Dooms-Lexington 500 kV Line
Extended Outage - Winter 2014/2015

Stakeholder Meetings
July/August 2014
PJM Transmission Operations
Background

➢ RTEP project b1908 to rebuild line
   ▪ Driver - generation retirements (Chesapeake 1-4, Yorktown 1)
   ▪ Criteria violation - overload on Dooms-Lexington 500 kV
   ▪ Expected in-service date of 6/1/2016 or earlier

➢ Outages starting in Sept. 2014
   ▪ Ticket 527368 from 09/08/14 to 12/31/14
   ▪ Ticket 439576 from 09/14/14 to 06/05/15
   ▪ Ticket 438778 from 09/07/15 to 12/31/15
Background

- Runs through the 2014/2015 winter peak period
- Returns to service for 2015 summer period
Outage Impact

- **Operational Impact**
  - Reduces system generation capacity due to stability
    - Limits Bath County pump storage hydro plant significantly (if no SPS)

- **Congestion (localized)**
  - Causes potential thermal constraint on Valley TX1 for loss of Dooms-Valley or Cloverdale transformers for loss of B.C.-Valley
  - Causes potential low voltages in the area for loss of B.C.-Valley
  - Constraints are controllable during the projected winter peak (133.5K MW load)
Outage Mitigation

- No reliability issues identified over winter period
  - Projected winter peak load of 133,500 MW
  - Sensitivity study w/ load at 142,700 MW (polar vortex)
- New Bath County Stability SPS to lessen impact
  - SPS will be armed as needed and will trip Bath County gen/pump units on the loss of the Bath County-Valley 500 kV line
- Existing Bath County “Thermal” SPS will continue to be used as needed
Benefits Continuing Through the Winter Period

- Reduces overall outage duration
- Facilitates other planned RTEP EHV outages
  - Cloverdale-Lexington 500 kV line in 2016 (AEP)
  - Cunningham-Elmont 500 kV line in 2016/2017
  - Dooms-Cunningham 500 kV line in 2018
  - Mt. Storm-Valley 500 kV line in 2019/2021
- SPS allows Bath County units to be on for system capacity