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
**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
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
Questions?
Appendix
### Assumptions

<table>
<thead>
<tr>
<th>Activity</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posting of TO Assumptions Meeting information</td>
<td>20 days before Assumptions Meeting</td>
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<tr>
<td>Stakeholder comments</td>
<td>10 days after Assumptions Meeting</td>
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</tbody>
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### Needs

<table>
<thead>
<tr>
<th>Activity</th>
<th>Timing</th>
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<tbody>
<tr>
<td>TOs and Stakeholders Post Needs Meeting slides</td>
<td>10 days before Needs Meeting</td>
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<tr>
<td>Stakeholder comments</td>
<td>10 days after Needs Meeting</td>
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### Solutions

<table>
<thead>
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<tr>
<td>TOs and Stakeholders Post Solutions Meeting slides</td>
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<td>Stakeholder comments</td>
<td>10 days after Solutions Meeting</td>
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### Submission of Supplemental Projects & Local Plan

<table>
<thead>
<tr>
<th>Activity</th>
<th>Timing</th>
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<tbody>
<tr>
<td>Do No Harm (DNH) analysis for selected solution</td>
<td>Prior to posting selected solution</td>
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<tr>
<td>Post selected solution(s)</td>
<td>Following completion of DNH analysis</td>
</tr>
<tr>
<td>Stakeholder comments</td>
<td>10 days prior to Local Plan Submission for integration into RTEP</td>
</tr>
<tr>
<td>Local Plan submitted to PJM for integration into RTEP</td>
<td>Following review and consideration of comments received after posting of selected solutions</td>
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</tbody>
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Revision History

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