



RTEP Reliability Analysis Update

TEAC Meeting
April 5, 2007

RTEP Status – 2012 Analysis

- Base Case Development Complete
- Generator Deliverability and Load Deliverability analysis complete.
- N-2 analysis complete.
- Results forwarded to transmission owners for verification of findings.
- Development of solutions to identified problems is in progress.

RTEP Status – 15 Year Analysis

- Initial 15 year analysis completed
 - No proposed upgrades included in the case (i.e. Similar to 15 year case from last year).
 - Analysis shows need for reinforcement in Northern New Jersey and Baltimore / PEPSCO area to address load deliverability problems.
 - Multiple 500 kV facilities above conductor rating.
- 15 year case retool once 5-year RTEP upgrades are identified.



Northern New Jersey Overload Comparison

Test Resulting in Highest Overload	2007 RTEP Violation Year	2006 RTEP Violation Year	Overloaded Facility
Generator Deliverability	2013	2015	Greystone – Whippany 230 kV
Load Deliverability	2013	2016	Larrabee – Atlantic 230 kV
Load Deliverability	2013	2017	Branchburg – Flagtown 230 kV
Load Deliverability	2013	2017	Flagtown – Somerville 230 kV
Load Deliverability	2014	2015	East Windsor – Smithburg 230 kV
Load Deliverability	2014	2016	Hosensack – Elroy 500 kV
Load Deliverability	2015		Cedar Grove F – Roseland 230 kV
Load Deliverability	2015	2016	Whippany – Roseland 230 kV
Load Deliverability	2016	2016	Kittatinny – Pohatcong 230 kV
Load Deliverability	2016		Bushkill – Kittatinny 230 kV



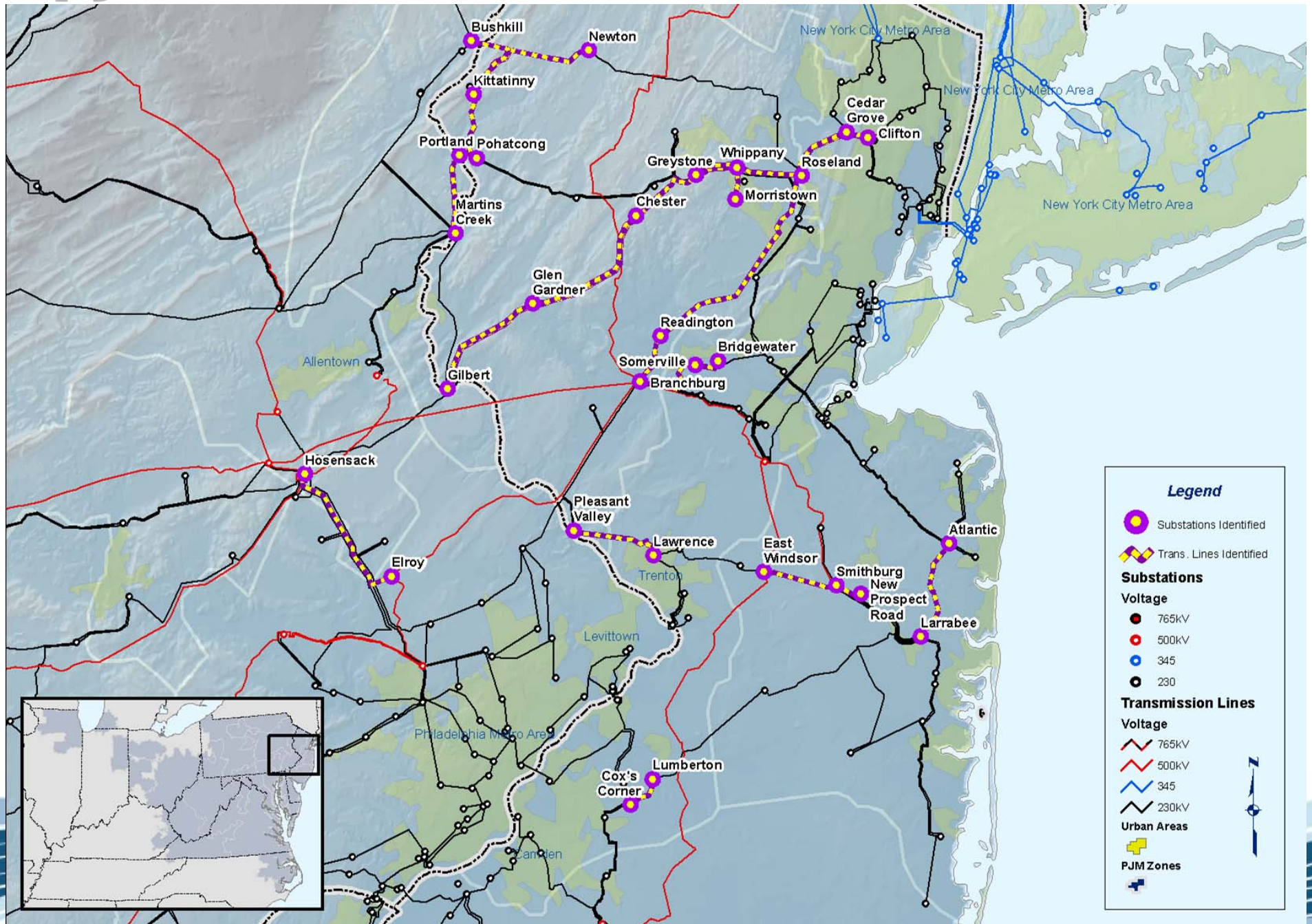
Northern New Jersey Overload Comparison

Test Resulting in Highest Overload	2007 RTEP Violation Year	2006 RTEP Violation Year	Overloaded Facility
Load Deliverability	2016		Roseland – Cedar Grove B 230 kV
Load Deliverability	2017		Gilbert – Morristown 230 kV
Load Deliverability	2017	2021	Readington – Roseland 230kV
Load Deliverability	2018	2020	Pleasant Valley – Lawrence 230 kV
Load Deliverability	2018	2016	Cox’s Corner – Lumberton 230 kV
Gen. Deliverability	2018		Kittatinny – Newton 230 kV
Load Deliverability	2018		Gilbert – Glenn Gardner 230 kV
Load Deliverability	2018	2016	Branchburg – Readington 230 kV
Gen. Deliverability	2019	2017	Portland – Martins Creek 230 Kv
Load Deliverability	2019	2017	Somerville – Bridgewater 230kV



Northern New Jersey Overload Comparison

Test Resulting in Highest Overload	2007 RTEP Violation Year	2006 RTEP Violation Year	Overloaded Facility
Load Deliverability	2019		Cedar Grove F – Clifton K 230 kV
Load Deliverability	2020		Glen Gardner – Chester 230 kV
Load Deliverability	2020		Smithburg – New Prospect 230 kV



Legend

- Substations Identified
- Trans. Lines Identified

Substations

Voltage

- 765kV
- 500kV
- 345
- 230

Transmission Lines

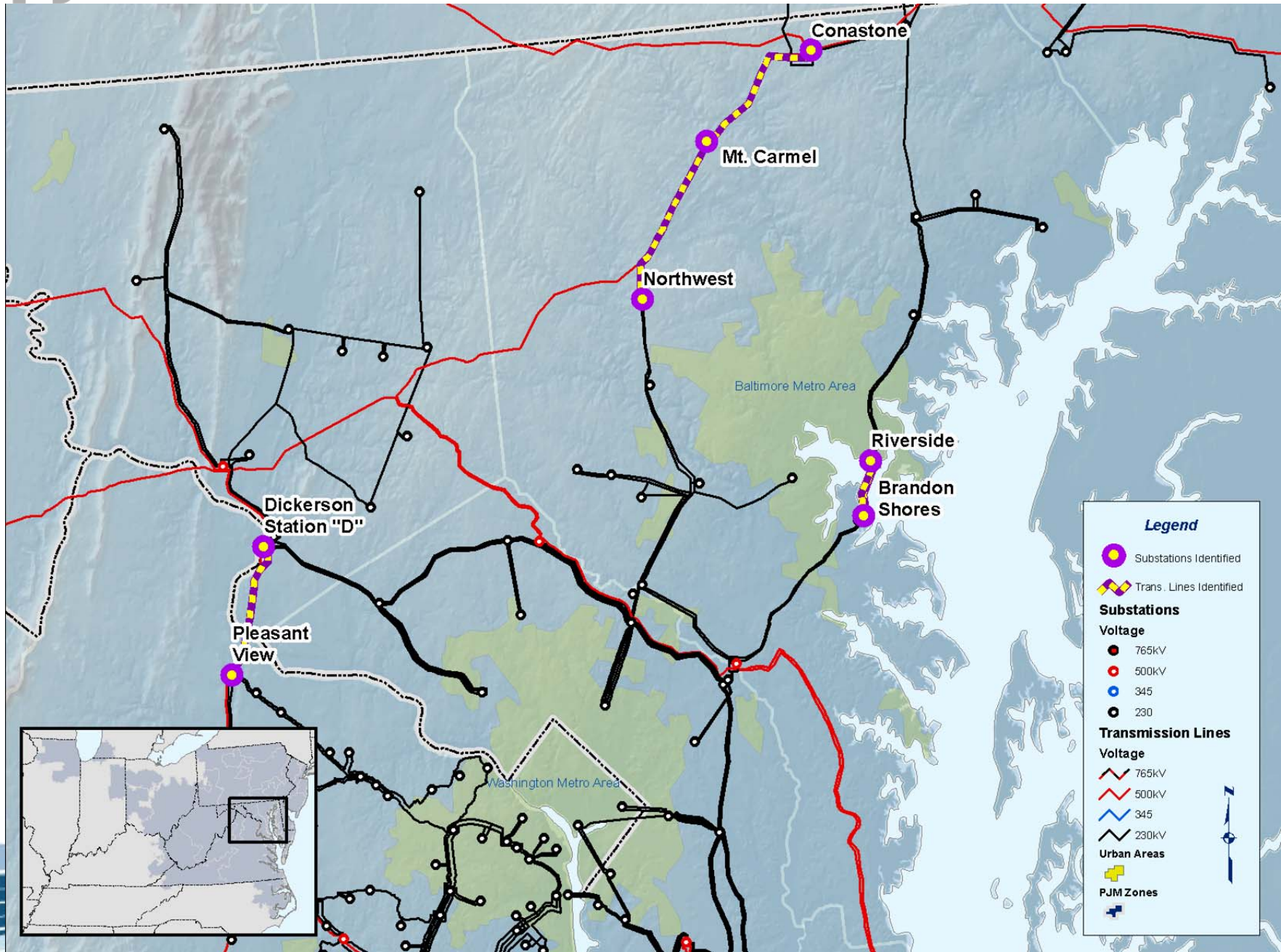
Voltage

- 765kV
- 500kV
- 345
- 230kV

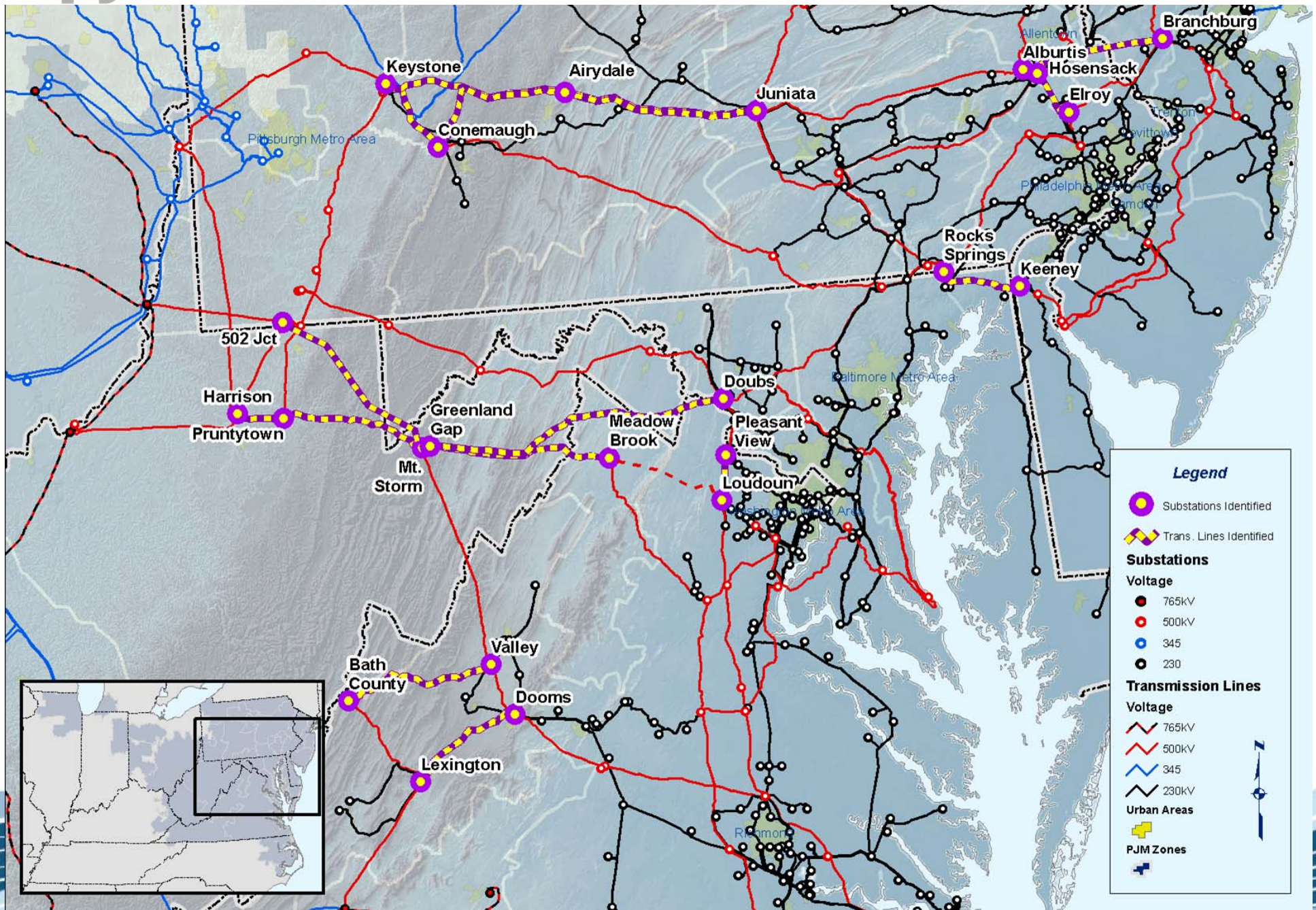
Urban Areas

PJM Zones

Test Resulting in Highest Overload	Year in Violation	Overloaded Facility
Load Deliverability	2013	Brandon Shores – Hawkins Point 44 230kV
Load Deliverability	2014	Sollers Point – Riverside 2339 230kV
Load Deliverability	2016	Sollers Point – Riverside 2317 230kV
Load Deliverability	2016	Conastone – Mt. Carmel 230kV
Load Deliverability	2018	Mt. Carmel – Northwest 326 230kV
Load Deliverability	2019	Brandon Shores – Hawkins Point 46 230kV
Load Deliverability	2019	Sollers Point – Riverside 2318 230kV
Load Deliverability	2020	Mt. Carmel – Northwest 327 230kV
Load Deliverability	2021	Pleasant View – Dickerson 230kV
Load Deliverability	2012	Dickerson – Quince Orchard 32 230kV



Test Resulting in Highest Overload	Year in Violation	Overloaded Facility
Load Deliverability	2012	Mt. Storm – Doubs 500 kV
Load Deliverability	2012	Keystone – Conemaugh 500 kV
Load Deliverability	2012	Keystone – Airydale 500 kV
Load Deliverability	2013	Juniata – Airydale 500 kV (Both)
Load Deliverability	2014	Hosensack – Elroy 500 Kv
Load Deliverability	2015	Pruntytown – Mt. Storm 500 kV
Load Deliverability	2016	Harrison – Prunytowm 500 kV
Load Deliverability	2017	Loudoun – Pleasant View 500 kV
Load Deliverability	2017	Lexington – Doods 500 kV
Load Deliverability	2020	Rock Springs – Keeney 500 kV
Load Deliverability	2020	Mt. Storm – Greenland Gap 500 kV
Load Deliverability	2020	Greenland Gap – Meadowbrook 500 kV
Load Deliverability	2022	Branchburg – Alburtis 500 kV
Load Deliverability	2022	Bath County – Valley



- Continue to work with Transmission Owners to identify solutions to the 5-year RTEP problems that were identified.
- Incorporate upgrades into 2012 RTEP basecase.
- Evaluate alternatives to address the reliability violations identified in the 15 year analysis.

- Generation Deactivations
 - Benning
 - Buzzard
- Generation Uncertainty
 - Oyster Creek
 - Hudson
- B. L. England Return
- Outcome of RPM auctions
- Bottom Line – Stay Flexible!

Any Suggestions?