

Transmission Expansion Advisory Committee FirstEnergy Supplemental Projects

August 8th, 2024

Solutions

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

Need Numbers: PN-2023-029

Process Stage: Solution Meeting – 08/06/2024

Previously Presented: Need Meeting –12/05/2023

Project Driver:

System Condition, System Performance

Specific Assumption Reference:

FE Global Factors

- Past system reliability/performance
- Substation/Line Equipment Limits

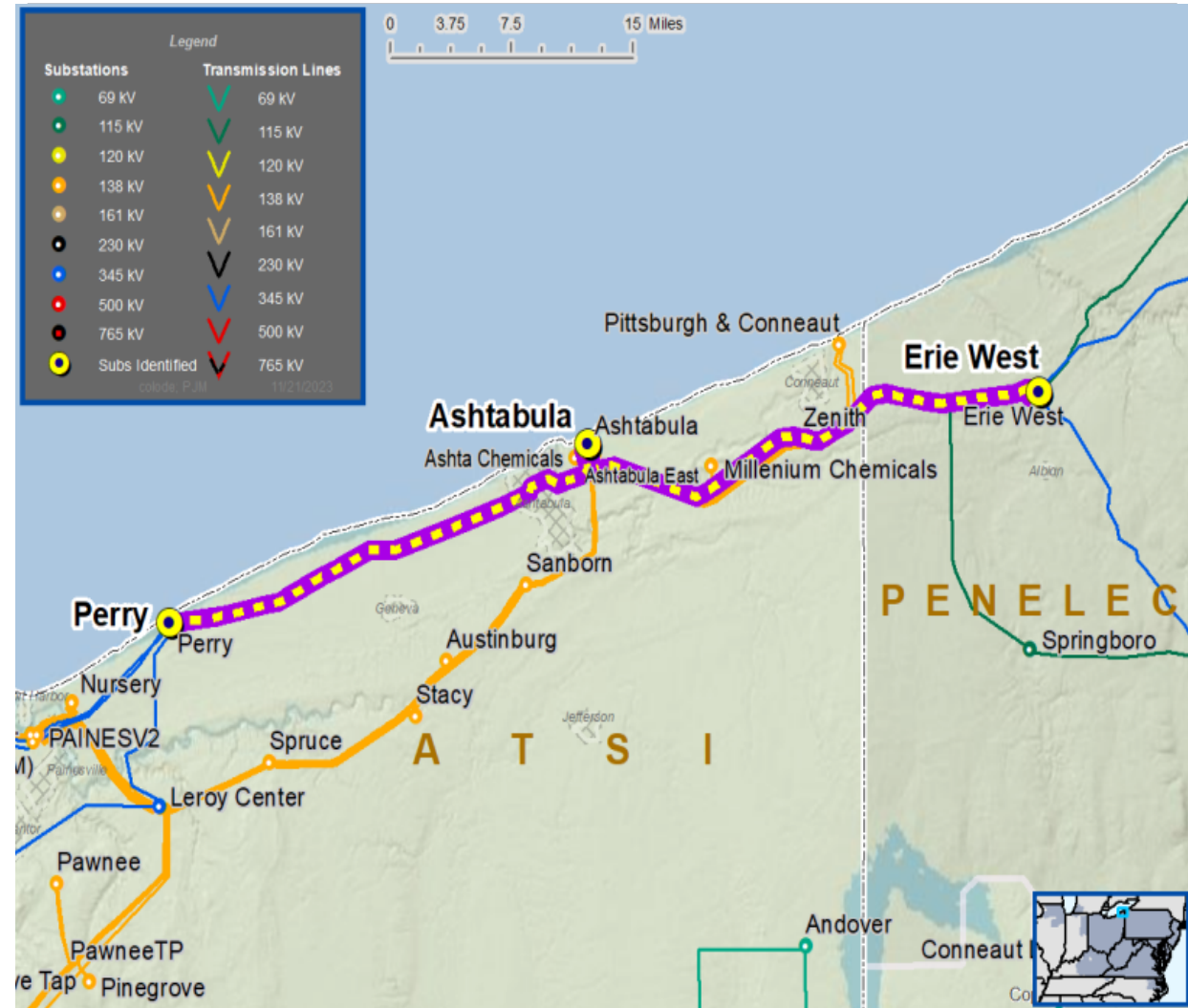
Line Condition Rebuild/Replacement

- Transmission Steel Tower, Wood & Steel Poles
- Transmission Line Hardware

Problem Statement:

- The Perry-Ashtabula-Erie West 345 kV Line was constructed approximately 60 years ago. It is a critical east-to-west power transfer interface.
- The Ashtabula – Erie West 345 kV Line is approximately 20 miles long with 7.2 miles in the Penelec territory in Pennsylvania.
- The insulators and related hardware are severely corroded and reaching end of life.

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Need Numbers: PN-2023-029

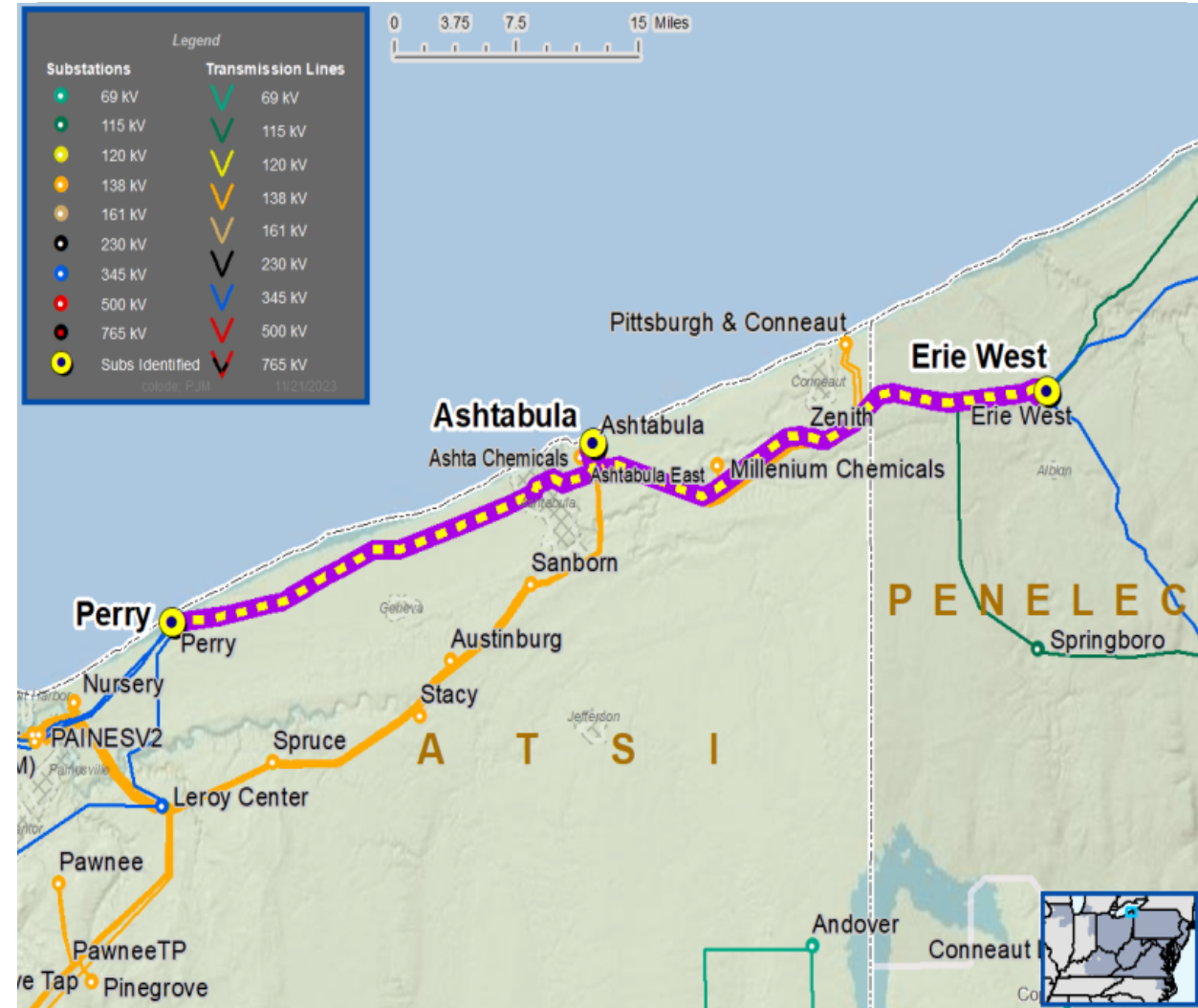
Process Stage: Solution Meeting – 08/06/2024

Previously Presented: Need Meeting – 12/05/2023

Problem Statement (Continued):

Below information is only for the Penelec section of the line (7.2 miles).

- The 27 of 39 structures in Pennsylvania are H-frame steel-pole structures which are exhibiting extensive coating failure resulting in ongoing corrosion.
- The steel pole structures have hinged bases and use guying for keeping vertical. The guying system at 19 of the 27 steel pole structures is severely deteriorated.
- Many of the original double rod attachments for supporting the crossarms to the steel poles have failed and have been replaced with wire supports.
- Since 2014, the line has had seven scheduled repair outages and four protection-operated outages due to failure of line equipment.



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Proposed Solution:

- Replace Structure 13083 through Structure 114, and Structure 42951 with steel H-frame construction on the Perry – Ashtabula – Erie West 345 kV Line and reconductor 5.8 miles of transmission line.
 - Structures 116, 119, 120, and 128 will remain.
- Reconductor remaining 1.4 miles of transmission line.
- Replace insulators, associated hardware assemblies, and existing shield wire hardware on all structures.

Transmission Line Ratings:

Ashtabula – Erie West 345 kV Line

- Before Proposed Solution: 1518 / 1849 / 1719 / 2143 MVA (SN/SE/WN/WE)
- After Proposed Solution: 1518 / 1849 / 1719 / 2143 MVA (SN/SE/WN/WE)

Alternatives Considered:

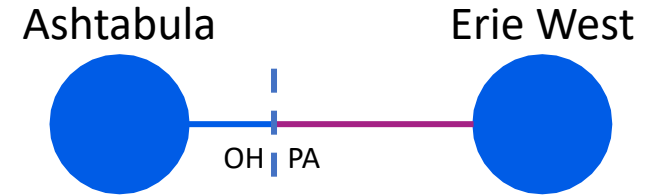
- Maintain existing condition with elevated risk of failure.

Estimated Project Cost: \$38.7M

Projected In-Service: 04/09/2027

Project Status: Conceptual

Model: 2023 Series 2028 RTEP Case Summer (50/50)



Legend	
500 kV	
345 kV	
230 kV	
138 kV	
115 kV	
69 kV	
46 kV	
34.5 kV	
23 kV	
New	

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

07/26/2024 - V1 – Original version posted to pjm.com