

Transmission Expansion Advisory Committee –FirstEnergy (JCP&L) Supplemental Projects

May 11, 2021

Solution

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 Number: JCPL-2019-015

Process Stage: Solution Meeting 5/11/2021

Previously Presented: Need Meeting 4/11/2019

Project Driver:

*Equipment Material Condition, Performance and Risk
Operational Flexibility and Efficiency*

Specific Assumption Reference:

System Performance Projects Global Factors

- System reliability and performance
- Substation/line equipment limits
- Upgrade Relay Schemes
- Relay schemes that have a history of misoperation
- Obsolete and difficult to repair communication equipment (DTT, Blocking, etc.)
- Communication technology upgrades
- Bus protection schemes

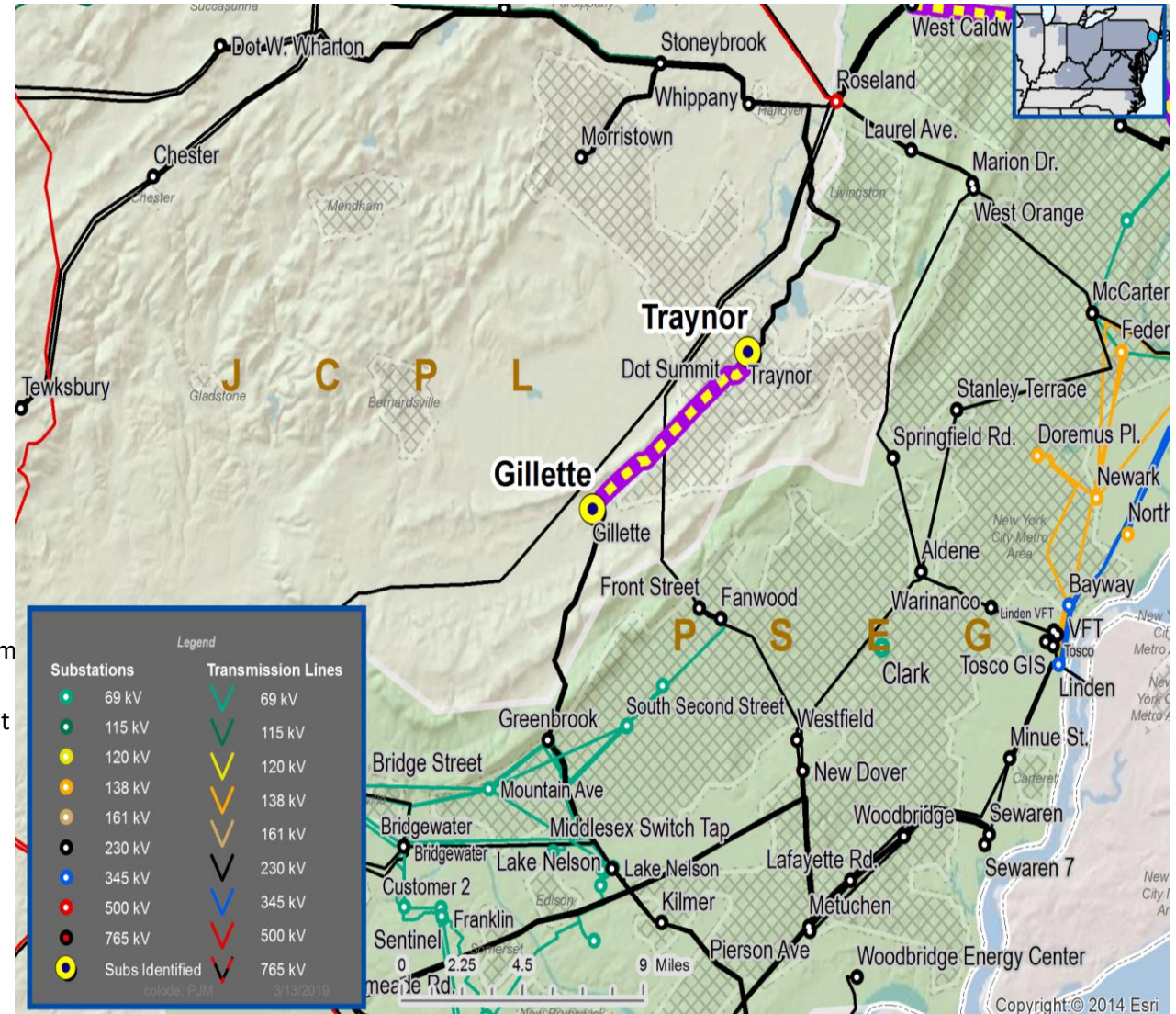
Problem Statement:

- FirstEnergy has identified protection schemes using a certain vintage of relays and communication equipment that have a history of misoperation.
- Proper operation of the protection scheme requires all the separate components perform adequately during a fault.
- In many cases the protection equipment cannot be repaired due to a lack of replacement parts and available expertise in the outdated technology.
- Transmission line ratings are limited by terminal equipment.

Transmission line ratings are limited by terminal equipment.

Gillette – Traynor 230 kV Line (substation conductor)

- Existing line rating: 678 / 813 MVA (SN / SE)
- Existing conductor rating: 709 / 869 MVA (SN / SE)



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Process State: Solutions Meeting 5/11/2021

Proposed Solution:

Gillette 230 kV Substation:

- Replace line relaying, line trap, and CCVT.
- Replace substation conductor

Traynor 230 kV Substation:

- Replace line relaying, line trap, and CCVT.
- Replace substation conductor

Transmission Line Ratings:

- Gillette – DOT Summit 230 kV Line
 - Before Proposed Solution: 678 / 802 MVA (SN/SE)
 - After Proposed Solution: 709 / 869 MVA (SN/SE)
- DOT Summit – Traynor 230 kV Line
 - Before Proposed Solution: 678 / 813 MVA (SN/SE)
 - After Proposed Solution: 709 / 869 MVA (SN/SE)

Alternatives Considered:

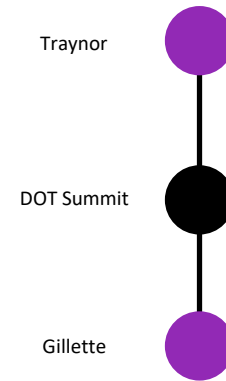
- None

Estimated Project Cost: \$2M

Projected In-Service: 6/1/2021

Project Status: Construction

Model: 2020 RTEP model for 2025 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

4/28/2021 – V1 – Original version posted to pjm.com