Reliability Analysis Update
PJM West

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Sub Regional RTEP Committee – PJM West

December 13, 2024

Existing Project Cancellation

Baseline Reliability Projects

2024 RTEP
First Read
Baseline Reliability Projects

AMPT Transmission Zone: Baseline Miami Transformer

Process Stage: First Review

Criteria: TO 715 Criteria Violation

Assumption Reference: 2024 RTEP assumptions

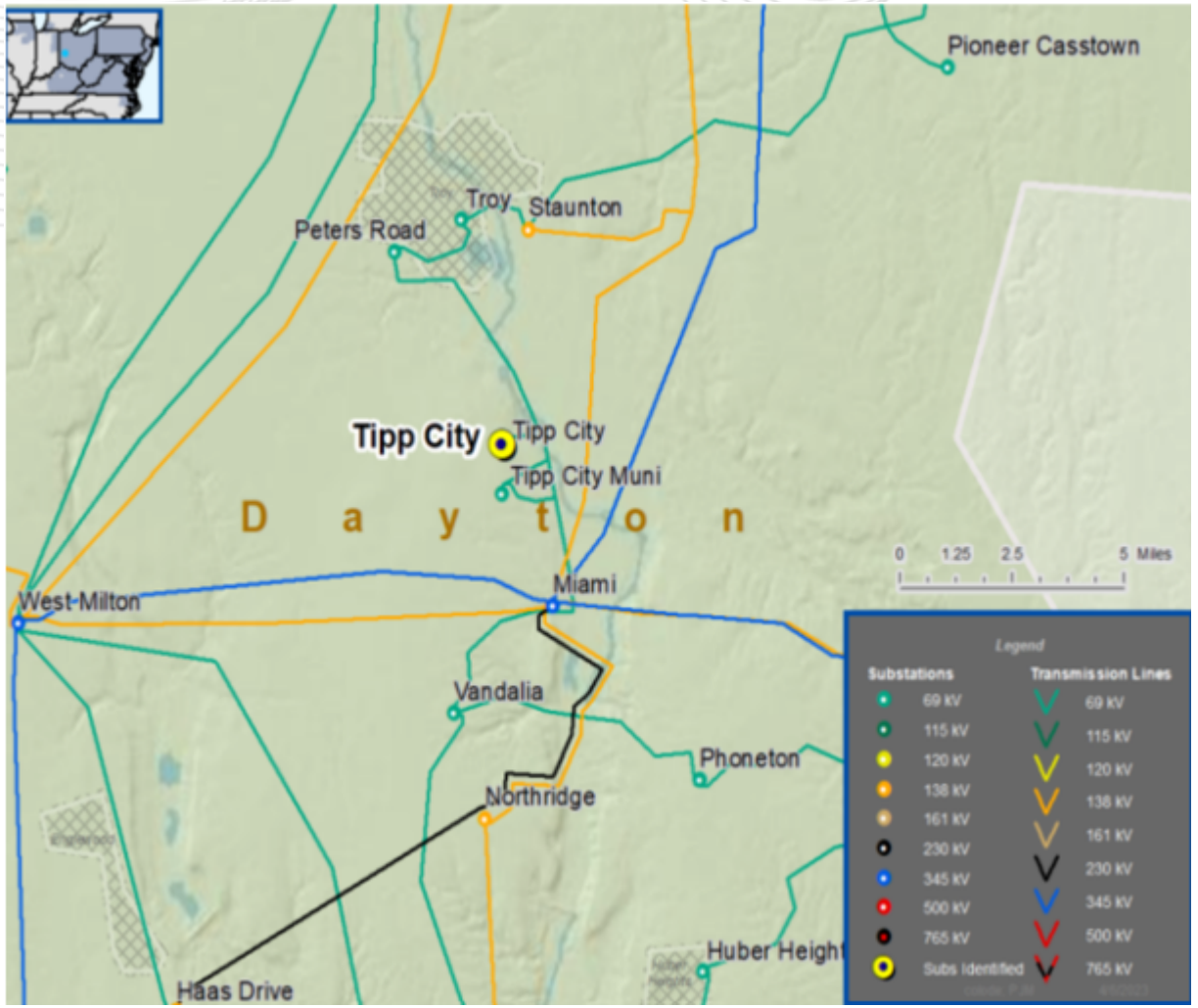
Model Used for Analysis: 2024 RTEP Summer base case

Proposal Window Exclusion: Below 200kV Exclusion

Problem Statement:

FG: 2024W1-AMPT-VM1, 2024W1-AMPT-VM2 & 2024W1-AMPT-VM3

In the 2029 RTEP Summer case, multiple buses in the AMPT 69 kV are observing low voltage for N-1-1 outages.



AMPT/Dayton Transmission Zone: Baseline Miami Transformer

Proposed Solution: Add one additional breaker, a 2nd 138/69kV transformer, replace five 69kV breakers & four 138kV breakers at the Miami substation. (Converted from part of the S3351.2)

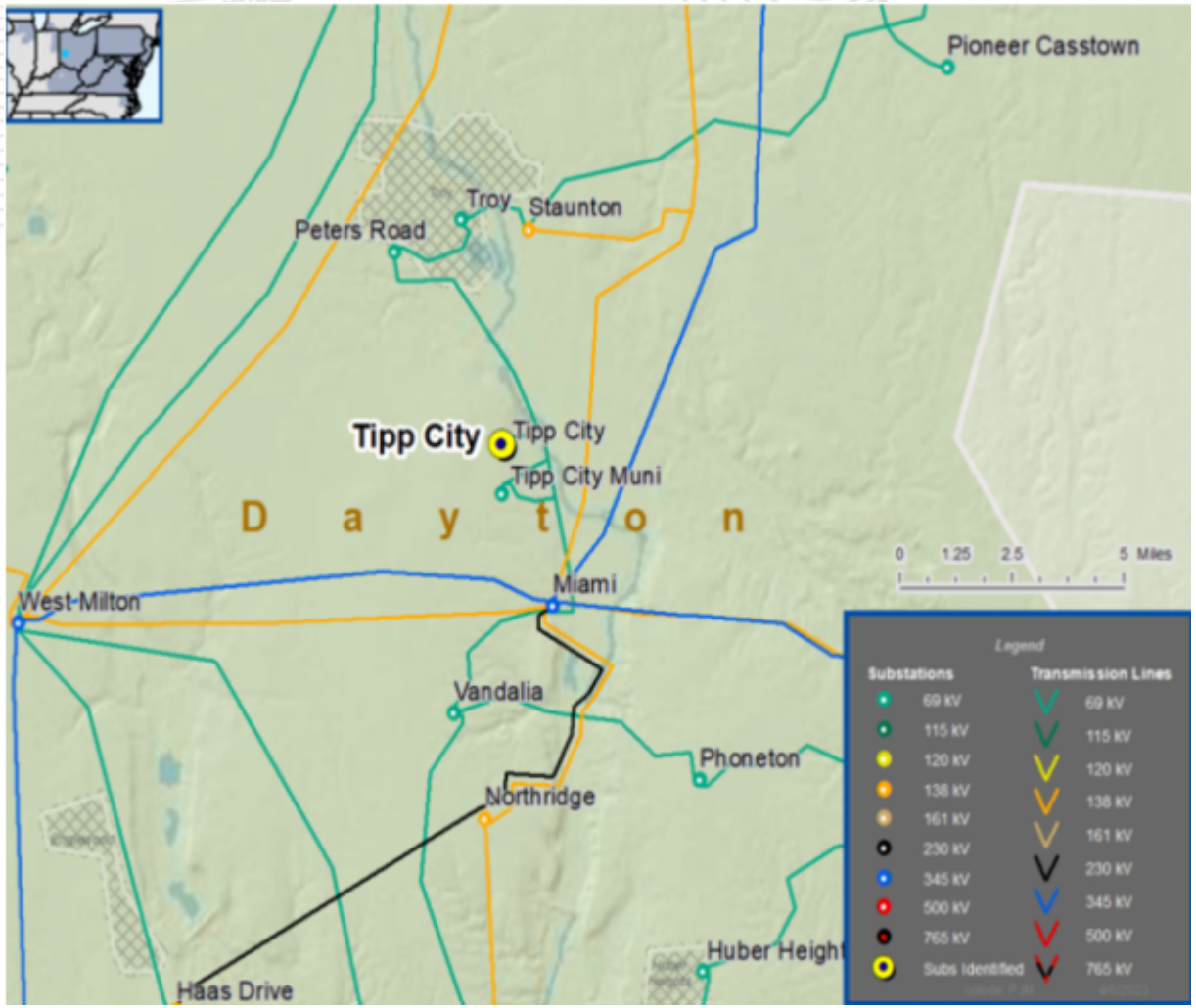
Alternatives: AMPT considered a cap bank in the area. An additional transformer at Miami was a more effective area wide solution.

A component of S3351.2 has the same scope as the proposed solution, therefore the component will be converted to baseline, as shown in the proposed solution.

Total Estimated Cost: $12M

Required in-service date: 6/1/2029

Projected in-service date: 6/30/2028



Dayton Transmission Zone: Baseline Rockford-Roller Creek 69kV Reconductor

Process Stage: First Read

Criteria: Baseline Load Growth Deliverability & Reliability

Assumption Reference: 2024 RTEP assumptions

Model Used for Analysis: 2029 RTEP cases

Proposal Window Exclusion: Reliability Violations on Transmission Facilities Below 200 kV exclusion

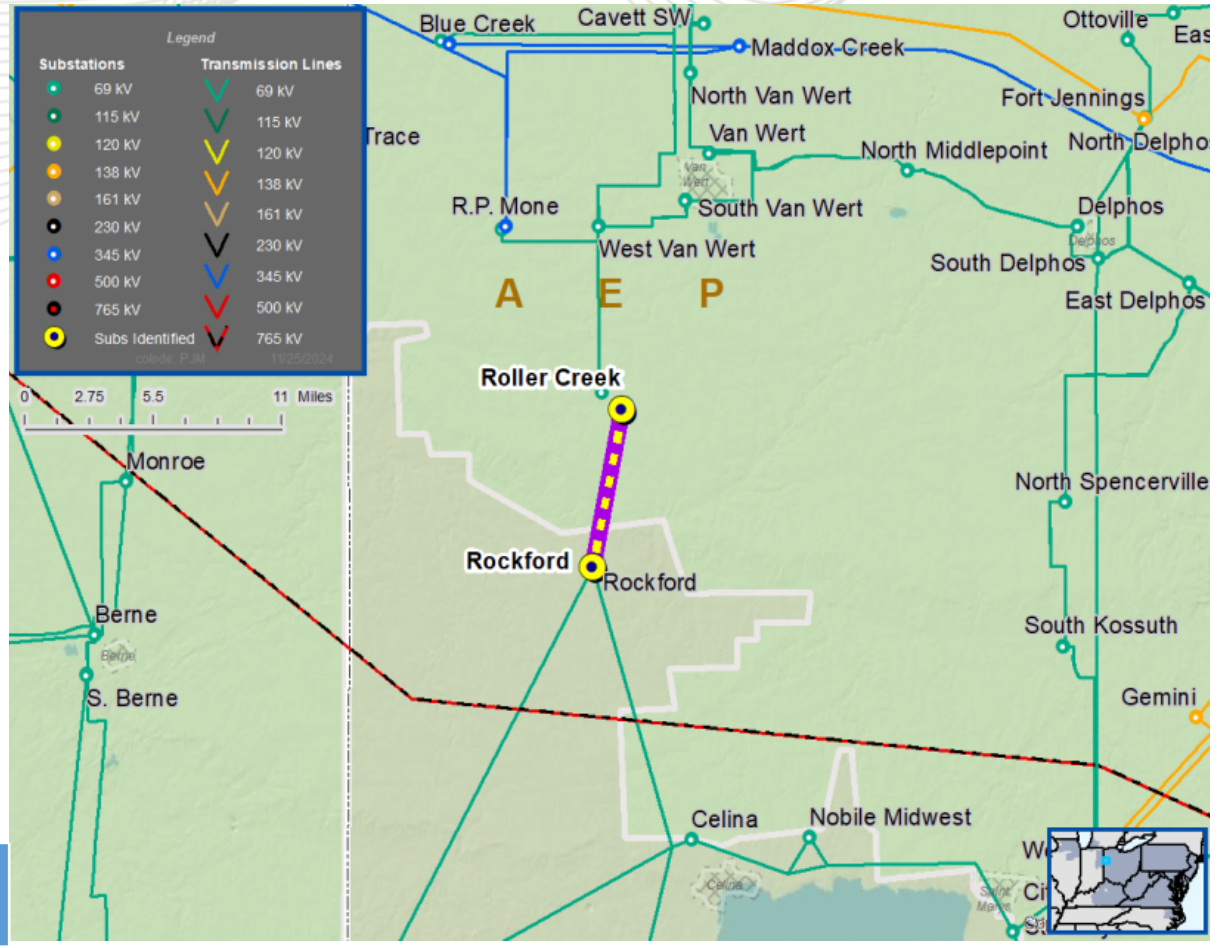
Problem Statement:

FG: 2024-W1-GD-LL16, 2024-W1-GD-LL17, 2024-W1-GD-LL18, 2024-W1-GD-LL19, 2024-W1-GD-LL20, 2024-W1-GD-LL21, 2024-W1-GD-LL22, 2024-W1-GD-LL23, 2024-W1-GD-LL24, 2024-W1-GD-LL26, 2024-W1-GD-LL28, 2024-W1-GD-LL34, 2024-W1-GD-LL7

Contingencies in light load conditions cause an overload on the AES 69kV Rockford to Roller Creek line.

Facility Rating:

Branch	Existing Facility Ratings SN/SE/WN/WE (MVA)	Preliminary Facility Ratings SN/SE/WN/WE (MVA)
Rockford-Roller Creek	45/53/61/66	151/187/209/234



Dayton Transmission Zone: Baseline Rockford-Roller Creek 69kV Reconductor

Proposed solution:

Rebuild and reconductor 7.7 miles of 69kV line with the standard 1351 AAC conductor between Dayton's Rockford substation and AEP's Roller Creek substation. Including remote end work at Rockford and Roller Creek substations

Alternatives:

The supplemental need is to reinforce the AES Ohio Northwest 69kV system. As part of that effort, portions of this line were already set to be rebuilt/rerouted, so this is just an incremental cost on that project. Due to this, no alternatives were seriously considered.

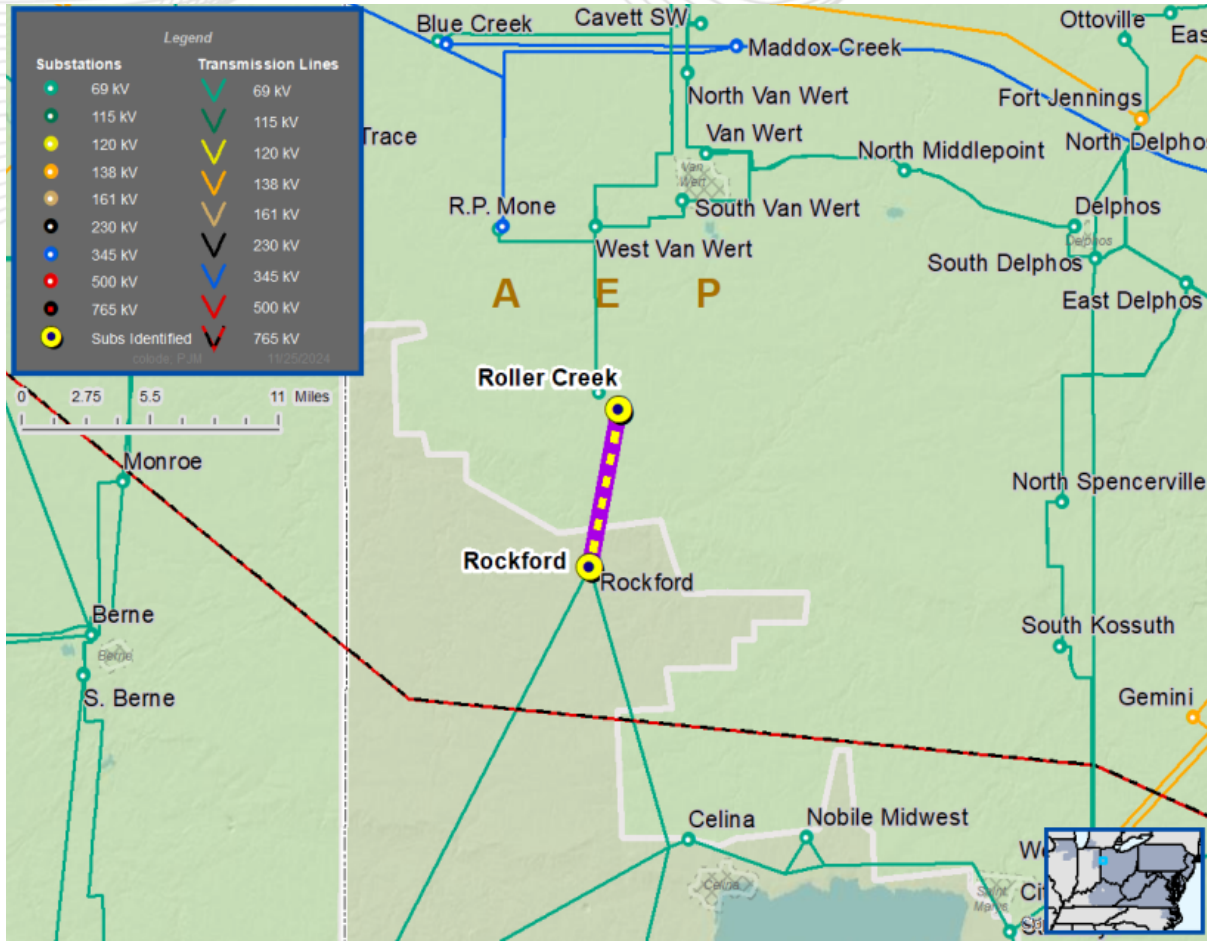
Ancillary Benefits:

The initial supplemental project which converted this line from 33kV to 69kV improves the reliability of the NW 69kV Dayton system.

Estimated Cost: 25.00M

Required In Service Date: 04-15-2029

Project In Service Date: 12-31-2027



2024 RTEP
Recommended Solution
Baseline Reliability Projects

ComEd Transmission Zone: Baseline Change No Load Taps at 6 stations

Process Stage: Recommended Solution

Criteria: LL N-0 and N-1

TEAC/SRRTEP assumptions: 2024 RTEP assumptions

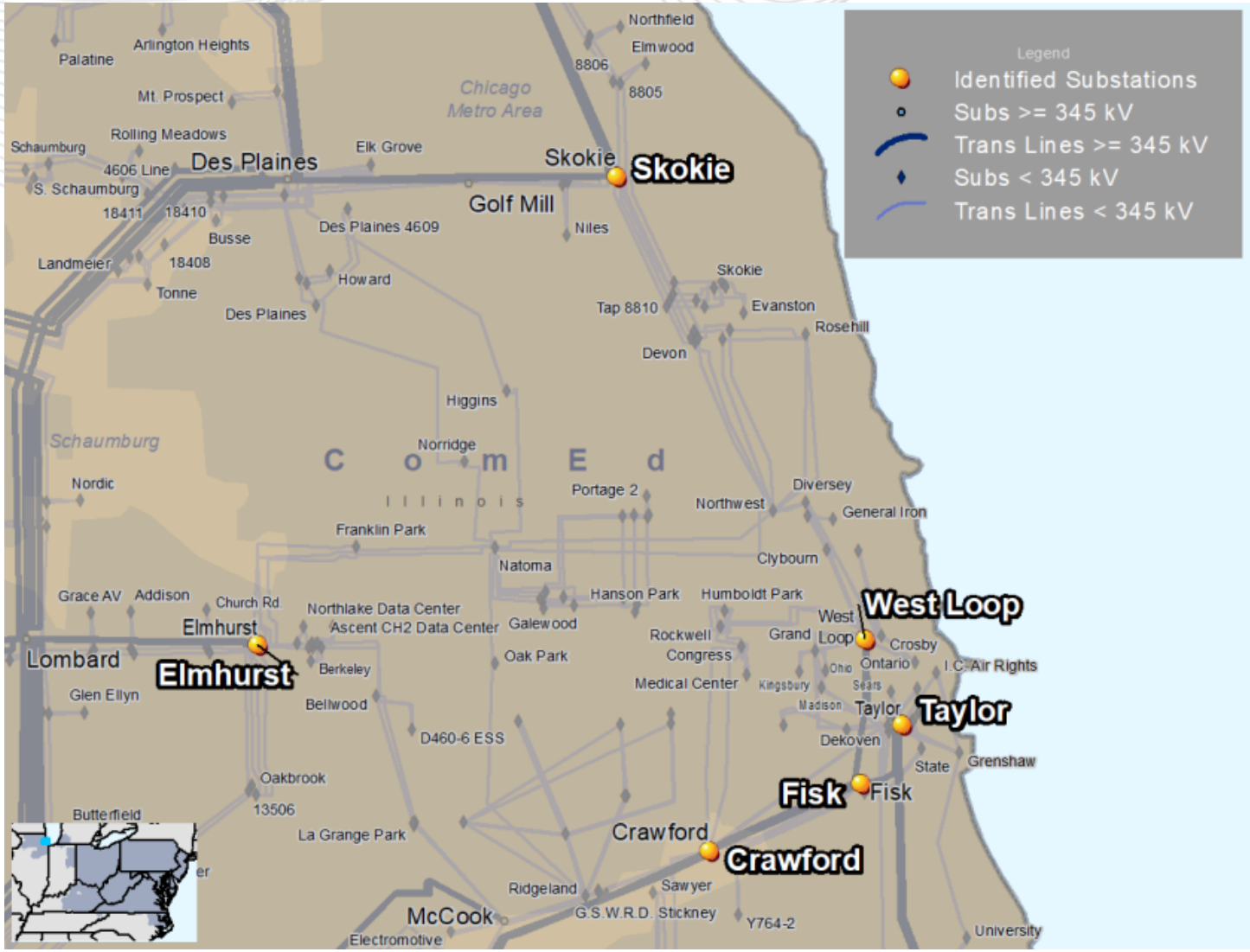
Model Used for Analysis: 2029 RTEP Light Load base case

Proposal Window Exclusion: Below 200 kV Exclusion, Substation Equipment Exclusion

Problem Statement:

FG: Valid FGs in the range of 2024W1-N0-LLVM1 through 2024W1-N0-LLVM29 and 2024W1-N1-LLVM3 through 2024W1-N1-LLVM1177

In the 2029 RTEP Light Load case, multiple buses in the Chicago 138 kV network show high voltage issues in the base case and for N-1 and N-2 outages.



ComEd Transmission Zone: Baseline Change No Load Taps at 6 stations

Proposed Solution:

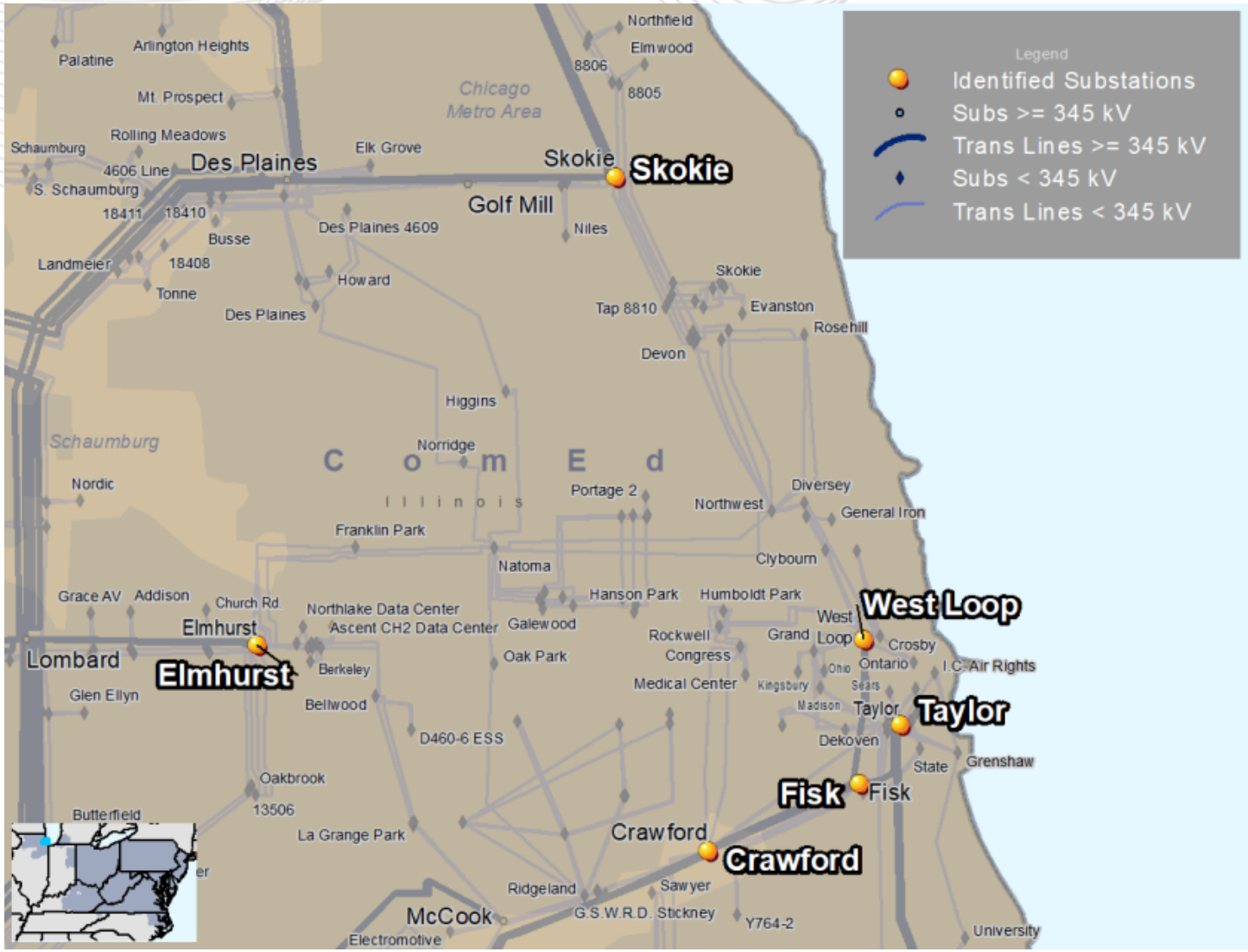
- Change No-load Tap of 2 Autotransformers at Fisk from 338.25 kV to 346.5 kV. **(b3914.1) Estimated Cost: 34K**
- Change No-load Tap of 4 Autotransformers at Crawford from 338.25 kV to 346.5 kV. **(b3914.2) Estimated Cost: 68K**
- Change No-load Tap of 3 Autotransformers at Elmhurst from 338.25kV to 346.5 kV. **(b3914.3) Estimated Cost: 51K**
- Change No-load Tap of 2 Autotransformers at West Loop from 338.25kV to 346.5kV. **(b3914.4) Estimated Cost: 34K**
- Change No-load Tap of 2 Autotransformers at Taylor from 338.25kV to 346.5kV. **(b3914.5) Estimated Cost: 34K**
- Change No-load Tap of 4 Autotransformers at Skokie from 338.25 kV to 346.5 kV. **(b3914.6) Estimated Cost: 68K**

Total Estimated Cost: $289 K

Required In-Service: 4/15/2029

Projected IS Date: 4/15/2029

Previously Presented: 11/15/2024



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Reliability Analysis Update

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Revision History

Version No.	Date	Description
1	December 10, 2024	• Original slides posted

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