



Transmission Expansion Advisory Committee

FirstEnergy Supplemental Projects

APS Transmission Zone

July 07, 2026

Need

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-2026-041
Process Stage: Need Meeting 07/07/2026
Project Driver: Customer Service

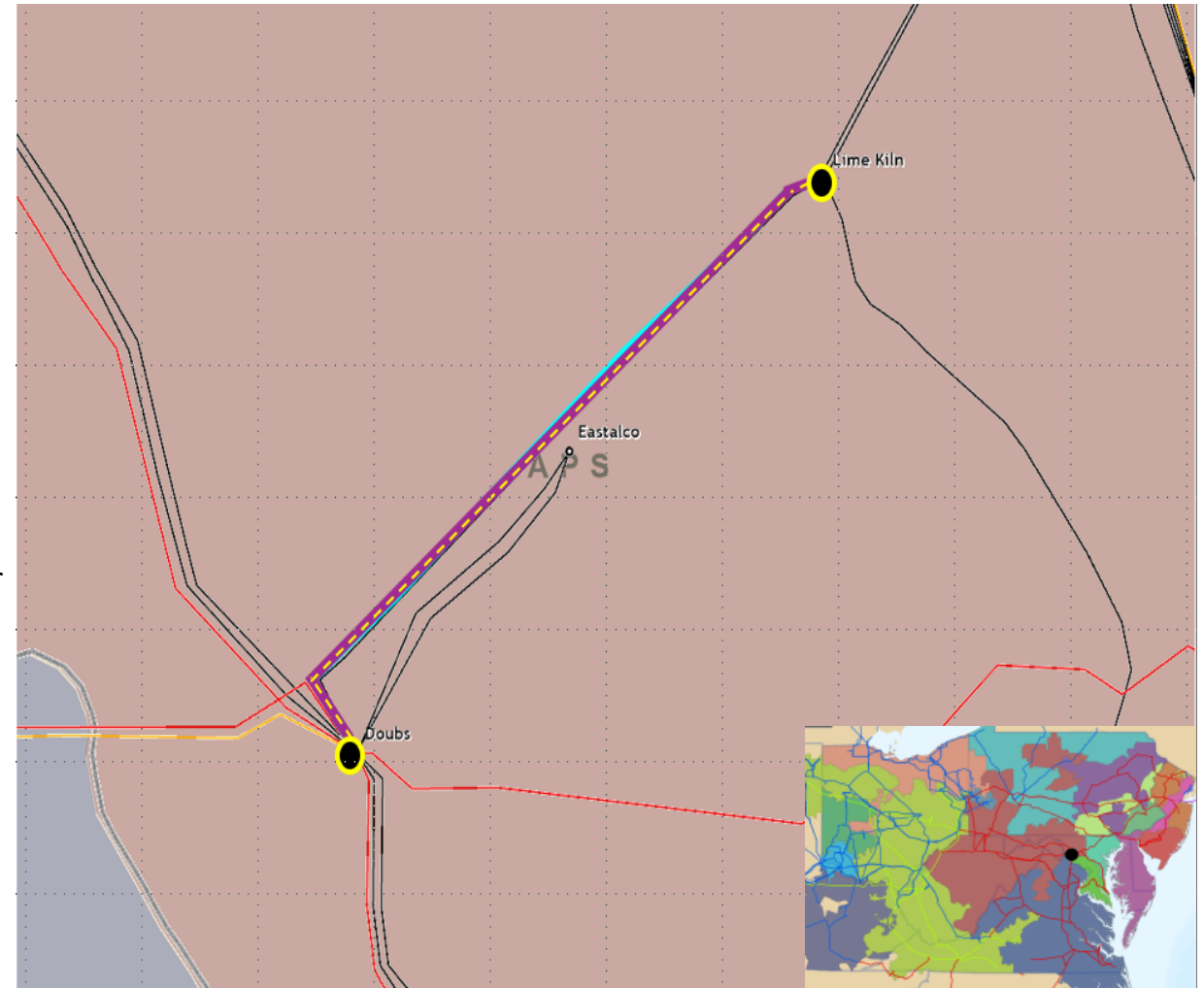
Specific Assumption References:

New customer connection requests will be evaluated per FirstEnergy's "Requirements for Transmission Connected Facilities" document and "Transmission Planning Criteria" document.

Problem Statement:

New Customer Connection - A new customer requested 230 kV service for load of approximately 1000 MW near the Doubs - Lime Kiln #231 230 kV Line and Ballenger Substation. The request is approximately 2.3 miles from Lime Kiln, 4.4 miles from Doubs, and 0.9 miles from Ballenger.

Requested in-service date is 12/31/2032.



Need Number: APS-2026-039
Process Stage: Need Meeting 07/07/2026
Project Driver: Customer Service

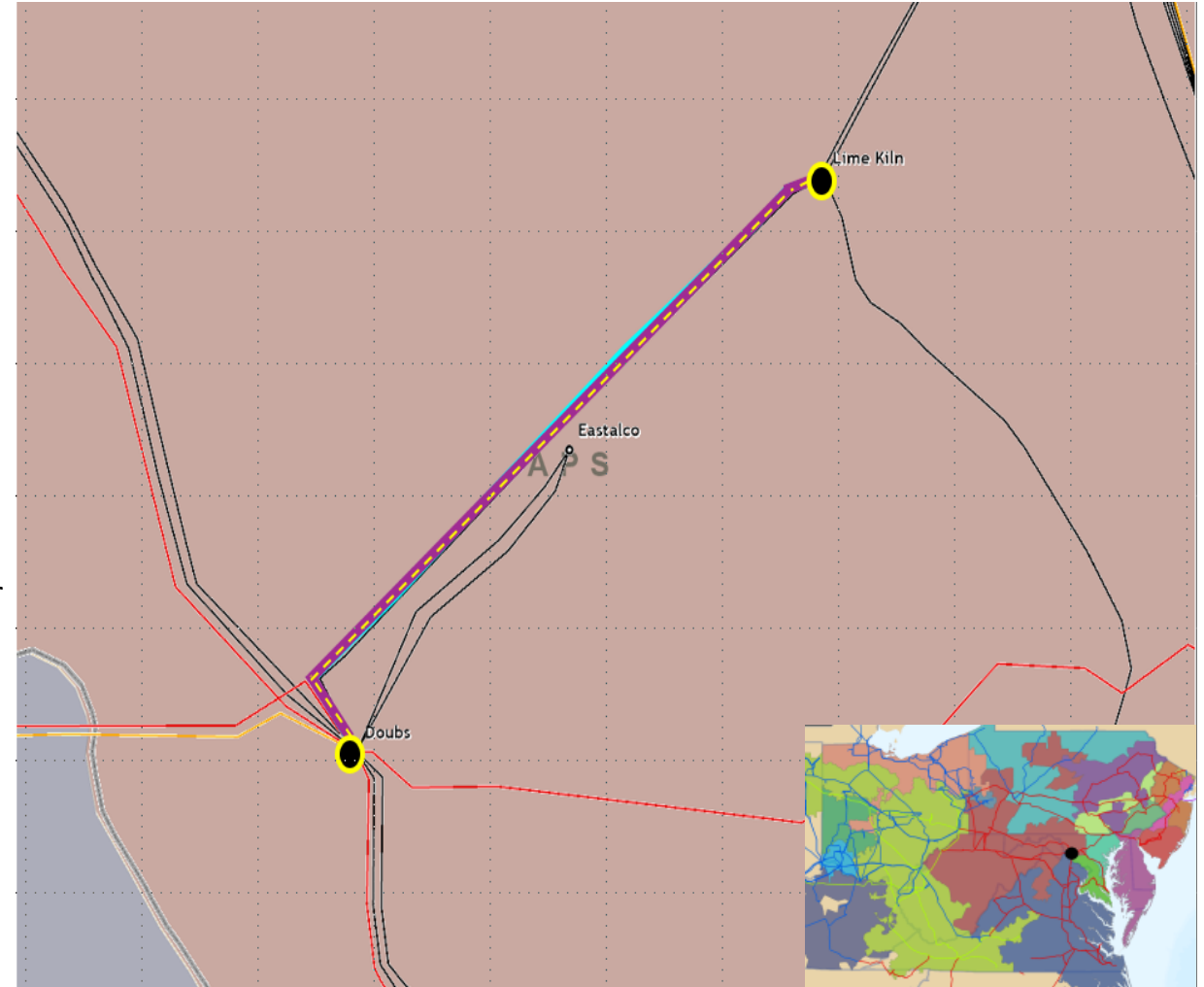
Specific Assumption References:

New customer connection requests will be evaluated per FirstEnergy's "Requirements for Transmission Connected Facilities" document and "Transmission Planning Criteria" document.

Problem Statement:

New Customer Connection - A new customer requested 230 kV service for load of approximately 368 MW near the Doubs - Sage #205 and #207 230 kV Lines. The request is approximately 2.9 miles from Doubs Substation and 0.6 miles from Sage Substation.

Requested in-service date is 4/30/2032.



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

Need Number: APS-2025-029
Process Stage: Solution Meeting TEAC - 07/07/2026
Previously Presented: Need Meeting 11/04/2025
Project Driver: Operational Flexibility and Efficiency

Specific Assumption References:

System Performance Projects Global Factors

- Substation/line equipment limits
- System reliability and performance

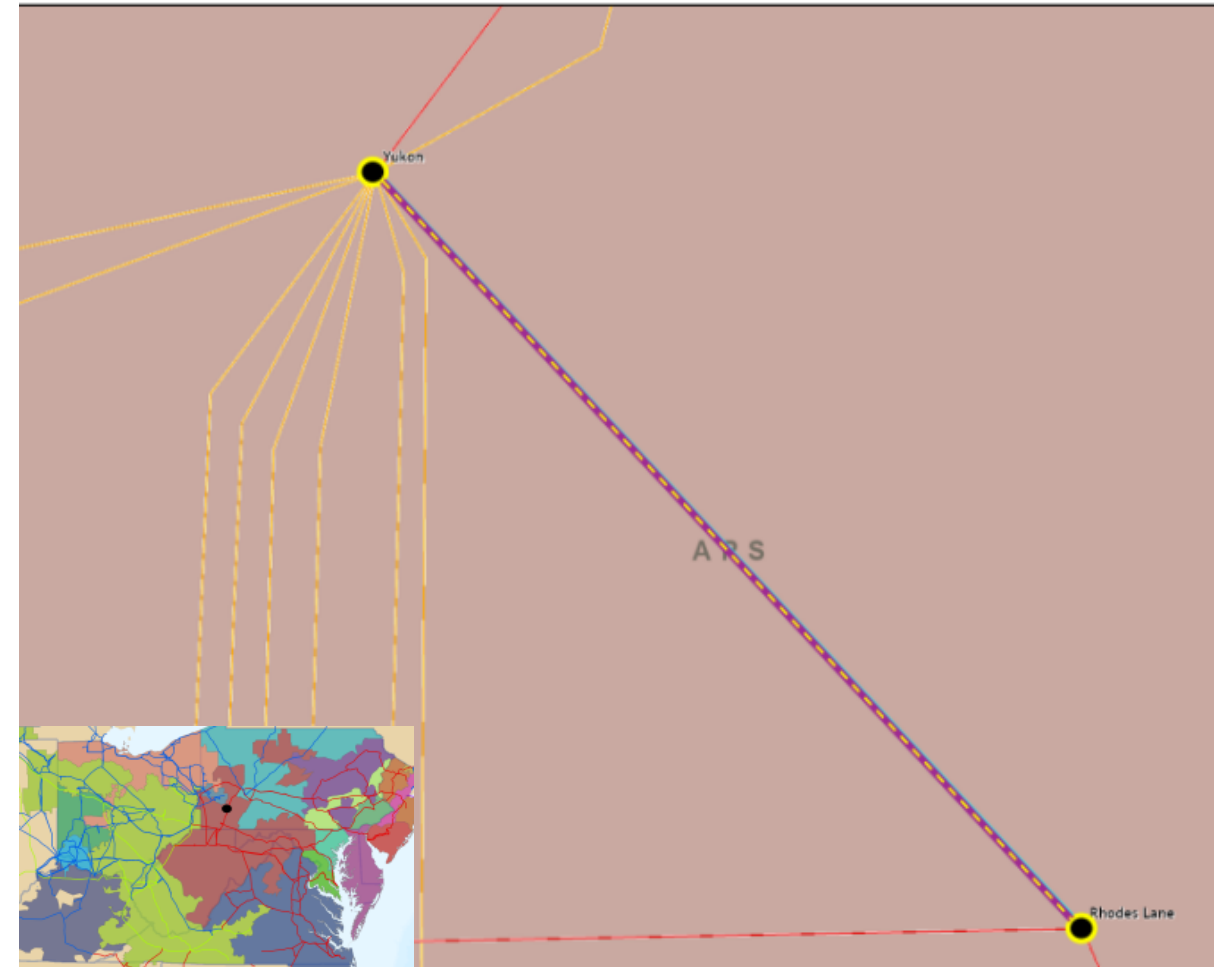
Problem Statement:

FirstEnergy has identified operational constraints when a single breaker is out of service for maintenance on the Rhodes Lane - Yukon 500 kV Line.

The Rhodes Lane - Yukon 500 kV Line is limited by terminal equipment:

Normal Ratings: 3526 / 3792 / 3928 / 4140 MVA (SN/SE/WN/WE)

Single Breaker Outage: 2707 / 3260 / 3391 / 3818 MVA (SN/SE/WN/WE)



Need Number: APS-2025-029
Process Stage: Solution Meeting TEAC - 07/07/2026

Proposed Solution:

At Yukon Substation: Replace 500 kV breakers, disconnect switches, substation conductors, and wave trap.
 At Rhodes Lane Substation: Replace 500 kV breakers, disconnect switches, substation conductors, and wave trap.

Rhodes Lane - Yukon 500 kV Line Ratings:
 Before Proposed Solution: 3526 / 3792 / 3928 / 4140 MVA (SN/SE/WN/WE)
 After Proposed Solution: 3573 / 4378 / 4050 / 5175 MVA (SN/SE/WN/WE)

Alternatives Considered:

Maintain existing condition with operational constraints when a single breaker is out of service for maintenance.

Estimated Project Cost: \$5.45M
Projected In-Service: 05/12/2028
Project Status: Conceptual
Model: 2023 RTEP - 2028 Summer 50/50 Case

Yukon



Rhodes Lane

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

Need Number: APS-2023-059, PN-2023-022
Process Stage: Solution Meeting TEAC - 07/07/2026
Previously Presented: Need Meeting 10/31/2023
Project Driver: Operational Flexibility and Efficiency

Specific Assumption References:

Global Factors

- System reliability and performance
- Substation and line equipment limits
- Add/Expand Bus Configuration

Problem Statement:

- The existing 230 kV yard at Shingletown is configured as a straight bus. Shingletown serves approximately 82.7 MW of load and 1,152 customers. With a stuck breaker contingency, the entire Shingletown substation will be outaged.
- Transmission line ratings are limited by terminal equipment:

Dale Summit – Shingletown 230 kV Line

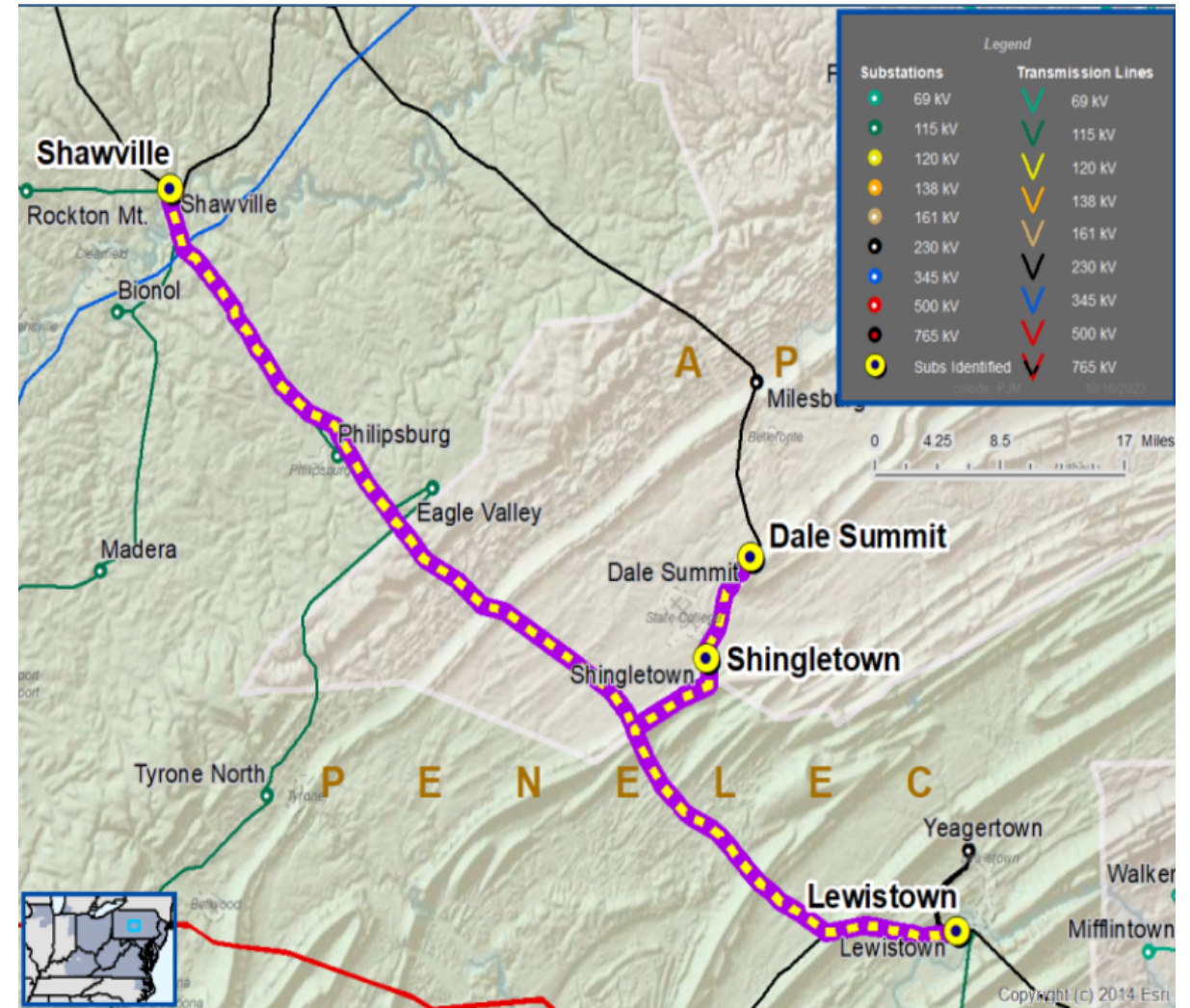
- Existing line rating: 486 / 523 MVA (SN / SE)
- Existing Transmission Conductor Rating: 617 / 754 MVA (SN / SE)

Lewistown – Shingletown 230 kV Line

- Existing line rating: 512 / 612 MVA (SN / SE)
- Existing Transmission Conductor Rating: 546 / 666 MVA (SN / SE)

Shawville – Shingletown 230 kV Line

- Existing line rating: 445 / 587 MVA (SN / SE)
- Existing Transmission Conductor Rating: 546 / 666 MVA (SN / SE)



Need Number: APS-2023-059, PN-2023-022
Process Stage: Solution Meeting TEAC - 07/07/2026

Proposed Solution:

Convert Shingletown Substation into a six-breaker 230 kV ring bus. (APS-2023-059)
 At Shawville Substation (PN-2023-022): Replace substation conductor and revise relay settings.
 At Lewistown Substation (PN-2023-022): Replace line trap and revise relay settings.

Transmission Line Ratings:

Lewistown - Shingletown 230 kV Line:

Before Proposed Solution: 512 / 612 / 619 / 700 MVA (SN/SE/WN/WE)

After Proposed Solution: 546 / 666 / 619 / 790 MVA (SN/SE/WN/WE)

Shawville - Shingletown 230 kV Line:

Before Proposed Solution: 442 / 582 / 619 / 700 MVA (SN/SE/WN/WE)

After Proposed Solution: 546 / 666 / 619 / 790 MVA (SN/SE/WN/WE)

Dale Summit - Shingletown 230 kV Line:

Before Proposed Solution: 486 / 523 / 542 / 571 MVA (SN/SE/WN/WE)

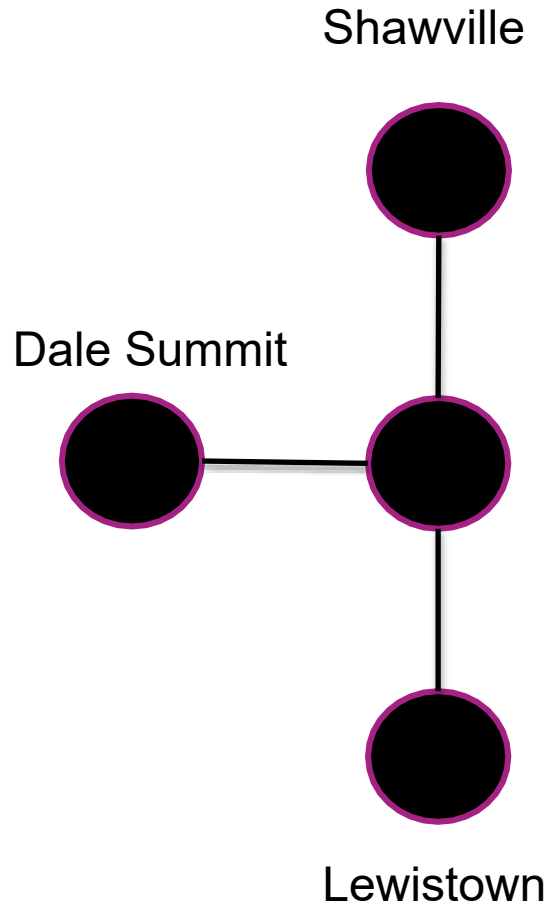
After Proposed Solution: 617 / 754 / 699 / 894 MVA (SN/SE/WN/WE)

This project is concurrent with PN-2023-022.

Alternatives Considered:

Maintain the existing configuration with risk of customer interruptions under contingency scenarios.

Estimated Project Cost: \$19.11M
Projected In-Service: 06/25/2029
Project Status: Conceptual
Model: 2023 RTEP - 2028 Summer 50/50 Case



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

06/26/2026– V1 – Original version posted to pjm.com

07/07/2026– V1 – Update problem statement for APS-2026-039 and APS-2026-041