



# Dominion Supplemental Projects

Transmission Expansion Advisory  
Committee  
May 16, 2019

# Needs

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: DOM-2019-0020**

**Meeting Date: 05/16/2019**

**Process Stage: NEED**

**Supplemental Project Driver: Customer Service**

**Problem Statement:**

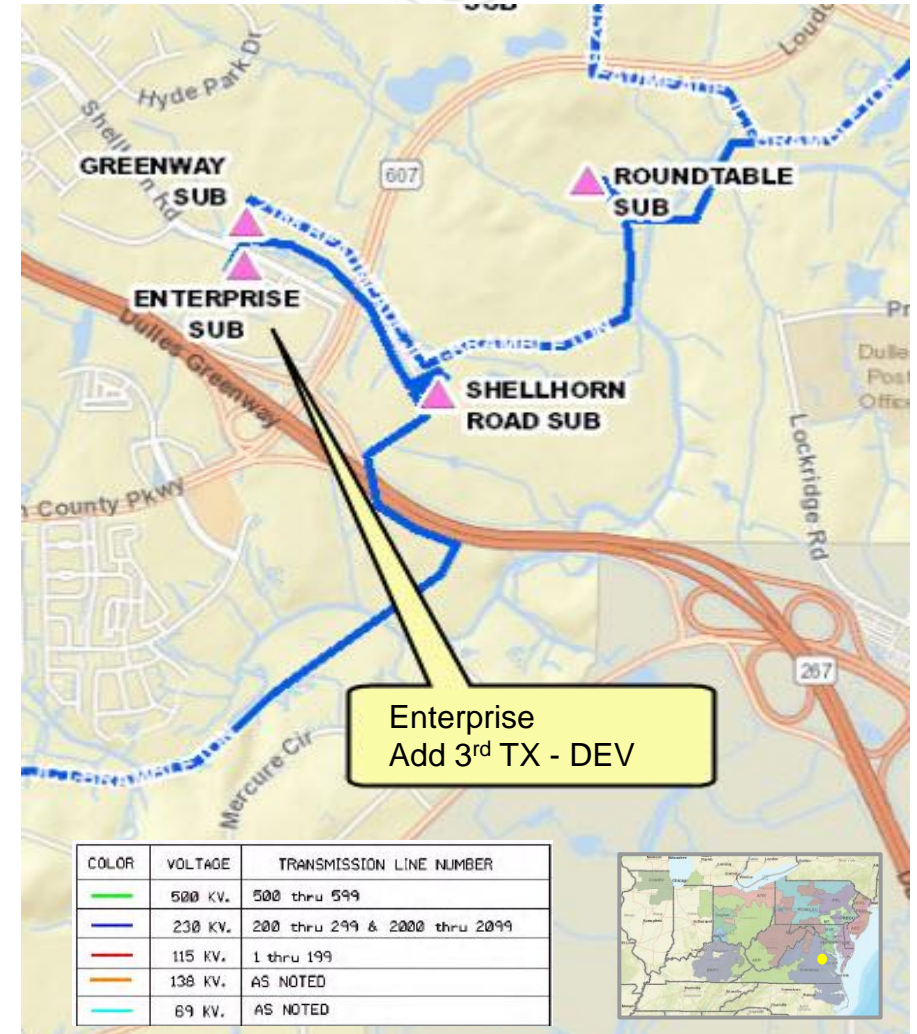
DEV Distribution has submitted a DP Request to add a 3rd, 84 MVA distribution transformer at Enterprise Substation in Loudoun County. The new transformer is being driven by continued datacenter load growth and alternate feed contract reservations. Requested in-service date is 07/15/2020.

Initial In-Service Load	Projected 2024 Load
Summer: 82.4 MW	Summer: 96.5 MW

Note: Distribution’s Customer is also requesting 145 MVA of alternate capacity

**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria



**Need Number: DOM-2019-0022**

**Meeting Date: 05/16/2019**

**Process Stage: NEED**

**Supplemental Project Driver: Customer Service**

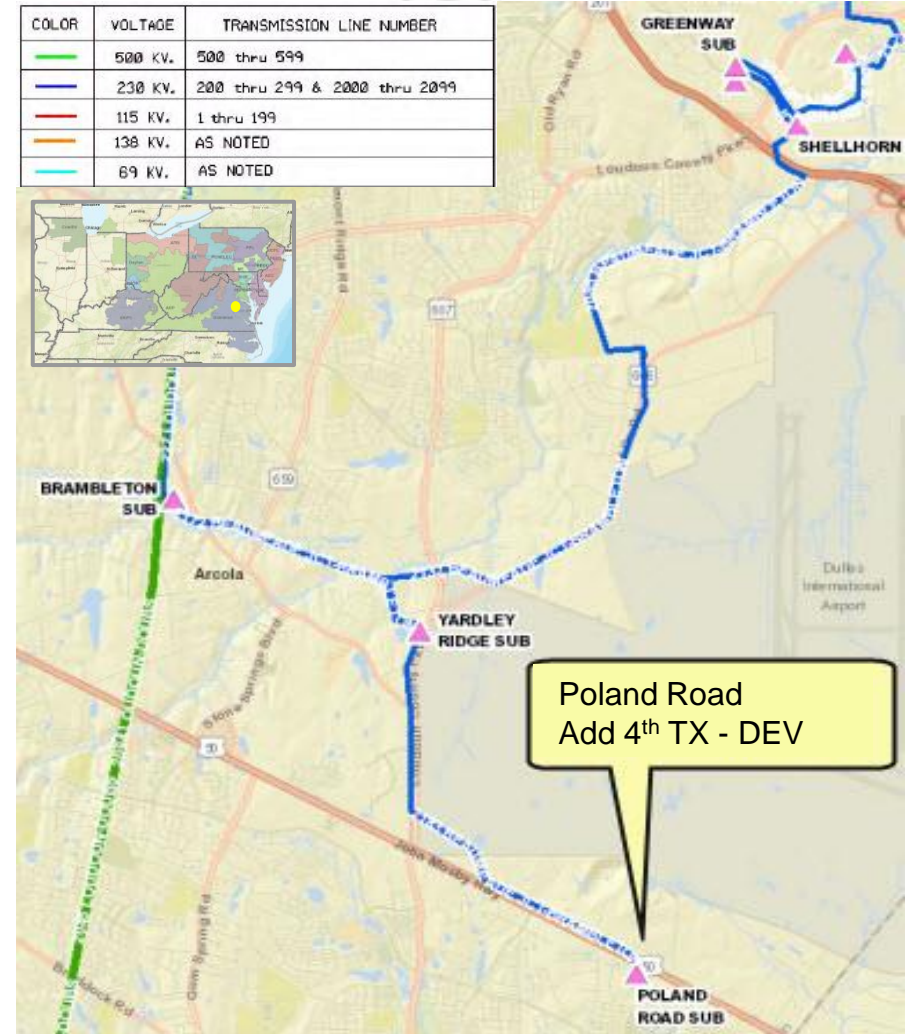
**Problem Statement:**

DEV Distribution has submitted a DP Request to add a 4th, 84 MVA distribution transformer at Poland Road Substation in Loudoun County. The new transformer is being driven by continued load growth in the area and contingency loading for loss of one of the existing transformers. Requested in-service date is 12/31/2021.

Initial In-Service Load	Projected 2024 Load
Summer: 225.0 MW	Summer: 293.0 MW

**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria





# Dominion Transmission Zone: Supplemental Customer Load Request

**Need Number: DOM-2019-0023**

**Meeting Date: 05/16/2019**

**Process Stage: NEED**

**Supplemental Project Driver: Customer Service**

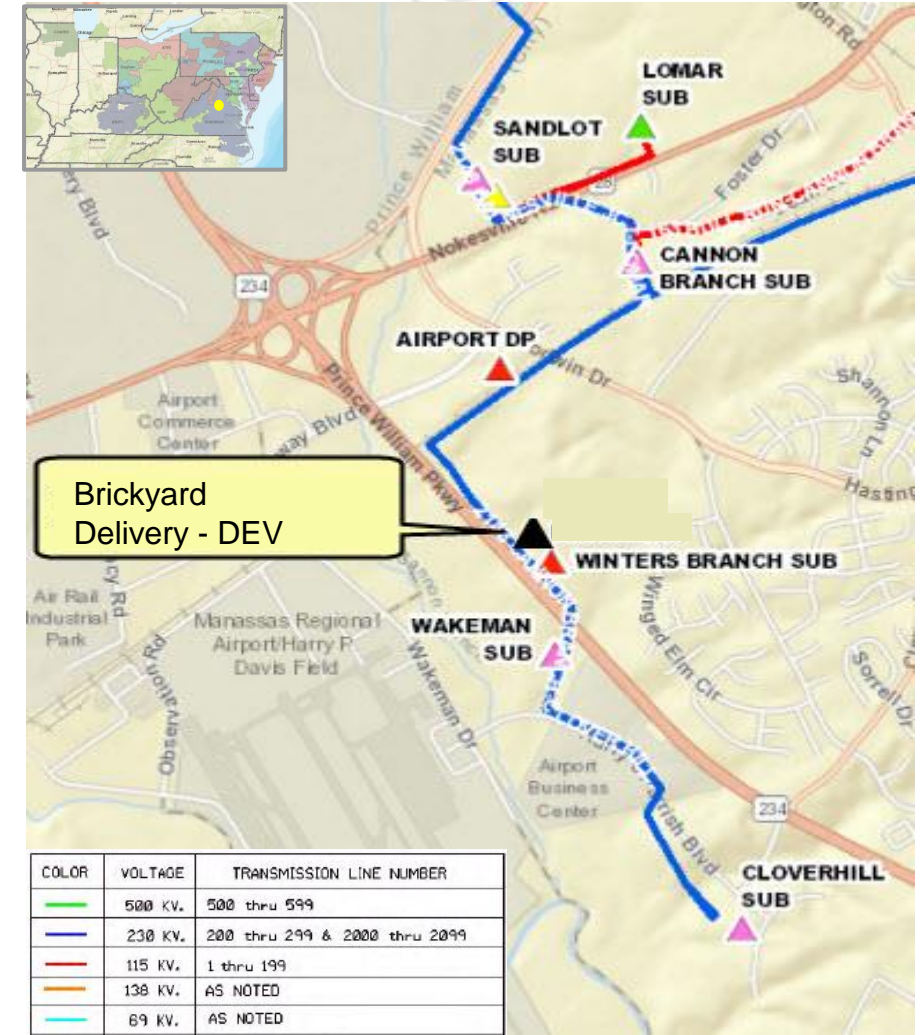
**Problem Statement:**

DEV Distribution has submitted a DP Request for a new substation (Brickyard) to support a new datacenter campus in Prince William County with a total load in excess of 100 MW. Requested in-service date is 12/15/2021.

Initial In-Service Load	Projected 2024 Load
Summer: 8.0 MW	Summer: 52.0 MW

**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria



# 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



# Dominion Transmission Zone: Supplemental Customer Load Request

**Need Number: DOM-2018-0011**

**Meeting Date: 05/16/2019**

**Process Stage: SOLUTIONS**

**Need Presented: 09/13/2018**

**Supplemental Project Driver: Customer Service**

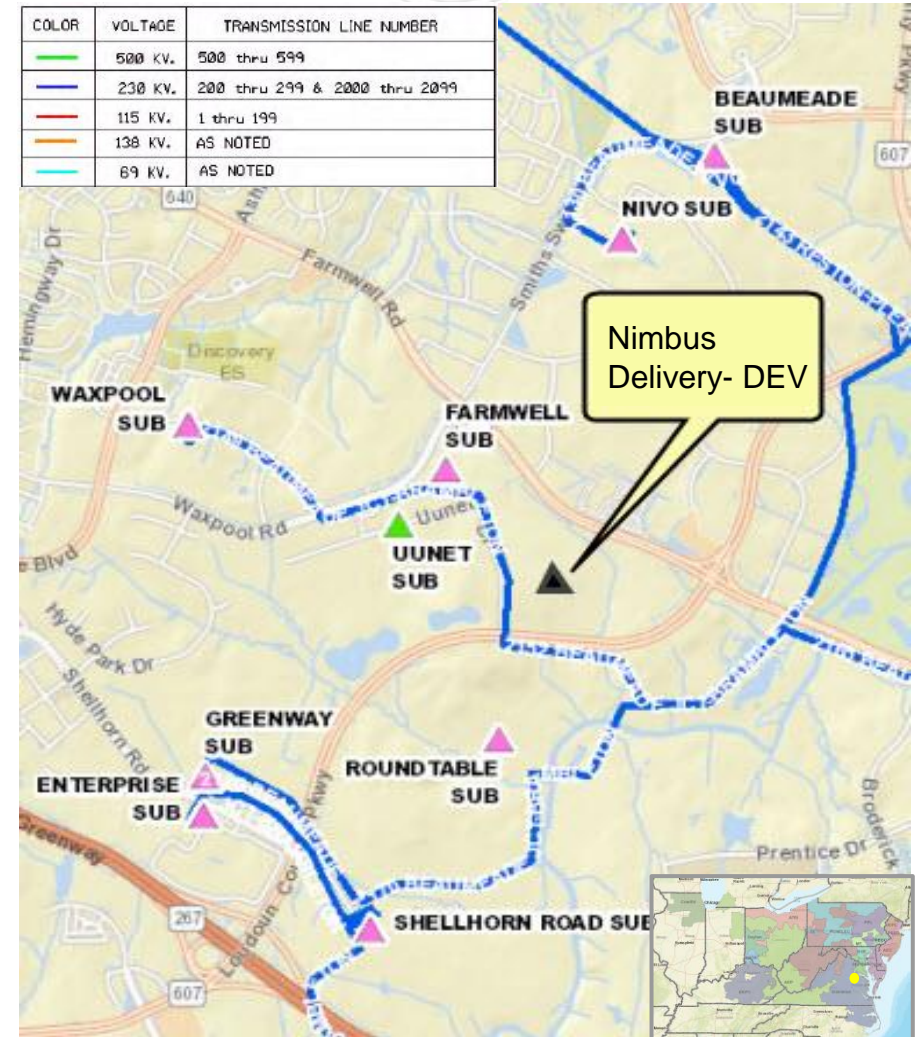
**Problem Statement:**

DEV Distribution has submitted a DP Request for a new substation (Nimbus) to accommodate a new datacenter campus in Loudoun County with a total load in excess of 100 MW. Requested in-service date is 11/15/2022.

Initial In-Service Load	Projected 2024 Load
Summer: 60.0 MW	Summer: 100.0 MW

**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria





# Dominion Transmission Zone: Supplemental Nimbus 230 kV Delivery - DEV

**Need Number: DOM-2018-0011**

## Proposed Solution :

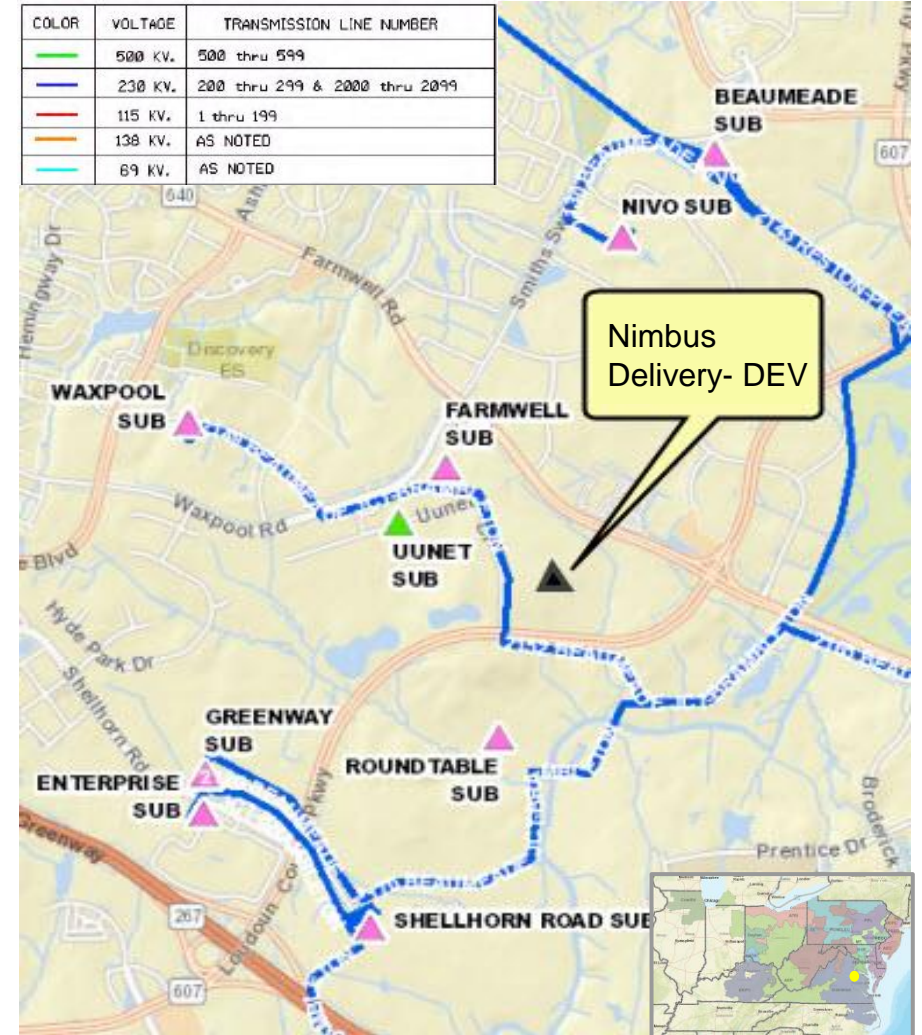
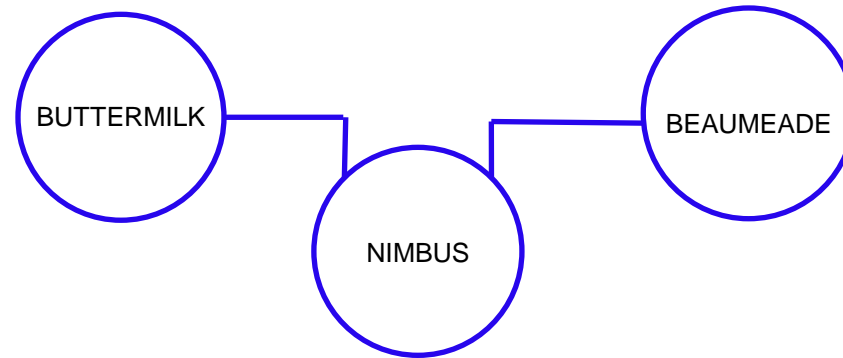
Interconnect the new substation by cutting and extending Line #2152 (Buttermilk-Beaumeade) to the proposed Nimbus Substation. Terminate both ends into a four-breaker ring arrangement to create a Buttermilk-Nimbus line and a Nimbus-Beaumeade line.

## TO Alternatives Considered :

No feasible alternatives

**Estimated cost:** \$ 20.0M

**Projected In-service Date:** 11/15/2022







# Dominion Transmission Zone: Supplemental Customer Load Request

**Need Number: DOM-2018-0013**

**Meeting Date: 05/16/2019**

**Process Stage: SOLUTIONS**

**Need Presented: 09/13/2018**

**Supplemental Project Driver: Customer Service**

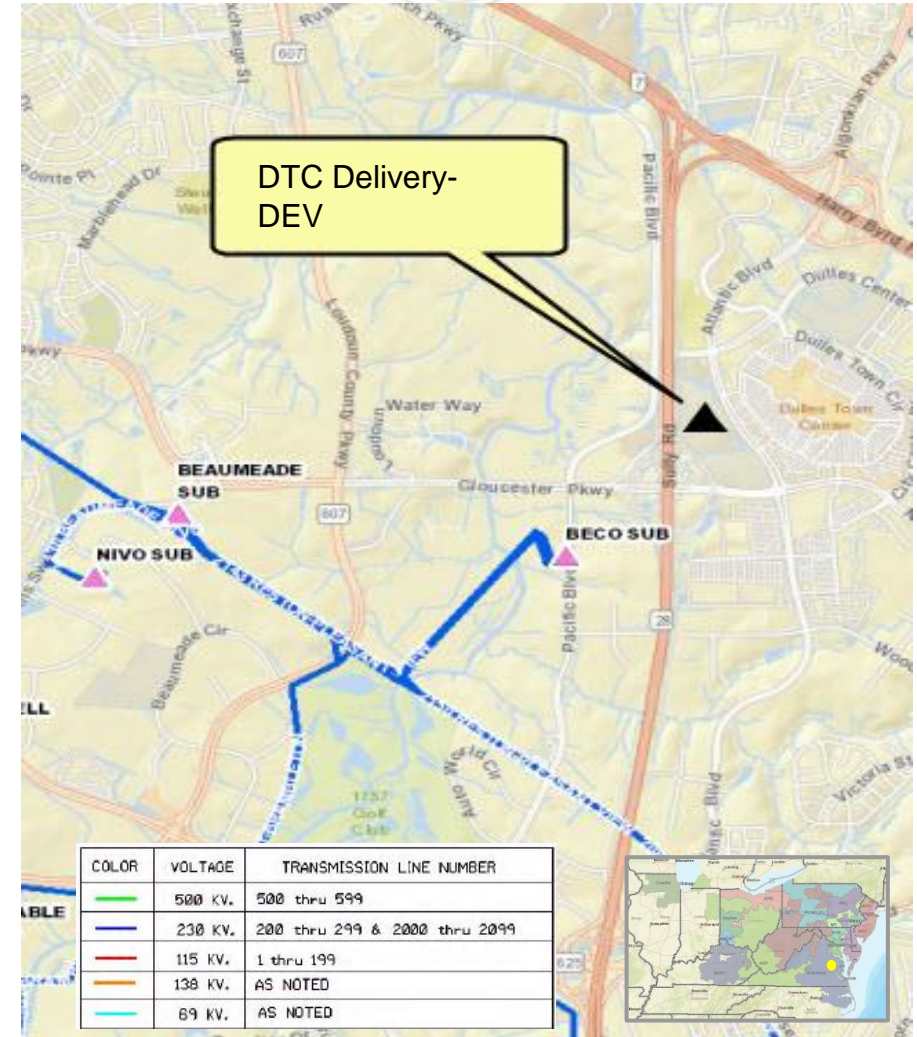
**Problem Statement:**

DEV Distribution has submitted a DP Request for a new substation (DTC) to accommodate a new datacenter campus in Loudoun County with a total load in excess of 100 MW. The new substation will be configured to accommodate five 84 MVA transformers with two transformers installed initially. Requested in-service date is 11/15/2021.

Initial In-Service Load	Projected 2024 Load
Summer: 46.5 MW	Summer: 130.3 MW

**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria





# Dominion Transmission Zone: Supplemental DTC 230 kV Delivery - DEV

**Need Number: DOM-2018-0013**

**Proposed Solution :**

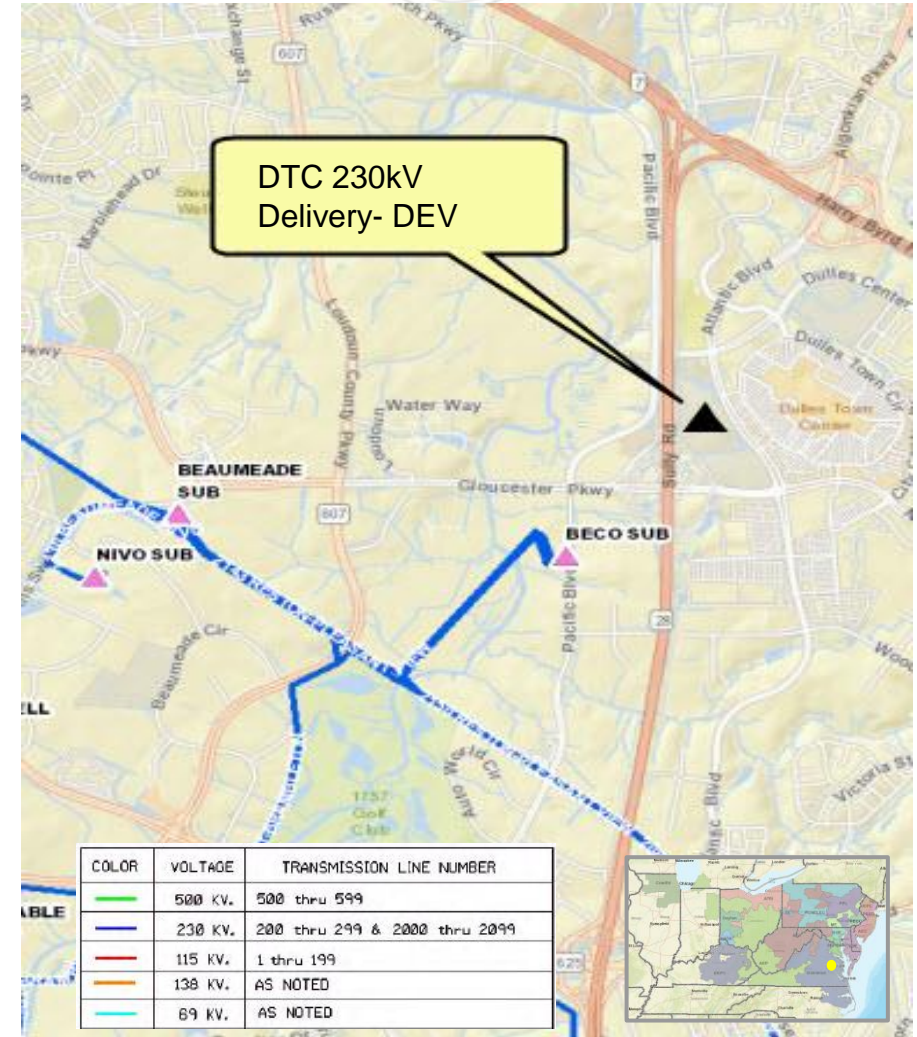
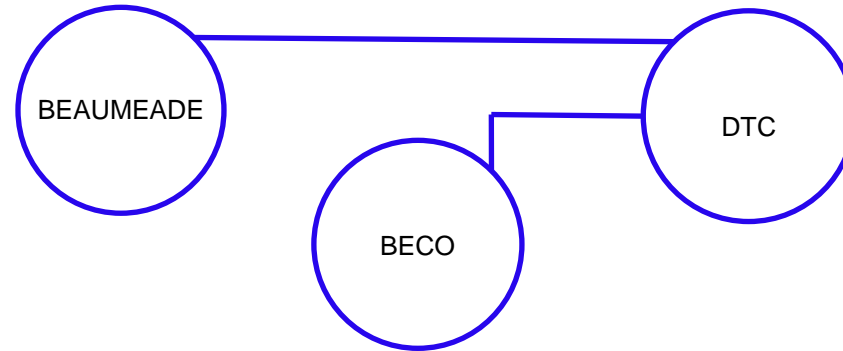
Interconnect the new substation by cutting and extending Line #2143 (Beaumeade-BECO) approximately 1.5 miles to the proposed DTC Substation. Terminate both ends into a six-breaker ring bus arrangement with four breakers installed to create a Beaumeade-DTC line and a BECO-DTC line. Install two 230kV circuit switchers and any necessary high side switches and bus work for the new transformers.

**TO Alternatives Considered :**

No feasible alternatives

**Estimated cost: \$ 25.0M**

**Projected In-service Date: 11/15/2021**





# Dominion Transmission Zone: Supplemental Customer Load Request

**Need Number: DOM-2019-0004**

**Meeting Date: 05/16/2019**

**Process Stage: SOLUTIONS**

**Need Presented: 02/07/2019**

**Supplemental Project Driver: Customer Service**

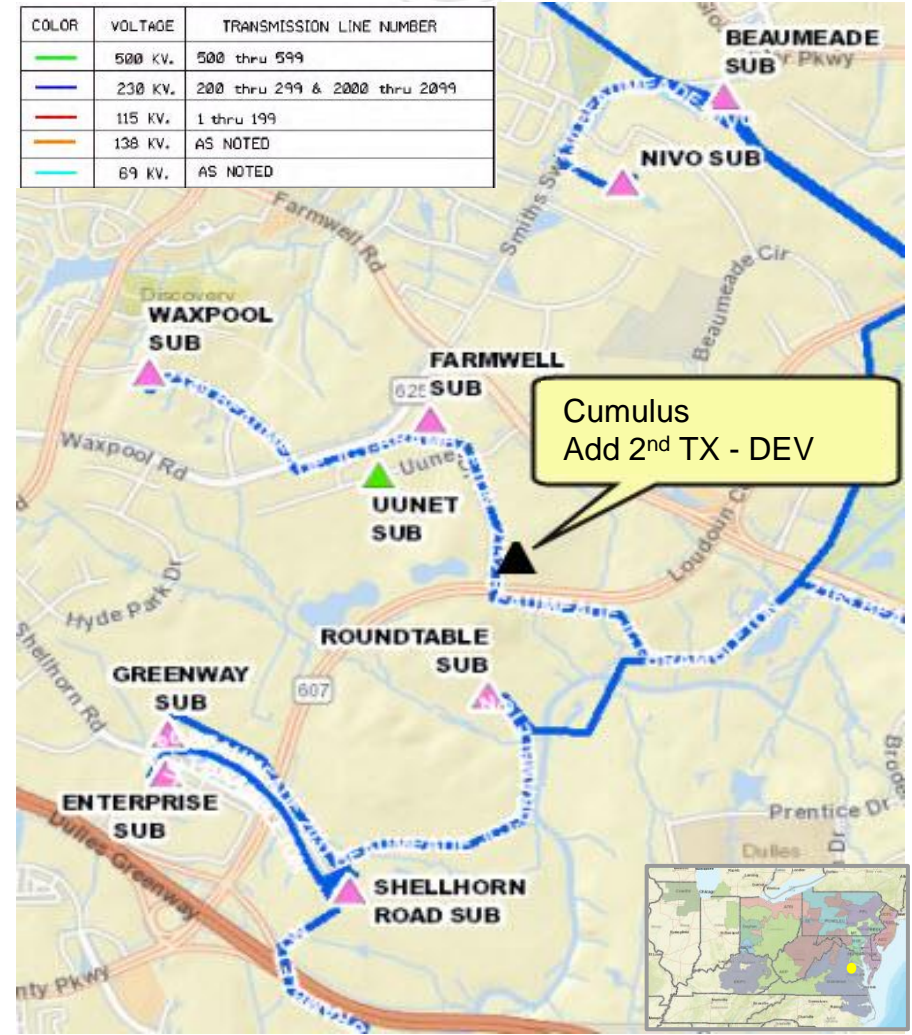
**Problem Statement:**

DEV Distribution has submitted a DP Request to add a 2nd, 84 MVA distribution transformer at Cumulus Substation in Loudoun County. The new transformer is being driven by projections that load on the initial Cumulus transformer will exceed mobile transformer capability in 2020. Requested in-service date is 10/15/2020.

Initial In-Service Load	Projected 2024 Load
Summer: 36.0 MW	Summer: 155.7 MW

**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria





# Dominion Transmission Zone: Supplemental Add 2<sup>nd</sup> TX - Cumulus 230 kV Delivery - DEV

**Need Number: DOM-2019-0004**

**Proposed Solution :**

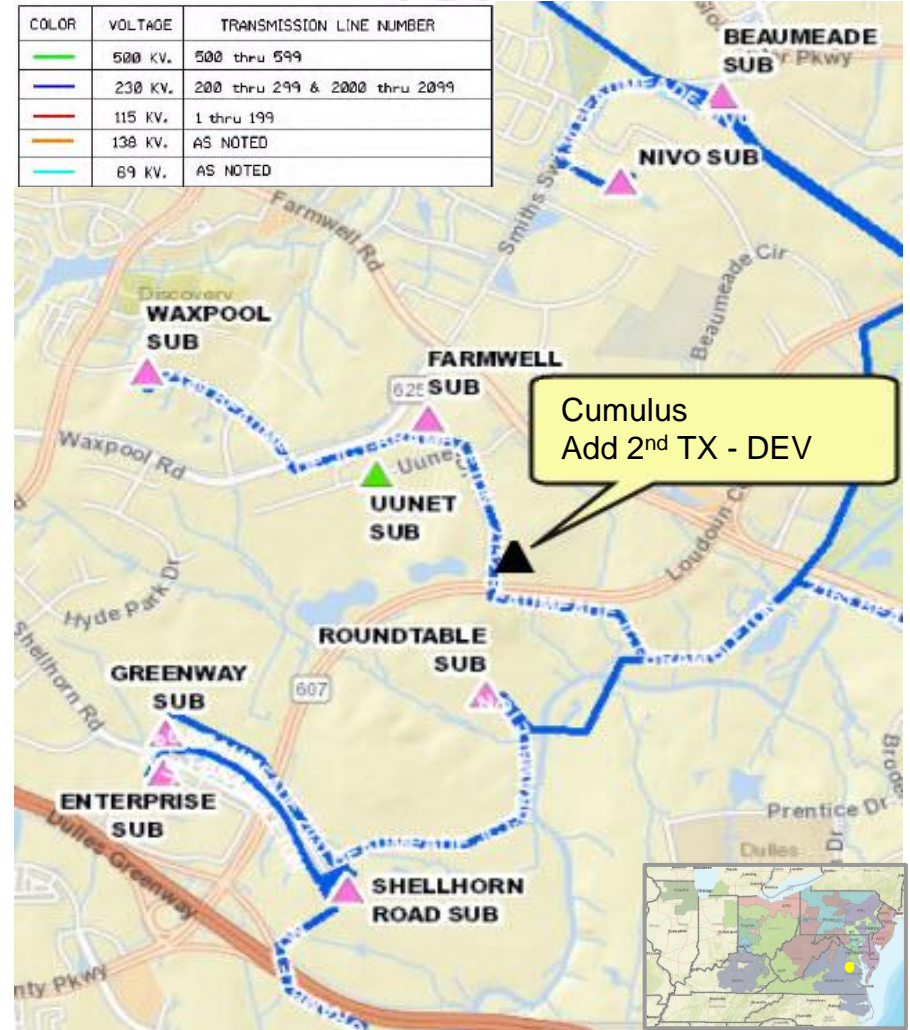
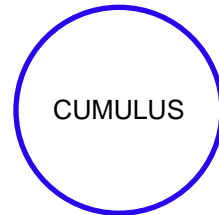
Install 1200 Amp, 50kAIC circuit switcher and associated equipment (bus, switches, relaying, etc.) to feed the new transformer at Cumulus.

**TO Alternatives Considered :**

No feasible alternatives

**Estimated cost: \$ 0.25M**

**Projected In-service Date: 10/15/2020**



**Need Number:** DOM-2019-0006

**Meeting Date:** 05/16/2019

**Process Stage:** SOLUTIONS

**Need Presented:** 02/07/2019

**Supplemental Project Driver:** Customer Service

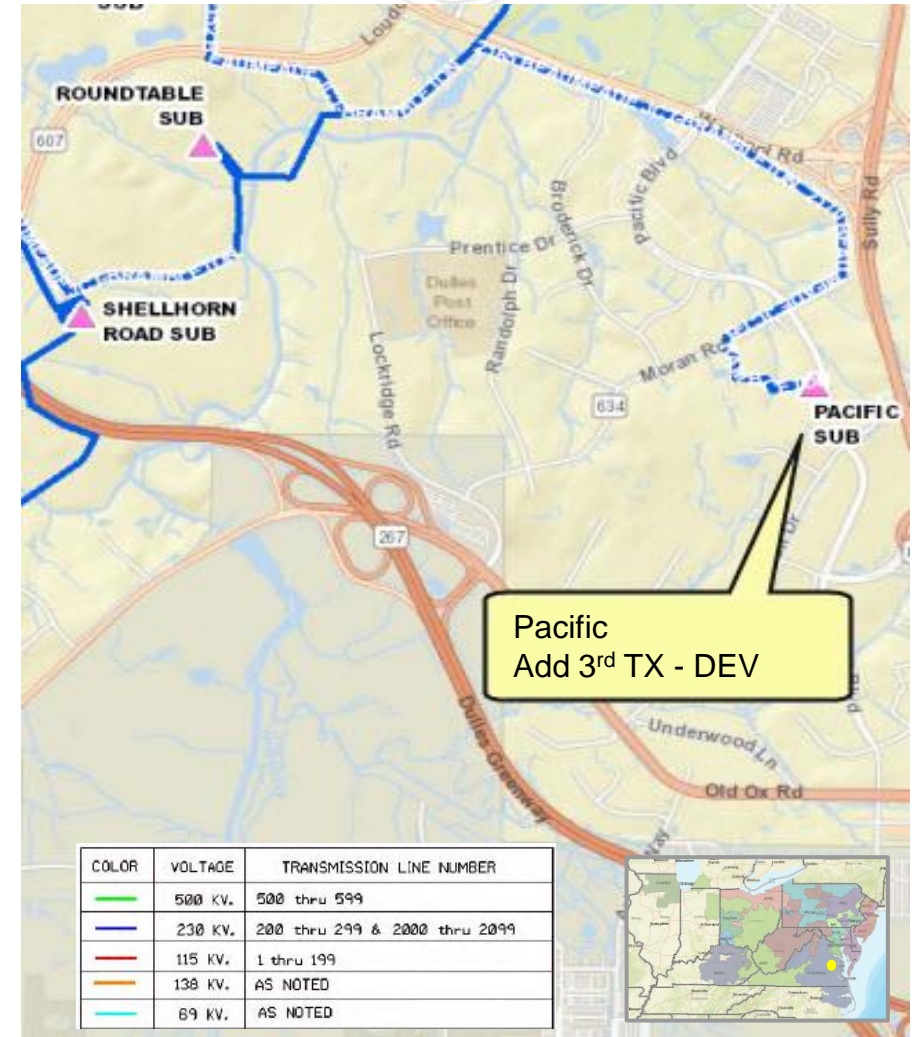
**Problem Statement:**

DEV Distribution has submitted a DP Request to add a 3rd, 84 MVA distribution transformer at Pacific Substation in Loudoun County. The new transformer is being driven by continued load growth in the area and contingency loading for loss of one of the existing two transformers. Requested in-service date is 04/01/2020.

Initial In-Service Load	Projected 2024 Load
Summer: 146.8 MW	Summer: 193.5 MW

**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.





# Dominion Transmission Zone: Supplemental Add 3<sup>RD</sup> TX - Pacific 230 kV Delivery - DEV

**Need Number: DOM-2019-0006**

**Proposed Solution :**

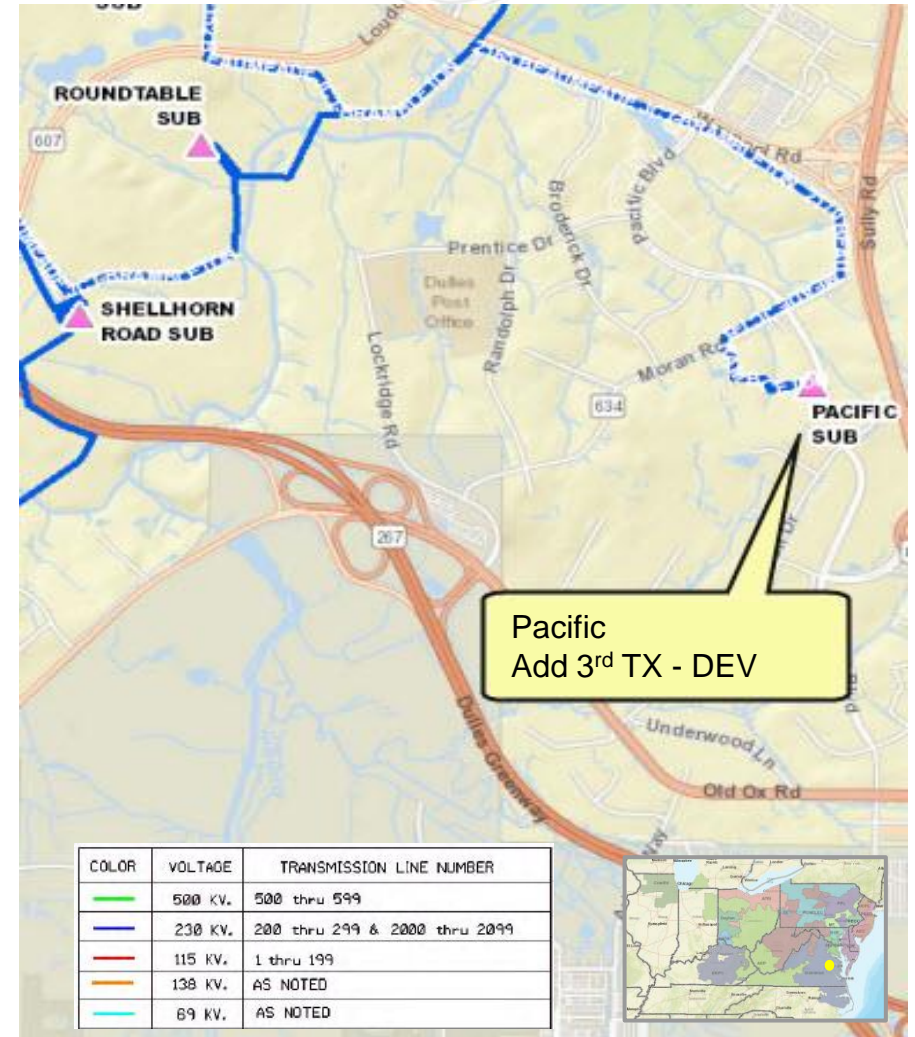
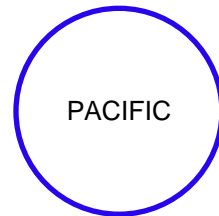
Install 1200 Amp, 40kAIC circuit switcher and associated equipment (bus, switches, relaying, etc.) to feed the new transformer at Pacific.

**TO Alternatives Considered :**

No feasible alternatives

**Estimated cost: \$ 0.25M**

**Projected In-service Date: 04/01/2020**



**Need Number:** DOM-2019-0007

**Meeting Date:** 05/16/2019

**Process Stage:** SOLUTIONS

**Need Presented:** 02/07/2019

**Supplemental Project Driver:** Customer Service

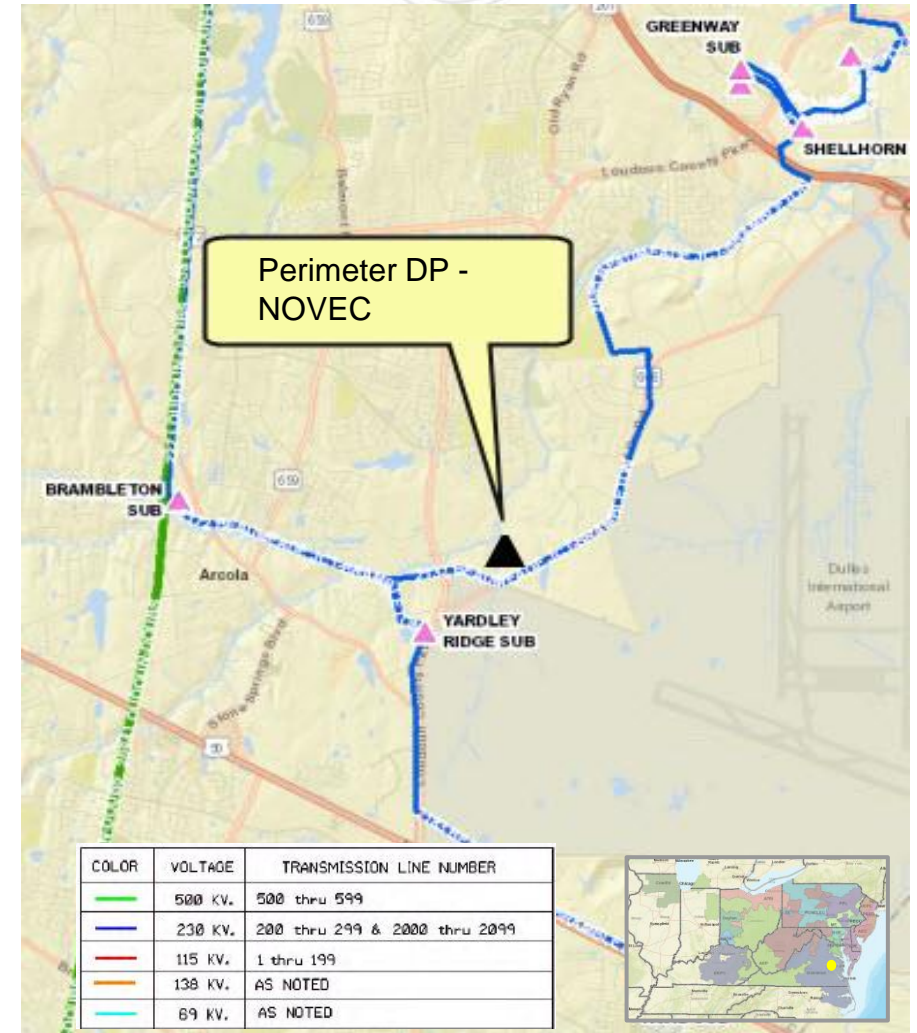
**Problem Statement:**

NOVEC has submitted a DP Request for a new substation (Perimeter) to support a new datacenter campus in Loudoun County with a total load in excess of 100 MW. Requested in-service date is 12/01/2020.

Initial In-Service Load	Projected 2024 Load
Summer: 41.8 MW	Summer: 95.1 MW

**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.



**Need Number: DOM-2019-0007**

**Proposed Solution :**

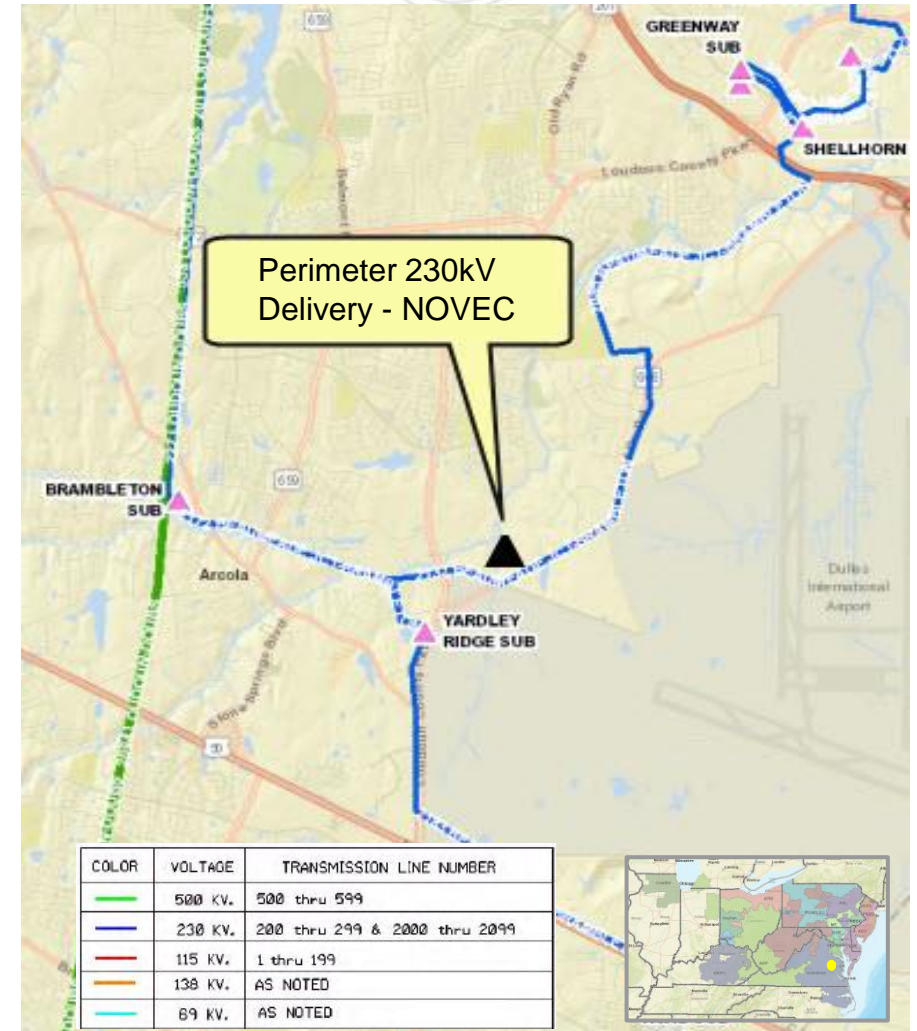
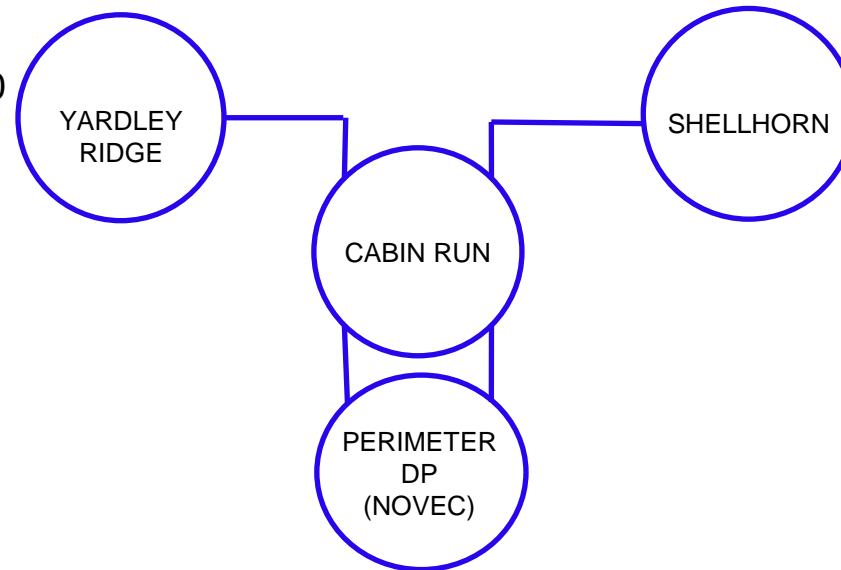
Interconnect the new DP substation by cutting and extending Line #2095 (Yardley-Shellhorn) to new Cabin Run Switching Station. Terminate both ends into a four-breaker ring arrangement to create a Yardley-Cabin Run line and a Cabin Run-Shellhorn line. Provide two 230 kV feeds from the ring bus at Cabin Run to Perimeter DP.

**TO Alternatives Considered :**

No feasible alternatives

**Estimated cost: \$ 8.0M**

**Projected In-service Date: 12/01/2020**







# Dominion Transmission Zone: Supplemental Customer Load Request

**Need Number:** DOM-2019-0008

**Meeting Date:** 05/16/2019

**Process Stage:** SOLUTIONS

**Need Presented:** 02/07/2019

**Supplemental Project Driver:** Customer Service

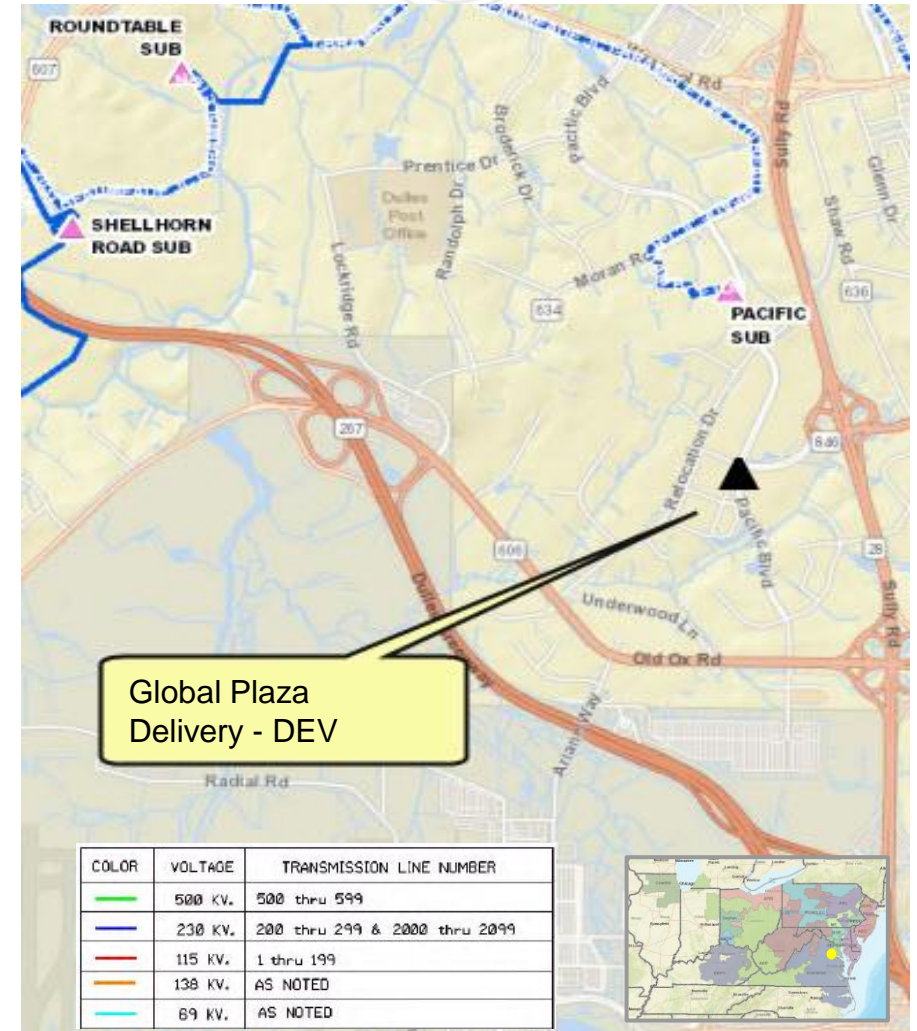
**Problem Statement:**

DEV Distribution has submitted a DP Request for a new substation (Global Plaza – formerly Relocation Road) to support a new datacenter campus in Loudoun County with a total load in excess of 100 MW. The new station will also support existing data center load in the immediate area. Requested in-service date is 12/15/2021 (previously 11/15/2021).

Initial In-Service Load	Projected 2024 Load
Summer: 77.0 MW (revised)	Summer: 157.9 MW (revised)

**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria





# Dominion Transmission Zone: Supplemental Global Plaza 230 kV Delivery - DEV

**Need Number: DOM-2019-0008**

**Proposed Solution :**

Interconnect the new substation by constructing two 230kV lines approximately 1.0 mile from Pacific Substation to Global Plaza Substation.

At Pacific, install two 230kV breakers (completing the 6-breaker ring) to terminate the two lines.

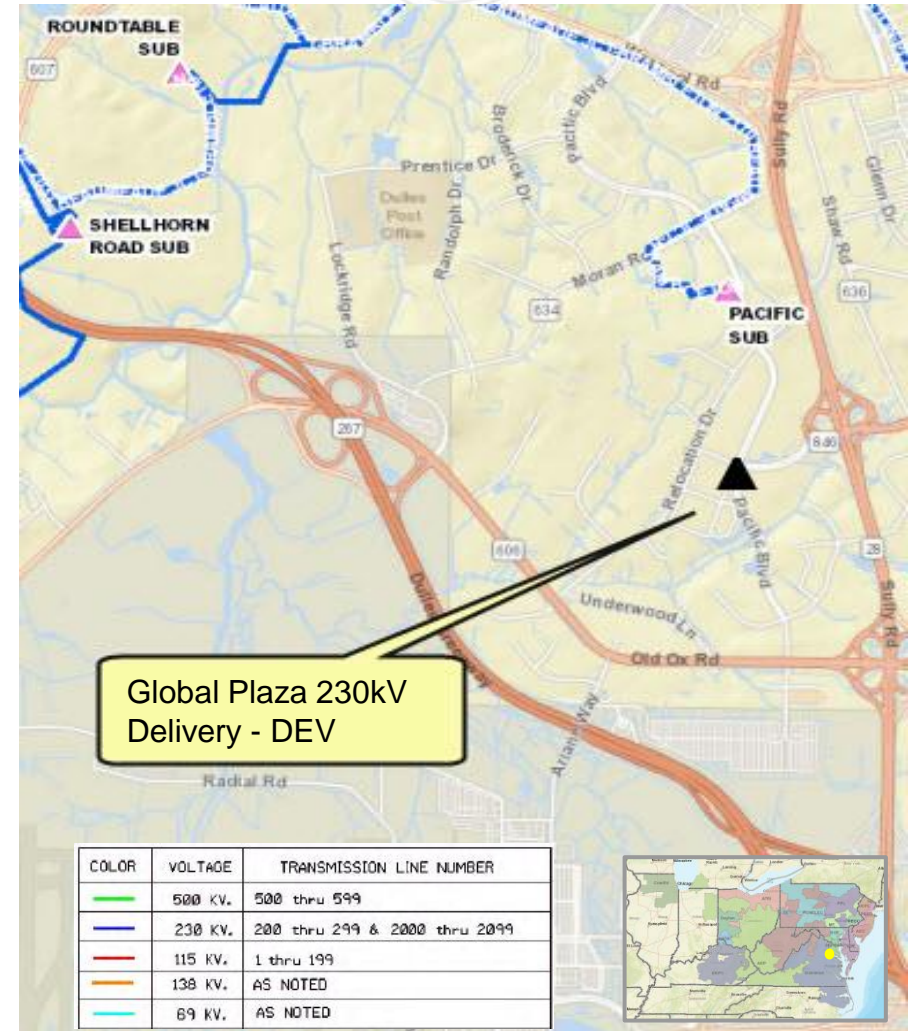
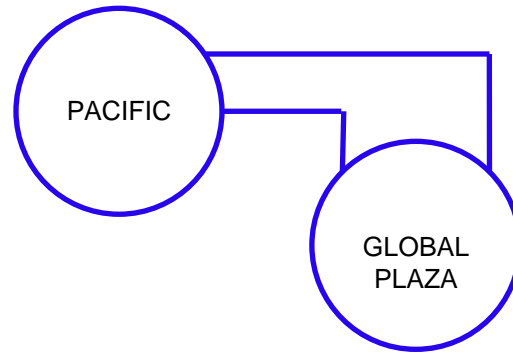
At Global Plaza, install four 230kV breakers (station arranged as breaker-and-a-half) to terminate the two lines. Install two 230kV circuit switchers and any necessary high side switches and bus work for two initial transformers (five ultimate).

**TO Alternatives Considered :**

No feasible alternatives

**Estimated cost:** \$ 40.0M

**Projected In-service Date:** 12/15/2021





# Dominion Transmission Zone: Supplemental Customer Load Request

**Need Number:** DOM-2019-0011

**Meeting Date:** 05/16/2019

**Process Stage:** SOLUTIONS

**Need Presented:** 03/07/2019

**Supplemental Project Driver:** Customer Service

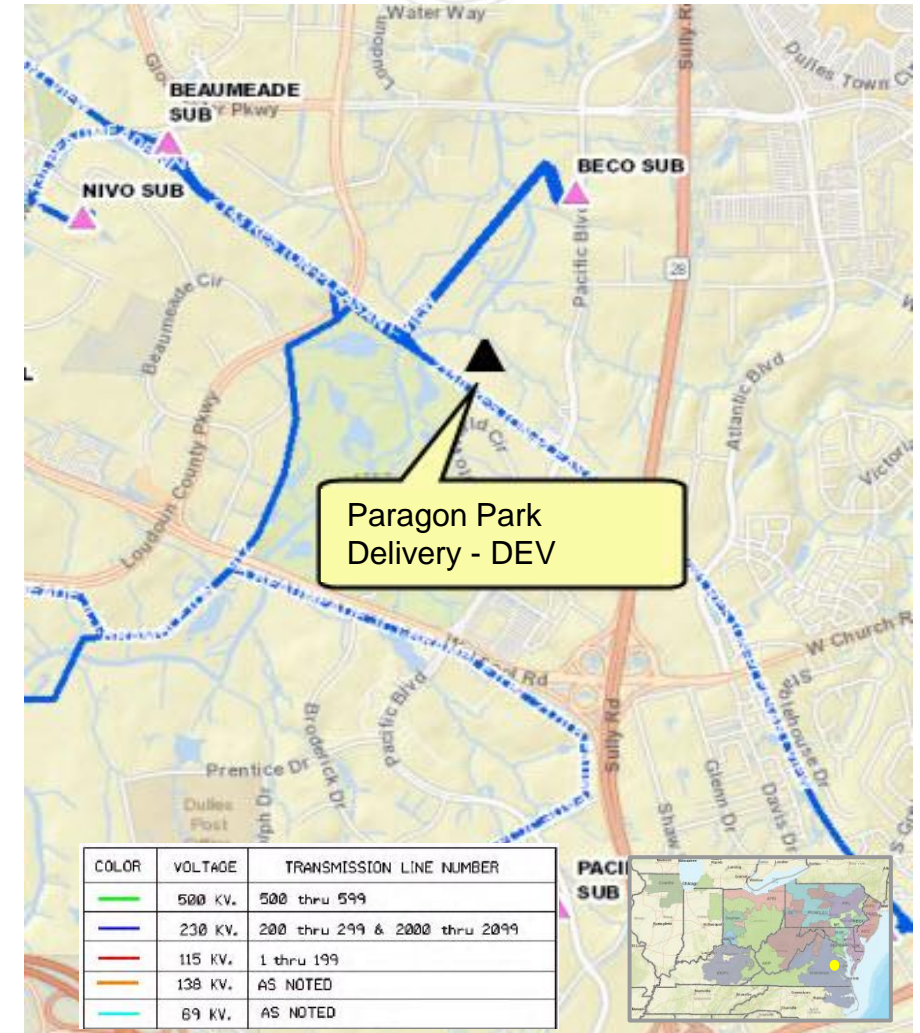
**Problem Statement:**

DEV Distribution has submitted a DP Request for a new substation (Paragon Park) to support a new datacenter campus in Loudoun County with a total load in excess of 100 MW. The new station will also support existing data center load in the immediate area. Requested in-service date is 07/15/2021 (changed from 04/01/2021).

Initial In-Service Load	Projected 2024 Load
Summer: 41.0 MW	Summer: 130.8 MW

**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria





# Dominion Transmission Zone: Supplemental Paragon Park 230 kV Delivery - DEV

**Need Number: DOM-2019-0011**

**Proposed Solution :**

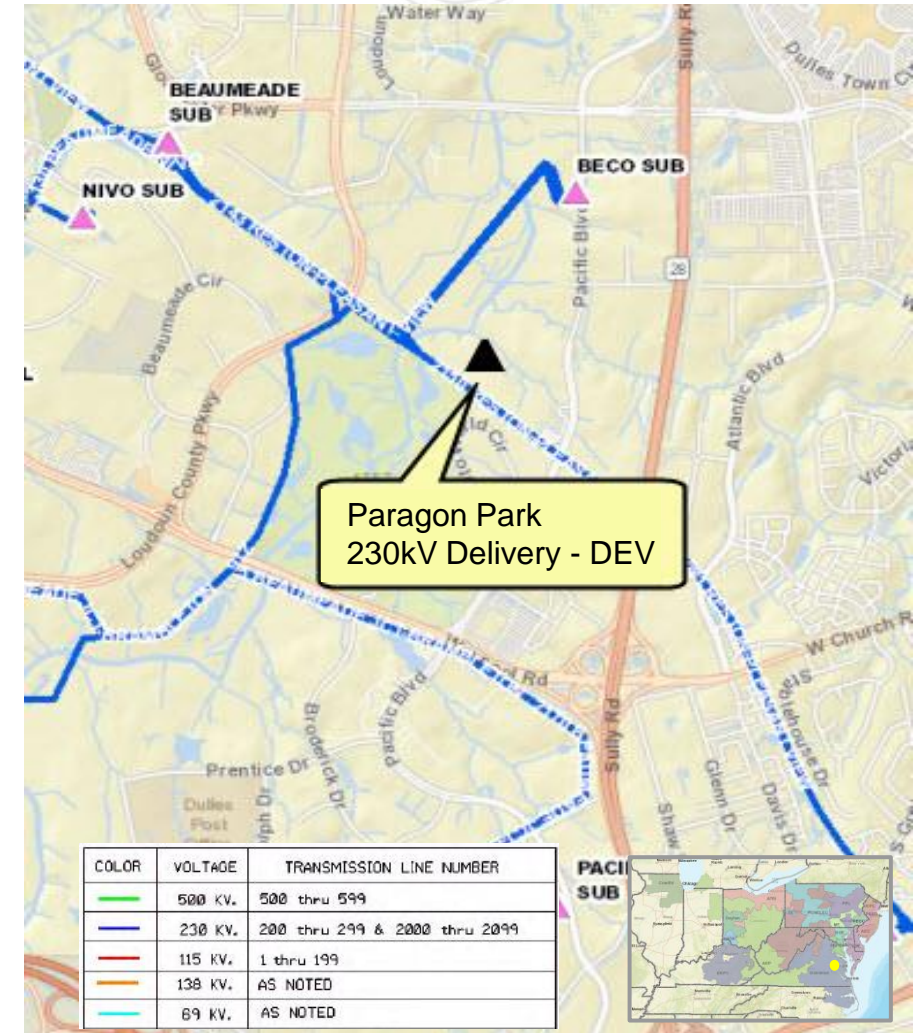
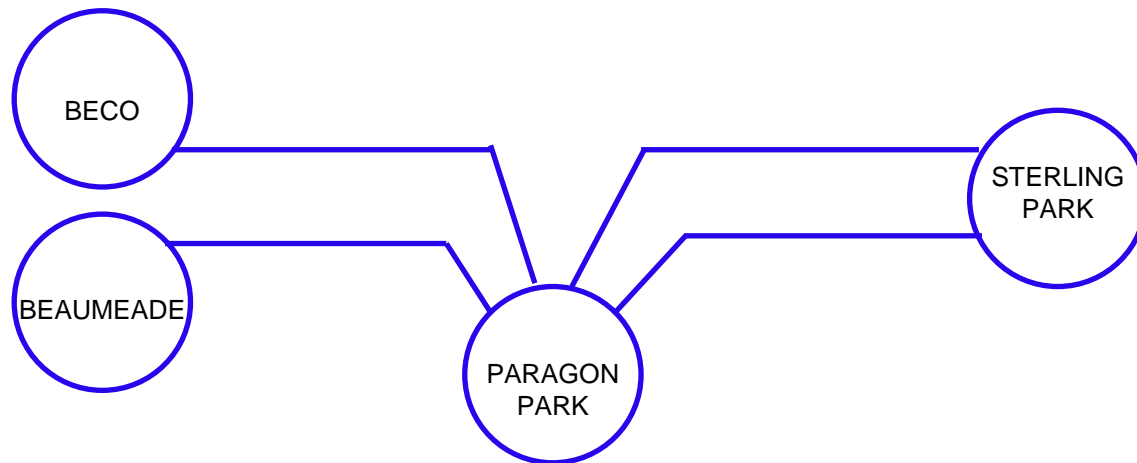
Interconnect Paragon Park Substation by cutting and terminating both Line #2081 (BECO-Sterling Park) and Line #2150 (Beaumeade-Sterling Park) into a six-breaker 230kV ring bus. Install two 230kV circuit switchers and any necessary high side switches and bus work for the new transformers.

**TO Alternatives Considered :**

No feasible alternatives

**Estimated cost:** \$ 10.0M

**Projected In-service Date:** 07/15/2021



**Need Number: DOM-2019-0012**

**Meeting Date: 05/16/2019**

**Process Stage: SOLUTIONS**

**Need Presented: 03/07/2019**

**Supplemental Project Driver: Customer Service**

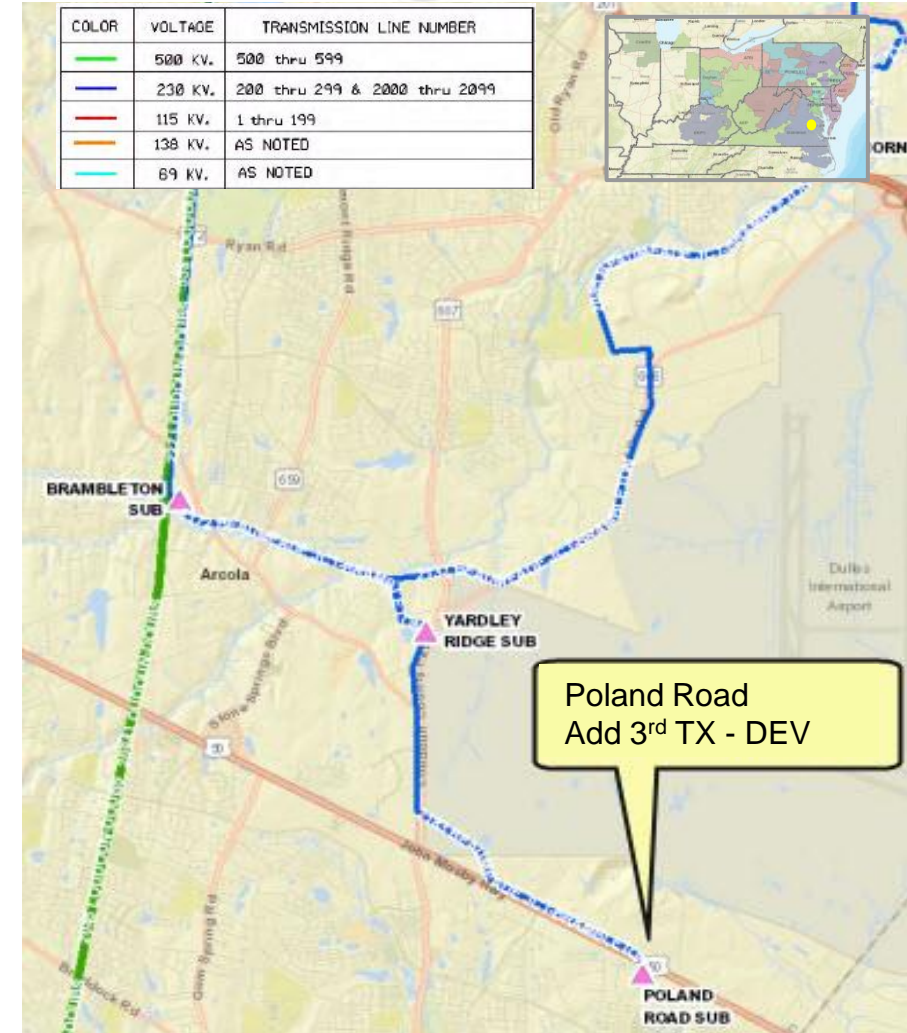
**Problem Statement:**

DEV Distribution has submitted a DP Request to add a 3rd, 84 MVA distribution transformer at Poland Road Substation in Loudoun County. The new transformer is being driven by continued load growth in the area and contingency loading for loss of one of the existing two transformers. Requested in-service date is 10/15/2020.

Initial In-Service Load	Projected 2024 Load
Summer: 120.5 MW	Summer: 244.9 MW

**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria





# Dominion Transmission Zone: Supplemental Add 3<sup>RD</sup> TX – Poland Road 230 kV Delivery - DEV

**Need Number: DOM-2019-0012**

**Proposed Solution :**

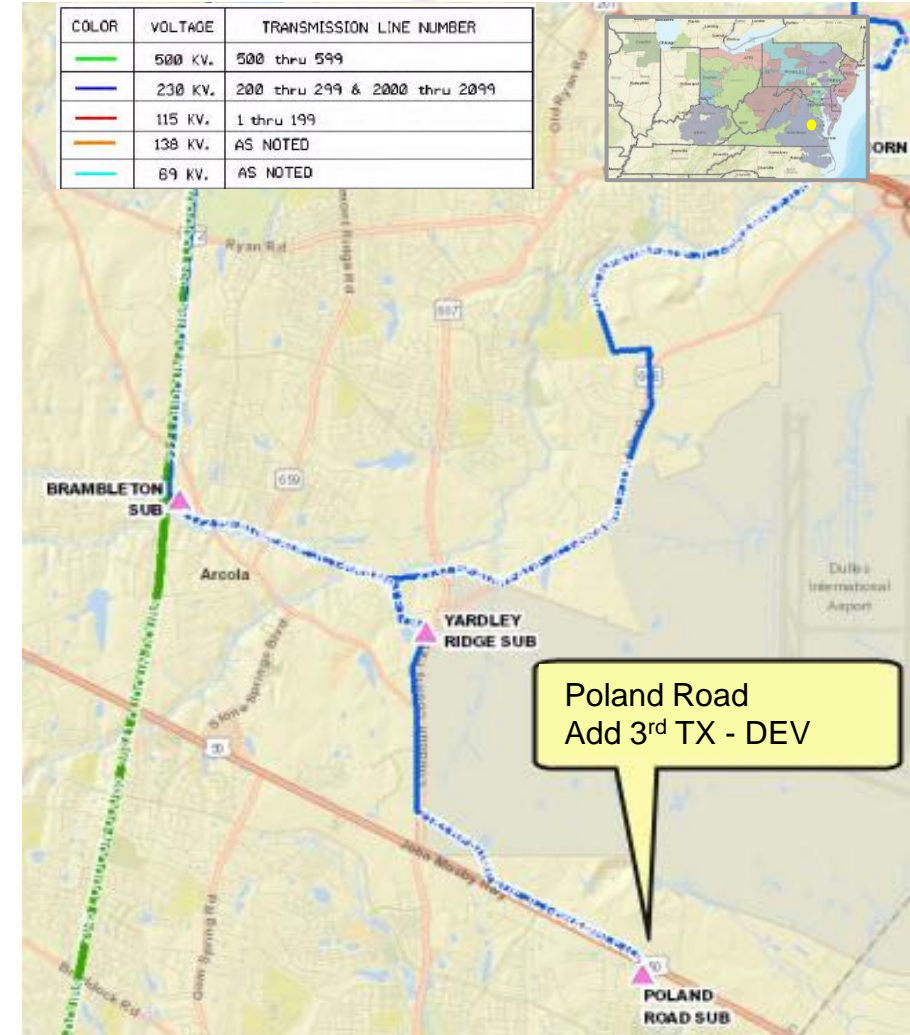
Install 1200 Amp, 50kAIC circuit switcher and associated equipment (bus, switches, relaying, etc.) to feed the new transformer at Poland Road.

**TO Alternatives Considered :**

No feasible alternatives

**Estimated cost: \$ 0.25M**

**Projected In-service Date: 10/15/2020**





# Dominion Transmission Zone: Supplemental Customer Load Request

**Need Number: DOM-2019-0017**

**Meeting Date: 4/11/2019**

**Process Stage: Solution**

**Supplemental Project Driver: Customer Service**

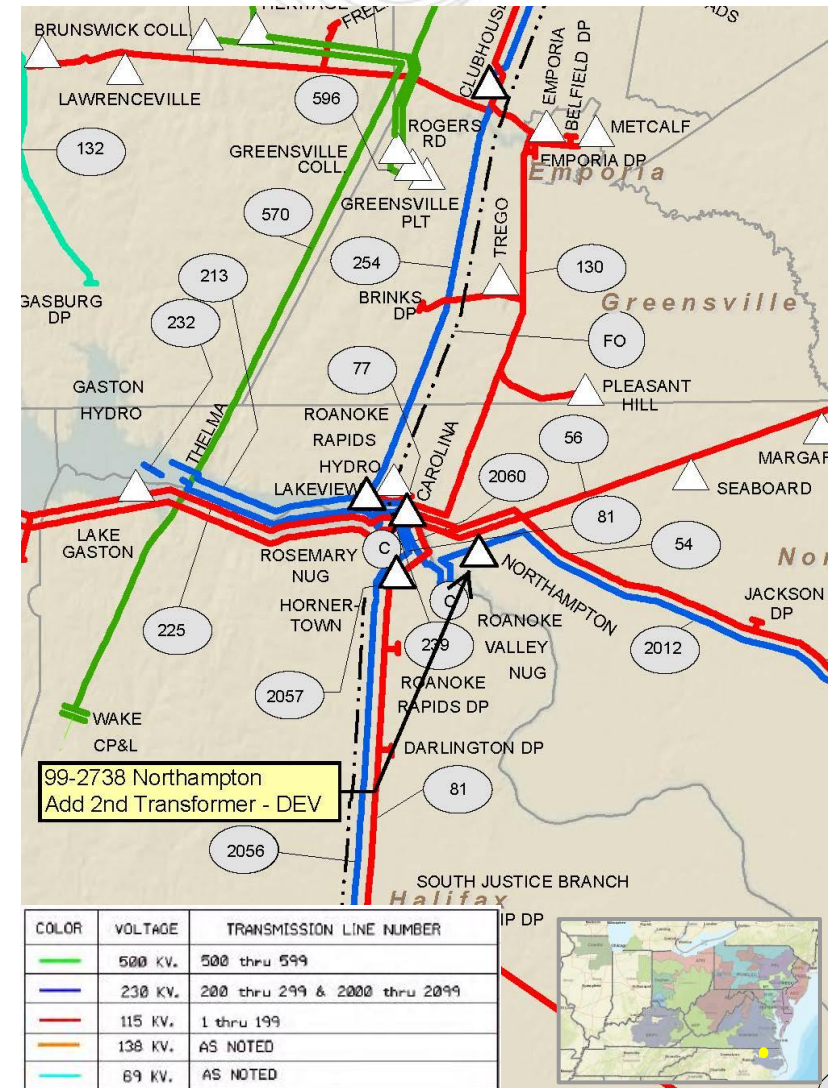
**Problem Statement:**

DEV Distribution has submitted a DP request to add a second distribution transformer at Northampton Substation in Northampton County, NC. This transformer will support commercial load growth and contingency loading for the loss of the existing transformer. Requested in-service date is 09/01/2020.

Initial In-Service Load	Projected 2024 Load
Summer: 26.2 MW	Summer: 27.8 MW

**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnections Requirements Document and Dominion’s Transmission Planning Criteria





# Dominion Transmission Zone: Supplemental Add 2<sup>nd</sup> Transformer – Northampton 230kV Delivery - DEV

**Need Number: DOM-2019-0017**

**Proposed Solution:**

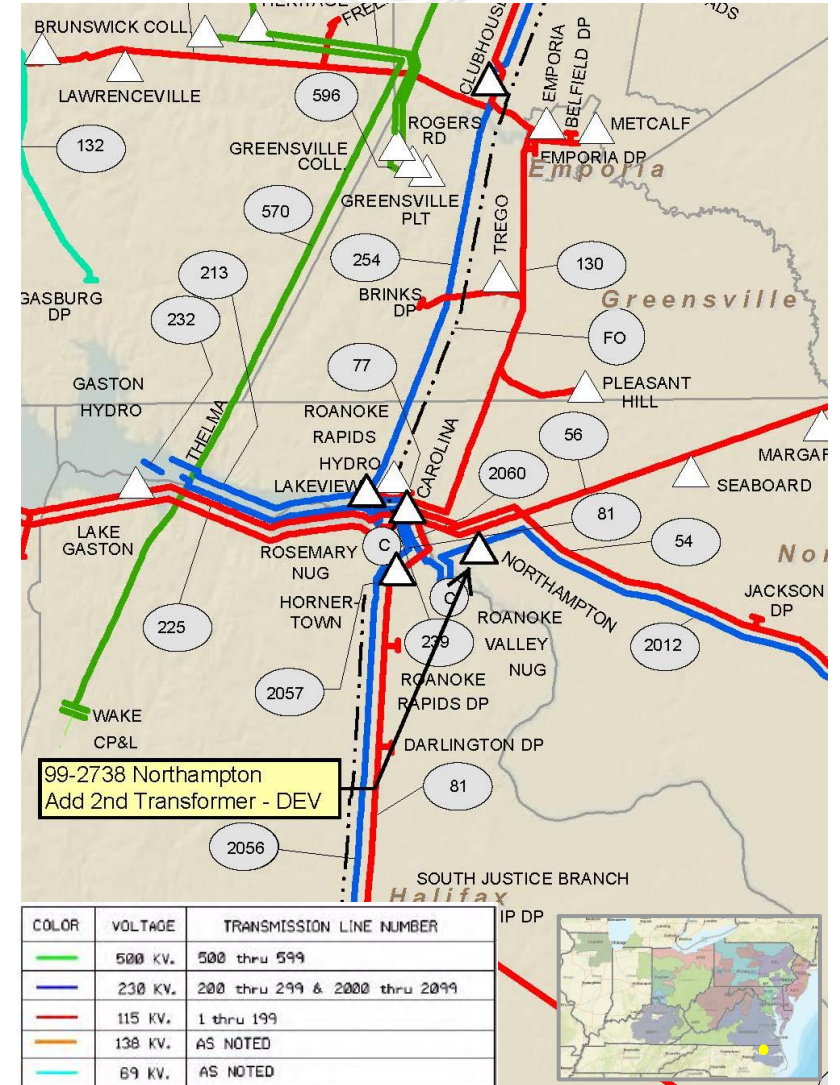
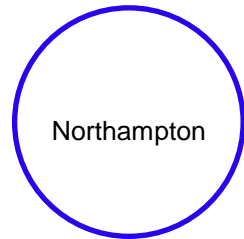
Install a 230kV circuit switcher, high side switch and perform necessary transmission work for the new transformer.

**TO Alternatives Considered :**

No feasible alternatives

**Estimated Project Cost: \$ 500K**

**Projected In-service Date: 09/01/2020**





# 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



V1 – 05/06/2019 – Original Slides Posted