

# 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:** APS-2024-110

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

**Project Driver(s):**

*Customer Service*

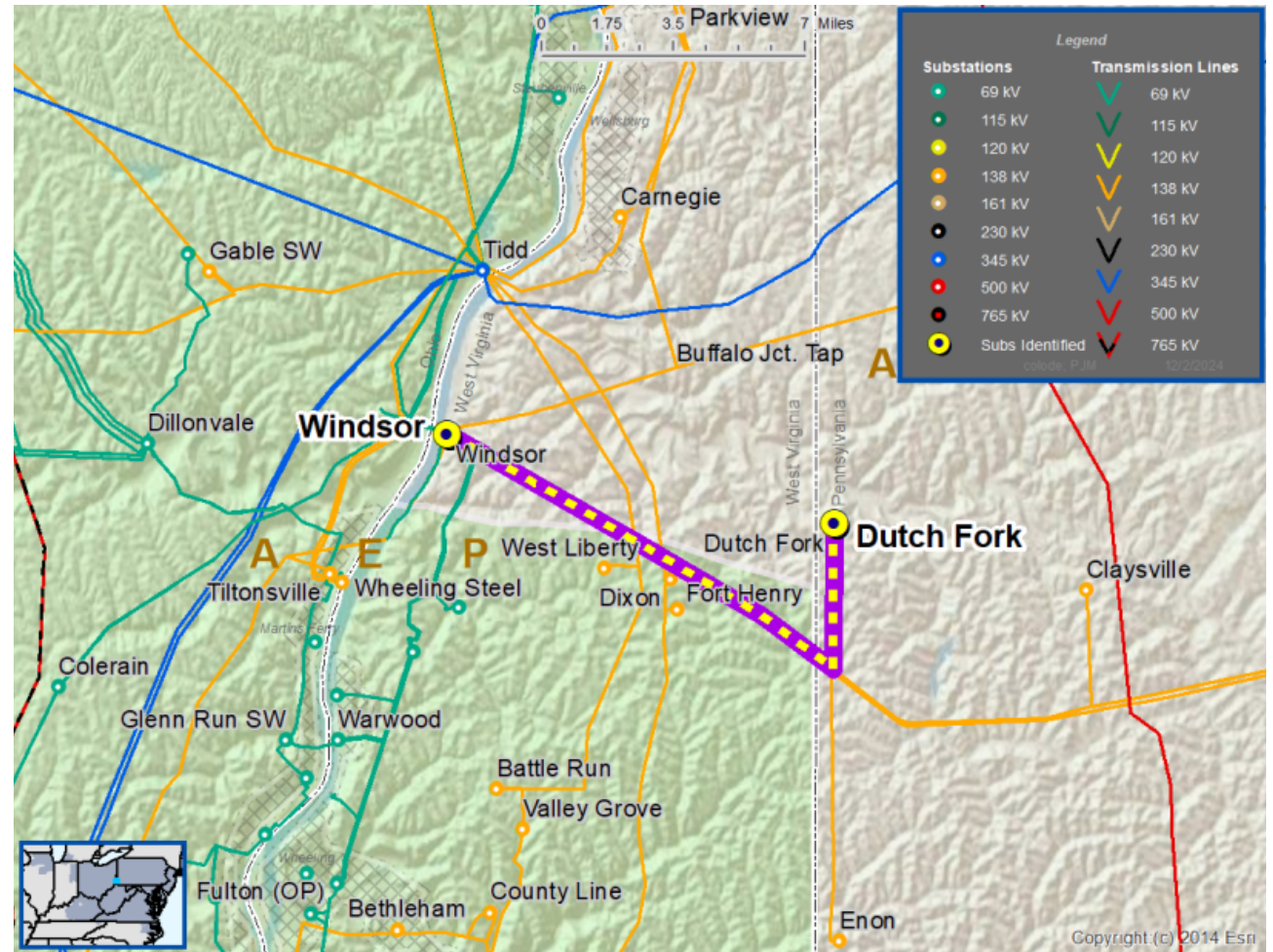
**Specific Assumption Reference:**

New customer connection request will be evaluated per FirstEnergy’s “Requirements for Transmission Connected Facilities” document and “Transmission Planning Criteria” document.

**Problem Statement:**

New customer connection – A customer has requested a new 138 kV delivery point along the Dutch Fork – Windsor 138 kV Line. The anticipated load is 20 MW.

Requested in-service date is 1/15/2026.



**Need Numbers:** APS-2024-098 to 105, APS-2024-111 to 114, APS-2024-116, APS-2024-118

**Process State:** 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

- Substation Condition Rebuild/Replacement

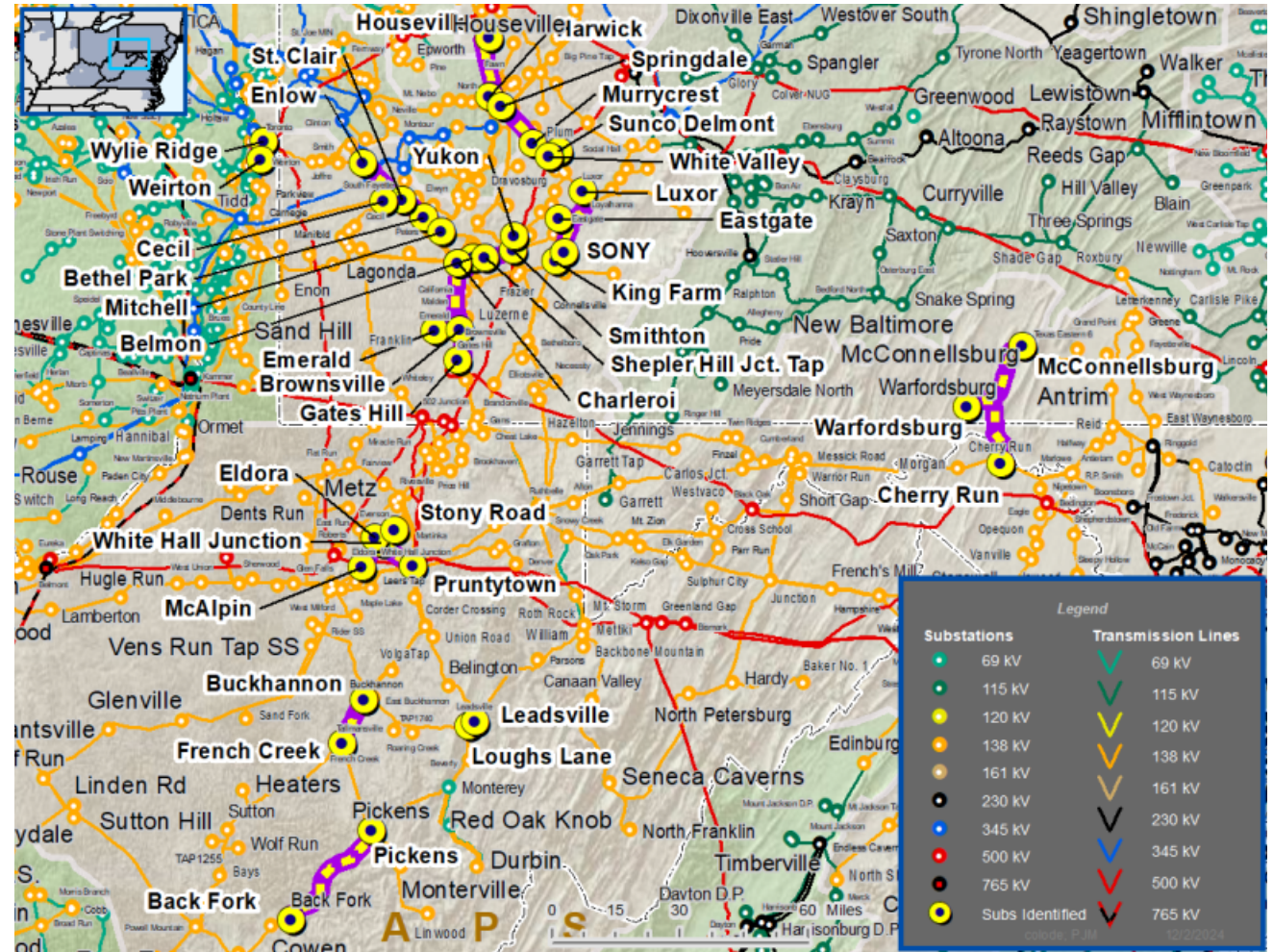
Upgrade Relay Schemes

- 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cases the protection equipment cannot be repaired due to a lack of replacement parts and available expertise in the outdated technology.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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## APS Transmission Zone M-3 Process Misoperation Relay Projects

Need #	Transmission Line / Substation Locations	Existing Line Rating MVA (SN / SE / WN / WE)	Existing Conductor Rating MVA (SN / SE / WN / WE)
APS-2024-098	Bethel Park – St Clair 138 kV Line	292 / 306 / 306 / 306	308 / 376 / 349 / 445
APS-2024-099	Cherry Run – Warfordsburg 138 kV Line	299 / 360 / 349 / 422	308 / 376 / 349 / 445
	Warfordsburg – McConnellsburg 138 kV Line	299 / 358 / 349 / 410	308 / 376 / 349 / 445
APS-2024-100	Harwick – Houseville 138 kV Line	284 / 287 / 287 / 287	284 / 287 / 287 / 287
APS-2024-101	King Farm – Sony 138 kV Line	160 / 192 / 180 / 228	160 / 192 / 180 / 228
	Sony – Eastgate Tap 138 kV Line	149 / 152 / 168 / 168	149 / 152 / 168 / 168
	Eastgate Tap – Luxor 138 kV Line	142 / 147 / 162 / 162	149 / 152 / 168 / 168
	Eastgate Tap – Eastgate 138 kV Line	164 / 206 / 216 / 248	221 / 268 / 250 / 317
APS-2024-102	Charleroi – Belmon 138 kV Line	274 / 345 / 345 / 405	297 / 365 / 345 / 441
	Belmon – Shepler Hill Jct 138 kV Line	269 / 335 / 326 / 380	269 / 335 / 326 / 421
	Shepler Hill Jct – Mitchell 138 kV Line	295 / 375 / 349 / 441	308 / 376 / 349 / 445
	Shepler Hill Jct – Smithton Tap 138 kV Line	501 / 577 / 501 / 607	501 / 577 / 501 / 607
	Smithton Tap – Yukon 138 kV Line	501 / 577 / 501 / 607	501 / 577 / 501 / 607



## APS Transmission Zone M-3 Process Misoperation Relay Projects

Need #	Transmission Line / Substation Locations	Existing Line Rating MVA (SN / SE / WN / WE)	Existing Conductor Rating MVA (SN / SE / WN / WE)
APS-2024-103	Springdale – Murrycrest 138 kV Line	292 / 314 / 325 / 343	297 / 365 / 345 / 441
	Murrycrest – Sunoco Delmont 138 kV Line	308 / 376 / 349 / 445	308 / 376 / 349 / 445
	Sunoco Delmont – White Valley 138 kV Line	292 / 314 / 325 / 343	308 / 376 / 349 / 445
APS-2024-104	Brownsville Jct – Charleroi 138 kV Line	287 / 287 / 287 / 287	297 / 365 / 345 / 441
	Brownsville Jct – Emerald 138 kV Line	115 / 115 / 115 / 115	308 / 376 / 349 / 445
	Brownsville Jct – Gates Hill 138 kV Line	148 / 151 / 166 / 166	148 / 151 / 166 / 166
APS-2024-105	Cecil – Enlow 138 kV Line	292 / 314 / 325 / 343	308 / 376 / 349 / 445
APS-2024-111	Eldora – Whitehall Junction 138 kV Line	294 / 350 / 349 / 401	308 / 376 / 349 / 445
	Pruntytown – Whitehall Junction 138 kV Line	292 / 314 / 325 / 343	308 / 376 / 349 / 445
	McAlpin – Whitehall Junction 138 kV Line	292 / 314 / 325 / 343	308 / 376 / 349 / 445
APS-2024-112	Leadsville – Loughs Lane 138 kV Line	169 / 213 / 217 / 229	169 / 213 / 217 / 280
APS-2024-113	Pickens – Back Fork 138 kV Line	169 / 209 / 217 / 229	169 / 213 / 217 / 280
APS-2024-114	Buckhannon – French Creek 138 kV Line	229 / 229 / 229 / 229	308 / 376 / 349 / 445
APS-2024-116	Weirton – Wylie Ridge 138 kV No. 1 Line	225 / 292 / 306 / 306	308 / 376 / 349 / 445
APS-2024-118	Pruntytown – Stony Road 138 kV Line	221 / 268 / 250 / 287	221 / 268 / 250 / 317

**Need Number:** APS-2024-119

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

**Project Driver(s):**

*Equipment Material Condition, Performance and Risk*

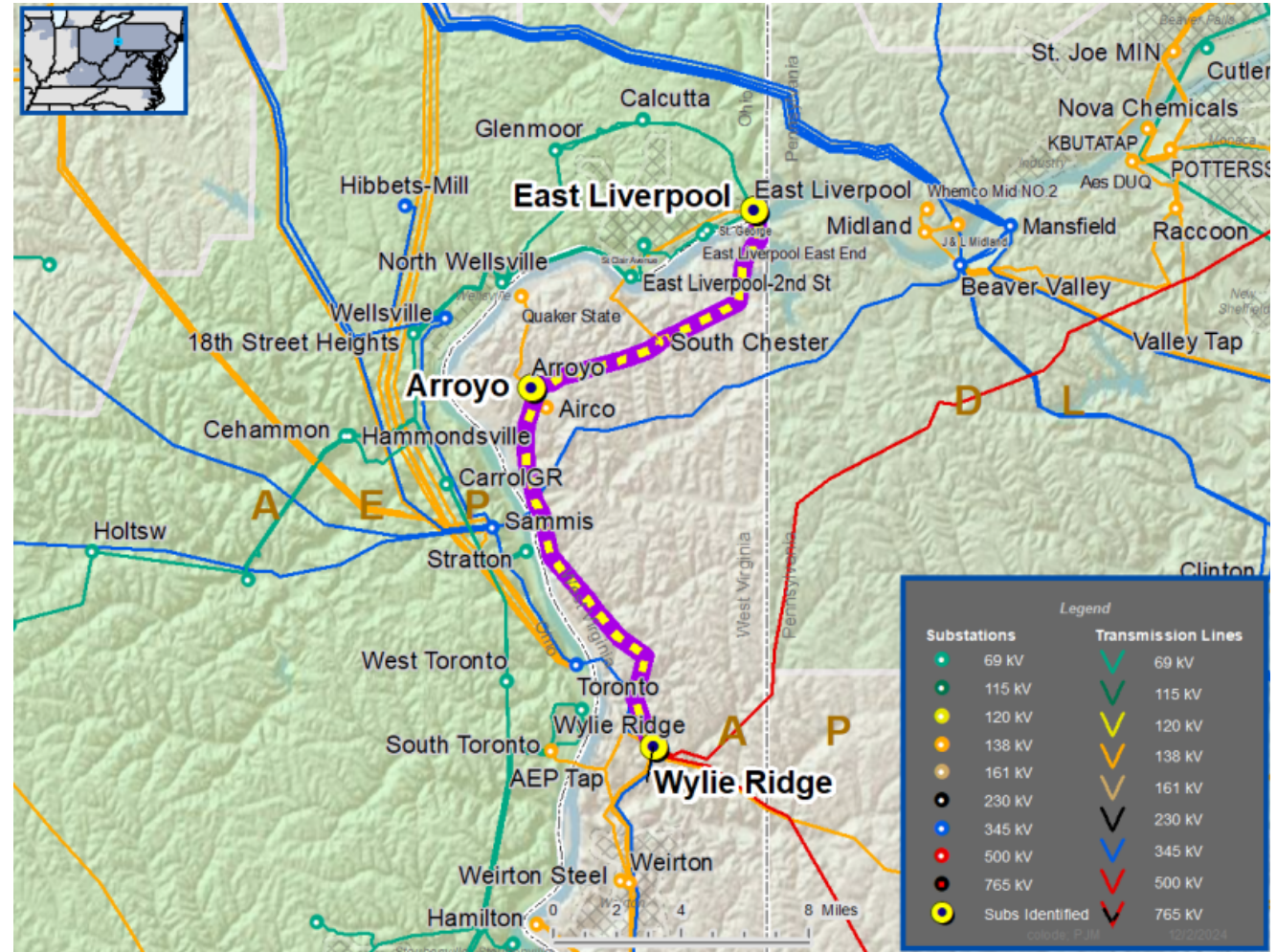
**Specific Assumption Reference:**

System Performance Global Factors

- System reliability/performance
  - Substation/Line equipment limits
- Line Condition Rebuild/Replacement
- Transmission line switches
  - Increasing negative trend in maintenance findings and/or costs
  - Limited availability of spare parts and/or vendor technical support

**Problem Statement:**

- Line air switch 1017 on the Arroyo – East Liverpool – Wylie Ridge 138 kV Line is obsolete and is no longer supported for repair parts.
- The H-frame wood pole structure on which the switch is mounted was installed in 1966 and is reaching end of life.
- The switch is limiting the transmission line rating.
- Arroyo Junction – South Chester Tap 138 kV Line
  - Existing Line Rating: 164 / 206 / 216 / 248 MVA (SN/SE/WN/WE)
  - Existing Conductor Rating: 221 / 268 / 250 / 317 MVA (SN/SE/WN/WE)



# 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