

# Transmission Expansion Advisory Committee –FirstEnergy (Met-Ed) Supplemental Projects

July 7, 2020

# 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:** ME-2020-001

**Process Stage:** Solution Meeting 07/07/2020

**Previously Presented:**

Need Meeting 4/14/2020

**Project Driver:**

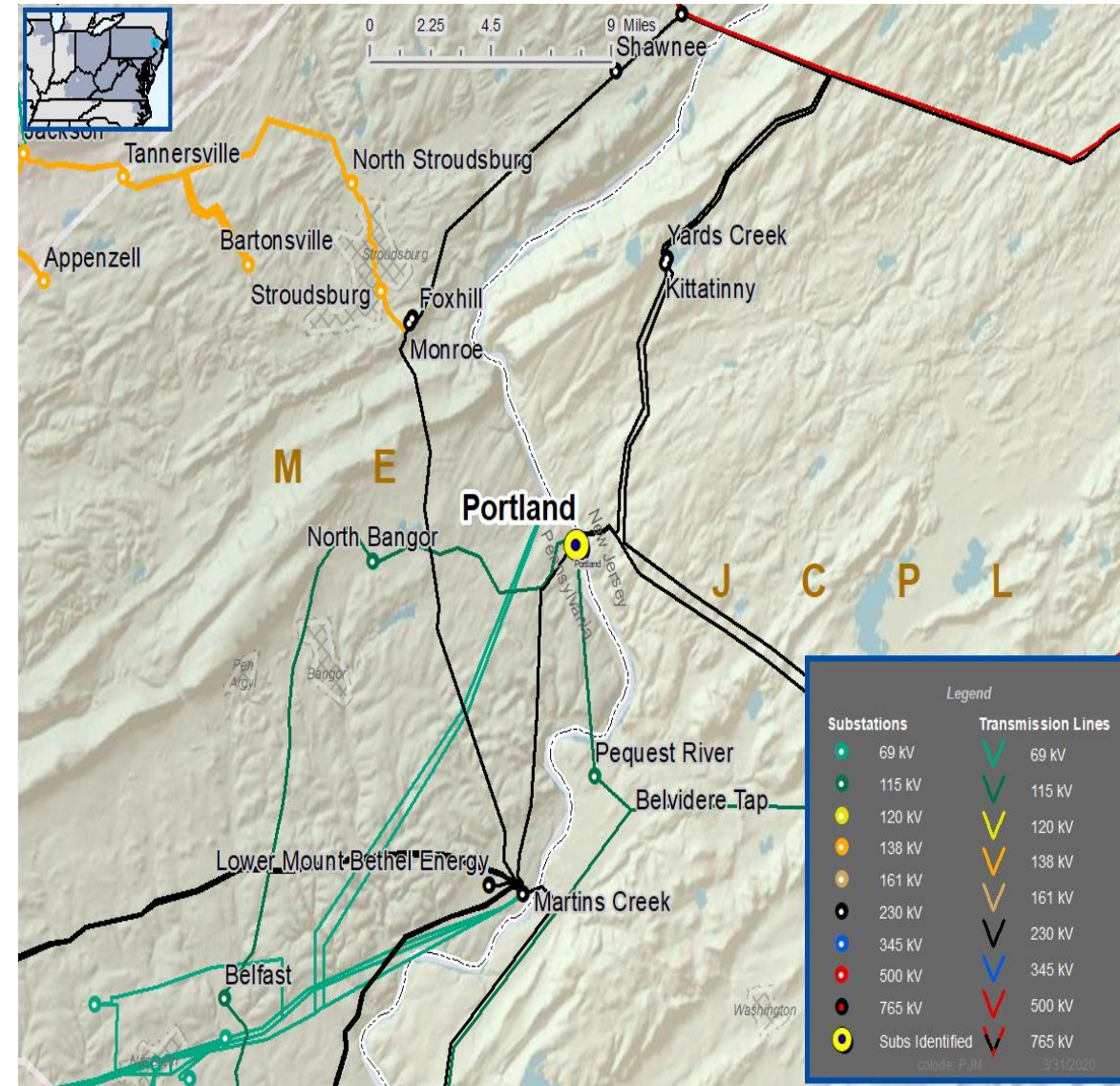
*Equipment Material Condition, Performance and Risk*

**Specific Assumption Reference:**

Equipment Failure

**Problem Statement:**

Portland 230/115 kV #3 Transformer was replaced with a spare transformer as a result of a failure in 2017. The transformer was installed on a temporary pad with temporary oil containment.



**Need Number:** ME-2020-001

**Process Stage:** Solution Meeting 07/07/2020

**Proposed Solution:**

*Portland Substation*

- Replace the #3 230/115 kV transformer and associated equipment with a 180/240/300 MVA transformer

**Transformer Rating:**

Portland #3 230/115 kV Transformer

- Before Proposed Solution: 185 / 284 MVA (SN/SE)
- After Proposed Solution (anticipated): 329 / 386 MVA (SN/SE)

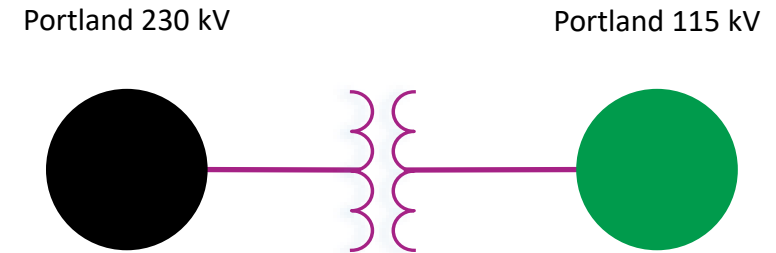
**Alternatives Considered:** None

**Estimated Project Cost:** \$6.9M

**Projected IS Date:** 6/30/2021

**Status:** Conceptual

**Model:** 2020 Series 2025 Summer RTEP 50/50



Legend	
500 kV	
345 kV	
230 kV	
138 kV	
115 kV	
69 kV	
46 kV	
34.5 kV	
23 kV	
New	

**Need Number:** ME-2020-003

**Process Stage:** Solution Meeting 07/07/2020

**Previously Presented:**

Need Meeting 4/14/2020

**Project Driver:**

*Operational Flexibility and Efficiency*

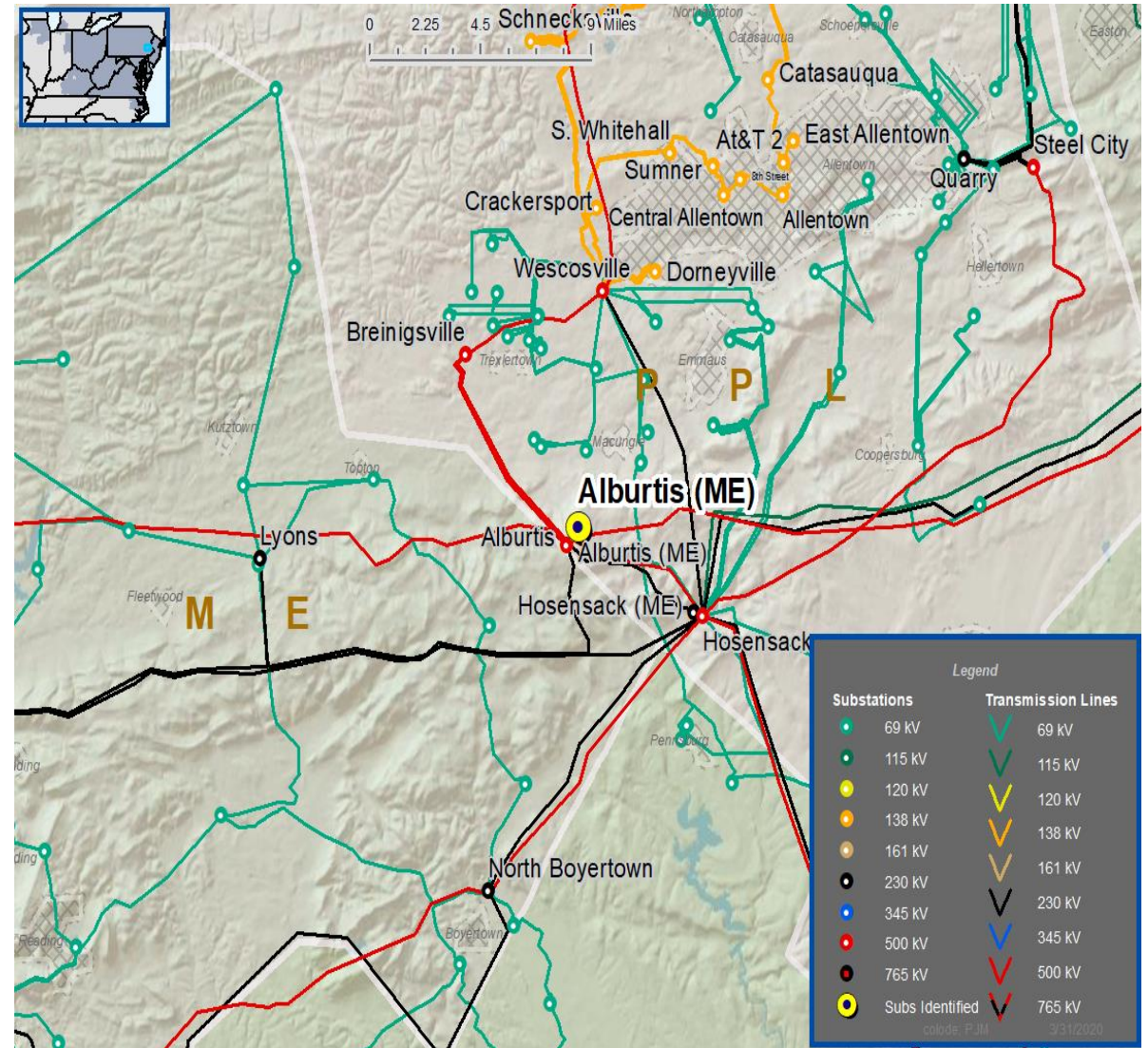
**Specific Assumption Reference:**

Add/Expand Bus Configuration

- Eliminate simultaneous outages to multiple networked elements

**Problem Statement:**

Current Alburtis configuration has two 230 kV lines and one 500/230 kV transformers connected to a straight bus. A bus outage or breaker failure would result in the loss of these three elements.



**Need Number:** ME-2020-003

**Process Stage:** Solution Meeting 07/07/2020

**Proposed Solution:**

*Alburtis Substation*

- Convert the Alburtis 230 kV substation into a 3 breaker 230 kV ring bus

**Transmission Line Ratings:**

*Alburtis 500/230 kV transformer (substation conductor)*

- Before Proposed Solution: 610/780 MVA (SN/SE)
- After Proposed Solution: 784/1122 MVA (SN/SE)

**Alternatives Considered:** Maintain existing condition

**Estimated Project Cost:** \$4 M

**Projected IS Date:** 12/31/2021

**Status:** Conceptual

**Model:** 2020 Series 2025 Summer RTEP 50/50

Alburtis 230 kV



Legend	
500 kV	
345 kV	
230 kV	
115 kV	
69 kV	
46 kV	
Other	
New	

**Need Number:** ME-2020-008

**Process Stage:** Solution Meeting 7/07/2020

**Previously Presented:**

Need Meeting 5/12/2020

**Project Driver:**

*Equipment Material Condition, Performance and Risk*

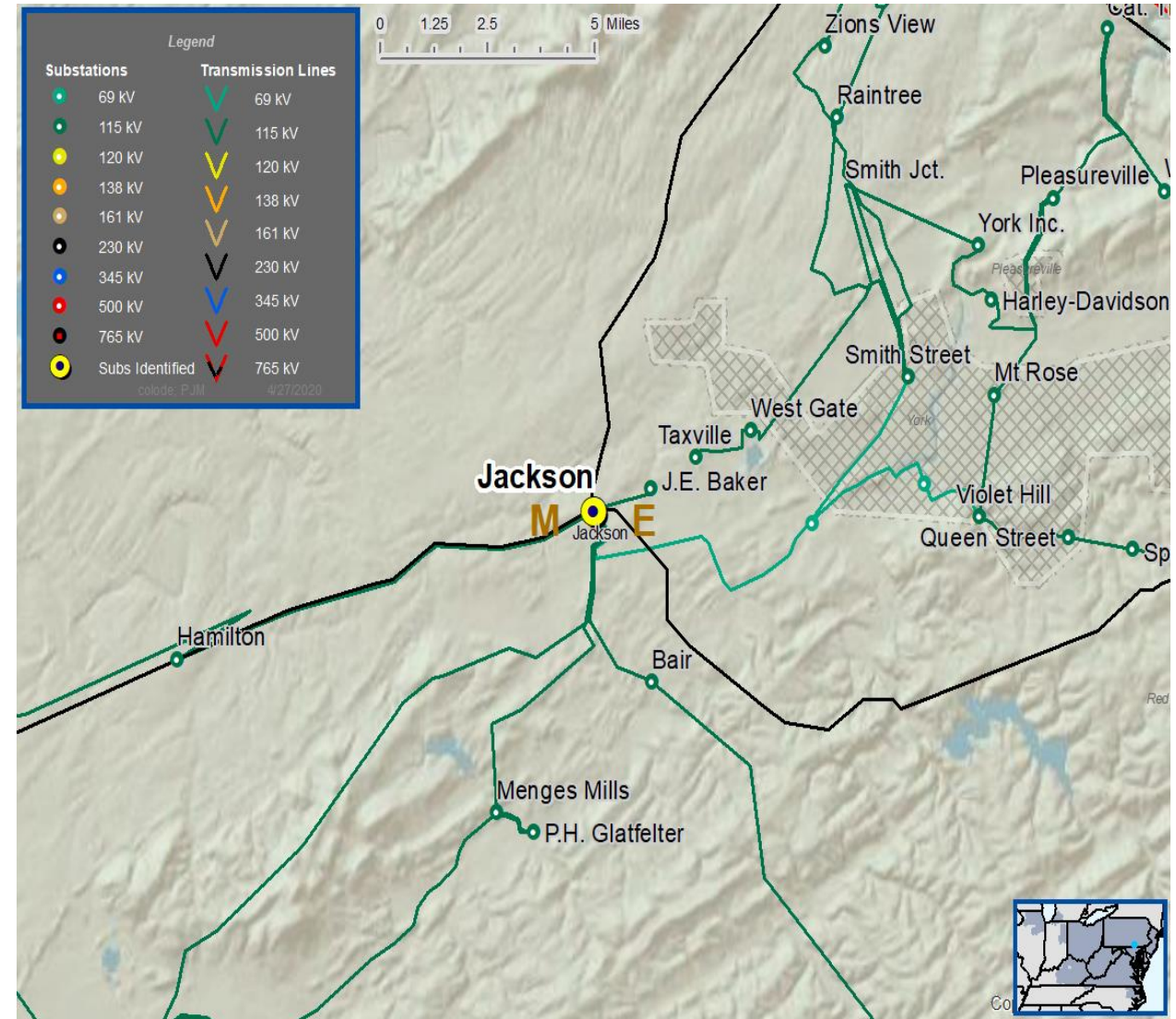
**Specific Assumption Reference:**

Substation Condition Rebuild/Replacement

**Problem Statement:**

The Jackson 230/115 kV #4 transformer

- Transformer is 55 years old
- Experiencing nitrogen gas leaks
- Deteriorated bushings
- Obsolete parts
- Deteriorated gaskets and seals



**Need Number:** ME-2020-008

**Process Stage:** Solution Meeting 07/07/2020

**Proposed Solution:**

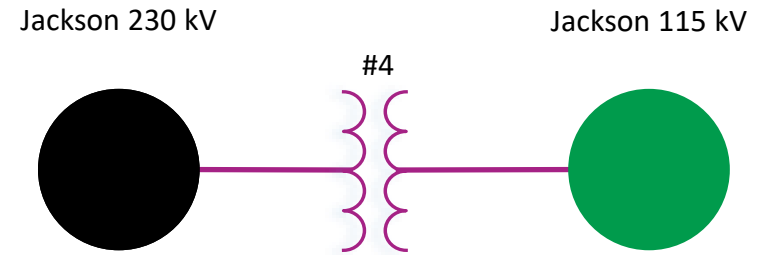
*Jackson Substation*

- Retire the Jackson 230/115 kV #4 transformer and remove from service

**Alternatives Considered:** Replace Jackson #4 transformer

**Projected Date:** 12/31/2022

**Model:** 2020 Series 2025 Summer RTEP 50/50



Legend	
500 kV	
345 kV	
230 kV	
138 kV	
115 kV	
69 kV	
46 kV	
34.5 kV	
23 kV	
New	



# Questions?



# 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

6/25/2020 – V1 – Original version posted to pjm.com