

# Subregional RTEP Committee – Western FirstEnergy Supplemental Projects

May 19, 2023

# 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-2023-013  
**Process Stage:** Need Meeting – 5/19/2023

**Project Driver(s):**  
*Customer Service*

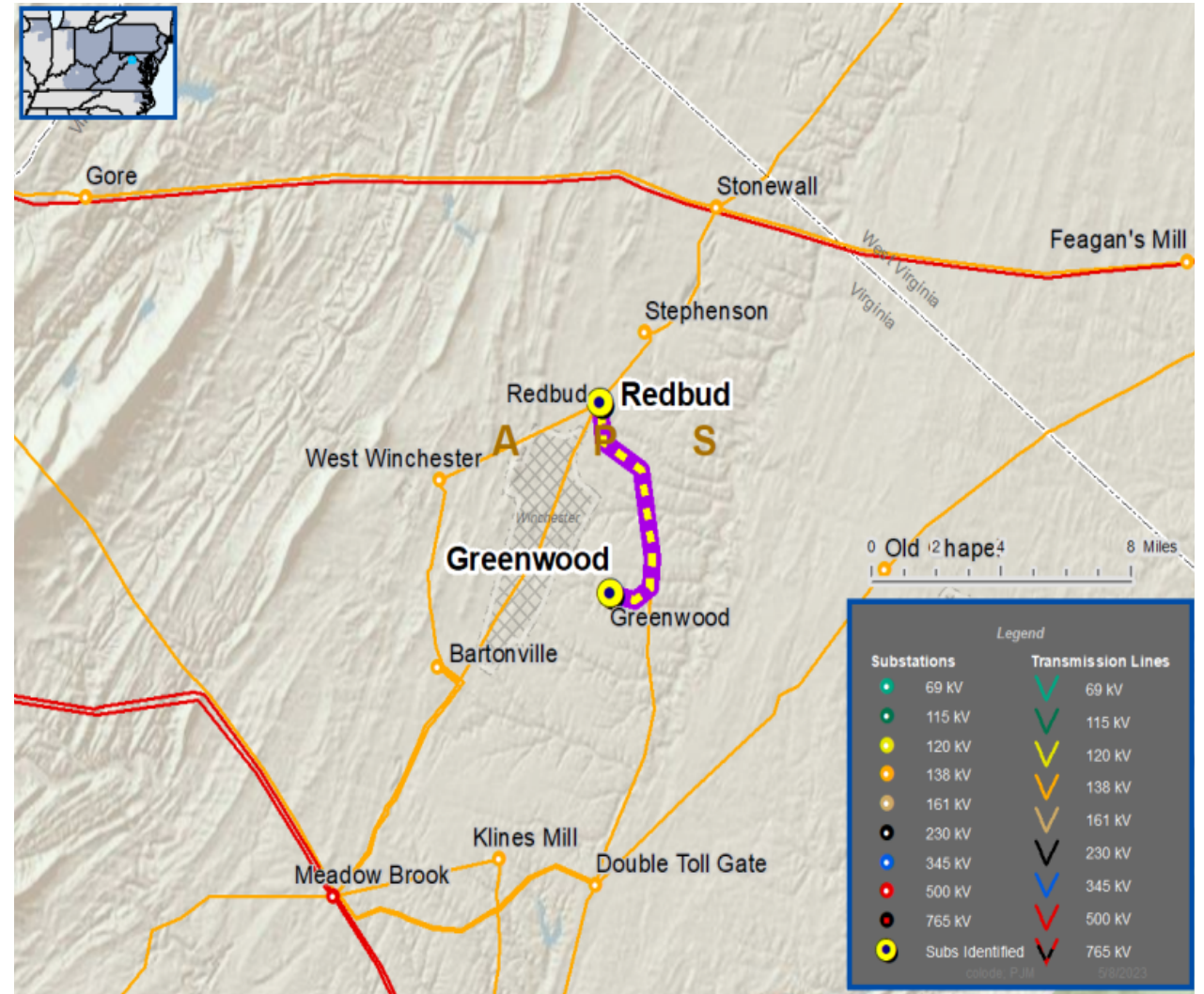
**Specific Assumption Reference(s)**

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 - has requested a new 138 kV delivery point near the Greenwood-Redbud 138 kV line. The anticipated load of the new customer connection is 35 MVA.

Requested in-service date is 05/03/2024.



**Need Number:** APS-2023-014  
**Process Stage:** Need Meeting – 5/19/2023

**Project Driver(s):**  
*Customer Service*

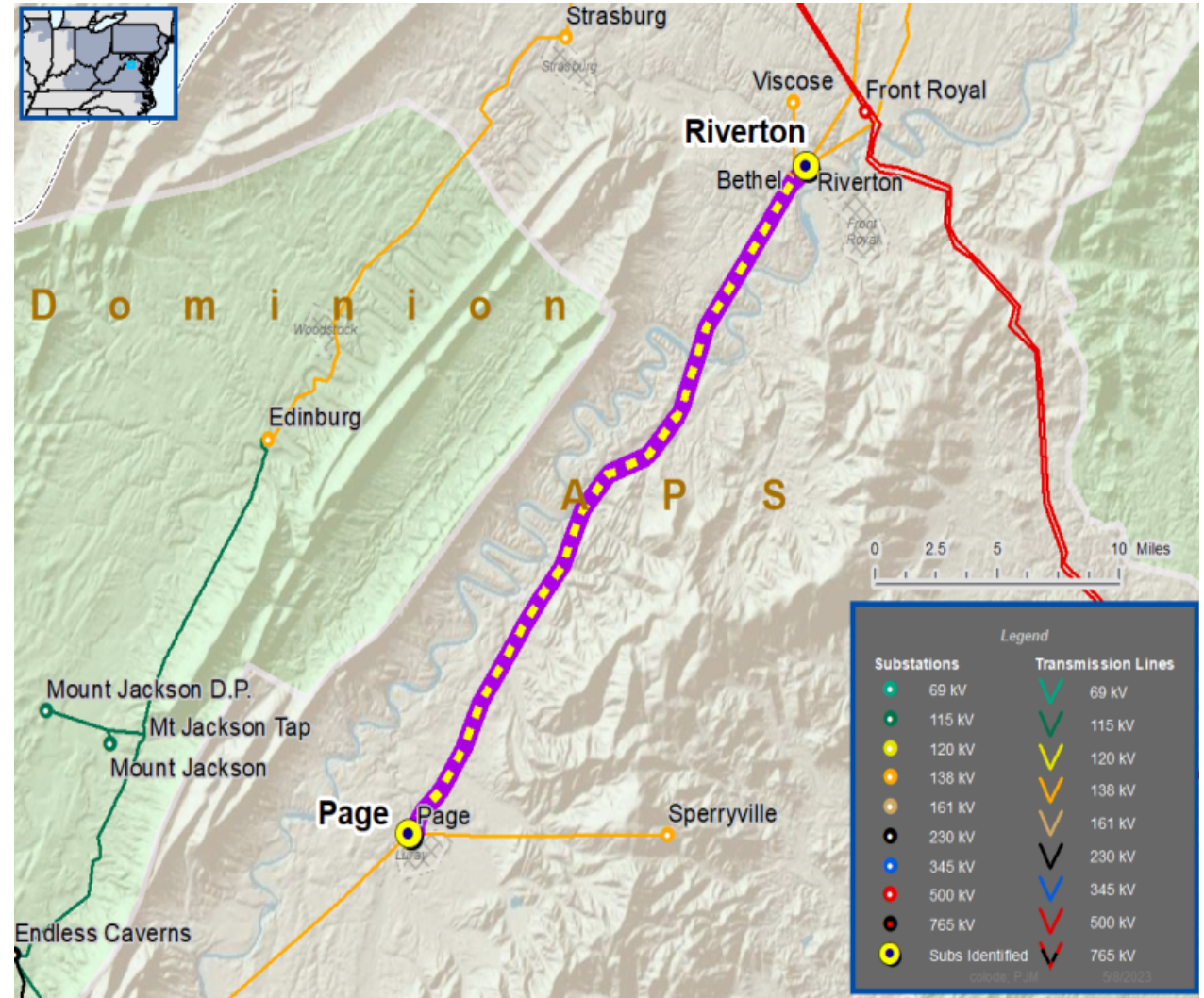
**Specific Assumption Reference(s)**

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 - has requested a new 138 kV delivery point near the Page-Riverton 138 kV line. The anticipated load of the new customer connection is 35 MVA.

Requested in-service date is 05/30/2025.





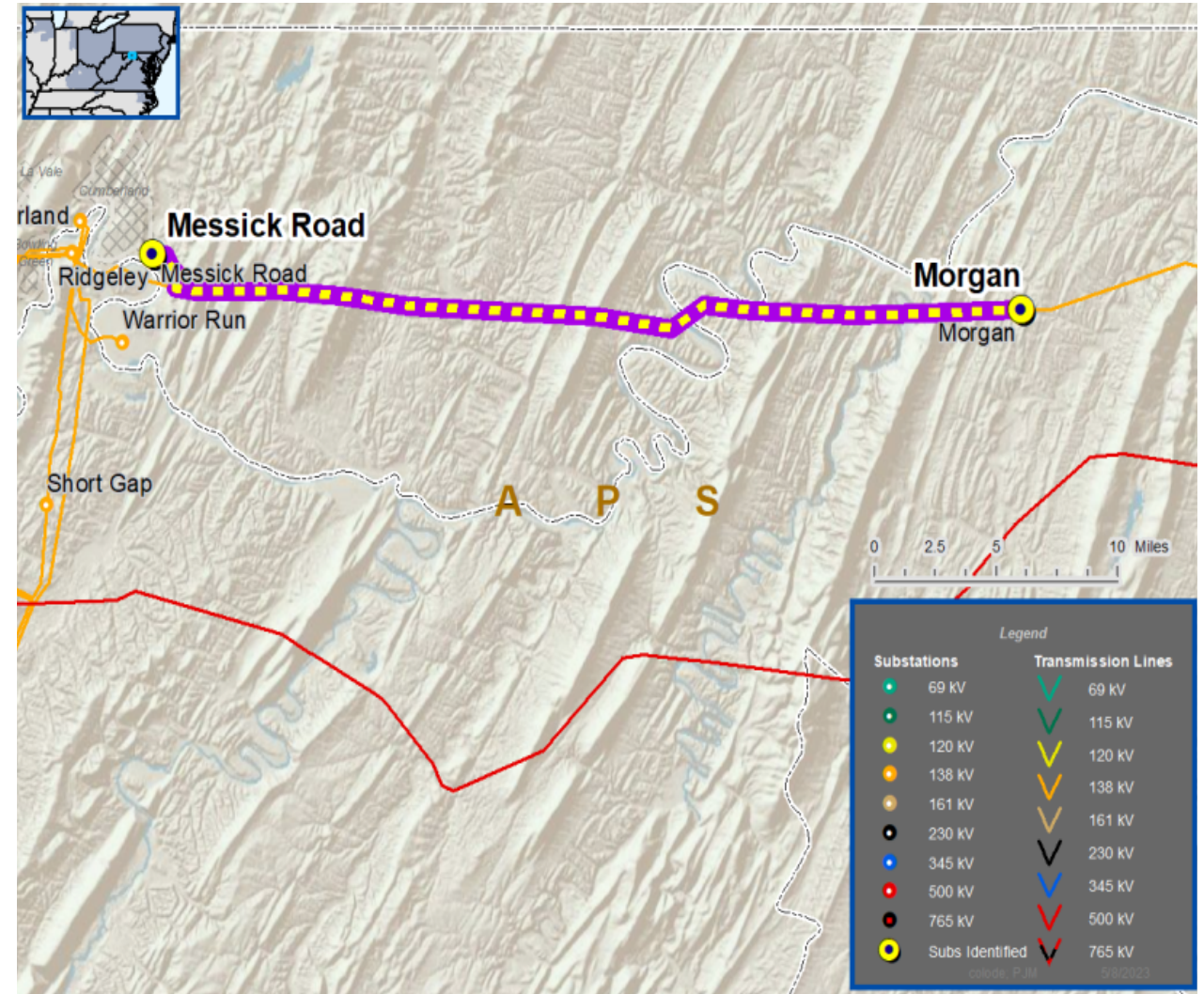
**Need Number:** APS-2023-015  
**Process Stage:** Need Meeting 5/19/2023

**Project Driver(s):**  
*Customer Service*

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

**Problem Statement:**  
 A customer has requested a new 138 kV delivery point near the Messick Road – Morgan 138 kV line. The anticipated load of the new customer connection is 5 MW.

Requested in-service date is 12/31/2024.



# Solution

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-2023-007  
**Process Stage:** Solution Meeting –5/19/2023  
**Previously Presented:** Need Meeting – 4/21/2023

**Project Driver(s):**  
*Customer Service*

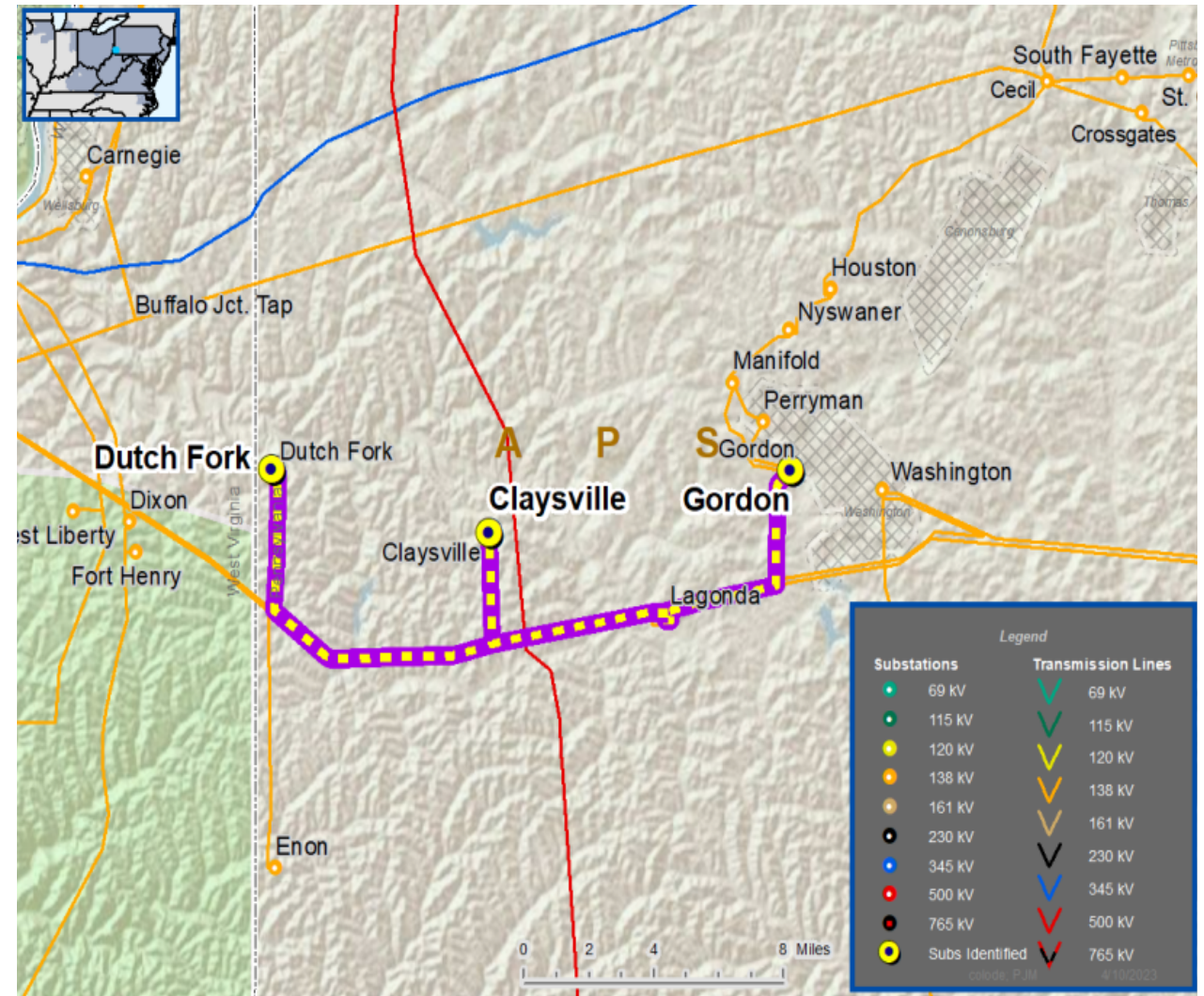
**Specific Assumption Reference(s)**

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 - has requested a new 138 kV delivery point near the Dutch Fork-Washington 138 kV line. The anticipated load of the new customer connection is 25 MVA.

Requested in-service date is 07/10/2024.





**Need Number:** APS-2023-007  
**Process Stage:** Solution Meeting –5/19/2023  
**Previously Presented:** Need Meeting – 4/21/2023

**Proposed Solution:**

**138 kV Transmission Line Tap**

- Install three SCADA controlled transmission line switches
- Construct approximately 1.0 mile of transmission line using 1024.5 24/13 ACAR from tap point to customer substation
- Install one 138 kV revenue metering package at customer substation
- Adjust relay settings at remote end substations Dutch Fork and Washington

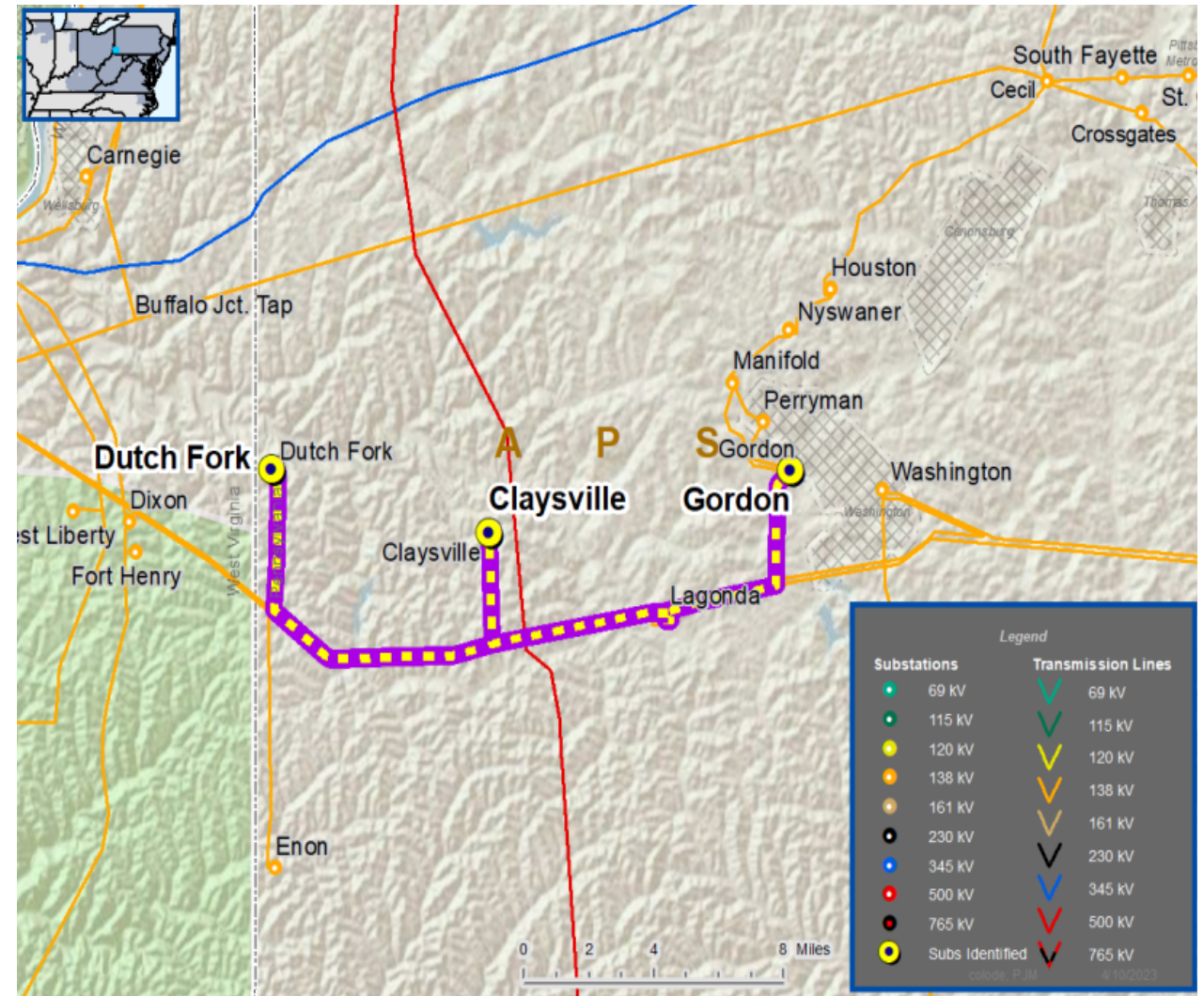
**Alternatives Considered:**

- No feasible alternatives

**Estimated Project Cost:** \$7.1m

**Projected In-Service:** 07/10/2024

**Status:** Engineering





**Need Numbers:** APS-2023-011

**Process Stage:** Solution Meeting 05/19/2023

**Previously Presented:** Need Meeting 04/21/2023

**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

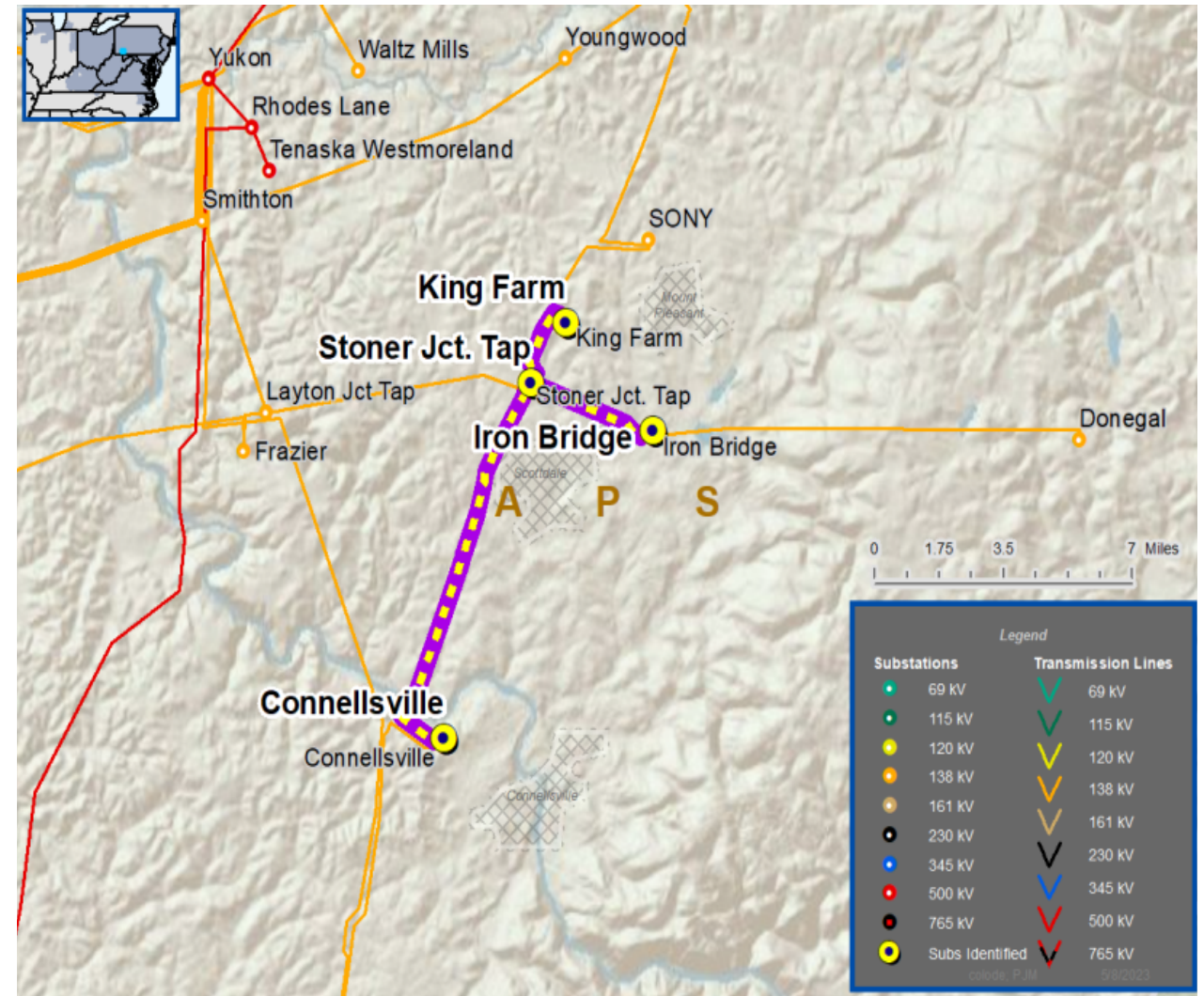
Upgrade Relay Schemes

- 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-2023-011	Connellsville – Stoner Junction 138 kV	160 / 192	160 / 192	Substation Conductor, Wave Trap, Relaying
	Stoner Junction – King Farm 138 kV	293 / 343	308 / 376	Substation Conductor, Circuit Breaker, Wave Trap, Relaying
	Stoner Junction – Iron Bridge 138 kV	210 / 250	221 / 268	Substation Conductor, Circuit Breaker, Wave Trap, Relaying

**Need Number:** APS-2023-011

**Process Stage:** Solution Meeting 05/19/2023

**Proposed Solution:**

- Replace limiting substation conductor, wave trap, and relaying at Connellsville 138 kV substation
- Replace limiting substation conductor, wave trap, circuit breaker, and relaying at King Farm 138 kV substation
- Replace limiting substation conductor, wave trap, circuit breaker, and relaying at Iron Bridge 138 kV substation

Need #	Transmission Line	Existing Line Rating (SN / SE)	Post Project Line Rating (SN / SE)
APS-2023-011	Connellsville – Stoner Junction 138 kV	160 / 192	160 / 192
	Stoner Junction – King Farm 138 kV	293 / 343	308 / 376
	Stoner Junction – Iron Bridge 138 kV	210 / 250	221 / 268

**Alternatives Considered:**

- Maintain line and vintage relay schemes in existing condition

**Estimated Project Cost:** \$ 1.9 M

**Projected In-Service:** 12/15/2023

**Project Status:** Engineering

**Model:** 2022 RTEP model for 2027 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

5/xx/2023– V1 – Original version posted to pjm.com

5/16/2023 – V2 –Removed APS-2023-008

5/19/2023 – V3 – Modified multiple need and solution meeting dates