

**Mid-West Electric Consumers Association
Annual Meeting
Dec. 6, 2016**

Keeping Communities Competitive for 40 years

If you have visited my office, you have seen what I am about to share. You have read it. You know it:

“It is not the critic who counts; nor the man who points out how the strong man stumbles, or where the doer of deeds could have done them better.

The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly, who errs, who comes short again and again because there is no effort without error and shortcoming; but he who does actually strives to do the deeds... who at the best knows in the end the triumph of high achievement and who, at the worst if he fails, at least fails while daring greatly so that his place shall never be with those cold and timid souls who neither know victory nor defeat.”

Teddy Roosevelt said that more than a hundred years ago, on the edge of a new frontier. In speaking these words and others, he inspired Manifest Destiny and with it a system for federally provided water and power so we could live here—and thrive—in the West.

And it has worked. By coming together, we formed competitive communities that have grown beyond the scope of what was originally imagined. We stand there today, a full century later, facing the energy frontier and coming together again to plan for our shared success so

those same communities and the many that followed will remain competitive now and well into the future.

Refreshed Roadmap

That is why we collectively, as a large team of power marketing administration representatives and customers, have been laser-focused on the dynamic energy environment. Two years ago we came together and developed our *Strategic Roadmap 2024*. A number of the industry changes we foresaw have come to pass, such as the increasing development of markets in the West. Our industry is poised for even more dramatic change in the near and encroaching future.

Since then, we have sharpened our focus. We committed to you, our customers, that we would keep the Roadmap current, agile and relevant and it has been refreshed.

In the refreshing process, we found much of the plan remains sound. The collaborative work we did with our customers, DOE and our employees has held up, has served us well and remains unchanged. What evolved is our understanding of opportunities to ensure we are working in the most important and most strategic areas. 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 that resonate with and contribute to all the strategic targets. And, we made the plan more inclusive so that each person, each program at WAPA plays a critical role in our changing industry, in our future, and in the continued fulfillment of our promise to continue delivering on our mission.

We have seen many challenges this year that served to spur us forward. Our internal audit and compliance group helped us improve systems and reduce costs. When we received more security demands, we responded by meeting and exceeding those requirements cost-effectively. In the face of recurring drought, we found a way to lower rates. In light of these and other achievements, it is easy for me to proclaim to you that 2016 has been nothing short of amazing. WAPA, together with its customers, has accomplished great things.

Business, technology and organizational excellence

On our roadmap to powering the energy frontier, we strive to uphold excellence in our business, technology and organizational practices. To accomplish this, the safety of our people, the sanctity of our system and the security of our nation lead the way as our chief priorities.

The safety of all of our staff, and that of our customers who connect to our lines, is paramount. WAPA's staff across the 15-state operational footprint we serve continues their strong commitment to safety; and the numbers show it. Our Desert Southwest region celebrated a five year anniversary of no accidents this year.

The sanctity of our system remains strong largely due to the efforts of our financial community. This year, they implemented the first phase of a new financial information management system, FIMS, which improved staff productivity, standardized our reporting and strengthened our compliance for internally provided, consistent, timely and accurate financial data.

Additionally, through WAPA's Continuous Process Improvement Program, we have avoided \$20 million in costs by streamlining processes and embedding the vision of continuous improvement throughout our organization. One of the biggest savings came through



our IT Evolution. We successfully completed its implementation this year, paving a way forward for us to continue cost-savings in IT well into the future. Built on that success and numerous others like it, we are looking to aggressively expand this program in 2017 as we seek to double or even triple our savings.

We concluded the first full year of our Governance and Policy office housing our policy program, internal audit and compliance team, and our performance measurement program. Together, these groups serve as an ethical checkpoint for WAPA, a self-evaluation, assessing and self-reporting function promoting regulatory compliance and appropriate standards throughout the organization, to the Department and, if needed, to the Inspector General.

Our Asset Management program is off and running, providing critical facility analyses, creating a data-driven baseline that can be incorporated into all of our programs. We continue to strengthen our physical security program having now assessed more than 140 of our 300-plus substations. Asset Management works with security, driving the upgrades of our subs, transformers and other assets into our 10-Year capital plans. We have increased our security based investments from \$3 million to more than \$13 million to secure our future. Over the next five years, that future includes adding over 4,000 surveillance cameras and the development of a cyber-secure power repayment study tool.

Through innovation and dedication, our Critical Infrastructure Protection team turned the huge time investment prescribed by NERC and the CIP v5 orders that could have posed significant hurdles for us, into a world-class program. The team completed the overall project slightly ahead of the July deadline, ensuring the new standards were

integrated into all our business practices. It was a journey of almost 40,000 person hours implementing new tools, processes and procedures and improving WAPA's compliance activities. As a result, our annual CIP training now includes specifics of physical and logical access controls for CIP, awareness of the visitor control program, an emphasis on proper handling and storage of Bulk Electric System Cyber System Information and more prescriptive requirements for transient cyber assets and removable media—among myriad other improvements. By placing special emphasis on the NERC Critical facilities and making sure we meet or exceed the necessary requirements, the CIP team at WAPA consistently receives the highest marks in NERC and WECC based audits and consistently achieves and maintains best-in-class levels.

Mutually beneficial partnerships

WAPA is committed to not only delivering on our mission of providing low-cost, reliable federal hydropower, but also helping keep communities competitive by keeping their electric costs low. From a drought-adder reduction in the northern plains to the new project development agreements signed with WAPA's Transmission Infrastructure Program, we are providing necessary services and developing mutually beneficial partnerships throughout the West. Through our 10-Year planning process, we gain insight to the needs across our programs and projects and learn best how to leverage our strengths to serve you better.

We strive to reduce rates whenever and wherever possible. The upcoming drought-adder reduction is an excellent example of those partnerships in action. The drought-adder charge, levied to help repay

deferred drought costs accrued during the 2000s, is being repaid ahead of schedule, thanks to the due diligence of customers like you. The reduction to the charge represents around five mills per kilowatt hour reduction to current composite rates, resulting in roughly \$50 million saved annually in power costs for WAPA's largest group of customers, those of you across Colorado, Wyoming, Montana, Kansas, Nebraska, the Dakotas and the western sections of Minnesota and Iowa.

Regionally, our firm composite rates, our delivered cost of energy, have remained steady. While they ticked up only by a dollar or so in the Desert Southwest and Sierra Nevada regions for FY17 (and not due to WAPA increases), they dropped by about \$5 in the Rocky Mountain and Upper Great Plains regions. And, the Colorado River Storage Project rates have remained very consistent at \$29 for the past seven years—and into year eight as well.

In fact, our rates across our 15-state operating footprint are often lower than or equal to industry averages. In half of our nine power systems, our transmission rates are less or equal to utility costs and all of our regional transmission rates run at lower cost than the other utilities in their respective areas.

Even our wholesale long-term firm rates have remained within a close range from Fiscal Year 2013 through Fiscal Year 2016.

It was with great pride that earlier this fall, during Public Power Week, I presented Moorhead Public Service with my Administrator's Award for Energy Services. Working with customer demand, MPS built wind and solar projects to reduce emissions and invested in infrastructure by building a new high-service pumping station. We at WAPA share this

commitment to good business practices and strong partnership and I was excited to see our values represented so well within our own customer base.

As you all know, we transitioned the eastern side of the Missouri Pick Sloan program, the Integrated System, into the Southwest Power Pool, making us the first power marketing administration to officially join a regional transmission organization. One year later, our analyses show that move has saved our customers significantly more than the amount of money originally estimated.

The decision to move into SPP—and incidentally to not move into the California Energy Imbalance Market in 2014—was driven by careful analysis of costs and benefits by both internal and independent sources. Too often only the benefits side of the market equation is analyzed where everyone is a “winner.” We believe it is critical to understand the short- and long-term impacts and costs. This requires a detailed understanding of all inputs and outputs. For a federal PMA, the cost equation is as critical as the savings. As generally the lowest cost provider of clean, renewable, carbon-free hydropower in the 15 states we serve and the lowest cost transmission provider, we must guard against the temptation to have those rates negatively impacted. This is why our analysis—conducted by our internal experts and vetted by external professionals such as those from Argonne National Laboratory—requires careful examination. In fact, WAPA’s market moves go through a public process to gain public input every step of the way.

WAPA is planning ahead. We and six other utilities are part of the Mountain Western Transmission Group seeking to understand if we can obtain the benefits of a market at reasonable cost. The goal is to increase flexibility, remove rate pancaking and ensure our mission remains consistent with sound business principles. The MWTG effort is also going to help position WAPA for the future as an example of the key role we play in the West, advancing the widespread use of America's most extensive carbon free resource: hydropower.

By gaining this insight, we ensure that WAPA is well positioned as markets continue to expand and change. I speculate that we will fully be in markets by Fiscal Year 2019, but for the time being we continue to participate in the CAISO and are once again examining whether it makes sense for some part of our system to take a more active role.

Evolving services

Part of keeping communities competitive is making sure they get the information they need when they need it. At WAPA, we constantly make significant efforts to be open, transparent and inclusive of all of you because our customers and stakeholders need to be engaged in our operational choices and capital planning efforts. We evolve our services to keep our finger on this pulse and remain agile in our work supporting you.

In line with this philosophy is our recent launch of The Source at www.wapa.gov. The Source reflects our on-going commitment to customers and provides one-stop shopping for operational data and financial information here at WAPA. We recognize people's desire to have information at their fingertips. With that in mind, we created this site for stakeholders and the public to quickly find the information they



need. When our customers have requests, we are well positioned to deliver and this website will be one of the ways we follow through on that delivery.

As we look forward into the changing energy frontier, we recognize we must retain and attract the talent needed to ensure the future we all share. As a result, we have been leading the way for DOE in inclusion and diversity, proving the idea does work in practice with great benefit and earning ourselves performance recognition from the Department.

In fact, during my first almost four years here at the helm of WAPA, we have rebuilt our relationship with the Department of Energy and formed a strong alliance with the current Administration and Congress. This is evidenced by our active role in the Quadrennial Energy Review, movement on the Strategic Transformer Reserve and FAST Act protective provisions in the transportation bill keeping critical energy infrastructure information protected.

We endeavor to achieve the same goals under the incoming Administration. This includes continuing to educate Congress on issues such as unobligated balances—a practice we have always used in helping keep your communities competitive. Unobligated balances are how we kept operating during the last government shutdown. It is how we plan for the unforeseen. It is a necessary practice that keeps the money you invested saved for projects that benefit you directly.

It is incumbent upon us all to educate leaders about the importance of our mission and of our operations so we may continue to fulfill our promise to you, our customers: that we will deliver on that mission well into the future.

This is a lesson and a message made stronger when we deliver it together. Our success is your success. We ask for your support in improving all of our processes and understanding that the entire organization is aimed at maintaining your resources and the low rates you enjoy today so we can enjoy them affordably in the future.

Internet of things, cyber and physical security

Are you familiar with Janus? The symbol of looking both backward and forward? It is symbolic of our vantage point today. Will we walk down a path of business, technology and policy as usual paved with a patchwork of solutions, or will we walk down a path of transformation in terms of business, technology, and policy supporting a forward-to-fundamentals approach related to electricity's critical role providing for societal health, prosperity and overall quality of life?

As we prepare our organizations for an uncertain future, we face difficult choices. There are many paths forward, and many ideas about which is best. Do we continue to repair aging infrastructure? Replace it? Rebuild it? Or do we begin investing in innovation?

With significant investment at stake, uncertainty is difficult. We are tempted to reach for the low-hanging fruit, making the easier decisions, ensuring stability and steady, if slow, progress. Although this approach has served us well, the issues of today demand broader thinking:

Today's markets cannot exist without cyber—our information technologies have merged with our operating technologies. Cyber is being used as a strategic weapon.

Being responsive in the face of these incidents is not just about availability. It requires a comprehensive view of our systems. It is about

security, quality, reliability and availability. Our systems are changing. We must account for the volatility of conforming and non-conforming loads. It is important to understand how these variables translate to competitive advantages.

It is incumbent upon those of us in the energy industry to come together and support the work necessary to protect our assets now and into the future. As leaders, we have to make the difficult decisions and tradeoffs between practicality and cost.

Employing an Asset Management view for physical and cyber security systems is a step toward overall system resiliency. We must also consider system physics. We have real-time access to real-time information. We can do so much with the information we have at our fingertips. But there are constraints.

We operate in an industry that is a constant balancing act. Not only between load and generation, but also between politics and policy. Education—on all levels—regarding the underpinning nature of the electric system is imperative. Who knows what? Who is connected to whom? Who has black-start capability?

In addition to education, we need communication and proper chains of communication. We need real-time, real-actionable, whole-picture information. Balancing our system requires the right alignment of resources to prepare and respond to whatever situations arise.

We need tools that travel at the same speed of light as the electrons. You have all heard the phrase, “What got you here won’t get you there.” We need to invest in new technology. But it is not that simple, is

it? Collectively, we must work together to determine who pays for upgrades in a financially shared structure. Looking ahead, we need to build resiliency into our design.

Partnership is at the center of all of this. To be responsive to our industry changes, to continue to serve customers and keep communities competitive in the West, we have to work together to best leverage all resources. A great example of this is the work being done toward Strategic Transformer Reserves, which positions us to be prepared for battle with unknown adversaries who have an asymmetrical advantage.

We can only accomplish these things by continuing to work directly with our all of our customers. At WAPA, and across the industry, we need to make sure we stay robust in this era of change, working to keep costs low while recognizing sound business practices for physical and cybersecurity resiliency.

With the expectation of flat appropriations and an increase in Replacements, Retirements and Additions (RRADS) and capital costs due to inflation, current projections indicate that within the next couple of budget formulation years, WAPA may not be able to continue its practice of fully funding RRADS requirements with appropriations.

Currently, WAPA does not have a sustainable process to determine a funding allocation of appropriated funds for its capital and RRADS projects WAPA-wide. WAPA needs to be prepared to make funding allocation decisions. We need to look at “HOW” not “IF” a project is funded. Current system reliability must be the top priority. Decisions will be made based on asset history and performance date, along with

system impact. WAPA needs to leverage the use of appropriations to the maximum extent possible. As we develop the process, we will engage you to the maximum extent possible and ensure that everyone understands the process before implementation.

WAPA will initiate a Rapid Improvement Event to look at the process. We plan to share the process developed during that event with customers in January with customer feedback due in February. The project team will review that input and finalize the process for implementation in March 2017 for the FY20 budget formulation. Finally, in early 2018, we will develop lessons learned from FY20 and adjust the process for FY21.

Conclusion

Our roles are changing. Opportunities are coming available that we have not seen in the past 50 years of the energy industry. Through our dedication to excellence in business, technology and organizational practices, our continued collaborative customer engagement and building of mutually beneficial partnerships, and our attention to the details supporting the evolution of services and industry trends as they come online, we are carving a clear path.

For 40 years we have built this tradition of involvement, engagement and investments in our nation's infrastructure. Together, we will see it forward in a secure, affordable and reliable energy future that charts the course toward achieving our mission in a dynamic and complex energy frontier.