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

ComEd Transmission Zone M-3 Process
Itasca

Need Number: ComEd 2020-002

Process Stage: Need Meeting April 14, 2020

Project Drivers:

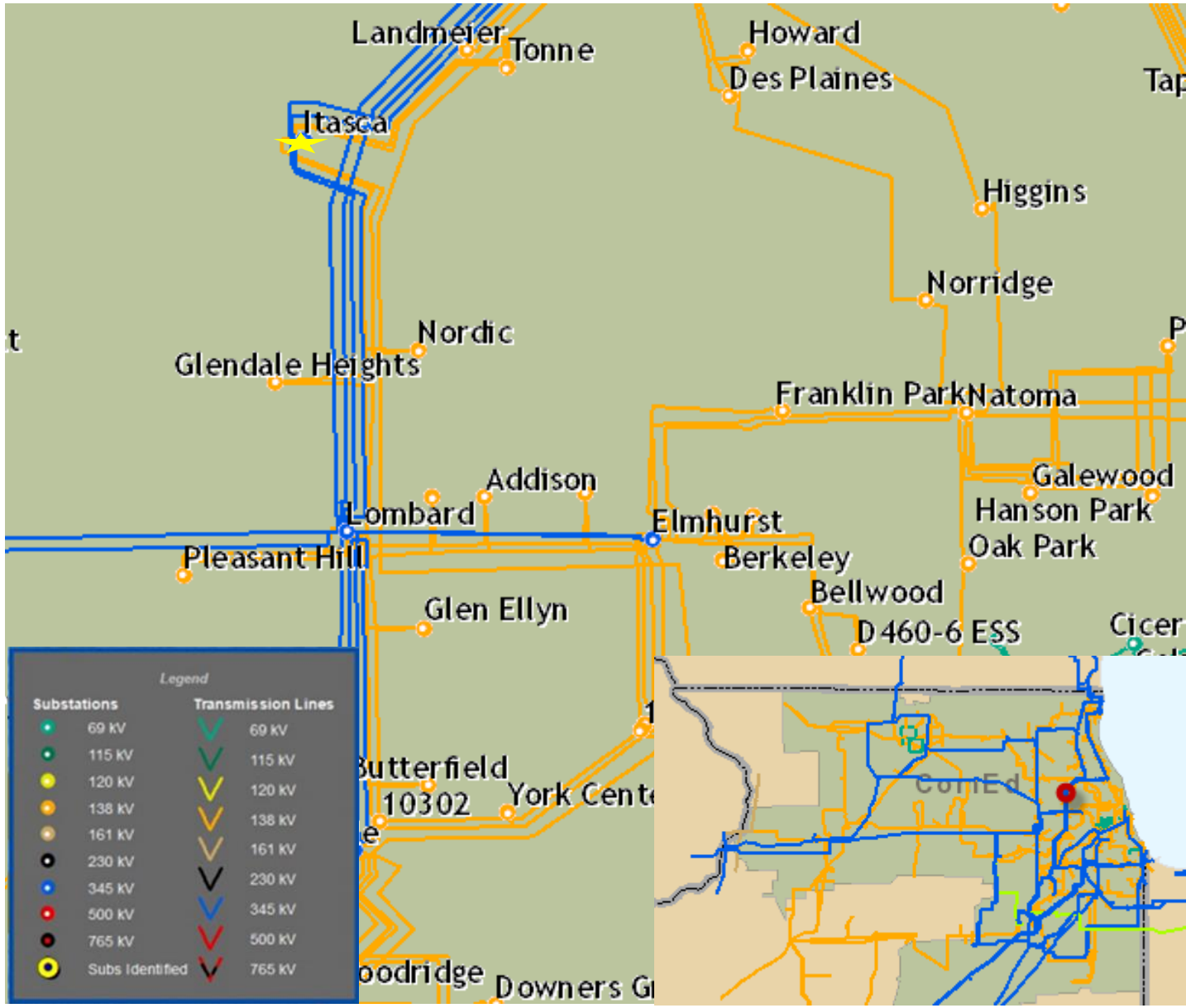
- Equipment Material Condition, Performance, and Risk
- Operational Flexibility and Efficiency

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 It is a straight bus design with four lines and two transformers with only two 345 kV circuit breakers, one of which is obsolete and has poor test scores.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.



ComEd Transmission Zone M-3 Process
Elmhurst

Need Number: ComEd 2020-003

Process Stage: Need Meeting April 14, 2020

Project Drivers:

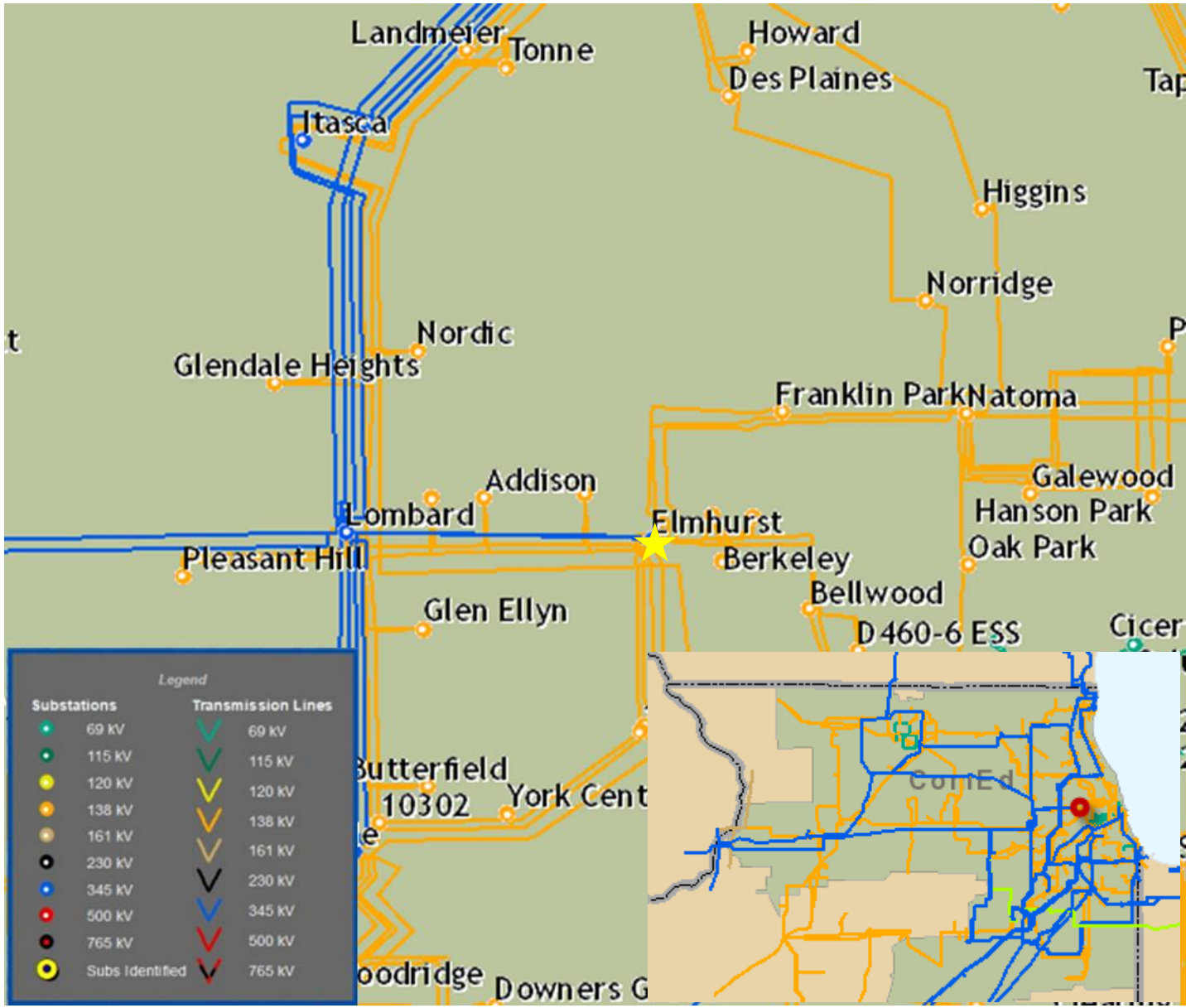
- Equipment Material Condition, Performance, and Risk
- Operational Flexibility and Efficiency

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.



ComEd Transmission Zone M-3 Process
McCook

Need Number: ComEd 2020-004

Process Stage: Need Meeting April 14, 2020

Project Drivers:

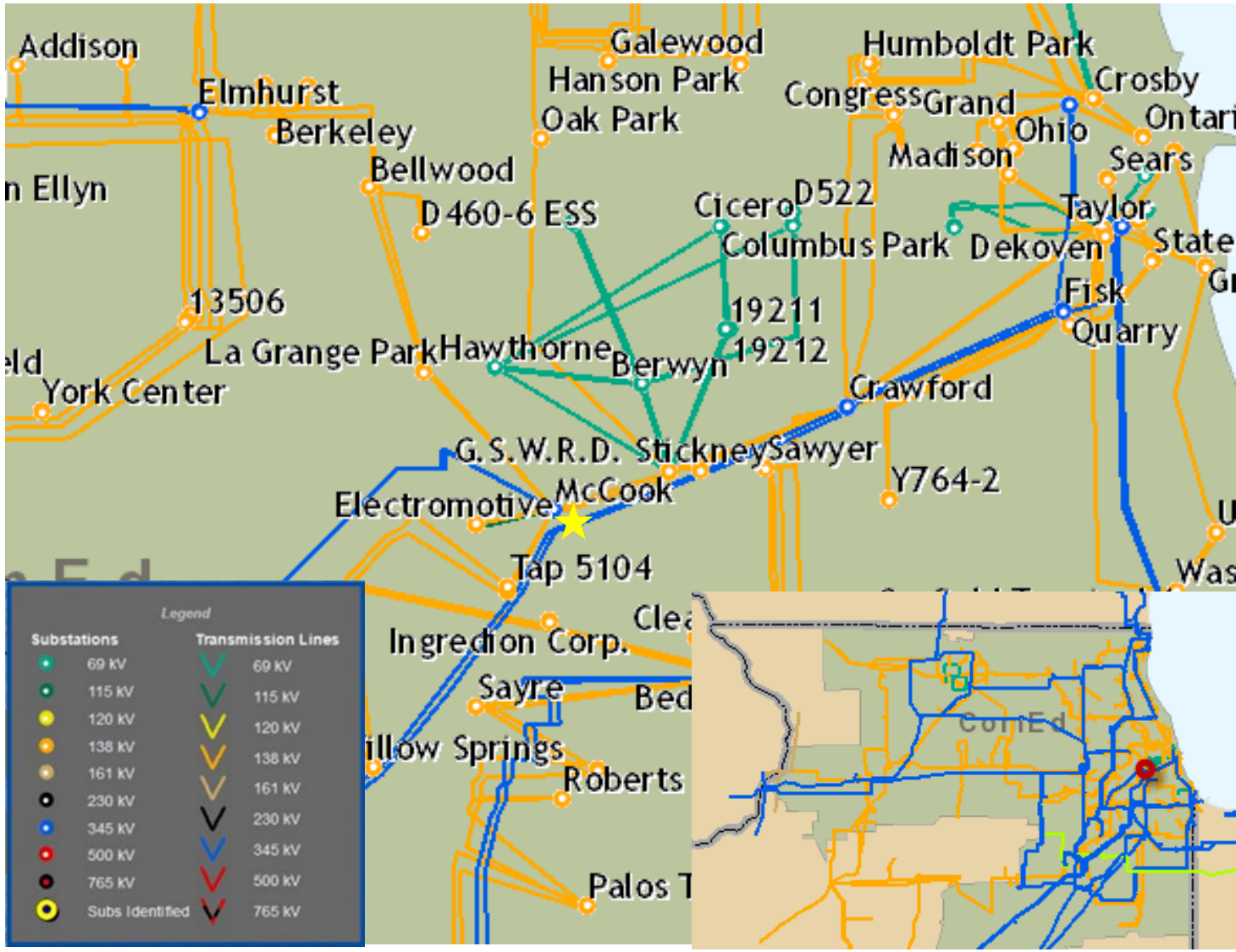
- Operational Flexibility and Efficiency

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

ComEd Transmission Zone M-3 Process
Lisle Transformer 83

Need Number: ComEd-2020-001

Process Stage: Solutions 4/14/2020

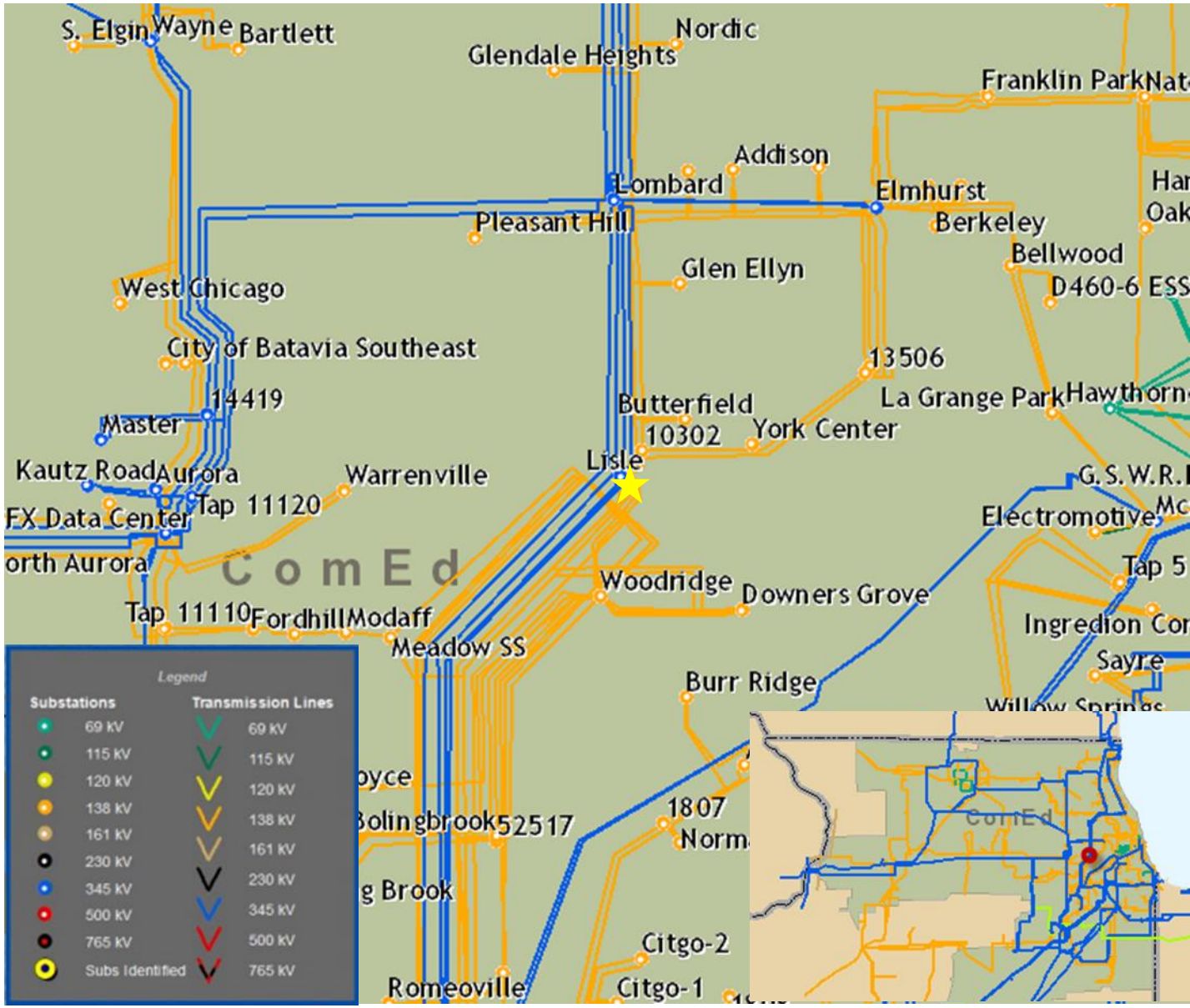
Previously Presented:
Needs Meeting 3/10/2020

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



ComEd Transmission Zone M-3 Process
Lisle Transformer 83

Need Number: ComEd-2020-001

Process Stage: Solutions Meeting 4/14/2020

Proposed Solution:

Replace Lisle Transformer 83, add high-side CB, $8.5M

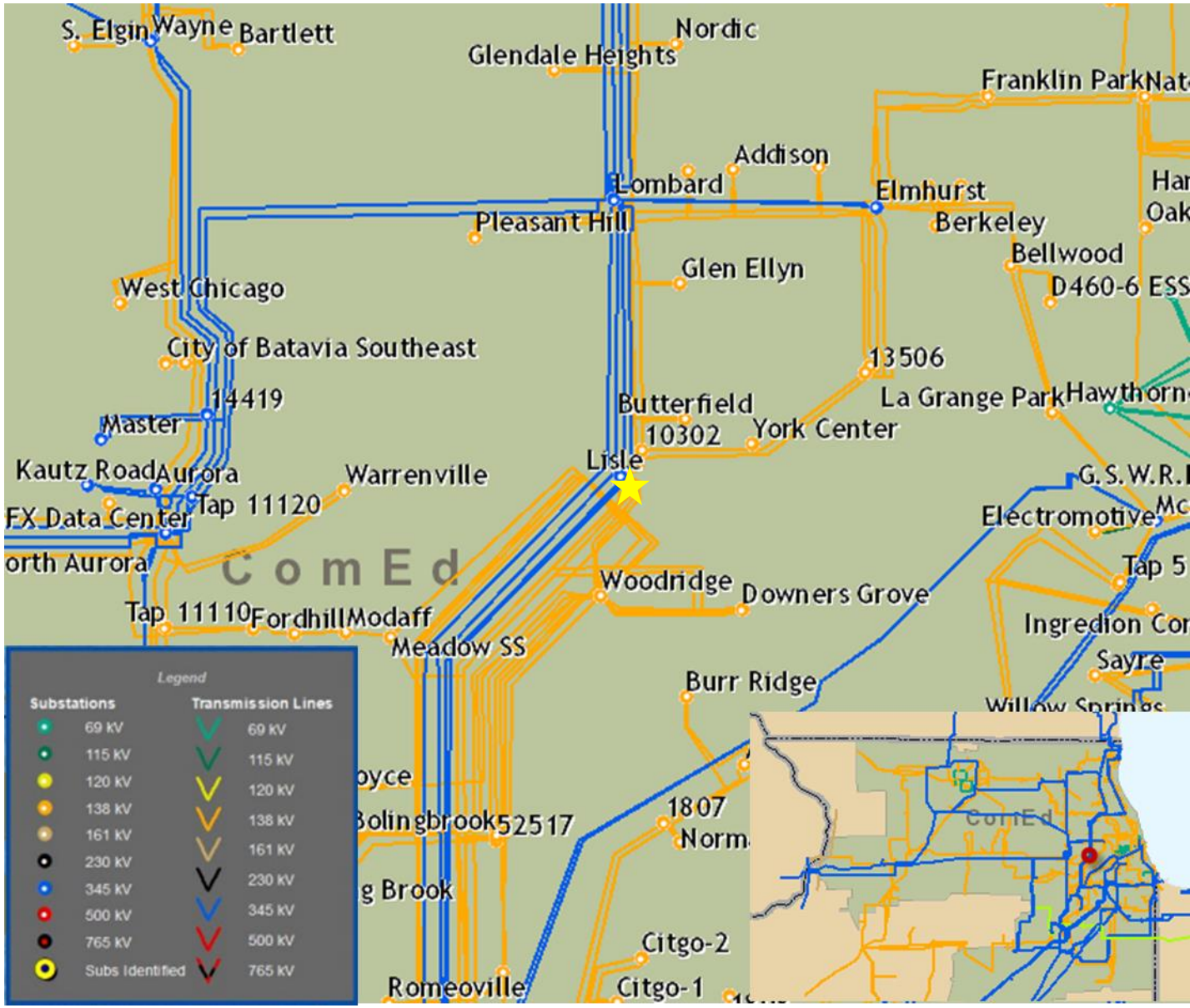
Alternatives Considered:

None

Projected In-Service: 12/31/2021

Project Status: Engineering & Procurement

Model: N/A



Appendix

High Level M-3 Meeting Schedule

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

3/31/2020 – V1 – Original version posted to pjm.com