Midway Substation Expansion

delmarva power®
An Exelon Company

Conditional Use Filing, Sussex County Planning & Zoning

Presented by: Jim Smith
February 23, 2017

Overview

- Delmarva Power overview
- Commitment to electric service reliability
- Need for the Midway Substation expansion
- Construction information and timeline
- Site plan details
- Questions

Delmarva Power Quick Facts

- Incorporated in 1909
- Service territory:

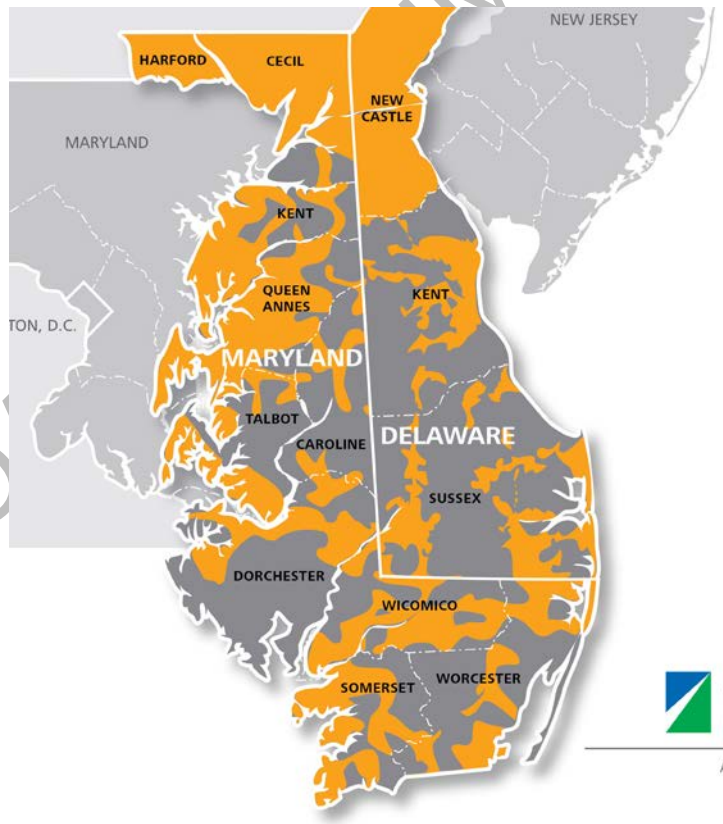
  5,000 square miles
- Electric customers: 520,908
  - Delaware: 314,099
  - Maryland: 206,809
- Owns, operates and maintains

  13,000 miles of distribution lines

  and 1,500 of transmission lines
- Over the last five years, we have

  donated more than $4.7 million to

  750 organizations



delmarva power®
An Exelon Company

delmarva power®
An Exelon Company

Delmarva Power committed to providing reliable electric service

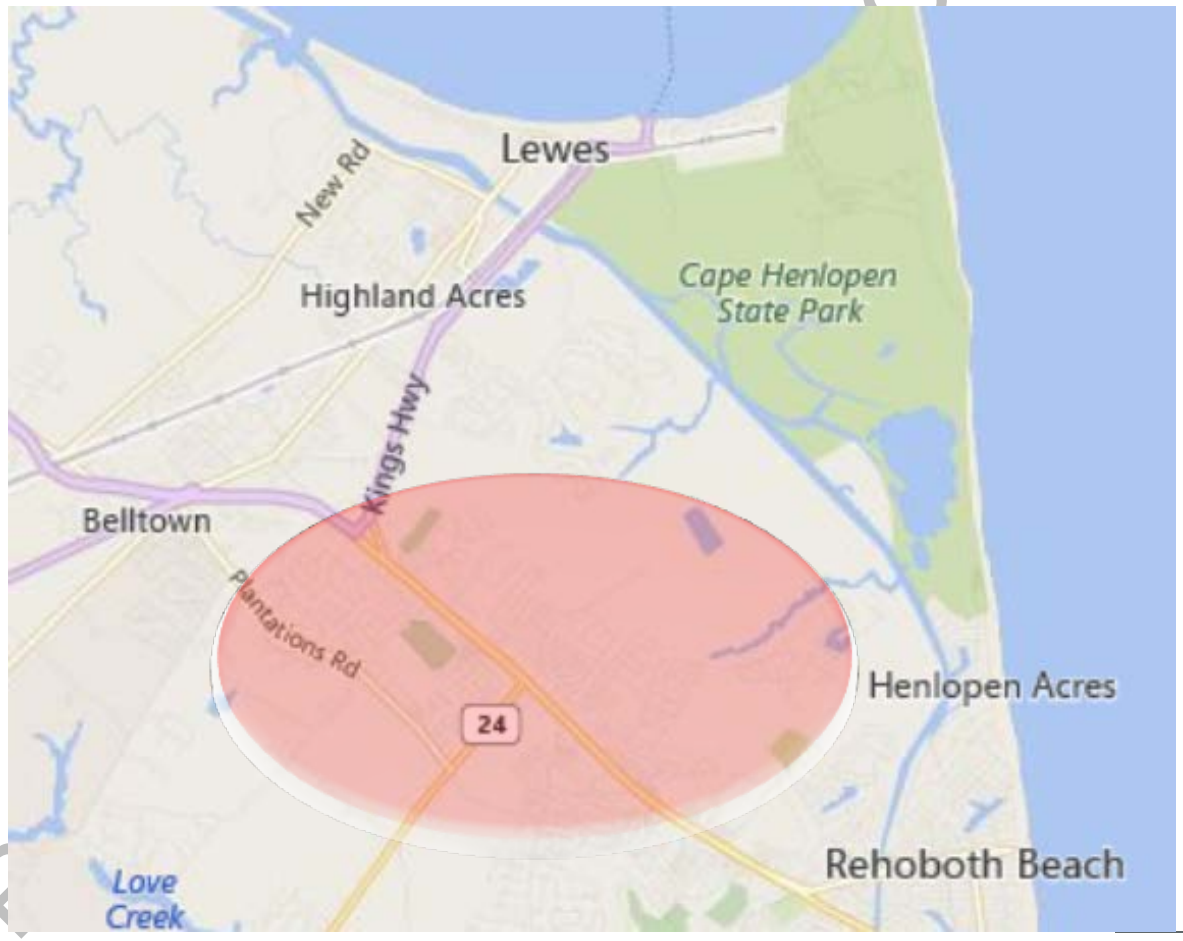
- Over the last three years, Delmarva Power has invested approximately $500 million to strengthen its transmission and distribution systems to improve reliability.
- Upgrades have produced a 17 percent drop in the number of outages and a 44 percent increase in the speed in which outages are restored.
- Investments include:
  - Upgrades to existing infrastructure
  - Building new facilities/substations
  - Replacing wood transmission poles with steel
  - Comprehensive vegetation management plan
- Collaboration with regional power grid operator PJM Interconnection in planning a transmission system that meets reliability criteria
- Delmarva Power develops annual 10-year load forecasts to meet distribution system demand

Midway Substation Expansion

- As the demand for electricity grows in eastern Sussex County, Del., Delmarva Power has identified the need to upgrade its Midway Substation near Lewes through a $7 million expansion project.
- Delmarva Power will expand the substation with the addition of a second power transformer along with transmission and distribution circuit breakers.
- These improvements will strengthen the electrical transmission and distribution systems during times of peak demand, will lessen the number of customers impacted by individual line outages and will provide the ability to restore service more quickly when there is a power interruption.

Midway Substation Service Area

Delmarva Power's 69,000/12,000-volt Midway Substation is located on Route 1 just outside Lewes. It is a major interconnection point with other coastal substations and serves several thousand customers between Lewes and Rehoboth Beach along the Route 1 corridor.



Aerial view of current and expanded Midway Substation

delmarva power®
An Exelon Company

View from the East/Route 1

View from the Northeast

View from the North

View from the North/WaWa Parking Lot

View from the Northwest

View from the West

View from the Southwest

Need for the Midway Substation Expansion

- The reconfiguration at Midway will greatly strengthen the reliability of Delmarva Power's transmission system serving the area. The combined Midway and Five Points transmission upgrades will sectionalize the line so that any faults or issues on the transmission line will isolate interruptions and reduce the impacts of an outage.

- Prior to Delmarva Power's fall 2016 upgrades at the Five Points Substation and those that are planned for Midway Substation, an outage on the transmission line feeding Midway would impact multiple DP&L substations between Cool Springs and Rehoboth along with two DEC substations (Bennett and Lank) and service to the Lewes BPW. The transmission line upgrades completed at Five Points Substation in 2016 and those planned for Midway Substation in the spring of 2018 will result in fewer customer interruptions and faster restoration.

- Prior to the planned upgrades at Midway Substation, an outage on the single distribution feeder out of Midway would impact all connected customers. This upgrade will separate that line into two lines that will both be fed out of Midway, lessening the customer impacts of a line fault or outage.

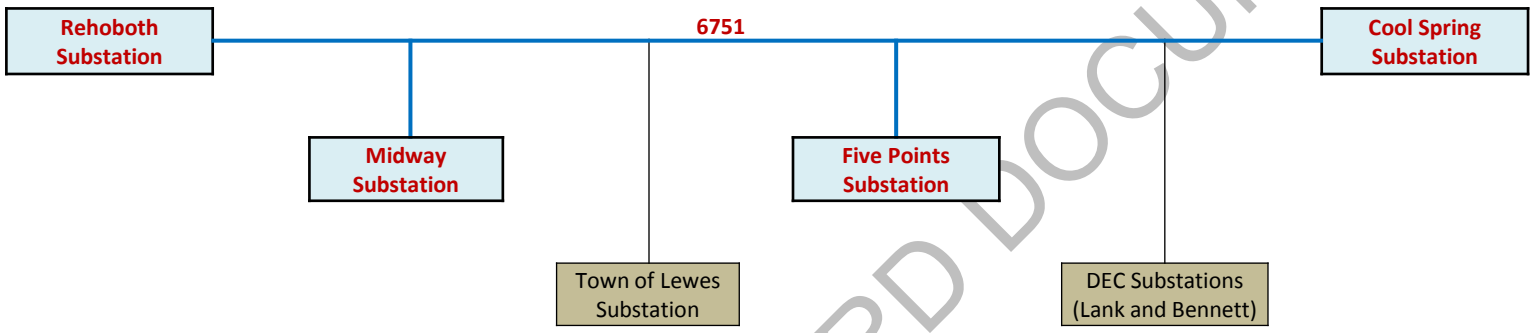
- This upgrade had been identified through Delmarva Power's system planning process. The necessity for the upgrades was underscored by several large-scale outages in recent years.

Need for the Midway Substation Expansion

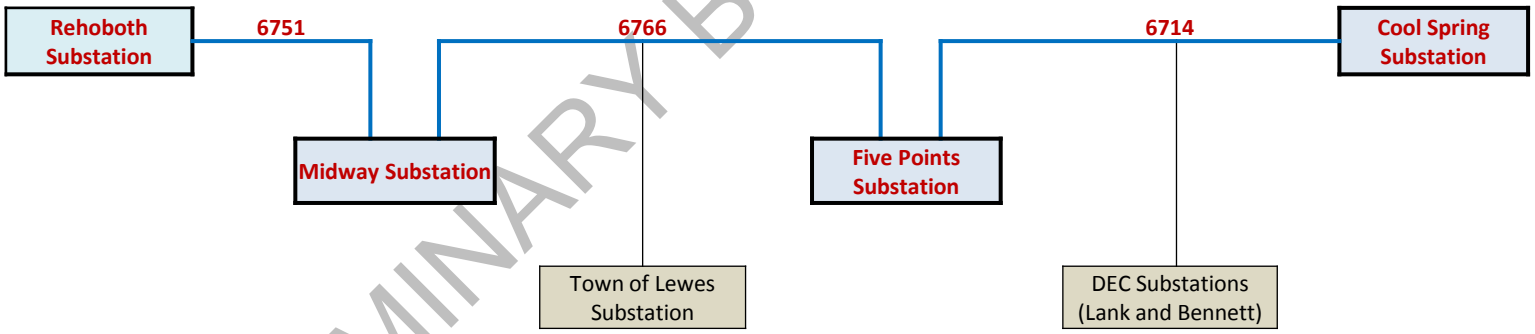
- The Midway Substation expansion is part of a multi-prong approach to improve reliability and better serve customers in the area. It coincides with distribution upgrades along Route 1 over the past several years and upgrades last year in the nearby Five Points Substation where Delmarva Power installed additional transmission circuit breakers as part of a $1.7 million reliability improvement and modernization project.
- To improve reliability and prepare for future load growth, Delmarva Power will install a new transformer and add three transmission circuit breakers in the expanded Midway Substation in addition to realigning the transmission and distribution lines entering and exiting the substation.
- The Midway project reconfigures the current transmission system, which is comprised of a single line between Five Points Substation and Rehoboth Substation. With the final configuration, the system will be split into three lines: 1) Cool Springs to Five Points; 2) Five Points to Midway; and 3) Midway to Rehoboth.

Need for the Midway Substation Expansion

Before Five Points and Midway Substation Improvements

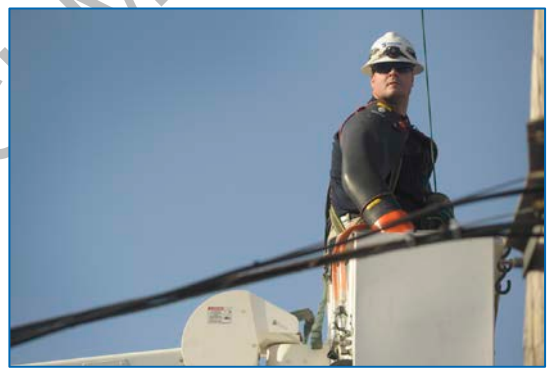


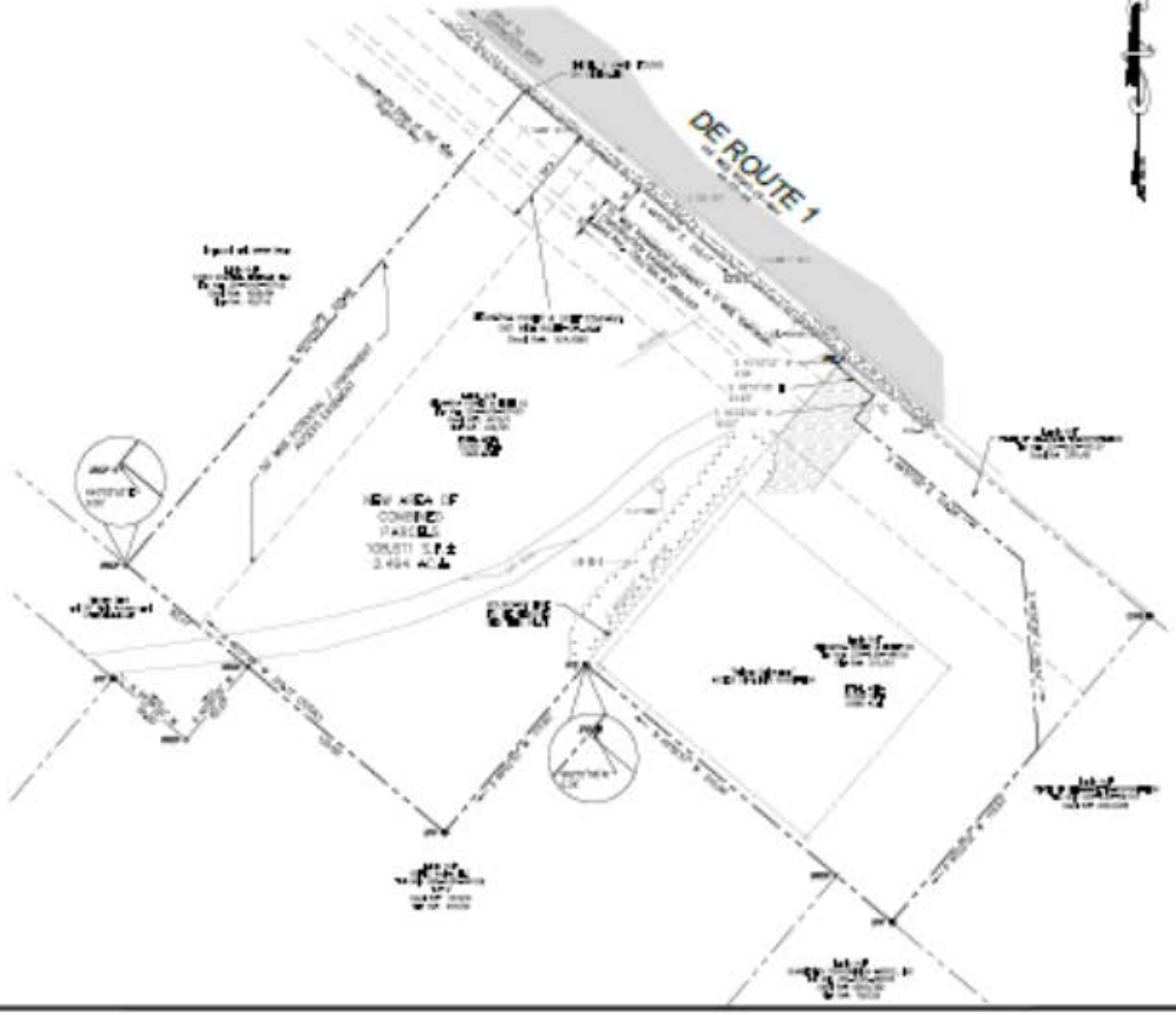
After Five Points and Midway Substation Improvements



Construction information and timeline

- Construction is expected to begin in the spring of 2017 with projected completion by the spring of 2018.
- During construction, there should be minimal impact or disruption to area residents, businesses and travelers.
- Daily construction hours will be determined, but crews typically work 10-12 hour days.
- The expanded substation will include a low sound transformer designed to meet applicable state and county sound regulations.
- Once the expansion is complete, company traffic into the substation will be minimal similar to historical access at the existing substation for presentative maintenance, routine work or emergency response.





VICINITY MAP

LEGEND

DELMARVA POWER & LIGHT COMPANY
TAX PARCELS 334-6.00-497.00 &
334-6.00-498.00

SHEET NO. 1

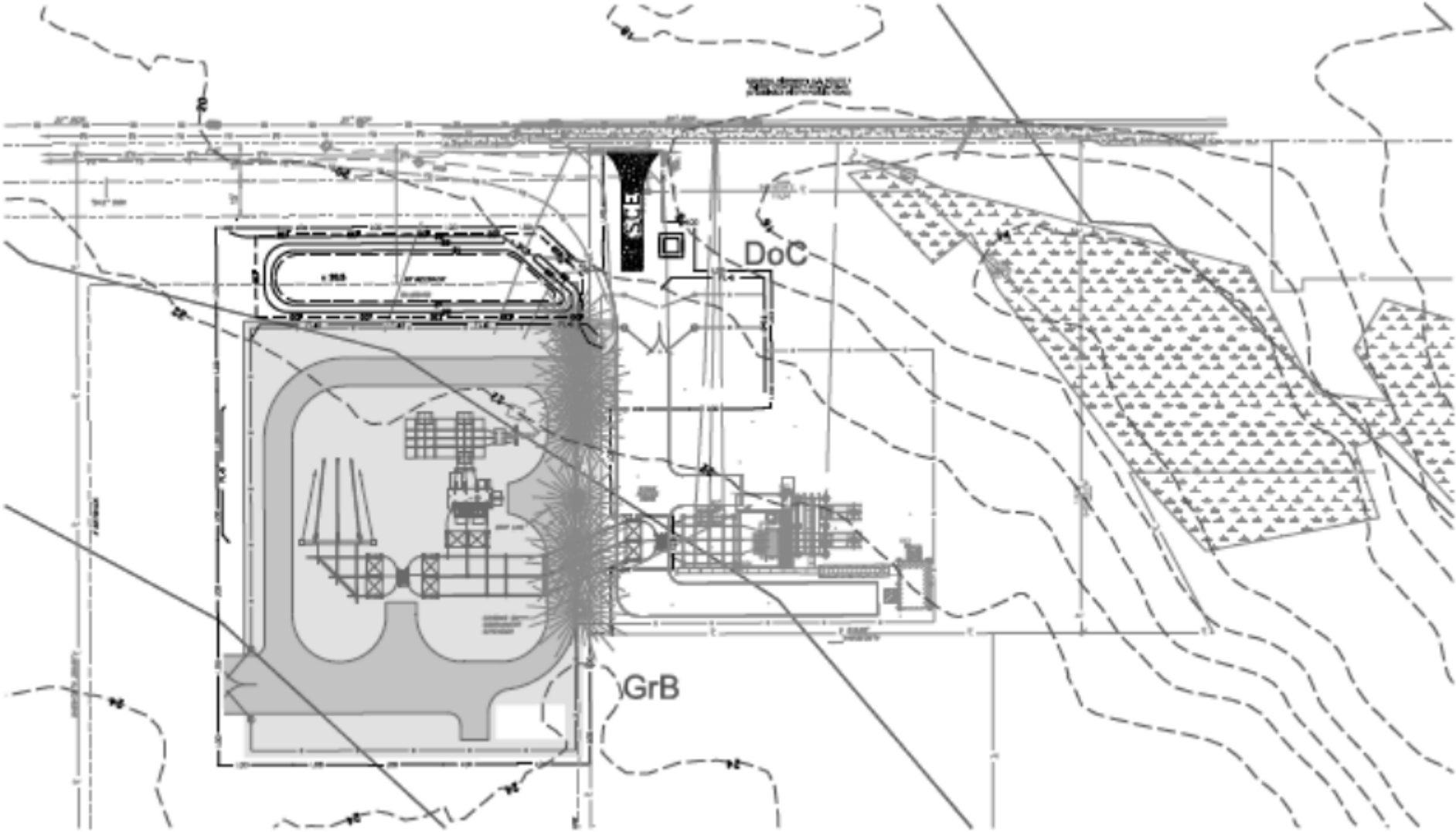
DELMARVA POWER & LIGHT COMPANY
MIDWAY SUBSTATION
SITE IMPROVEMENTS
PROPOSED SITE PLAN

SUSSEX COUNTY, DELAWARE

LOCATION MAP

delmarva power®

An Exelon Company


DoC
GrB

Questions