

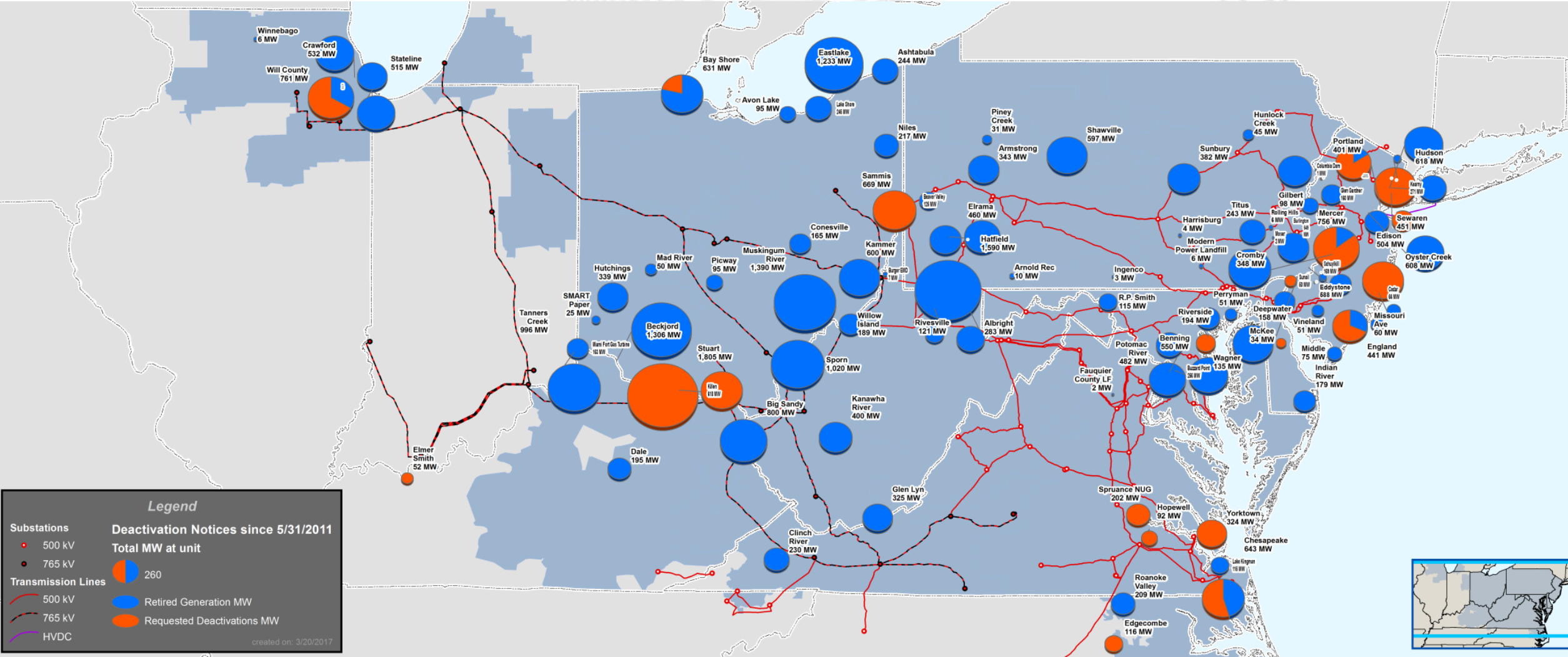


Generation Deactivation Notification Update

Transmission Expansion Advisory
Committee

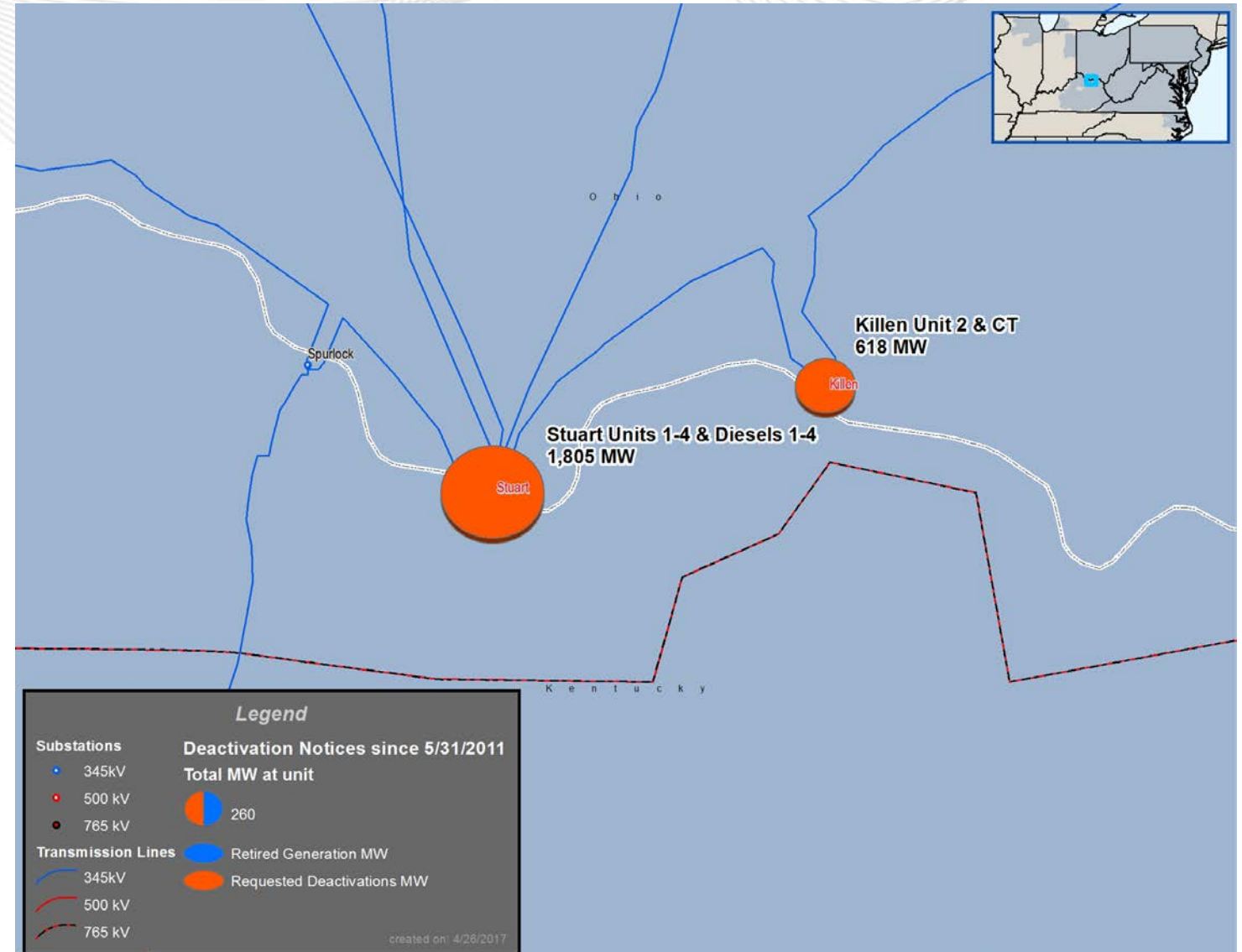
May 4, 2017





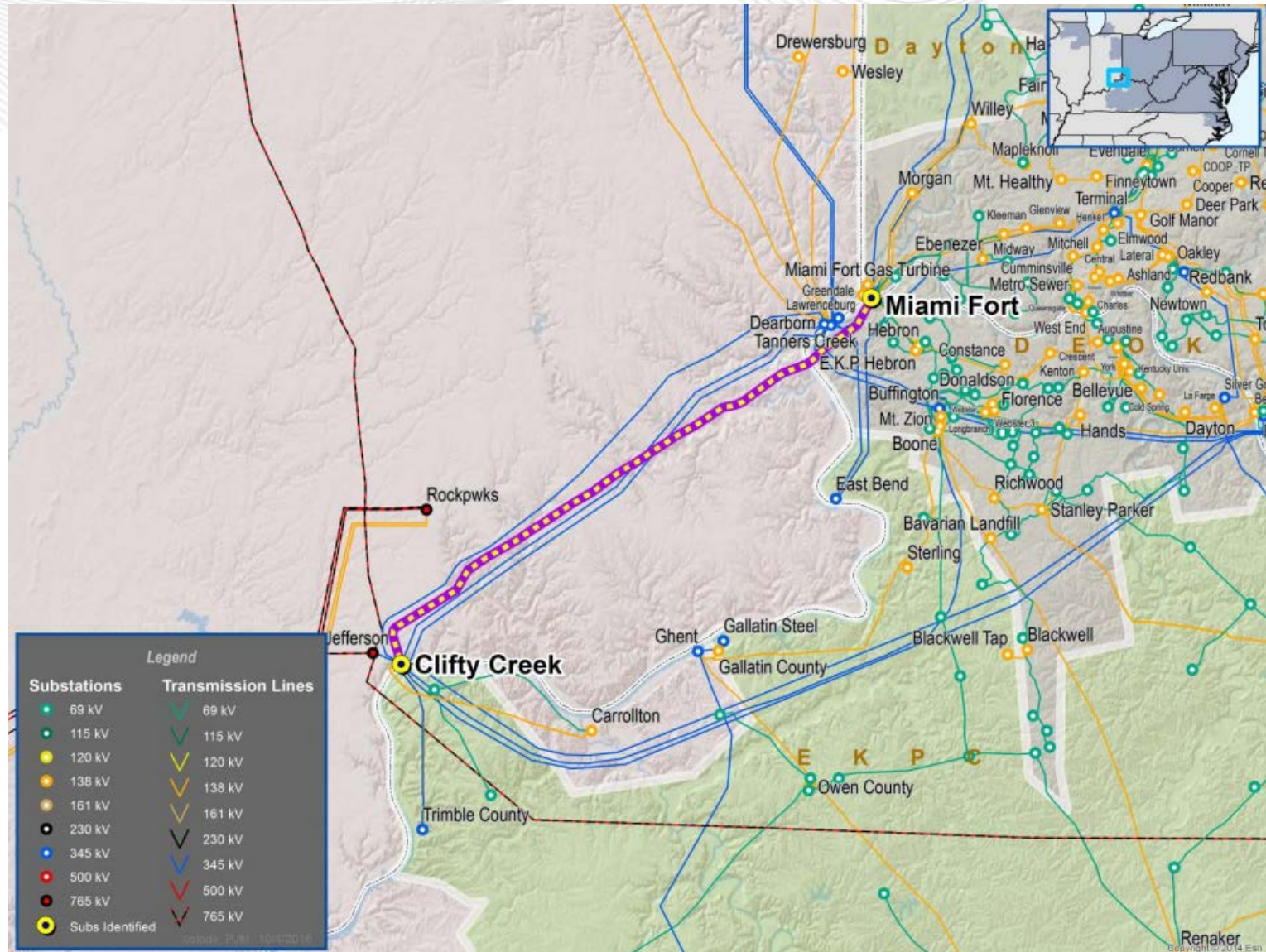
Unit(s)	Transmission Zone	Requested Deactivation Date	PJM Reliability Status
Stuart 1 (580.6 MW)	Dayton	6/1/2018	Reliability analysis complete. Impacts identified. Existing approved baseline upgrades address some of the identified impacts and two new baseline projects have been initiated to address the remaining impacts identified.
Stuart 2 (580 MW)	Dayton	6/1/2018	
Stuart 3 (580.4 MW)	Dayton	6/1/2018	
Stuart 4 (577 MW)	Dayton	6/1/2018	
Stuart Diesels 1-4 (9.2 MW)	Dayton	6/1/2018	
Killen 2 (600 MW)	Dayton	6/1/2018	
Killen CT (18 MW)	Dayton	6/1/2018	

- Dayton Transmission Zone
- Deactivation date: 06/01/2018
- Stuart
 - Unit 1 580.6 MW
 - Unit 2 580 MW
 - Unit 3 580.4 MW
 - Unit 4 577 MW
 - Diesels 1-4 9.2 MW
- Killen
 - Unit 2 600 MW
 - CT 18 MW



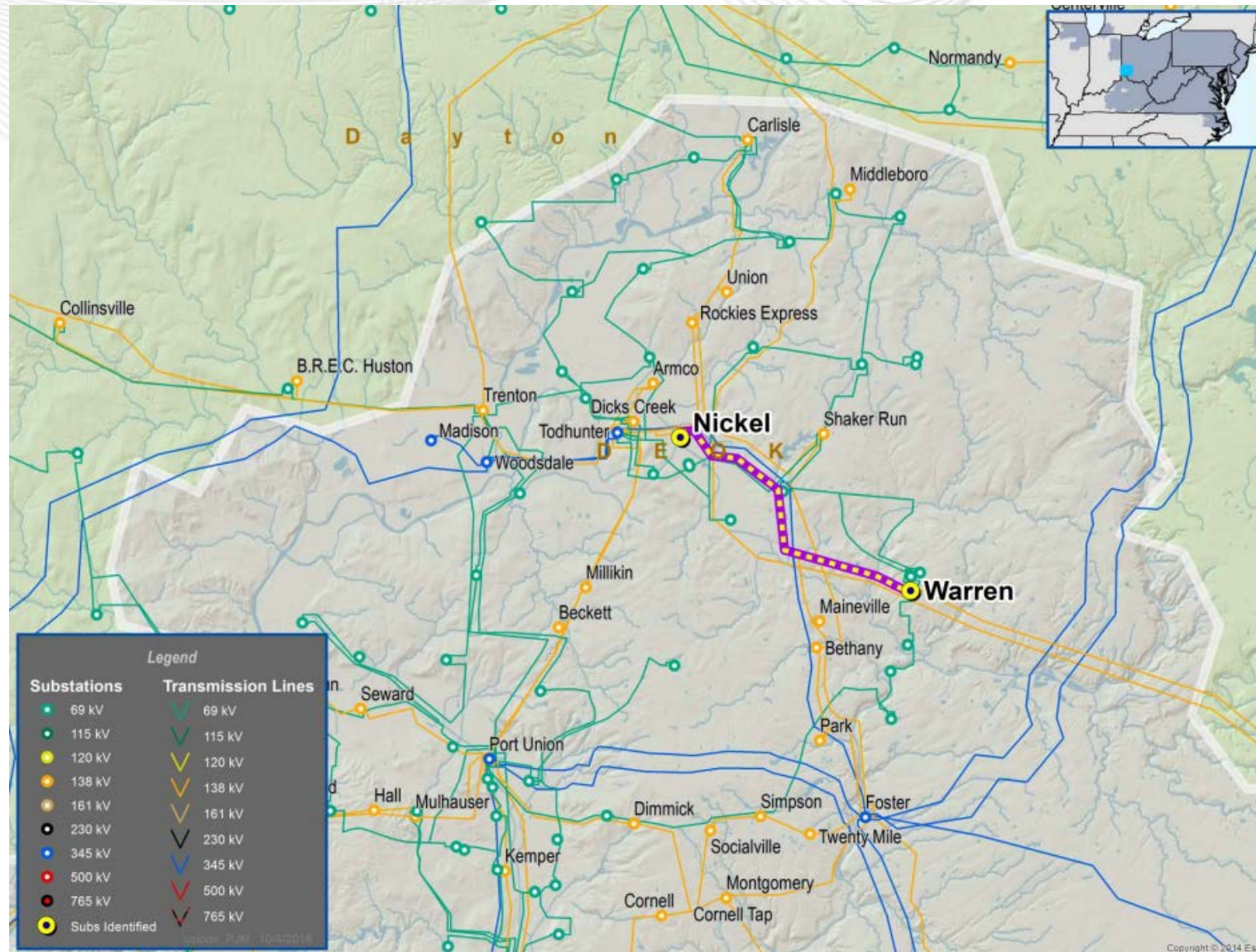
DEOK Transmission Zone

- Generation Deliverability Outage:
- Clifty Creek – Miami Fort 138 kV line is overloaded for the tower contingency tripping the 2 Clifty Creek – Dearborn 345 kV lines
- Existing Baseline Upgrade (b2828) previously approved by the PJM Board resolves the issue
 - Install 5% reactors at Miami Fort 138 kV to limit current
- Cost estimate: \$1M
- Required IS Date: 06/01/2018
- Projected IS Date: 06/01/2021 (TO determining if acceleration is possible)



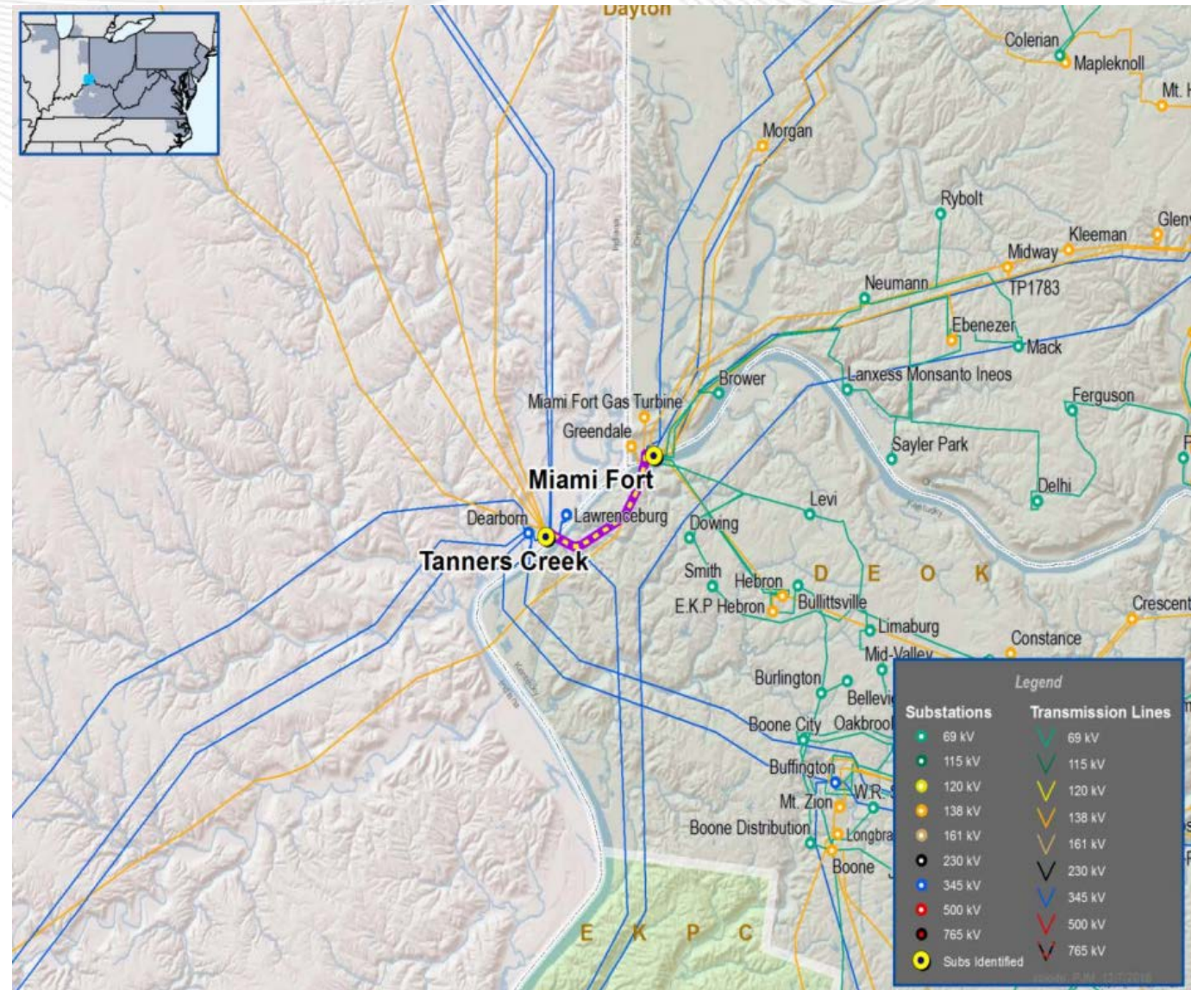
DEOK Transmission Zone

- Generation Deliverability Outage:
- Nickel – Warren 138 kV line is overloaded for the tower contingency tripping the Todhunter – Rockies Express 138 kV line and the Foster – Garver 345 kV line
- Existing Baseline Upgrade (b2830) previously approved by the PJM Board resolves the issue
 - Expand Garver 345 kV sub to include 138 kV
- Cost estimate: \$18.7M
- Required IS Date: 06/01/2018
- Projected IS Date: 06/01/2021 (TO determining if acceleration is possible)

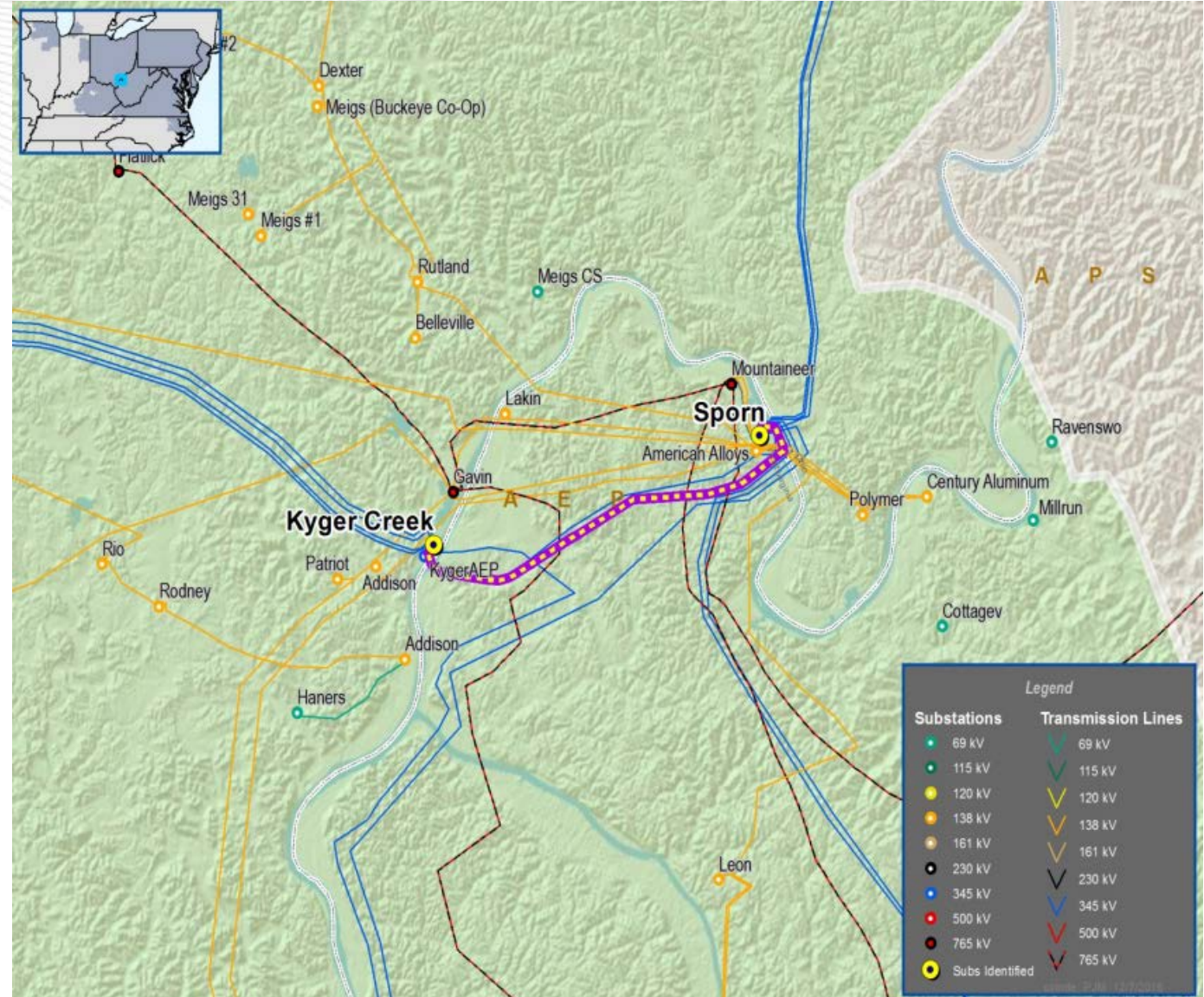


AEP and DEOK Transmission Zones

- Generation Deliverability and Load Deliverability Outage:
- Tanners Creek – Miami Fort 345 kV line is overloaded for the loss of the Terminal – East Bend 345 kV line
- Existing Baseline Upgrade (b2831) previously approved by the PJM Board resolves the issue
 - Upgrade Tanners Creek – Miami Fort 345 kV line
- Cost estimate: \$7.8M
- Required IS Date: 06/01/2018
- Projected IS Date: 12/01/2021 (TO determining if acceleration is possible)

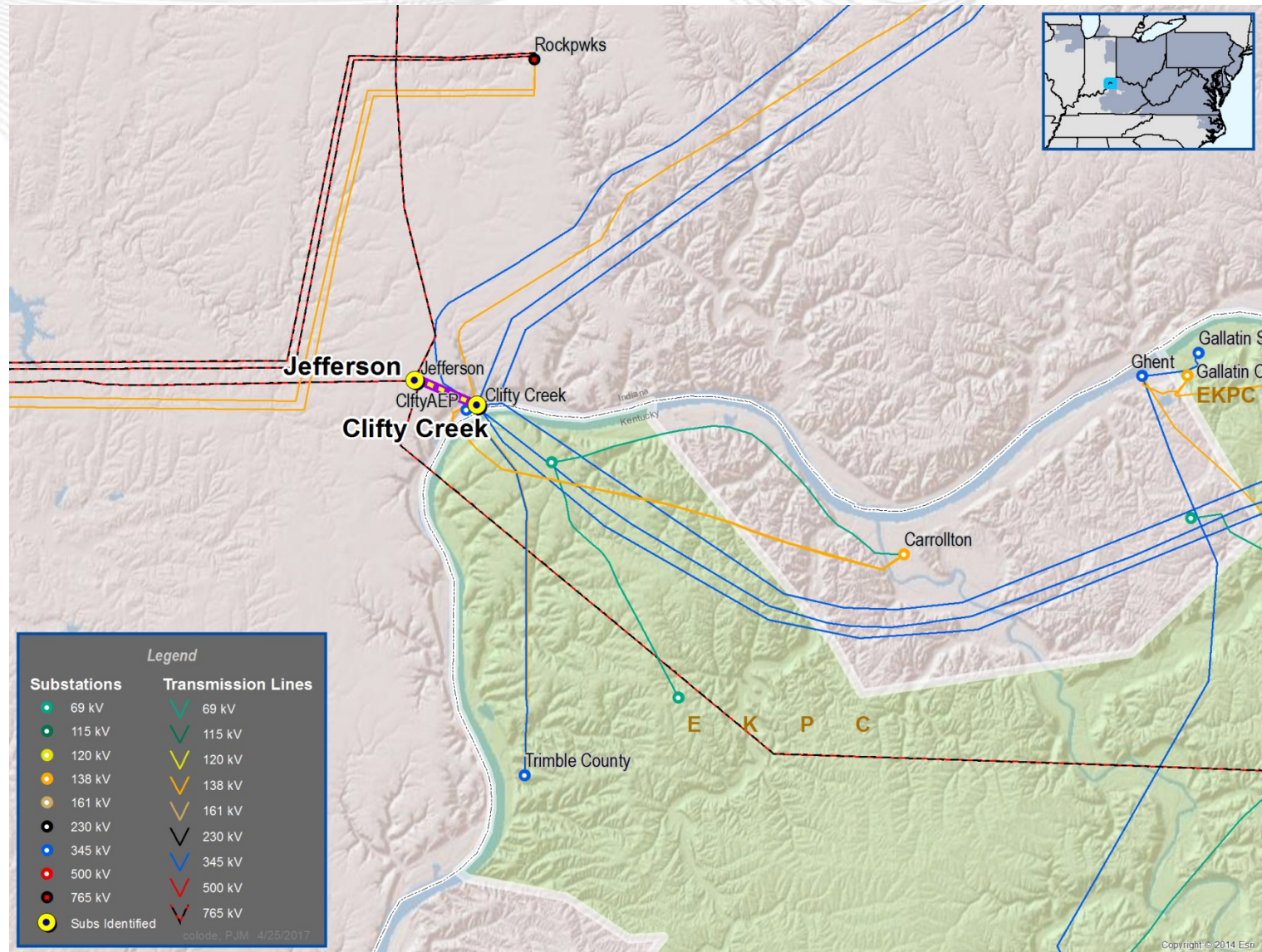


- Generation Deliverability Outage:
- Kyger Creek – Sporn 345 kV circuit 2 is overloaded for the loss of the Kyger Creek – Sporn 345 kV circuit 1
- Existing Baseline Upgrade (b2832) previously approved by the PJM Board resolves the issue
 - Combine 2 existing Kyger Creek – Sporn lines into a single six-wire line
- Cost estimate: \$0.3M
- Required IS Date: 06/01/2018
- Projected IS Date 06/01/2019



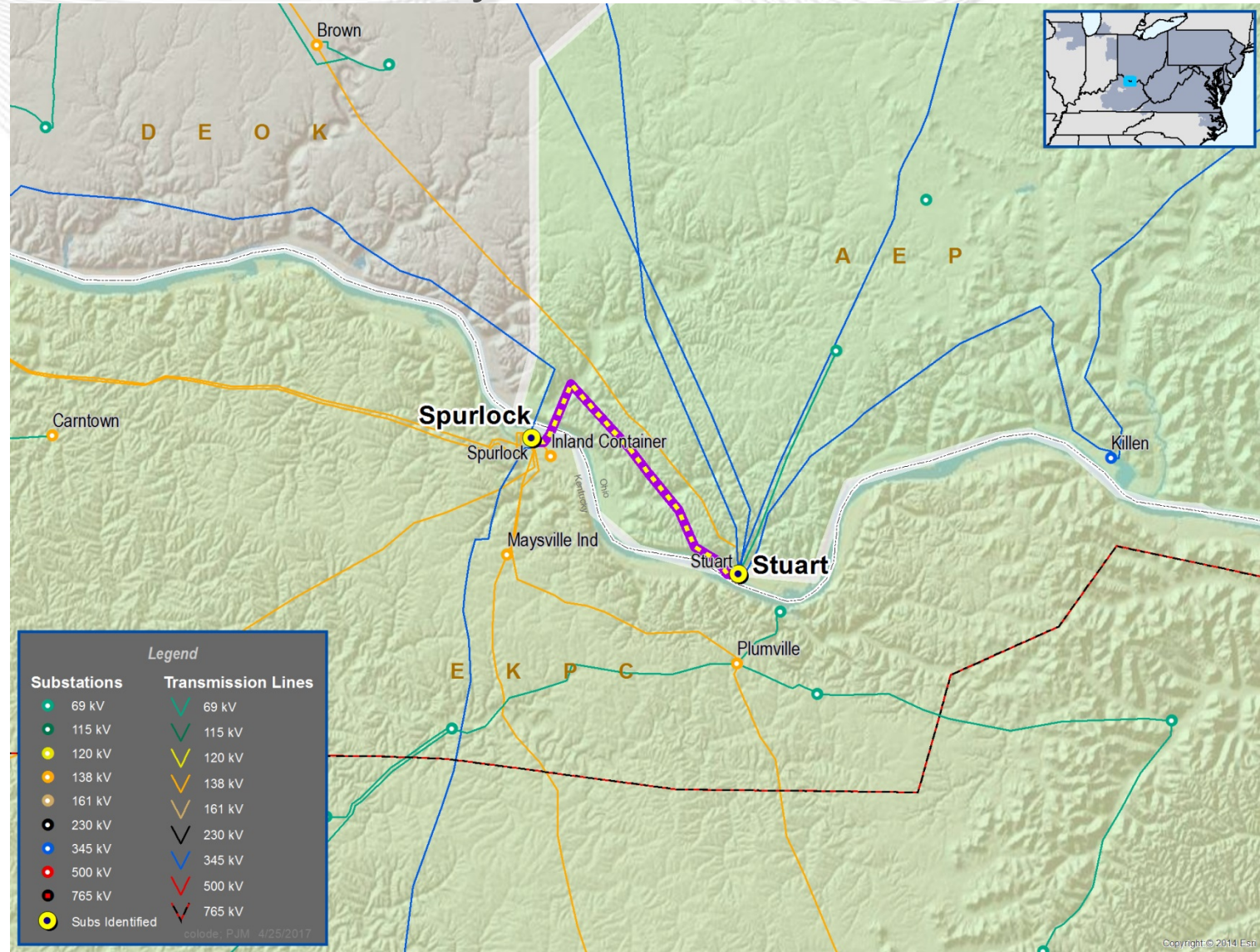
AEP Transmission Zone

- Generation Deliverability Outage:
- Jefferson – Clifty Creek 345 kV line is overloaded for the stuck breaker contingency tripping the Greentown – Jefferson 765 kV line and the Hanging Rock – Jefferson 765 kV line
- New Baseline Upgrade (b2878) increase rating of the Jefferson – Clifty Creek 345 kV line
- Cost estimate: \$0.1M
- Required IS Date: 06/01/2018
- Projected IS Date: 06/01/2019

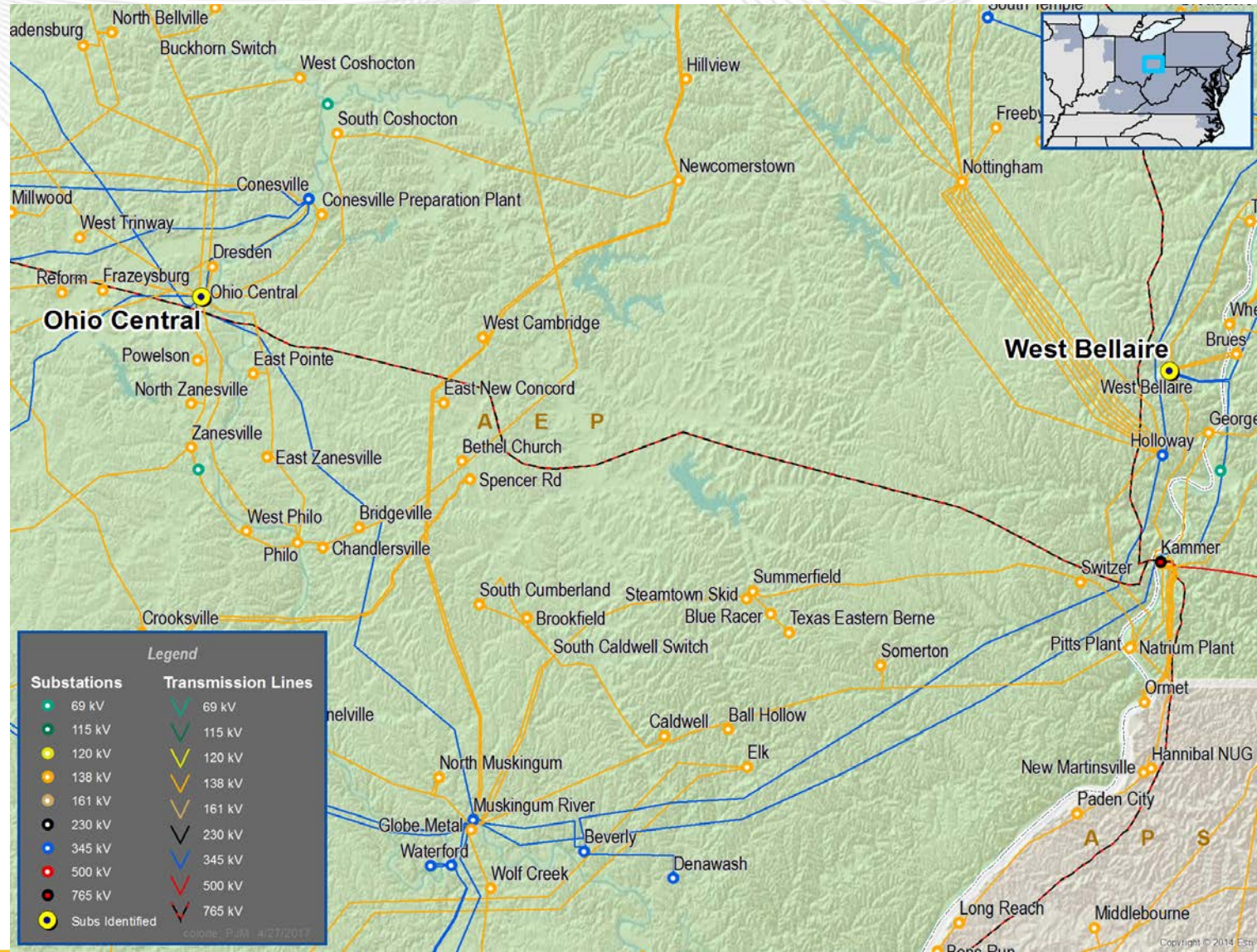


EKPC and Dayton Transmission Zones

- Generation Deliverability Outage:
- Spurlock – Stuart 345 kV line is overloaded for the loss of the Silver Grover – Zimmer – Red Bank 345 kV line
- New Baseline Upgrade (b2879) – upgrade Stuart – Spurlock 345 kV line
- Cost estimate: \$2.5M
- Required IS Date: 06/01/2018
- Projected IS Date: 12/31/2018



- Ongoing high voltages on the EHV system have been occurring in AEP and surrounding areas under light load conditions
- Existing Baseline Upgrades mitigate high voltage issues
 - B2826.1: Install 300 MVAR reactor at Ohio Central 345 kV substation (\$5M)
 - B2826.2: Install 300 MVAR reactor at West Bellaire 345 kV substation (\$5M)
- Cost estimate: \$10M
- Required IS Date: 06/01/2018
- Projected IS Date: 09/01/2018





Description: baseline upgrade cost and timing

- Immediate Need
- Due to the timing of the need for the reinforcement an RTEP proposal window is infeasible
- Due to the immediate need, the local Transmission Owner will be the Designated Entity
- Estimated Project Cost: \$39.6M
 - B2828: \$1M
 - B2830: \$18.7M
 - B2831: \$7.8M
 - B2832: \$0.3M
 - B2878: \$0.1M
 - B2879.1: \$0.09M
 - B2879.2: \$1.61M
 - B2826: \$10M
- PJM is working with affected Transmission Owners to determine what interim operational measures can be taken for the period between the Required In-Service Date and the Projected In-Service Date for those projects that cannot be completed by 06/01/2018
- Projected In-Service
 - B2828: 06/01/2021
 - B2830: 06/01/2021
 - B2831: 12/01/2021
 - B2832: 06/01/2019
 - B2878: 06/01/2019
 - B2879.1: 06/01/2018
 - B2879.2: 12/31/2018
 - B2826: 09/01/2018

- V1 – 5/1/2017 – Original Slides Posted