

Subregional RTEP Committee – Western FirstEnergy Supplemental Projects

March 18, 2022

Needs

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

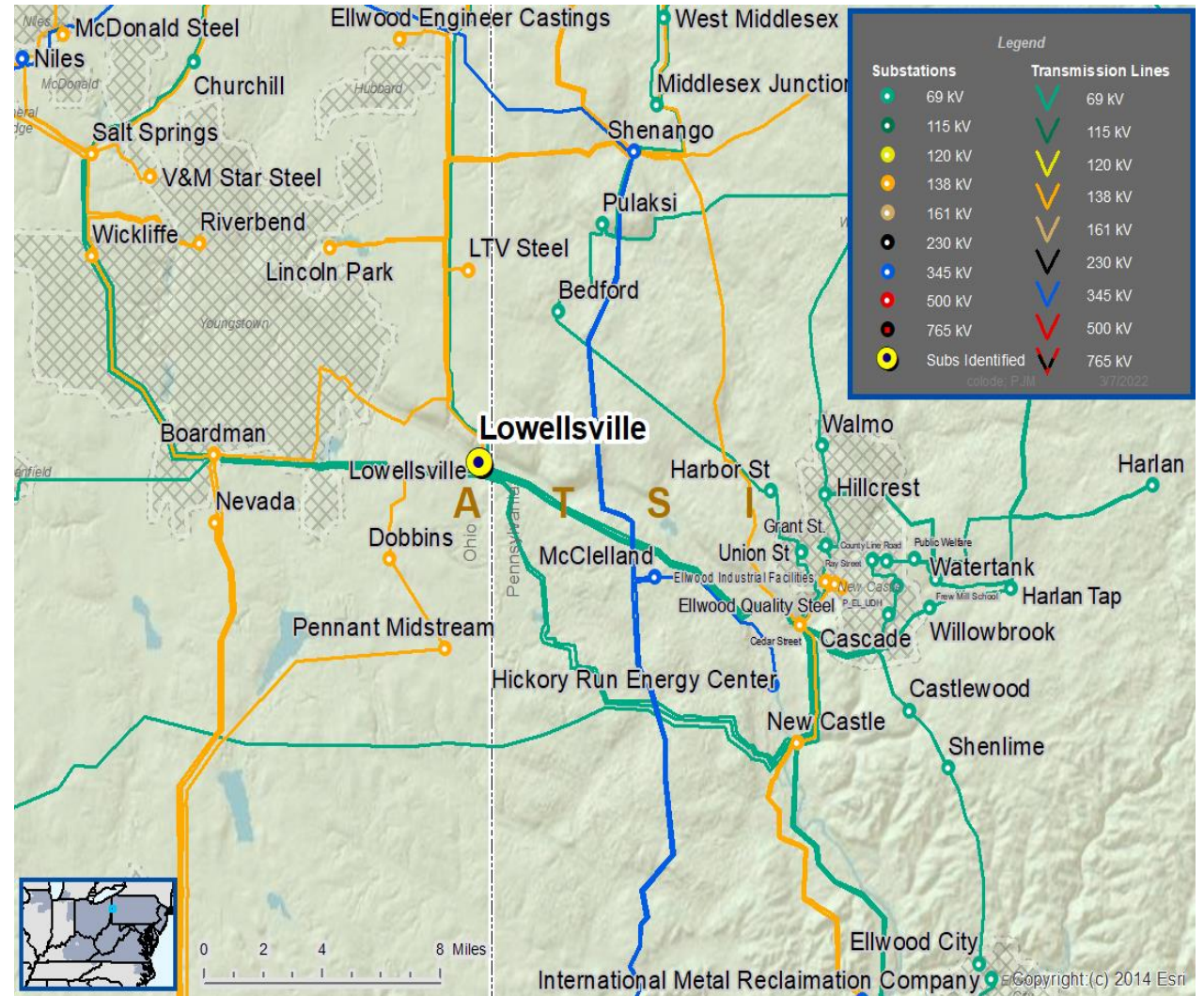
Need Number: ATSI-2022-002
Previously Presented: Need Meeting – 03/18/2022

Supplemental Project Driver(s):
Customer Service

Specific Assumption Reference(s)
 Customer connection request evaluated per FirstEnergy’s “Requirements for Transmission Connected Facilities” document and “Transmission Planning Criteria” document.

Problem Statement
 New Customer Connection – A customer requested 69 kV transmission service for approximately 15 MVA of total load near the Carbon Limestone (Lowellville) 69 kV line.

Requested In-Service Date: 7/28/2022



Need Number: ATSI-2022-006
Process Stage: Need Meeting – 03/18/2022

Supplemental Project Driver(s):
*Equipment Material Condition, Performance, and Risk
 Infrastructure Resilience*

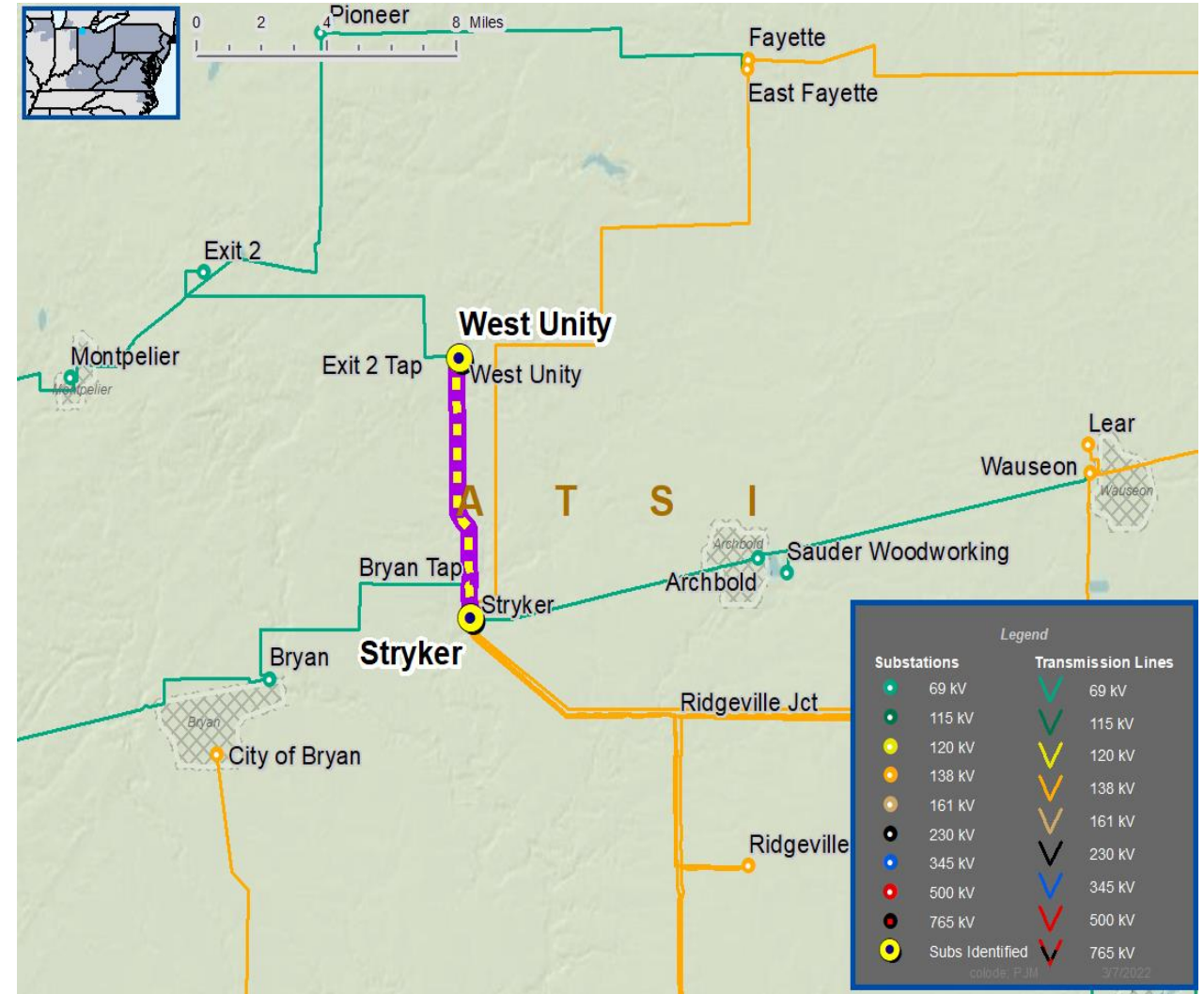
Specific Assumption Reference(s):

Global Factors

- System Reliability and Performance
- Increasing negative trend in maintenance findings
- Age/condition of transmission line conductor, hardware and structures
- Negatively impact customer outage frequency and/or duration

Problem Statement

- The West Unity (Stryker) 69 kV Line (~11.2 miles) is wood pole construction that is aged and experiencing degradation:
 - 53 of 258 structures had defects noted that could negatively impact reliability, with the most common defect noted being structure decay.
 - 235 of 258 structures are aged and reaching the end of their useful life, with average date of installation of 1967.
- A stretch of double circuit structures were replaced in the 1990's (~1.5 miles) and found to be in fair condition.



Need Number: ATSI-2022-007
Process Stage: Need Meeting – 03/18/2022

Supplemental Project Driver(s):
*Equipment Material Condition, Performance, and Risk
 Infrastructure Resilience*

Specific Assumption Reference(s):

Global Factors

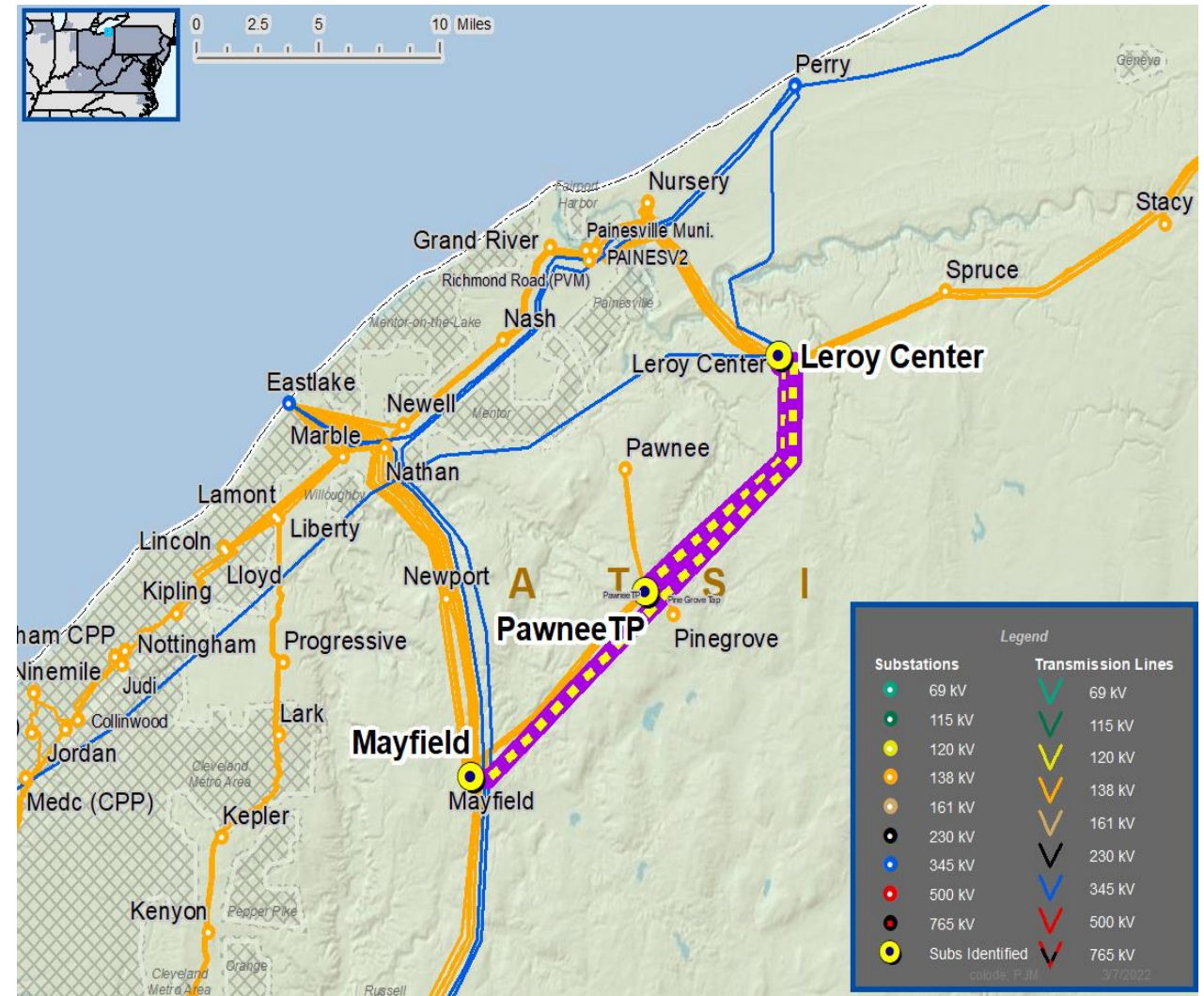
- System Reliability and Performance
- Increasing negative trend in maintenance findings
- Age/condition of transmission line conductors and hardware

Line Condition Rebuild/Replacement

- End of Life Methodology

Problem Statement

- The Leroy Center – Mayfield Q1 138 kV Line (~16.1 miles) originally constructed mid-1940's, and all structures are similar vintage.
- Leroy Center – Pawnee Tap Q1 138 kV line section (~8.4 miles) is being re-conducted and addressed under RTEP# b3152
- Pawnee Tap – Mayfield Q1 138 kV line (~7.7 miles) section:
 - 71 of 119 structures inspected had measurable cold end attachment plate wear with instances of mounting holes being 75% worn.
 - Age/condition of transmission line conductors and hardware (mid 1940s).



Need Number: ATSI-2022-008
Process Stage: Need Meeting – 03/18/2022

Supplemental Project Driver(s):
*Equipment Material Condition, Performance, and Risk
 Infrastructure Resilience*

Specific Assumption Reference(s):

Global Factors

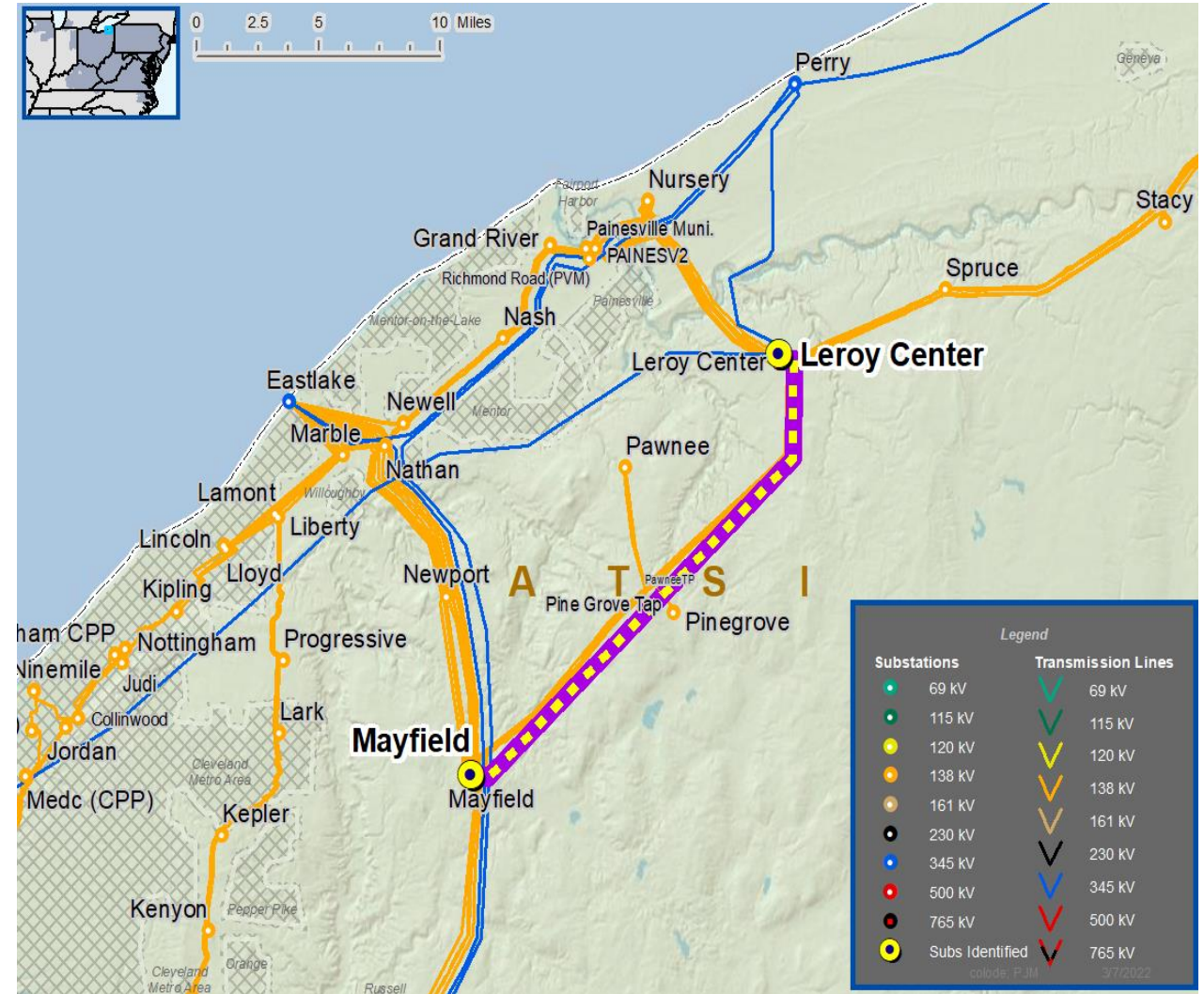
- System Reliability and Performance
- Increasing negative trend in maintenance findings
- Age/condition of transmission line conductors and hardware

Line Condition Rebuild/Replacement

- End of Life Methodology

Problem Statement

- The Leroy Center – Mayfield Q4 138 kV Line (~16.1 miles) originally constructed mid-1940's, and all structures are similar vintage:
 - 54 of 119 structures inspected had measurable cold end attachment plate wear with instances of mounting holes being 75% worn.
- Age/condition of transmission line conductors and hardware (mid 1940s).



Re-Present 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



ATSI Transmission Zone M-3 Process Delta – Wauseon 138 kV New Customer

Need Number: ATSI-2021-019
Process Stage: Re-Present Solution Meeting – 03/18/2022
Previously Presented: Solution Meeting – 08/16/2021
 Need Meeting – 07/16/2021

Supplemental Project Driver(s):
Customer Service

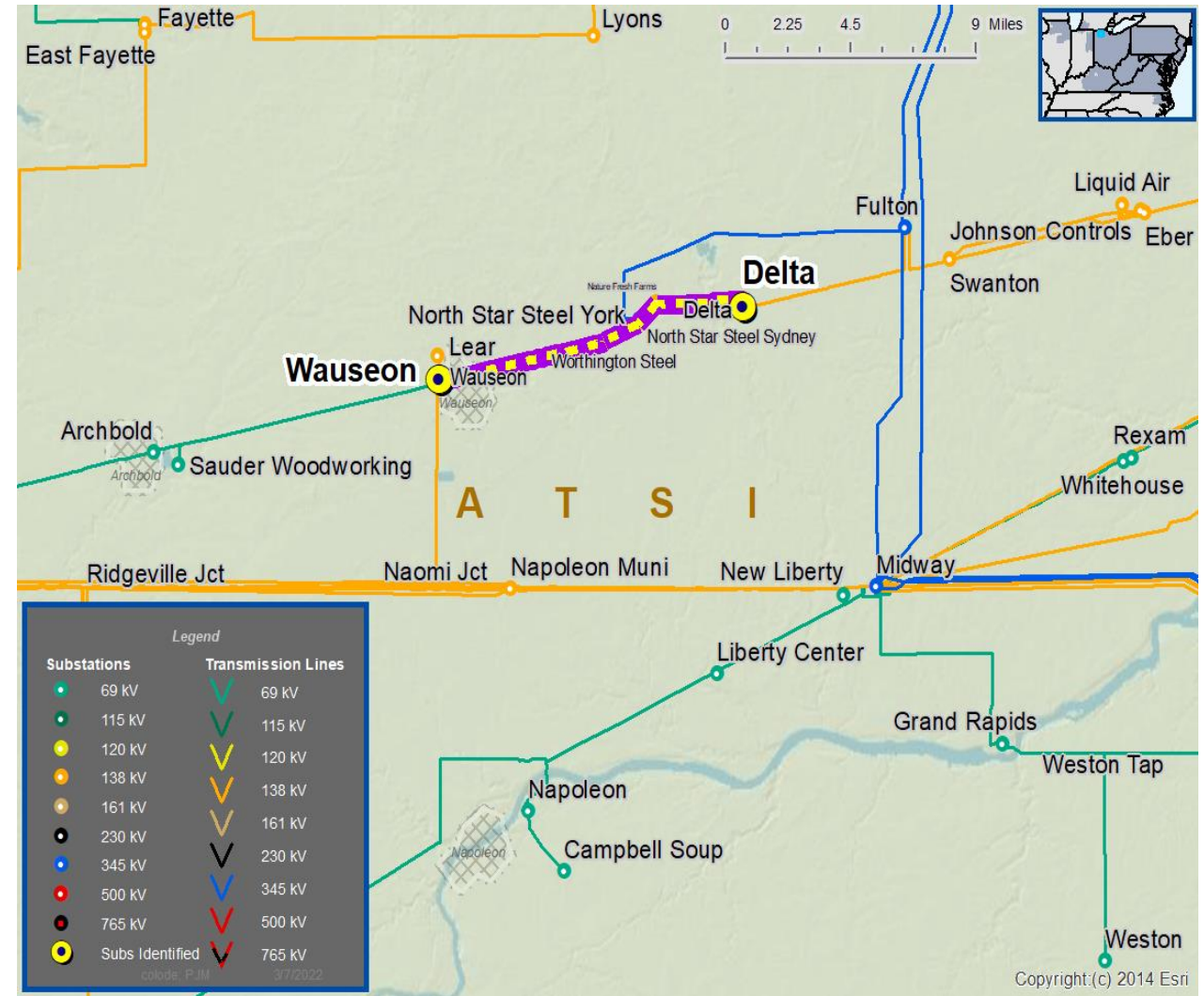
Specific Assumption Reference(s)

Customer connection request evaluated per FirstEnergy’s “Requirements for Transmission Connected Facilities” document and “Transmission Planning Criteria” document.

Problem Statement

New Customer Connection – A customer requested 138 kV transmission service for approximately 20 MVA of total load near the Delta – Wauseon 138 kV line.

Requested In-Service Dates: 10 MVA by November 1, 2021
 10 MVA increase by November 1, 2026



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ATSI Transmission Zone M-3 Process Delta – Wauseon 138 kV New Customer

Need Number: ATSI-2021-019
Process Stage: Re-Present Solution Meeting – 03/18/2022
Previously Presented: Solution Meeting – 08/16/2021
 Need Meeting – 07/16/2021

Proposed Solution:

New 138 kV Customer

- Construct a 138 kV tap off the Delta – Wauseon 138 kV line to the customer substation. The customer substation tap location is approximately a 0.9 mile extension from the existing structures to the new customer substation.
- Add MOAB and SCADA to two new switches on the Delta – Wauseon 138 kV line.
- Upgrade 336 ACSR TL Drop at Lemoyne Substation (Dowling Line Exit)

Line Ratings:

Delta-Wauseon 138 kV Line: No ratings change

Dowling-Lemoyne 138 kV Line:

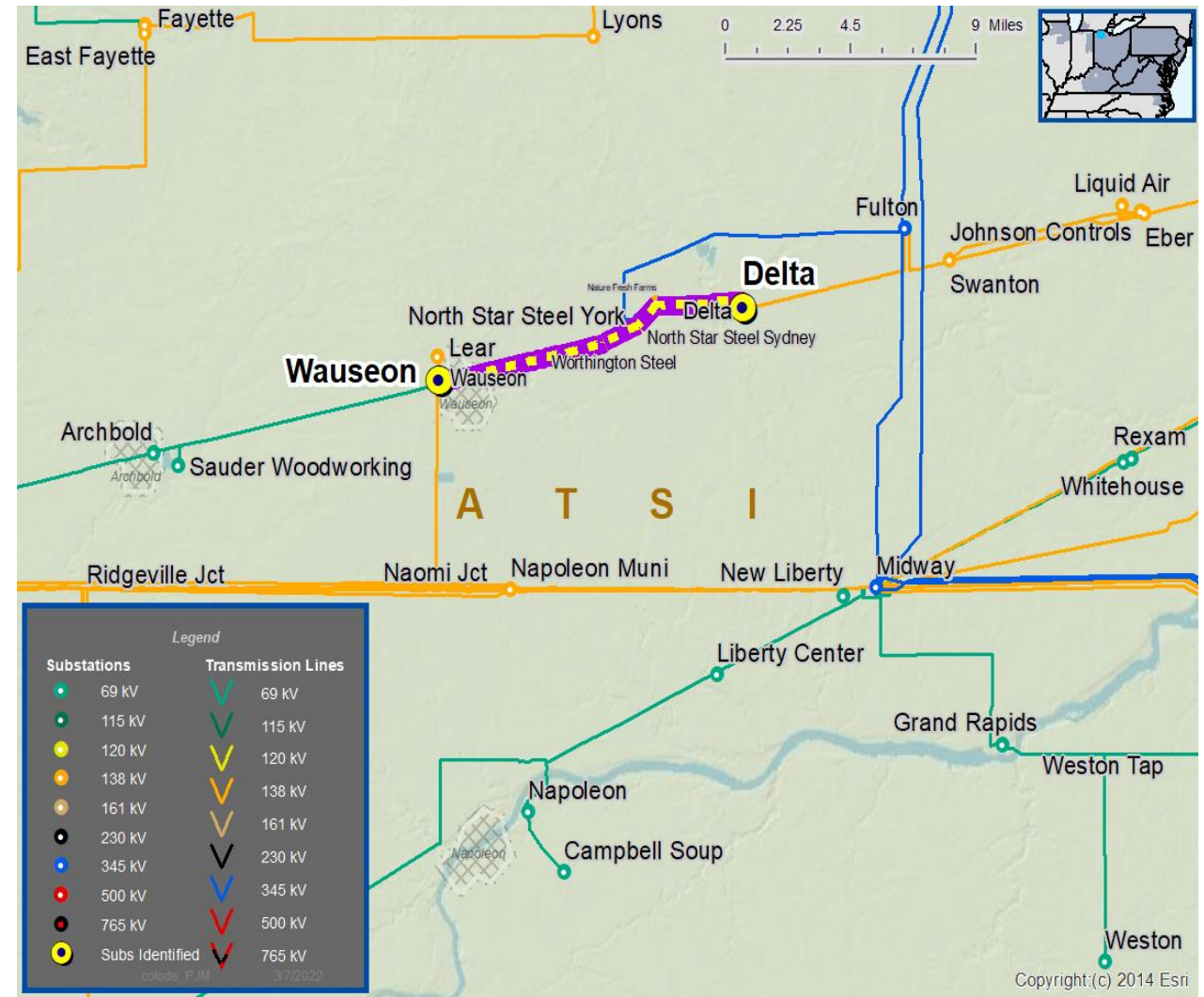
Before proposed project: 160/192 MVA SN/SE

After proposed project: 252/291 MVA SN/SE

Alternatives Considered:

- No alternatives considered for this project

Estimated Project Cost: **\$2.1M**
Projected In-Service: 06/01/2022
Status: Engineering
Model: 2020 Series 2025 Summer RTP 50/50



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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

02/**/2022 – V1 – Original version posted to pjm.com