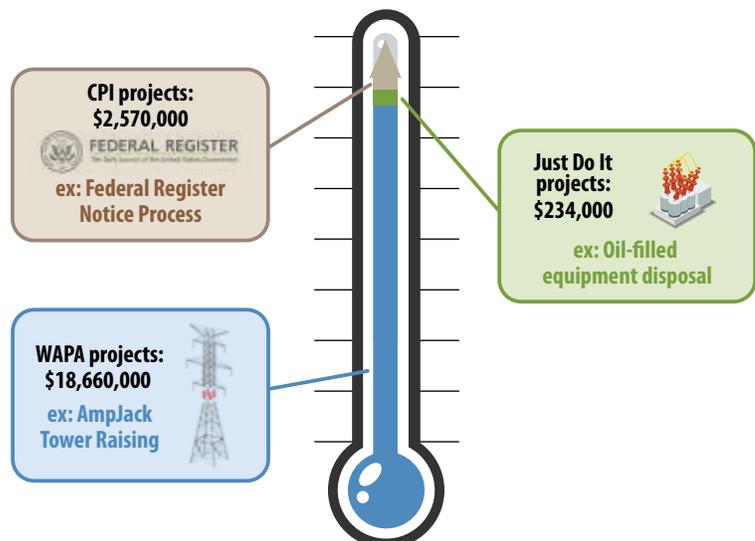
## ADMINISTRATOR AND CEO'S LETTER

As we come to the close of another exciting year in the energy industry, it is good to reflect on our long list of shared success. Our ongoing commitment to organizational excellence, mutually beneficial partnerships and evolving services sharpened when we refreshed the *Strategic Roadmap 2024* in October. A number of the industry changes we foresaw have come to pass, and the plan remains sound. What evolved is our understanding of opportunities to ensure we are working in the most important and most strategic areas, such as the increasing development of markets in the West. Our industry is poised for even more dramatic change.

We have seen many challenges this year that served to spur us forward. I recognize our staff's steadfast efforts delivering on our mission, providing strong customer service and keeping communities competitive by ensuring we remain one of the lowest-cost providers of electricity and transmission in the nation. Here are just a few of those top accomplishments for the year:

- **Launching The Source:** As part of our commitment to transparency, we now offer customers and others interested in WAPA access to our operational data and financial information in one convenient location.
- **Continuing commitment to safety:** Our staff across 15 states continues to have a strong commitment to safety, and the numbers show it. In fact, our Desert Southwest region had a record of more than five years of remaining accident free.
- **Advancing security and compliance:** Passing the North American Electric Reliability Corporation's audits has validated our operational success and reliability. This past year we also successfully incorporated NERC Critical Infrastructure Protection standards into our business practices before the July 1 deadline.
- **Evolving beneficial services:** From the completion of the Post-2017 Boulder Canyon Project remarketing effort to new project development agreements signed with WAPA's Transmission Infrastructure Program, we are providing necessary services throughout the West.
- **Driving for continuous improvement:** Our financial community implemented a new financial management system, which improved staff productivity, standardized our reporting and strengthened our compliance for consistent, timely and accurate financial data. Additionally, through the Continuous Process Improvement Program, WAPA has avoided more than \$20 million in costs by streamlining processes and embedding the vision of continuous improvement throughout our organization.

### Continous Process Improvement Program



Total of \$21.4 million in program savings and avoidance for FY 2014-2016

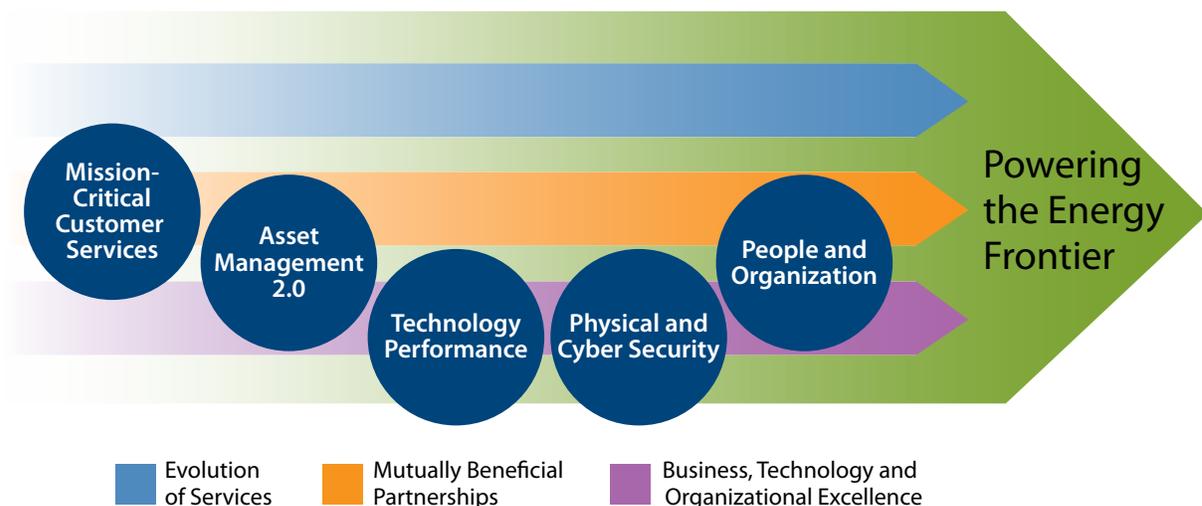
And the list goes on.

Building upon these accomplishments and honing our focus on the essentials for adapting to the climate of rapid change facing the utility industry, we published the refreshed *Strategic Roadmap 2024* and its associated Tactical Action Plan. We also developed the Fiscal Year 2017 Annual Performance Plan. Through the refresh process, we reduced the number of strategic targets from seven to five, and the number of initiatives from 33 to 19. We identified three cross-cutting strategic enablers—communication, partnership and innovation, and safety—which are foundational activities that are embedded across WAPA’s five strategic target areas.

I encourage each of you to review the refreshed Roadmap and plans on our website, under Strategic Planning. We also made the plan more inclusive so that each person and program at WAPA plays a critical role in our changing industry, in our future and in the enduring fulfillment of our promise to continue delivering on our mission.

Through our continued mutually beneficial partnerships; our commitment to business, technology and organizational excellence; and our effort to evolve services in response to the needs of a diverse customer base and a changing industry, we will continue to provide premier power and transmission services as we power the energy frontier.

Mark A. Gabriel  
Administrator and CEO





## Safety, security ingrained in daily work

Incorporating safety practices into employees' daily work habits is critical to WAPA's ability to protect staff both at the office and in the field. This year, the organization's Fall Protection Committee led craft employees in adding safeguards to the job that prevent injuries from falls. WAPA also beefed up its system security to address Critical Infrastructure Protection standards to make sure systems are dependable and reliable. Safety and security remain foundational elements to the organization's business, technology and operational excellence.

### WAPA trains on, implements fall protection measures

Photos and story by Travis Weger, Public Affairs Specialist

As part of its commitment to employee safety and the Occupational Safety and Health Administration's 100-percent attachment requirement, WAPA had a landmark year for enhancing staff skills and knowledge of fall protection measures. In 2016, crews participated in multiple trainings on various equipment, practiced real-world scenarios for

working barehanded on energized lines and simulated fall-protection drops. Several employees also completed train-the-trainer and train-the-foremen courses to increase the program's sustainability and standardized application across the organization.

During energized bare-hand hot-stick training in Flagstaff, Arizona, WAPA brought in Jim McDonald,



**A lineman rigs up a dummy, March 30, for rescue procedures during fall protection training outside Mead Substation.**

a 40-year industry veteran and owner of Powerline Training Consultants, to assist. McDonald said, "From what I have seen in the industry so far, WAPA is much more advanced and more technical in its fall protection methods. They are taking a proactive approach with all of their gear and equipment."

The commitment to safety means WAPA uses state-of-the-art equipment and techniques. These innovative processes, such as helicopter long-line methods, also allow crews to complete their work faster, ultimately saving customers money, while protecting the environment.

Using a specific long-line method, called the human external load program, allows for the transportation of a two-person crew by a harness or air-chair to the conductor or tower. "This allows linemen to move from tower to tower without having any effect on the ground," said Desert Southwest Lineman Dave Katich.

WAPA's leadership in fall protection training is recognized by peers and is sought by others in the utility industry. Adding the opportunity to train in a multitude of environments ensures crews have the tools, knowledge and training to complete work in the safest manner possible. ■



**Desert Southwest Lineman Dave Katich instructs a lineman on fall protection methods, March 30, outside Mead Substation.**

# Ready. Set. Comply. Excel with CIP!

## The move to incorporate CIPv5 standards within business practices

**M**any utilities across the country were focused on meeting the North American Electric Reliability Corporation compliance goal for incorporating Critical Infrastructure Protection version 5 Standards, or CIPv5, this year. As the July 1 deadline ticked closer, WAPA was well positioned to complete the overall project on schedule and ensure the standards were integrated into its business practices.

WAPA's CIPv5 Project Manager John Work said, "Our entire IT infrastructure is more secure than it was a year ago for both our operations and our business systems, and it is still improving. We are continuing to build on our strong program and processes by adopting changes to best practices as they come up."

In 2014, WAPA assessed the requirements and determined how to ensure compliance with the new standards before the initial April 1, 2016, industry-wide deadline. "There were a lot of unknowns getting started, so it was hard to plan all the details and specific steps in the beginning. Instead we were focused on helping folks understand the end goal and that, as we go forward, we are looking for standardized solutions," said WAPA Reliability Compliance Program Manager Chris Johnson.

The CIPv5 Implementation Team—made up of 26 core members and an additional 31 participants from Operations, Maintenance, Information Technology, Security and other programs—broke down the effort into 27 subordinate projects to

standardize the process for determining and tracking the specifics of WAPA's cyber and physical assets.

As WAPA and other utilities were implementing CIPv5 measures in January, the Federal Energy Regulatory Commission approved version 6 of the CIP standards that brought more requirements into scope. The effective date for the new requirements was March 31. However, because the changes required more time and effort, FERC responded to industry questions by extending the CIP implementation date to July 1. The extension also gave the Implementation Team time to look at the gaps and seams between the 27 sub-projects and make sure some plans were in place for aligning the efforts into the larger project.

On July 1, the team turned the program over to be maintained through normal business practices. Now with the underlying systems, the process for demonstrating how WAPA is protecting its systems and assets is streamlined. "Focusing on our good business practices as a principle, we knew that integrating compliance into everyday business activities would be key," said Johnson. "The decision to tighten our business controls gave us the ability to build on our program, while meeting the standards. We told folks, 'If we have good business practices, it will take care of 90 percent of the compliance needs.'" ■

For more information, read the full article, available on WAPA's 2016 news features web page at <http://go.usa.gov/xkFnE>



## Overview of CIPv5/6 Implementation

### GOAL

Ensure strong protection of WAPA's critical infrastructure with measurable compliance to meet NERC's CIP versions 5 and 6 reliability standards

Initial		Completed	
<b>Start date</b> December 2014		<b>Initial deadline</b> April 1, 2016	<b>Revised deadline</b> July 1, 2016
<b>Number of CIP requirements</b> 38 (accounting for almost 9% of the NERC Standards that apply to WAPA)	=	<b>Number of sub-projects</b> 27	<b>Number of project participants</b> 57
<b>Estimated project work hours</b> 41,000		<b>Actual project work hours</b> about 39,000	



## Industry changes shaping energy sector

**T**he next evolution of the energy industry and market developments have arrived. WAPA is using innovation and collaboration to address the impacts of the changing energy landscape. Specifically, by approaching market participation on a region-by-region and case-by-case basis, WAPA has made significant strides in different market participation scenarios—from the Upper Great Plains region’s membership in the Southwest Power Pool, to the Sierra Nevada region’s continued coordination with the Balancing Authority of Northern California and the California Independent System Operator, to the collaborative work with the Mountain West Transmission Group.

### UGP reflects on one year in Southwest Power Pool

by Philip Reed, Technical Writer with Wyandotte Services

**A**t midnight on Oct. 1, 2015, WAPA’s Upper Great Plains region, Basin Electric Power Cooperative and Heartland Consumers Power District transferred functional control of the integrated transmission system to Southwest Power Pool and began operating in the regional transmission organization, or RTO. One year after WAPA became the first federal power marketing administration to join a full RTO, Vice President of Power Marketing for UGP Jody Sundsted shared his reflection on the effort and its benefits.

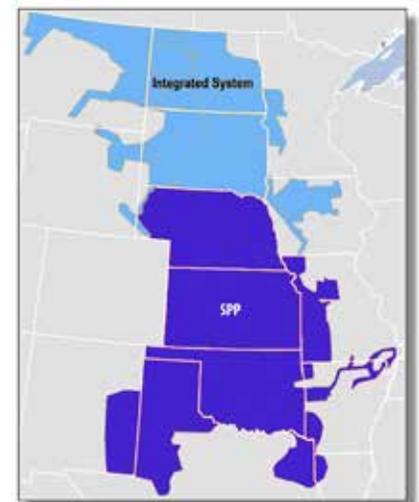
“The transition has been very smooth,” said Sundsted. “We turned the functional control of our transmission system over to SPP and our load and generation in the eastern interconnection was placed in the SPP Integrated Marketplace. Those first few hours of observation were tense for staff, but all transferred functions operated smoothly and have been operating smoothly since.”

The integration team spent 18 months leading up to the cut-over for planning and setup to make sure the integration with the SPP was seamless.

“The Alternate Operations Study, authored before joining SPP, projected \$11.5 million in first-year savings, mostly from cost avoidance,” explained Sundsted. “By joining SPP we have, in fact, avoided costs at a greater rate than projected.”

Some of this cost avoidance is attributable to the full access UGP now has to SPP’s Integrated Marketplace. This allows the region to purchase energy to meet firm commitments to customers and to sell any surplus hydropower generation.

“This past year our generation was reduced, due to below-normal hydropower conditions,” Sundsted said. “We had to purchase just under 1.6 million megawatt-hours of energy in the Integrated Marketplace, and the price we paid per megawatt-hour was at historic lows, not seen since the 1980s. Energy pricing is influenced by the price of natural gas and renewables, however access



Source: SPP

to the SPP Integrated Marketplace has allowed us to avoid additional third-party transmission costs.”

Access to the Integrated Marketplace also avoided potential issues with transmission loading relief schedule cuts. Before joining SPP, UGP saw many of its energy schedules cut to relieve congestion inside of the neighboring RTOs. This caused UGP to re-dispatch generation within the balancing area. “That was, at times, very challenging to accomplish, and not economical when compared to the schedules that were cut,” Sundsted explained.

Now, after a year of SPP participation, UGP continues to deliver on WAPA’s mission to its customers amid a changing energy industry landscape. ■

## MWTG collaboration, evaluation continues

**W**APA's Colorado River Storage Project Management Center and Rocky Mountain region continue to evaluate participation in the Mountain West Transmission Group, which is made up of seven neighboring entities. Through the collaborative effort of the MWTG, the participants set out in 2013 to design a single, multi-company transmission tariff that would eliminate pancaked transmission charges.

Since then, the MWTG conducted a detailed analysis of the potential benefits of a common regional tariff, as well as adding an organized energy market to the re-

gional tariff footprint. Continuing analysis will consider the single tariff and additional scenarios to evaluate different levels of generation dispatch coordination, including possible incorporation of the MWTG parties into a regional transmission organization, or RTO, market structure. The group anticipates study results by the end of 2016.

Meanwhile, WAPA and other MWTG participants are continuing outreach with customers, the other entities' constituents, FERC, RTOs and other interested parties. ■

## Expanded market agreement saves \$1.5 million in power costs

**A** pilot energy market agreement proves effective in just 10 months for WAPA and its customers in California.

Northern California Power Agency, Silicon Valley Power and WAPA joined together last December to broker a Market Efficiency Enhancement Agreement with California Independent System Operator Corporation, or CAISO.

The agreement between the entities improved the locational pricing for hydropower WAPA imports to the CAISO market and opened the door for several additional WAPA customers who have since chosen to sign onto the agreement.

"Once WAPA saw the savings for the pilot agreement with NCPA and Silicon Valley, some of our other customers, like Eastside and the Department of Energy's laboratories, decided to partner with us, too," said WAPA Senior

Vice President and Sierra Nevada Regional Manager Subhash Paluru. "In less than a year, those customers have collectively saved more than \$1.5 million in energy costs. That is an incredible savings."

Annually, WAPA's Sierra Nevada region schedules an average of 700,000 megawatt-hours into the CAISO day-ahead market and an average of 230,000 MWhs of hydropower into the real-time CAISO market. This renewable, cost-based energy serves WAPA's customers within CAISO's footprint.

"Almost half of WAPA's Sierra Nevada power is delivered to customers in the CAISO," said VP of Power Marketing for Sierra Nevada region Sonja Anderson. "It is great to see these kinds of results so quickly. Collaborating with our customers and CAISO to deliver renewable hydropower at its proper value will ensure we can continue to provide reliable and clean energy."

The agreement saves money by leveraging specific price locations rather than an aggregate price for WAPA to import energy to customers.

"All our customers, from California's big cities to small towns and rural areas, need reliable, renewable power. It is vital to our economy," said Paluru. "This kind of mutually beneficial partnership and collaboration makes a difference for our shared energy goals and prepares us for the demands as the energy industry evolves." ■

### What is a balancing authority?

**A** Balancing Authority is responsible for maintaining the electricity balance between the demand for energy and power generated to make sure they are equal across the transmission line and infrastructure within its area, and between neighboring balancing authorities. The California Independent System Operator Corporation and WAPA's sub-balancing authority, underneath the Balancing Authority of Northern California, ensure the generation, transmission and distribution systems are all working reliably every hour to support California's energy needs.

For more about WAPA's engagement in market activities throughout the West, read the full article "Multiple market choices open door for robust discussion" at <http://go.usa.gov/xre5R>





## Evolving services to deliver on our mission

**A**s a wholesale energy supplier, WAPA keeps communities competitive by providing long-term energy contracts, as well as power marketing and transmission services. Our mutually beneficial partnerships with customers, federal agencies and industry experts ensure WAPA can deliver on its mission and provide stability to customers' energy portfolios for future planning by offering the lowest possible rates consistent with sound business principles.

### Boulder Canyon Project contracts provide 50-year stability

by Kara Lamb, Public Affairs Specialist

**W**APA's Desert Southwest region completed the signing of its Post-2017 Boulder Canyon Project contracts, bringing almost 60 new customers into the WAPA fold. More than 20 of the new customers are Native American tribes.

The Boulder Canyon Project markets hydropower generated by the Bureau of Reclamation at Hoover Dam as directed by congressional authorization. The Hoover Power Plant Act of 2011 created the possibility for additional customers to receive the clean, reliable, low-cost federal hydropower, starting in 2017.

WAPA completed the process of establishing new allocations of power in 2014. New customers receiving an allocation had to execute contracts by Oct. 1. Contract negotiations commenced in 2015 and were concluded in the summer of 2016. October 2016 marks the successful execution of all post-2017 Boulder Canyon contracts.

Delivery of power under the newly executed contracts will begin on October 1, 2017, and serve customers for the next 50 years. ■



WAPA staff from the Desert Southwest region and Headquarters team up for the Boulder Canyon Project remarketing effort. The effort resulted in almost 60 new customers signing contracts for power allocations starting Oct. 1, 2017.

## Drought-adder rate reduced for Pick-Sloan, LAP customers

by Kara Lamb, Public Affairs Specialist

**W**APA unveiled new efficiencies resulting in lower rates, Oct. 12. Through a drought-adder reduction, WAPA is moving forward with maximized cost savings, highlighting its overall effectiveness as a power marketing administration and business organization.

The recent drought-adder reduction for customers in WAPA's Upper Great Plains and Rocky Mountain regions who buy federal hydropower from the Pick-Sloan Missouri Basin Program results in a significant future cost reduction. In this case, a drought-adder charge, levied to help repay the deferred drought costs, is being repaid ahead of schedule. The change represents a five-mil-per-kilowatt-hour reduction to current composite rates, resulting in roughly

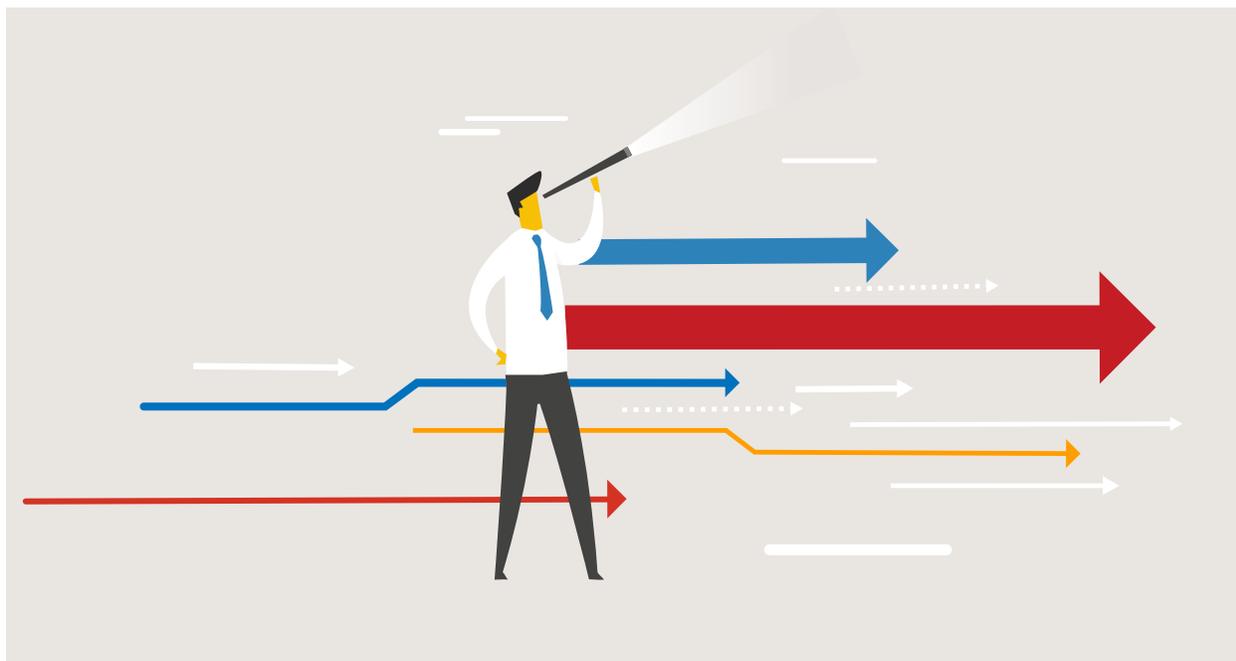
\$50 million saved annually in power costs for customers across Colorado, Wyoming, Montana, Kansas, Nebraska, the Dakotas and the western sections of Minnesota and Iowa.

Accomplishments like this become possible because WAPA works closely with its rate-payer base, asking questions and injecting ideas gleaned from customer feedback into its daily operations. "Such a balance underscores the emphasis of our business principles and highlights actions worth considering as we navigate the future," Administrator and CEO Mark A. Gabriel said. "By working together in these types of mutually beneficial partnerships, we keep the end users' bills affordable and help communities prosper." ■

## SLIP rates hold steady, introduce plant

**T**he Colorado River Storage Project Management Center manages several power projects for customers, including Falcon-Amistad, Provo River and the Salt Lake City Area/Integrated Projects, which includes generation from CRSP, Collbran, Dolores, Rio Grande and Seedskaadee hydropower plants. All of the project rates were updated between June 2014 and October 2015 for the following five years. The rates for the projects have held steady since the last rate process.

Coming soon, the Bureau of Reclamation and the Central Utah Water Conservancy District are replacing Olmsted Powerplant. Once replaced, WAPA is expected to begin marketing Olmsted power in 2018. WAPA's CRSP MC staff is developing the marketing plan and, once approved, WAPA will submit a *Federal Register* notice to establish the firm power rate. ■



## Mesquite 3 Solar Project highlights partnership, customer service

The Department of the Navy, WAPA and Sempra U.S. Gas & Power celebrated the dedication of Mesquite Solar 3, Oct. 14. The 210-megawatt solar facility provides one-third of the power needed for 14 Navy and Marine Corps installations in Southern California. The agreement represents the largest purchase of renewable energy ever made by a federal entity.

“This ceremony marks the completion of one of the first and most monumental, renewable energy projects undertaken by the Navy,” said Assistant Secretary of the Navy for Energy, Installations & Environment, Dennis V. McGinn. “The 14 Navy and Marine Corps installations that will receive power produced by Mesquite Solar 3 will get more than just clean, renewable power. They will get increased energy resiliency and security, which is crucial to maintaining our mission readiness.”

Customer service is critical for WAPA in delivering reliable, cost-based energy. One of WAPA’s services is to

purchase power for its customers to meet their energy needs beyond their allotment of federal hydropower. The Navy sought WAPA’s assistance in arranging a purchase power agreement on its behalf and using Navy funding to acquire renewable energy for 14 military installations across southern California.

“Our long-standing partnership with the U.S. Navy is a perfect example of our mission dedication. Together, we strengthen coordination efforts to enhance national energy security and demonstrate federal government leadership as our nation transitions to a low-carbon economy. Today, we celebrate the culmination of that partnership, of innovation and technology, and a better way of doing business,” said Administrator and CEO Mark A. Gabriel during the ceremony. ■

For more about WAPA’s partnership with the Navy and Sempra, read the press release at [http://www.navy.mil/submit/display.asp?story\\_id=97173](http://www.navy.mil/submit/display.asp?story_id=97173)



WAPA Administrator and CEO Mark A. Gabriel, left, Senior VP and Desert Southwest Regional Manager Ron Moulton, right, and DSW Power Marketing staff join the ceremony, Oct. 14, to dedicate the Mesquite 3 Solar Project. DSW’s Power Marketing staff developed the long-term power contracts to enable the Department of Navy to buy renewable power from Sempra.

## Port of Oakland reduces GHG with CVP hydropower

**W**APA partners with its customers to ensure the economic vitality of towns and cities in the West. In Northern California, several WAPA customers have pooled their WAPA power allocations to share the benefits of hydropower for their communities, including Port of Oakland.

The Port of Oakland oversees the Oakland seaport, Oakland International Airport and 20 miles of waterfront. As a member of Northern California Power Agency along with 11 other entities, Port of Oakland receives WAPA's Central Valley Project's hydropower resource. Together, the NCPA members with WAPA allocations get more than 18 percent of all the hydropower generated from CVP.

Recently, WAPA Administrator and CEO Mark A. Gabriel and Senior Vice President and Sierra Nevada Regional Manager Subhash Paluru visited the Port of Oakland. "We discussed the 2025 marketing plan and Port of Oakland's future energy needs," said Paluru. "Going out and talking with our customers gives us a chance to see how our products help them, as well as how we can evolve our services and partner for future mutually beneficial opportunities."

Hydropower is part of the Port's energy portfolio for running the electric cranes that move shipping containers around the yard. The Port of Oakland's WAPA allocation also contributes to using energy that reduces greenhouse gases to further the environmental objectives of the state of California.

"The Port of Oakland's electric utility is committed to providing competitive electric service to our customers that meets or exceeds local and state environmental objectives. The energy we receive from WAPA is GHG free and a critical part of our electric portfolio. We look forward to continuing our relationship as the Port grows," said Port of Oakland Manager of Utilities Administration Nicolas Procos. ■



**WAPA Administrator and CEO Mark A. Gabriel, left, takes a tour of Port of Oakland's operations, Nov. 14. Port of Oakland receives renewable, reliable hydropower from its power allocation with WAPA, managed through Northern California Power Agency. (Photo courtesy of Port of Oakland)**



**Port of Oakland Utilities Business Administrator Basil Wong, right, greets WAPA Administrator and CEO Mark A. Gabriel and Senior Vice President and Sierra Nevada Regional Manager Subhash Paluru.**

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