Transmission Expansion Advisory Committee FirstEnergy Supplemental Projects

March 4th, 2025

Solution

Stakeholders must submit any comments within 10 days of this meeting in order to provide the time necessary to consider these comments prior to the next phase of the M-3 process.

Penelec Transmission Zone M-3 Process
Glade Substation

Need Number: PN-2024-013

Process Stage: Solution Meeting TEAC - 03/04/2025

Previously Presented: Need Meeting 04/02/2024

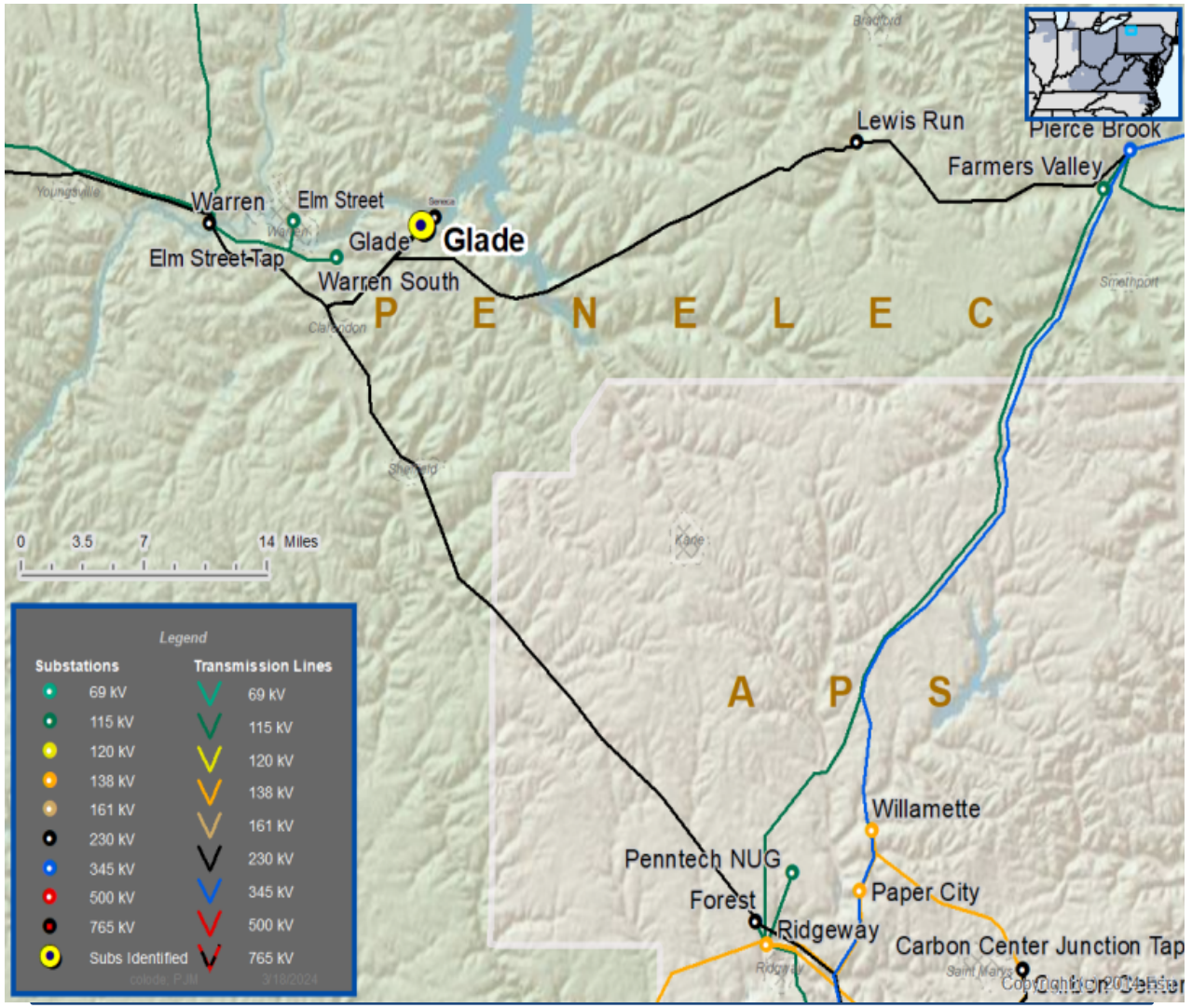
Project Driver: Equipment Condition/Performance/Risk, Operational Flexibility and Efficiency

Specific Assumption References:

System Performance Projects Global Factors - Failure risk, age and condition, obsolescence, operational or design limitations - Substation/line equipment limits Upgrade Relay Schemes - Obsolete and difficult to repair communication equipment - Communication technology upgrades

Problem Statement:

The Glade Substation control building is deteriorated and has limited space. The walls are excessively rusty due to moisture penetration and the windows are broken. The Glade Substation control building is 56 years old. Transmission line ratings are limited by terminal equipment: - Forest – Glade 230 kV Line: -- Existing Ratings: 541 / 659 / 612 / 781 MVA (SN/SE/WN/WE) -- Transmission Line Conductor Ratings: 546 / 666 / 619 / 790 MVA (SN/SE/WN/WE) - Glade – Lewis Run 230 kV Line: -- Existing Ratings: 541 / 659 / 612 / 762 MVA (SN/SE/WN/WE) -- Transmission Line Conductor Ratings: 546 / 666 / 619 / 790 MVA (SN/SE/WN/WE) - Glade – Warren 230 kV Line: -- Existing Ratings: 520 / 621 / 619 / 710 MVA (SN/SE/WN/WE) -- Transmission Line Conductor Ratings: 546 / 666 / 619 / 790 MVA (SN/SE/WN/WE)



Penelec Transmission Zone M-3 Process
Glade Substation

Need number(s): PN-2024-013

Process Stage: Solution Meeting TEAC - 03/04/2025

Proposed Solution:

Glade Control Building: At Glade Substation: -Replace Glade Substation control building with a new package control enclosure. -Install new cable trench, replace four disconnect switches, and two 230 kV breakers -Replace substation conductor and line trap on the Lewis Run and Warren line terminals at Glade Substation -Replace substation conductor on the Forest line terminal at Glade Substation -Install new relaying and control equipment At Lewis Run Substation, on the Glade line terminal: -Replace line trap - Install new relaying and control equipment At Warren Substation, on the Glade line terminal: -Replace substation conductor -Install new relaying and control equipment At Forest Substation, on the Glade line terminal: -Install new relaying and control equipment". Estimated Cost: $12 M

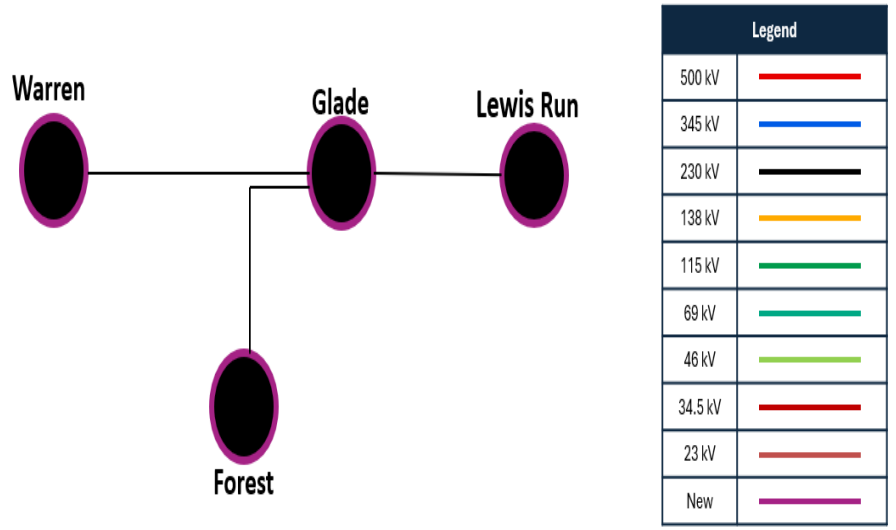
Transmission Cost Estimate: $12 M

Alternatives Considered:

Maintain existing condition with elevated risk of equipment failure.

Projected In-Service: 12/17/2027

Project Status: Conceptual



Questions?

Appendix

High level M-3 Meeting Schedule

Assumptions

Activity	Timing
Posting of TO Assumptions Meeting information	20 days before Assumptions Meeting
Stakeholder comments	10 days after Assumptions Meeting

Needs

Activity	Timing
TOs and Stakeholders Post Needs Meeting slides	10 days before Needs Meeting
Stakeholder comments	10 days after Needs Meeting

Solutions

Activity	Timing
TOs and Stakeholders Post Solutions Meeting slides	10 days before Solutions Meeting
Stakeholder comments	10 days after Solutions Meeting

Submission of Supplemental Projects & Local Plan

Activity	Timing
Do No Harm (DNH) analysis for selected solution	Prior to posting selected solution
Post selected solution(s)	Following completion of DNH analysis
Stakeholder comments	10 days prior to Local Plan Submission for integration into RTEP
Local Plan submitted to PJM for integration into RTEP	Following review and consideration of comments received after posting of selected solutions

Revision History

2/20/2025 - V1 – Original version posted to pjm.com