Subregional RTEP Committee – Western
FirstEnergy Supplemental Projects

APS Transmission Zone

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

APS Transmission Zone M-3 Process
Yukon No. 7 500/138 kV Transformer

Need Number: APS-2025-030

Process Stage: Need Meeting 12/08/2025

Project Driver:

Operational Flexibility and Efficiency

Specific Assumption Reference:

System Performance Projects Global Factors

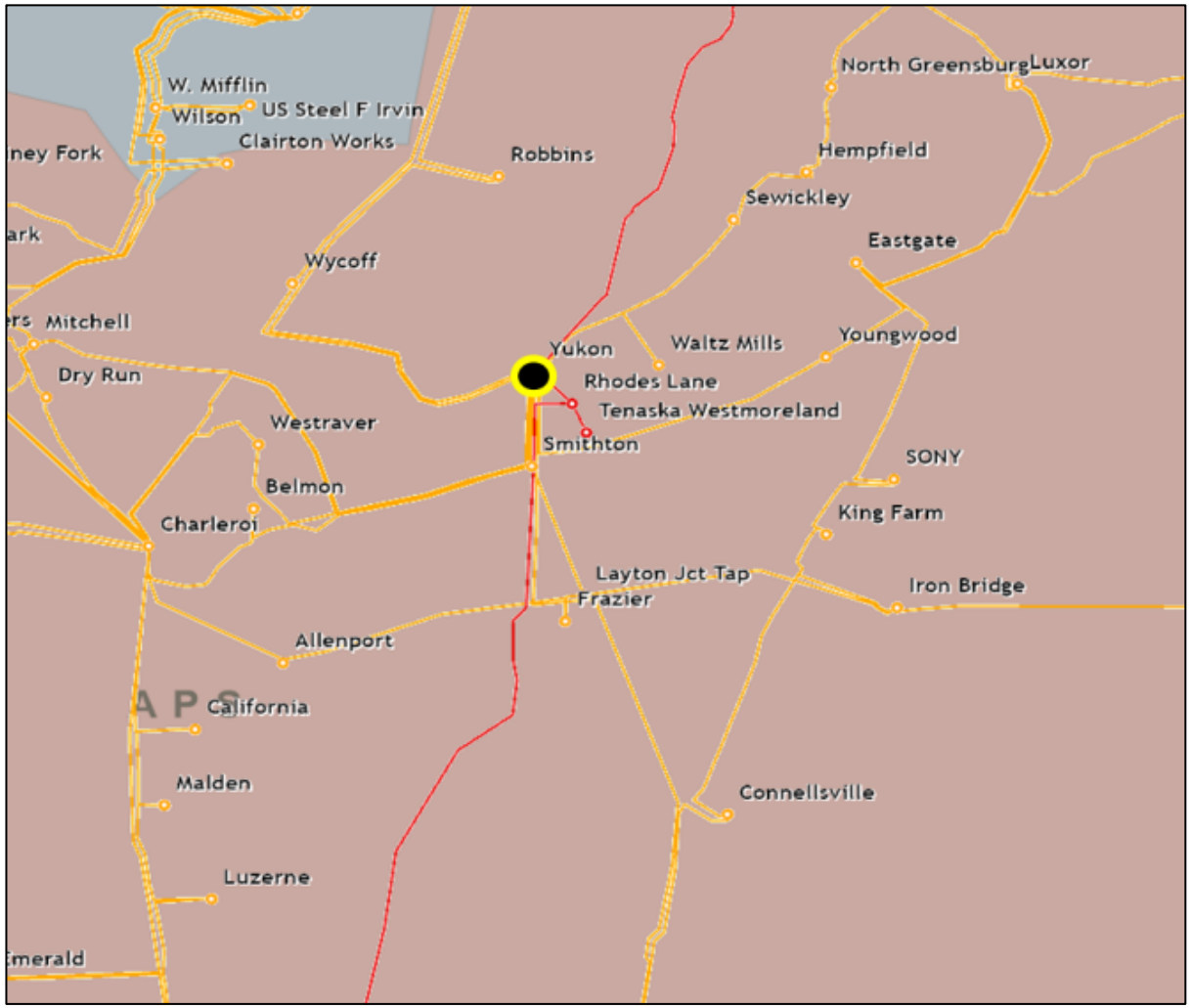
- Substation/line equipment limits

Problem Statement:

Upon field inspection, limiting substation conductor was found on the Yukon No. 7 500/138 kV Transformer. The substation conductor caused a derate on the transformer circuit.

Existing Ratings: 1096 / 1296 / 1309 / 1375 MVA (SN/SSTE/WN/WSTE)

Existing Transformer Ratings: 1415 / 1476 / 1791 / 1746 MVA (SN/SSTE/WN/WSTE)



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
Elko No. 1 230/138 kV Transformer

Need Number: APS-2025-012

Process Stage: Solution Meeting - TEAC – 12/08/2025

Previously Presented: Need Meeting –TEAC - 04/01/2025

Project Driver:

Equipment Condition/Performance/Risk

Specific Assumption Reference:

- System Performance Projects Global Factors
- System reliability and performance
- Add/Replace Transformers
- Past System Reliability/Performance

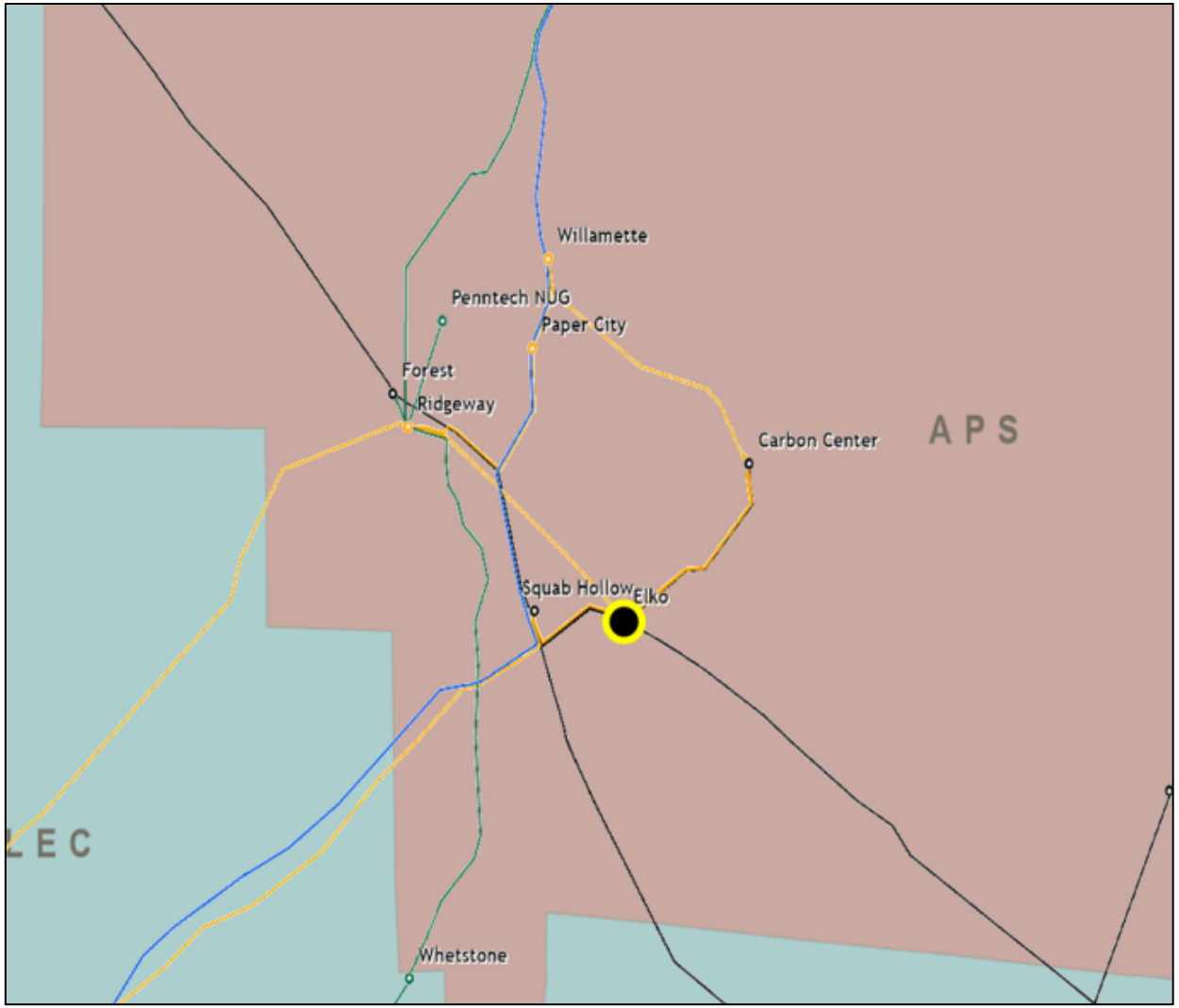
Problem Statement:

The Elko No. 1 230/138 kV Transformer is approximately 56 years old and is approaching end of life.

The transformer has exhibited high levels of dissolved gasses in oil and high nitrogen consumption.

Existing transformer ratings:

- 230 / 286 MVA (SN/SSTE)
- 280 / 325 MVA (WN/WSTE)



APS Transmission Zone M-3 Process
Elko No. 1 230/138 kV Transformer

Need Number: APS-2025-012

Process Stage: Solution Meeting - TEAC – 12/08/2025

Proposed Solution:

At Elko Substation:

- Replace No. 1 230/138 kV transformer
- Replace 230 kV disconnect switch, limiting substation conductor and transformer relaying

Before Proposed Solution: 230 / 286 / 280 / 325 MVA (SN/SSTE/WN/WSTE)

After Proposed Solution: 266 / 346 / 319 / 372 MVA (SN/SSTE/WN/WSTE).

Alternatives Considered:

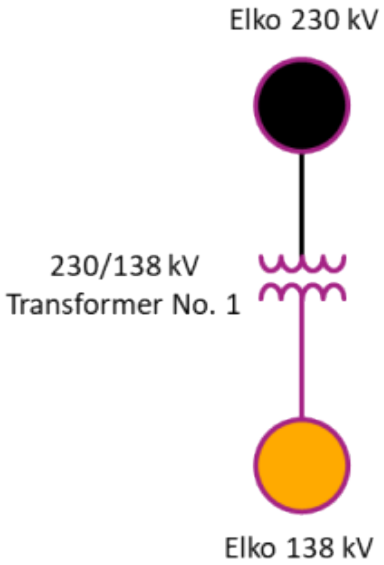
Maintain the transformer in existing condition with elevated risk of failure.

Estimated Project Cost: $6.69M

Projected In-Service: 06/01/2028

Project Status: Conceptual

Model: 2024 RTEP model for 2029 Summer (50/50)



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

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

11/26/2025– V1 – Original version posted to pjm.com