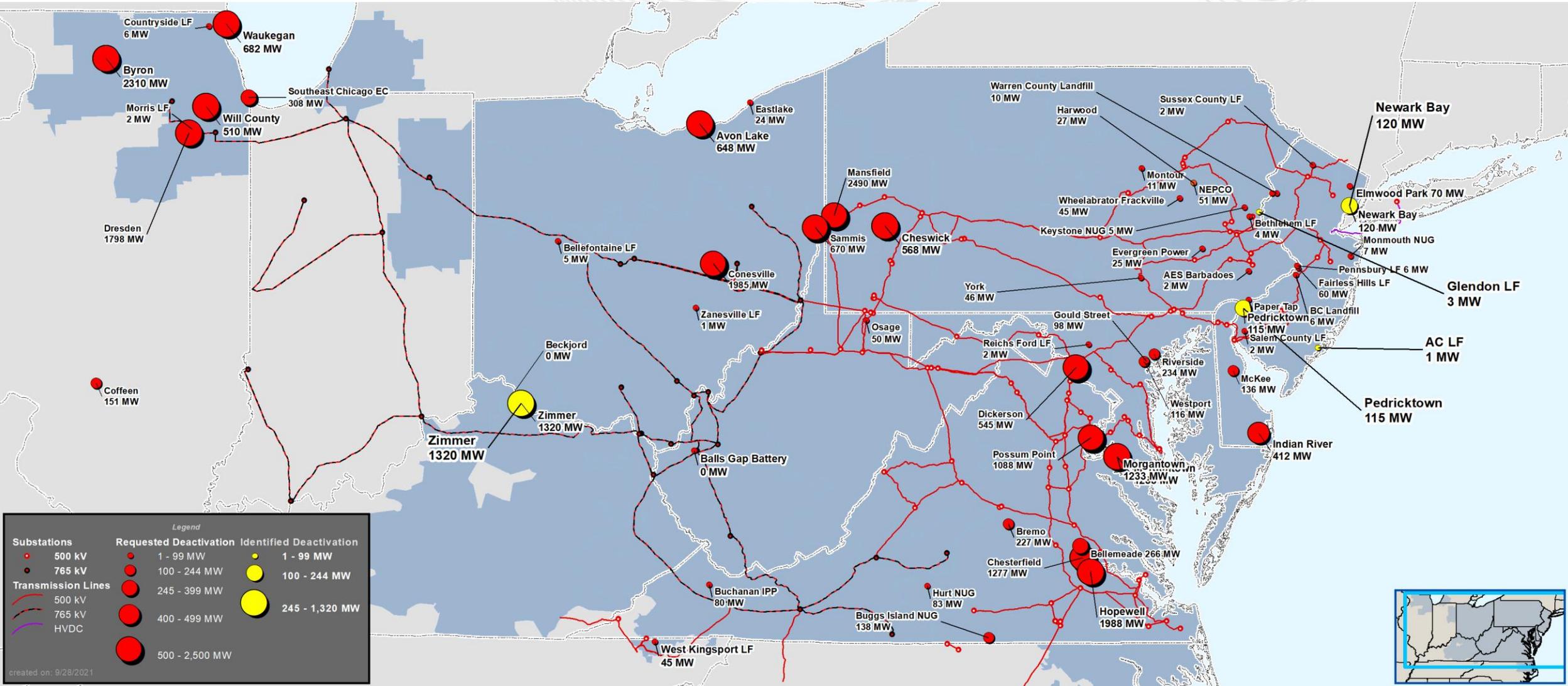




Generation Deactivation Notification Update

Transmission Expansion Advisory Committee
October 5, 2021



| Unit(s) | Transmission Zone | Requested Deactivation Date | PJM Reliability Status |
|-----------------------------|-------------------|-----------------------------|---|
| Pedricktown - 115.3 MW | AEC | 5/31/2022 | Reliability analysis complete. New baseline resolves identified impact. Units can retire as scheduled. |
| Newark Bay - 120.2 MW | PSEG | 5/31/2022 | |
| Zimmer 1 - 1320 MW | DEOK | 5/31/2022 | Reliability analysis complete. New and existing baselines resolve identified impacts. Unit can retire as scheduled. |
| Glendon LF- 1.3 MW | METED | 12/01/2021 | Reliability analysis complete. No reliability violation identified. |
| AC Landfill 1 and 2- 2.9 MW | ACE | 12/09/2021 | Reliability analysis underway |

Problem Statement: Generation Deliverability Violation – Pedriktown and Newark Deactivations

- Thermal violation: Croydon – Burlington 230 kV line
- Contingency: N-2

Recommended Solution:

- New baseline b3335 – New baseline b3335 – Reconductor a 0.76 mile portion of the Croydon-Burlington 230 kV line
- Current Rating: 752 MVA SN/ 906 MVA SE
- New Rating: 851 MVA SN/ 995 MVA SE

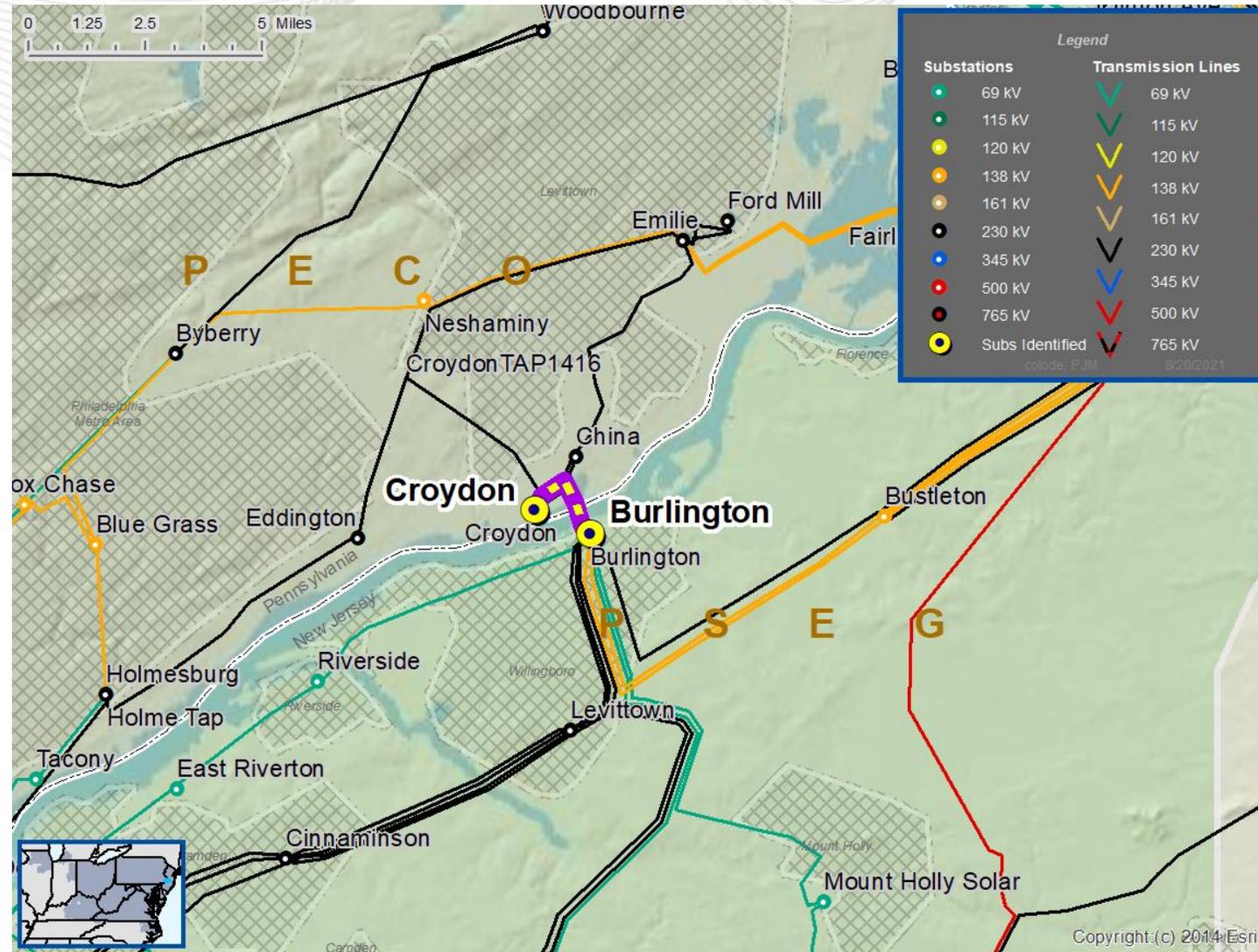
Estimated Cost: \$ 500K

Required IS Date: 06/01/2022

Projected IS Date: 06/01/2023

Required IS Date: 06/01/2022

* Operating measures identified to mitigate reliability impacts in interim.



SECOND READ

Problem Statement: Generation Deliverability Violation – Zimmer Deactivation

- Thermal violation: Shepler Hill Jct – Mitchell 138 kV line
- Contingency: N-2

Recommended Solution:

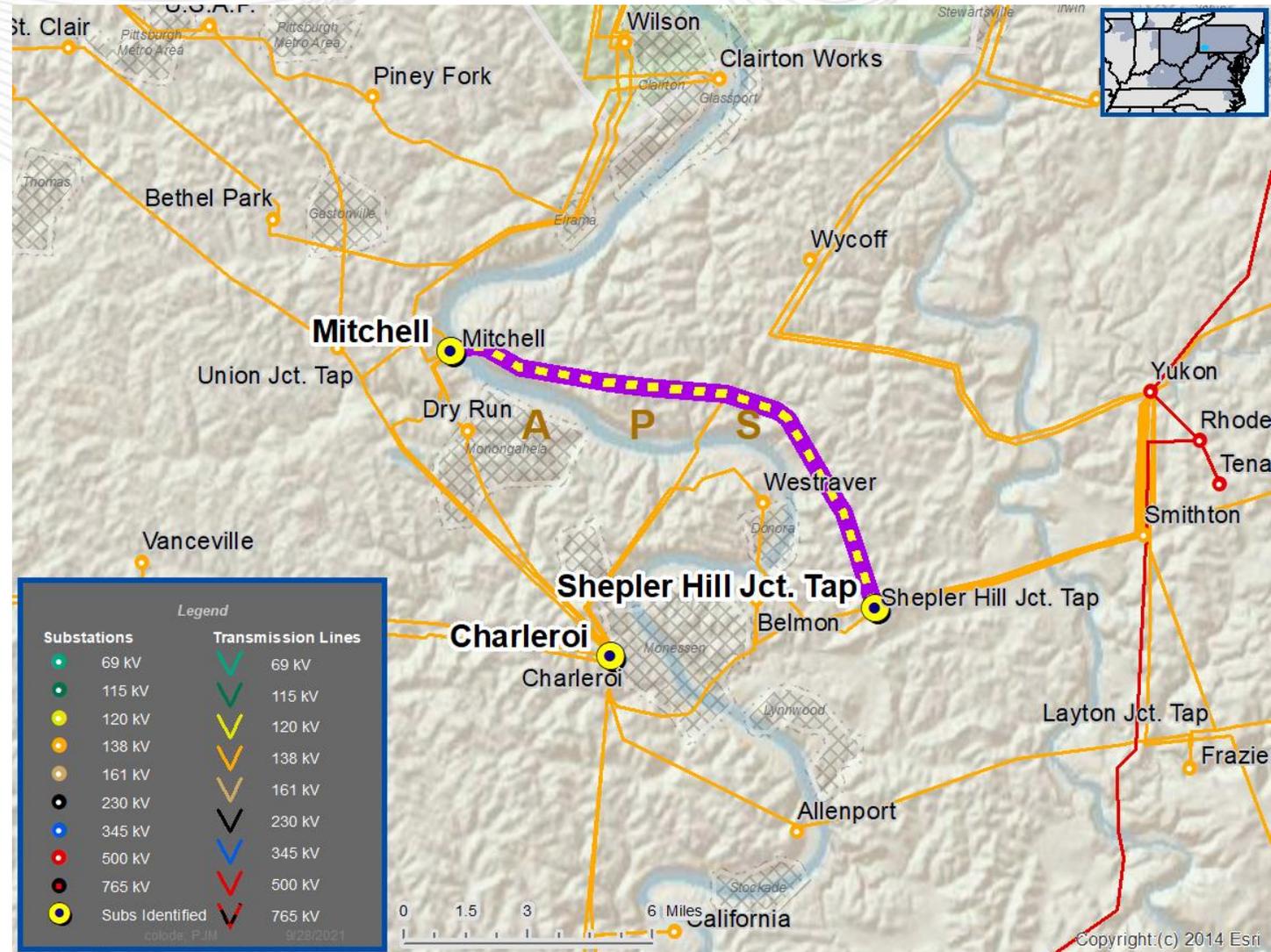
- Existing b3214 - Reconductor the Yukon – Smithton – Shepler Hill Jct 138 kV Line. Upgrade terminal equipment at Yukon and replace line relaying at Mitchell and Charleroi.

Required IS Date: 06/01/2022

Projected IS Date: 06/01/2023

Previous TEAC Date: 06/02/2020

* Operating measures identified to mitigate reliability impacts in interim.



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Problem Statement: Generation Deliverability Violation – Zimmer Deactivation

- Thermal violation: Benton – Riverside 138 kV line
- Contingency: N-2

Recommended Solution:

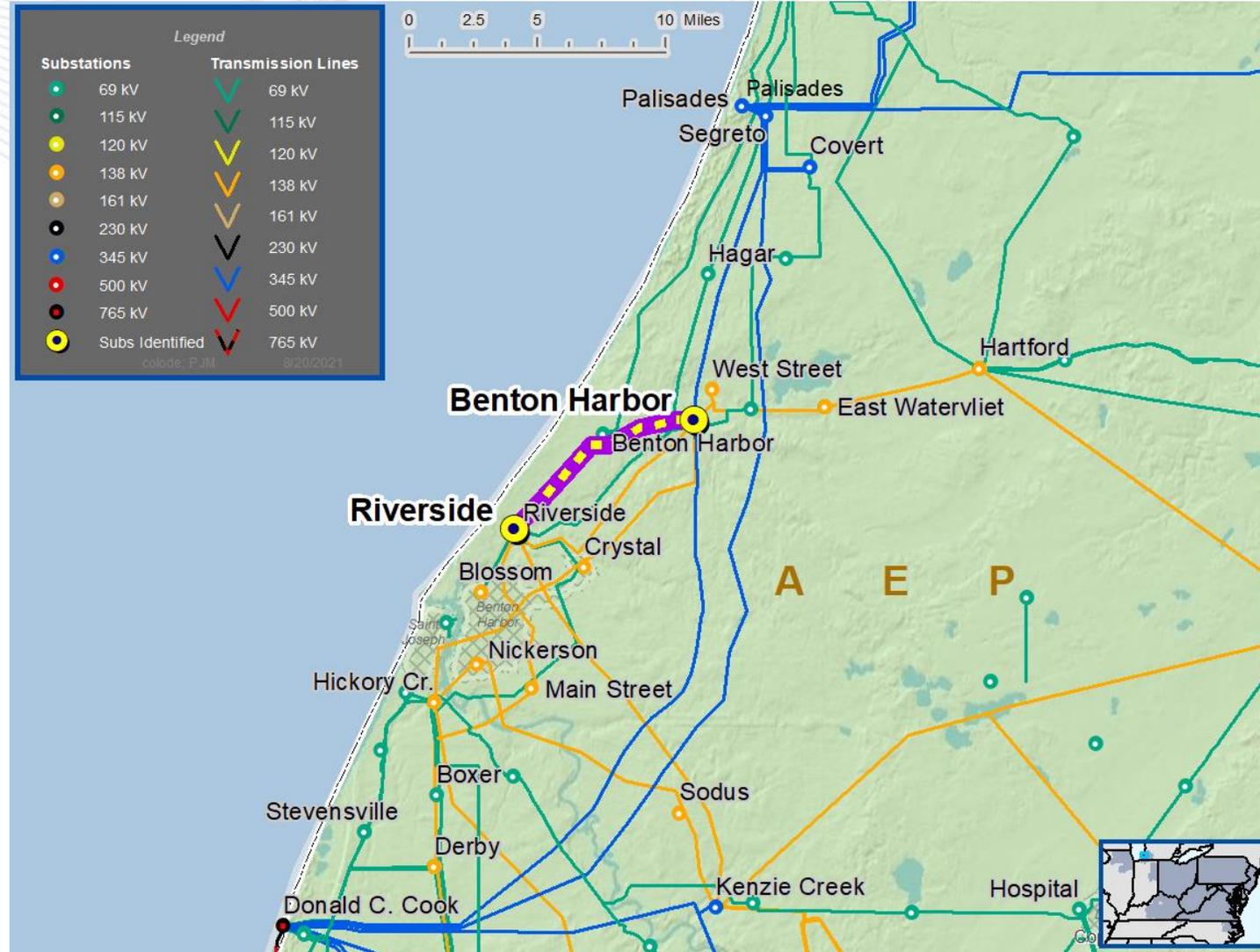
- New baseline b3336 – previously known as S1622.2: Rebuild Benton Harbor-Riverside 138kV double circuit extension (6 miles).
- Current Rating: 136 MVA SN/ 167 MVA SE
- New Rating: 187 MVA SN/ 240 MVA SE

Estimated Cost: \$14.9M

Required IS Date: 06/01/2022

Projected IS Date: 11/01/2021

Previous TEAC Date: 05/21/2018



Problem Statement: Generation Deliverability Violation – Zimmer Deactivation

- Thermal violation: Miami Fort – Hebron Tap 138 kV line
- Contingency: N-2

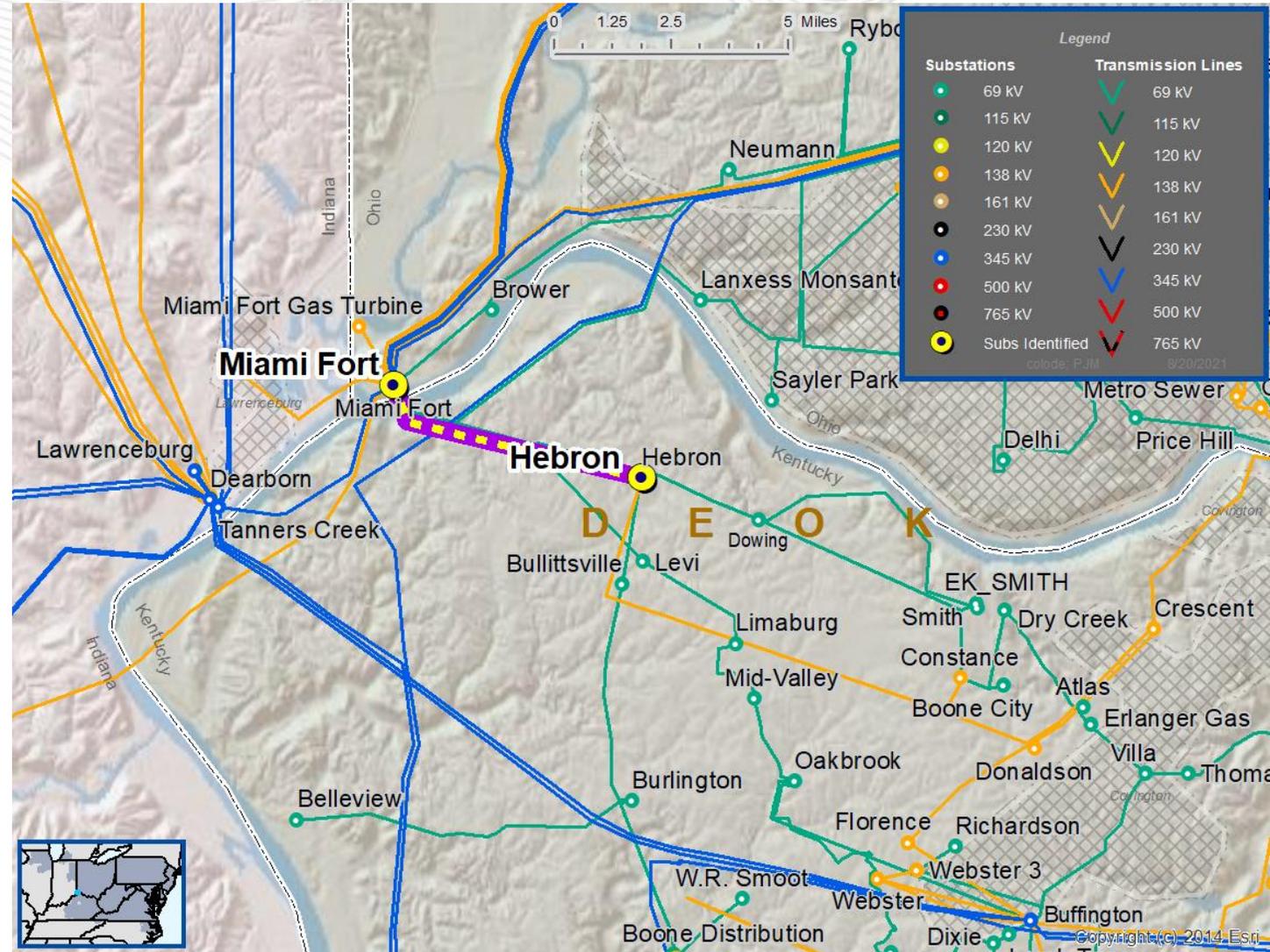
Recommended Solution:

- New baseline b3334 – Rebuild the section of Miami Fort – Hebron Tap 138 kV
- Current Rating: 238 MVA SN/ 238 MVA SE
- New Rating: 301 MVA SN/ 301 MVA SE

Required IS Date: 06/01/2022

Projected IS Date: 11/30/2026

Operating measures identified to mitigate reliability impacts in interim.



Problem Statement: Generation Deliverability and N-1-1 thermal – Indian River 4 Deactivation

- Thermal violation: Vienna - Nelson 138 kV line
- Contingency: N-2, and various N-1 combinations

Potential Solution:

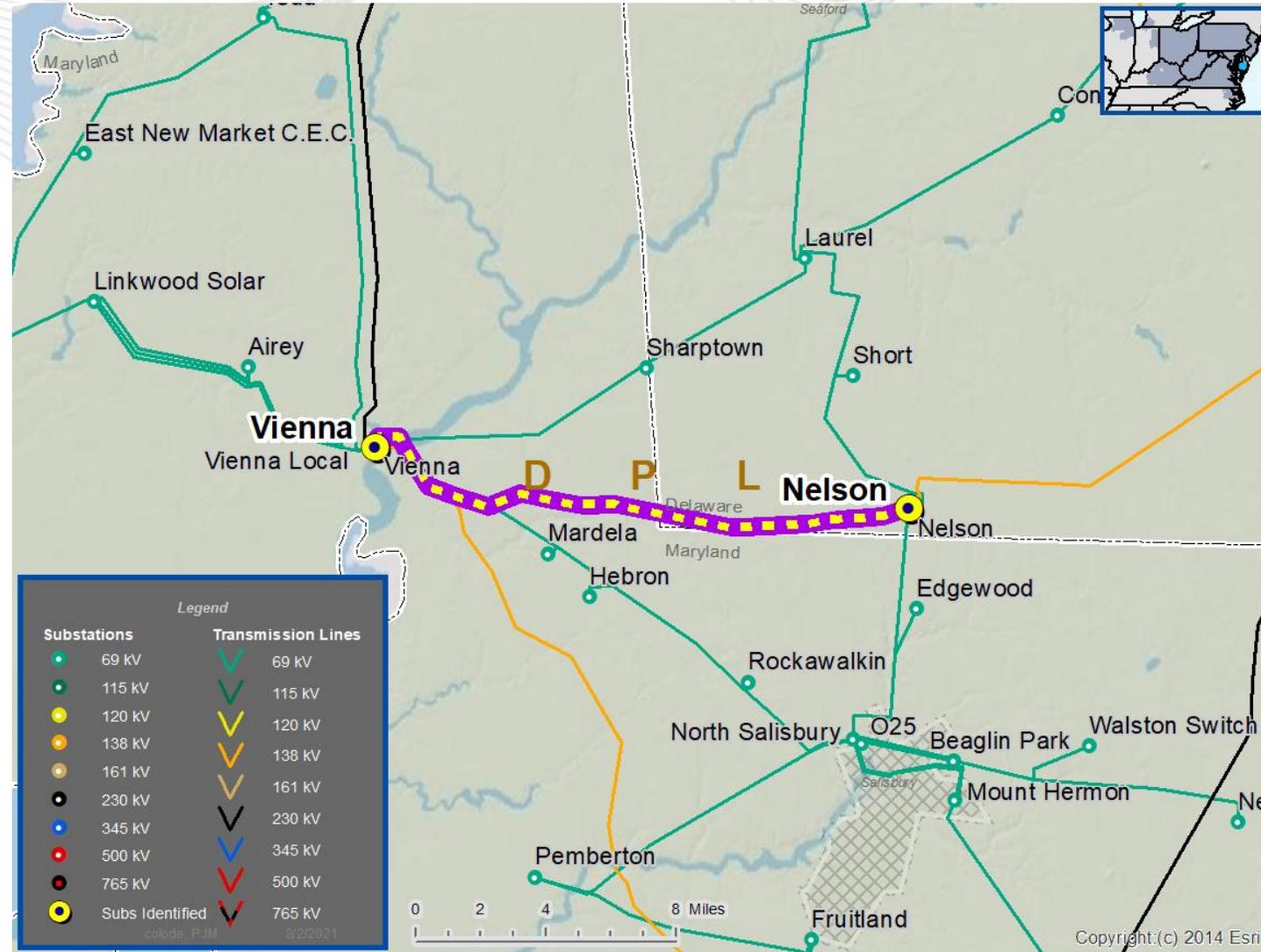
- New baseline b3326 – Rebuild the Vienna – Nelson 138 kV line.
- Current Rating: 101 MVA SN/ 144 MVA SE
- New Rating: 273 MVA SN/ 348 MVA SE

Estimated Cost: \$ 38.5M

Required IS Date: 06/01/2022

Projected IS Date: 12/31/2026

* Operating measures are not available in interim. PJM Planning / Operations and Transmission Owner are continuing to investigate mitigation.



Problem Statement: Generation Deliverability - Indian River 4 Deactivation

- Thermal violation: Vaughn – Kent 69 kV line
- Contingency: N-2

Potential Solution:

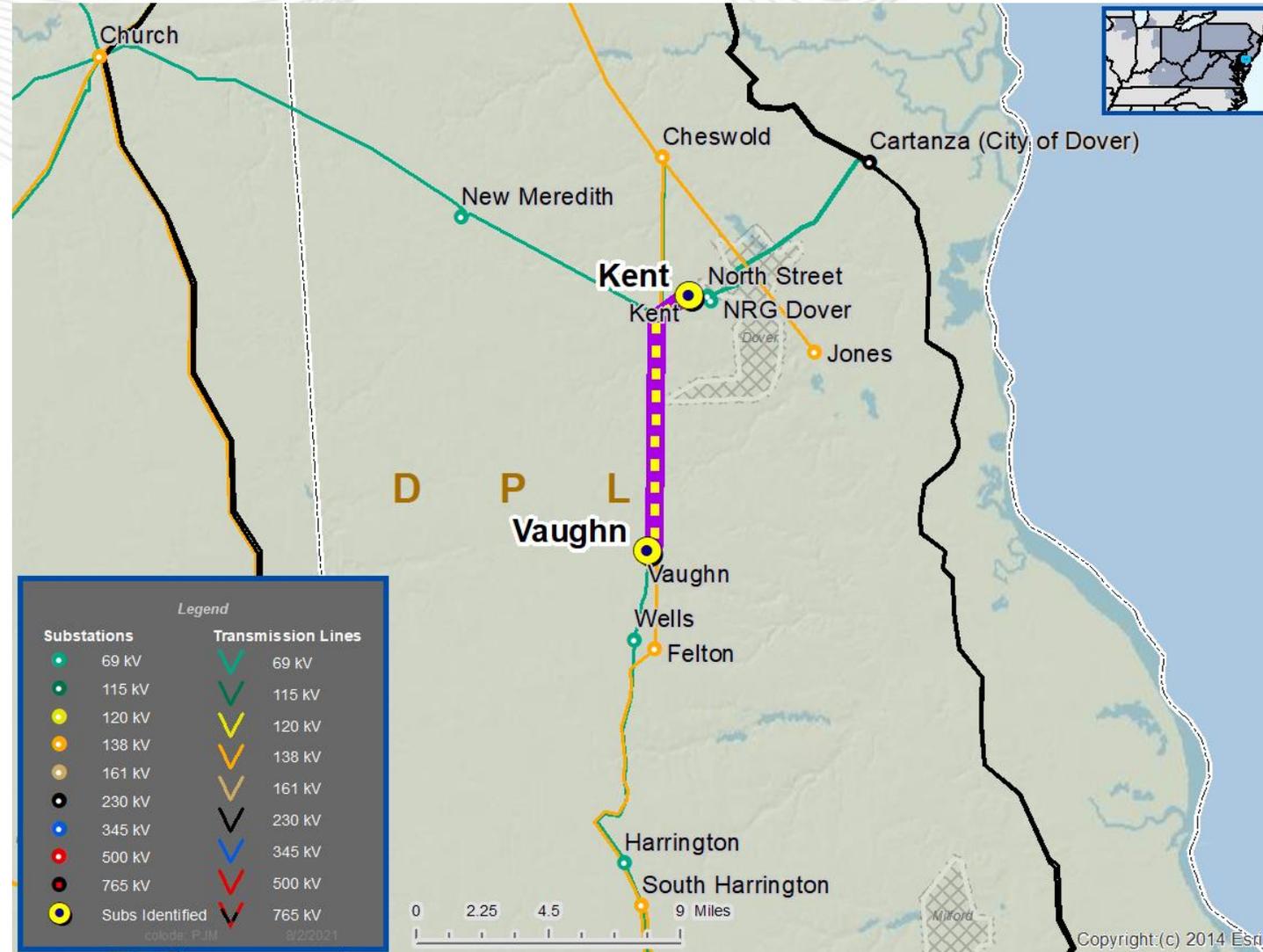
- New baseline b3327 – Upgrade the disconnect switch at Kent.
- Current Rating: 82 MVA SN/ 93 MVA SE
- New Rating: 136 MVA SN/ 165 MVA SE

Estimated Cost: \$ 0.25M

Required IS Date: 06/01/2022

Projected IS Date: 12/31/2022

* Operating measures are not available in interim. PJM Planning / Operations and Transmission Owner are continuing to investigate mitigation.



Problem Statement: N-1-1 Thermal Violation - Indian River 4 Deactivation

- Thermal violation: Vienna – Vienna 138 kV line
- Contingency: various N-1 combinations

Potential Solution:

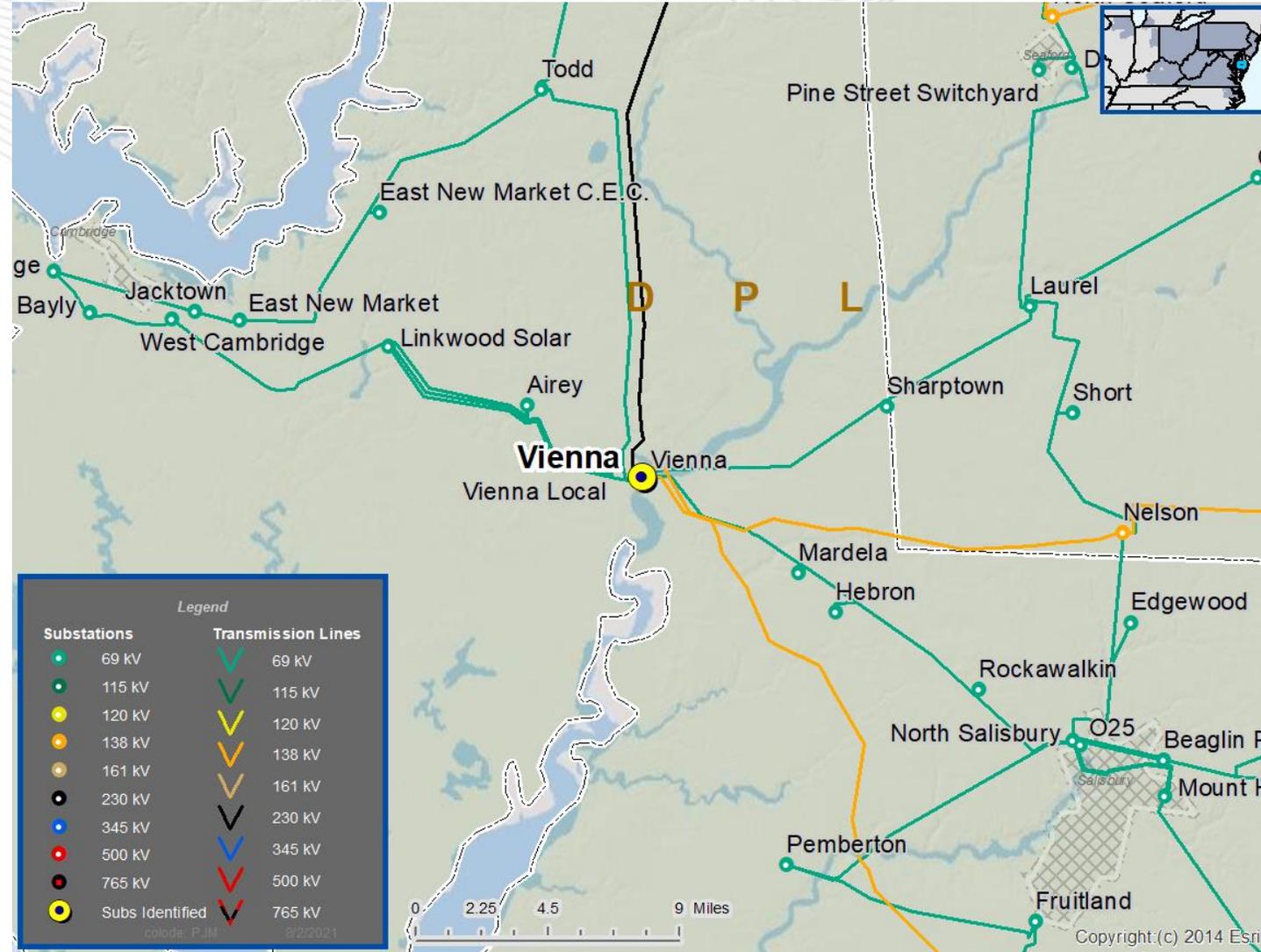
- New baseline b3328 – Upgrade the disconnect switch and CT
- Current Rating: 329 MVA SN/ 372 MVA SE
- New Rating: 392 MVA SN/ 458 MVA SE

Estimated Cost: \$ 0.25M

Required IS Date: 06/01/2022

Projected IS Date: 12/31/2022

* Operating measures are not available in interim. PJM Planning / Operations and Transmission Owner are continuing to investigate mitigation.



Problem Statement: N-1-1 Thermal Violation - Indian River 4 Deactivation

- Thermal violation: Farmview – Milford 138 kV line
- Contingency: various N-1 combinations

Potential Solution:

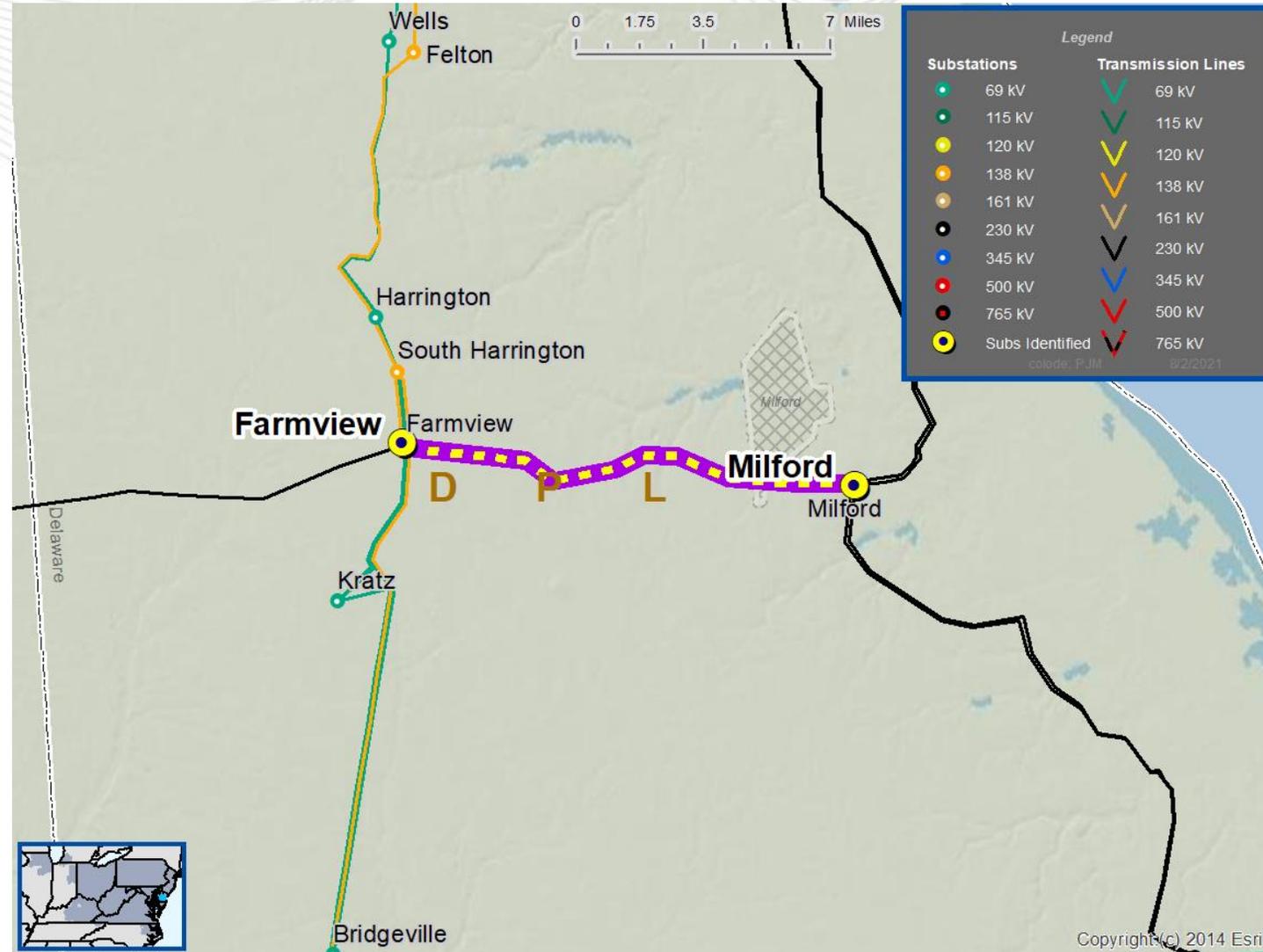
- New baseline b3329 – **Rerate the Farmview –Milford 138 kV line**
- Current Rating: 167 MVA SN/ 240 MVA SE
- New Rating: **218 MVA SN/ 292 MVA SE**

Estimated Cost: \$ 0.3M

Required IS Date: 06/01/2022

Projected IS Date: 12/31/2022

* Operating measures are not available in interim. PJM Planning / Operations and Transmission Owner are continuing to investigate mitigation.



Problem Statement: N-1-1 Thermal Violation - Indian River 4 Deactivation

- Thermal violation: Farmview – S. Harrington 138 kV line
- Contingency: various N-1 combinations

Potential Solution:

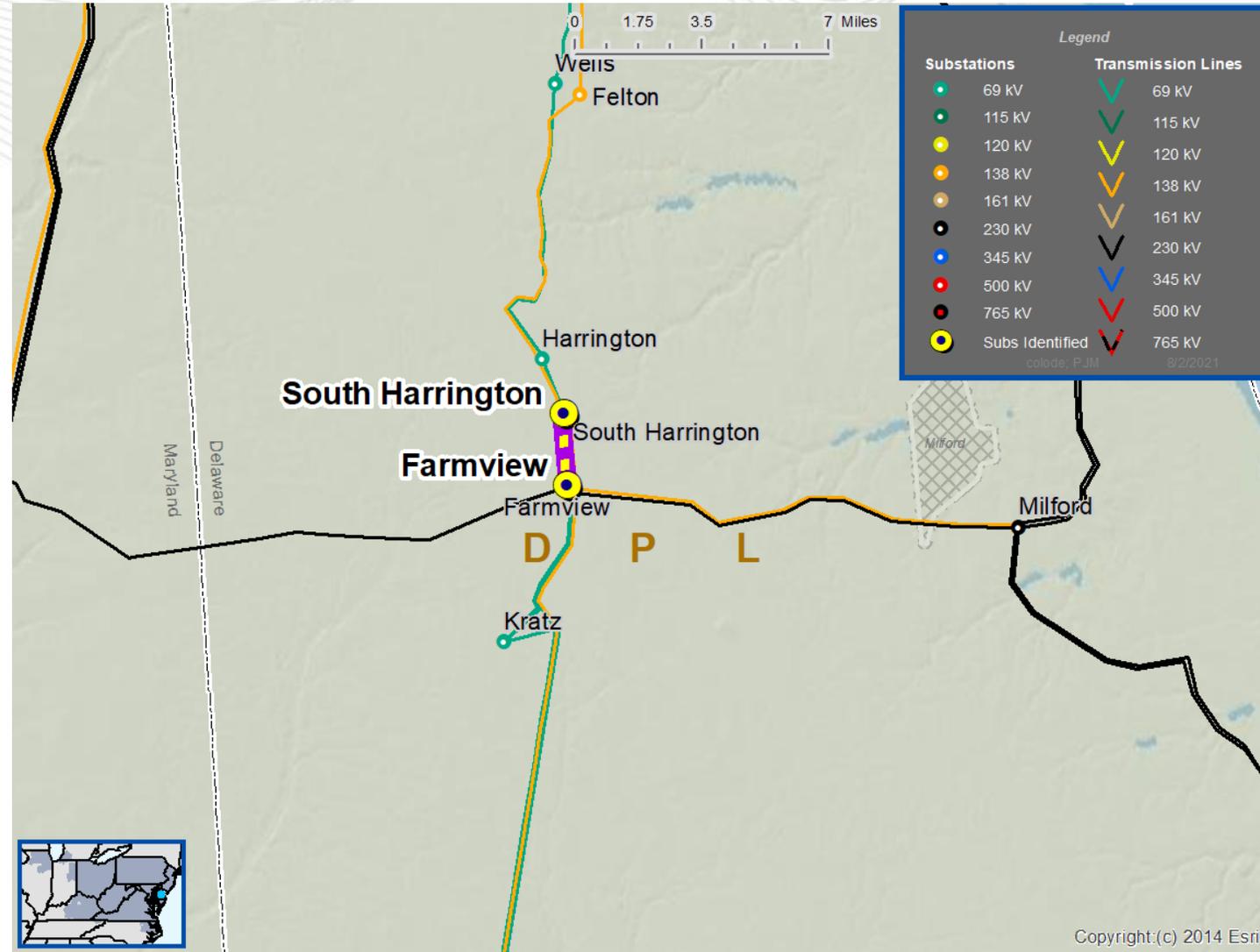
- New baseline b3330 – **Rerate the Farmview – S. Harrington 138 kV line**
- Current Rating: 167 MVA SN/ 242 MVA SE
- New Rating: **218 MVA SN/ 292 MVA SE**

Estimated Cost: \$ 0.25M

Required IS Date: 06/01/2022

Projected IS Date: 12/31/2022

* Operating measures are not available in interim. PJM Planning / Operations and Transmission Owner are continuing to investigate mitigation.



Problem Statement: N-1-1 Thermal Violation - Indian River 4 Deactivation

- Thermal violation: S. Harrington – North Seaford 138 kV line
- Contingency: various N-1 combinations

Potential Solution:

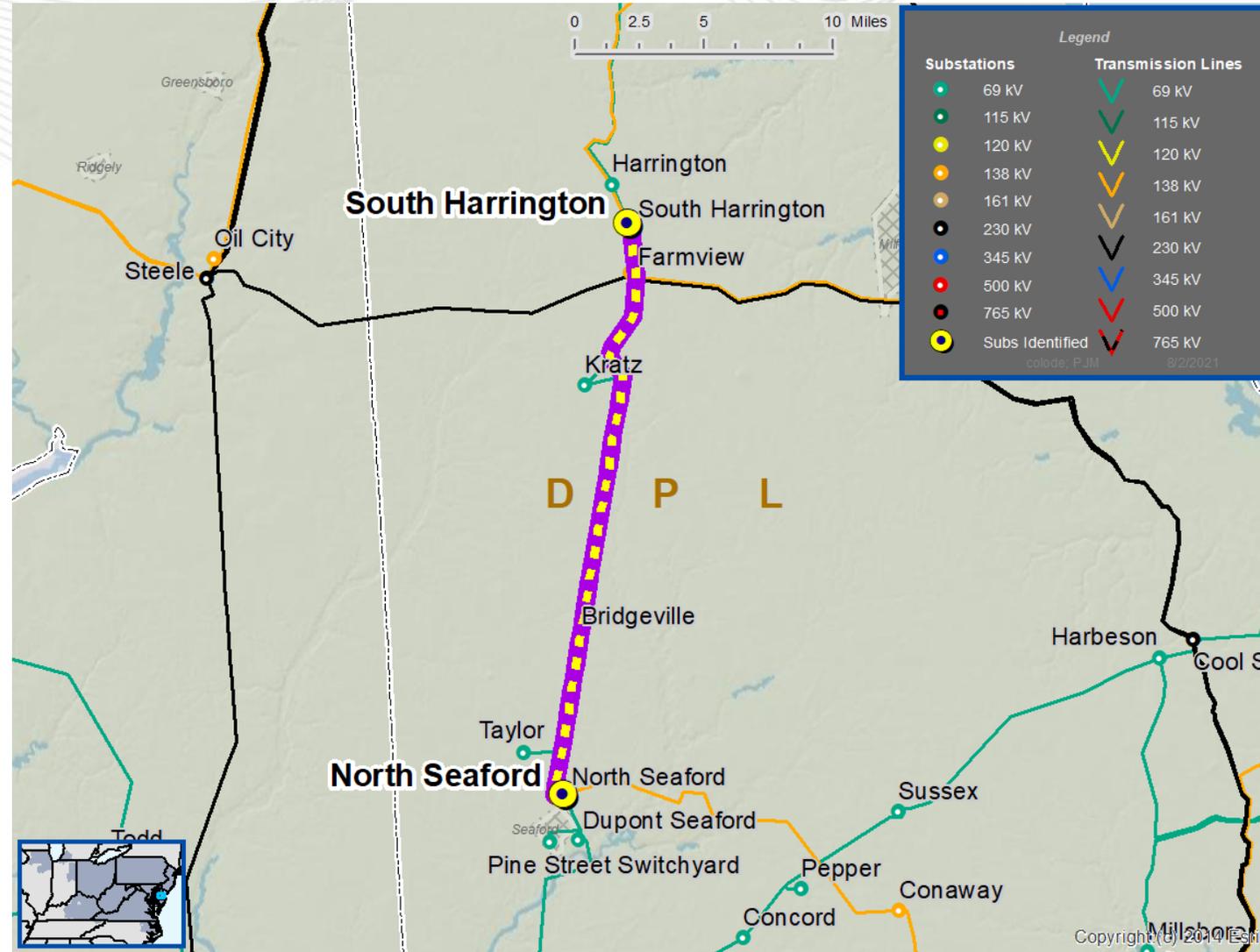
- New baseline b3331 – Upgrade stranded bus and relay at Seaford
- Current Rating: 183 MVA SN/ 247 MVA SE
- New Rating: 273 MVA SN/ 347 MVA SE

Estimated Cost: \$ 0.5M

Required IS Date: 06/01/2022

Projected IS Date: 12/31/2022

* Operating measures are not available in interim. PJM Planning / Operations and Transmission Owner are continuing to investigate mitigation.



Problem Statement: N-1-1 Thermal Violation - Indian River 4 Deactivation

- Thermal violation: Steel – Milford 230 kV line
- Contingency: various N-1 combinations

Potential Solution:

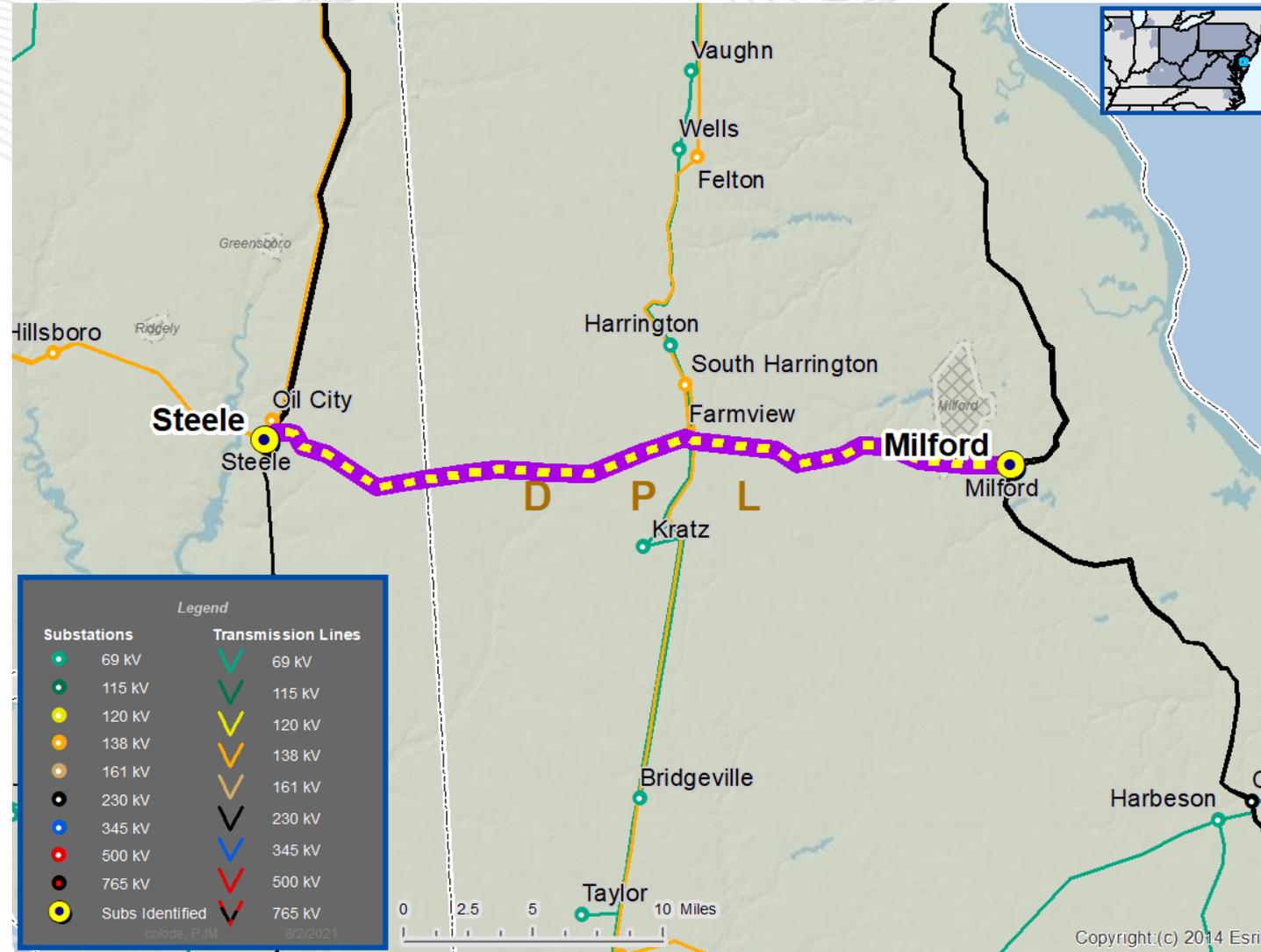
- New baseline **B3332 – Rerate the Steel – Milford 230 kV line**
- Current Rating: 395 MVA SN/ 552 MVA SE
- New Rating: 653 MVA SN/ 799 MVA SE

Estimated Cost: \$ 0.6M

Required IS Date: 06/01/2022

Projected IS Date: 12/31/2022

* Operating measures are not available in interim. PJM Planning / Operations and Transmission Owner are continuing to investigate mitigation.



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Generation Deactivation Notification



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- V1 - 9/30/21 - Original slides posted.