About AEP

- 5.5 Million Customers in 11 States
- 16,800 Employees
- The Largest Transmission Owner in North America with more than 40,000 Miles of Transmission Lines
- Transmission Assets in PJM, SPP, MISO and ERCOT
- 223,000 Miles of Distribution Lines
- 30,000 MW of Generating Capacity

Appalachian Power’s Service Territory
Investing in West Virginia’s Transmission Grid

Transmission projects totaling more than $2.3 billion completed since 2012 to benefit West Virginia customers
Modernizing West Virginia’s Infrastructure

Photo of AEP line installation in 1925. Many such facilities remain in service today.

AEP Archives – 1925
Backfilling crew on tower construction on the Philo-Canton transmission line in Ohio

AEP-APCO T-Line Age Profile - (Line Mile Age based on oldest conductor age)
Analysis shows the risk of equipment failure at 75 years of age is around 8 times greater than the risk of failure at age 40.
Typical Transmission Structures
Winter Storm Elliott

- Elliott impacted much of the Midwest and Northeast with high winds and heavy snow, followed by extreme low temperatures as far south as Texas and Florida.

- Temperatures across PJM plummeted from Dec. 23 through the morning of Dec. 25, with record lows in some areas and record drops in some regions.

- Cold weather alerts were issued by the PJM, ERCOT and SPP regional transmission organizations (RTOs) for December 21-26, 2022.
Winter Storm Elliott Impacts in PJM

- Actual load (electricity demand) was 10% higher than PJM forecast.
- Holiday weekend load was an extreme outlier in magnitude and timing over a 10-year period.
- Load remained unusually high overnight on Dec. 24 (40,000 MW higher than average peak demand).
- Significant portion of generation failed when PJM called on reserves.
AEP’s System Performance During Elliott: Successfully Moving Generation

AEP’s System Performed Extremely Well During Elliott:
No AEP transmission outages during the storm directly impacted generation capacity delivery

Appropriate preparation helped to ensure success:

**Staffing**
Increased Energy Delivery Operations staffing and created backup plan to address potential travel concerns.

**Transmission Restoration**
AEP Energy Delivery Operations and PJM worked with AEP Transmission Field Services to return all transmission to service that was offline for planned outages.

**Generation Restoration**
PJM worked with AEP to restore all available generation that was offline.

**Planning and Investing**
AEP has appropriately developed and maintained the transmission system (including right-of-way clearing) to ensure reliability during extreme weather events.

**Proactive Communication**
AEP Energy Delivery Operations had pre-event coordination meetings with Appalachian Power to discuss possible storm impacts and responses.

PJM held meetings in advance of the storm with all members to discuss messaging and possible emergency actions.

AEP Commercial Operations (the registered Curtailment Service Provider on behalf of AEP) prepared for possible demand response action.
### Actions Taken During Emergency Events

#### Levels defined by NERC EOP-011-1

<table>
<thead>
<tr>
<th>Energy Emergency Alert (EEA) Level</th>
<th>All available generation resources in use</th>
<th>Load management procedures in effect</th>
<th>Firm load interruption imminent or in progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEA Level 1</td>
<td>All generation is committed, and there is concern about maintaining required reserves for BA</td>
<td>BA is no longer able to provide its expected energy requirements and is energy deficient</td>
<td>BA is unable to meet minimum contingency reserve requirements</td>
</tr>
<tr>
<td>EEA Level 2</td>
<td>Non-firm wholesale energy sales curtailed.</td>
<td>Operating plan implemented, including public appeals and demand response</td>
<td>System &amp; reliability limits reevaluated and revised</td>
</tr>
<tr>
<td>EEA Level 3</td>
<td></td>
<td>BA is still able to maintain minimum reserves</td>
<td>Immediate action taken to mitigate undue risk to the interconnection, including load shedding.</td>
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[Image of a satellite view of the United States]