

# Subregional RTEP Committee – Western FirstEnergy Supplemental Projects

December 13, 2024

# 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-2024-007

**Process Stage:** Need Meeting – 12/13/2024

**Supplemental Project Driver(s):**

*Equipment Material Condition, Performance and Risk*

**Specific Assumption Reference(s)**

System Performance Global Factors

- System reliability/performance

Line Condition Rebuild/Replacement

- Age/condition of wood transmission line structures
- Negatively impact customer outage frequency and/or durations
- Demonstrate an increasing trend in maintenance findings and/or costs

**Problem Statement:**

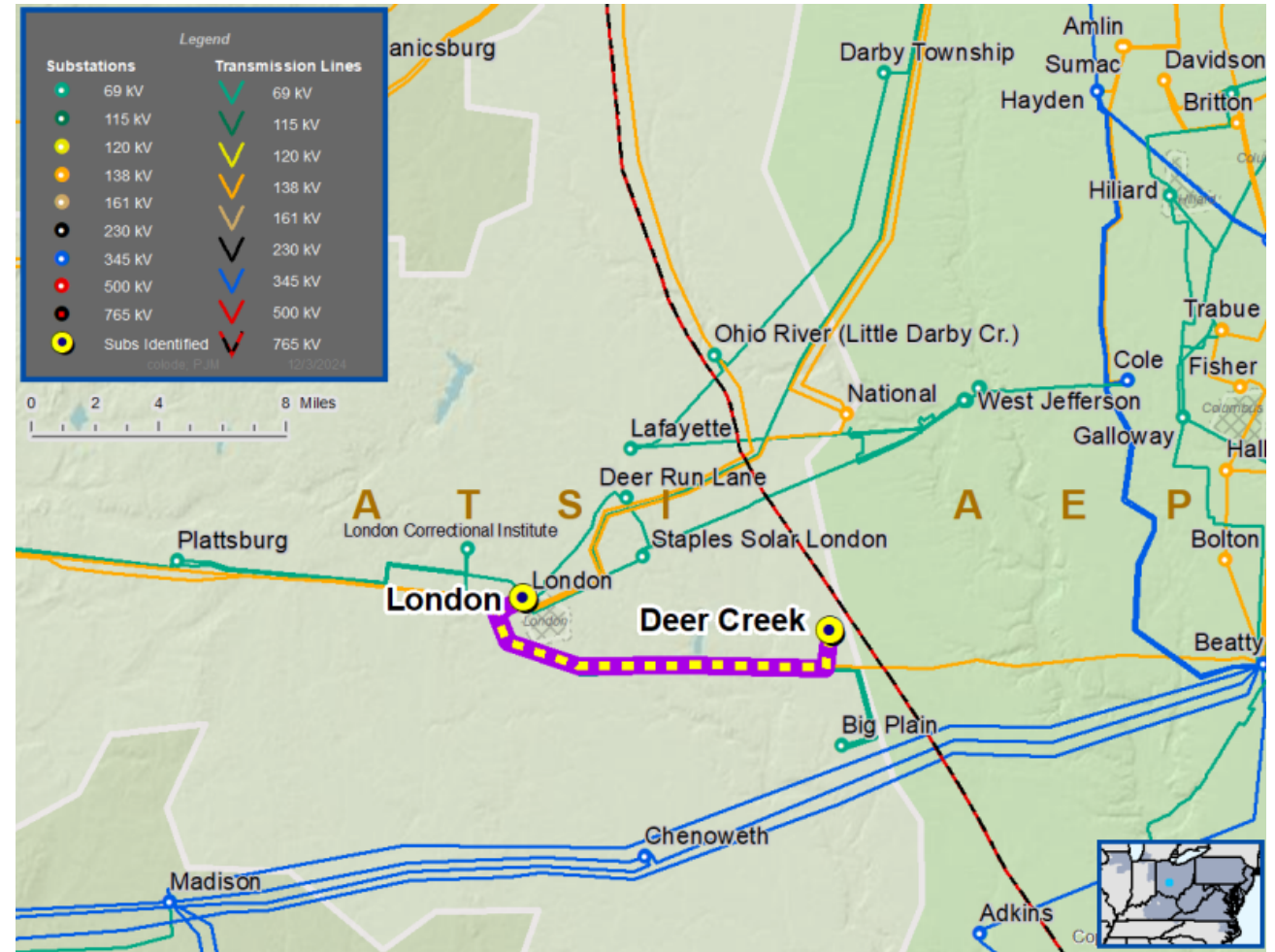
The Deer Creek – London 138 kV Line was constructed approximately 65 years ago and is approaching end of life. It is approximately nine miles long with 262 wood transmission line structures.

The line is exhibiting deterioration resulting in increased maintenance costs.

Inspection findings include:

- 260 structures were showing early signs of decay in 2014
- 12 structures require replacement due to rot
- 12 structures have cracked or broken crossarms due to the arms being unbraced

Since 2019, there has been a total of three sustained, unscheduled outages on the line.



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# ATSI Transmission Zone M-3 Process Deer Creek – London 138 kV Line

Need #	Transmission Line / Substation Locations	Existing Line Rating MVA (SN / SE / WN / WE)	Existing Conductor Rating MVA (SN / SE / WN / WE)
ATSI-2024-007	Deer Creek – London 138 kV Line	200 / 242 / 226 / 286	200 / 242 / 226 / 286

**Need Numbers:** ATSI-2024-078

**Process Stage:** Need Meeting 12/13/2024

**Project Driver:**

*Equipment Material Condition, Performance and Risk*

**Specific Assumption Reference:**

System Performance Projects Global Factors

- System reliability and performance
- Substation/line equipment limits
- System Condition Projects

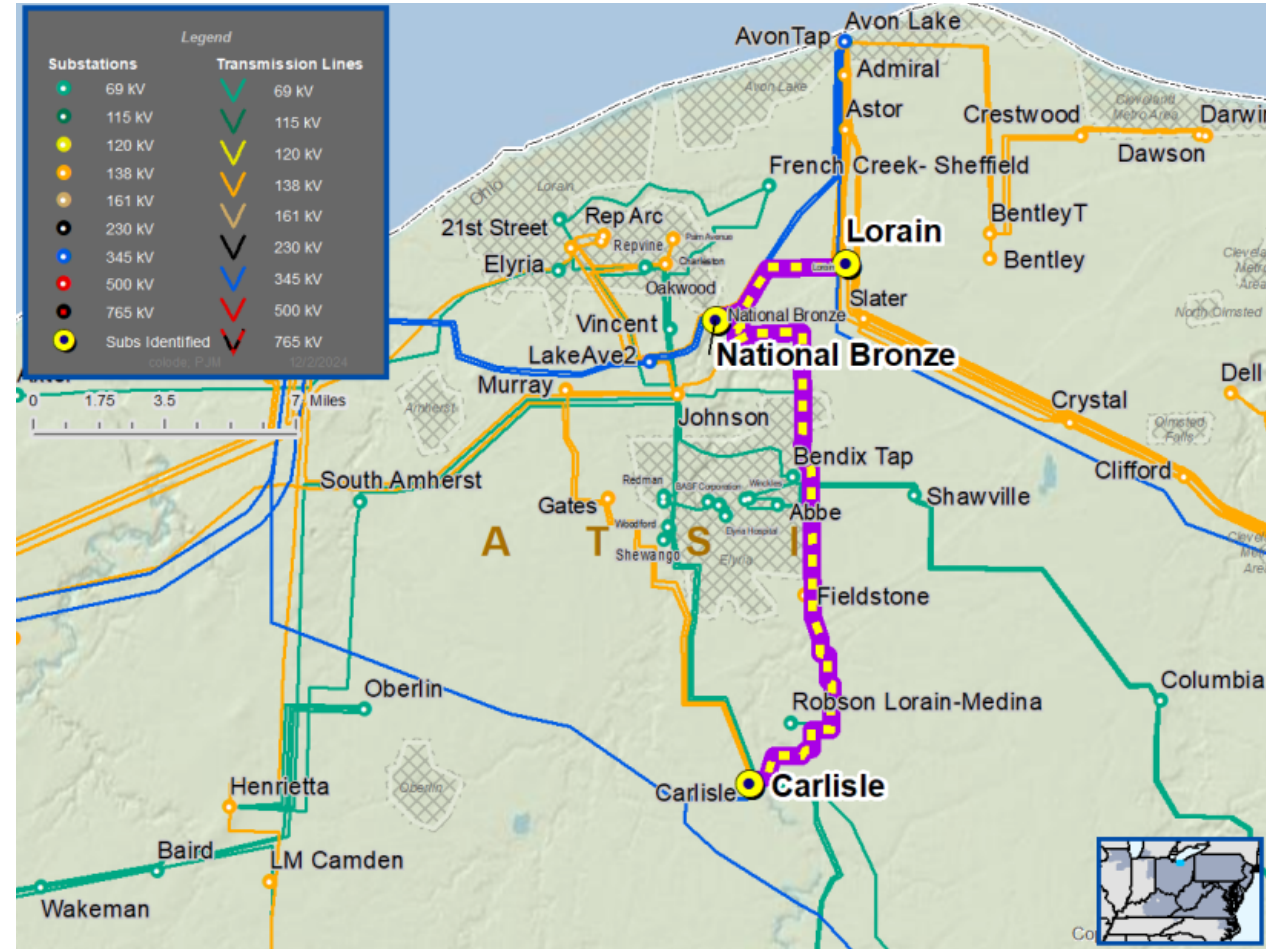
Upgrade Relay Schemes

- Obsolete and difficult to repair communication equipment (DTT, Blocking, etc.)
- Communication technology upgrades

**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.

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## ATSI Transmission Zone M-3 Process Carlisle – Lorain 138 kV Misoperation Relays

Need #	Transmission Line / Substation Locations	Existing Line Rating (SN / SE / WN / WE)	Existing Conductor Rating (SN / SE / WN / WE)
ATSI-2024-078	Carlisle- National Bronze Tap 138 kV Line	233 / 282 / 263 / 333	233 / 282 / 263 / 333
	National Bronze Tap- Lorain 138 kV Line	224 / 293 / 309 / 316	273 / 332 / 309 / 316

**Need Number:** ATSI-2024-079

**Process Stage:** Need Meeting – 12/13/2024

**Supplemental Project Driver(s):**

*Equipment Material Condition, Performance and Risk*

**Specific Assumption Reference(s)**

System Performance Global Factors

- System reliability/performance
- Substation/Line equipment limits

Line Condition Rebuild/Replacement

- Age/condition of wood transmission line structures
- Negatively impact customer outage frequency and/or durations
- Demonstrate an increasing trend in maintenance findings and/or costs

**Problem Statement:**

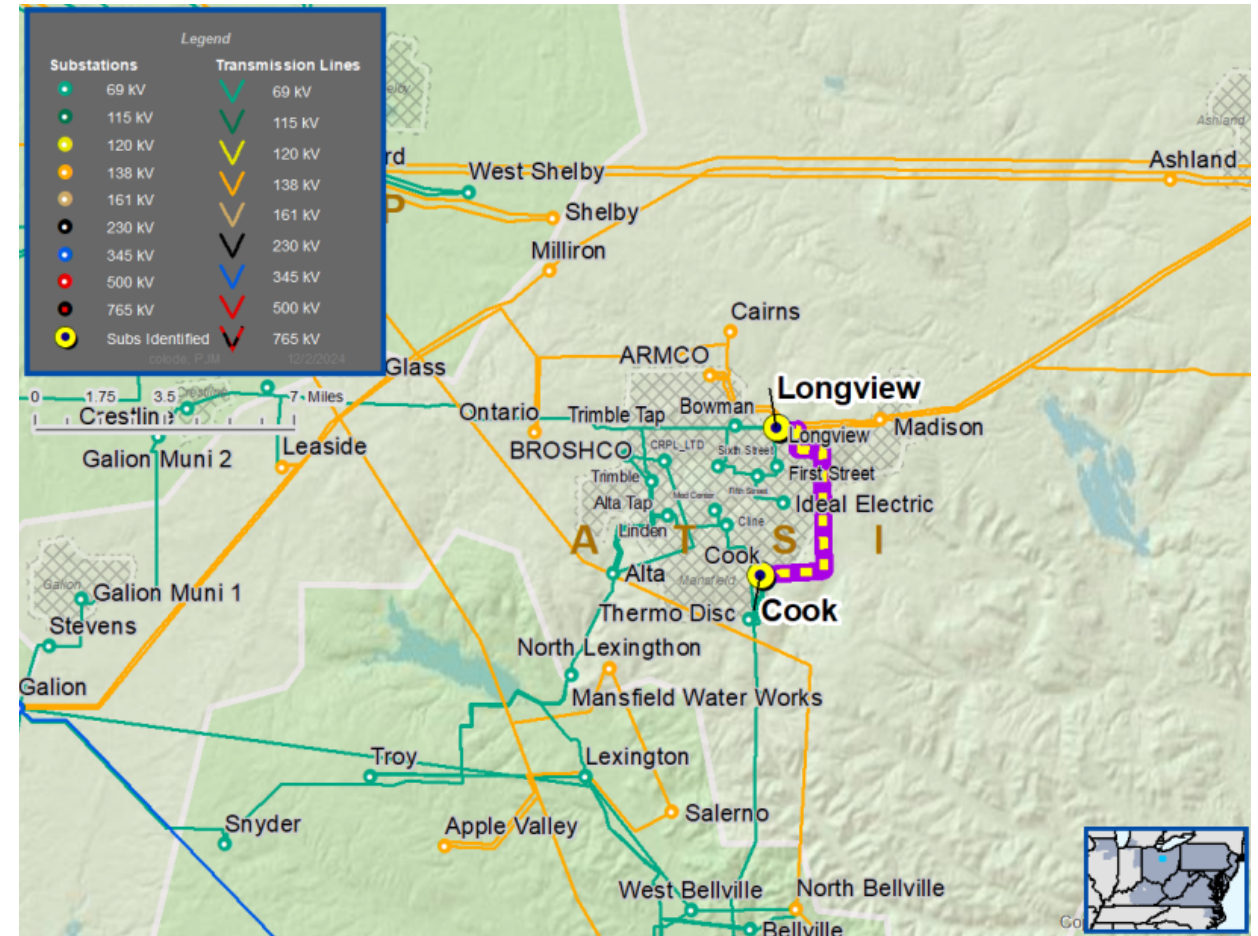
The Cook – Longview 69 kV Line was constructed approximately 54 years ago and is approaching end of life. It is approximately six miles long with 118 wood pole and 2 lattice transmission line structures.

Per recent inspections, the line is exhibiting deterioration.

- 65% of wood pole structures have shell rot.
- 27 priority repair conditions since 2015 including 15 broken down grounds and 4 broken crossarms

Since 2019, there has been seven sustained, unscheduled outages on the line.

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Need #	Transmission Line / Substation Locations	Existing Line Rating MVA MVA (SN / SE / WN / WE)	Existing Conductor Rating MVA MVA (SN / SE / WN / WE)
ATSI-2024-079	Cook- Longview 69 kV Line	72 / 72 / 72 / 72	80 / 96 / 90 / 114



# 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

12/3/2024– V1 – Original version posted to pjm.com