

The Value of WAPA

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annual meeting*



**Western Area
Power Administration**

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We begin each of our senior management meetings with a “drive for value” moment, where one of us shares an example of something that happened that delivered value for customers or shows collaboration across WAPA. We work to build value into our everyday practices and our culture.

My drive for value today is our work together on the drought adder. It is the truest demonstration of collaborative partnership, problem solving and foresight. Back in 2009, due to extreme drought, we had an \$843 million crisis. This was a one-in-five-hundred-years type situation.

Thankfully, in 2006 we had already begun working together—truly in a joint effort—to negotiate and develop the drought adder. We identified the drought costs as we went into it, and calculated a final payoff in 2019. At its peak, almost half the rate was the drought adder.

And there were lots of skeptics out there. Many of you thought it would never go away. \$113 million remained unpaid in 2016. But the drought adder did exactly what we expected it to do; the mechanism works just as it was designed. It allowed us to drop the rate without going through a rate process. And now we have a mechanism that allows us to adjust and respond to the inevitable variability of the hydropower resource.

All projections point to the drought adder being paid off one year early in 2018. This has been a fantastic effort and win.

Equally valuable is what we have learned from this experience. As a result, we have worked together to develop a strategy to increase our purchase power and wheeling reserve by \$97 million over the past two years. Our plan is to achieve a full reserve balance by 2020, which will cover the first three years of a drought while still allowing us to fund critical capital investments.

I have spoken to you about it throughout the year, but the news was announced officially last week: WAPA is reducing its composite rate for about 415 wholesale firm electric customers of Pick-Sloan and Loveland Area Projects. The rate decrease takes effect January 1st, and will result in roughly \$40 million in power costs savings, annually, for customers that have a downstream impact on consumers in Colorado, Kansas, Iowa, Minnesota, Montana, Nebraska, North and South Dakota and Wyoming. To be clear, this is largely due to the drought-adder reduction. As you know the base rate has gone up slightly. But there is no denying this is great news for your customers and the communities they serve.

The Value of Hydropower in the West

This coming year, I will be talking a lot about the value of WAPA. And that is going to mean a lot of different things, but at the end of the day, it is about the value we bring to customers. And the partnership we have here helps to maximize the value of the hydropower resource we offer.

I want to share a recent and salient data point to really illustrate this. Data from the Commerce Department shows that in October 2017—across the country—Americans, on average, spent only 1.31 percent of their income on electric utility bills. This percentage is the fourth-lowest month in



history, going all the way back to 1959. And October was no anomaly. Five of the six lowest months since 1959 all happened in 2017.

For those of you who are curious, this trend was the highest in the 1980s. It dropped quite low in the years following deregulation, around 2002, but it is still lower today.

We can extrapolate even more good news for your customers from this data. This personal consumption data is based on income and how much people pay for certain line items—clothing, groceries, insurance, pet supplies... The list goes on and on; there are almost 400 lines of data. Electricity is a great measure, though, because it affects every household.

All this data, as I mentioned, comes from the Commerce Department. What we know from the Bureau of Labor Statistics is that, regionally, in the West, we have higher incomes (compared to the Midwest, Northeast and South) AND lower electricity bills. Part of what keeps rates lower in the West is the high percentage of hydropower as well as electric cooperatives and public power. Taking that into consideration, consumers in the West likely pay only a little more than 1 percent, compared to the 1.31 average in the country.

Furthermore, because of the value of hydropower, consumers who benefit from WAPA power pay even less than that. There is a correlation between what retail customers pay and power generation costs at the wholesale level. These studies I have mentioned, obviously, cite retail costs. And WAPA, as you well know, markets its power at-cost. But when you look at utility costs across the country—whether from an investor-owned utility, a public utility district, a municipality—there are only relatively small differences in terms of cost. The overwhelming driver—what truly makes a difference in consumer rates—is the wholesale cost. And that, right there, is the value you get from the hydropower resource and from WAPA.

I am passionate about what we do, and what we can continue to do for your customers. And I am excited knowing that what we can accomplish working together is likely greater than my own personal vision. We have had a phenomenal year and I am looking forward, optimistically, to what the future has in store.

Framing our footprint

You represent a large portion of our customers. But I want to take a step back and ground ourselves in some perspective. WAPA runs a big business. You have all heard our numbers before, but I think that sometimes as we dive into the details, we lose sight of the size and scope of WAPA's footprint, and the assets that run across and through it that are entrusted to us by the American public.

Our footprint is 1.4 square million miles. We operate across a 15-state territory. Let me take a moment to frame that footprint for you. It is comparable in size to the landmass that stretches from Oslo to Athens, and from Paris to Moscow—only slightly smaller than the Roman Empire at its height. We cover all that diverse territory and terrain, and deal with a political mosaic almost as complicated as Caesar's.



We are entrusted \$4.3 billion in assets, which include:

- 177,000 structures
- More than 17,000 miles of high-voltage transmission line
- 665 buildings
- 479 communication sites
- 319 substations
- 297 transformers

We own it, we maintain it, we monitor it, we secure it and we repair it. And it requires investment. It is an enormous responsibility ... and an enormous privilege.

I remind our employees, though, that although it is easy to get caught up in the enormity and the complexity of our business, if we remain laser-focused on our mission, everything else becomes quite simple. We keep the lights on for 40 million Americans. We have designed an organization and a Roadmap around that singular mission. And we are good at it.

Of course, people have different ideas about how we could and should operate or where we should invest or which projects we should support. There is great value in the discourse. I am open to the conversations, but I must remind you that there are a number of areas where we do not have choices, such as regulatory-driven mandates. Also, there is no one-size-fits-all approach with an organization our size—especially considering the differences in our regions and in our customers. What works in the Upper Great Plains will not work in California ... and I am sure many of you are not keen on the flip side of that.

It is our partnerships with customers, our knowledge of your needs and priorities that helps us serve your organizations and operations. We appreciate the special bond that has provided value for the past 40 years to your customers and the 40 million Americans touched by WAPA power.

What Remains and What Has Changed

Although the electric utility industry is changing rapidly, and evolving in a way never before seen, WAPA's critical and noble mission remains the same. It is true, though, our *role* in the industry has evolved some since many of you began working with us. If I had to guess, there are at least a few of you sitting here listening to me fondly remembering how things used to be ... but we must keep pace. We must evolve. WAPA must be present, be heard and be visible—across our footprint and within the beltway—as we comply with regulations, help shape the future of markets in the West and assure that WAPA's unique role does not become lost.

WAPA is approaching a milestone anniversary. WAPA will turn 40 next week, on the 21st. I cannot help but reflect on our organizational journey. I absolutely love the part we play in the story of the rural electrification of the West.

We literally help power communities that would not otherwise have affordable access to electricity ... we help generate economic growth in communities that do not have other competitive



advantages ... we help businesses afford to stay afloat, which keeps people employed and families thriving.

We do not do these things in a vacuum. It is the relationships we have with you and your customers that enable us to be responsive, to understand the challenges and the needs you are facing. For 40 years we have been guided by our mission. Shortly after I arrived at WAPA, we developed our Strategic Roadmap to help further define our focus and path. And this year, we refreshed our organizational core values to further guide employees at critical decision points.

This refresh came on the heels of our culture assessment. Our senior management team identified key themes that would authentically refresh our core values. Then we brought in employees to make sure the themes resonated and that we had alignment and buy in. It was also important to identify blind spots. We put on the finishing touches and announced them at an all-employee meeting in November.

I am excited to share them with you today. Many of these speak for themselves, but I may interject on a couple of them.

- **Listen to understand – speak with purpose.**
- **Seek. Share. Partner.**
 - This collaboration refers to work we do internally, but also to the work we do with our customers and other stakeholders. We seek input from, share relevant information and partner to get things done.
- **Respect self, others and environment.**
- **Do what is right.**
- **Be curious, learn more, do better. Repeat.**
 - This includes innovation, training and developing others, and finding better ways of doing things.
- **Serve like your lights depend on it.**
 - This really sums up our commitment to business, technology and organizational excellence. At the end of the day, it all goes back to keeping the lights on. We do that through dedication to customer service to all of our stakeholders.

These core values are not new. There should be no surprises here. You have already seen them show up in interactions with our employees and various workgroups. And you will see more of them from here on out as we rededicate ourselves to the values that make WAPA the organization it is.

It is worth noting that since last we refreshed our core values in 1993, 88 percent of employees are new. So much of WAPA's culture is passed down employee to employee. With so many new people, and having just invested in our culture, we felt it critical to do a strategic reset to further ensure alignment. I am proud of the refreshed values and confident they will not only serve as a foundational reference point for employees, but amplify the great work and behavior already exhibited across WAPA's footprint.



Recognized for commitment

Now, you all know I enjoy getting up here and touting the accomplishments of our people and programs. I am extraordinarily proud of WAPA employees and all we achieve. This year, I want to take a moment to acknowledge the recognition we received from industry, customers and government partners. And I am not sharing this for the sake of sharing and simply patting our organization on the back. I am sharing it to you remind you all that we are leaders in many ways ... in the rates we can offer, in the service we provide, in the quality of our programs and our people. The recognition demonstrates our commitment to organizational excellence. More importantly, though, it keeps us at the table for important conversations, it keeps our name and our brand in front of people, it motivates our employees—public servants—to keep serving like their lights depend on it, and it helps us to attract and retain the best and brightest people to work in all corners of our organization.

Here are just a few awards we received in 2017. They span functions and offices across our footprint.

- The Department of Energy recognized WAPA in its Best Practices publication for our organizational transformation in incorporating both change management principles and our Strategic Roadmap into recent reorganizations and realignments.
- Jody Wootton, a public utilities specialist in our Sierra Nevada region, received the Coast Guard Reserve Officer of the Year from the Navy League.
- Chris Colson, an electrical engineer in our Upper Great Plains region, was recognized by RMEL with their Emerging Leader award.
- Jodi Jensen, an operations support specialist in Upper Great Plains received the Patriot Award from the Employer Support of the Guard and Reserve.
- Our Public Affairs team won three awards from the National Association of Government Communicators for our internal newsletter, our annual report and for our photography.
- A Public Affairs video, featuring one of our California customers, was recognized by the American Public Power Association.
- As many of you may already know, now-retired Bob Harris recently received the Cornerstone Award from Basin Electric for his leadership and outstanding service to electric cooperatives.
- Sara Frey and Beverly Faller, representing Headquarters and Sierra Nevada, received DOE certificates of appreciation for participation in National Archives and Records Administration training curriculum revision project.
- Headquarters Accounting staff received the Filling the Gap award from the Denver chapter of Association of Government Accountants for working with the Bureau of Reclamation to streamline a financial process.

Responding to the call

Although there has been no formal award, we have received recognition for our support in the recovery and restoration efforts in the aftermath of hurricanes Irma and Maria. Some of you may be wondering why this is important... I visited St. Thomas just a few weeks ago, to tour the work our crews performed. And I am here to tell you that it was an absolutely transformative experience—both for the crews and for me. We have wrapped up the effort in the Virgin Islands



with an immense sense of pride for our expertise, leadership, resourcefulness and craftsmanship. We have advisors on the ground in Puerto Rico as well.

This job was the embodiment of the value WAPA brings and the personification of our core value to “Do what is right.” Of course, I have to remind you that the restoration effort was all paid for by the Federal Emergency Management Agency. But here is what we got from the experience: More experience, increased recognition of the value of our processes and our craftsmanship, lessons in how to improvise under challenging circumstances, and being humbled by directly supporting tens of thousands of Americans. Crews worked across difficult terrain amid challenging conditions. For more than 60 days WAPA employees sacrificed time with their families to assist this effort.

Again, this was a mutual aid effort. As part of the Department of Energy, when we are called, we participate in national incident responses.

Lastly, our work in the Virgin Islands and Puerto Rico reminded me of the value of common work practices. Crews from every region were able to come together and work together flawlessly because they all use the same operational processes. We are now reminded of how seamlessly we can perform combined crew work and joint projects—and these jobs save customers money.

Getting things done, making a difference

Last year, in talking about our Continuous Process Improvement program, I shared that we were looking to double or even triple our cost-avoidance and -saving. And I am thrilled to announce that we did it. Just before the fiscal year ended, the program surpassed the \$50 million mark. At the close of its third year, it saw a 190-percent return on investment.

I want to tell you about a recent CPI success story that exemplifies a few of our core values. Based on one employee’s idea, a small WAPA team worked with the U.S. Fish and Wildlife Service to develop a strategy to proactively fund programs that support conservation activities for endangered species, rather than paying reactive mitigation costs. The result is an avoidance of more than \$21.5 million. And let me clear: These are costs that would have otherwise rolled down to local customers in California. One employee thinking about how something could be done differently, how it could be done better... One employee thinking about how WAPA can reduce its environmental impact, while also avoiding tens of millions of dollars in mitigation costs... That is “Respecting the environment.” That is “Seek. Share. Partner.” That is “Being curious” and “Doing better.”

Physical and cyber security

Last year, I told you about the increased investments we are making in our physical security program. We continue to make great progress toward securing our assets.

In Fiscal Year 2017, we made great strides to assess and mitigate potential risks at our facilities. We replaced signs, repaired locks and secured gates. In total, we closed 355 of 370 remediation actions. WAPA also continued to improve its cyber performance throughout the year. We reacted to and closed 99.61 percent of cyber incidents within three days and did not experience a single significant



cyber event. We aggressively pursued phishing training for the entire workforce, seeking to reduce the number of staff who click the wrong links. In the world of audits, the Department of Energy just concluded a technical examination of our Sierra Nevada regional SCADA system with no findings or major deficiencies.

Inclusion and Diversity Committee

In 2016, we launched an Inclusion and Diversity Committee, made up of employees from across WAPA's footprint to provide enterprise-wide leadership toward a sustainable and meaningful inclusion and diversity program.

For years now, study after study has shown that more inclusive organizations create better business results. Inclusive organizations have a greater competitive advantage. Inclusion positively affects their bottom line. At inclusive organizations, employees are more engaged, make more sound business decisions and avoid more pitfalls and blind spots. This is not a new program or initiative. It is strategically tied to our Roadmap and organizational goals.

I have called upon our employees to find ways to make WAPA more inclusive. And I hope you have noticed that our senior team is leading this effort by being more inclusive and transparent with customers and customer groups.

This effort demonstrates the "Respect others" piece of our core values. When WAPA creates space for employees to bring their best, when it unlocks the key to leveraging the best each employee has to offer, that is where we can find innovative solutions and exponentially expand the value we provide.

Inclusion, Innovation and Technology Summit

In May, WAPA held its second annual Inclusion, Innovation and Technology Summit to recognize and celebrate and our innovators. The event highlighted the role inclusion plays in unlocking innovation, which is essential to remain at the forefront of the electric utility as it evolves.

Thirty employees were recognized for their innovative work on six projects. As evidenced by the winners, innovators are found throughout the organization—they represent accounting, information technology, environment, legal, engineering, operations, the craft and support services.

Asset Management

Our Asset Management program continues to evolve and we are reaping the benefits of your investment. In the coming year, we will focus on further leveraging information to make data-driven decisions and maximizing the value of our enterprise assets.

It is my vision that we completely integrate all assets to understand necessary investments for just-in-time capital projects. We have some work to do to get there—it will take some new tools, some new processes and a shift in culture. The integration will serve us well, though. We need to be looking at asset management, field knowledge, budget, procurement and customer support as one big picture, not separate activities.



This past year we identified 90 assets—breakers and transformers—as high risk, high probability of failure, or having a low health assessment, and completed mitigation on 12 of them. We also identified 68 actions to be taken on these assets—such as replace, maintain or roll into a larger project.

One project worth noting that serves WAPA, and ultimately our customers, well is our transmission line health assessments. When complete, we will be able to manage the quality of our transmission assets on a more granular level. The project requires migrating data for transmission lines, their corresponding structures, along with code and calculations, to new systems. It is currently ahead of schedule, having migrated health data for 200 lines in August. Ultimately, this project will ensure the health assessment of each of WAPA’s lines is accurate and evaluated consistently across the enterprise. This is the direction we need to continue going. The work we are doing in asset management is an integral part of the way we do business.

Power Repayment Study Tool

This year we have made giant strides toward a single, secure software solution for our Power Repayment Study. In April, we awarded a contract to a software development company to build WAPA a tool that will provide a reliable, transparent means to calculate rates and track repayment for our rate-setting systems that support our 15 power and transmission projects. This has been a long time coming.

The design and planning phases of the project are complete. We will continue the buildout through January and will concurrently begin functional testing at that time. We will begin training WAPA functional users in February and conduct parallel testing in March. We will be ready for production in April.

WAPA is planning a customer WebEx next month to provide an overview of the product. We told you that we would include customers along the way. This speaks to our core value to “Seek. Share. Partner.” This is us making good on our commitment to transparency. And also staying focused on what really matters, that which is outlined in our Roadmap.

Southwest Power Pool

We had good water year. We sold quite a bit of energy into the market. \$30-40 million. To that end, participating in the Southwest Power Pool was hugely advantageous. It might have been more difficult to sell that surplus otherwise. SPP is working out better than we anticipated. The market is doing what it is supposed to do. I am confident this was the right decision for WAPA and for its customers.

Before we move on from the fantastic accomplishments of this past year, I want to reiterate what they all represent. The leadership demonstrated by WAPA employees translates to organizational accomplishments—by means of improving processes, increasing efficiency, finding less expensive ways to perform work, reducing risk, improving safety and security practices—and these collective accomplishments translate to improved service, increased reliability and reduced costs. And that is



what makes a difference to your customers and the communities they serve. Our accomplishments serve you ... on both small and large scales.

Lastly, these accomplishments span all regions and represent the collective efforts of employees across our footprint, which brings me back to a point I made when I began speaking this morning ... a point about the scale of our operation and the scope of what we do. The fact that we operate as both a utility and a government organization contributes to the complexity of our operation.

Obviously, we need people in support roles to run the business: finance, human resources and legal. And we need people to operate and maintain our assets: Linemen, Engineers, Communication and relay folks, dispatchers, power marketers and rates managers. But we also employ archaeologists, heavy equipment mechanics, a statistician, biologists, geographic information system specialists and an industrial hygienist. We need these people to ensure safe practices in our offices and in the field, to safeguard the environment and cultural significance of the land on which our assets rest, to fix our specialized equipment when it breaks, and to leverage asset analytics to ensure capital resources are expended efficiently.

Big picture, long view

We must be laser focused on our jobs while simultaneously preparing for the future. Our world is changing at a rapid pace with impacts far greater and at a speed much faster than in the past. Being prepared for these changes is a critical piece of our work. These are utility industry and societal movements that will dramatically impact all of your—and our—operations.

The move to markets as we have seen in UGP joining SPP goes beyond staffing changes. The dams are being operated more efficiently due to different dispatch models. Negative pricing has become the norm in California and coal plant closures mean a different set of planning criteria.

Beyond markets, there are differing sets of expectations for all of us. Environmental, social and governance criteria—known as ESG Criteria—are spreading across from non-governmental organizations to financial communities. Wind purchase power agreements are falling below \$15 per megawatt-hour. The utility business model is being challenged as technology meets consumers in a new way. This will happen in Iowa as surely as it will in California.

Not even 10 days ago, on Dec. 4, the Southwest Power Pool set three wind- and renewable-related records.

- At 5:20 a.m., wind generation hit 13,271 megawatts, serving 56.25 percent of SPP's load.
- At 6:40 a.m., total renewable penetration hit 58.23 percent.
- And at 7:55 a.m., SPP set a 13,588 megawatt record for peak wind generation.

The business is changing. Operations are changing. Times are changing. And we must not only keep up with the pace of change. But anticipate it and plan accordingly.



In some states the “gentailer” model is starting (this is where utilities own generation assets and sell retail energy in a competitive market) and the electrification of transportation could mean an increase in demand of 4 percent by 2025 – the equivalent of 15-20 million new households.

Of course WAPA is focusing on providing electricity to you at the lowest possible rate consistent with sound business principles. This does not, however, free us from understanding these impacts on you—and the potential rise in the value of hydropower—or our responsibility as an open-access transmission provider.

Conclusion

Thank you all for your time today. Thank you for allowing me the opportunity to address this group. As we move into the New Year and have more opportunities to come together, I want you to know that I am personally committed to WAPA’s first core value, which is to “Listen to understand, speak with purpose.” I trust you already recognize that I speak with purpose, but my commitment to you today is that when I show up, I will do so with an open mind and a willingness to set aside my own beliefs and assumptions to truly hear your concerns.

Thank you for the years of mutually beneficial partnerships. Thank you for asking the difficult questions. Thank you for your support. May we continue to work together productively to bring increased value to your customers.

