

# Automatic Sectionalizing Schemes

Lagy Mathew

Sr. Engineer, Transmission Operations



- Automatically isolate the faulted element and then restore remaining equipment to service.
- During normal operation of the automatic sectionalizing scheme, there will be no violations of emergency thermal ratings for the individual elements of the multiple element configuration and that there will be no violations of load dump thermal ratings for the loss of the multiple element configuration
- Recognize the scheme – 90 Day after the Final Committee review

- The transmission owner identifies a candidate automatic sectionalizing scheme and provides PJM with specific information to permit analysis of the scheme. Technical information provided for the candidate scheme includes:
- A description of the transmission elements currently monitored as a multiple element contingency
- A description of those elements that will be isolated and either remain out of service or restored for successful operation of the automatic sectionalizing scheme
- PJM performs analysis to ensure that there are no voltage collapse or stability concerns with the operation of the transmission system utilizing the candidate scheme and the associated load dump ratings.

- Dominion has identified new schemes
  - Total of 51
  - Effective 7/27/17
- Schemes are added to M-3 Attachment E

- **Basin TX#3 Sectionalized** – Restores the 230 kV Bus Breakers and TX #6 following a fault on the distribution transformer. \*Effective July 27, 2017.
- **Basin TX#6 Sectionalized** – Restores the 230 KV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Basin TX#4 Sectionalized** – Restores the 230 KV Bus Breakers following a fault on the distribution transformer. \*Effective July 27, 2017.
- **Brambleton TX#1 Sectionalized** – Restores the 500 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Brambleton TX#2 Sectionalized** – Restores the 500 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Clubhouse TX#1 Sectionalized** – Restores the Line 238 (Clubhouse - Carson) following a fault on the transformer. \*Effective July 27, 2017.
- **Endless Caverns TX#3 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Endless Caverns TX#4 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.

- **Endless Caverns TX#5 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Everetts TX#2 Sectionalized** – Restores the 230 kV HS Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Farmville TX#5 Sectionalized** – Restores the 230 kV Line Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Fredericksburg TX#7 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Gainesville TX#3 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Gainesville TX#5 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Glebe TX#1 Sectionalized** – Restores Line 2023 (Glebe – Arlington) following a fault on the distribution transformer. \*Effective July 27, 2017.
- **Glebe TX#2 Sectionalized** – Restores Line 250 (Glebe – Arlington) following a fault on the distribution transformer. \*Effective July 27, 2017.

- **Glebe – Crystal 275 Sectionalized** – Restores Glebe Bus #5 following a fault on Line 275. \*Effective July 27, 2017.
- **Glebe – Crystal 276 Sectionalized** – Restores Glebe Bus #6 following a fault on Line 276. \*Effective July 27, 2017.
- **Greenwich TX#1 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Greenwich TX#2 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Grottoes TX#4 Sectionalized** – Restores the 230 kV Line Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Grottoes-Dooms 272 Sectionalized**- Restores the Grottoes 230 kV bus and transformer #4 following a fault on and isolation of the 272 line.
- **Harrisonburg TX#4 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Harrisonburg TX#5 Sectionalized** – Restores the 230 kV HS Breakers following a fault on the transformer. \*Effective July 27, 2017.

- **Harrisonburg TX#6 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Kitty Hawk TX#2 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Ladysmith TX#1 Sectionalized** - Restores the 500 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Landstown TX#1 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Landstown TX#2 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Locks TX#6 Sectionalized** – Restores Line 205 (Locks – Chesterfield) following a fault on the transformer. \*Effective July 27, 2017.
- **Midlothian TX#6 Sectionalized** – Restores the 500 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Midlothian-Bremo 2027 Sectionalized** - Restores the Midlothian 230 kV Breakers and TX#1 following a fault and isolation of the 2027 line. \*Effective July 27, 2017.



- **Midlothian-Spruance 282 Sectionalized** - Restores the Midlothian 230 kV Breakers and TX#5 following a fault and isolation of the 282 line. \*Effective July 27, 2017.
- **Northeast TX#9 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **North Anna TX#1 Sectionalized** – Restores 500 kV Bus #1 Breakers Wt576 and XT573 following a fault on the transformer. \*Effective July 27, 2017.
- **North Anna TX#2 Sectionalized** – Restores 500 kV all Bus #2 Breakers except G102-2 following a fault on the transformer. \*Effective July 27, 2017.
- **Northern Neck TX#4 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Peninsula TX#4 Sectionalizing** – Restores Line 288 (Peninsula – Yorktown) following a fault on the transformer. \*Effective July 27, 2017.
- **Pleasant View TX#3 Sectionalized** - Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Remington CT TX#9 Sectionalized** – Restores the 230 kV HS Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Remington TX#3 Sectionalized** – Restores Line 2077 (Remington – Remington CT) following a fault on the transformer. \*Effective July 27, 2017.
- **Sewells Point TX#5 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.

- **Spottsylvania TX#1 Sectionalized** – Restores the 500 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Suffolk TX#5 Sectionalized** – Restores the 230 kV HS Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Valley TX#2 Sectionalized** – Restores the 500 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Wheaton TX#2 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Yadkin TX#1 Sectionalized** – Restores the 500 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Yadkin TX#3 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Yadkin TX#5 Sectionalized** – Restores the 500 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Yorktown TX#3 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.
- **Yorktown TX#9 Sectionalized** – Restores the 230 kV Bus Breakers following a fault on the transformer. \*Effective July 27, 2017.