

Sub Regional RTEP Committee: Western AMPT Supplemental Projects

August 19, 2022

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 M3 Process Huron, OH

Need Number: AMPT-2021-003

Process Stage: Solution Meeting – 8/19/2022

Previously Presented: Need Meeting – 11/19/2021

Supplemental Project Driver(s): Customer Service

Specific Assumption Reference(s): AMPT Transmission Facilities Interconnection Requirements Document

Problem Statement:

Huron 69 kV Substation (AMP Transmission)

Customer request (Huron Public Power) to install a third 69/12 kV transformer at the existing Huron substation to accommodate the 14 MW of increased load by 10/2022.

Requested In-Service Date for 10/1/2022.



AMPT Projects in ATSI Transmission Zone M3 Process Huron, OH

Need Number: AMPT-2021-003

Process Stage: Solution Meeting – 8/19/2022

Previously Presented: Need Meeting – 11/19/2021

Supplemental Project Driver(s): Customer Service

Proposed Solution:

- Install a 3rd 69/12 kV 25 MVA transformer at Rye Beach Road. Expand the distribution buses as necessary to accommodate the new transformer.
- The 69/12 kV transformer and associated 12 kV equipment costs are distribution costs.
- Related AMPT transmission work scope at Rye Beach Road will be completed under the **AMPT-2021-001** project which has already been presented.

Alternatives Considered:

No alternatives considered for this project.

Total Estimated Transmission Cost: \$0.0 M

Projected In-Service: 10/1/2024

Project Status: Conceptual



AMPT Projects in ATSI Transmission Zone M3 Process Brewster, OH

Need Number: AMPT-2021-006

Process Stage: Solution Meeting – 8/19/2022

Process Stage: Need Meeting – 12/17/2021

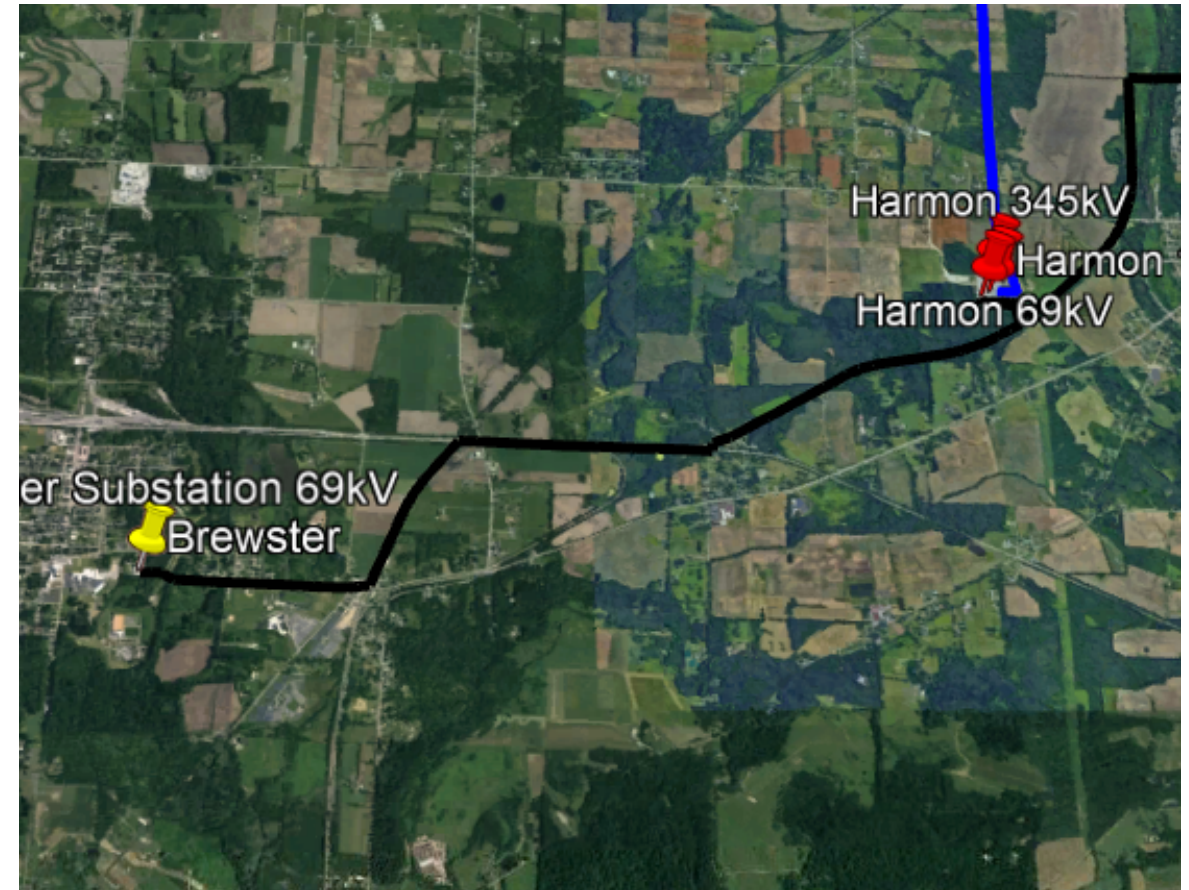
Supplemental Project Driver(s): Customer Service

Specific Assumption Reference(s): AMPT's "Transmission Facilities Interconnection Requirements" document.

Problem Statement:

The existing interconnection is an approximately 3.5 mile radial 69 kV line from ATSI's Harmon substation. Current peak load at Brewster is 9 MW.

The village of Brewster has requested a 2nd supply to support the load. The radial supply presents a single point of failure that could jeopardize reliability for the village. AMPT Interconnection requirements specify a need for a second source for loads 5 MW and above.



AMPT Projects in ATSI Transmission Zone M3 Process Brewster, OH

Need Number: AMPT-2021-006

Process Stage: Solution Meeting – 8/19/2022

Supplemental Project Driver(s): Customer Service

Proposed Solution:

AMPT Identified Scope (\$18.0 M)

- Construct a greenfield 69 kV single circuit transmission line for approximately 5.5 miles using 795 26/7 ACSR conductor from AMPT’s Brewster 69 kV substation to a structure outside of AEP’s Alpine 69 kV ring bus station. **(\$9.8 M)**
- Build a four (4) CB 69kV ring station at the existing Brewster Substation location. The new ring bus will be used to re-terminate the existing 69 kV Brewster-Harmon (FE) line, terminate the new 69 kV Alpine-Brewster (AEP) line, and tie with two (2) existing terminals feeding the existing Brewster 69/12 kV transformation. **(\$8.2 M)**

AEP Identified Scope (\$1.81 M)

- Modify AEP’s proposed Alpine 69 kV ring bus station (s2534.8) by adding an additional 69 kV circuit position to Brewster. Install one (1) 69 kV circuit breaker, protective relaying, and tie-line metering. **(\$1.03 M)**
- Construct a 0.1 mile segment of 69 kV transmission line using 795 ACSR 26/7 conductor leaving Alpine station to connect to AMPT’s transmission line toward Brewster. **(\$0.78 M)**

FE Identified Scope (\$0.63 M)

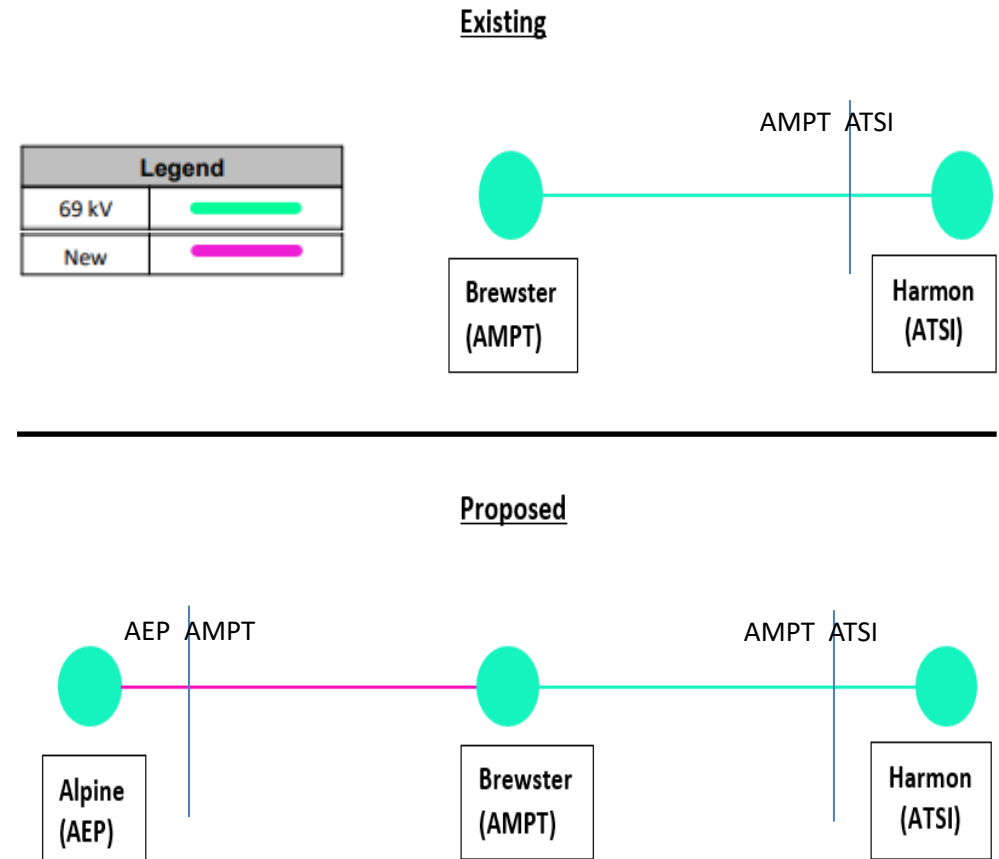
- At FE’s Harmon substation provide fiber termination. AMPT is responsible for the fiber path on the Brewster-Harmon 69 kV line.
- At FE’s Harmon 69 kV substation replace two (2) SEL-421s primary and backup relay with two (2) SEL-411Ls and connect to the fiber, retain existing SEL-501 breaker failure relay.
- Adjust relay settings at Cloverdale

Total Estimated Transmission Cost: \$20.45 M

Projected In-Service: 6/1/2025

Project Status:

- Conceptual (AMPT), Conceptual (ATSI), Conceptual (AEP)



AMPT Projects in ATSI Transmission Zone M3 Process

Brewster, OH

Alternatives Considered:

- Build a greenfield 69 kV switchyard to tap the existing West Wilmot-Beartown 69 kV line. The new 69 kV switchyard will involve a three-breaker ring configuration. Build a 6 mile-long greenfield 69 kV line from the existing Brewster 69 kV substation to the new switchyard. Expand Brewster 69 kV yard into a four-breaker ring arrangement to accommodate the new line. **(\$22.2 M)**
Similar in scope to the proposed solution however is less cost effective than the proposed solution with the installation of a new 3-CB ring bus.
- Expand the 69 kV yard at the existing Harmon substation to accommodate a new 69 kV line terminal. Build a 4 mile-long greenfield 69 kV line from the existing Brewster 69 kV substation to the existing Harmon substation. Expand Brewster 69 kV yard into a four-breaker ring arrangement to accommodate the new line. **(\$14.8 M)**
This alternative does not comport with AMPT's criteria for a geographically diverse path for a 2nd source, when possible.
- Build a greenfield 138/69 kV substation to tap the existing Cloverdale-Yager 138 kV line. The new 138/69 kV substation will involve a 138 kV three-breaker ring configuration, a 138-69 kV transformer (130 MVA) and a breaker on the low side of the transformer. Build a 5 mile-long 69 kV transmission line from the existing Brewster 69 kV substation to the new substation. Expand Brewster 69 kV yard into a four-breaker ring arrangement to accommodate the new line. **(\$33.6 M)**
Less cost effective than the proposed solution for the reasons noted above.
- Build a greenfield 138/69 kV substation to tap the existing Cloverdale – E. Wooster 138 kV line. The new 138/69 kV substation will involve a 138 kV three-breaker ring configuration, a 138-69 kV transformer (130 MVA) and a breaker on the low side of the transformer. Build a 5 mile-long 69 kV transmission line from the existing Brewster 69 kV substation to the new substation. Expand Brewster 69 kV yard into a four-breaker ring arrangement to accommodate the new line. **(\$33.6 M)**
Less cost effective than the proposed solution for the reasons noted above.
- Build a greenfield 138/69 kV substation to tap the South Canton – Apple Creek 138 kV line. The new 138/69 kV substation will involve a 138 kV four-breaker ring configuration, a 138-69 kV transformer (130 MVA) and a breaker on the low side of the transformer. Build a 4.2 mile-long greenfield 69 kV line from Brewster station to the new substation. Expand Brewster 69 kV yard into a four-breaker ring arrangement to accommodate the new line. **(\$33.2 M)**
Less cost effective than the proposed solution for the reasons noted above.
- Build a greenfield 345/69 kV substation to tap the Harmon – Star 345 kV line. The new 345/69 kV substation will involve a 345 kV four-breaker ring configuration, a 345-69 kV transformer (130 MVA) and a breaker on the low side of the transformer. Build a 3 mile-long greenfield 69 kV line from the existing Brewster 69 kV substation to the new substation. Expand Brewster 69 kV yard into a four-breaker ring arrangement to accommodate the new line. **(\$37.7 M)**
Less cost effective than the proposed solution for the reasons noted above.

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

8/8/2022 – V1 – Original version posted to pjm.com