

Subregional RTEP Committee - AMPT

3/15/2024

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

AMPT Projects in ATSI Transmission Zone: Supplemental Napoleon, OH

Need Number: AMPT-2023-005

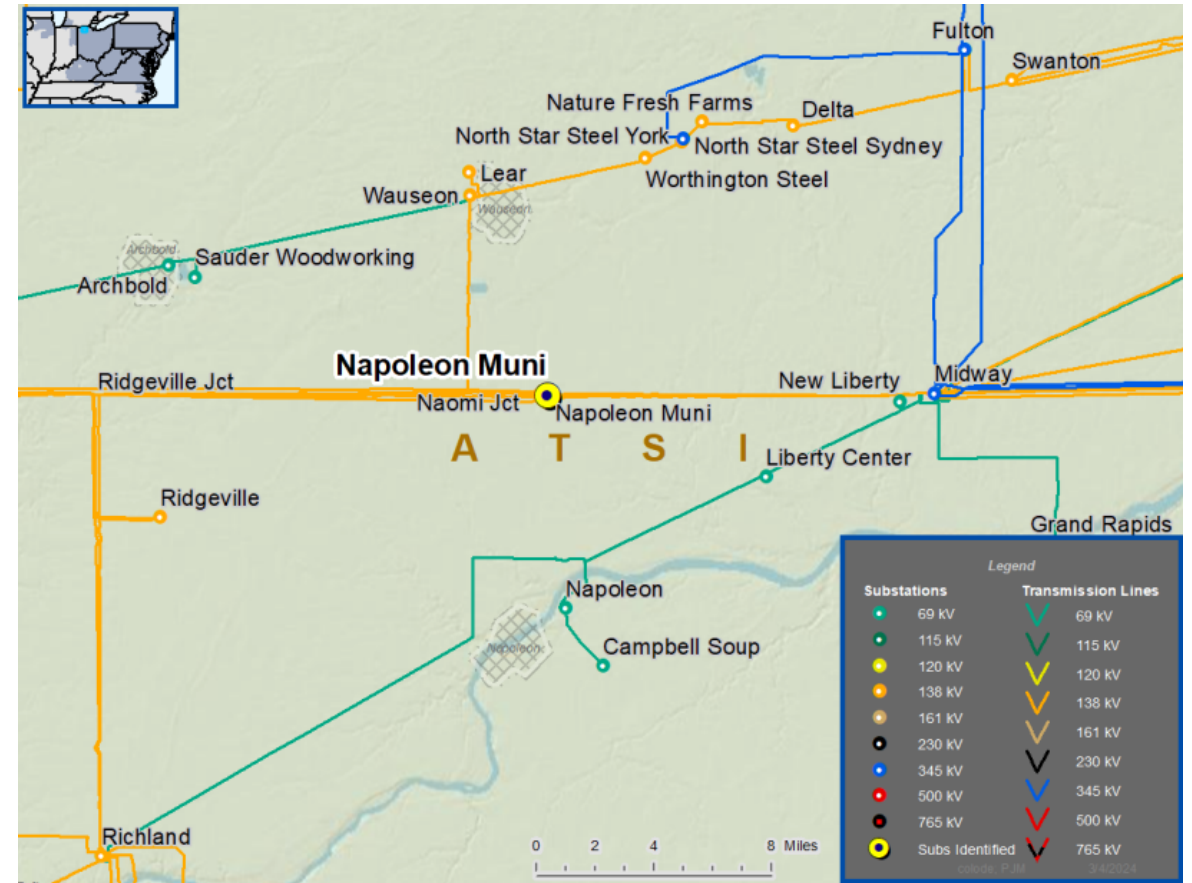
Process Stage: Solutions Meeting – 03/15/2024
(Needs Meeting was held 9/15/2023)

Supplemental Project Driver(s): Operational Flexibility & Efficiency, Customer Service

Specific Assumption Reference(s): AMPT Transmission Interconnection Document

Problem Statement:

At the AMPT Sullivan 138/69 kV Substation (Shown as “Napoleon Muni”), a breaker failure (NERC P2-4 or P4-2 outage) of 138 kV CB “1”, 138 kV CB “4”, or 69 kV CB “WBT” will interrupt both 138 kV sources from the substation, interrupting service to the entire Napoleon municipality (approximately 43 MW load at peak).



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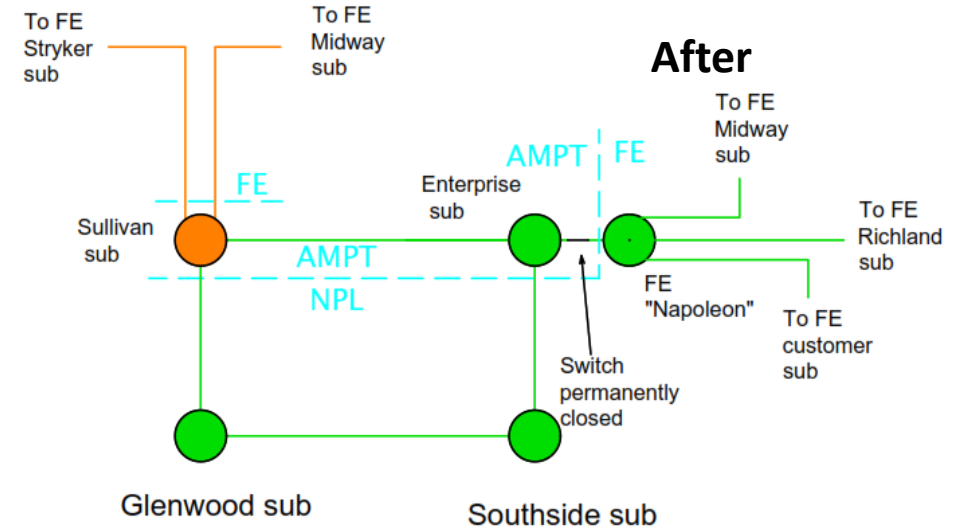
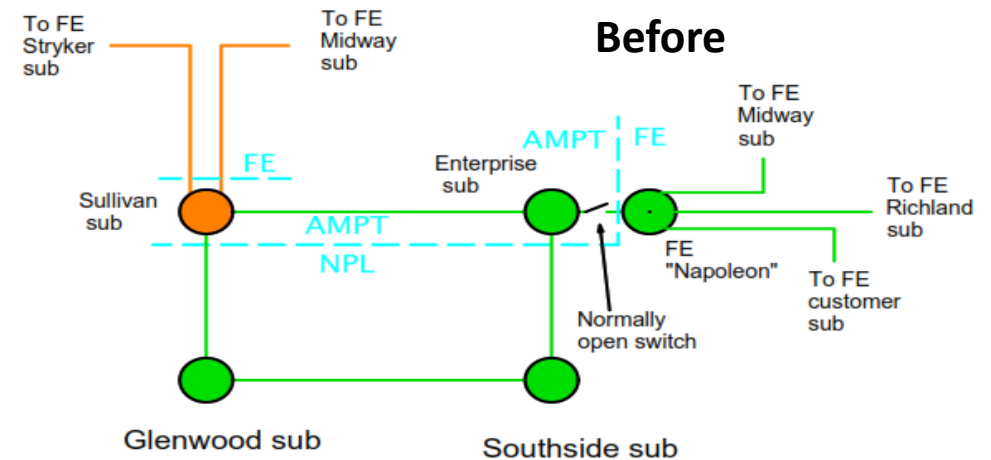
Proposed Solution:

Enterprise Substation

- Reconstruct Enterprise sub from the existing single breaker/single bus design to a five-breaker ring bus design. Install five (5) 2000 A 69 kV circuit breakers with associated CB disconnects. Change the status of the Enterprise – FE Napoleon 69 kV line to normally closed and network operation. Update (remote terminal) relay settings at Sullivan Substation.
- Napoleon Power & Light (NPL) will also rebuild their distribution sub; The 69-12 kV transformer and associated 12 kV work are distribution costs and not included as part of overall project costs.

AMPT Estimated Project Direct Cost: \$11.5M

AMPT Projected In-Service Date: 8/1/2026, **AMPT Project Status:** Engineering



AMPT Projects in ATSI Transmission Zone: Supplemental Napoleon, OH

Need Number: AMPT-2023-005

Process Stage: Solutions Meeting – 03/15/2024

Proposed Solution – FE Portion:

- Convert the FE Napoleon 69 kV straight bus into a four-breaker ring bus
- Provide a line termination point for the AMPT 69 kV line (Enterprise Substation exit).
- Upgrade the existing revenue metering equipment, including the CTs & PTs
- Revise relay settings at Napoleon, Richland, and Midway substations

Transmission Ratings: Napoleon (FE) – Enterprise (AMPT) 69 kV Line

- Before the Project: N/A
- After the Project: 111 / 131 / 125 / 159 MVA (SN/SE/WN/WE)

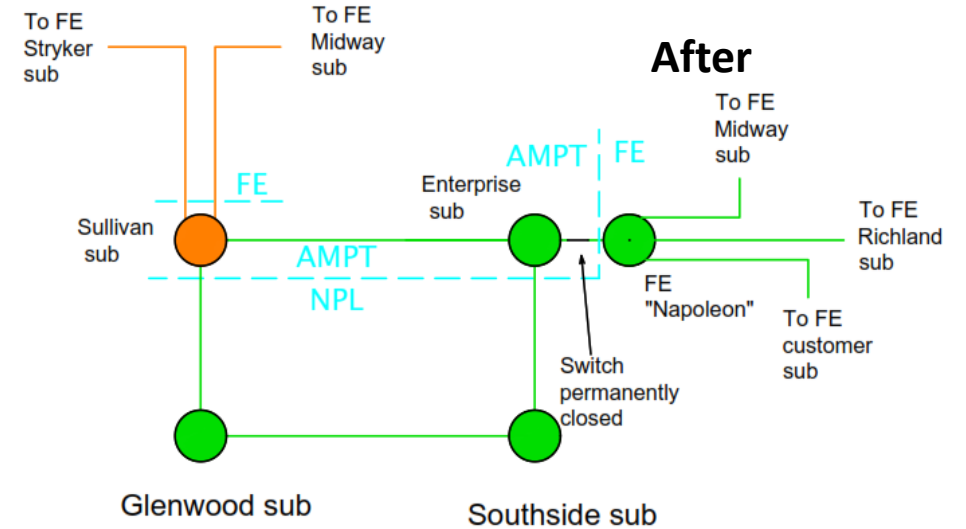
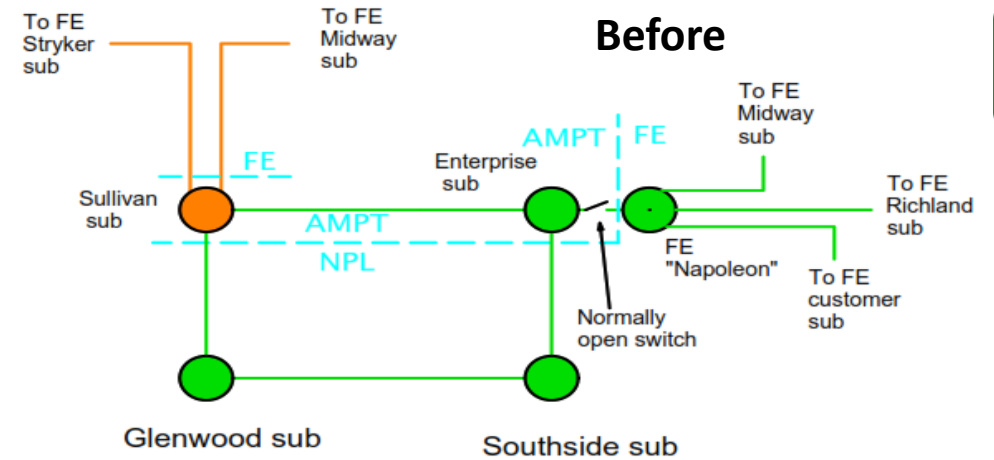
Ancillary Benefits:

Solution also provides reliability improvements for a 69 kV bus fault at FE Napoleon Substation and reduces load loss under contingency (~17 MW).

FE Estimated Project Direct Cost: \$7.1M

FE Projected in-service date: 10/02/2026

FE Project Status: Conceptual



AMPT Projects in ATSI Transmission Zone: Supplemental Napoleon, OH

Need Number: AMPT-2023-005

Process Stage: Solutions Meeting – 03/15/2024

Supplemental Project Driver(s): Operational Flexibility & Efficiency, Customer Service

Alternatives Considered:

- Expanding Sullivan Substation was investigated. There is inadequate land available at/near Sullivan to expand the substation further, after the reinforcements assigned to AMPT to accommodate a new IPP (N8359.1).
- A new greenfield substation was investigated but not chosen due to higher cost of developing a new greenfield sub, costs for new transmission and ROW, cost of substation land acquisition, and potentially adverse property owner impact due to constructing a new substation in close proximity to other existing substations.

Napoleon's long-term needs involve reinforcing nearer to their load center at Enterprise Substation. Energizing the existing normally open 69 kV source from FE Napoleon Substation meets the long-term needs of the city.

Total Estimated Transmission Cost: \$18.6 M

Projected In-Service: 8/1/2026 (AMPT), 10/02/2026 (FE)

Project Status: Engineering (AMPT), Conceptual (FE)

Appendix

3/15/2024

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

3/5/2024– V1 – Original version posted to pjm.com