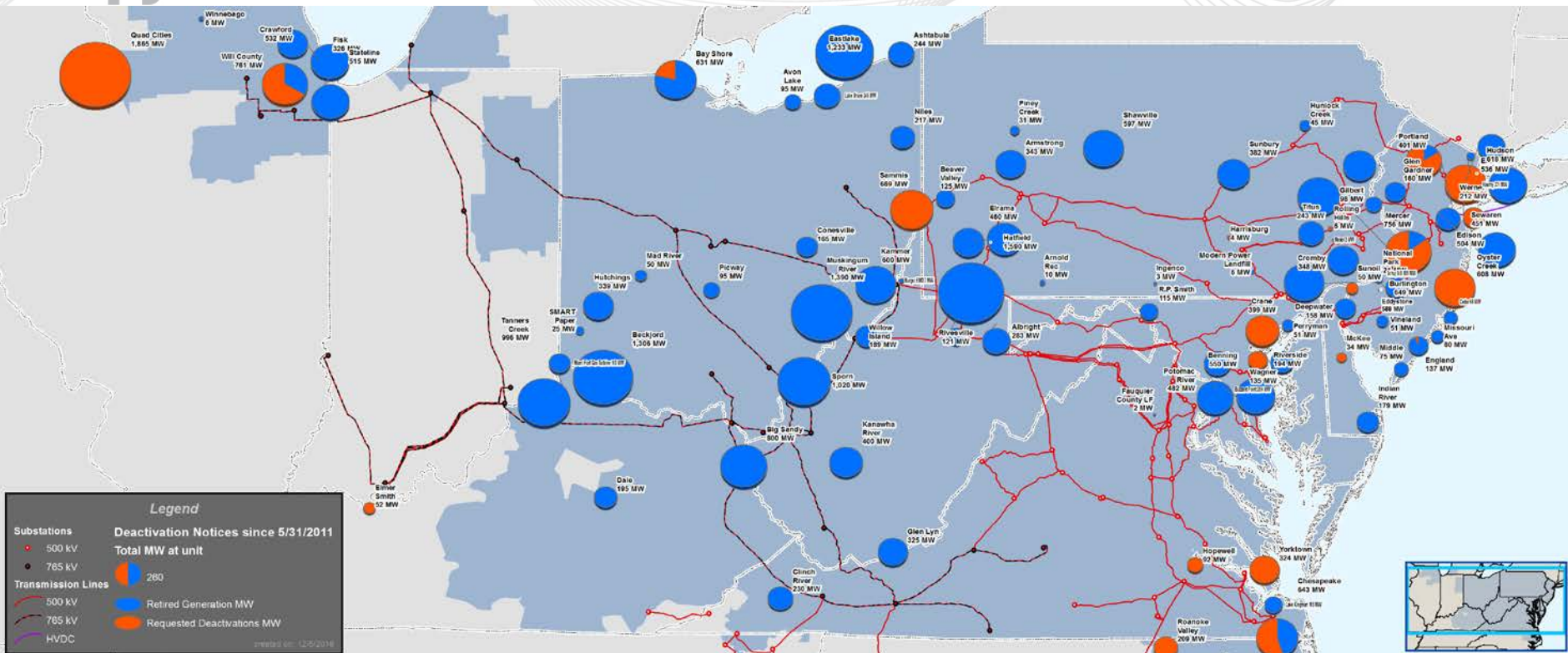


Generation Deactivation Notification Update

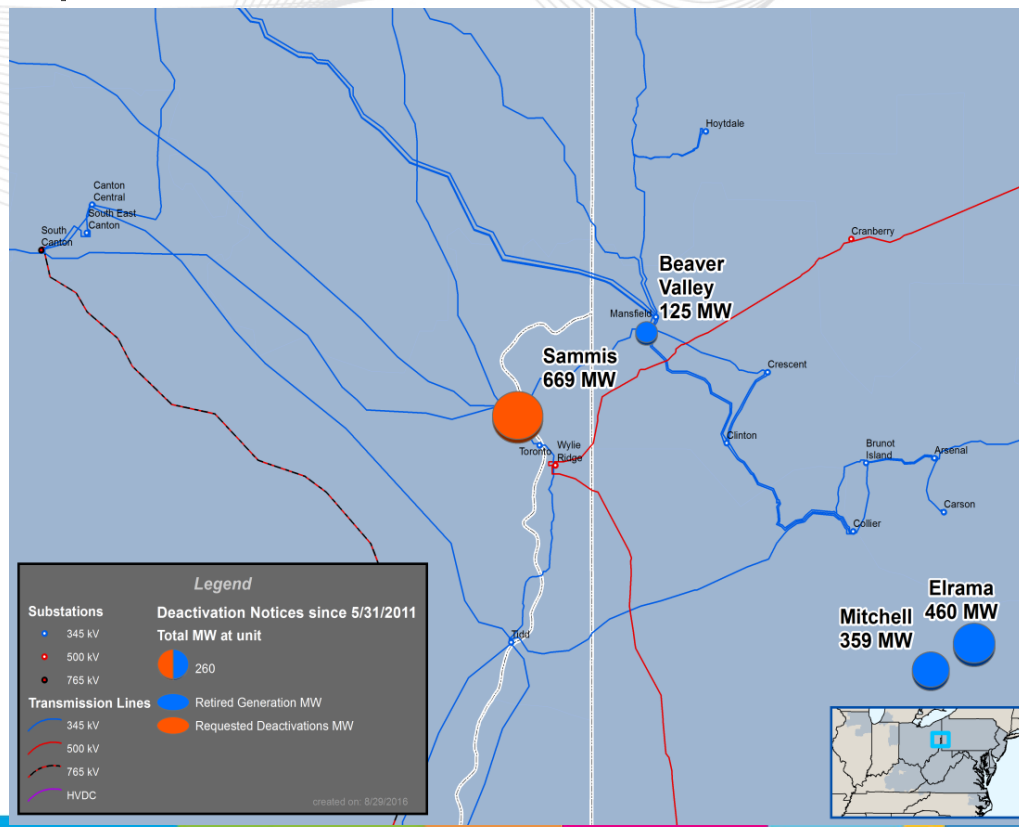


Unit(s)	Transmission Zone	Requested Deactivation Date	PJM Reliability Status
Columbia Dam Hydroelectric Project (500 kW)	JCPL	11/18/2016	Reliability analysis complete. No impacts identified.
Sammis Units 1 - 4 (668.6 MW)	ATSI	05/31/2020	Reliability analysis complete. Impacts Identified
Bay Shore Unit 1 (136 MW)	ATSI	10/01/2020	Reliability analysis complete. Impacts Identified
Hudson Unit 2 (617.9 MW)	PSE&G	6/1/2017	Reliability analysis complete. Impacts Identified
Mercer Unit 1 (321 MW)	PSE&G	6/1/2017	Reliability analysis complete. Impacts Identified

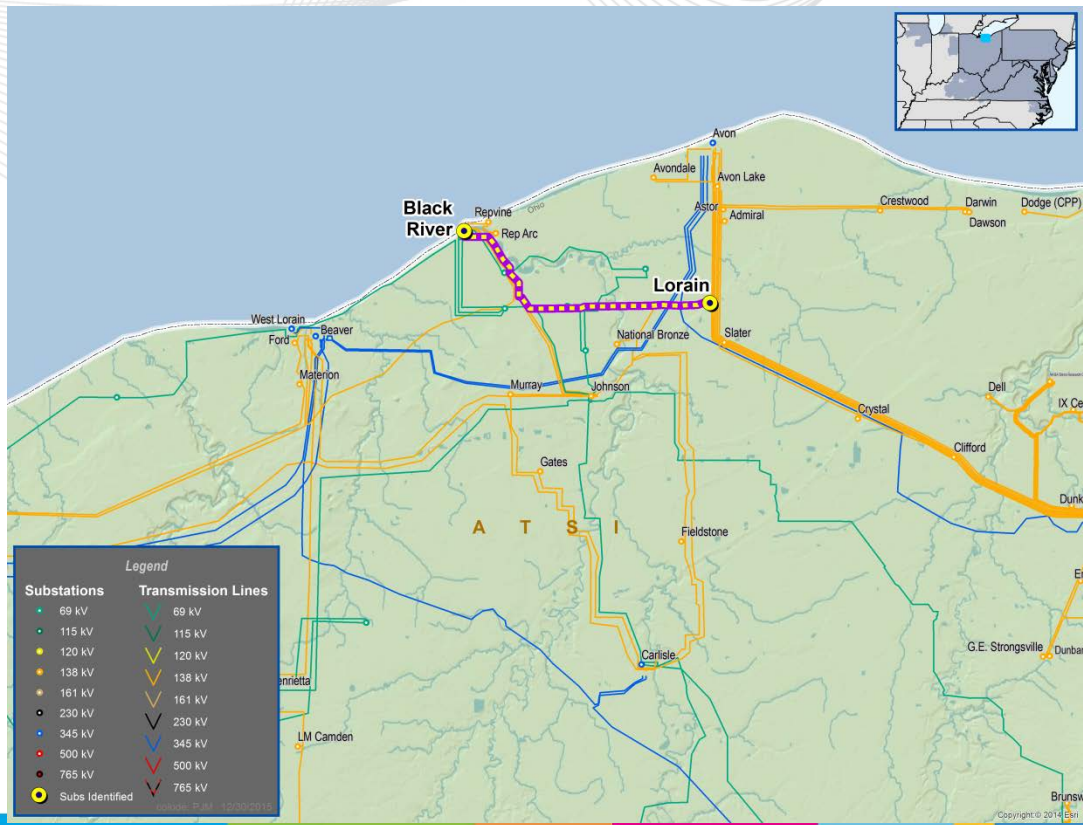
Unit(s)	Transmission Zone	Requested Deactivation Date	PJM Reliability Status
Mercer Unit 2 (320.3 MW)	PSE&G	6/1/2017	Reliability analysis complete. Impacts Identified
Crane Unit 1 (190 MW)	BGE	6/1/2018	Reliability analysis underway
Crane Unit 2 (195 MW)	BGE	6/1/2018	Reliability analysis underway
Crane Unit 3 (14 MW)	BGE	11/18/2018	Reliability analysis underway
Roanoke Valley Unit 1 (165 MW)	DOM	3/1/2017	Reliability analysis underway
Roanoke Valley Unit 2 (44 MW)	DOM	3/1/2017	Reliability analysis underway

Deactivation Update: Deactivation Notifications

- Sammis Units 1 - 4
 - ATSI Transmission Zone
 - 668.6 MW
 - Deactivation date: 05/31/2020

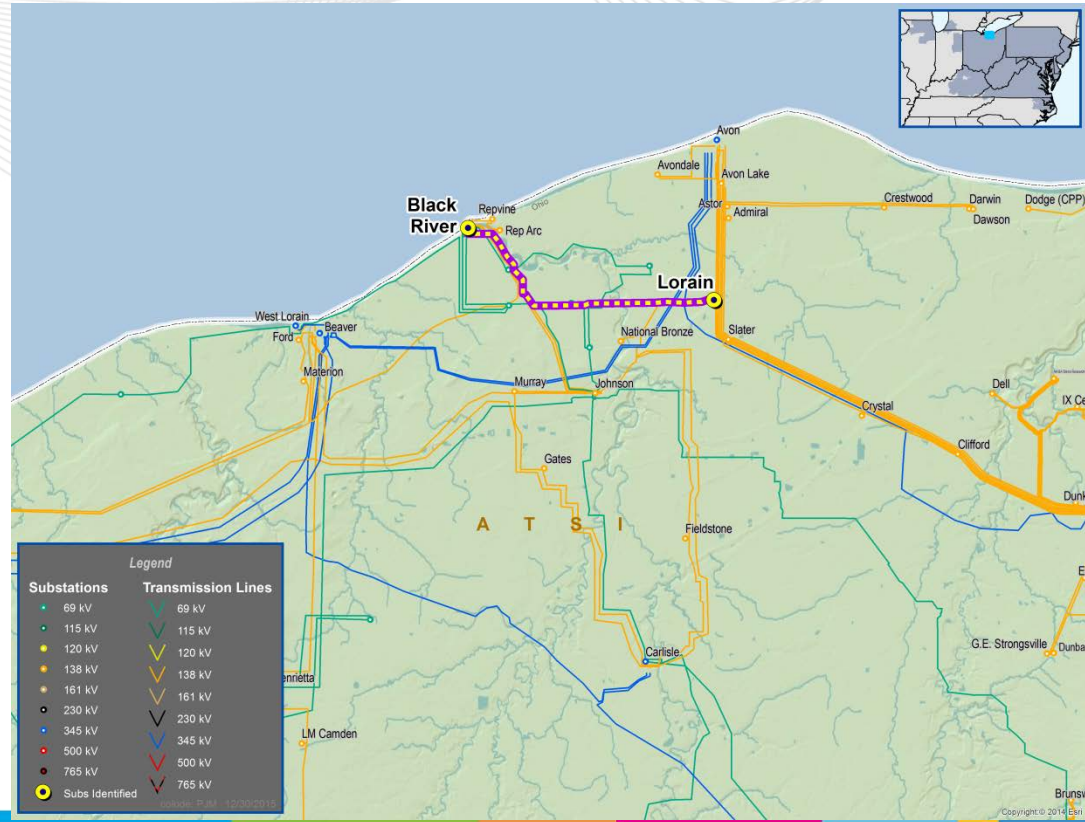


- Generation Deliverability Outage:
- Black River to US Steel 138 kV line is overloaded for the single line contingency loss of Avon 345 kV line to Avon 138 kV line ('B3-SYS-345-701').
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- Existing Baseline Upgrade (b2559): Reconductor the Black River to Lorain 138 kV line and upgrade Black River and Lorain substation terminal end equipment.
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate: \$9.6 M
- Required IS Date: 06/01/2019
- Projected IS Date: 06/01/2017



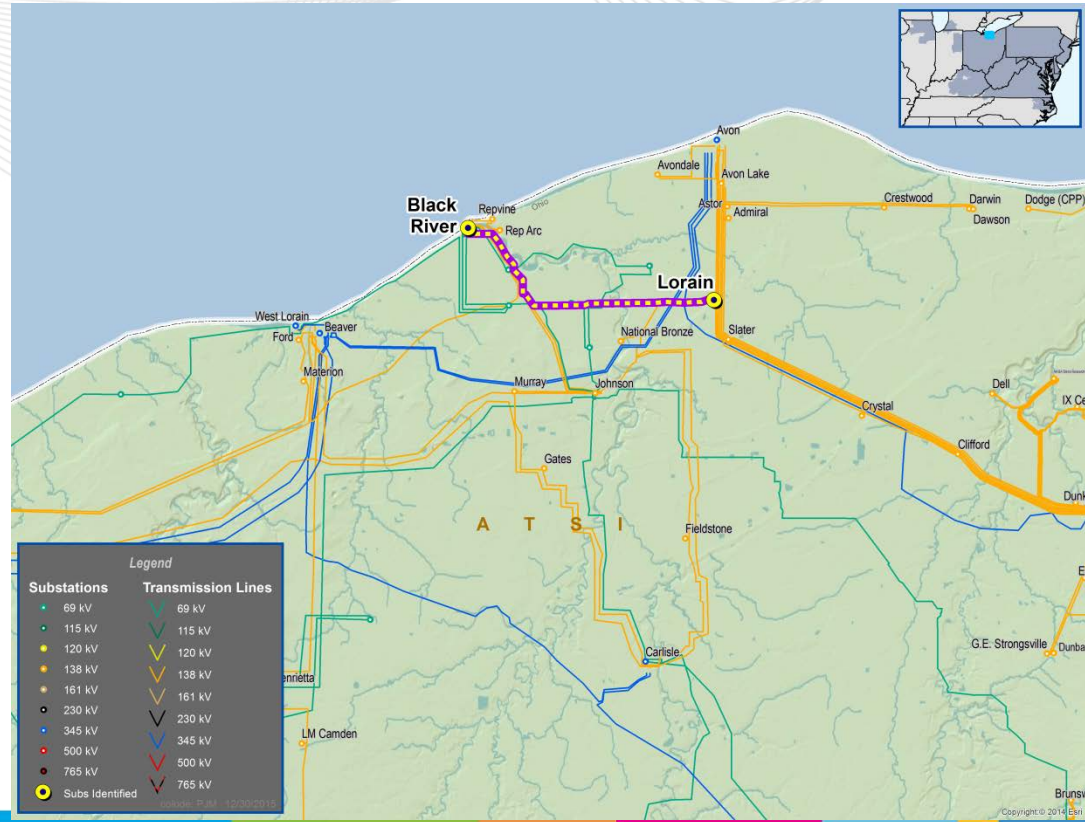
ATSI Transmission Zone

- Common Mode and N-1 Outage:
 - Black River to US Steel 138 kV line is overloaded for the tower contingency loss of Avon to Lake Ave 345 kV ckt 1 and Avon to Lake Ave 345 kV ckt 2 lines ('C5-CEI-345-001').
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- Existing Baseline Upgrade (b2559): Reconductor the Black River to Lorain 138 kV line and upgrade Black River and Lorain substation terminal end equipment.
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate: \$9.6 M
- Required IS Date: 06/01/2019
- Projected IS Date: 06/01/2017



ATSI Transmission Zone

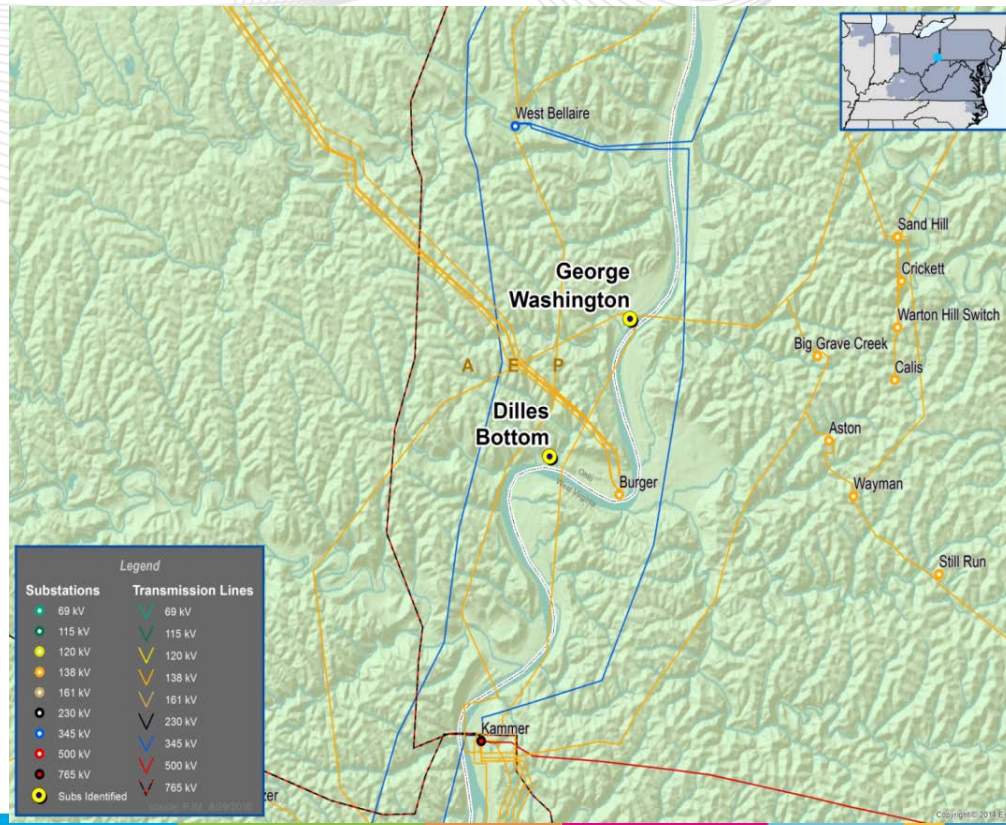
- Common Mode and N-1 Outage:
- US Steel to Lorain Q-2 138 kV line is overloaded for the tower contingency loss of Avon to Lake Ave 345 kV ckt 1 and Avon to Lake Ave 345 kV ckt 2 lines ('C5-CEI-345-001').
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- Existing Baseline Upgrade (b2559): Reconductor the Black River to Lorain 138 kV line and upgrade Black River and Lorain substation terminal end equipment.
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate: \$9.6 M
- Required IS Date: 06/01/2019
- Projected IS Date: 06/01/2017



ATSI Transmission Zone

- N-1-1 Thermal Outage :
- Gable Switching Station to South Cadiz 138 kV line is overloaded for the single line contingency loss of South Canton to Harmon 345 kV line ('B2-TIE-345-803') followed by the loss of Holloway 345 kV line to Holloway 138 kV line ('8688_B3_05HOLLOW 345-1').
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- Existing Baseline Upgrade (b2753.1-b2753.8)
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate (b2753.1-b2753.8) : \$25 M
- Required IS Date: 01/01/2019
- Projected IS Date: 01/01/2019

Note: Total project cost is approximately \$49M. Currently an Interconnection Customer has cost responsibility for approximately \$29M associated with this upgrade.



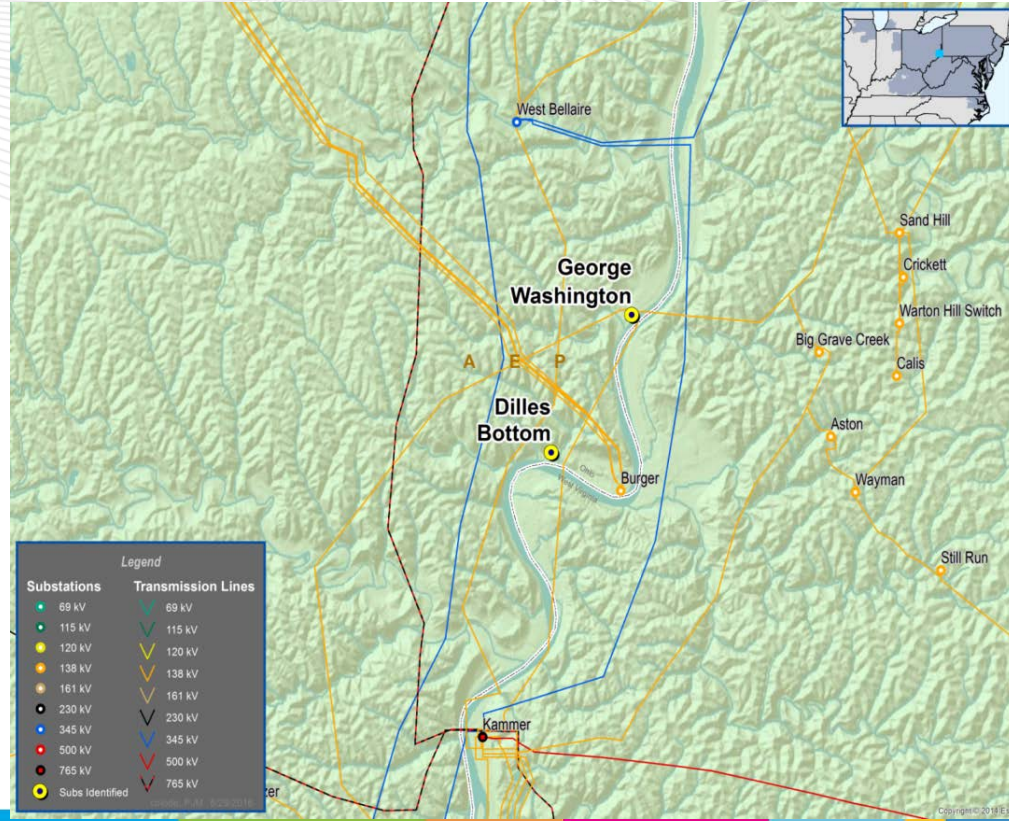
George Washington Station – Replace existing 138kV yard with GIS 138kV breaker and a half yard in existing station footprint. Install 138kV revenue metering for new IPP connection. (N5076.1/B2753.1) --AEP

Dilles Bottom Station – Replace Dilles Bottom 69/4kV Distribution station as breaker and a half 138kV yard design including AEP Distribution facilities but initial configuration will constitute a 3 breaker ring bus. (N5076.2/B2753.2) --AEP

Holloway Station – Connect two 138kV 6-wired ckts from “Point A” (currently de-energized and owned by First Energy) in ckt positions previously designated Burger #1 & Burger #2. Install interconnection settlement metering on both circuits exiting Holloway station. (N5076.3/B2753.3) –AEP

Holloway-”Point A” FE “Burger-Cloverdale No.2” 138kV Line – 6 wire “Burger-Cloverdale No. 2” 138kV Line for double capacity and connect at Holloway and “Point A” (N5076.4/B2753.4)--FE

Holloway-”Point A” FE “Burger-Longview” 138kV Line – 6 wire “Burger-Longview” 138kV Line for double capacity and connect at Holloway and “Point A” (N5076.5/B2753.5)--FE



Description: B2753.1 through B2753.8

Dilles Bottom-”Point A”138kV Line - Build dbl ckt 138kV line from Dilles Bottom to “Point A”. Tie each new AEP ckt in with a 6 wired line at Point A. This will create a Dilles Bottom-Holloway 138kV ckt and a George Washington-Holloway circuit. (N5076.6/B2753.6) --AEP

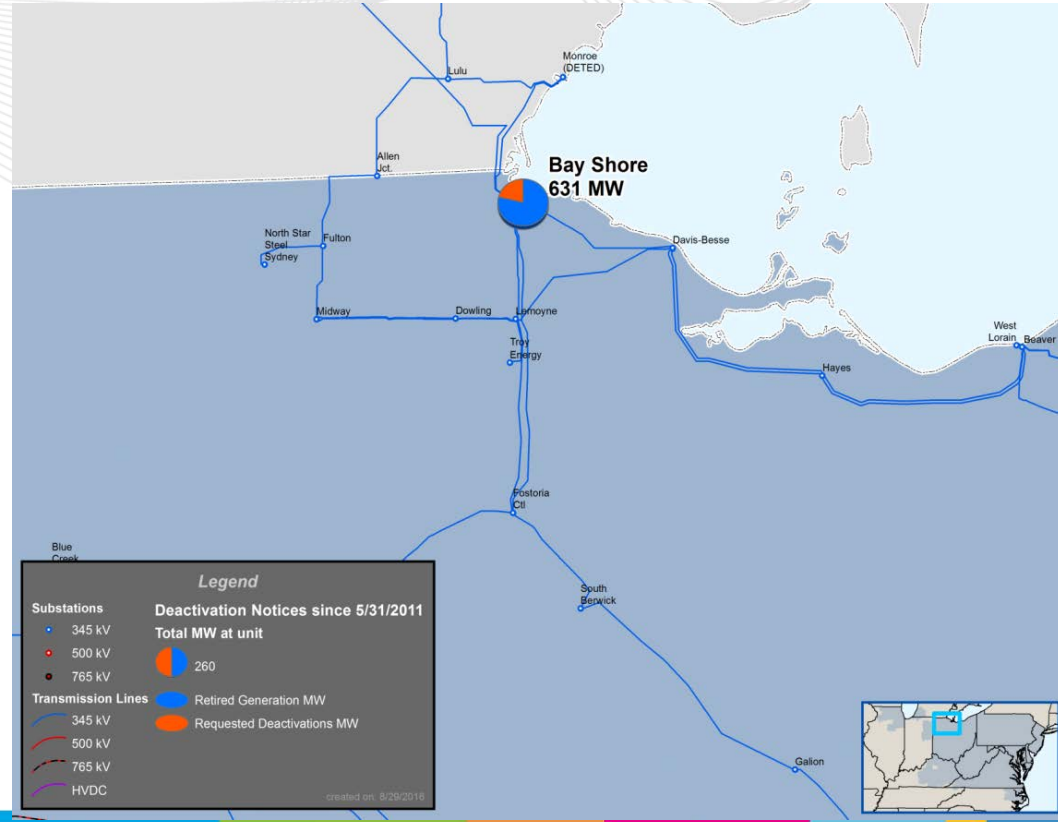
Dilles Bottom-Bellaire and Moundsville-Dilles Bottom 69kV Lines - Retire line sections south of First Energy 138kV line corridor, near “Point A”. Tie George Washington-Moundsville 69kV ckt to George Washington-West Bellaire 69kV ckt (N5076.7/B2753.7) --AEP

Washington-Dilles Bottom 69kV Line – Rebuild existing line as dbl ckt 138kV from George Washington to Dilles Bottom. One circuit will cut into Dilles Bottom initially and the other will go past with future plans to cut in. (N5076.8/B2753.8) --AEP

- Immediate Need
- Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible

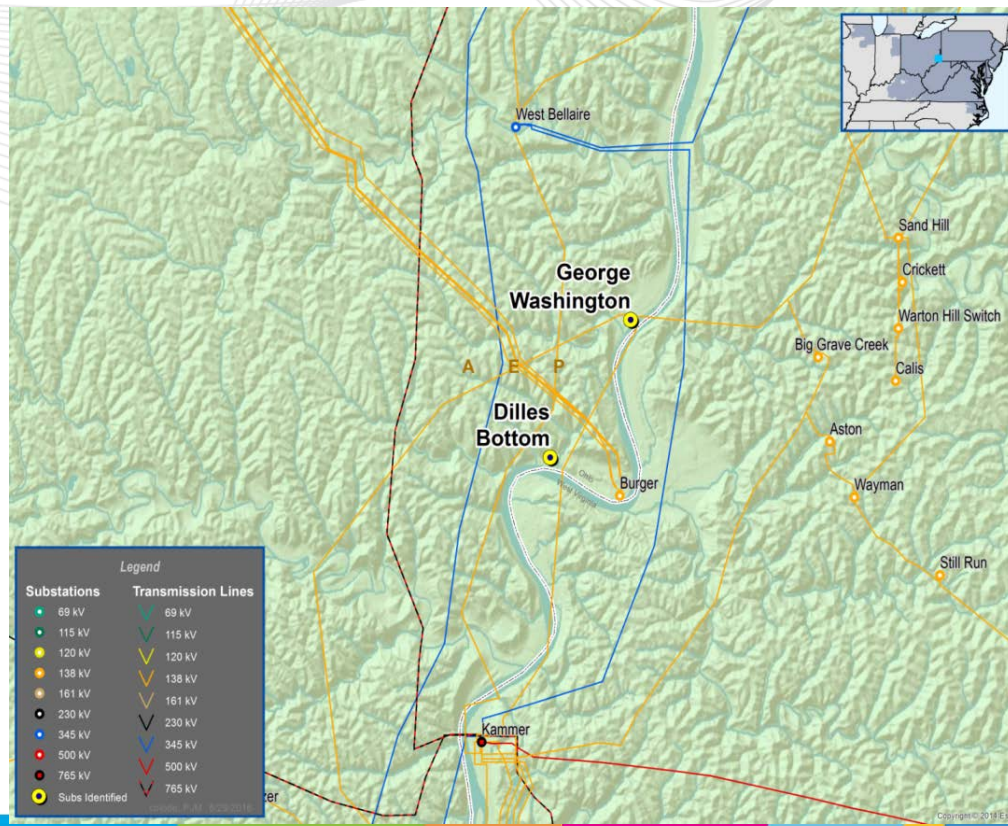
- Estimated Project Cost: \$25M (B2753.1-8)
 - B2753.1: \$0M
 - B2753.2: \$9M
 - B2753.3: \$2M
 - B2753.4: \$0.25M
 - B2753.5: \$0.25M
 - B2753.6: \$5M
 - B2753.7: \$4.96M
 - B2753.8: \$3.56M

- Bay Shore Unit 1
 - ATSI Transmission Zone
 - 136 MW
 - Deactivation date:
10/01/2020



- Generation Deliverability Outage :
- Gable Switching Station to South Cadiz 138 kV line is overloaded for the single line contingency loss of Holloway 345 kV line to Holloway 138 kV line ('8688_B3_05HOLLOW 345-1').
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- Existing Baseline Upgrade (b2753.1-b2753.8)
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate (b2753.1-b2753.8) : \$25 M
- Required IS Date: 01/01/2019
- Projected IS Date: 01/01/2019

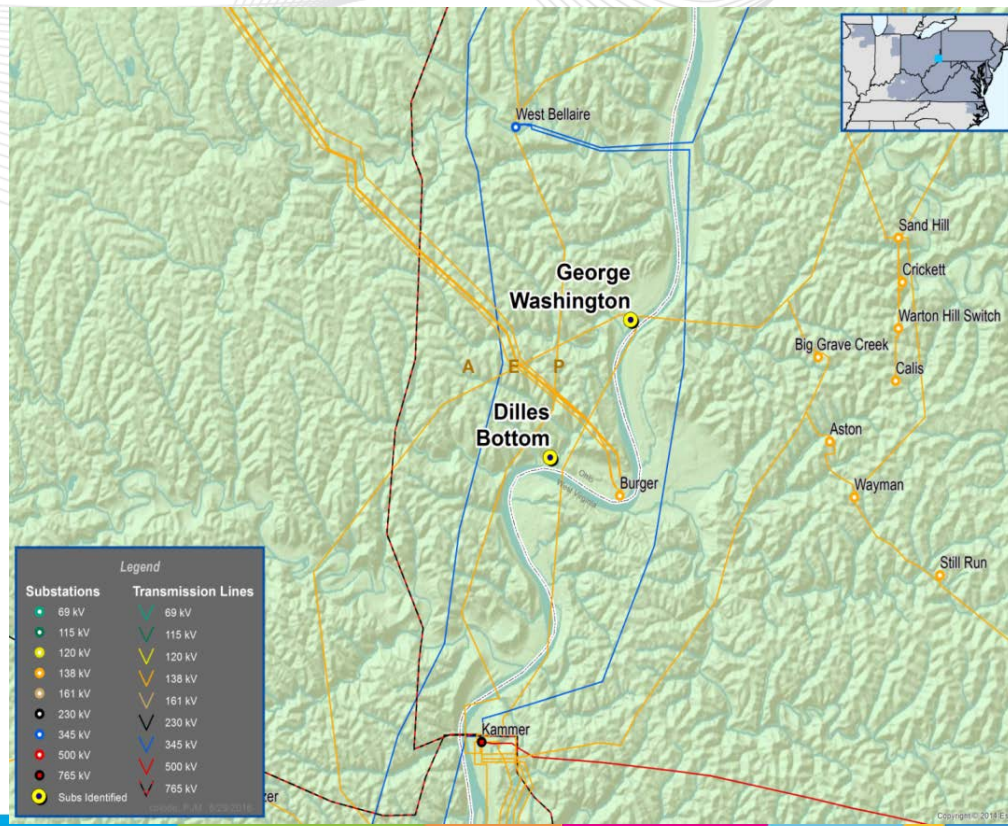
Note: Total project cost is approximately \$49M. Currently an Interconnection Customer has cost responsibility for approximately \$29M associated with this upgrade.



ATSI Transmission Zone

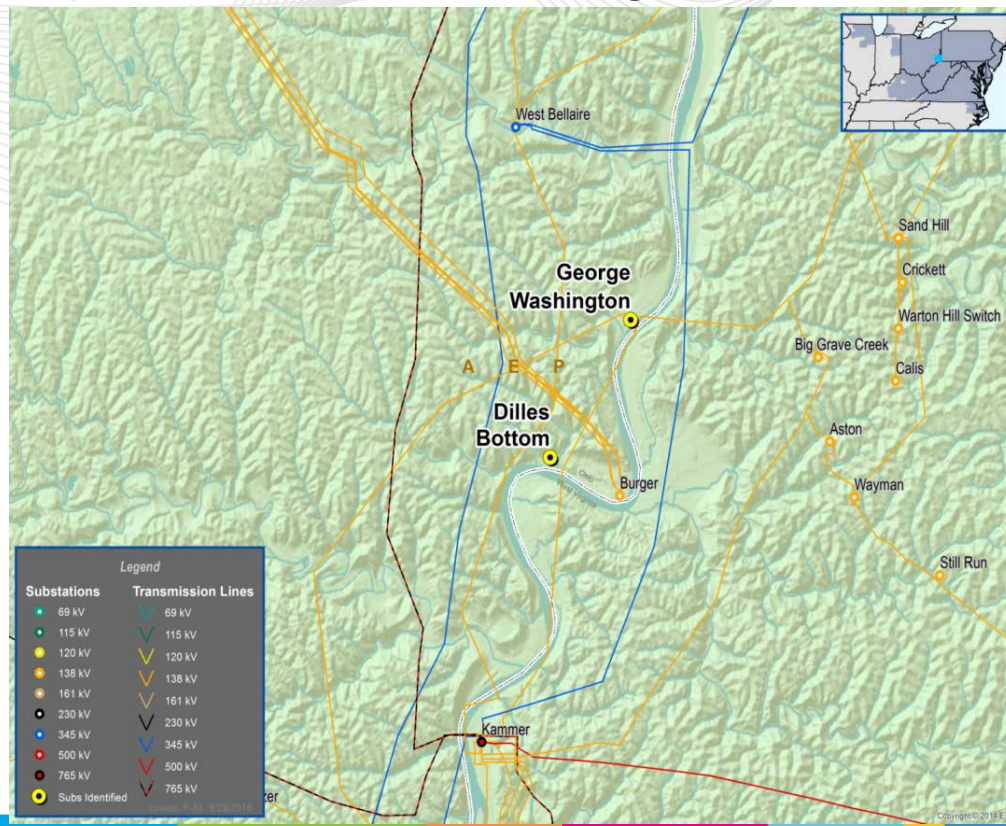
- N-1-1 Thermal Outage :
- Gable Switching Station to South Cadiz 138 kV line is overloaded for the single line contingency loss of South Canton to Harmon 345 kV line ('B2-TIE-345-803') followed by the loss of Holloway 345 kV line to Holloway 138 kV line ('8688_B3_05HOLLOW 345-1').
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- Existing Baseline Upgrade (b2753.1-b2753.8)
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate (b2753.1-b2753.8) : \$25 M
- Required IS Date: 01/01/2019
- Projected IS Date: 01/01/2019

Note: Total project cost is approximately \$49M. Currently an Interconnection Customer has cost responsibility for approximately \$29M associated with this upgrade.



Description: B2753.1 through B2753.8

- George Washington Station – Replace existing 138kV yard with GIS 138kV breaker and a half yard in existing station footprint. Install 138kV revenue metering for new IPP connection. (N5076.1/B2753.1) --AEP
- Dilles Bottom Station – Replace Dilles Bottom 69/4kV Distribution station as breaker and a half 138kV yard design including AEP Distribution facilities but initial configuration will constitute a 3 breaker ring bus. (N5076.2/B2753.2) --AEP
- Holloway Station – Connect two 138kV 6-wired ckts from “Point A” (currently de-energized and owned by First Energy) in ckt positions previously designated Burger #1 & Burger #2. Install interconnection settlement metering on both circuits exiting Holloway station. (N5076.3/B2753.3) --AEP
- Holloway-”Point A” FE “Burger-Cloverdale No.2” 138kV Line – 6 wire “Burger-Cloverdale No. 2” 138kV Line for double capacity and connect at Holloway and “Point A” (N5076.4/B2753.4) --FE
- Holloway-”Point A” FE “Burger-Longview” 138kV Line – 6 wire “Burger-Longview” 138kV Line for double capacity and connect at Holloway and “Point A” (N5076.5/B2753.5) --FE





Description: B2753.1 through B2753.8

Dilles Bottom-Point A 138kV Line - Build dbl ckt 138kV line from Dilles Bottom to “Point A”. Tie each new AEP ckt in with a 6 wired line at Point A. This will create a Dilles Bottom-Holloway 138kV ckt and a George Washington-Holloway circuit. (N5076.6/B2753.6) --AEP

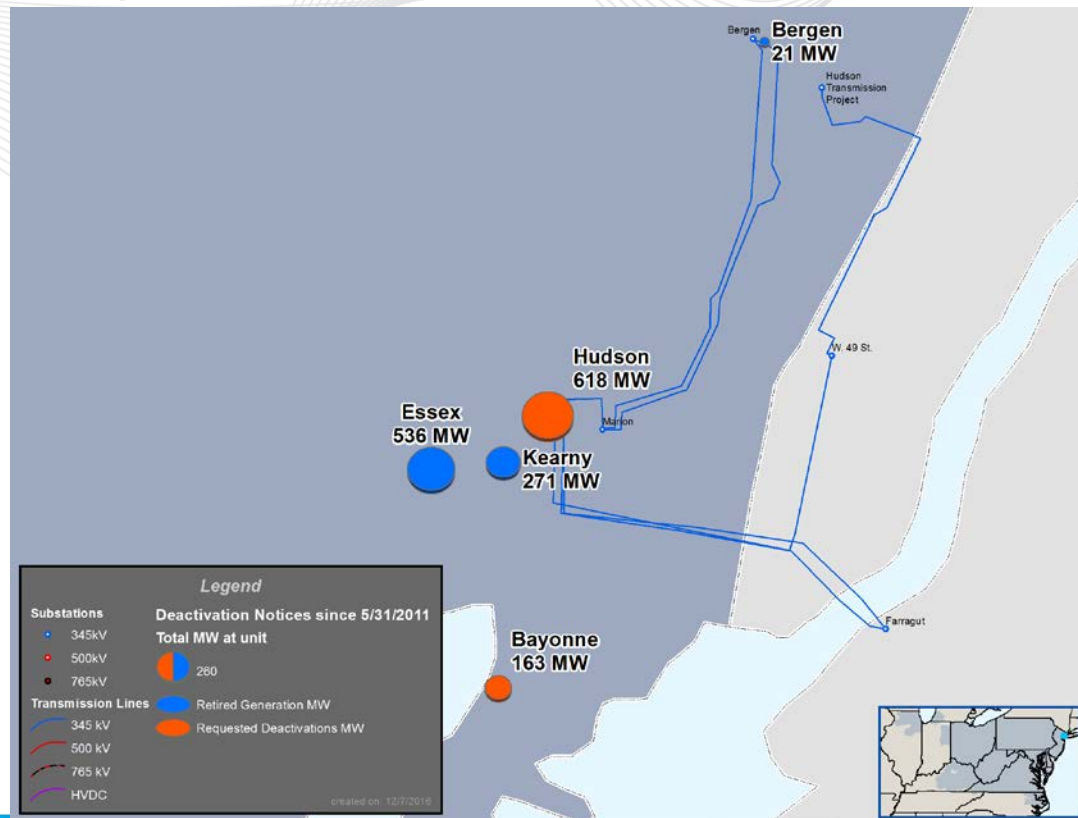
Dilles Bottom-Bellaire and Moundsville-Dilles Bottom 69kV Lines - Retire line sections south of First Energy 138kV line corridor, near “Point A”. Tie George Washington-Moundsville 69kV ckt to George Washington-West Bellaire 69kV ckt (N5076.7/B2753.7) --AEP

Washington-Dilles Bottom 69kV Line – Rebuild existing line as dbl ckt 138kV from George Washington to Dilles Bottom. One circuit will cut into Dilles Bottom initially and the other will go past with future plans to cut in. (N5076.8/B2753.8) --AEP

- Immediate Need
- Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible

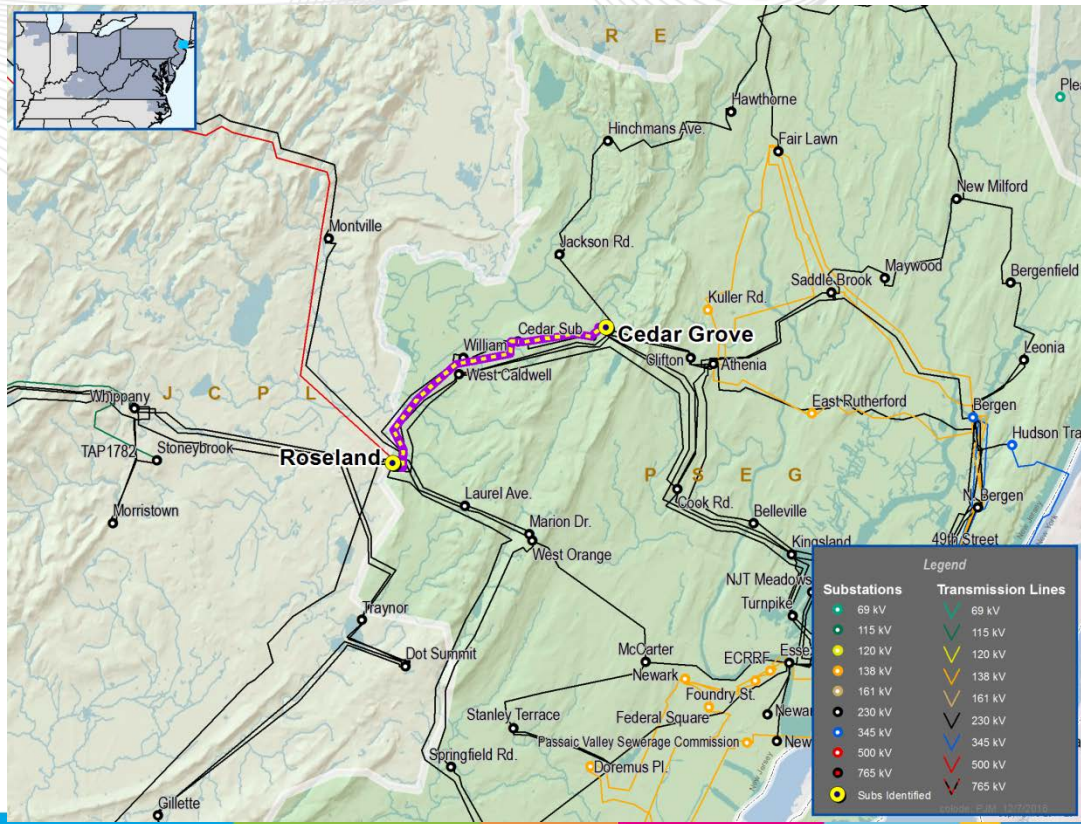
- Estimated Project Cost: \$25M (B2753.1-8)
 - B2753.1: \$0M
 - B2753.2: \$9M
 - B2753.3: \$2M
 - B2753.4: \$0.25M
 - B2753.5: \$0.25M
 - B2753.6: \$5M
 - B2753.7: \$4.96M
 - B2753.8: \$3.56M

- Hudson Unit 2
 - PSE&G Transmission Zone
 - 617.9 MW
 - Deactivation date: 06/01/2017



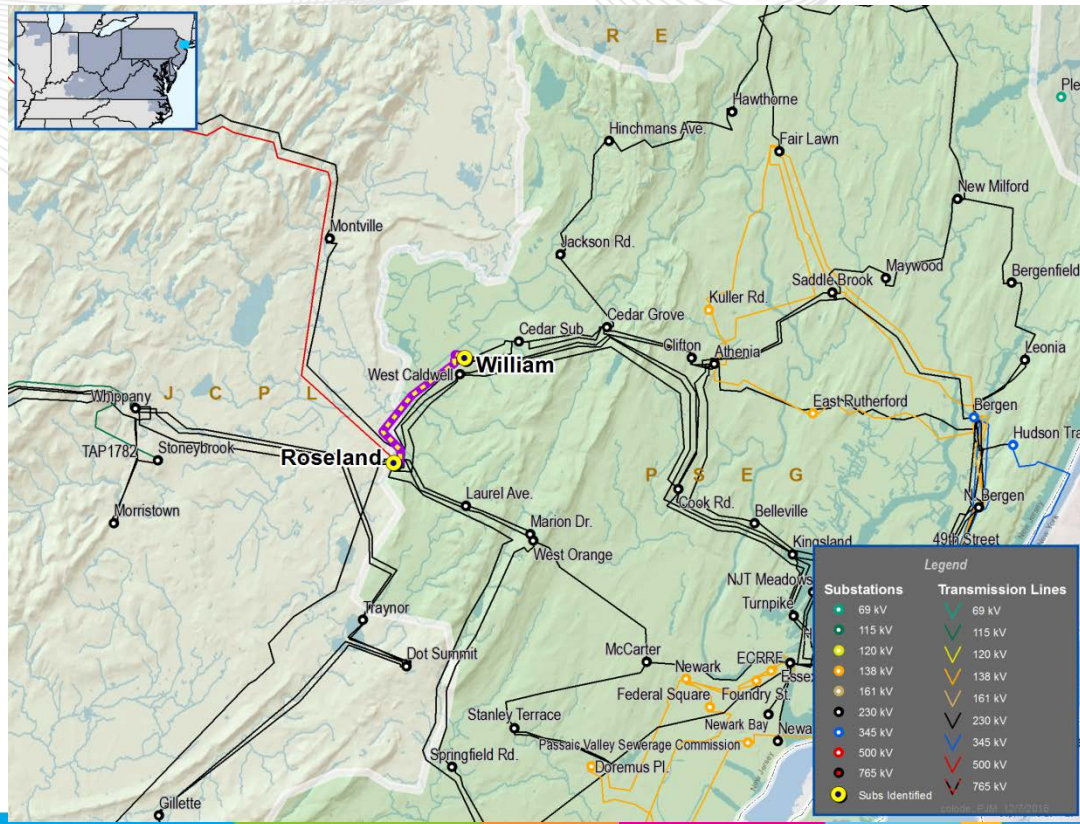
PSE&G Transmission Zone

- N-1 Thermal Outage:
- Roseland – Cedar Grove 230 kV line (PSE&G) is loaded to 122.16% of its emergency rating of 887 MVA for the single contingency loss of the Williams Pipeline to Roseland 230 kV line ('L_S-2297').
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- Existing Baseline Upgrade (b2436.21-b2436.90)- PSE&G BLC 345 kV conversion project
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate (b2436.21-b2436.90): \$698M
- Required IS Date: 6/1/2017
- Projected IS Date: 6/1/2018

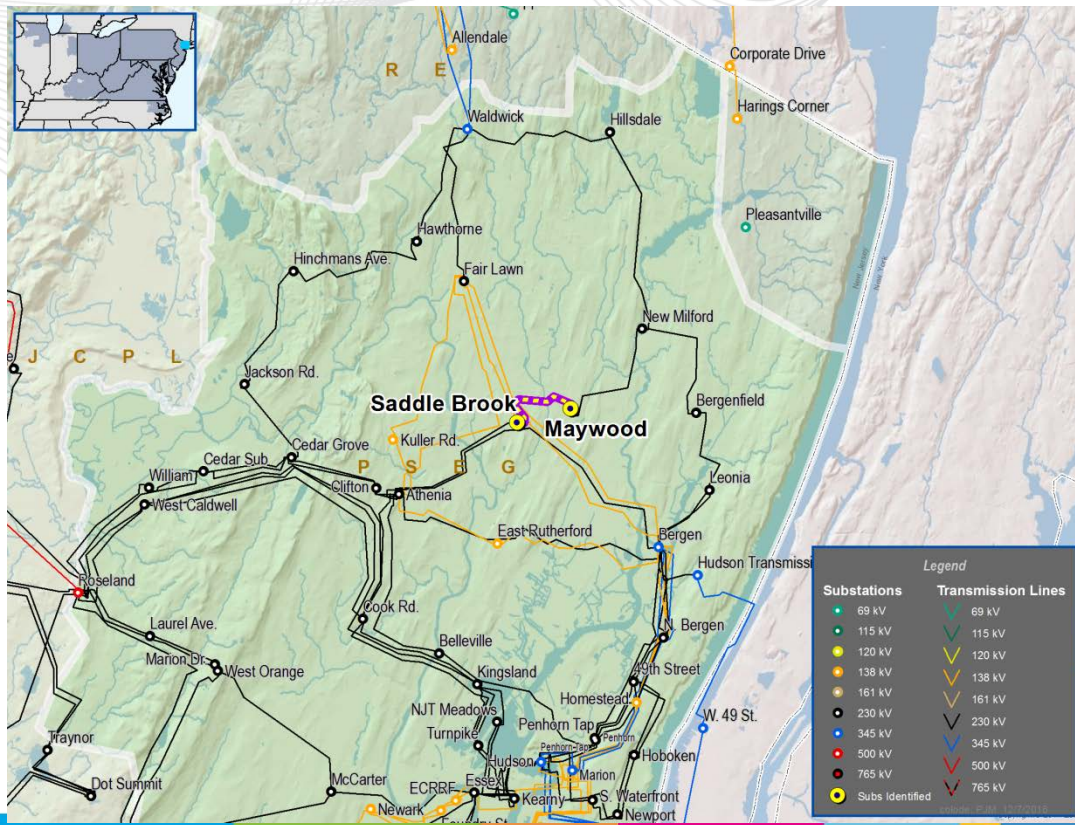


PSE&G Transmission Zone

- N-1 Thermal Outage:
- Roseland – Williams Pipeline 230 kV line (PSE&G) is loaded to 101.32% of its normal rating of 732 MVA with N-0 condition.
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- Existing Baseline Upgrade (b2436.21-b2436.90)-PSE&G BLC 345 kV conversion project
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate (b2436.21-b2436.90): \$698M
- Required IS Date: 6/1/2017
- Projected IS Date: 6/1/2018

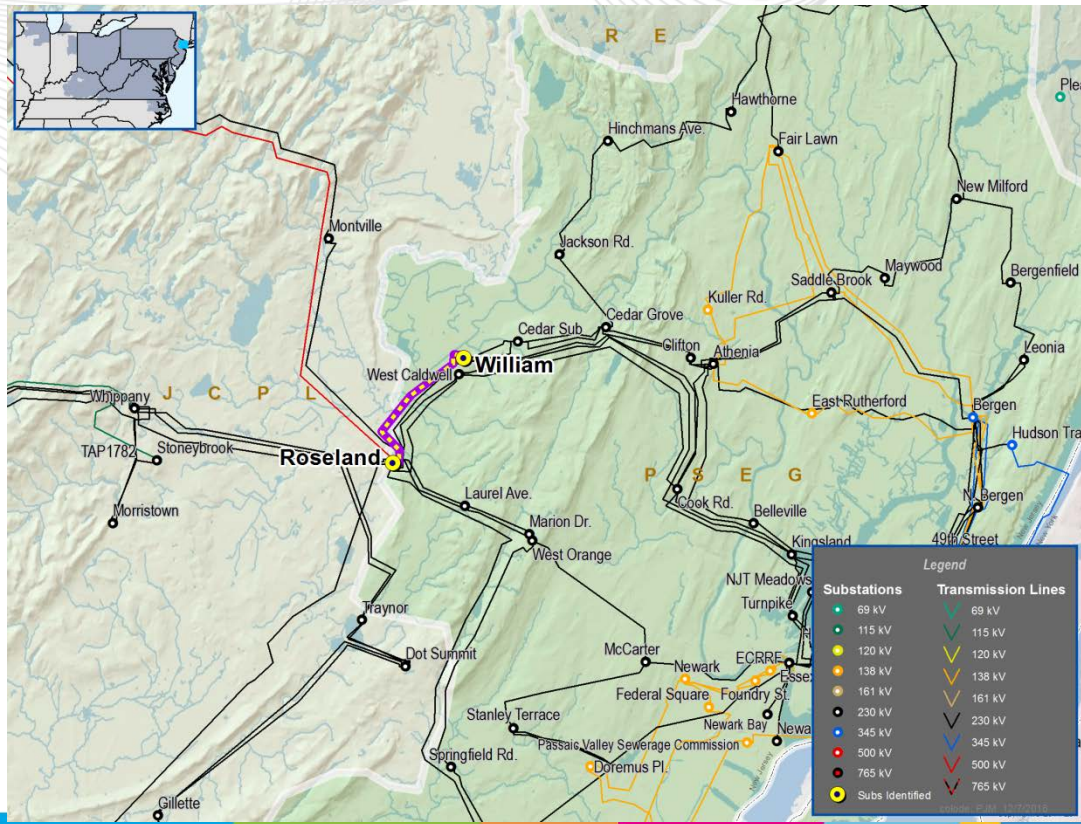


- N-1 Thermal Outage:
- Maywood – Saddle Brook 230 kV line is loaded to 103.93% of its normal rating of 400 MVA with N-0 condition.
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- Existing Baseline Upgrade (b2436.21-b2436.90)- PSE&G BLC 345 kV conversion project
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate (b2436.21-b2436.90): \$698M
- Required IS Date: 6/1/2017
- Projected IS Date: 6/1/2018



PSE&G Transmission Zone

- Generator Deliverability Outage:
- Roseland – Willems Pipeline 230 kV line (PSEG) is loaded to 118.3% of its emergency rating of 887 MVA for the single contingency loss of the Cedar Grove to Roseland 230 kV line ('L_Y-227').
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- Existing Baseline Upgrade (b2436.21-b2436.90)- PSE&G BLC 345 kV conversion project
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate (b2436.21-b2436.90): \$698M
- Required IS Date: 6/1/2017
- Projected IS Date: 6/1/2018



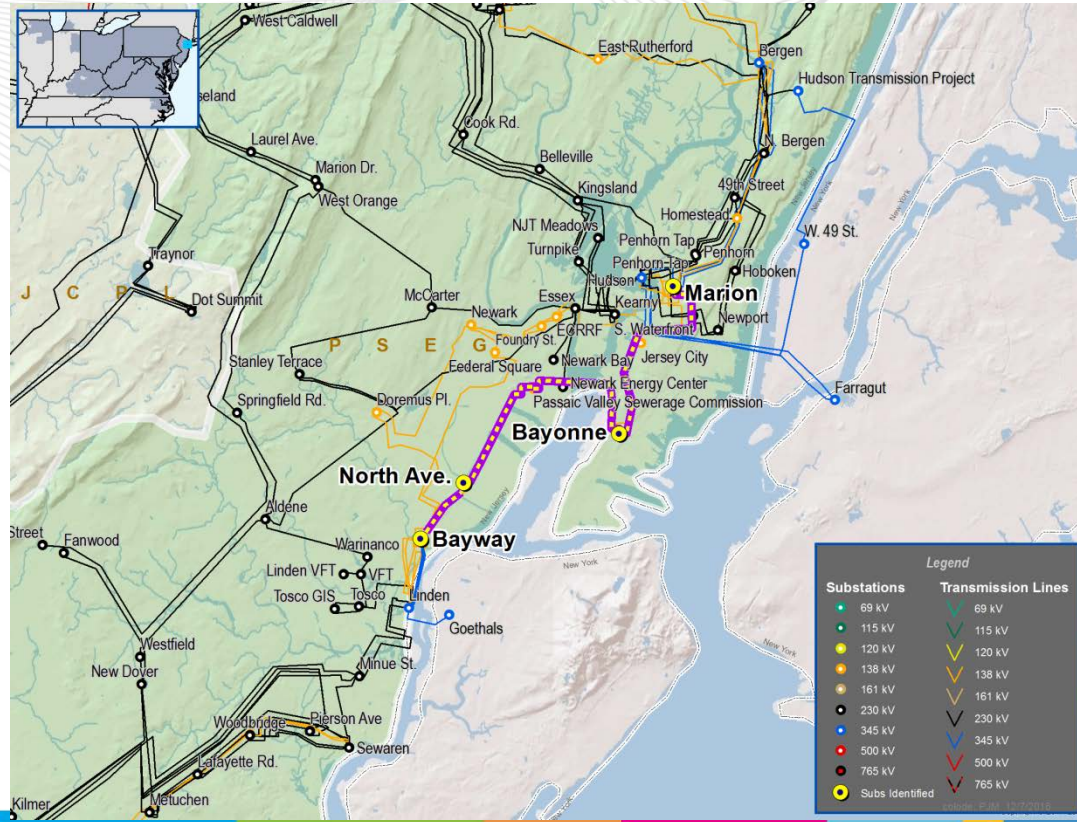
Description: B2436.21 through B2436.90

Marion – Bayonne - Convert the Marion - Bayonne "L" 138 kV circuit to 345 kV and any associated substation upgrades. (B2436.21) – PSE&G

Marion – Bayonne - Convert the Marion - Bayonne "C" 138 kV circuit to 345 kV and any associated substation upgrades. (B2436.22) – PSE&G

Bayway – Bayonne - Construct a new Bayway - Bayonne 345 kV circuit and any associated substation upgrades. (B2436.33) – PSE&G

North Ave – Bayonne - Construct a new North Ave - Bayonne 345 kV circuit and any associated substation upgrades. (B2436.34) – PSE&G





North Ave – Airport - Construct a new North Ave - Airport 345 kV circuit and any associated substation upgrades. (B2436.50) – PSE&G

North Ave – Bayway - Relocate the underground portion of North Ave - Linden "T" 138 kV circuit to Bayway, convert it to 345 kV, and any associated substation upgrades. (B2436.60) – PSE&G

Airport – Bayway - Construct a new Airport - Bayway 345 kV circuit and any associated substation upgrades. (B2436.70) – PSE&G

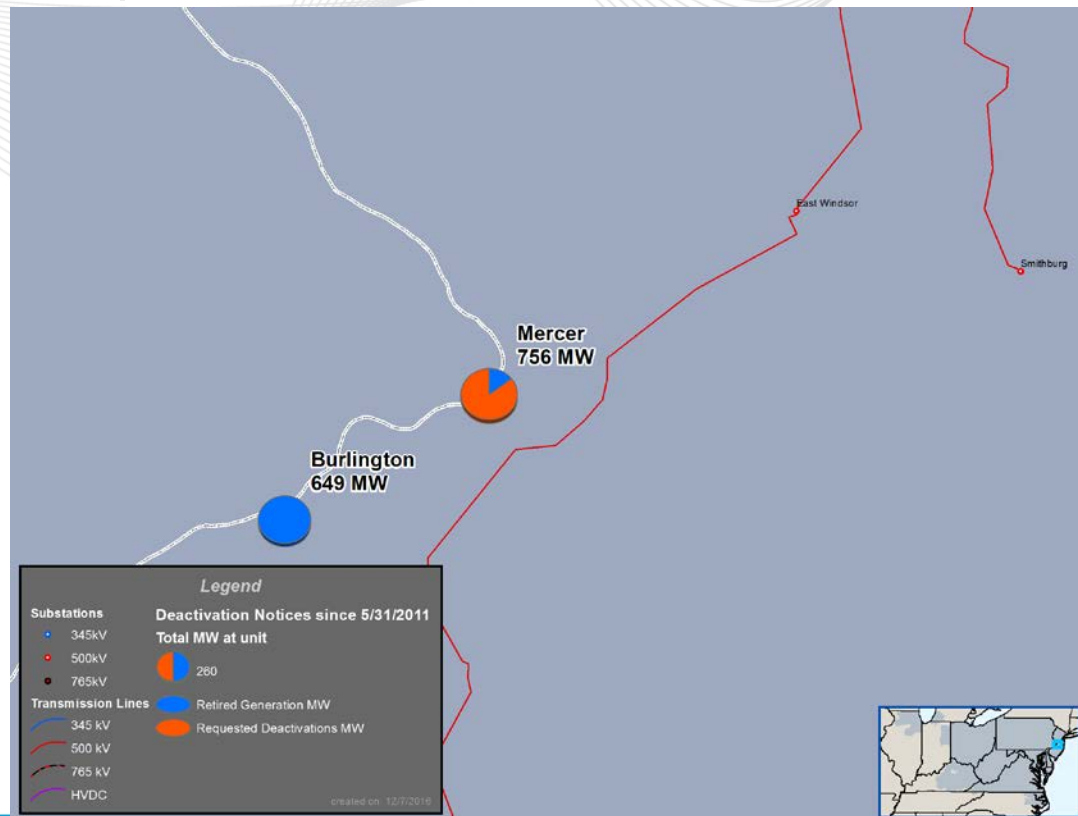
Farragut – Hudson - Relocate Farragut - Hudson "B" and "C" 345 kV circuits to Marion 345 kV and any associated substation upgrades. (B2436.90) – PSE&G

Description: B2436.21 through B2436.90

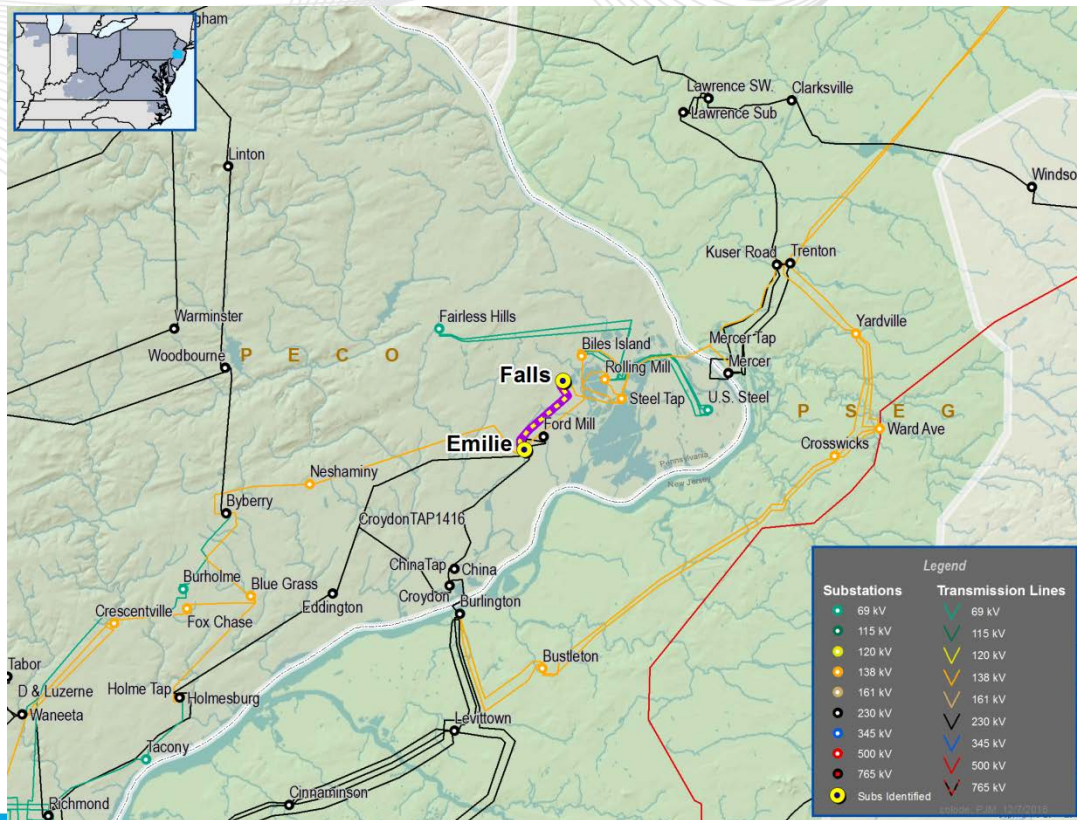
- Immediate Need
- Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Impacts identified and will be resolved by existing baseline upgrades that are scheduled to be completed by May 2018. Interim operating measures identified and unit expected to deactivate as scheduled
- Estimated Project Cost: \$698M (B2436.21-90)
 - B2436.21: \$67.82M
 - B2436.22: \$56.64M
 - B2436.33: \$160.38M
 - B2436.34: \$139.77M
 - B2436.50: \$80.43M
 - B2436.60: \$52.75M
 - B2436.70: \$102M
 - B2436.90: \$38.25M

Deactivation Update: Deactivation Notifications

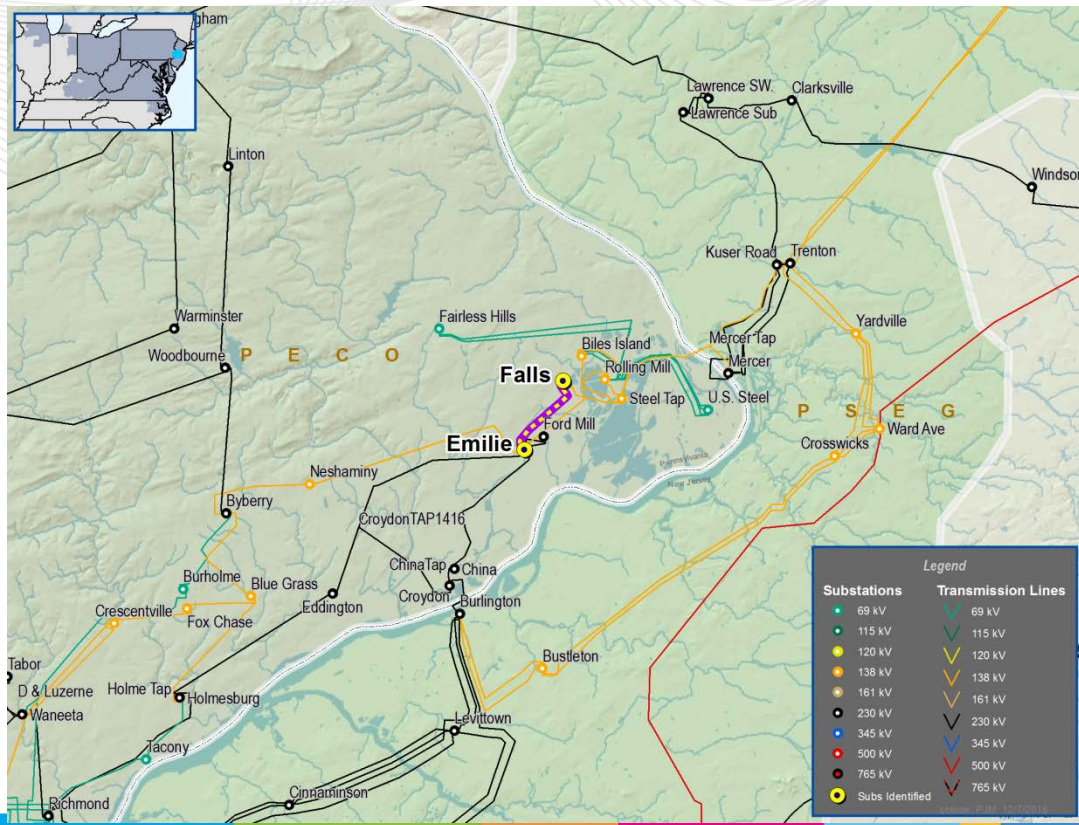
- Mercer 1&2
 - PSE&G Transmission Zone
 - 641.3MW
 - Deactivation date: 06/01/2017



- Generator Deliverability Outage:
- Emilie – Falls 138 kV line (PECO) is loaded to 124.38% of its emergency rating of 248 MVA for the single contingency loss of the Emilie to Neshaminy 138 kV line ('130-25/* \$BUCKS \$ 130-25 \$ L')
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- New Baseline Upgrade (b2774)- Reconductor the Emilie - Falls 138 kV line, and replace station cable and relay
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate (b2774): \$4.5M
- Required IS Date: 6/1/2017
- Projected IS Date: 12/15/2019

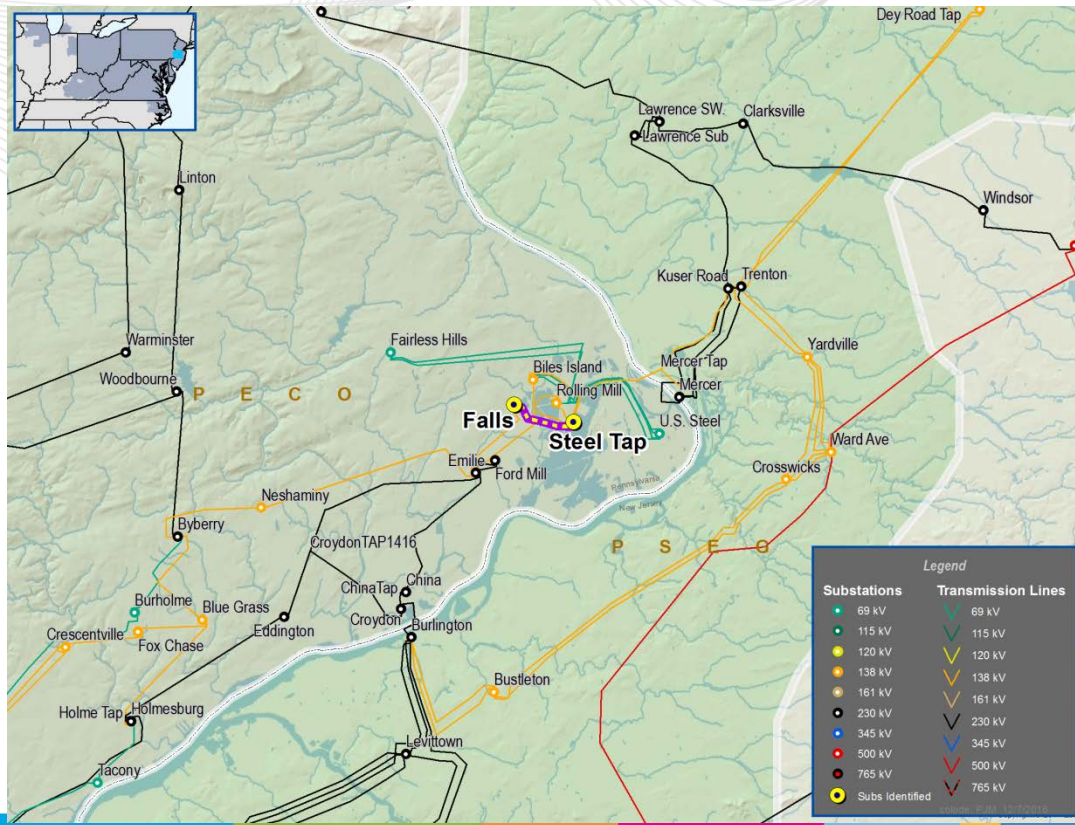


- Generator Deliverability Outage:
- Emilie – Falls 138 kV line (PECO) is loaded to 122.97% of its emergency rating of 248 MVA for the breaker failure contingency loss of the Neshaminy 138 kV bus ('NESHANEW/* \$ BUCKS \$ NESHANEW \$ STBK').
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- New Baseline Upgrade (b2774)- Reconductor the Emilie - Falls 138 kV line, and replace station cable and relay
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate (b2774): \$4.5M
- Required IS Date: 6/1/2017
- Projected IS Date: 12/15/2019



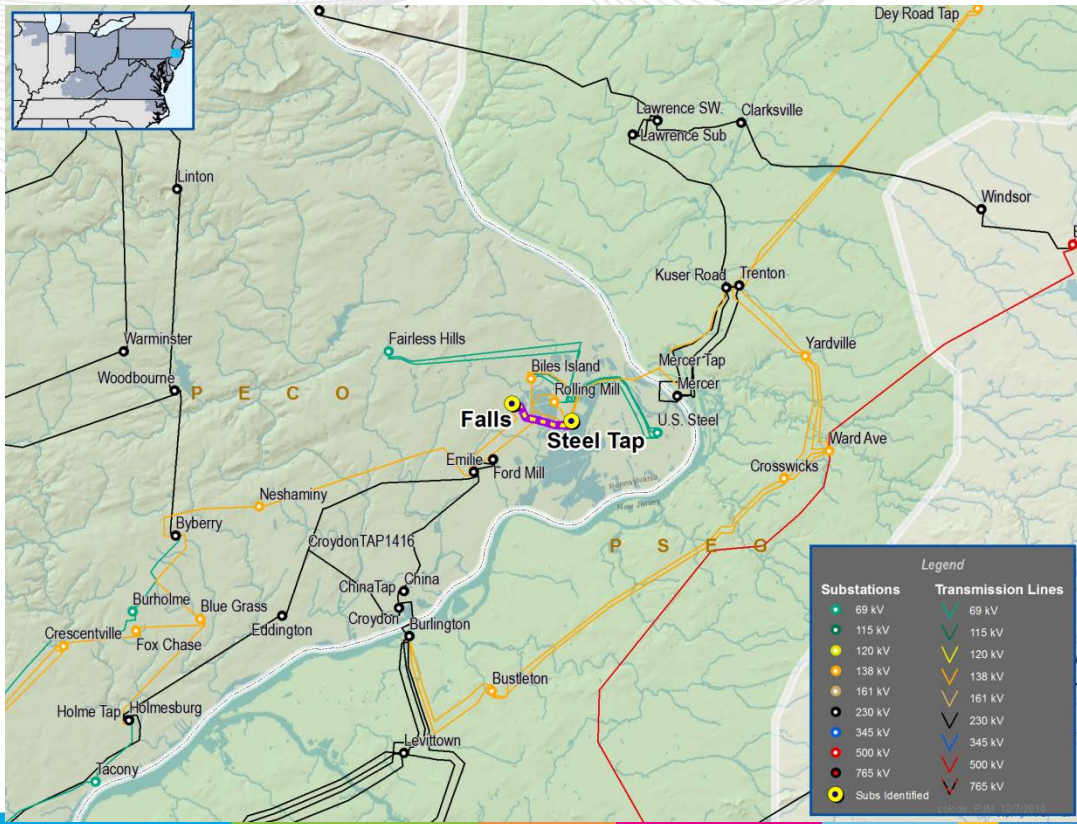
PECO Transmission Zone

- Generator Deliverability Outage:
- Falls – US Steel 138 kV line (PECO) is loaded to 109.67% of its emergency rating of 248 MVA for the single contingency loss of the Emilie to Neshaminy 138 kV line ('130-25/* \$BUCKS \$ 130-25 \$ L')
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- New Baseline Upgrade (b2775)- Reconductor the Falls – US Steel 138 kV line
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate (b2775): \$2.5M
- Required IS Date: 6/1/2017
- Projected IS Date: 12/15/2019

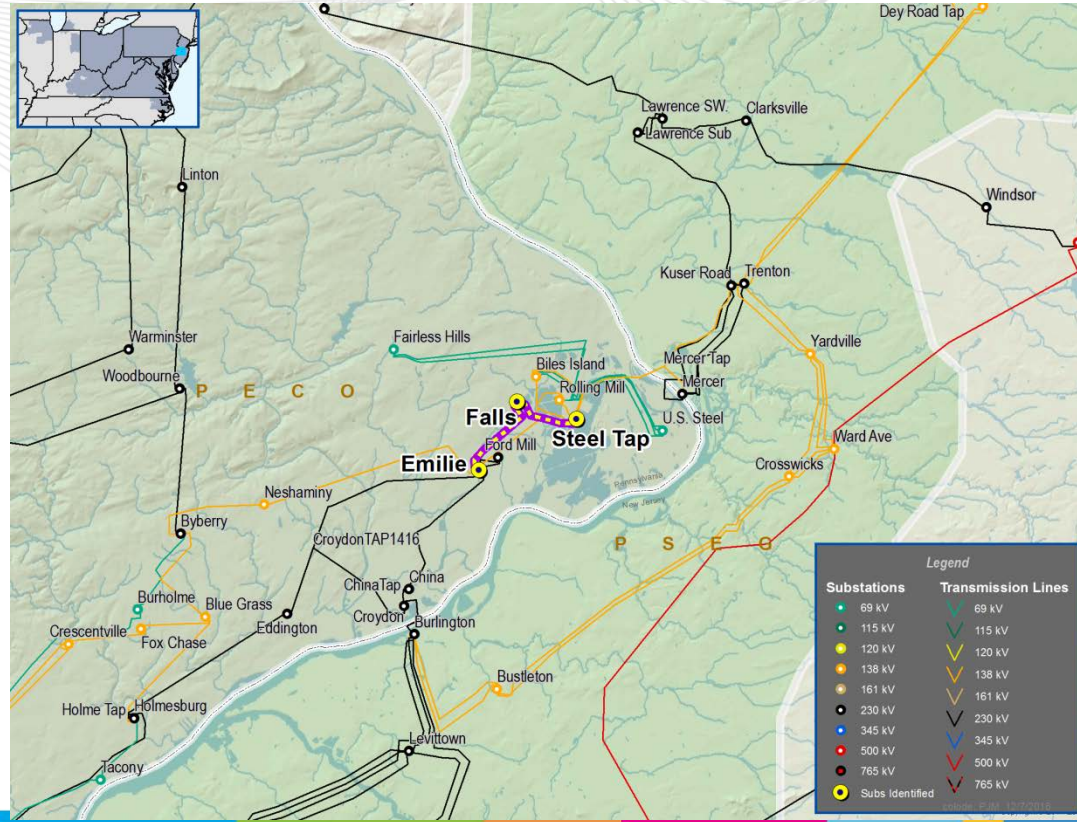


PECO Transmission Zone

- Generator Deliverability Outage:
- Falls – US Steel 138 kV line (PECO) is loaded to 108.18% of its emergency rating of 248 MVA for the breaker failure contingency loss of the Neshaminy 138 kV bus ('NESHANEW/* \$ BUCKS \$ NESHANEW \$ STBK').
- Immediate Need
 - Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Alternatives Considered
 - Due to the immediate need of the project no alternatives were considered
- New Baseline Upgrade (b2775)- Reconductor the Falls – US Steel 138 kV line
- Construction Designation
 - Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Cost estimate (b2775): \$2.5M
- Required IS Date: 6/1/2017
- Projected IS Date: 12/15/2019



- Emilie – Falls 138 kV - Reconductor the Emilie - Falls 138 kV line, and replace station cable and relay. (B2774) – PECO
- Falls – U.S. Steel 138 kV - Reconductor the Falls – US Steel 138 kV line. (B2775) – PECO
- Immediate Need
- Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Impacts identified and will be resolved by upgrades that are scheduled to be completed in 2019. Interim operating measures identified and unit expected to deactivate as scheduled.
- Estimated Project Cost: \$7M (B2774-5)
- B2274: \$4.5M
- B2275: \$2.5M



- V1 – 12/12/2016 – Original Slides Posted
- V2 – 12/14/2016 – Updated slides 25-29 to correct baseline upgrade ID #s and costs
- V3 – 1/9/2017 – Updated contingency definition on slides 25 and 27