**Appalachian Power**  
*a wholly-owned subsidiary of American Electric Power*

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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Customers</strong></td>
<td>1 million</td>
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<tr>
<td><strong>Generation</strong></td>
<td>8,700 MW</td>
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<tr>
<td><strong>Employees</strong></td>
<td>3,000</td>
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<tr>
<td><strong>Revenue</strong></td>
<td>$3 billion</td>
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<tr>
<td><strong>Net Income</strong></td>
<td>$311 million</td>
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Rural Broadband Work in West Virginia

Logan-Mingo County Pilot Project

- **March 2019**: Senate Bill 3 passed allowing electric utilities to submit broadband feasibility studies
- **June 2020**: House Bill 4619 enables electric utilities to develop broadband infrastructure as regulated by the W.Va. PSC
- Approximately 20,000 electric meters in Logan, 15,000 in Mingo, both with significant areas below 25/3
- Project includes up to 400+ fiber miles, potential $50+ million capital investment; utilizes up to 200 miles of existing fiber
- ISP selected in September 2020, GigaBeam Networks
- Scheduled to file case with PSC by end of 2020
Solving the puzzle is complex and different in each state

• West Virginia got approval and feasibility study in two pieces of legislation
  • VA needed 3 bills over 2 legislative sessions before work on VA pilot could begin

• in WV, the ISP needed to be selected through an RFP as part of the project
  • Grayson County VA performed its own RFP for a last-mile ISP prior to the pilot start

• Competing interests can hobble legislation – cable/telecom interests sought to restrict focus of legislation to unserved residents and businesses
  • Unserved customer speed definition
  • Highlights need to define our purpose and intentions to build middle-mile, not be a service provider

• Dual purpose (Grid Modernization and Broadband) makes project more attractive

• Work with supportive local, state and federal officials
  • West Virginia project advisory committee includes W.Va. Broadband Enhancement Council, as well as county, regional and W.Va. PSC representatives
Electric utilities are uniquely positioned to deploy middle mile fiber

- **Fiber can provide benefits specific to electric service reliability**
  - Advanced Metering Infrastructure (AMI)
  - Smart circuits

- **Electric infrastructure penetration in rural areas is unparalleled**
  - Existing right of ways and electric distribution infrastructure
  - 1930’s rural electrification program precedent

- **Fiber infrastructure is a core competency of electric utilities**
  - AEP owns and operates more than 21,000 miles of its own fiber optic infrastructure
  - Fiber miles expanding each year to support grid modernization efforts

- **Electric utilities can deploy fiber in the supply space; eliminate duplicate infrastructure**
  - A straightforward installation with no interferences from other pole attachments
  - Dual use of fiber with electric utility customers means fiber needs to be available for use
The global pandemic highlights the critical nature of solving the rural broadband access issue. In Virginia we began work on enabling legislation in 2018. Solutions for moving faster include:

• **Federal legislation** that:
  • Recognizes electric utilities can help speed broadband expansion in underserved areas
  • Guards against the buildout of redundant systems that will drive up costs to consumers
  • Provides grant opportunities specific to the middle mile
  • Includes federal assistance to utility expansion of broadband commensurate to the telecommunications companies

• **Straightforward regulatory processes** for broadband projects
  • Program based rather than project based
  • Define broadband costs
  • Identifying unserved customers involves significant time and effort

• **Improved accuracy of FCC maps** to truly identify those who are unserved
Grayson County Pilot Project

- Potential $17+ million capital investment
- More than 200 miles of middle mile fiber
  Last mile to use both fiber-to-home, fixed wireless
- Grayson County has around 11,000 electric meters
- Approximately 5,000 are considered unserved
- Up to 60% of schools, public safety, commercial and retail businesses are considered unserved by broadband
- Scheduled to begin construction December 2020, and complete project 12-18 months later
March 2018  Virginia Grid Transformation and Security Act of 2018 directs Investor-Owned Utilities (IOUs) to conduct feasibility study on ability to participate in a rural broadband solution

Dec. 2018  Feasibility study submitted to Virginia Legislature

May 2019  Gov. Northam signed House Bill 2691 allowing company to seek Virginia State Corporation Commission (SCC) approval for a pilot project

Sept. 2019  Filed with Virginia SCC for approval of Grayson County pilot project

March 2020  Virginia SCC approved Grayson pilot project providing a way for the company to move forward

July 2020  Virginia House Bill 1280 allows investor-owned utilities to lease dark fiber
Questions and Discussion

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