Removal of the Byron Unit Stability Trip Scheme SPS

ComEd / Exelon Corporation
Transmission Planning
The Byron Unit Stability Trip Scheme is a Special Protection System (SPS) that addresses events that can cause the Byron units to become unstable. The SPS trips a Byron unit for specific concurrent line outages, faults cleared in primary time with certain line outages and for other faults with delayed clearing as described in PJM Manual 3.
Byron SPS Removal

✓ A new 345kV line between Station 6 Byron and TSS 144 Wayne is planned to be in service by June 2017
✓ Resolves stability issues for which Byron SPS is designed
  • The Byron Unit Stability Trip Scheme will be removed upon completion of the line
  • Timing of trip removals to be coordinated with station work
✓ PJM RTEP ID’s: b2141, b2141.1, b2141.2
✓ As part of this project, a new breaker was installed in October 2015
  • Some unit trips became unnecessary and were removed
Any Questions?
Changes to Powerton 345kV Bus and Powerton Unit Stability Trip Scheme SPS

ComEd / Exelon Corporation Transmission Planning
Powerton SPS Description

- The Powerton Unit Stability Trip Scheme is a Special Protection System (SPS) that addresses events that can cause the Powerton units to become unstable.
- The SPS trips a Powerton unit and/or sectionalizes the Powerton bus for specific concurrent line outages and for certain multi-phase line faults as described in PJM Manual 3.
- A need for new changes has been identified to meet planning criteria:
  - Planned reinforcements reduce SPS complexity with breaker replacements and reconfiguration of the Powerton 345kV bus.
Powerton Bus and SPS Changes

✓ Powerton 345kV bus reconfiguration and circuit breaker replacements will allow removal of the Powerton Unit Stability Trip Scheme when the station is in normal configuration

✓ Minimal SPS logic will remain:
  • Unit trip schemes will need to be armed only during certain line outages.
  • Part of existing multiple line outage scheme

✓ PJM RTEP ID’s: b2699.1, b2699.2

✓ Project targeted for completion in 2017
Any Questions?
Removal of the Northbrook/Highland Park Transfer Trip SPS

ComEd / Exelon Corporation
Transmission Planning
SPS Description

✓ The Northbrook/Highland Park Transfer Trip Scheme is a Special Protection System (SPS) that prevents thermal overloads and low voltage

✓ SPS trips line if open-ended

✓ SPS is described in PJM Manual 3
SPS Removal

✓ A normally-closed bus tie will be installed at Highland Park to resolve issues for which the SPS is designed
✓ SPS will no longer be required and will be removed
✓ PJM RTEP ID: b2415
✓ Reinforcement is scheduled to be complete by December 2016
Any Questions?