

Subregional RTEP Committee - Western FirstEnergy Supplemental Projects

November 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 Numbers: APS-2022-006 ... APS-2022-013

Process State: Need Meeting 11/18/22

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cases the protection equipment cannot be repaired due to a lack of replacement parts and available expertise in the outdated technology.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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Need #	Transmission Line / Substation Locations	Existing Line Rating (SN / SE)	Existing Conductor Rating (SN / SE)	Limiting Terminal Equipment
APS-2022-006	Cecil – Buffalo JCT 138 kV	224/229	297/365	SS Conductor, Line Trap, Relaying
	Windsor – Buffalo JCT 138 kV	225/256	297/365	SS Conductor, Line Trap
APS-2022-007	Kiski Valley – Vandergrift 138 kV Line	225/229	297/365	SS Conductor, Line Trap, and Relaying
APS-2022-008	Charleroi – Gordon 138 kV Line	206/229	308/376	SS Conductor, Wave Trap, Relaying, and CT
APS-2022-009	Lake Lynn – Pierpoint 138 kV Line	292/314	308/376	Wave Trap, SS conductor, and Circuit Breaker
APS-2022-010	Burma – Clarion 138 kV Line	292/314	308/376	Wave Trap, SS conductor
	Clarion – Ridgway 138 kV Line	292/314	308/376	Circuit Breaker. Wave Trap, SS Conductor
APS-2022-011	Saltsburg – Social Hall 138 kV	172/172	283/349	Relay, SS Conductor, CT
APS-2022-012	Harrison City – Penn 138 kV Line	242/297	308/376	Substation Conductor
	Stony Springs – Luxor 138 kV Line	225/287	296/302	Substation Conductor and Relaying
APS-2022-013	Bethelboro North Union 2 138 kV Line	292/314	297/365	Wave Trap
	Gans – Lake Lynn 138 kV Line	292/314	300/358	Wave Trap SS conductor
	North Union 2 T – North Union 138 kV Line	295/365	297/365	Substation Conductor
	North Union 2 T – South Union 138 kV Line	308/376	309/376	Substation Conductor
	South Union – Gans 138 kV Line	287/342	309/376	Line Switcher

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

11/8/2022 – V1 – Original version posted to pjm.com