Sub Regional RTEP Committee
PJM Mid-Atlantic

November 18, 2019

PJM©2019

- The following definitions explain the basis for excluding flowgates and/or projects from the competitive planning process and designating projects to the incumbent Transmission Owner.
- Flowgates/projects excluded from competition will include the underlined language on the corresponding slide.

  - Immediate Need Exclusion: Due to the immediate need of the violation (3 years or less), the timing required for an RTEP proposal window is infeasible. As a result, the local Transmission Owner will be the Designated Entity. - Operating Agreement, Schedule 6 § 1.5.8(m)
  - Below 200kV Exclusion: Due to the lower voltage level of the identified violation(s), the driver(s) for this project are excluded from the competitive proposal window process. As a result, the local Transmission Owner will be the Designated Entity - Operating Agreement, Schedule 6 § 1.5.8(n)
  - Substation Equipment Exclusion: Due to identification of the limiting element(s) as substation equipment, the driver(s) for this project are excluded from the competitive proposal window process. As a result, the local Transmission Owner will be the Designated Entity - Operating Agreement, Schedule 6 § 1.5.8(p)

PJM©2019

Second Review

Baseline Reliability Projects

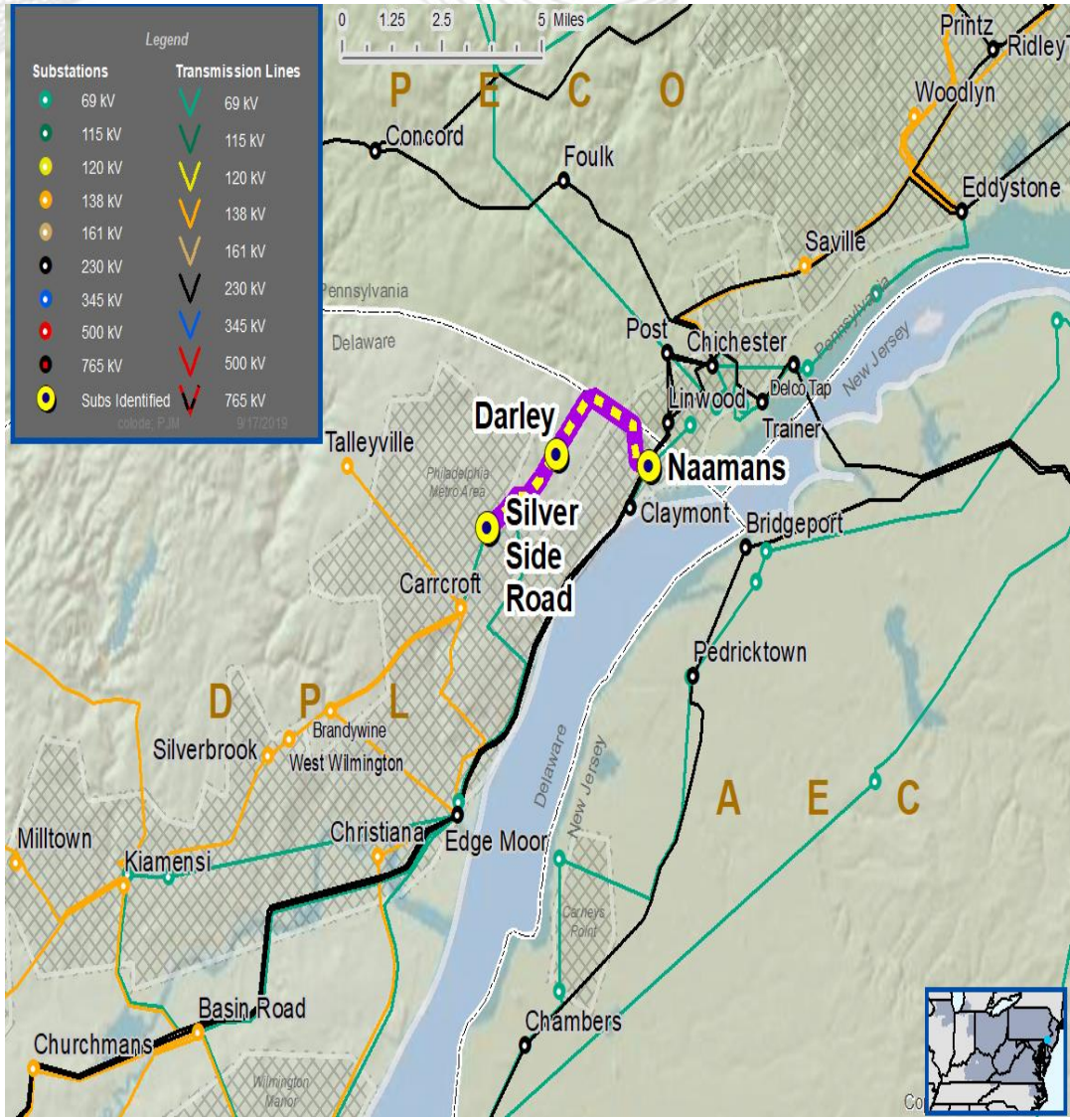
PJM©2019

Process Stage: Second Review
Previously Presented: 10/21/2019
Summer and Winter: [GD-S537, GDS538], [GD-W441 and GD-W442]

Problem Statement:
The Naamans – Darley – Silver Side Rd 69 kV circuit is overloaded for a tower line outage, loss of Edge Moor – Claymont and Edge Moor – Linwood 230 kV circuits, in the Winter generation deliverability study. The circuit is rated at 105N/136E, 137N/175E Summer and 121N/153E, 158N/197E Winter

Proposed Solutions

PJM Proposal ID	Proposing Entity	Description	Cost ($M)
626	Exelon	Install a series reactor on the Silverside-Darley line	1.000
820	Exelon	Install a SmartWire device in series with the Silverside-Darley line	2.000
673	Exelon	Replace terminal equipment and implement reconductoring of the Silverside-Darley and Darley-Naamans lines to achieve ratings of 232 MVA normal and 239 MVA emergency (Silverside-Darley) and 174 MVA normal and 194 MVA emergency (Darley-Naamans)	5.500
174	Exelon	Construct a new 69 kV line between Edge Moor and Claymont Substation. Create a new terminal position at Edge Moor substation and utilize an open terminal position at Claymont Substation.	17.000
036	Exelon	Construct new 230 kV line from Edge Moor Substation to New Substation near Linwood Substation (PECO). New substation will tie in the Chichester to Linwood 230 kV Line (PECO).	36.575
522	Exelon	Construct new 230 kV line from Edge Moor to Chichester substation and perform associated upgrades at substations to accommodate new line.	37.900
637	Exelon	Construct new 230 kV line from Harmony Substation to New Substation near Linwood Substation (PECO). New substation will tie in the Chichester to Linwood 230 kV Line (PECO).	69.000
839	Exelon	Construct new 230 kV line from Harmony to Chichester substation and perform associated upgrades at substations to accommodate new line.	71.000



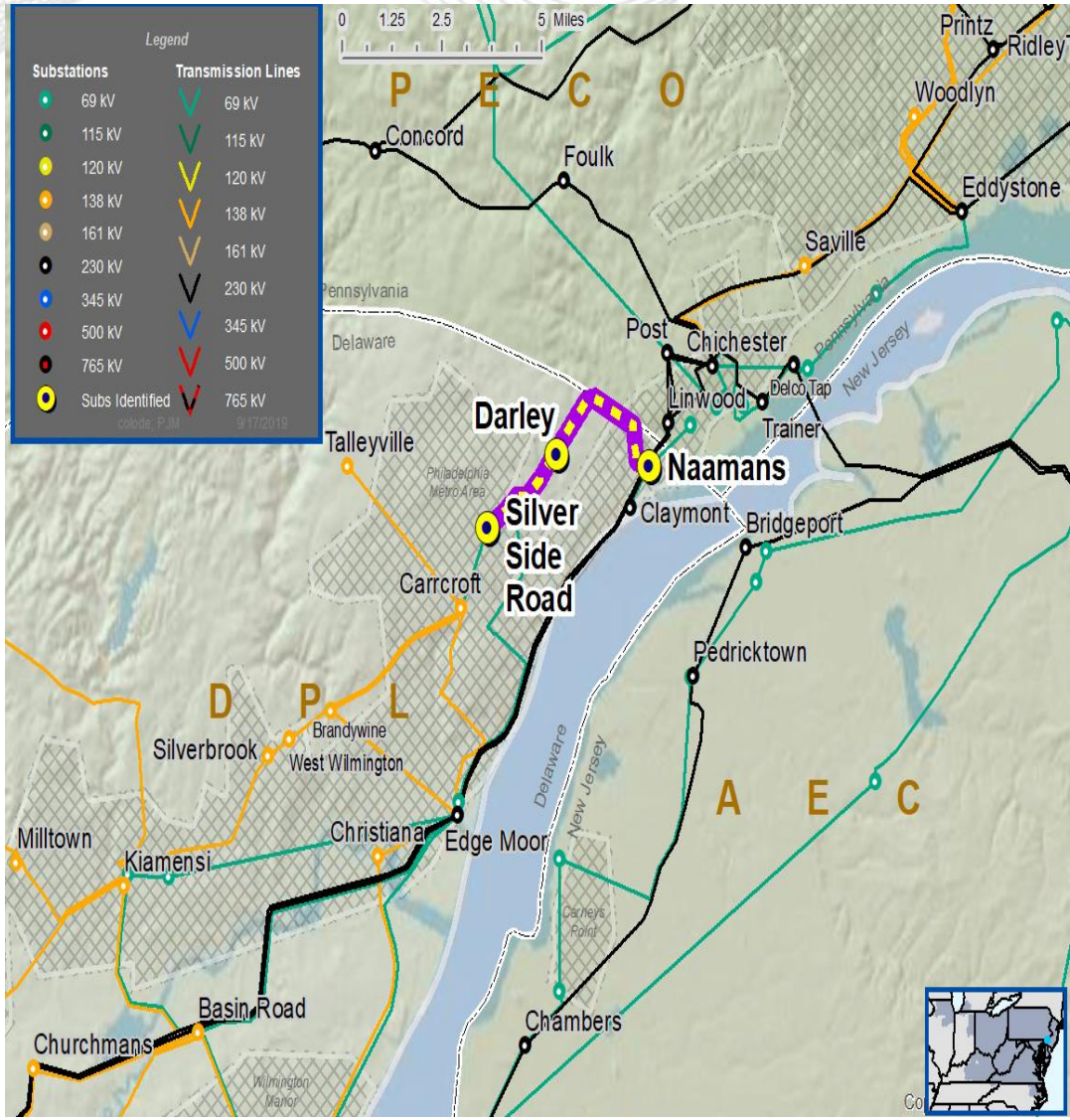
PJM©2019

Process Stage: Second Review
Previously Presented: 10/21/2019
Summer and Winter: [GD-S537, GDS538], [GD-W441 and GD-W442]

Problem Statement:
The Naamans – Darley – Silver Side Rd 69 kV circuit is overloaded for a tower line outage, loss of Edge Moor – Claymont and Edge Moor – Linwood 230 kV circuits, in the Winter generation deliverability study. The circuit is rated at 105N/136E, 137N/175E Summer and 121N/153E, 158N/197E Winter

Recommended Solution
Replace terminal equipment and implement reconductoring of the Silverside-Darley and Darley-Naamans 69 kV lines to achieve ratings of 232N/239E summer MVA, 241N/269E winter MVA (Silverside-Darley) and 174N/194E summer MVA , 205N/235E winter MVA (Darley-Naamans). (B3143)

Estimated Project Cost : $5.5 M
Required In-Service Date: 6/1/2024
Projected In-Service Date: 6/1/2024
Status: Conceptual



PJM©2019

Process Stage: Second Review

Previously Presented: 9/24/2019

Criteria: First Energy Planning Criteria Violation

Assumption Reference: FERC 715

Model Used for Analysis: 2019 Series 2024 Summer RTEP

Proposal Window Exclusion: Below 200 kV

Problem Statement:

The Jackson Rd. – Nanty GL 46 kV circuit is overloaded for the loss of the parallel Jackson Rd – Nanty 46 kV line, in both Summer and Winter studies.

The line is rated at 25N/25E Summer and Winter. The circuit is loaded to 108% of 25 MVA Summer emergency rating and 102.8% of 25 MVA Winter emergency rating.

Recommended Solution:

Jackson Road – Nanty Glo 46 kV SJN Line: Upgrade Bus Conductor & Relay Panels

- At Jackson Road, terminal equipment to be replaced includes line relaying and substation conductor. **(b3144.1)**
- At Nanty Glo, terminal equipment to be replaced includes line relaying and substation conductor. **(b3144.2)**

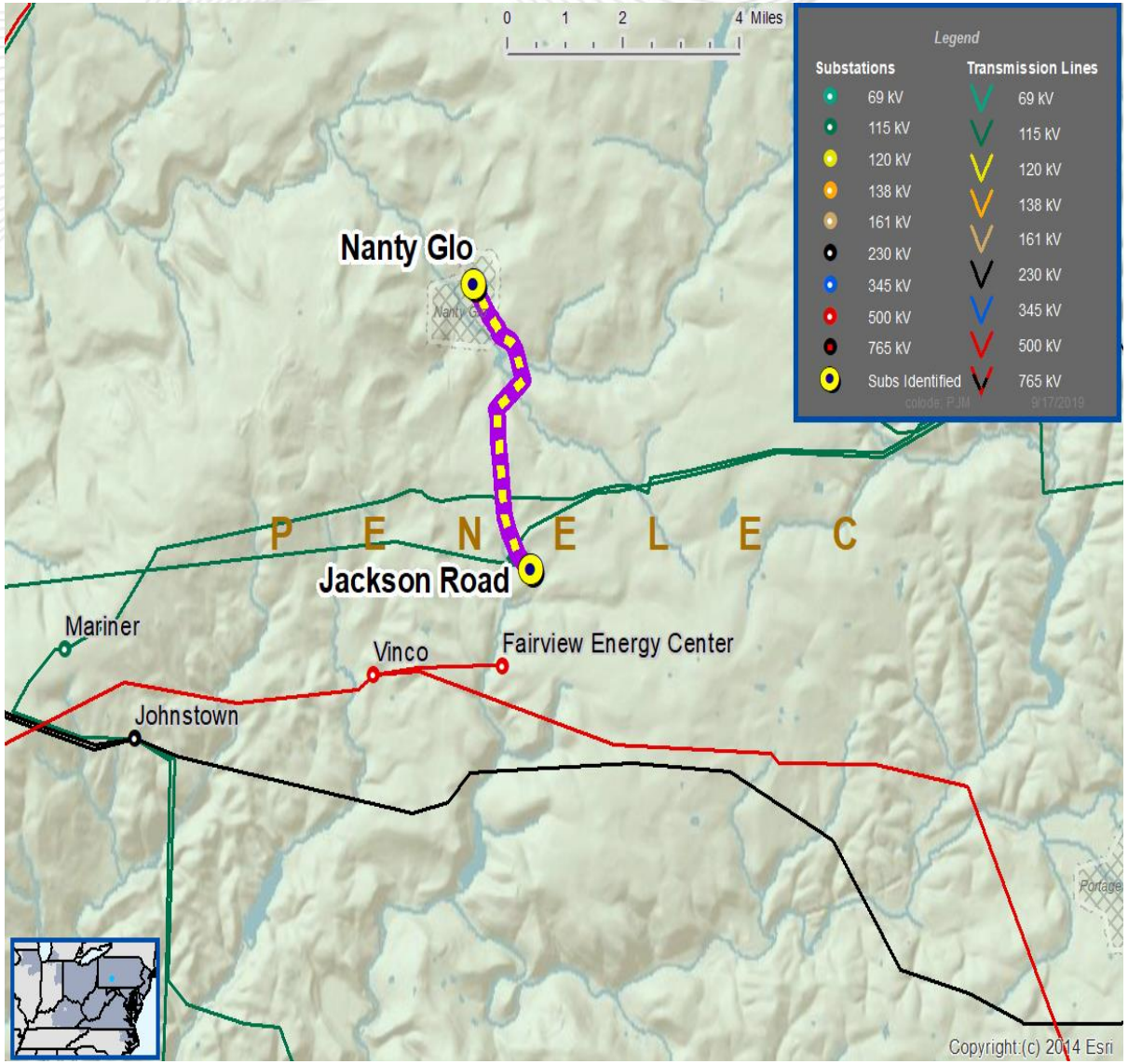
New rating →53N/64E MVA summer, 60N/76E MVA winter

Estimated Project Cost : $1.5 M

Required In-Service Date: 6/1/2024

Projected In-Service Date: 6/1/2024

Status: Conceptual



PJM©2019

First Review

Baseline Reliability Projects

PJM©2019

Short Circuit Projects

PJM©2019

PECO Transmission Zone: Baseline
Richmond 69kV Breaker “140” Replacement

Process Stage: Second Review

Previously Presented: 10/21/2019

Baseline Reliability: Immediate Need Exclusion

Problem Statement: Short Circuit

The Richmond 69kV breaker “140" is overdutied.

Significant Driver:

Case Correction – Richmond 7 Transformer modeling correction

Recommended Solution:

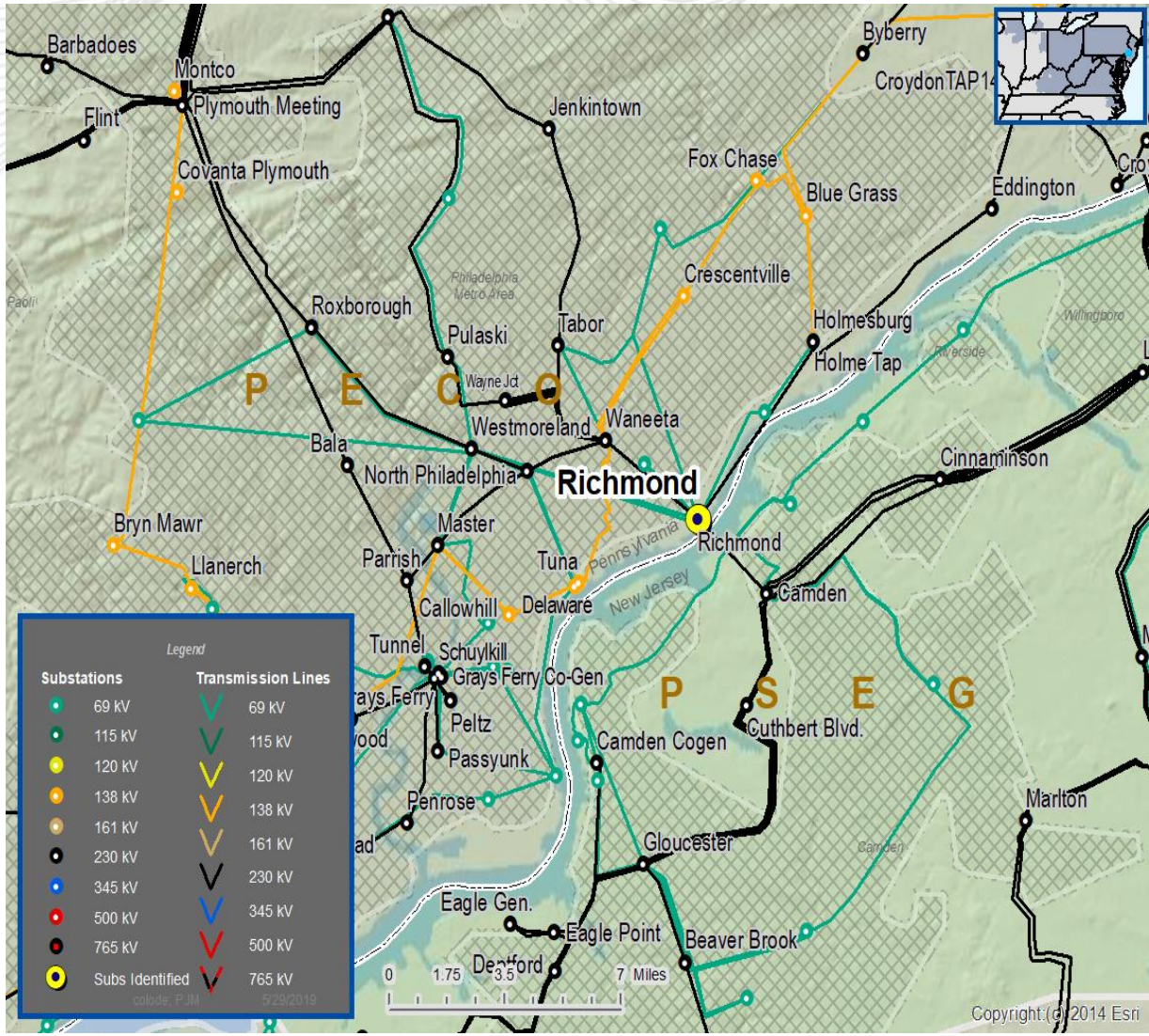
Replace the Richmond 69kV breaker “140" with a 40kA breaker **(b3146)**

Estimated Project Cost: $0.415 M

Required In-service Date: Immediate Need

Projected In-service Date: 6/1/2021

Project Status: Conceptual



Next Steps

PJM©2019

Upcoming Mid-Atlantic SRRTEP Meetings

Mid-Atlantic	Start	End
12/16/2019	12:00	4:00

PJM©2019

Questions?

PJM©2019

Revision History

11/11/2019 – V1 – Original version posted to pjm.com.

11/13/2019 – V2 – Corrected baseline number on slide 9.

-- Corrected original posting date of slide deck.

PJM©2019