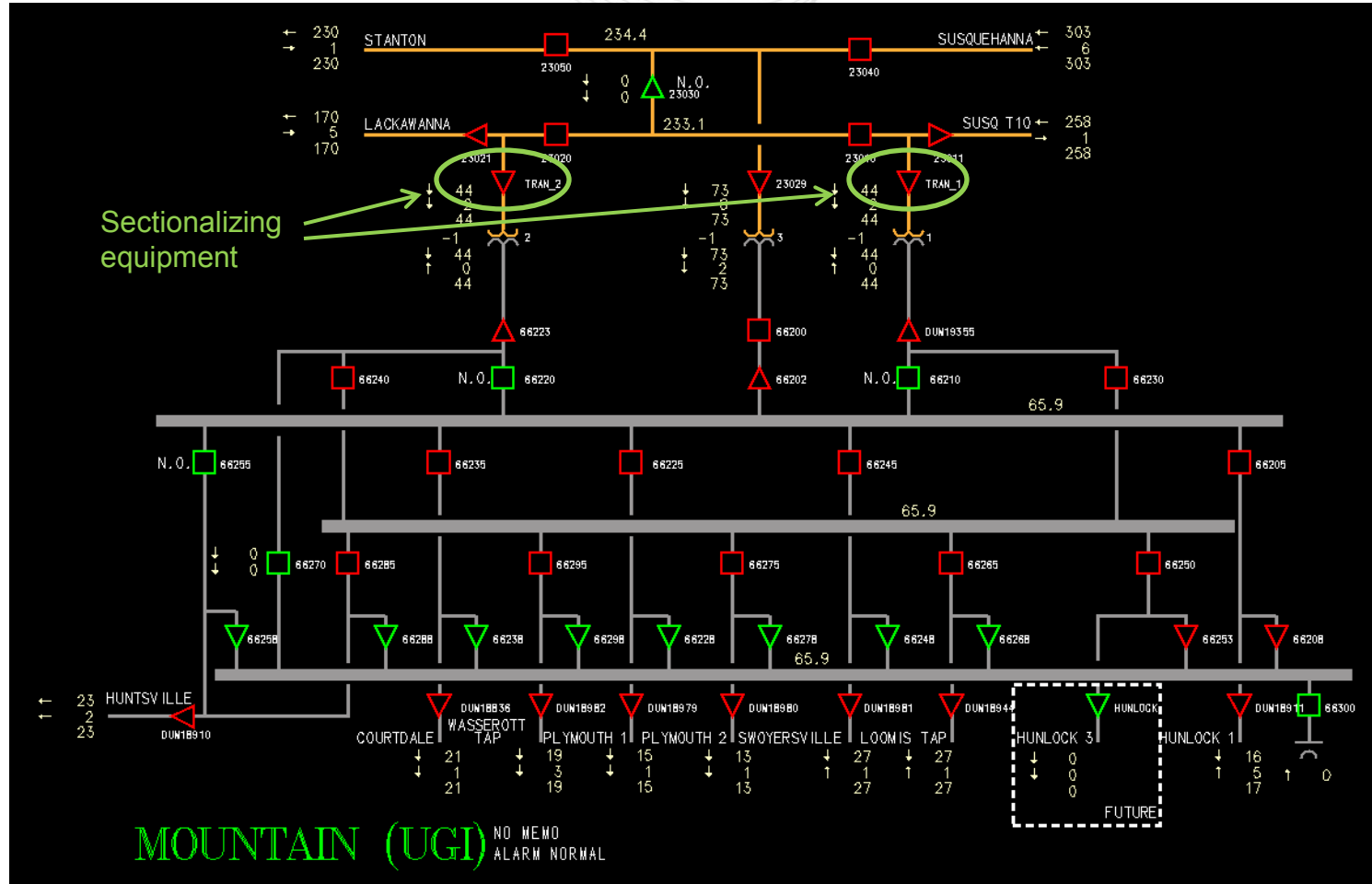
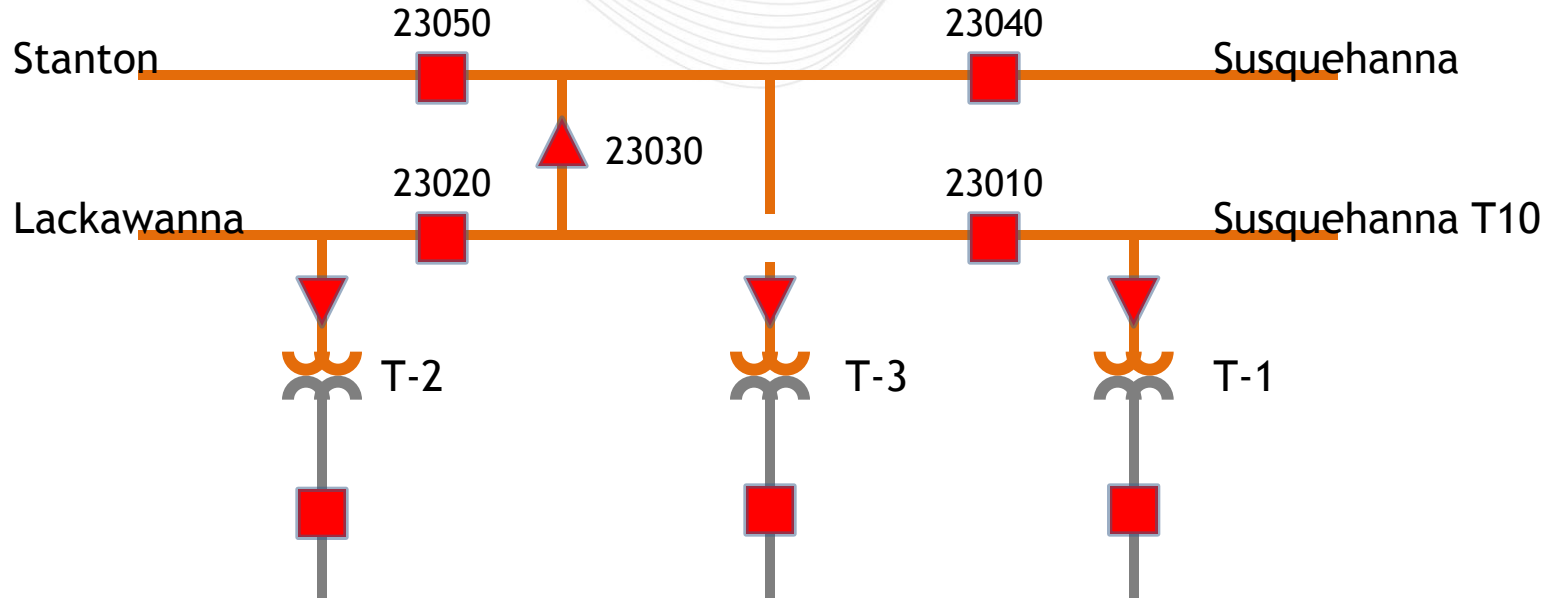


UGI Sectionalizing Schemes

- UGI Mountain Transformer T1 and T2 sectionalizing is an existing scheme since the 1970's.
- UGI has requested the Mountain Transformer T1 and T2 sectionalizing schemes be modeled in the PJM RT and DA market.
- According to the M-03 process, these schemes will be incorporated into the PJM RT and DA market as of 3/10/2011, 90-days after the last Committee review.
- The UGI Mountain Transformer T1 and T2 sectionalizing scheme is not an SPS.



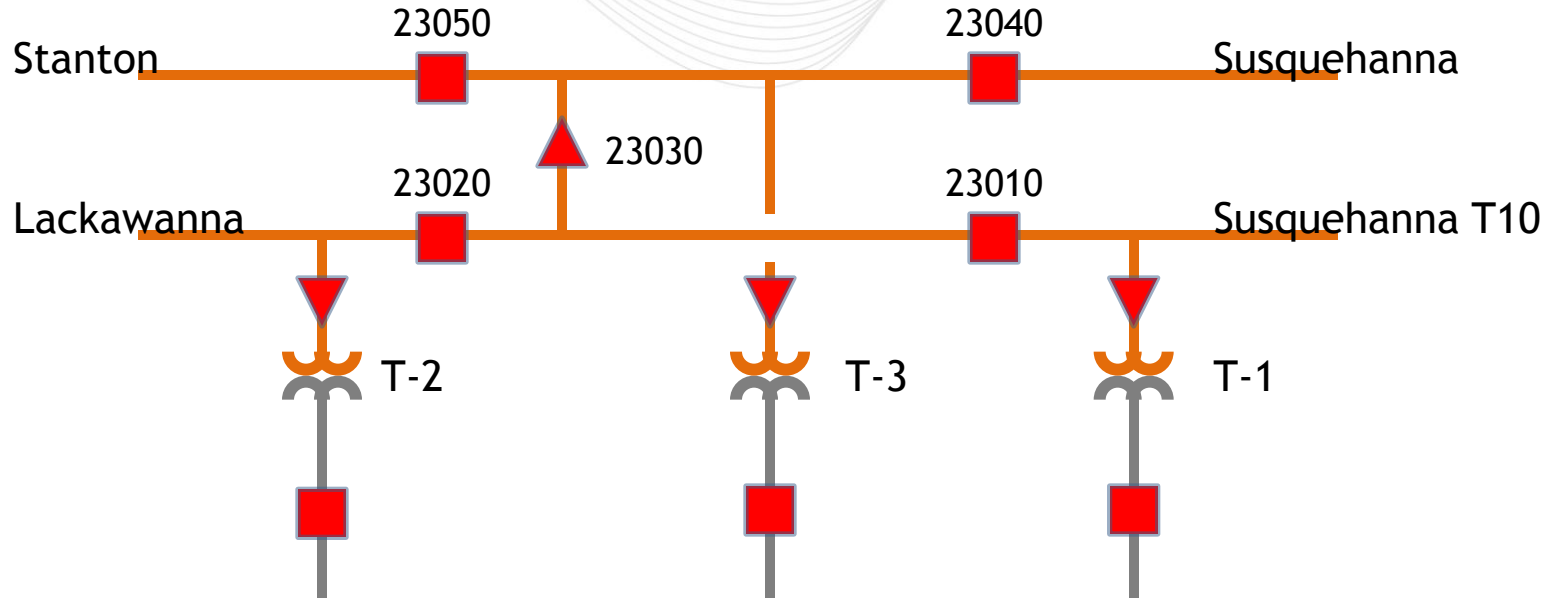
Mountain – Susquehanna T10 230kV line fault



Line Fault on the Mountain – Susquehanna T10 230kV line:

- Associated 230kV line & 66kV bank CBs open.
- *This contingency is controlled to Emergency Ratings.*

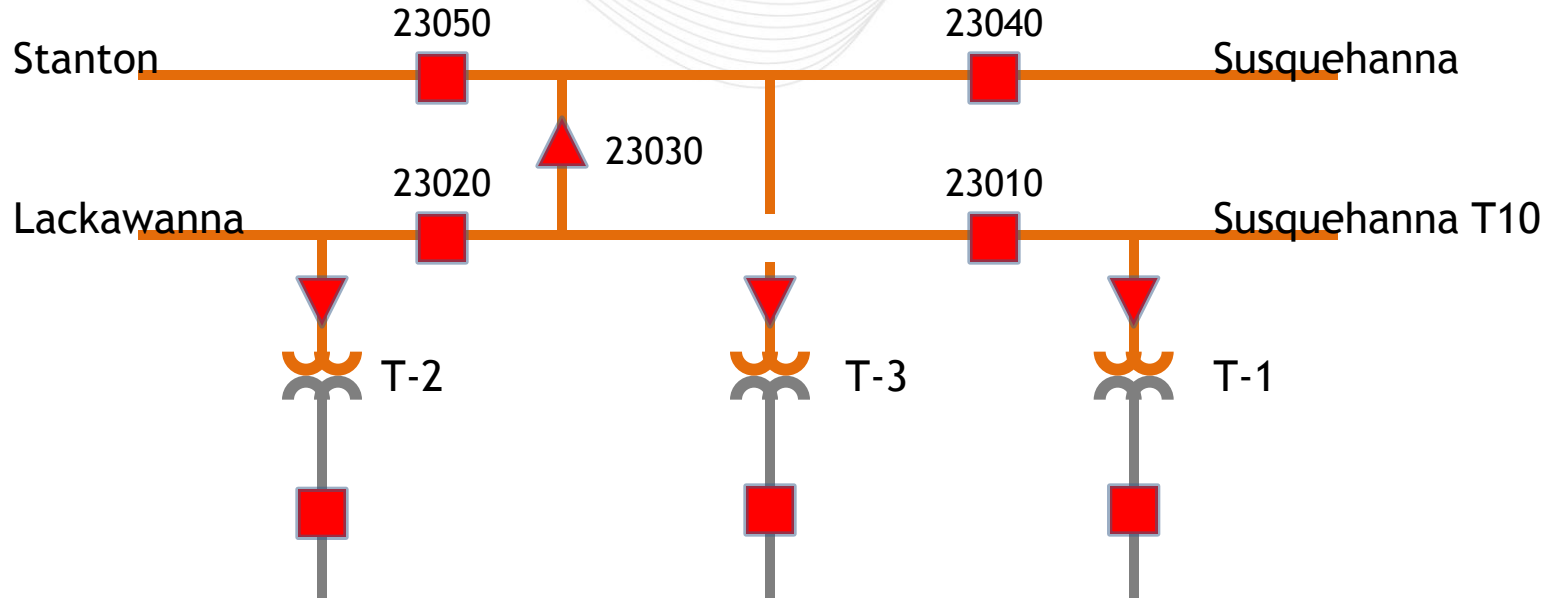
Mountain – Lackawanna 230kV line fault



Line Fault on the Mountain – Lackawanna 230kV line:

- Associated 230kV line & 66kV bank CBs open.
- *This contingency is controlled to Emergency Ratings.*

Mountain T-2 230/69 kV Transformer Sectionalizing



If Mountain T-2 experiences an 87 Differential Relay operation:

- Associated 230kV line & 66kV bank CBs open.
- High Side ground switch closes.
- DTT signal is sent to trip the remote end of the line.
- Initiates a timer for the high side CS (5.5 seconds) to isolate the transformer.
- After the High Side Circuit Switcher opens, normal line reclosing takes place.
- *This contingency is controlled to Emergency Ratings.*

If either Mountain Transformer 1 or Transformer 2 experienced an 87 Differential Relay operation ...

The relay hits a lockout which:

- opens the low side bank breakers and the local 230kV line breaker
- operate the high side ground switch;
- keys DTT signal to trip the remote end of the line;
- initiates a timer for the high side circuit switcher (5.5 seconds, this allows time for the local and remote end to clear prior to opening the circuit switcher)

The high side circuit switcher opens in 5.5 seconds to isolate the transformer;

After the circuit switcher goes open the trip signal stops and a return to guard frequencies will allow normal reclosing of the remote end which has the right-of-way;

The local 230kV breaker will reclose on a live-line condition within 1.5 seconds.