

Forest Transformer #1 Automatic Switching Scheme

FirstEnergy believes that it is prudent to recognize an automatic switching scheme in place for a post contingency outage of the Forest 230/115 kV Transformer #1 and the subsequent open ending of both the Elko – Forest 230 kV Line and the Forest – Glade – Lewis Run 230 kV Line. The Automatic Switching Scheme isolates the faulted Transformer #1 and restores the Elko – Forest 230 kV Line and the Forest – Glade – Lewis Run 230 kV Line. FirstEnergy is therefore recommending that PJM revise the contingency definition for all modeled cases, year round, for the contingency loss of the Forest 230/115 kV Transformer #1 in accordance with the Automatic Sectionalizing Schemes Program described in PJM Manual 3, Section 5 and Attachment E.

Description of the transmission elements currently monitored as a multiple element contingency, all located at Forest Substation:

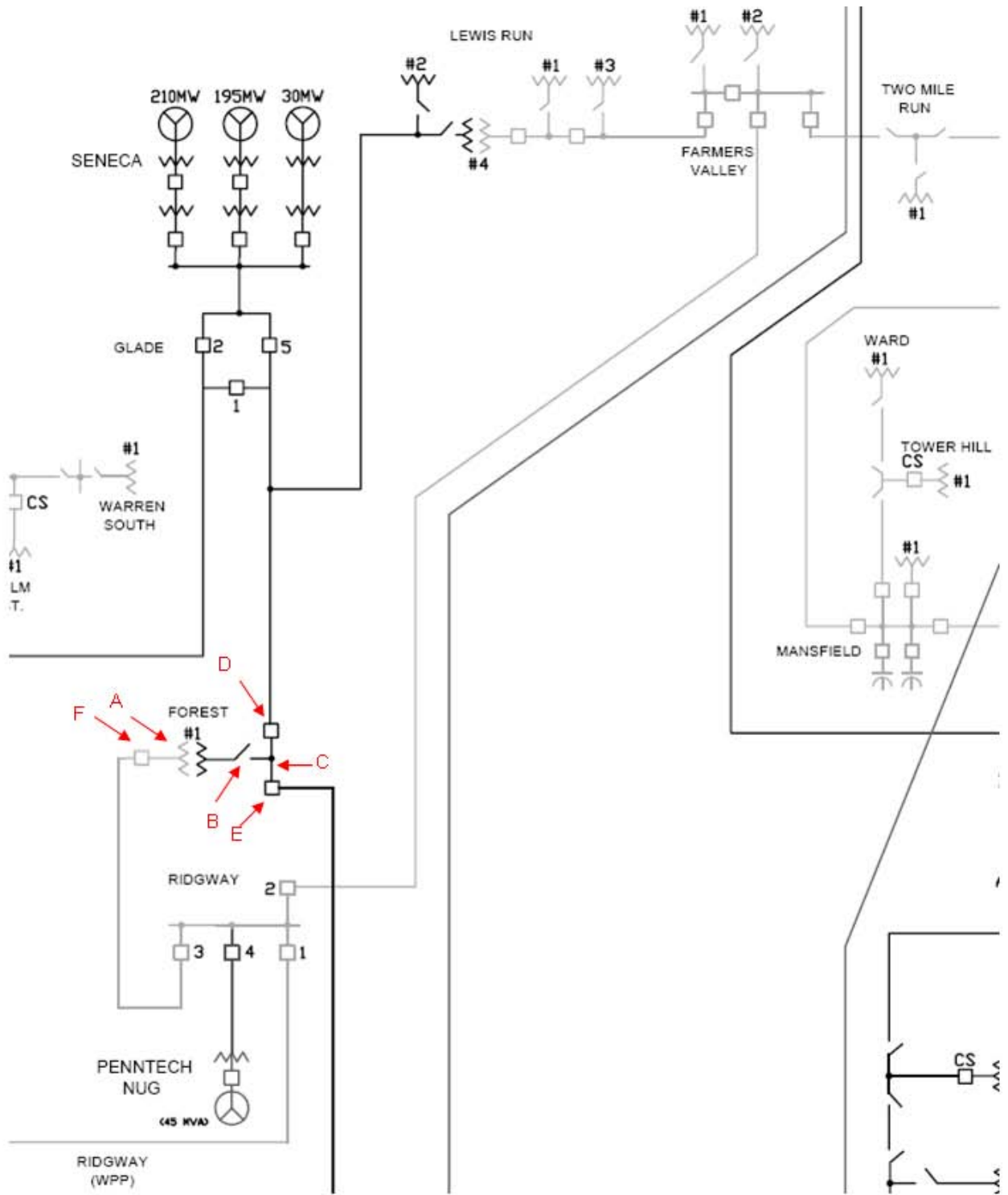
- A. 230/115 kV Transformer #1
- B. 230 kV Moab (motor operated air brake) Disc Sw 1_Tx
- C. 230 kV Bus
- D. 230 kV Glade – Lewis Run breaker
- E. 230 kV Elko breaker
- F. 115 kV Transformer #1 breaker

Description of those elements that will be isolated and either remain out of service or restored for successful operation of the automatic sectionalizing scheme:

1. Loss of the Forest 230/115 kV Transformer #1. A fault located internal to Transformer #1 or located anywhere in the zone between Disc SW 1_TX and the 115 kV Transformer #1 breaker.
2. The Transformer #1 Differential relays or the Sudden Pressure relay operates:
 - a. The 115 kV Transformer #1 breaker will open and remain open
 - b. The 230 kV Elko breaker will open
 - c. The 230 kV Glade – Lewis Run breaker will open
 - d. The 230 kV Moab Disc Sw 1_Tx will open
3. After 30 seconds, the 230 kV Moab Disc Sw 1_Tx is completely open, the 230 kV Glade – Lewis Run breaker and the 230 kV Elko breaker will reclose and remain closed.

For the outage of the Forest 230/115 kV Transformer #1, the Automatic Sectionalizing Scheme will restore both the Elko – Forest 230 kV Line and the Forest – Glade – Lewis Run 230 kV Line in 30 seconds. FirstEnergy is therefore requesting that PJM revise the contingency definition of the loss of Forest Transformer #1 to be limited to the Forest Transformer #1 only, while the Elko – Forest 230 kV Line and the Forest – Glade – Lewis Run 230 kV Line is recognized as being automatically restored back to service.

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| <ul style="list-style-type: none"> A. 230/115 kV Transformer #1 B. 230 kV Moab (motor operated air brake) Disc Sw 1_Tx C. 230 kV Bus D. 230 kV Glade – Lewis Run breaker E. 230 kV Elko breaker F. 115 kV Transformer #1 breaker |
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