



Sub Regional RTEP Committee PJM Mid-Atlantic Reliability Update

November 16, 2023

Second Review

Baseline Reliability Projects

Process Stage: Second Review

Criteria: Light Load Baseline and Summer Generation Deliverability

Assumption Reference: 2028 RTEP assumption

Model Used for Analysis: 2028 RTEP Summer and Light Load cases

Proposal Window Exclusion: Below 200 kV Exclusion

Problem Statement: The Cecil – Glasgow 138 kV circuit overloaded for line fault stuck breaker contingency

Violations were posted as part of the 2023 Window 1: FG# N1-LLT1 and GD-S766

Existing Facility Rating: 309SN/378SE MVA

Recommended Solution:

Reconfigure the Nottingham bus, add a second breaker next to Nottingham 895 CB to eliminate stuck breaker contingency (**B3845.1**)

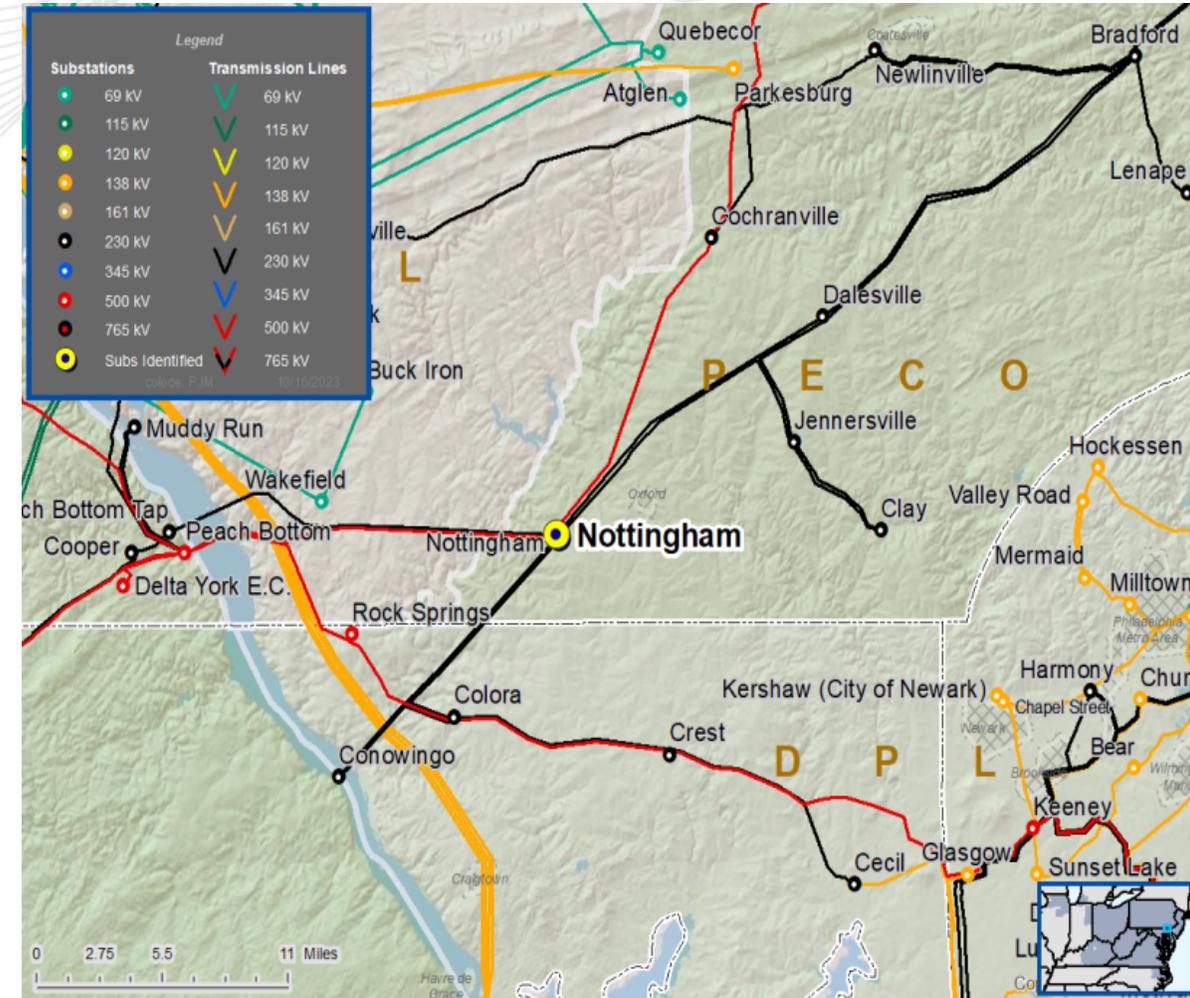
Estimated Cost: \$1.28 M

Alternatives

- Reconductor Amtrak Section and reconductor with high temperature low sag 1594-T11/ACCR “Lapwing” conductor. Upgrade substation equipment.
- Rebuild to 230kV and upgrade substation equipment
- Operate at higher conductor temperature and perform clearance mitigations if necessary, upgrade stranded bus: not viable due to high loading on line E3X: not feasible, would not address the overload
- Battery: not feasible option due to size of battery

Required In-Service: 6/1/2028

Projected In-Service: 12/1/2026





DPL Transmission Zone: Baseline

Process Stage: Second Review

Criteria: Summer Generation Deliverability

Assumption Reference: 2028 RTEP assumption

Model Used for Analysis: 2028 RTEP Summer

Proposal Window Exclusion: Below 200 kV Exclusion

Problem Statement: The Vienna - Mardela 69kV line is overloaded for multiple line fault stuck breaker contingencies.

Violations were posted as part of the 2022 Window 1: FG# - GD-S771, FG# - GD-S849 and FG# - GD-S878

Existing Facility Rating: 64SN/64E, 82WN/82WE MVA

Proposed Facility Rating: 137SN/174E, 158WN/196WE

Recommended Solution:

- Rebuild 6.25 miles of 69kV circuit 6708 (Vienna – Mardela) with new single pole steel structures and with 954.0 45/7 "Rail" conductor. This new rebuild will be from the dead-end structure on the east side of the Nanticoke River to the Mardela Tap (b3846.1)
- Upgrade of disconnect switch at Vienna and three disconnect switches at Mardela to increase ratings of existing Vienna - Mardela transmission facility. (b3846.2 and b3846.3)

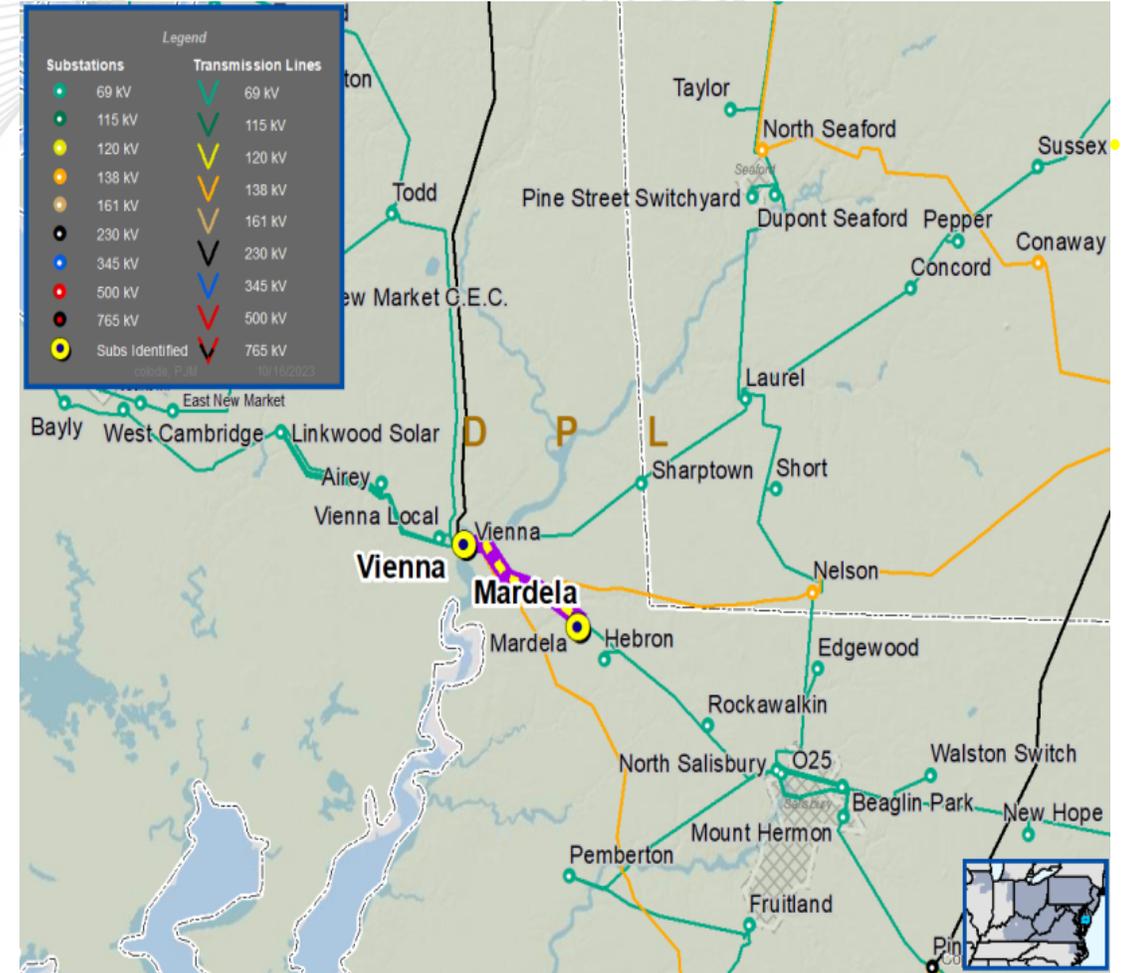
Estimated Cost: \$21.38 M

Alternatives

- Reconductor - Replace 336.4 ACSR Linnet 26/7 on Vienna – Mardela (6.72 mi.) - not viable option due to age/condition of circuit
- Operate at higher conductor temperature (and perform clearance mitigations if necessary) - not viable option due to age/condition
- E3X Coating: Line is aging wood poles - makes more sense to rebuild the line to our current standards due to age/condition, estimated loading with E3X 97%
- Battery: not feasible due to space constraints

Required In-Service: 6/1/2028

Projected In-Service: 5/31/2028



Process Stage: Second Review

Criteria: Summer Generation Deliverability

Assumption Reference: 2028 RTEP assumption

Model Used for Analysis: 2028 RTEP Summer cases

Proposal Window Exclusion: NO

Problem Statement: The North Meshoppen - Mehoopany #1 115 kV Line is overloaded for multiple line fault stuck breaker contingencies as well as a single contingency.

Violations were posted as part of the 2022 Window 1: FG# - IPD-S22, FG# - IPD-S23 and FG# - IPD-S25

Existing Facility Rating: 133SN/160E MVA

Proposed Facility Rating: 232SN/282E, 263WN/334WE

Recommended Solution: Proposal ID MATLIT 746

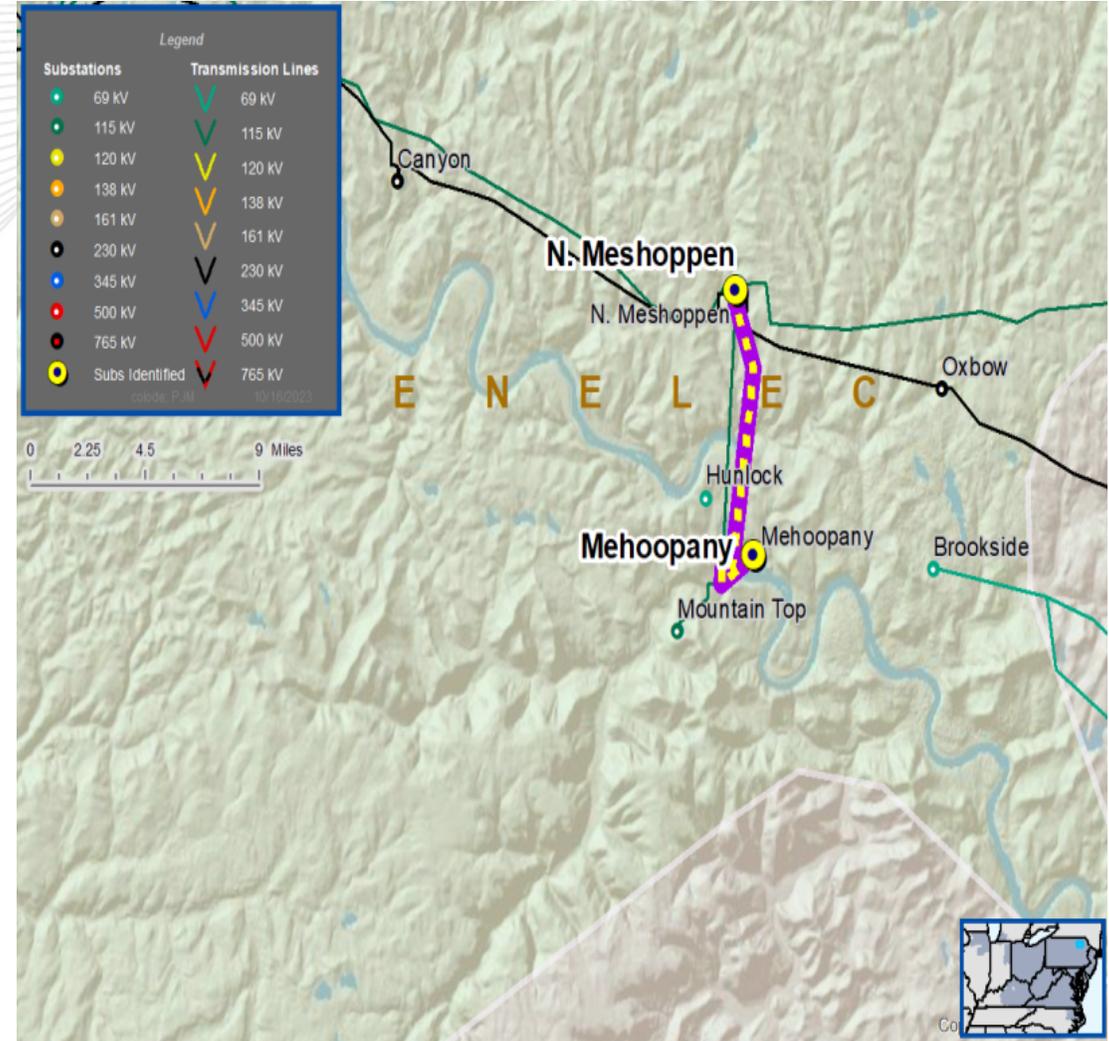
Rebuild the North Meshoppen - Mehoopany #1 115 kV Line with 795 ACSR 26/7 STR conductor. Upgrade terminal equipment to exceed transmission line ratings. **(b3791)**

Estimated Cost: \$17.4M

Alternatives

- None

Required In-Service: 6/1/2028



Process Stage: Second Review

Criteria: Summer Generation Deliverability

Assumption Reference: 2028 RTEP assumption

Model Used for Analysis: 2028 RTEP Summer cases

Proposal Window Exclusion: NO

Problem Statement: The North Meshoppen - Mehoopany #2 115 kV Line is overloaded for multiple line fault stuck breaker contingencies as well as a single contingency.

Violations were posted as part of the 2022 Window 1: FG# - IPD-S20, FG# - IPD-S21 and FG# - IPD-S24

Existing Facility Rating: 133SN/160E MVA

Proposed Facility Rating: 232SN/282E, 263WN/334WE

Recommended Solution: Proposal ID MATLIT 158

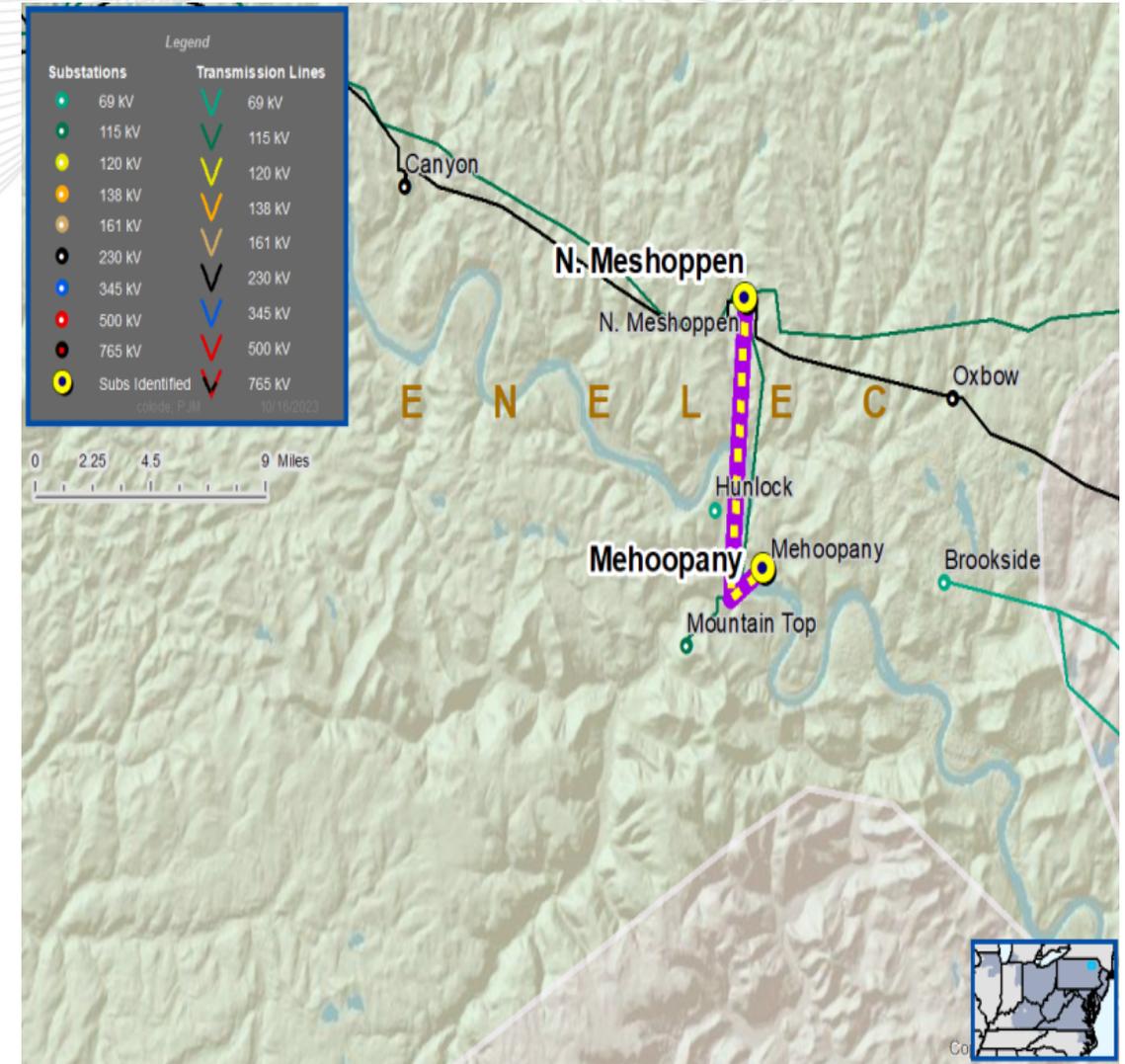
Rebuild the North Meshoppen - Mehoopany #2 115 kV Line using 795 ACSR 26/7 STR conductor and upgrade terminal equipment to exceed the transmission line rating. **(b3792)**

Estimated Cost: \$17.7M

Alternatives

- None

Required In-Service: 6/1/2028



Questions?



2022

- The Next 2023 Mid-Atlantic SRRTEP meeting is as followed
- 12/13



Revision History

V1 – 11/10/2023 – Original slides posted