TEAC Committee
ComEd Supplemental Project

April 14, 2020
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: ComEd 2020-002

Process Stage: Need Meeting April 14, 2020

Project Drivers:
- Equipment Material Condition, Performance, and Risk
- Operational Flexibility and Efficiency

Specific Assumption References:
- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Internal and/or regulatory design guidelines or PJM minimum design standards
- Enhancing system functionality, flexibility, or operability

Problem Statement:
Itasca 345 kV configuration does not comply with current standards. It is a straight bus design with four lines and two transformers with only two 345 kV circuit breakers, one of which is obsolete and has poor test scores. Two lines are connected directly to the bus with disconnect switches. Transformers do not have high side circuit breakers. 345 kV/138 kV Transformer 82 has partial discharge gassing due to a design deficiency and questionable acoustic test results. 2 out of 5 similar transformers have failed in service.
**Need Number:** ComEd 2020-003

**Process Stage:** Need Meeting April 14, 2020

**Project Drivers:**
- Equipment Material Condition, Performance, and Risk
- Operational Flexibility and Efficiency

**Specific Assumption References:**
- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Internal and/or regulatory design guidelines or PJM minimum design standards
- Enhancing system functionality, flexibility, or operability

**Problem Statement:**
Elmhurst 345 kV configuration does not comply with current standards. It is a straight bus design with two 345 kV bus tie circuit breakers protecting two lines and three transformers. Lines and transformers are directly connected to the bus via switches. Lines and transformers trip together. Both 345 kV circuit breakers are obsolete and are in need of bushing replacements due to leaking oil.
**Need Number:** ComEd 2020-004  
**Process Stage:** Need Meeting April 14, 2020  
**Project Drivers:**  
- Operational Flexibility and Efficiency  
**Specific Assumption References:**  
- Internal and/or regulatory design guidelines or PJM minimum design standards  
- Enhancing system functionality, flexibility, or operability  
**Problem Statement:**  
McCook 345 kV bus does not comply with current standards. It is a straight bus design with two lines and two transformers with the lines directly connected to the bus via disconnects. Loss of a line also trips a transformer.
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: ComEd-2020-001
Process Stage: Solutions 4/14/2020
Previously Presented:
Needs Meeting 3/10/2020
Project Driver:
Equipment Material Condition, Performance and Risk
Specific Assumption Reference:
Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
Problem Statement:
Lisle 345/138 kV Transformer #83 acoustic testing shows higher than expected vibration levels and increased frequencies associated with looseness in the core/coil assembly.
- Looseness has worsened since previous testing
- Shell form design that cannot be re-blocked
- Dissolved gas analysis shows insulation degradation.
- Last unit of 5 that were purchased with this design. 3 of the 5 failed catastrophically and one other was condemned before failure
Need Number: ComEd-2020-001
Process Stage: Solutions Meeting 4/14/2020
Proposed Solution:
Replace Lisle Transformer 83, add high-side CB, $8.5M
Alternatives Considered:
None
Projected In-Service: 12/31/2021
Project Status: Engineering & Procurement
Model: N/A
Appendix
## High Level M-3 Meeting Schedule

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<thead>
<tr>
<th>Assumptions</th>
<th>Activity</th>
<th>Timing</th>
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<tbody>
<tr>
<td></td>
<td>Posting of TO Assumptions Meeting information</td>
<td>20 days before Assumptions Meeting</td>
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<td></td>
<td>Stakeholder comments</td>
<td>10 days after Assumptions Meeting</td>
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<tr>
<td>Needs</td>
<td>TOs and Stakeholders Post Needs Meeting slides</td>
<td>10 days before Needs Meeting</td>
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<td>Solutions</td>
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<td>Stakeholder comments</td>
<td>10 days after Solutions Meeting</td>
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<tr>
<td>Submission of Supplemental Projects &amp; Local Plan</td>
<td>Do No Harm (DNH) analysis for selected solution</td>
<td>Prior to posting selected solution</td>
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<td>Post selected solution(s)</td>
<td>Following completion of DNH analysis</td>
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<tr>
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<td>Stakeholder comments</td>
<td>10 days prior to Local Plan Submission for integration into RTEP</td>
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<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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Revision History
3/31/2020 – V1 – Original version posted to pjm.com