



2011 RTEP Overloads in the 6 to 15 Year Horizon (2012 through 2021)

PJM Planning Committee /
TEAC
April 26, 2006



Scope for 15 Year RTEP

- Identify overloads 230 kV and above for years 6 – 15.
- Include in RTEP any new 230 kV or 345 kV needed in years 6 through 8.
- Include in RTEP any new 500 kV or greater needed in years 6 through 12.
- Include in RTEP any right-of-way acquisition needed for new 230 kV or 345 kV circuits in years 9 and 10.
- Include in RTEP any right-of-way acquisition needed for new 500 kV or greater circuits in years 13 through 15.

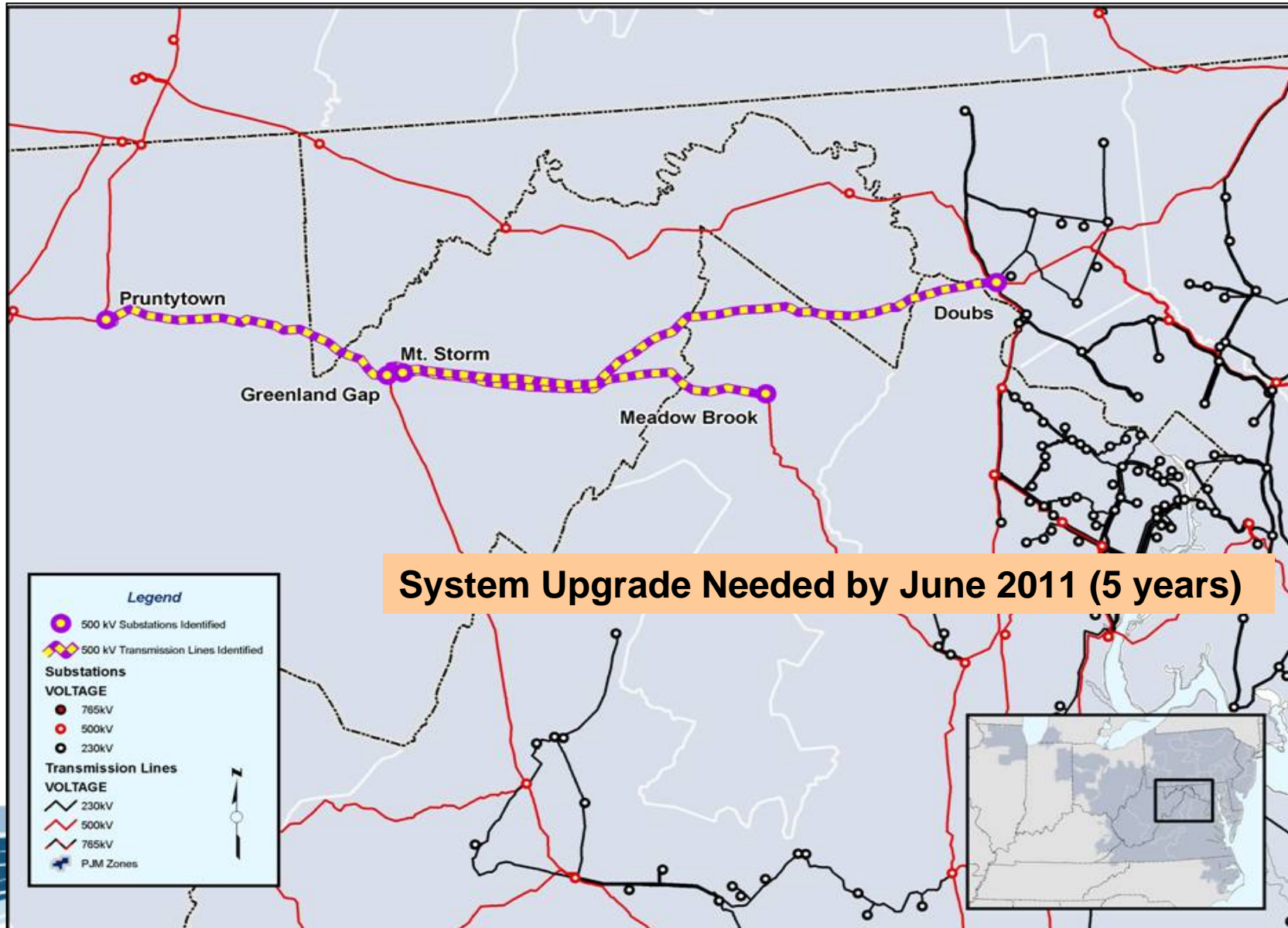
- PJM identified all overloads 230 kV and above for years 6 through 15 based on the circuit ratings in the RTEP model.
- PJM obtained the conductor rating of all overloaded circuits from the Transmission Owners and reduced the original list to only those circuits whose loading exceeded the conductor rating in years 6 through 15.
- PJM then identified all 230 kV and 345 kV overloads that occurred after year 10 and which were geographically and electrically dispersed throughout PJM. The original list was further reduced to exclude these overloads.

- There were about 36 remaining facilities that exceeded the conductor rating in the 6 to 15 year horizon.
- Four groups were developed based on the facility geographic location and the year in which the overloads occurred. The four groups identified were:
 - AP South Overloads
 - Northern New Jersey Overloads
 - Western / Central Interface Overloads
 - ComEd Overloads
- There was one remaining list of 230 kV and 345 kV facilities which were overloaded in years 6 through 10 each of which will likely involve a more local solution.



AP South Overloads

Test Resulting in Highest Overload	Year That Facility Loading Exceeds Conductor Rating	Overloaded Facility
Load Deliverability	2011	Mt. Storm - Doubs 500 kV
Generator Deliverability	2012	Greenland Gap - Meadow Brook 500 kV
Load Deliverability	2014	Mt. Storm - Greenland Gap 500 kV
Generator Deliverability	2014	Pruntytown - Mt. Storm 500 kV

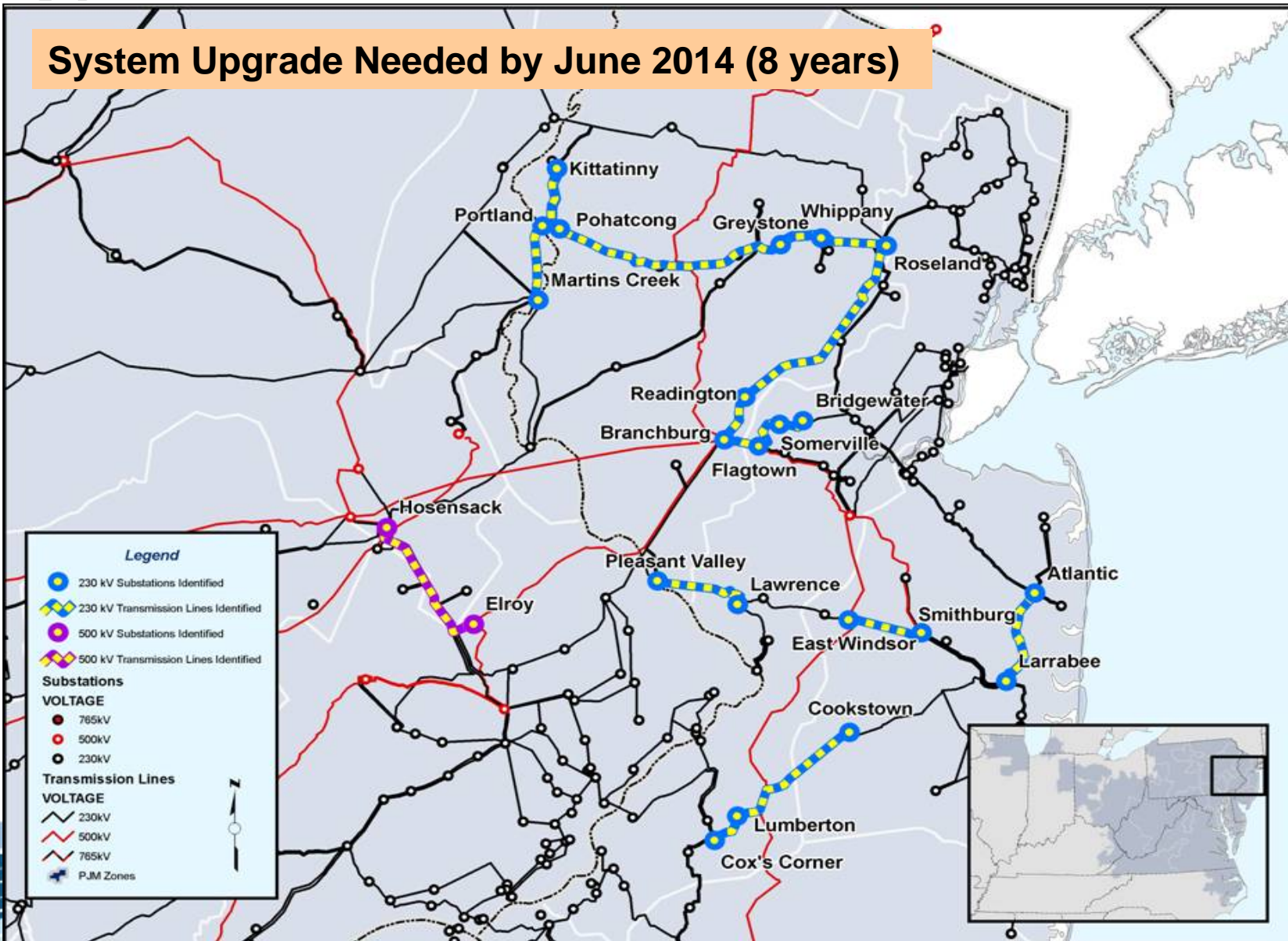




Northern New Jersey Overloads

Test Resulting in Highest Overload	Year That Facility Loading Exceeds Conductor Rating	Overloaded Facility
Generator Deliverability	2014	Portland - Kittatinny 230 kV
Generator Deliverability	2014	Portland - Greystone 230 kV
Load Deliverability	2015	East Windsor - Smithburg 230 kV
Generator Deliverability	2015	Greystone - Whippany 230 kV
Load Deliverability	2016	Cox's Corner - Lumberton 230 kV
Load Deliverability	2016	Branchburg - Readington 230 kV
Load Deliverability	2016	Whippany - Roseland 230 kV
Load Deliverability	2016	Kittatinny - Pohatcong 230 kV
Load Deliverability	2016	Hosensack - Elroy 500 kV
Generator Deliverability	2016	Atlantic - Larrabee 230 kV
Load Deliverability	2016	Lumberton - Cookstown 230 kV
Load Deliverability	2017	Branchburg - Flagtown 230 kV
Load Deliverability	2017	Flagtown - Somerville 230 kV
Generator Deliverability	2017	Somerville - Bridgewater 230 kV
Load Deliverability	2017	Martins Creek - Portland 230 kV
Load Deliverability	2020	Pleasant Valley - Lawrence 230 kV
Load Deliverability	2021	Readington - Roseland 230 kV

System Upgrade Needed by June 2014 (8 years)

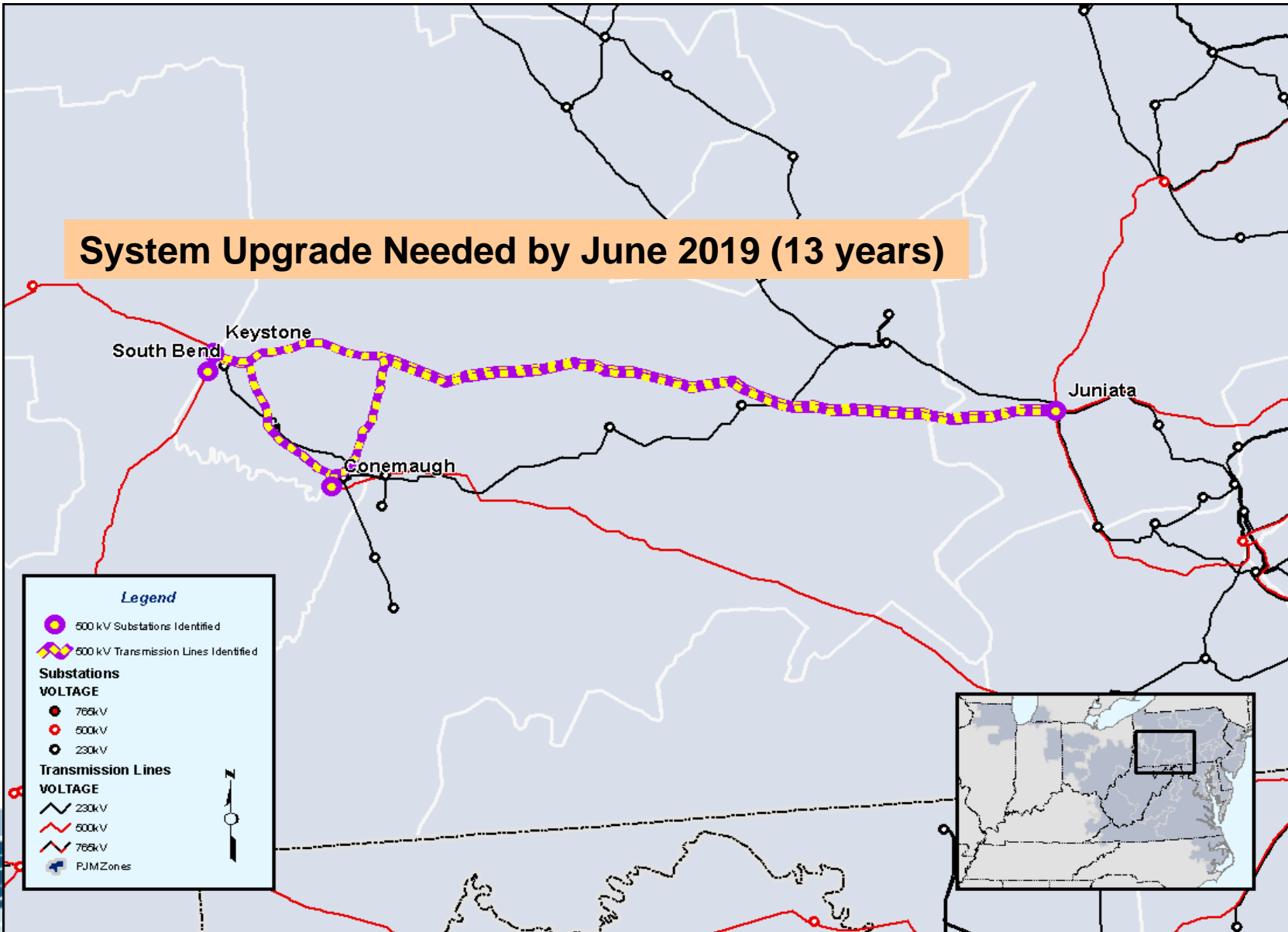


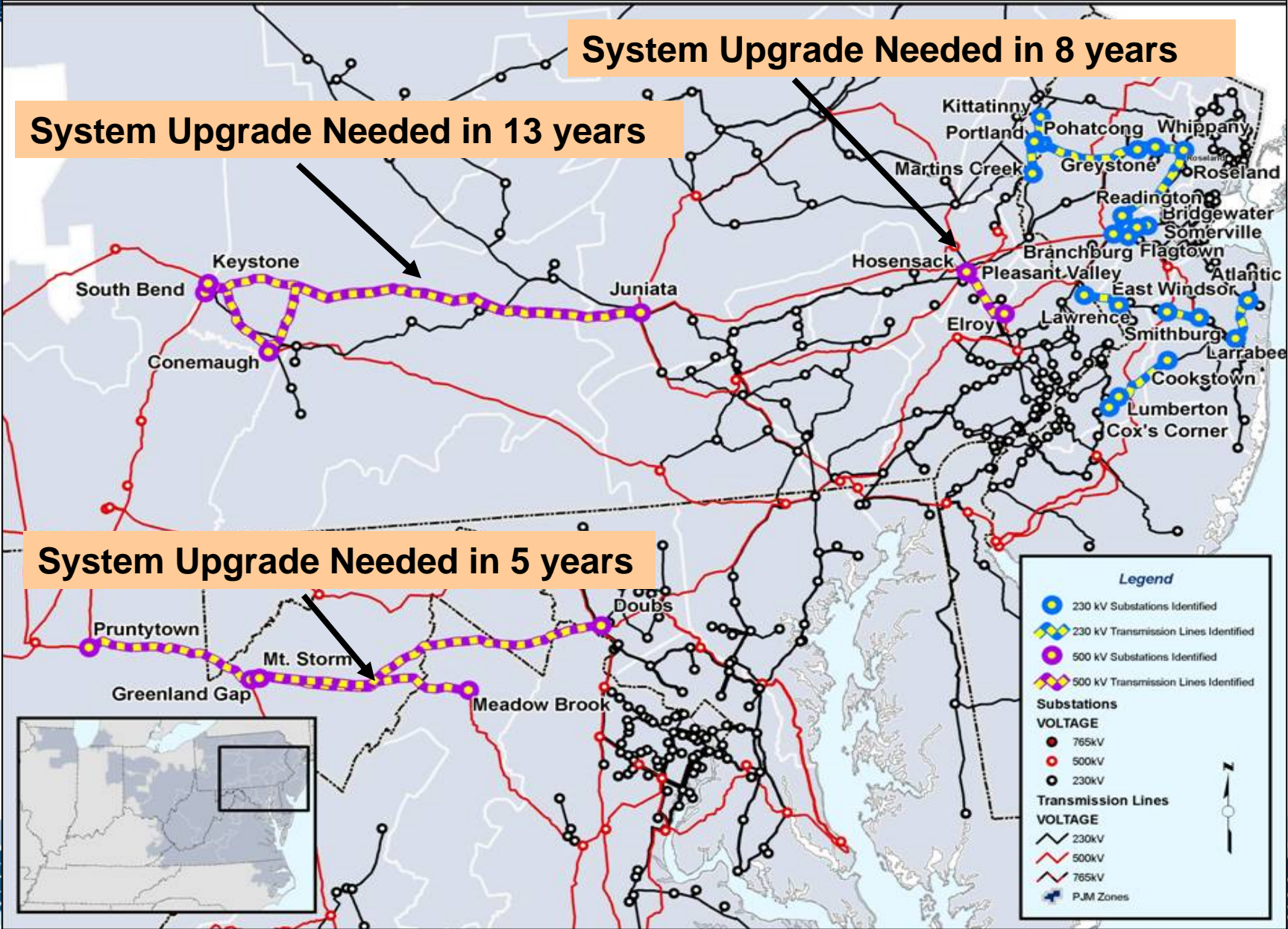


Western & Central Interface Overloads

Test Resulting in Highest Overload	Year That Facility Loading Exceeds Conductor Rating	Overloaded Facility
Load Deliverability	2019	Airydale - Juniata 500 kV Circuit 1
Load Deliverability	2019	Airydale - Juniata 500 kV Circuit 2
Load Deliverability	2020	Keystone - Conemaugh 500 kV

System Upgrade Needed by June 2019 (13 years)

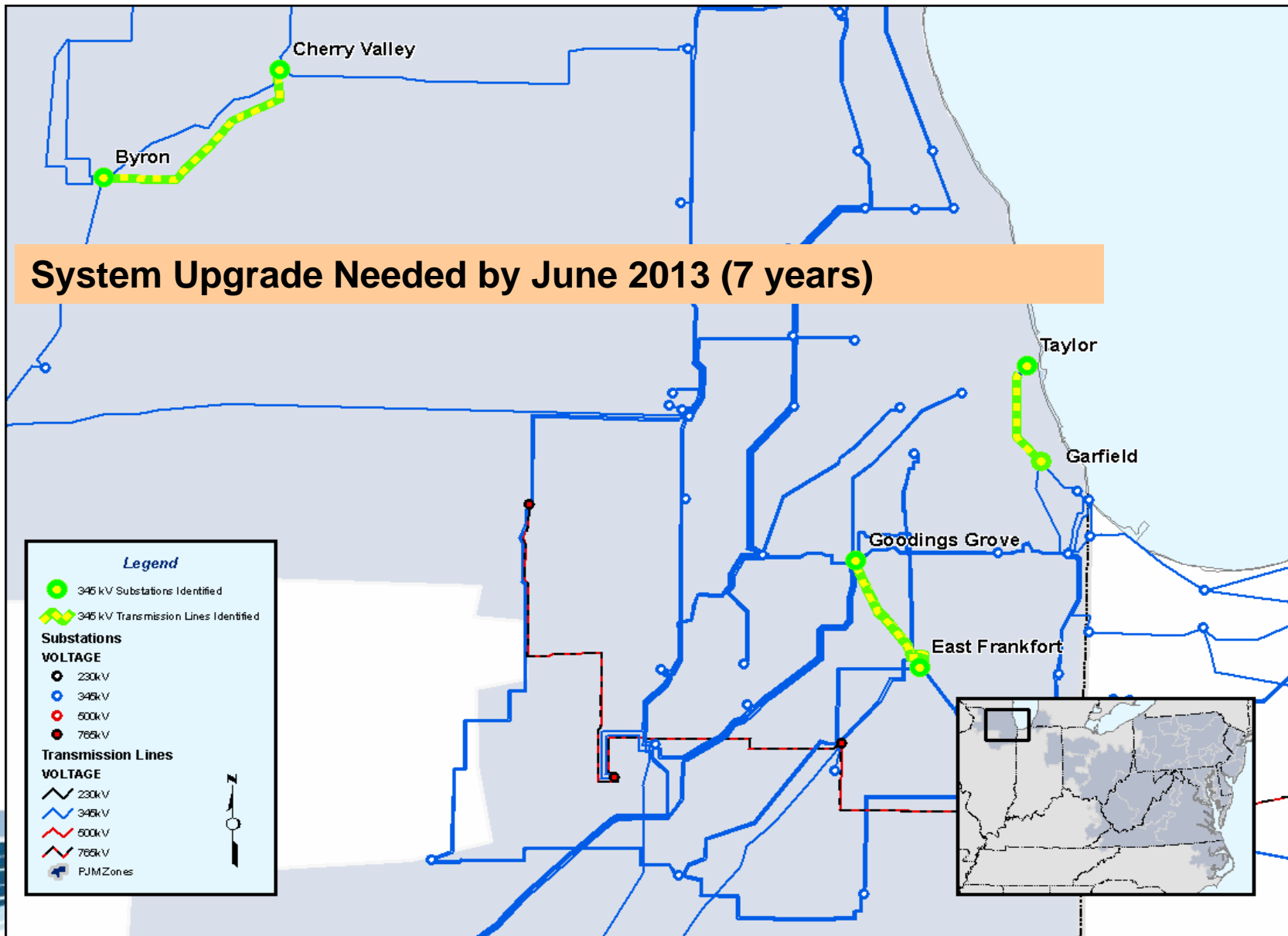






ComEd Overloads

Test Resulting in Highest Overload	Year That Facility Loading Exceeds Conductor Rating	Overloaded Facility
Load Deliverability	2013	Garfield - Taylor 345 kV
Load Deliverability	2013	East Frankfort - Goodings Grove 345 kV Blue
Load Deliverability	2013	East Frankfort - Goodings Grove 345 kV Red
Load Deliverability	2014	Byron - Cherry Valley 345 kV





Overloads Likely to Require a Local Solution

Test Resulting in Highest Overload	Year That Facility Loading Exceeds Conductor Rating	Overloaded Facility
Load Deliverability	2012	Richmond - Camden 230 kV
Generator Deliverability	2013	Burlington - Croyden 230 kV
Generator Deliverability	2012	Bergen - Leonia 230 kV
Generator Deliverability	2014	Bradford - Planebrook 230 kV
Generator Deliverability	2015	Linden - TOSCO 230 kV
Generator Deliverability	2016	Susquahanna - Susquahanna 1 Gen 230 kV
Load Deliverability	2016	Dickerson - Quince Orchard 230 kV
Load Deliverability	2016	Richmond - Wanetta 230 kV

At TEAC on May 23, 2006:

- Identify 2011 (5 year) RTEP reliability violations and required system upgrades.
- Identify for inclusion in the RTEP a system upgrade to resolve the AP South overloads.
- Identify for inclusion in the RTEP several potential new circuits that would relieve other identified overloads in the 6 to 15 year horizon. This will involve a new level of approval which will require the affected Transmission Owners proceeding with preliminary siting, environmental impact assessment, and potential right-of-way acquisition.