

Transmission Expansion Advisory Committee – DPL Supplemental Projects

September 1, 2020

Solution

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: DPL-2020-0001

Process Stage: : Solutions Meeting 09/01/2020

Previously Presented: 8/4/2020

Project Driver:

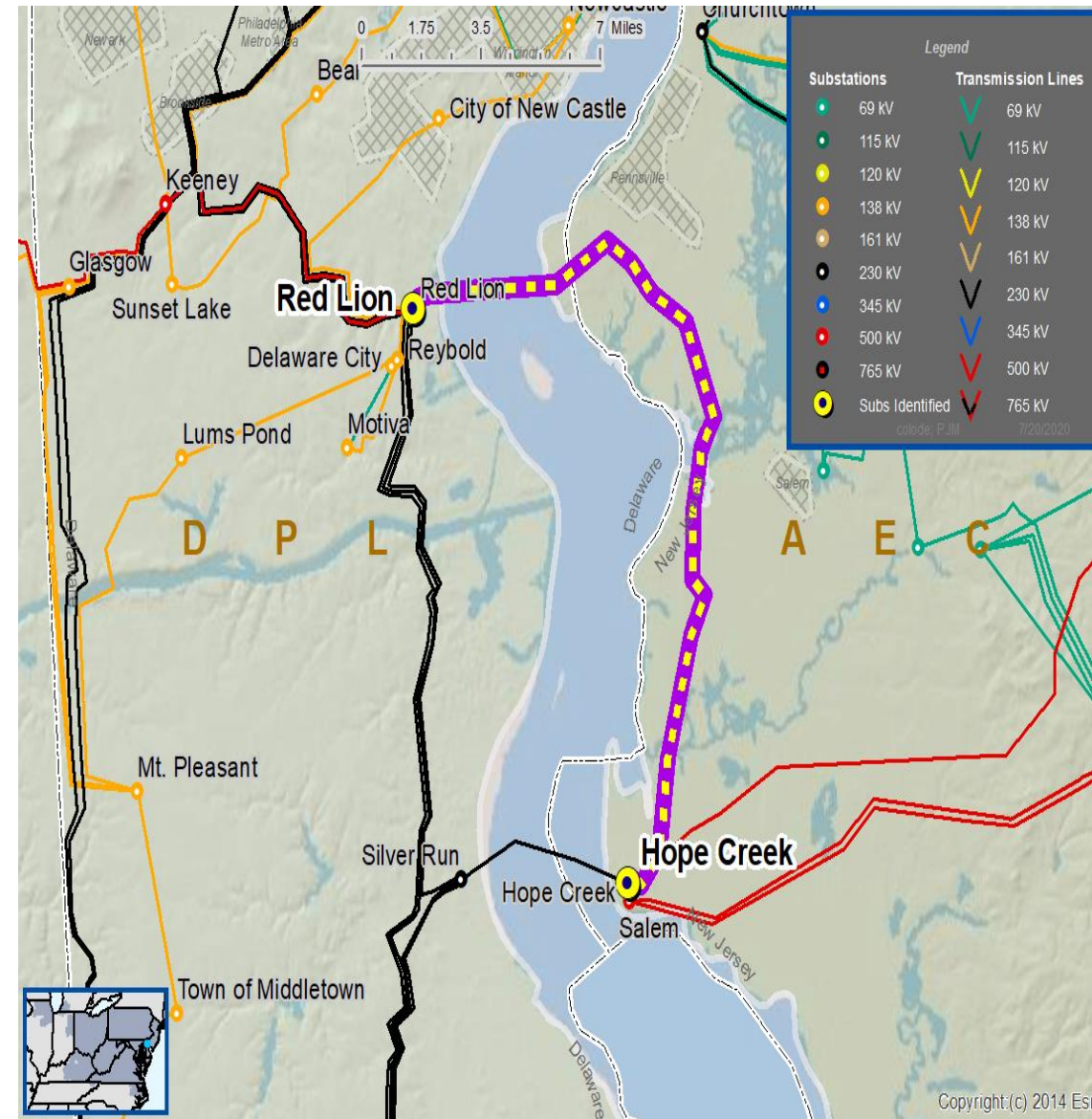
- Operational Flexibility and Efficiency
- Other – Industry Recommendations

Specific Assumption Reference:

- Enhancing system functionality, flexibility or operability
- Remedy recurring operational problems
- Industry recommendations
 - PJM Relay Subcommittee Directional Comparison Blocking (DCB) recommendations effective 4/17/2014
 - Recommendations recognize DCB is widely used and dependable line protection scheme, but when certain elements of DCB schemes fail to operate, they often trip more equipment than is necessary.
 - The tolerance for overtrips may be unacceptable when the stability of large generating units is adversely affected.
 - A protection scheme more secure than DCB is recommended in cases where additional analysis reveals stability concerns.

Problem Statement:

- The 500kV 5015 line running from Red Lion Substation to the Hope Creek Nuclear Station (PSEG) has experienced 9 faults in a span of 10 years due to avian activity and lightning strikes, most recently occurring twice in April 2020. The line is currently protected by power line carrier and requires a more reliable method for fault detection and isolation to prevent possible overtrips.
- Access to multiple towers can only be accomplished by boat, making faults more difficult to locate and detect, adding to the need for more accurate fault location methods
- 5015 line is critical to the operation of the Hope Creek and Salem Generating plants.





DPL Transmission Zone M-3 Process

Need Number: DPL-2020-0001

Process Stage: Solutions Meeting 09/01/2020

Proposed Solution:

- Remove wave trap at Red Lion and reconnect communication over existing fiber path, as described below.
 - For primary line protection, utilize the existing fiber paths from Hope Creek to Orchard via 5023 OPGW and from Orchard to Red Lion via the Delmarva SONET Fiber Network.
 - For backup line protection, utilize the existing fiber path constructed by the Artificial Island High Voltage Solution Project from Hope Creek to Silver Run to Red Lion. Silver Run has incorporated the necessary facilities as part of the Voltage Solution Project.
 - PSE&G to modify relay protection at their facilities.

Estimated Cost: \$0.2M

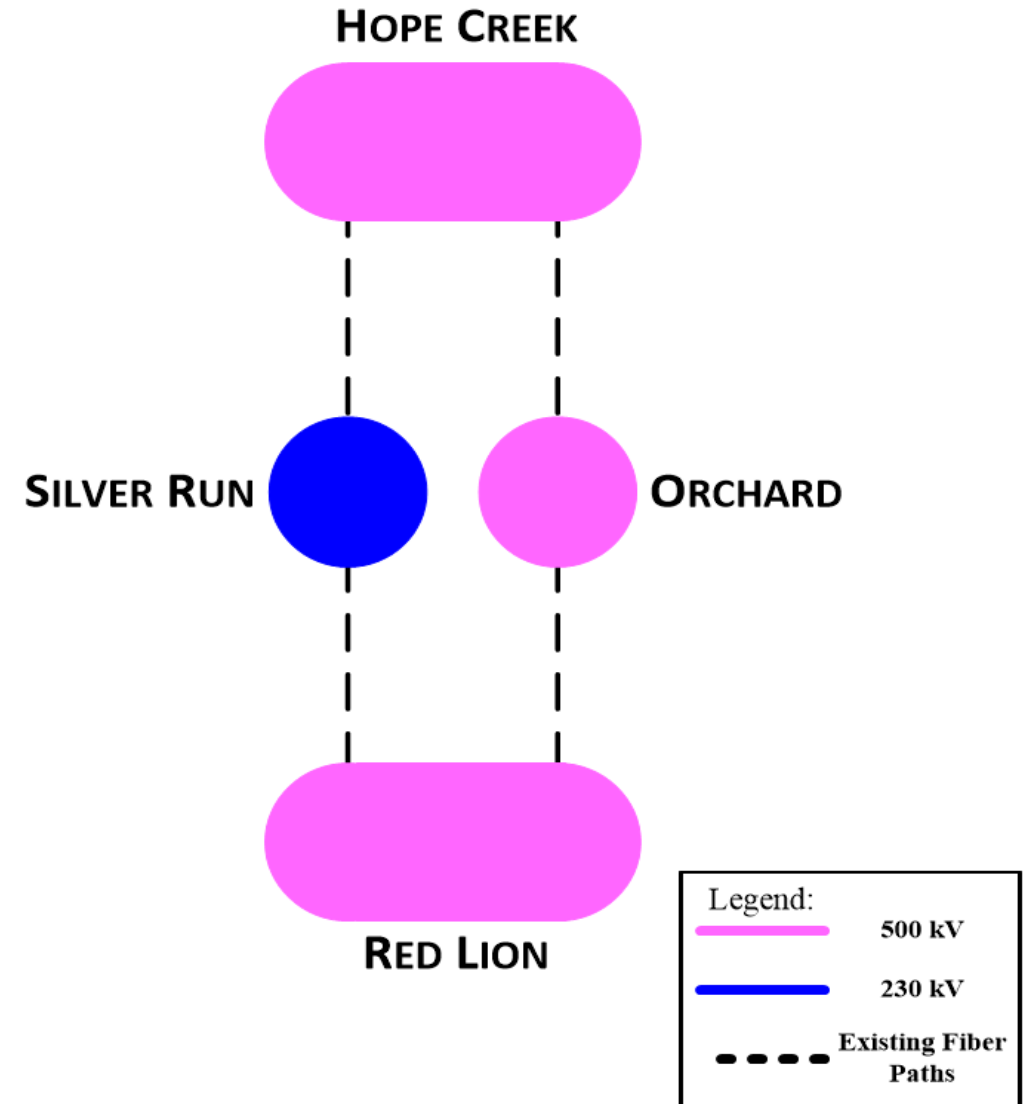
Alternatives Considered:

- Remove wave trap and construct new fiber path for primary line protection
 - Construct new OPGW on 5015 for primary line protection.
 - For Backup line protection, utilize the existing fiber constructed by the Artificial Island High Voltage Solution Project from Hope Creek to Silver Run to Red Lion. Silver Run has incorporated the necessary facilities as part of the Voltage Solution Project.
 - PSE&G to modify relay protection at their facilities.

Estimated Cost: \$3.0M

Projected In-Service: 3/2021

Project Status: Conceptual



Questions?



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

8/21/2020 - V1 – Original version posted to pjm.com