Fiber Partnership Discussion Summary:
WAPA-wide via Headquarters in Lakewood and WebEx

August 29, 2019

Participants in the August 29, 2019, WAPA-wide fiber partnerships meeting discussed interests and opportunities, as well as challenges and concerns related to fiber partnerships. The meeting was held at WAPA's Headquarters office in Lakewood, Colorado and via Webex. The summarized comments and questions listed below were expressed by attendees and are published herein for informational purposes only. Every effort has been made to capture the full context of the comment or question. WAPA has taken no positon on them at this point. The comments and questions will be carefully considered and will be used to inform WAPA's feasibility assessment. Information about the feasibility assessment is available on WAPA's website at: https://www.wapa.gov/About/keytopics/Pages/fiber-feasibility-assessment.aspx

Highlights from the discussions include:

Interest and opportunities for new partnerships

Comments on interests and opportunities for new partnerships:

- WAPA fiber partnerships can help bring modern internet connectivity to rural communities. Rural residents need reliable internet connectivity so they can participate in the modern internet-driven economy.
- There is interest in partnerships that leverage existing assets, both WAPA's and others', to increase communication capacity for WAPA, customers and the areas served.
- There is an opportunity for partnerships to reduce costs of broadband service to communities.
- There is interest in knowing what WAPA's fiber build-out plans are for projects on a region-by-region basis so that partners can more easily engage in cost-share or equitable trade opportunities.
- New partnerships can support data communication to remote customer facilities.
- Fiber partnerships could help improve community critical access services such as hospitals, first responders' communications, fire and safety management, wildfire protection and seismic early warning systems.
- There is interest and opportunity for new partnerships with other federal agencies, such as National Science Foundation, intra-Department of Energy, state Departments of Transportation and Department of Education (ESNET).
- There is interest and opportunity for expanded partnerships with the Department of Interior's Bureau of Reclamation for increased reliability and operational information with BOR facilities and possibly other Department of Interior locations.
- Partnerships that lower WAPA's costs are a benefit for WAPA customers.
- Partnership can provide opportunities for promoting back-up loop communication routes that would improve reliability by providing redundant connections for customers' networks.
- Partnerships have the potential to improve WAPA's cyber security posture and ability to coordinate cyber event responses.
- Partnerships would make sharing of real-time data for customer operations easier.

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- Networks need power, and power needs networks. Expanded fiber communications is mutually beneficial and is critical in today's society and economy.
- Additional partnerships could address concerns regarding outages by adding redundancy and providing capabilities to re-route services.

Questions on interests and opportunities for new partnerships:
- How do we learn more about opportunities to partner with WAPA and know what their build-out plans entail?
- Would fiber leasing to commercial customers provide revenue to benefit preference power customers by lowering the power revenue requirement?

Priorities and/or goals for fiber partnership

Comments on priorities and/or goals for fiber partnership:
- Fiber partnerships should promote a more robust grid that prepares for and assures that new technology opportunities are not limited in rural communities because of bandwidth or bandwidth access.
- Partnerships should increase the reliability of WAPA's power and transmission system.
- Partnerships should enhance economic developments efforts in adjacent rural areas.
- Partnerships should prioritize easier sharing of real-time data for customer operations.
- A win would be serving the needs of rural end-users, rather than selling bandwidth to the highest bidder.
- Partnership goals should focus on shared services and responsibilities--not just "I want." Partnership with WAPA can avoid duplicative build-outs of communication segments and is beneficial--this opportunity should continue into the future.
- Partnerships should support advanced technology applications for rural agriculture industry.
- Partnerships should prioritize increased reliability of services and redundancy of communication capabilities.
- Partnerships should reach broader constituency than WAPA's current utility-to-utility model and promote a broader range of services to rural communities.
- A primary goal for partnerships must include authorization for broader uses of those fibers that are paid for by a WAPA partner and installed through a joint project with WAPA.
- Partnerships should promote looped networks for improved reliability.

Questions on priorities and/or goals for fiber partnership:
- Is the federal mandate for cloud applications being challenged by NERC or other regulatory entities?
- As a partner with WAPA, how can we share/trade fibers with other utilities and partners?
- What are the opportunities to partner with private industry infrastructure development while improving WAPA communication system with projects?

Challenges and concerns with new fiber partnerships

Comments on challenges and concerns with new fiber partnership:

- Partnerships need to address priority of outage notification, repair priority and partners' responsiveness expectations of WAPA.

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- Increased partnerships mean increased competing demands between restoration of power and restoration of fiber during outages.
- More partnerships mean competing priorities between providing electric transmission service and supporting commercial fiber.
- There are concerns that WAPA's fiber available for future power delivery needs may become inadequate with an increase in partnerships over time.
- Cost and time pressures could become more complicated with more partnership in regard to reliability of router equipment and scheduling/notification of users for necessary maintenance/ replacement by WAPA.
- Amending all rights of way (ROW) easements would be expensive and will have potential land- and legal/liability-related challenges.
- Partnerships are difficult to develop due to federal agency requirements for multiple ROW grants for a single facility.
- Commercial communication regulations and ROWs are different from WAPA's current fiber partnership practices for power delivery related agreements.
- Providing security – physical and otherwise – to protect applications from each other is a challenge.
- Regulatory requirement changes that affect access to fiber assets could be an area of challenge for new fiber partnerships.
- WAPA should keep enough fiber for their needs of power delivery, future IT needs and for equipment replacement/back up.

Questions on challenges and concerns with new partnerships:
- Will WAPA compete directly with existing fiber providers - i.e., if a private fiber provider already has available capacity from A to B and WAPA has excess capacity between the same two points, will WAPA also offer their fiber through a partnership?
- What are the relevant North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) requirements and how will WAPA meet those in a shared fiber environment?
- How would WAPA evaluate the benefits to its system and WAPA's customers with development of new partnerships?
- How do you weigh the benefits of serving rural communities or getting a high dollar lease from a commercial fiber provider for the same pair of fibers?

Gaps in feasibility assessment elements

Comments on gaps in feasibility assessment elements:

- WAPA should set up more internal supports to facilitate working on new partnerships. A separate WAPA division would make partnership development more effective with dedicated staff for GIS mapping, contracts, standard pricing, standardized equipment, etc.
- WAPA should consider changing its mission to EMPOWER (not just provide power to) your customers and the communities that they serve.

Questions on gaps in feasibility assessment elements:

- How will WAPA handle the costs of WAPA's future fiber build-out and needed communication expansion/ upgrades?

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- How would new partnerships impact WAPA's staffing and would there need to be an increase in WAPA's workforce for additional work related to land rights, maintenance, outage coordination, accounting, etc?
- Could WAPA initiate a pilot project or even a few pilot projects?
- Is there a way to partner or leverage management and cost models with other agencies or companies who have done similar things with the goal of minimizing cost and staffing burden?
- What are practical strategies to address or overcome each of the feasibility study objectives and how will WAPA efficiently deal with them (for example ROW issues)?
- How does WAPA plan to address the involved effort necessary to perfect electric easements for commercial communications uses?
- How does WAPA consider the intangible value of broader availability of network service? How would the concepts of goodwill or spirit of service be valued?
- How can WAPA bolster other community and state/local deployment of future technologies such as Smart City deployment and autonomous vehicles?

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