

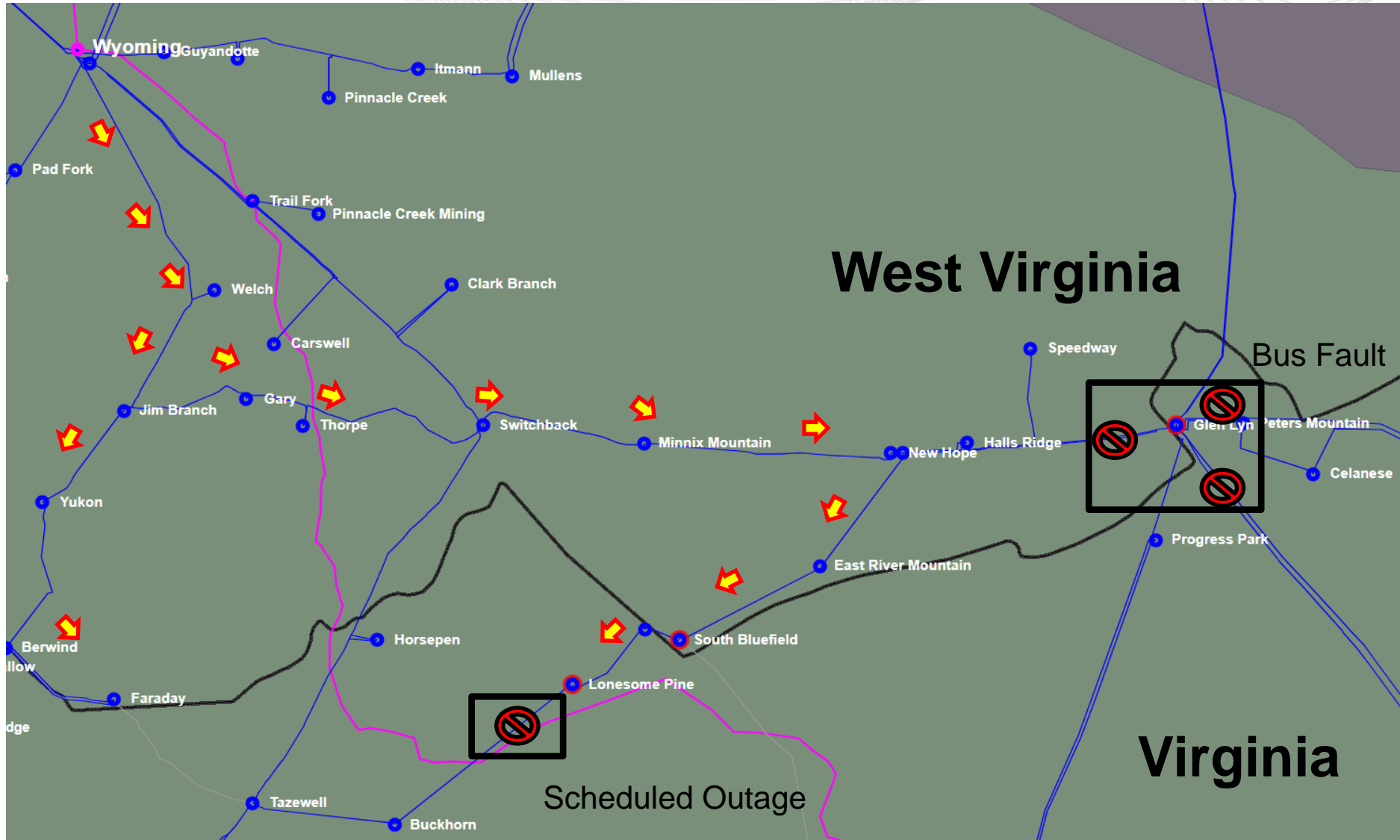


# Lonesome Pine Load Shed Event

## July 18, 2018

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Manager, Reliability Engineering

- Overview
- Sequence of Events
- PAI Analysis



- **Monday 7/16/18**
  - **06:35:** Buckhorn – Lonesome Pine 138 kV line removed from service to perform scheduled maintenance
- **Wednesday 7/18/18**
  - **09:37:** Glen Lyn 138 kV bus tripped creating load pocket
    - Load pocket fed radially from Wyoming (no violations)
  - **10:52:** South Bluefield 138 kV capacitor switches in service automatically and trips/locks with South Princeton 138 kV capacitor
    - Results in severe low voltages in the area 5 kV below load dump
    - PJM directs AEP to shed load to return voltages to acceptable levels

- **Wednesday 7/18/18**
  - **11:14:** AEP sheds approximately 32 MW of load
    - Approximately 11,860 customers in West Virginia and Virginia
  - **12:37:** South Princeton capacitor restored
  - **12:37:** All 32 MW of load restored
  - **12:54:** Glen Lyn 138 kV bus returned to service
  - **14:23:** Buckhorn – Lonesome Pine 138 kV line returned to service

- PAI Analysis
  - There are no Non-Performance Charges or Bonus Credits resulting from the event
  - There was no possible generation dispatch (online or offline units) that would have mitigated the voltage violations
  - The voltage violations were in a localized load pocket caused by the transmission outages