

DPL 2020  
Submission of Supplemental Projects for  
Inclusion in the Local Plan

**Need Number:** DPL-2020-0001

**Process Stage:** Submittal of Supplemental Project for Inclusion in the Local Plan – 11/4/2020

**Previously Presented:** Need: 8/4/2020

Solutions: 09/01/2020

**Project Driver:**

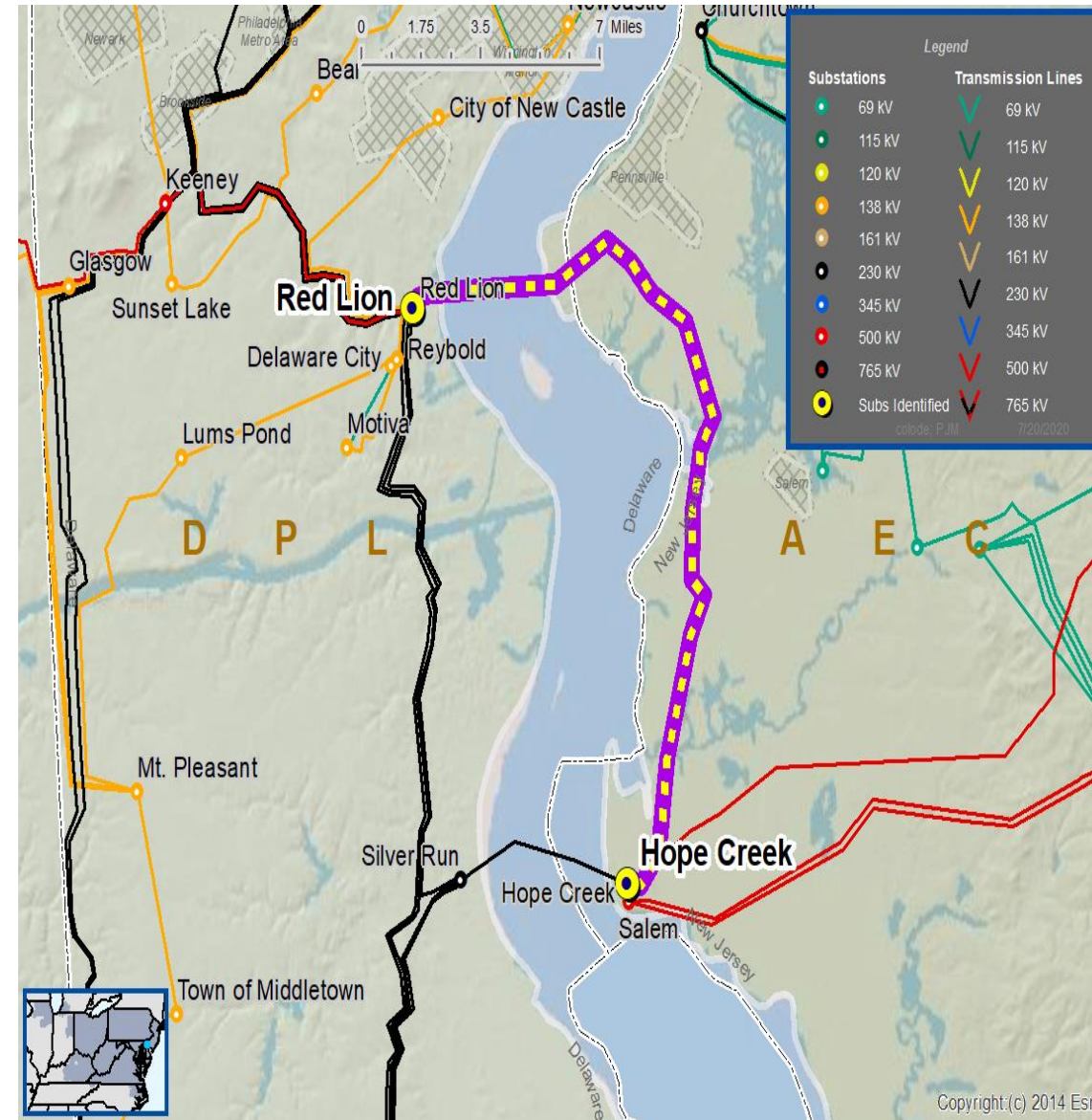
- Operational Flexibility and Efficiency
- Other – Industry Recommendations

**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.





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**Previously Presented:**

Need: 8/4/2020

Solutions: 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:**

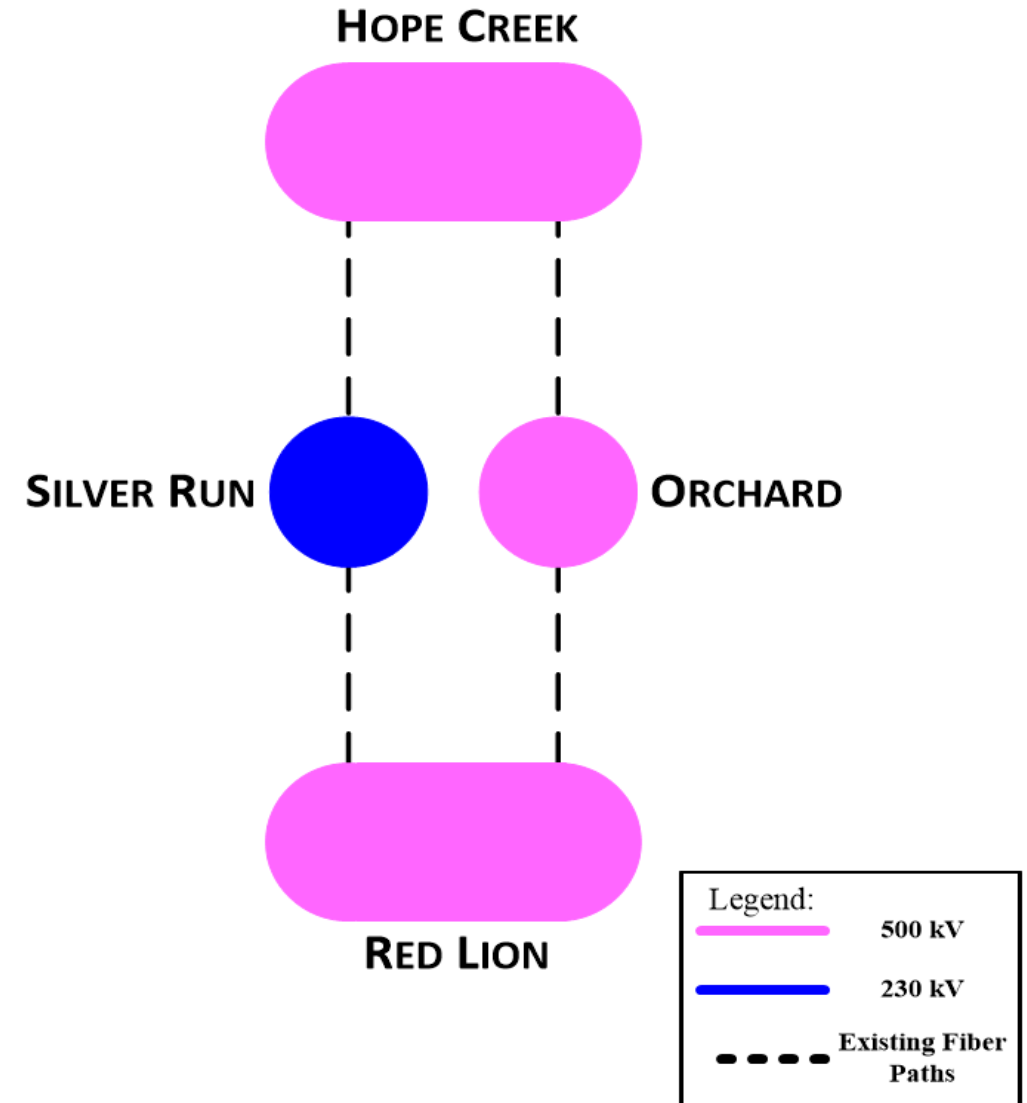
- Remove wave trap and construct new fiber path for primary line protection
  - Construct new OPGW on 5015 for primary line protection.
  - For Backup line protection, utilize the existing fiber constructed by the Artificial Island High Voltage Solution Project from Hope Creek to Silver Run to Red Lion. 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

**Supplemental Project ID:** s2355.2

**Project Status:** Conceptual

## DPL Transmission Zone M-3 Process



**Need Number: DPL-2019-0002**

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan – 11/4/2020

**Previously Presented:**

Need: 6/28/2019

Solution: 3/20/2020

Revised Solution: 10/15/2020

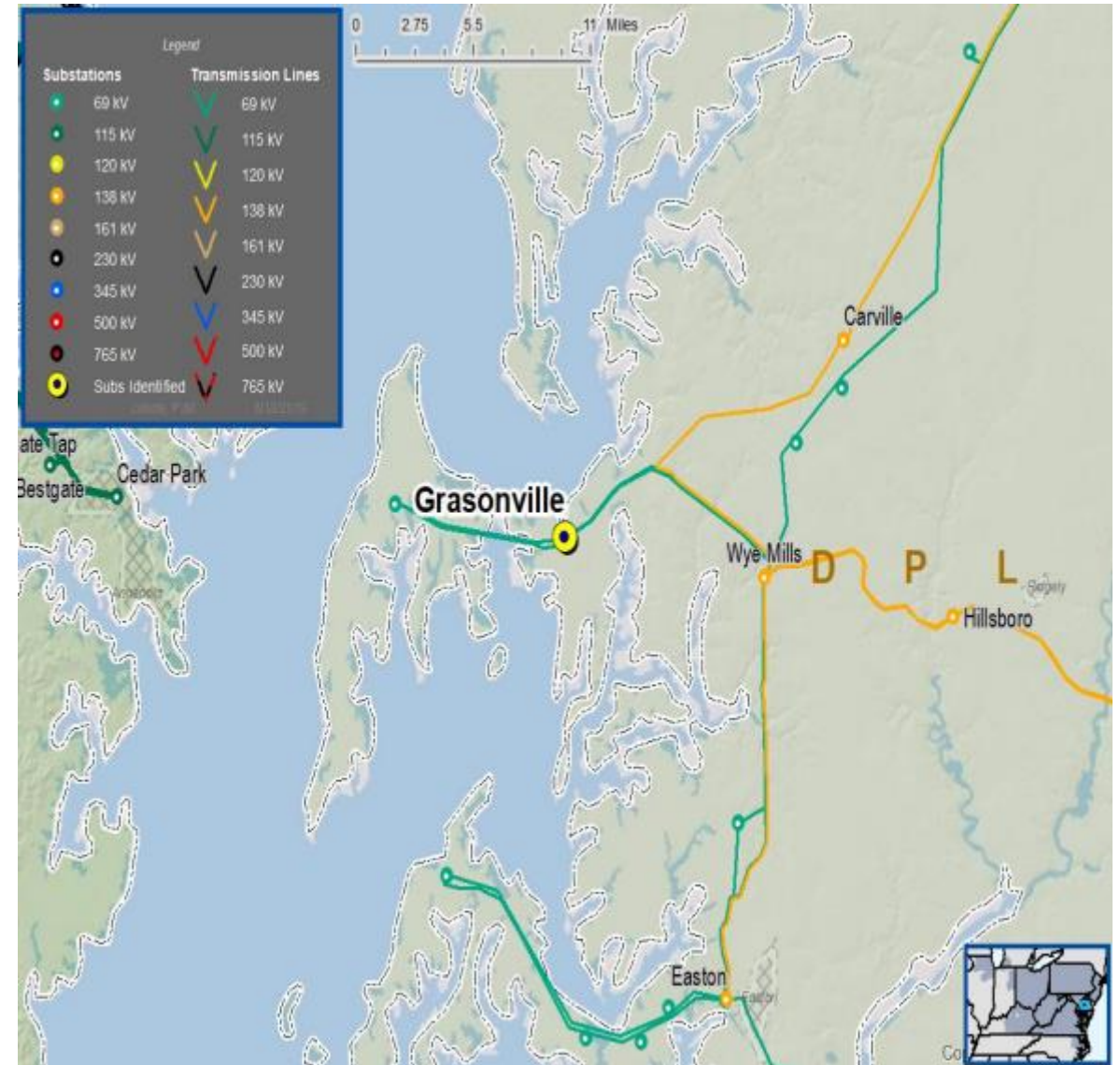
**Project Driver:** Equipment Material Condition, Performance and Risk

**Specific Assumption Reference:**

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions

**Problem Statement:**

- Grasonville Substation is in a deteriorated condition and has experienced flooding issues





**Need Number: DPL-2019-0003**

**Process Stage:** Solutions Meeting 10/15/2020

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan – 11/4/2020

**Previously Presented:**

Need: 10/21/2019

Solution: 3/20/2020

Revised Solution: 10/15/2020

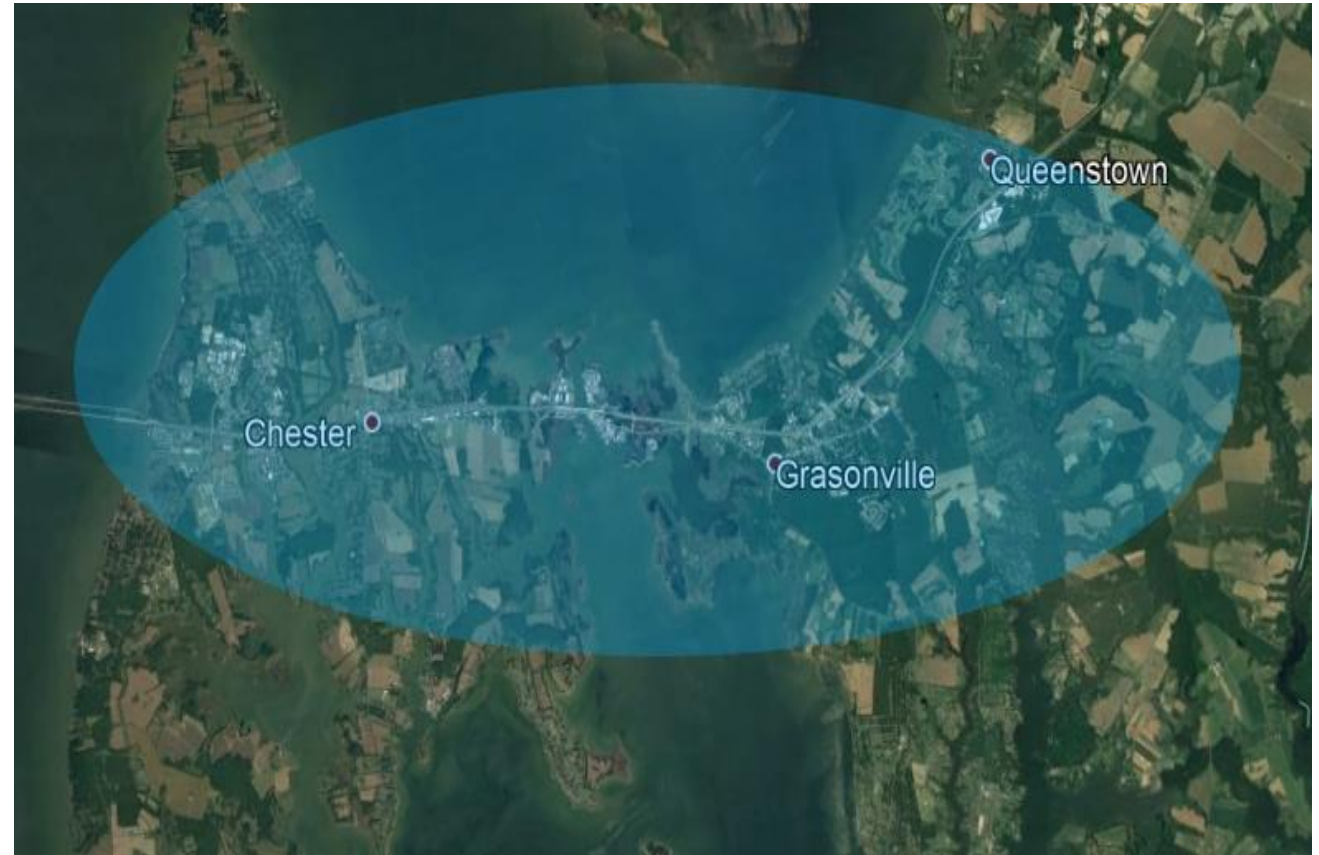
**Project Driver:** Customer Service

**Specific Assumption Reference:**

- Address customer outage exposure

**Problem Statement:**

- Customers in the Queenstown area historically experience poor service reliability due to high customer counts on feeders and minimal distribution automation capability. MD PSC has mandated that DPL improve reliability in the state.



**Need Number:** DPL-2019-0002, DPL-2019-0003

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan – 11/4/2020

**Previously Presented:** Need: 6/28/2019, 10/21/2019

Solution: 3/20/2020

Revised Solution: 10/15/2020

**Revised Proposed Solution:**

- Construct new 5-breaker ring bus substation west of existing Grasonville Substation (w/30MVAR Capacitor Bank)
- Construct new 5-breaker ring bus substation west of existing Wye Mills Substation (w/30MVAR Capacitor Bank)
- Retire existing Grasonville Substation.
- Estimated Cost: \$18.5M

**Alternatives Considered:**

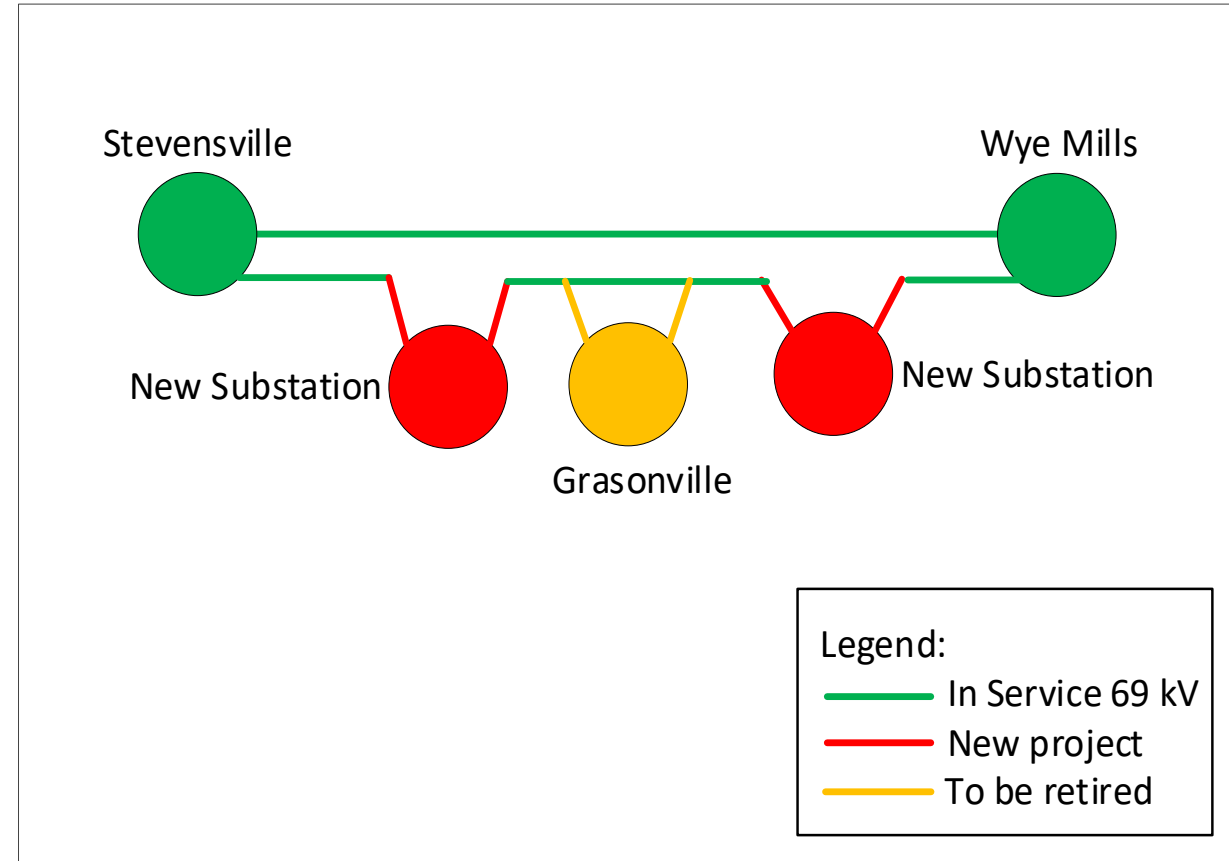
1. Construct new 4-breaker ring bus west of Wye Mills on Wye Mills-Stevensville 69 kV line, raise Grasonville Substation - \$10M
  - Leaves access issue to Grasonville Substation during flood events
  - Limits distribution automation capability
2. Construct new 4-breaker ring bus west of existing Grasonville Substation, retire Grasonville Substation - \$7M
  - Limits distribution automation capability

**Projected In-Service:** 6/1/2023

**Supplemental Project ID:** s2378 (s2378.1, s2378.2)

**Project Status:** Engineering

**Model:** PJM 2025 RTEP Model



# Revision History

11/4/2020 – V1 – Posted Local plan for s2355.2 and s2378