

# Subregional RTEP Committee - Western FirstEnergy Supplemental Projects

March 19, 2020

# 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

# APS Transmission Zone M-3 Process Misoperation Relay Project

**Need Number:** APS-2019-014

**Process Stage:** Solutions Meeting 3/19/2020

**Previously Presented:**

Need Meeting 12/18/2019

**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

**Continued on next slide...**



**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cases the protection equipment cannot be repaired due to a lack of replacement parts and available expertise in the outdated technology.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.

Need Number	Transmission Line / Substation Locations	Existing Line Rating (SN / SE)	Existing Conductor Rating (SN / SE)	Limiting Terminal Equipment
APS-2019-014	Pittsburgh Mills – Springdale 138 kV Line	293/302	296/ <b>302</b>	Line Trap

**Proposed Solution:**

Need Number	Transmission Line / Substation Locations	New MVA Line Rating (SN / SE)	Scope of Work	Estimated Costs (\$ M)	Target ISD
APS-2019-014	Pittsburgh Mills – Springdale 138 kV Line	296/302	<ul style="list-style-type: none"> <li>Pittsburgh Mills 138 kV Substation – Replace line trap and line relaying</li> <li>Springdale 138 kV Substation – Replace line trap and line relaying</li> </ul>	\$0.8M	5/29/2020

**Alternatives Considered:**

Maintain existing condition with elevated risk of failure  
No topology changes, no bubble diagram required.

**Project Status:** Engineering

**Model:** 2019 RTEP model for 2024 Summer (50/50)

# 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

3/6/2020 – V1 – Original version posted to pjm.com

3/17/2020 – V2 – Changed format of Slide #3