Reliability Analysis Update

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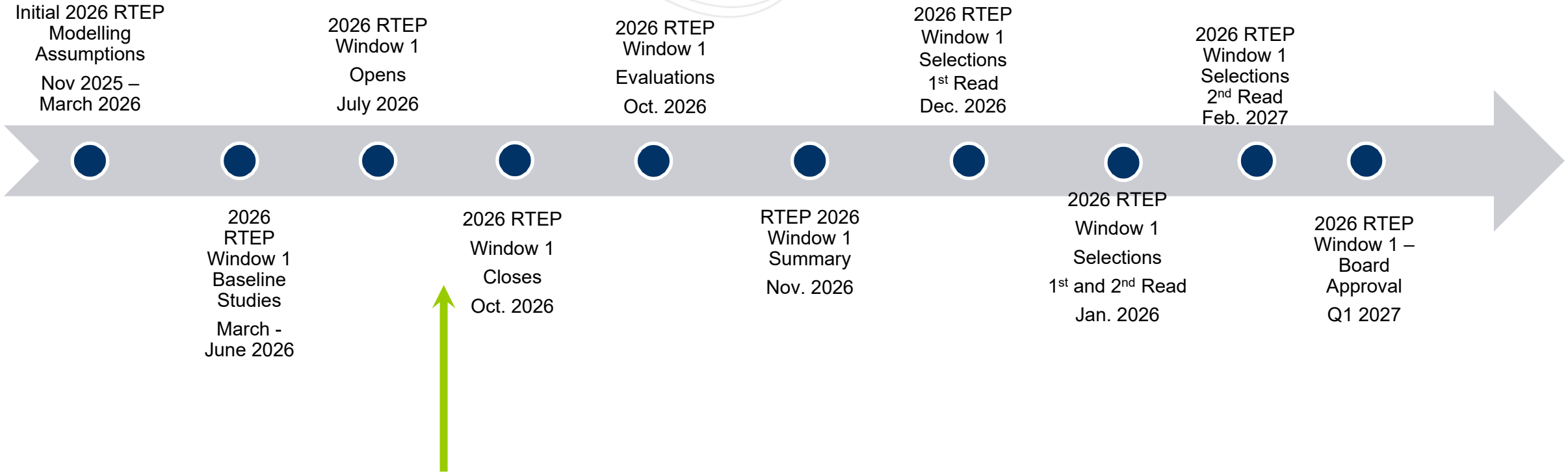
Transmission Expansion Advisory Committee
September 8, 2026

2026 RTEP Window 1 Update

2026 RTEP Window 1 – Timeline



2026 RTEP Window 1 Update

- Current schedule
  - 2026 RTEP proposal Window 1 opened on July 20th, 2026, and will close on October 12, 2026 (extending the 2026 RTEP Window for three weeks from the original closing date)
  - Updated Window 1 files/results and window problem statement were reposted on August 21st to reflect ComEd load forecast update
    - On July 30th, 2026, PJM was informed by Exelon of an anticipated reduction in the ComEd load forecast resulting from the latest information about the firmness of commitments from customers.
    - 1.3GW load reduction for 2031; 3.3GW load reduction for 2034
- Window summary and solutions to be brought forward to the TEAC starting in November 2026 through January 2027
- Board approvals in Quarter 1 of 2027

Updated Problem Statement

- The 2026 RTEP competitive process window No. 1 focuses on addressing the near-term reliability needs of PJM interconnection identified through PJM's five-year planning analyses. PJM plans to further refine and complement the planning solutions needed for the entire PJM interconnection part of the 2027 RTEP cycle once the 2026 PJM Reliability Backstop Procurement (RBP) is concluded and announced.

- PJM is not specifically encouraging right-sized solutions to address needs in the 8-year planning models at this time. However, window participants may propose right-sizing developments where they identify opportunities to maximize the use of rights-of-way or to right-size upgrades to existing lines triggered by the 5-year analysis where doing so may result in a more efficient or cost-effective solution. In all cases, window participants are encouraged to submit solutions addressing the needs identified in the updated 5-year models, as well as any right-sizing opportunities they may propose for PJM consideration, with an explanation of how the proposed right-sizing solution would result in a more efficient or cost-effective solution.

- The planning models provided for the 8-year horizon are provided primarily for informational purposes and to provide visibility into potential system needs beyond the near, 5-year planning needs. Any longer-term needs will be evaluated as part of the 2027 RTEP.

Updated Problem Statement

- ComEd
  - Load in the 2031 case has increased by approximately 2.7 GW, reflecting the recent 1.3GW reduction, compared to the 2030 study year evaluated in the 2025 RTEP cycle.
  - System changes in the ComEd area (load increases, generation deactivations & generation profile changes) have resulted in numerous 345kV & 138kV overloaded facilities
  - The ComEd zone also fails in the load deliverability study to meet PJM Capacity Emergency Transfer Objective (CETO) which is a metric used by PJM to estimate the amount of power needed to be delivered into a specific PJM Zone or Region under specific stressed operating scenarios (usually Summer Peak).

Updated Problem Statement

- Dominion / PJM South
  - In 2031, no major transmission needs were identified in Dominion. However, there are several local needs that are scattered across the zone including the following violations ≥ 230kV:
    - In central Virginia, the Elmont 500/230kV transformer is overloaded in 2031 summer analysis. This facility has already been identified as part of an M-3 need and will be addressed through the corresponding M-3 project (DOM-2023-0023).
    - EOL criteria violations as part of its FERC Form 715 on 500kV Line #531 Suffolk – Surry & 500kV Line #578 Septa – Surry.
  - PJM did perform analysis on the 2031 RTEP cases including Dominion's HVDC link (b4053.3) awarded from 2025W1.
    - The project resolved all 230kV thermal overloads. Therefore, those flowgates will be excluded from competition (to avoid duplicating solutions).
    - Operational measures will be used to manage these anticipated issues until the HVDC link goes into service in 2032.

Updated Problem Statement

- AEP
  - No major reliability violations were identified in the AEP zone. However, multiple 138 kV thermal overloads have been identified in the Columbus area around the Beatty substation and electrically adjacent facilities, with several branches exceeding conductor ratings, forming a geographically clustered set of violations that suggests competitive window consideration.
  - AEP also submitted violations as part of its FERC Form 715, including a few local clusters of geographically proximate overloads that further support competitive window consideration.
  - Additional 138 kV issues, including isolated line constraints and some AEP East area voltage and terminal equipment limitations, have been identified; however, these are excluded from competitive window. PJM does not anticipate regional solutions for the AEP zone.
- APS/ATSI/DLCO
  - ATSI submitted violations as part of its FERC Form 715, specifically for load loss greater than 300 MW at the North Star Seel 345 kV facility. Based on short-circuit analysis both with and without the Fulton-Melbourne and the Dowling-Melbourne 345 kV lines in service, the 138 kV system cannot provide sufficient power to support the arc furnaces at North Star Steel.
  - AMPT submitted N-1-1 violations as part of its FERC Form 715, notably on the East Fayette-Kexton 69 kV tie line, which could possibly impact the 345 kV transmission system so has been included for competition.

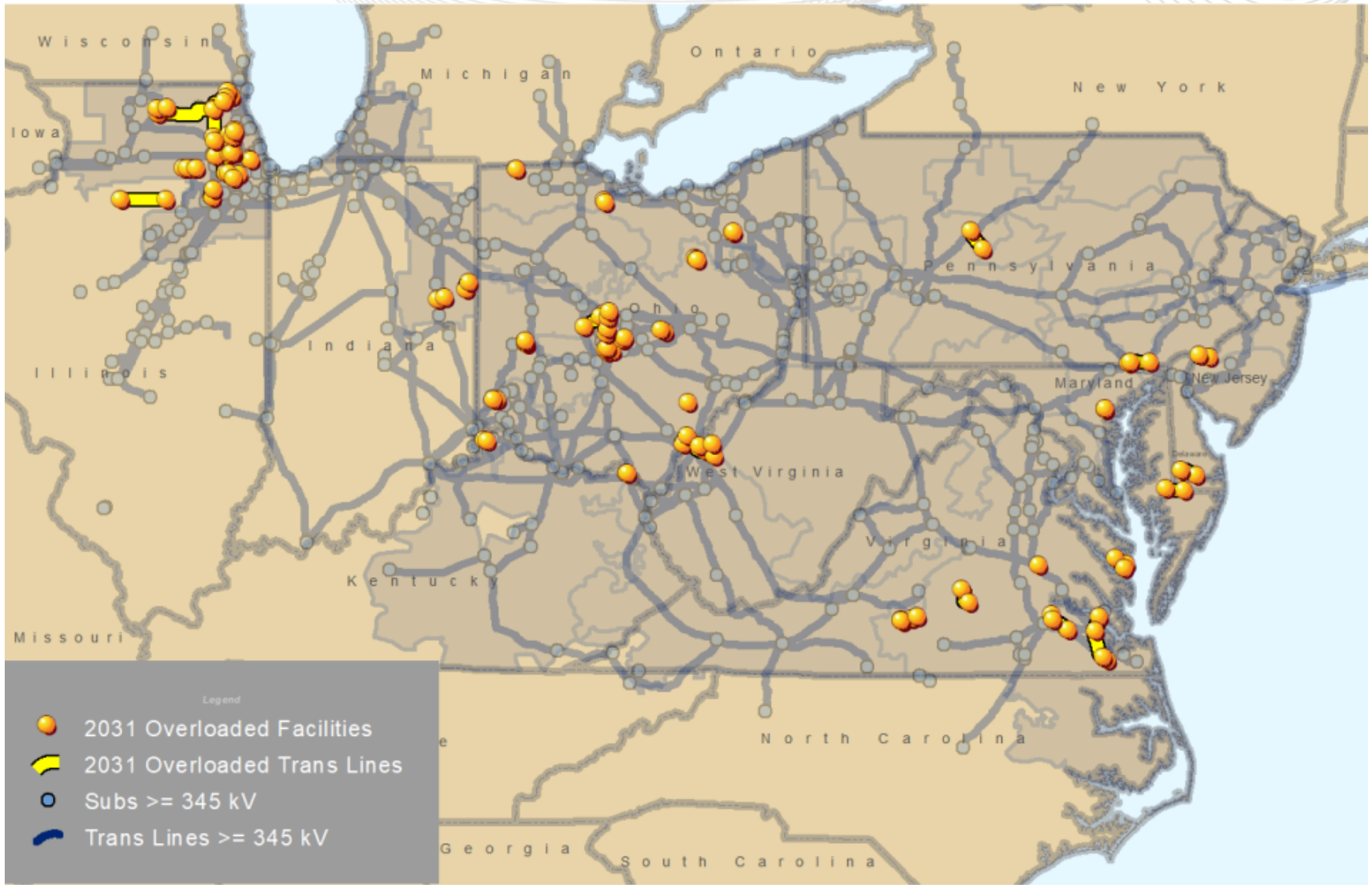
Updated Problem Statement

- MAAC
  - There are no major reliability violations identified in the Mid-Atlantic region.
  - Power flow increased south-to-Northeast Mid-Atlantic along the PECO system – driven by load growth in PPL, PECO and PSEG zones resulting in overloads on the 230 kV facilities (Cooper-Peach Bottom-Nottingham 230 kV) within the PECO zone, as well as on one PECO/ACE tie facility (Mickleton-Delco Tap 230 kV).
  - The Cooper-Peach Bottom-Nottingham 230 kV also restricts the imports into the EMAAC LDA, resulting in failure to meet the CETL/CETO margin.
  - Multiple lines on the PECO/DPL (Edgemoor-Linwood 230 kV) tie and PECO transformer (Limerick) are overloaded; these facilities have already been identified as part of an M-3 need and will be addressed through the corresponding M-3 project
  - Multiple 138 kV facilities are overloaded in DPL zone for N-1-1 analysis and will be addressed accordingly.
  - In the Towanda area in northeast PENELEC near the NYISO border, multiple 115 kV and 230 kV facilities are overloaded in various analyses. These violations are affected by the interchange and flows into NY. These violations will be quarantined in the 2026 RTEP window and deferred to a separate process in consultation with NYISO.

Appendix

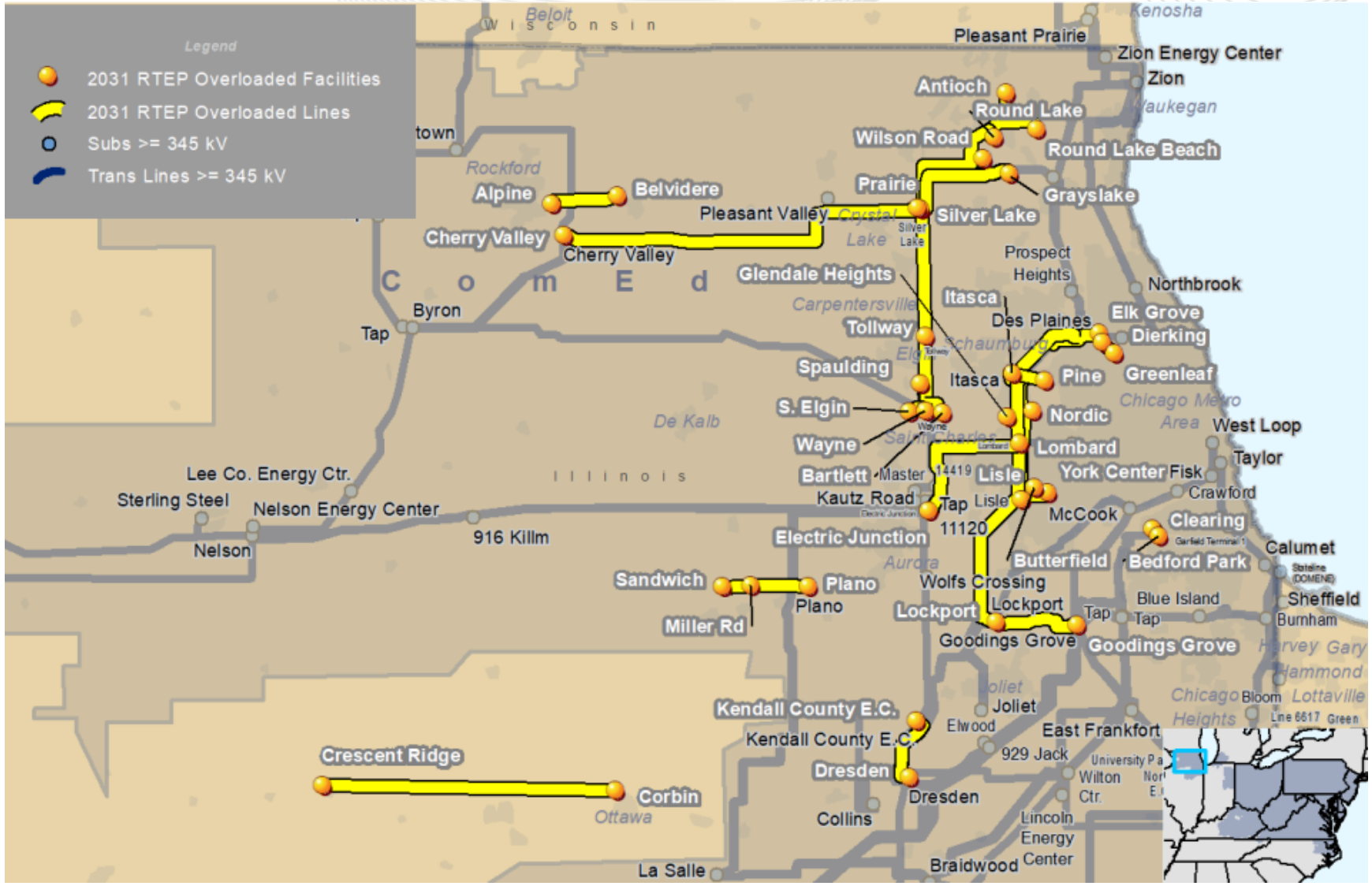
2026 RTEP Results - Overall

2031 Thermal Overloads - PJM Footprint

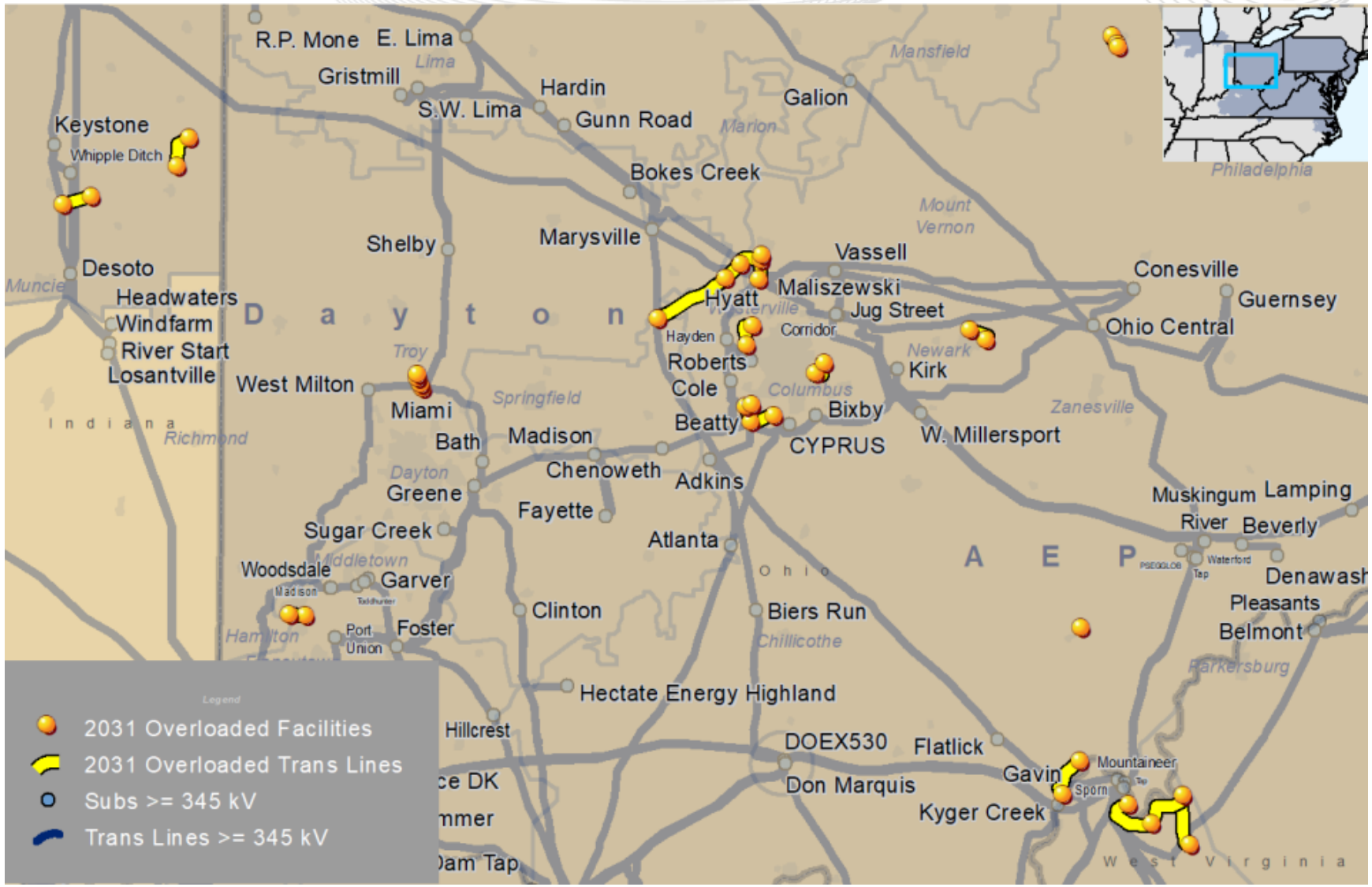


2026 RTEP Results – By Zone

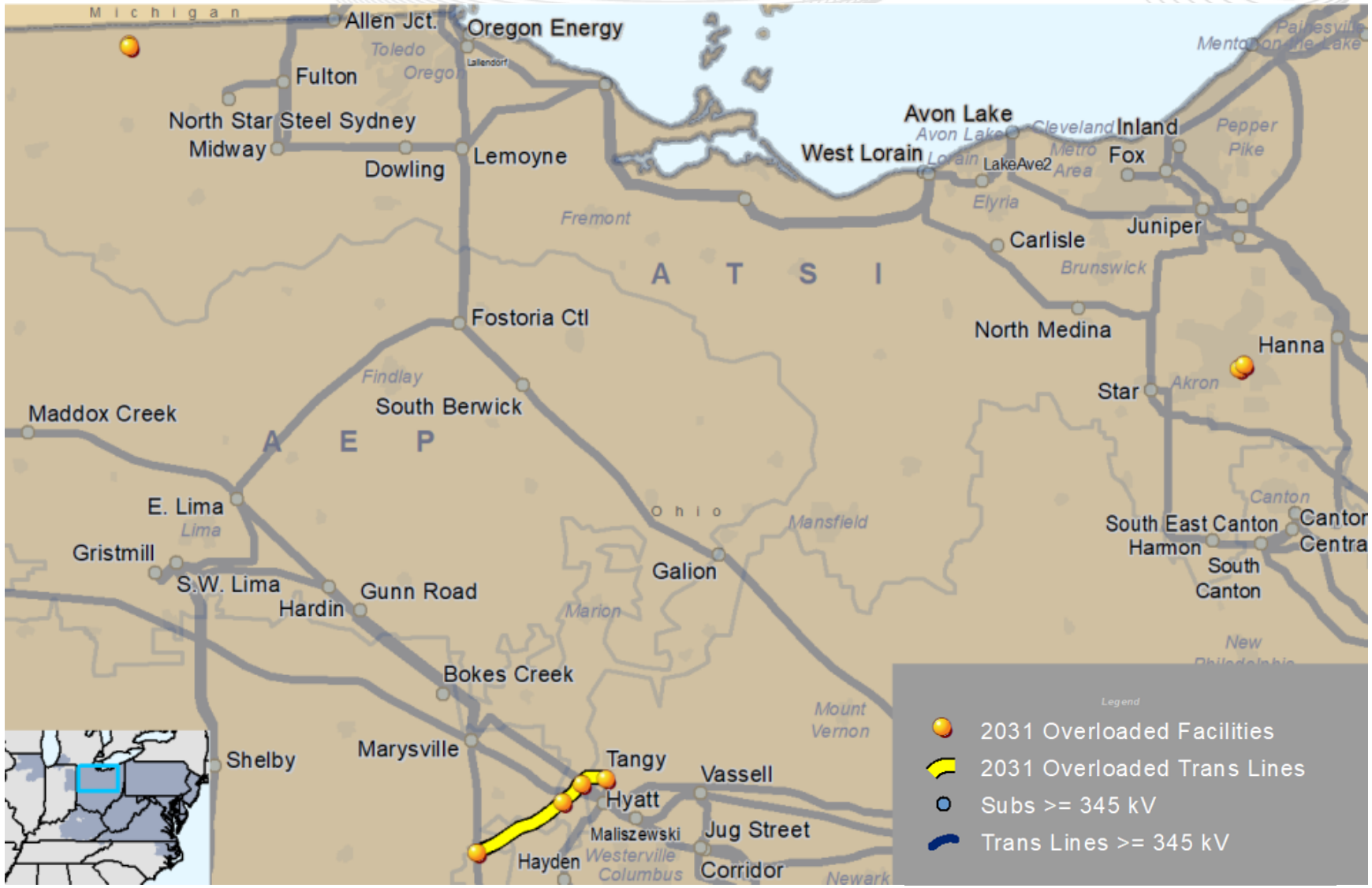
2031 Thermal Overloads - ComEd Transmission Zone



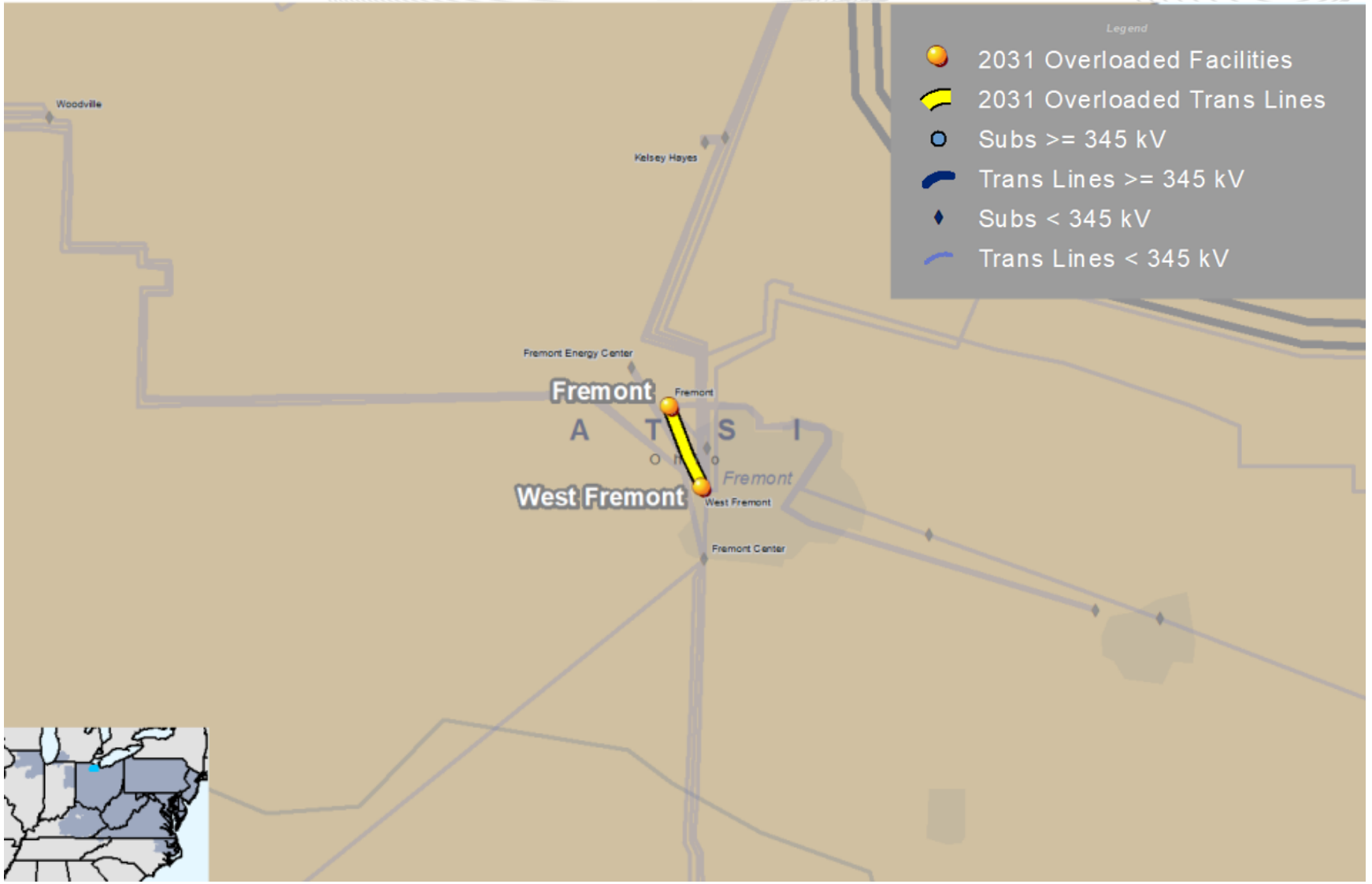
2031 Thermal Overloads - AEP Transmission Zone



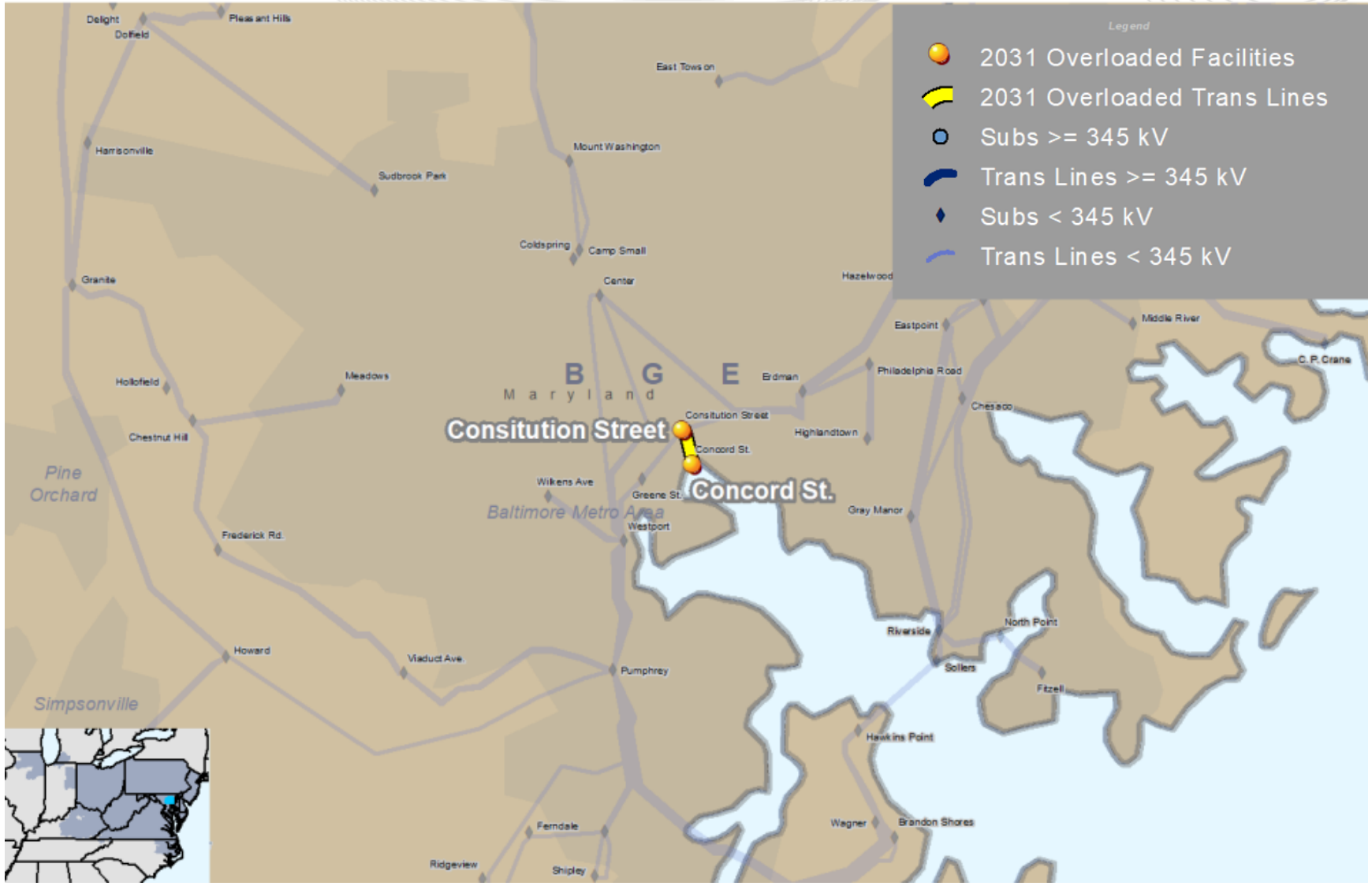
2031 Thermal Overloads - ATSI Transmission Zone



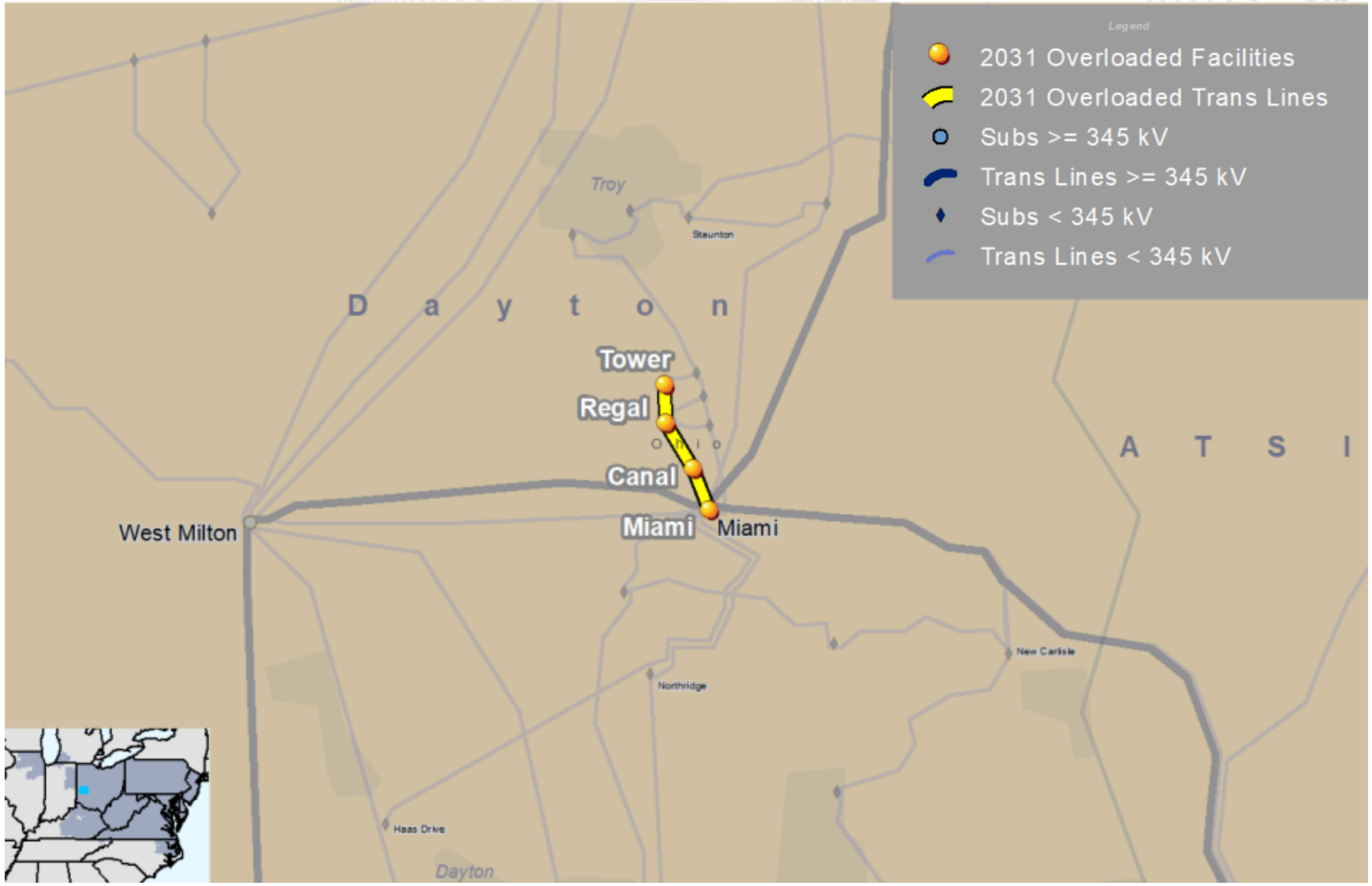
2031 Thermal Overloads - ATSI/AEP Transmission Zone



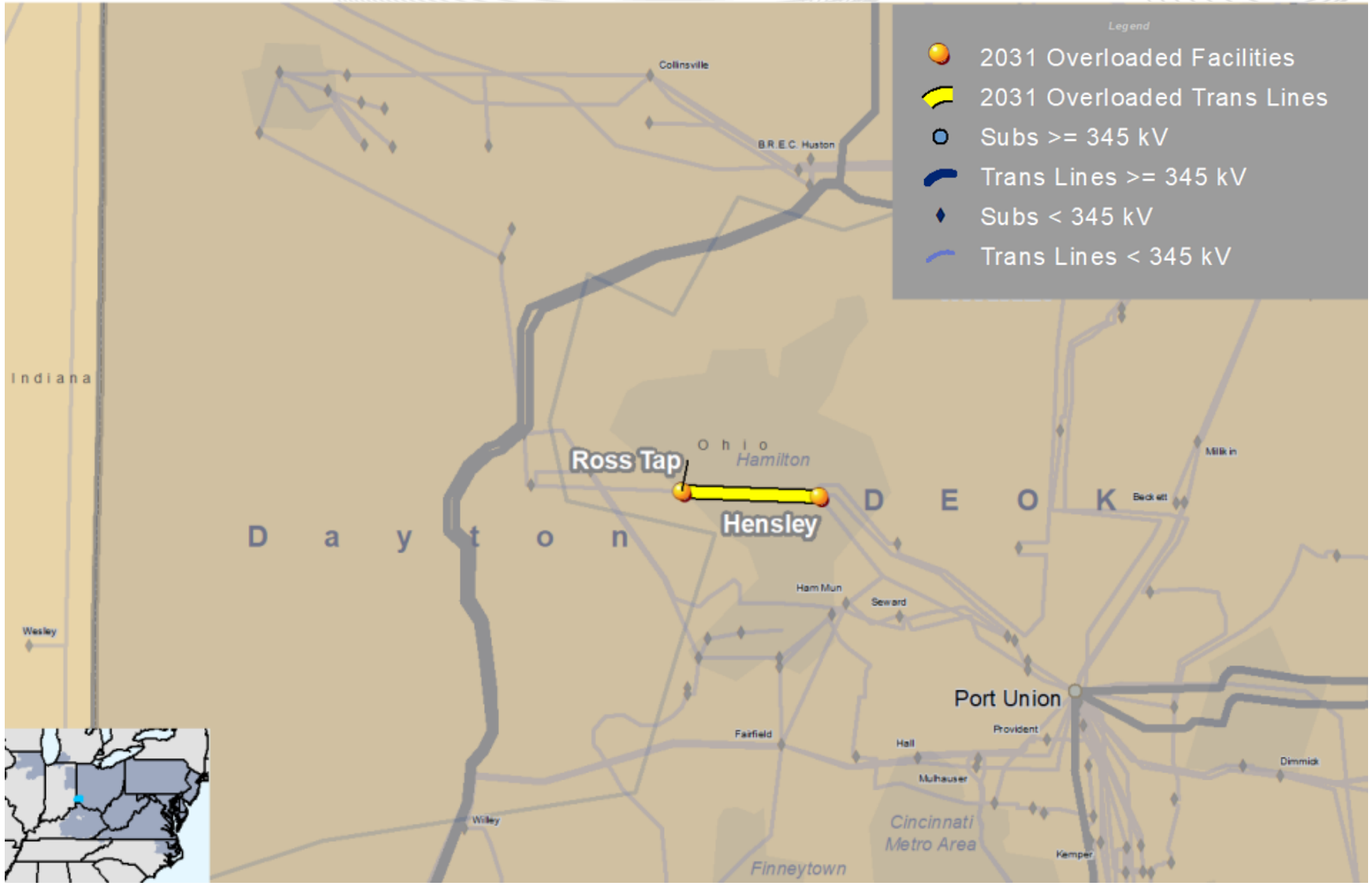
2031 Thermal Overloads - BGE Transmission Zone



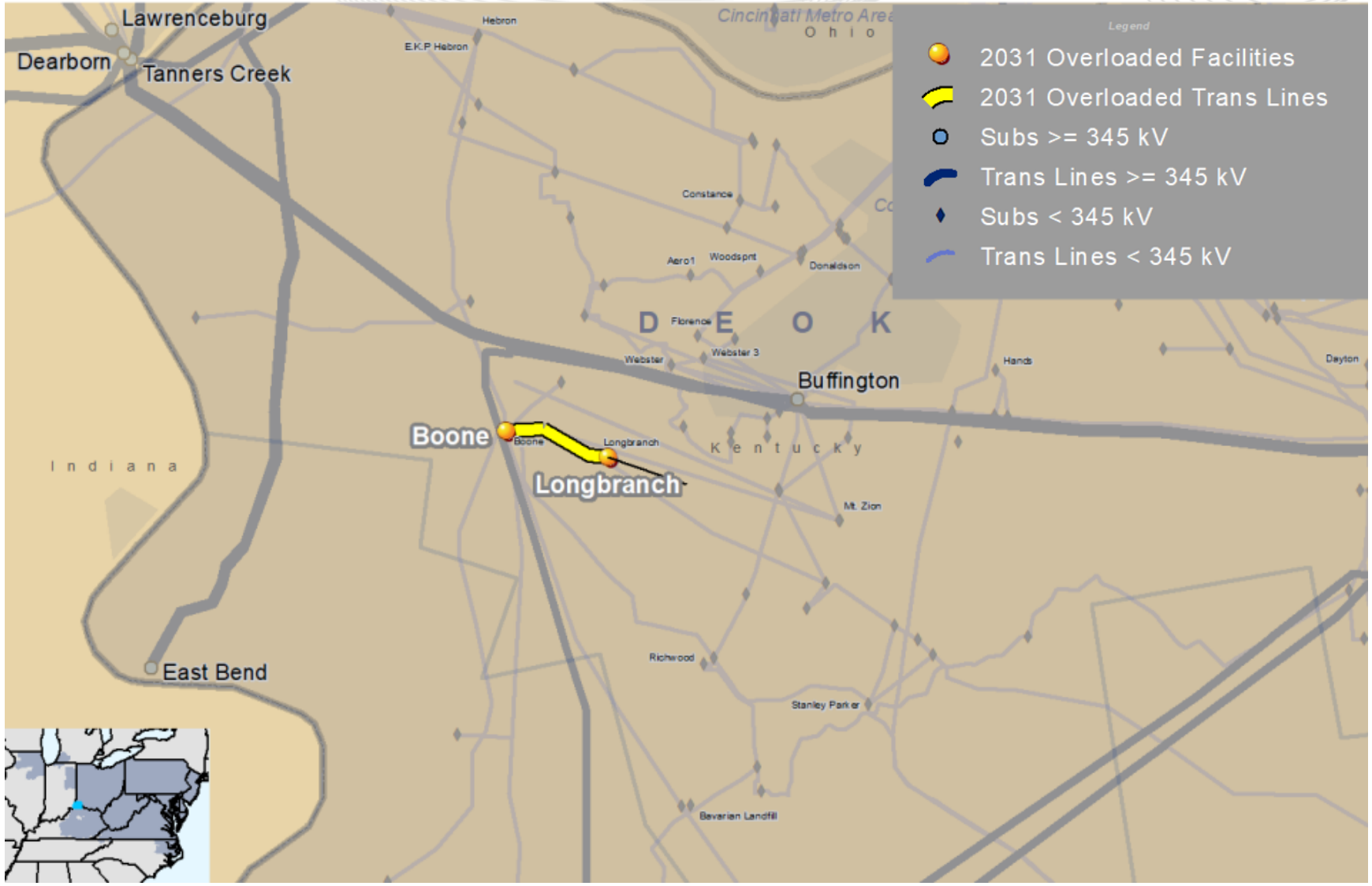
2031 Thermal Overloads - Dayton Transmission Zone



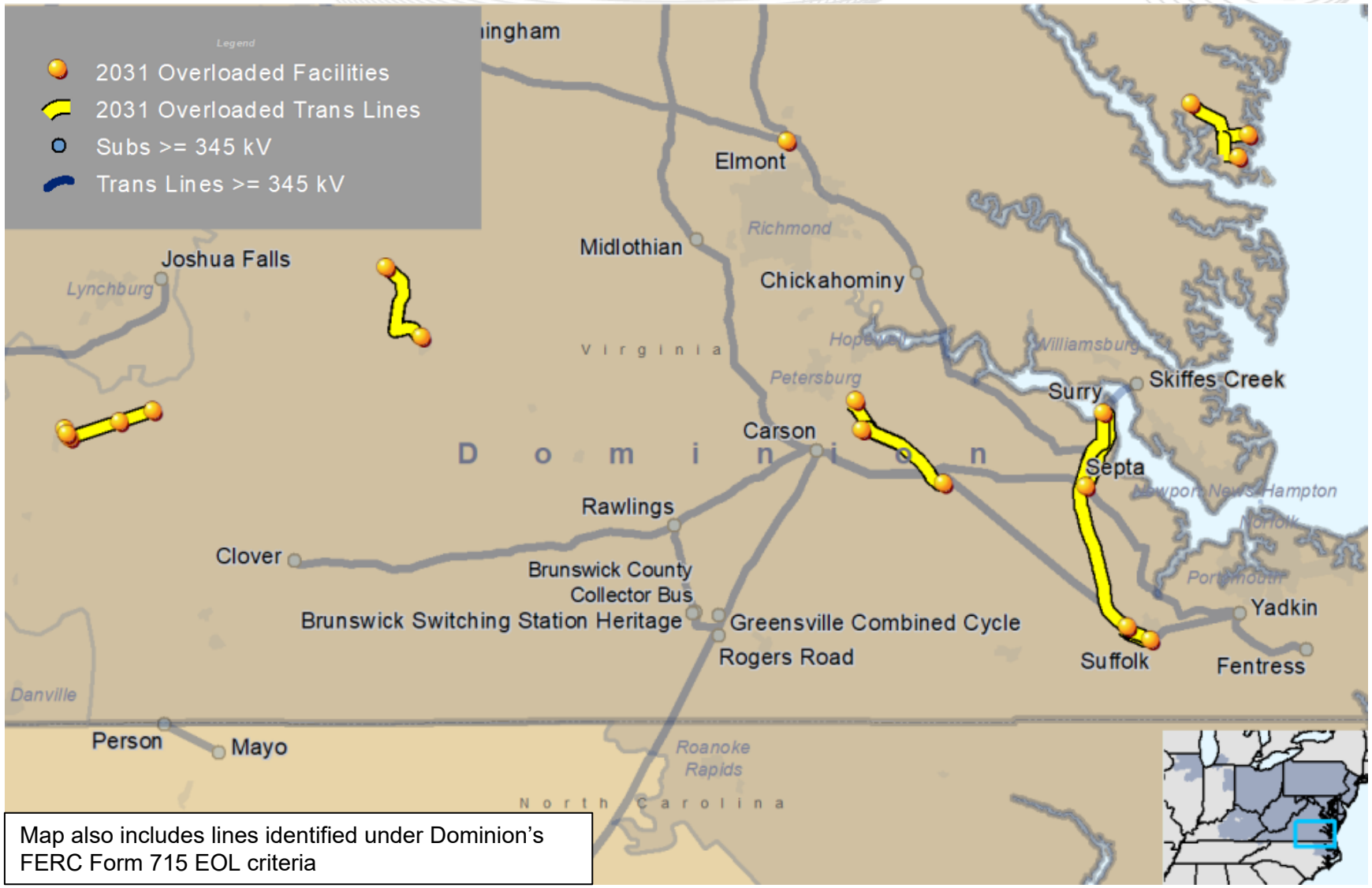
2031 Thermal Overloads - DEOK Transmission Zone



2031 Thermal Overloads - DEOK/EKPC Transmission Zone

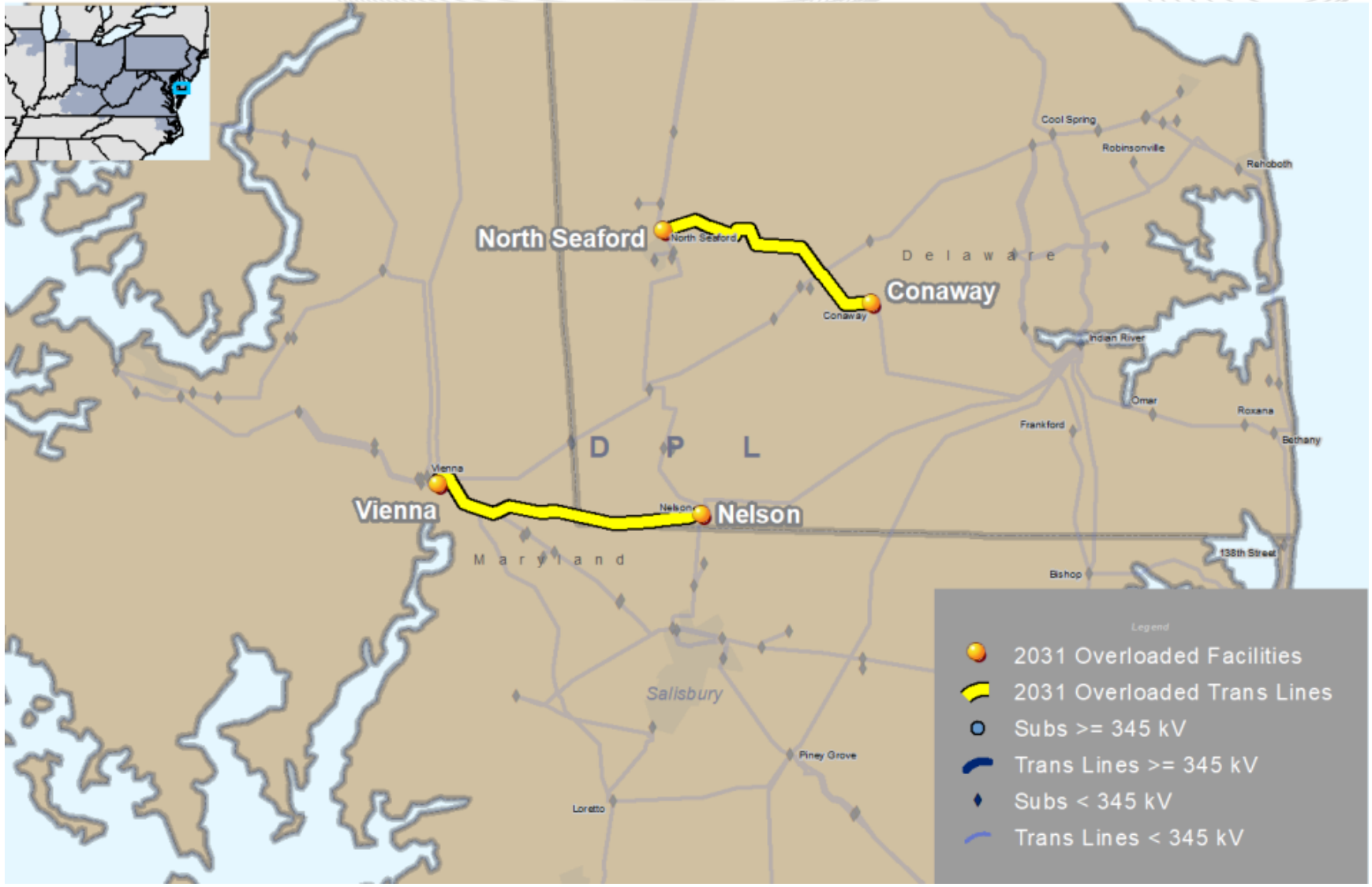


2031 Thermal Overloads - Dominion Transmission Zone

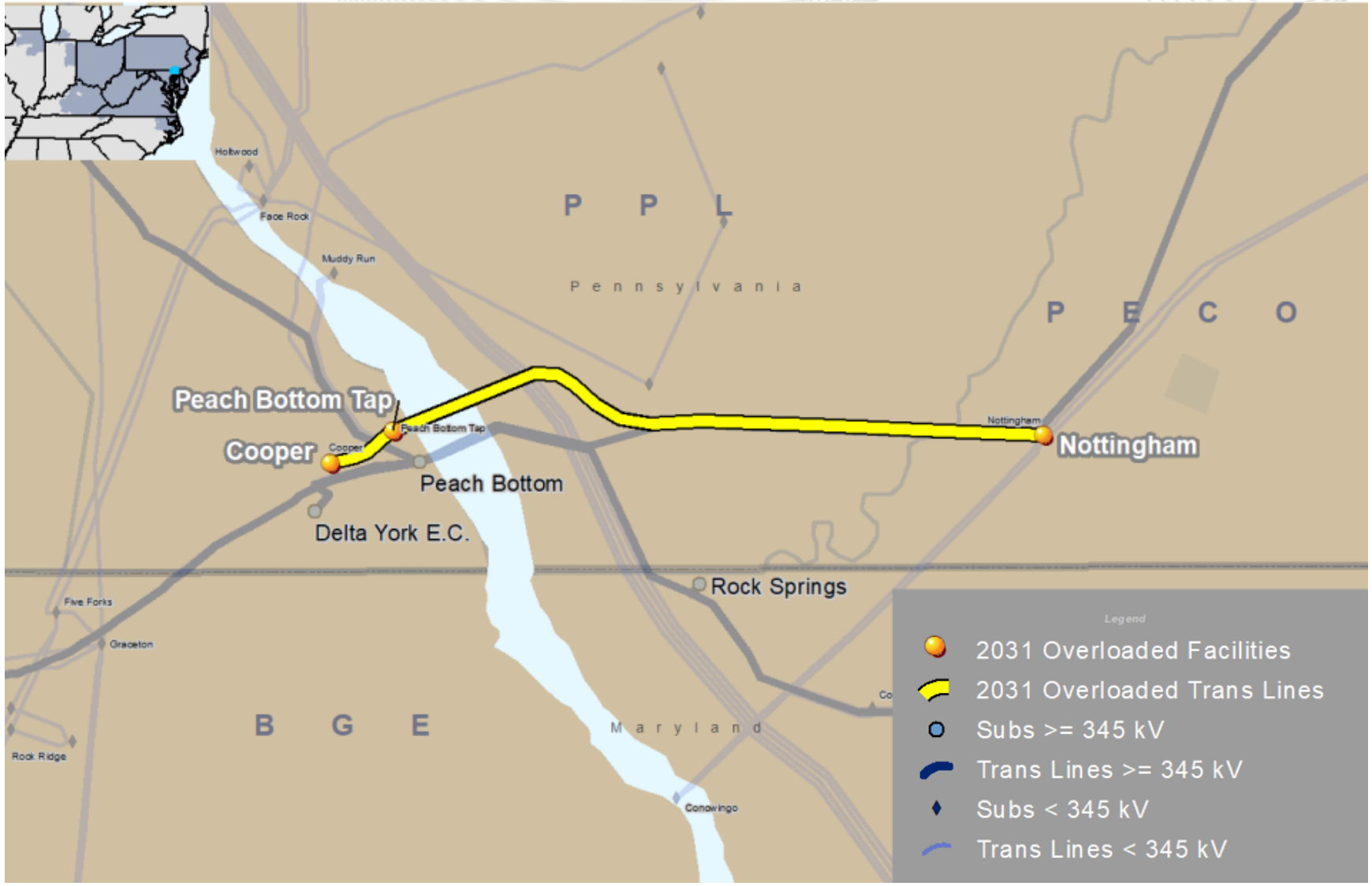


Map also includes lines identified under Dominion's FERC Form 715 EOL criteria

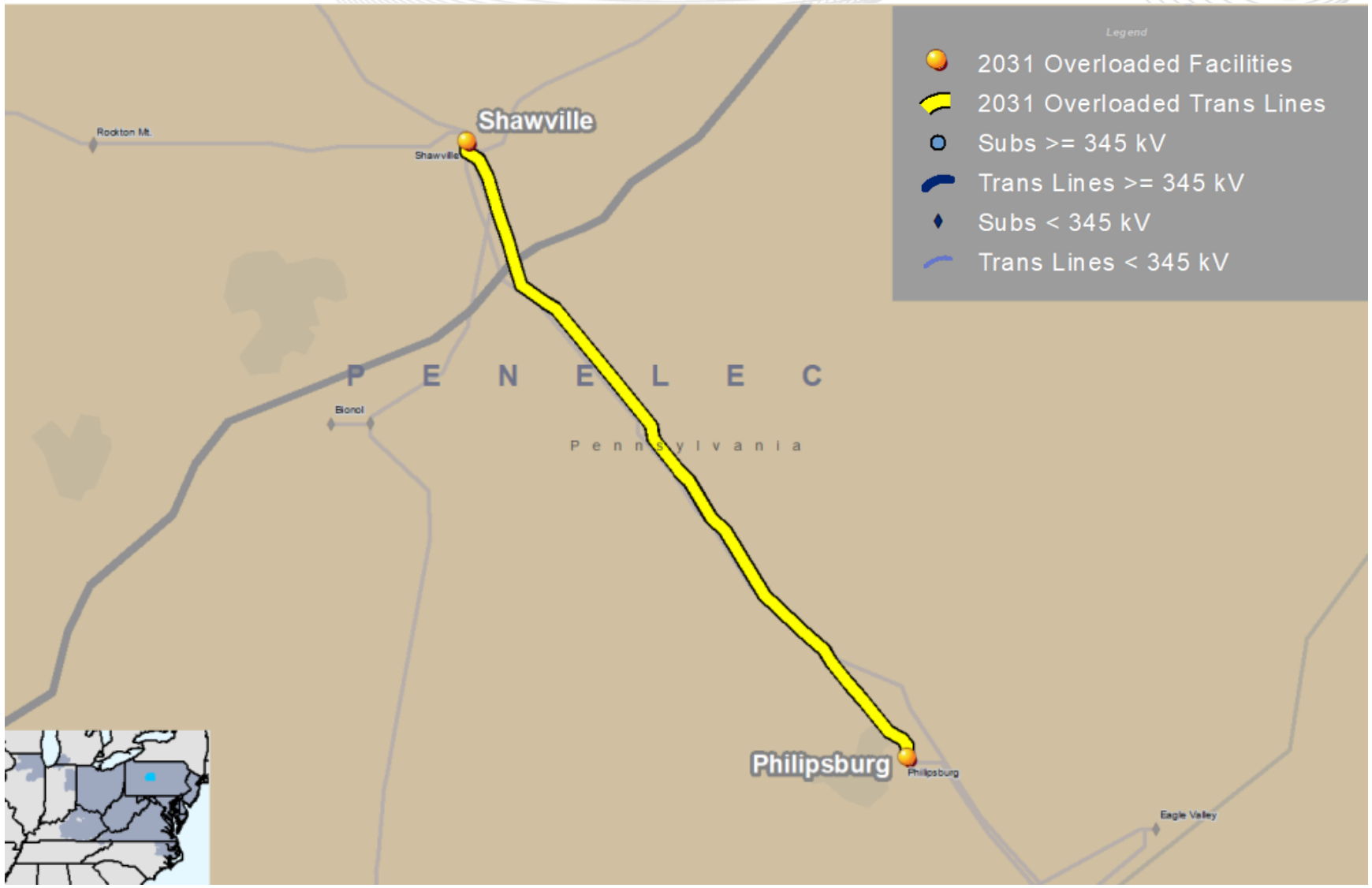
2031 Thermal Overloads - DPL Transmission Zones



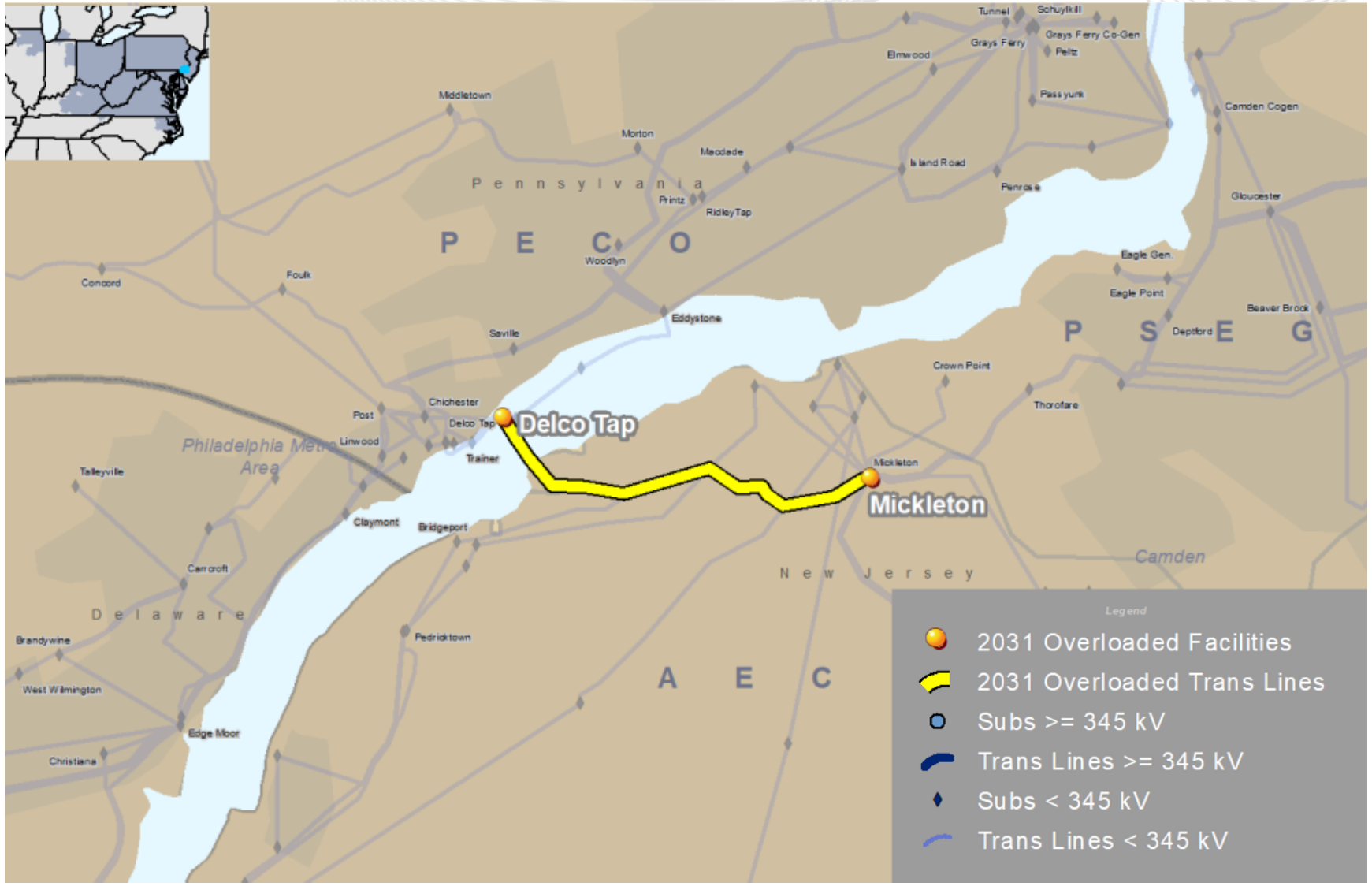
2031 Thermal Overloads - PECO Transmission Zone



2031 Thermal Overloads - PENELEC Transmission Zone

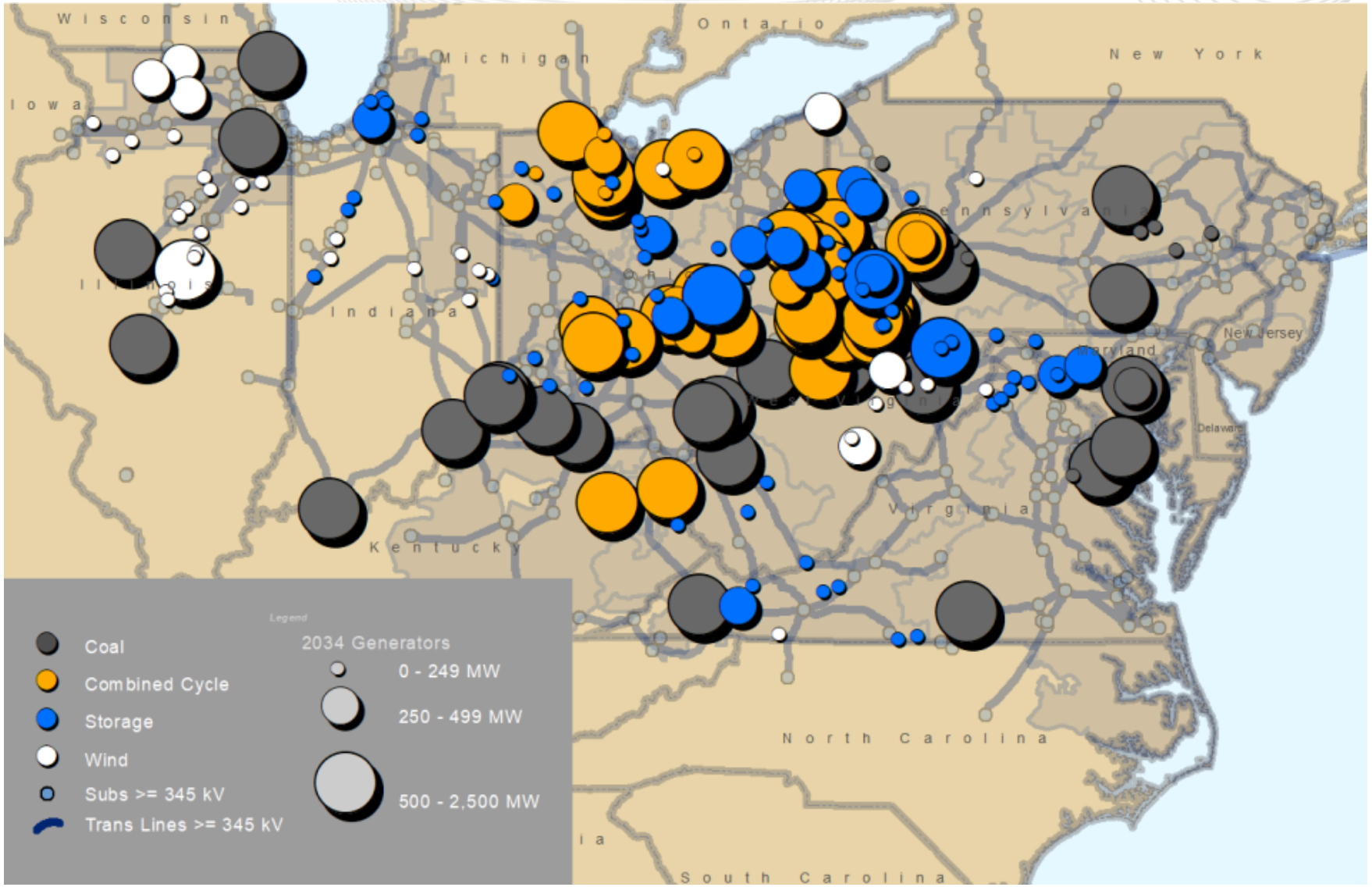


2031 Thermal Overloads - PECO/AEC Transmission Zones



2034 CapEx Units

2034 CapEx Units + Existing Coal Units



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Reliability Analysis Update

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Revision History

Version No.	Date	Description
1	9/2/2026	• Initial slides posted
2	9/8/2026	• Typo corrected on slide 7.

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