# **Facilities Study Report**

### For

# Physical Interconnection of PJM Generation Interconnection Request Project ID AG1-098

**Briery-Clover 230 kV** 

#### Introduction

This Facilities Study has been prepared in accordance with the PJM Open Access Transmission Tariff Part VII, and, if applicable, the Application and Studies Agreement between the Project Developer and PJM Interconnection, LLC (PJM or Transmission Provider (TP)). The Transmission Owner (TO) is Virginia Electric and Power Company (VEPCO or Dominion).

#### A. Transmission Owner Facilities Study Summary

#### 1. PROJECT DESCRIPTION

The Project Developer (PD) has proposed a Solar Generating Facility located in Mecklenburg, VA with a designated PJM Project ID of AG1-098. The installed facilities will have a total Maximum Facility Output (MFO) of 107 MW with 64.2 MW of this output being recognized by PJM as Capacity.

#### 2. POINT OF INTERCONNECTION (POI)

The Generating Facility will interconnect with the Dominion transmission system via a newly constructed 230 kV 3 breaker ring substation, AG1-098, tapping the Finneywood-Farmville 230 kV line 235, approximately 1.11 mi from Finneywood substation and 35.51 miles from Farmville substation.

The construction of the new interconnection substation will result in the splitting of the existing Finneywood-Farmville 230 kV line 235 into two lines on the transmission system. The new line numbers will be determined during the detailed engineering phase of the project.

The proposed generation interconnection is shown on the single line diagram in Attachment #1.

#### 3. POINT OF CHANGE IN OWNERSHIP

The Point of Change in Ownership will be located between the two stations at the 230kV disconnect switch 4-hole pad inside the Dominion Energy station by the common fence.

#### 4. SCOPE OF PROJECT DEVELOPER INTERCONNECTION FACILITIES

Project Developer will design, build, own, operate and maintain the Project Developer Interconnection Facilities on Project Developer's side of the Point of Change in Ownership (PCO). This includes, but is not limited to:

- Circuit breakers and associated equipment located between the high side of the MPT(s) or GSU(s) and the Point of Change in Ownership.
- Generator lead line from the Generating Facility to the Point of Change in Ownership.
- Relay and protective equipment, telecommunications equipment, and Supervisory Control and Data Acquisition (SCADA) to comply with the TO's Applicable Technical Requirements and Standards.

#### B. Transmission Owner Facilities Study Results

The following is a description of the planned Transmission Owner facilities for the physical interconnection of the proposed AG1-098 project to Dominion transmission system. These facilities shall be designed according to Dominion Applicable Technical Requirements and Standards. Once built, Dominion will own, operate, and maintain these Facilities.

#### 1. TRANSMISSION OWNER INTERCONNECTION FACILITIES:

The Transmission Owner Interconnection Facilities will include, but not be limited to, the following:

A 230 kV backbone structure and foundation within the fence of the Interconnection Substation, to terminate the Project Developer's generator lead line.

Line conductor from the backbone structure to the bus position in the switchyard of the interconnection substation.

#### Purchase and install substation material – Transmission Owner Interconnection Facilities:

- 1. One (1), 230 kV, 4000A, 3-phase center break gang operated switch
- 2. Three (3), 230 kV, metering accuracy CCVT
- 3. Three (3), 230 kV, 500:5 metering accuracy CT
- 4. Conductor, connectors, conduits, control cables, foundations, steel structures and grounding material as per engineering standards

#### Purchase and install relay material – Transmission Owner Interconnection Facilities:

- 1. One (1), 1110 24" dual SEL-587Z/351A transmission bus panel
- 2. One (1), 4200 W1 bus differential CT make-up box
- 3. One (1), 1425 24" dual SEL-735 transmission and generator interconnect metering panel
- 4. One (1), 4524 revenue metering CT make-up box
- 5. One (1), 4506 3-phase CCVT potential make-up box with metering (P4)
- 6. One (1), 1323 24" SEL-487E/735 PMU and PQ monitoring panel
- 7. Two (2), 4541 control cable make-up box
- 8. Two (2), 4528A generation fiber make-up box

The Project Developer has the option to select 'Option to Build' as is their right under the PJM Generator Interconnection Agreement.

If "Option to Build" is selected, the Project Developer becomes responsible for the purchase and install of the TOIF facilities listed above, as well as the oversight costs included in 4. OTHER SCOPE OF WORK.

#### 2. STAND ALONE NETWORK UPGRADES

The Stand Alone Network Upgrades will include, but not be limited to, the following:

#### For new interconnection substation:

AG1-098 Interconnection Substation (NXXXX)

A new 3 breaker ring substation, AG1-098 230 kV, will be constructed along the 230 kV transmission line 235 to interconnect the project with the Dominion transmission system.

The objective of this project is to build a 230 kV three breaker ring bus to support the new solar farm built by Project Developer. The site is located along Dominion Energy's existing 230kV, 235 line from Farmville Substation to Clover Substation. The cut line will consume two of the positions in the ring bus. The third position will be for the 230kV feed from Project Developer's Collector Station for the new solar farm.

The Project Developer will provide the property and access to the switching station. The grounding systems for each station will be tied together. All substation permitting, site preparation and grading activity will be performed by the Project Developer. All permits are the responsibility of the developer.

Substation design and relay protection are based on Dominion's Facility Interconnection Requirements, NERC Compliance Procedure FAC-001 (version 23), that is posted on PJM's website. This standard meets or exceeds the PJM Transmission and Substation Design Subcommittee Technical Requirements and the PJM Protection Standards (PJM Manual 7).

The scope of work includes the following:

#### Purchase and Install - Stand Alone Network Physical Facilities:

- 1. Approximate station fence line dimensions of 365' x 280'. At a minimum, site preparation and grading will be required to extend 10' beyond these dimensions for station grounding. Additional property and site prep may be required for proper grading and stormwater management, etc.
- 2. Approximately 1,290 linear ft of 5/8" chain link, 12 ft tall, perimeter fence around the station along with the security cameras and integrators as per design 4 fence standards
- 3. Three (3), 230 kV, 4000A, 63kAIC, SF-6 circuit breaker
- 4. Six (6), 230 kV, 4000A, 3-phase center break gang operated switch
- 5. Six (6), 230 kV, relay accuracy CCVT
- 6. Two (2), 230 kV, 4000A wave trap
- 7. Two (2), line tuner
- 8. Nine (9), 180 kV, 144kV MCOV surge arrester
- 9. Two (2), 230 kV, 3000A, 2-phase center break switch (for PVT's)
- 10. Two (2), 230 kV, 100KVA power PT's for station service
- 11. Two (2), 230 kV, 20 in-lb., 125VDC motor operator
- 12. One (1), 24' x 40' control enclosure

- 13. One (1), 125 VDC, 400 Ah station battery and 75 Amp charger (size to be verified during detail engineering)
- 14. Approximately 240 ft of cable trough with a 20 ft road crossing station
- 15. Two (2), 36" x 36" x 42" precast yard pull box
- 16. Station stone as required
- 17. Station lighting as required
- 18. Steel structures as required including switch stands, bus supports, station service transformers, CCVT and wave trap supports
- 19. Foundations as required including control house, equipment, and bus support stands
- 20. Conductors, connectors, conduits, control cables, cable trough, and grounding materials as per engineering standards

#### Purchase and Install - Stand Alone Network Relay Protection Equipment:

- 1. Three (3), 1510 24" dual SEL-351-7 transmission breaker with reclosing panel
- 2. Three (3), 4510 SEL-2411 breaker annunciator
- 3. Two (2), 1340 24" dual SEL-411L DCB/PLC line panel
- 4. Two (2), 4506 3-phase CCVT potential make-up box
- 5. One (1), 1603 24" SEL-451 islanding control scheme panel
- 6. Two (2), 4000 station service potential make-up box
- 7. Two (2), 4548 non-earthing switch MOAB control box
- 8. Two (2), 4103 non-earthing switch MOAB AC/DC distribution box
- 9. Two (2), 4018 500A station service AC distribution panel
- 10. Two (2), 4007 225A outdoor transmission yard AC NQOD
- 11. Two (2), 4019 225A three phase throw over switch
- 12. Two (2), 4016 600A PVT disconnect switch
- 13. One (1), 4153c wall mount station battery monitor
- 14. One (1), 5618 SEL-3555 communications panel
- 15. One (1), 1255 Station annunciator panel
- 16. One (1), 5021 SEL-2411 RTU panel
- 17. One (1), 5609 fiber optic management panel
- 18. Three (3), 4526 A circuit breaker fiber optic make-up box
- 19. One (1), 5202 26" APP 601 digital fault recorder
- 20. Six (6), 4040 security fiber/power make-up box
- 21. One (1), 5603 station network panel no. 1
- 22. One (1), 5603 station network panel no. 2

- 23. One (1), 4051 power block
- 24. One (1), 4042 D1B security utility utility ATS
- 25. One (1), 4044 225A 1Ø outdoor main security AC NQOD
- 26. Two (2), 4040 100A 1Ø outdoor security AC NQOD
- 27. One (1), 5616 station security panel
- 28. One (1), 5616—security fence panel
- 29. Two (2), 4018 225A station service AC distribution panel branch breaker
- 30. One (1), high voltage protection (HVP) box (provided by IT) (to be verified during detail engineering)
- 31. One (1), telephone interface box (to be verified during detail engineering)

The Project Developer has the option to select 'Option to Build' as is their right under the PJM Generator Interconnection Agreement.

By selecting this construction process method, the Project Developer shall secure all required real estate, obtain all necessary permits, perform site work including site preparation and grading, furnish equipment, construction personnel and ancillary materials as found in the facility study for construction of the switching station in compliance with Dominion Energy Substation Engineering Standards.

If the Project Developer selects "Option to Build", the work required is as follows:

#### Option to Build, Stand Alone Network Upgrade Physical Facilities - Project Developer:

- 1. Approximate station fence line dimensions of 365' x 280'. At a minimum, site preparation and grading will be required to extend 10' beyond these dimensions for station grounding. Additional property and site prep may be required for proper grading and stormwater management, etc.
- 2. Approximately 1,290 linear ft of 5/8" chain link, 12 ft tall, perimeter fence around the station along with the security cameras and integrators as per design 4 fence standards
- 3. Three (3), 230 kV, 4000A, 63kAIC, SF-6 circuit breaker
- 4. Six (6), 230 kV, 4000A, 3-phase center break gang operated switch
- 5. Six (6), 230 kV, relay accuracy CCVT
- 6. Two (2), 230 kV, 4000A wave trap
- 7. Two (2), line tuner
- 8. Nine (9), 180 kV, 144 kV MCOV surge arrester
- 9. Two (2), 230 kV, 3000A, 2-phase center break switch (for PVT's)
- 10. Two (2), 230 kV, 100 KVA power PT's for station service
- 11. Two (2), 230 kV, 20 in-lb., 125VDC motor operator
- 12. One (1), 24' x 40' control enclosure

- 13. One (1), 125 VDC, 400 Ah station battery and 75 Amp charger (size to be verified during detail engineering)
- 14. Approximately 240 ft of cable trough with a 20 ft road crossing station
- 15. Two (2), 36" x 36" x 42" precast yard pull box
- 16. Station stone as required
- 17. Station lighting as required
- 18. Steel structures as required including switch stands, bus supports, station service transformers, CCVT and wave trap supports
- 19. Foundations as required including control house, equipment, and bus support stands
- 20. Conductors, connectors, conduits, control cables, cable trough, and grounding materials as per engineering standards.

## Option to Build, Stand Alone Network Upgrade Relay Protection Equipment - Project Developer:

- 1. Three (3), 1510 24" dual SEL-351-7 transmission breaker with reclosing panel
- 2. Three (3), 4510 SEL-2411 breaker annunciator
- 3. Two (2), 1340 24" dual SEL-411L DCB/PLC line panel
- 4. Two (2), 4506 3-phase CCVT potential make-up box
- 5. One (1), 1603 24" SEL-451 islanding control scheme panel
- 6. Two (2), 4000 station service potential make-up box
- 7. Two (2), 4548 non-earthing switch MOAB control box
- 8. Two (2), 4103 non-earthing switch MOAB AC/DC distribution box
- 9. Two (2), 4018 500A station service AC distribution panel
- 10. Two (2), 4007 225A outdoor transmission yard AC NQOD
- 11. Two (2), 4019 225A three phase throw over switch
- 12. Two (2), 4016 600A PVT disconnect switch
- 13. One (1), 4153c wall mount station battery monitor
- 14. One (1), 5618 SEL-3555 communications panel
- 15. One (1), 1255 Station annunciator panel
- 16. One (1), 5021 SEL-2411 RTU panel
- 17. One (1), 5609 fiber optic management panel
- 18. Three (3), 4526 A circuit breaker fiber optic make-up box
- 19. One (1), 5202 26" APP 601 digital fault recorder
- 20. Six (6), 4040 security fiber/power make-up box
- 21. One (1), 4051 power block

- 22. One (1), 4042 D1B security utility utility ATS
- 23. One (1), 4044 225A 1Ø outdoor main security AC NQOD
- 24. Two (2), 4040 100A 1Ø outdoor security AC NQOD
- 25. Two (2), 4018 225A station service AC distribution panel branch breaker

#### 3. NETWORK UPGRADES

The Network Upgrades will include, but not be limited to, the following:

#### Installation of fiber cable circuits

Finneywood substation is being built as part of project 992959, and construction will be completed before construction for AG1-098 substation will begin. Finneywood will be located less than 5 miles from AG1-098 and will require fiber communication. Approximately 1 mile of single DNO-11410 OPGW will be strung alongside the existing structures 235/278 (renamed to 2XX/278) - 235/284 (renamed to 2XX/284) on DOM poles within the same corridor to connect to the OPGW being installed to Finneywood for project 992959. Approximately 30 ft of underground OPGW will be installed from structure 2XX/285B to structure 2XX/285, and nine (9) OPGW splices will be installed on specified structures as well.

#### Transmission Line Tie-in for new interconnection substation:

Line 235, 230 kV, will be cut and looped into the new interconnection substation.

AG1-098 consists of a new substation cut in into existing 230 kV line 235 between Briery and Finneywood substation. Finneywood substation is being built as part of project 992959, and construction will be completed before construction for AG1-098 substation will begin. The existing portion of line 235 between Briery and AG1-098 will maintain the 235 numbering and the new and existing portions of line 235 from AG1-098 to Finneywood will be renumbered to 2XX. OPGW will also be strung alongside the existing structures 235/278 (renamed to 2XX/278) - 235/284 (renamed to 2XX/284) on DOM poles within the same corridor to connect to the OPGW being installed to Finneywood for project 992959. The OPGW will have demarcation points on the splice boxes on structures 2XX/277 and 2XX/285. Two (2) new engineered steel 3-pole structures, two (2) standard single circuit backbones, seven (7) DOM poles and two (2) standard static poles will be used. The new portions of line 235 and 2XX will be constructed with bundled (2) 768.2 ACSS/TW/HS "Maumee" conductor. The new portions of line 235 and 2XX will be shielded with two (2) DNO-11410 OPGW.

#### **Existing Facilities to be Removed:**

- 1. Remove approximately 110 ft of 3-phase 2-545 ACAR (15/7) halfway in between structures 235/278 and 235/279.
- 2. Remove approximately 110 ft of dual 3#6 Alumoweld halfway in between structures 235/278 and 235/279.

#### **Modification to Existing Facilities:**

1. Transfer dual 3#6 Alumoweld from existing structures 235/278 and 235/279 to new structures 235/277 and 2XX/278.

- 2. Transfer conductor between existing structures 235/278 and 235/279 to new structures 235/277 and 2XX/278.
- 3. Install an OPGW strain assembly and a pole band on structure 2XX/285.

#### Permanent Facilities to be Installed:

- 1. Install two (2) engineered 230 kV steel single circuit DDE 3-pole structures on foundations as follows:
  - a. Structures 235/277 and 2XX/278
- 2. Install two (2) standard 230 kV steel single circuit backbone structures on foundations as follows:
  - a. Structures 235/276 and 2XX/277
- 3. Install two (2) standard steel static pole structures on foundations as follows:
  - a. Structures 235/276A and 2XX/277A
- 4. Install one (1) steel static support DDE DOM Pole as follows:
  - a. Structure 2XX/285B
- 5. Install six (6) steel static support suspension DOM Poles as follows:
  - a. Structures 2XX/279B, 2XX/280B, 2XX/281B, 2XX/282B, 2XX/283B, 2XX/284B
- 6. Install approximately 0.06 miles of single circuit 3-phase 2-768.2 ACSS/TW/HS conductor as follows:
  - a. Install approximately 0.03 miles for line 2XX from new backbone 2XX/277 to new 3- pole 2XX/278.
  - b. Install approximately 0.03 miles for line 235 from new backbone 235/276 to new 3-pole 235/277.
- 7. Install approximately 1 mile of single DNO-11410 OPGW as follows:
  - a. Install approximately 0.1 miles for line 2XX from new backbone 2XX/277 to new 3-pole 2XX/278.
  - b. Install approximately 0.1 miles for line 235 from new backbone 235/276 to new 3-pole 235/277.
  - c. Install approximately 0.8 miles for line 2XX from 3-pole 2XX/278 on DOM poles to 2XX/285B.
- 8. Install approximately 0.12 miles of 7#7 Alumoweld for AG1-098 Substation from new backbone 235/276 through static poles 235/276A and 2XX/277A to new backbone 2XX/277.
- 9. Install approximately 30 ft of underground OPGW from structure 2XX/285B to structure 2XX/285.
- 10. Install nine (9) OPGW splices as follows:
  - a. One (1) on the southern mast of proposed structure 235/276.
  - b. One (1) on the northern mast of proposed structure 235/276.

- c. One (1) on the southern mast of proposed structure 2XX/277.
- d. One (1) on the northern mast of proposed structure 2XX/277.
- e. One (1) on the southern mast of proposed structure 2XX/278.
- f. One (1) on the northern mast of existing structure 2XX/284.
- g. One (1) on the southern mast of proposed structure 2XX/277.
- h. One (1) on the northern mast of proposed structure 2XX/277.
- i. One (1) on existing structure 2XX/284.

#### Upgrades to neighboring facilities:

#### Clover 230 kV Substation

Project AG1-098 provides for drawing work, islanding panel addition, relay resets, and field support necessary to change line 235 destination from Farmville to AG1-098 Generator Interconnect.

#### Purchase and install relay material:

1. One (1), 1603 – 24" SEL-451 islanding control scheme panel

#### Farmville 230 kV Substation

Project AG1-098 provides for drawing work, islanding panel addition, relay resets, and field support necessary to change line 235 destination from Clover to AG1-098 Generator Interconnect.

#### Purchase and install relay material:

1. One (1), 1603 – 24" SEL-451 islanding control scheme panel

#### 4. OTHER SCOPE OF WORK

The Project Developer will supply and own metering equipment that will provide instantaneous net MW and MVar per unit values in accordance with PJM Manuals M-01 and M-14D, and Sections 8.1 through 8.5 of Appendix 2 to the GIA.

If the Project Developer selects "Option to Build", the oversight required is as follows:

#### Option to Build, Stand Alone Network Physical Facilities & Oversight – Dominion:

- 1. All Physical Engineering related oversight and approvals of activities related to equipment procurement, design, construction, and energization of switching station
- 2. All Real Estate related oversight and approval of activities related to construction of switching station
- 3. All Permitting related oversight and approval of activities related to construction of switching station
- 4. All Survey related oversight and approval of activities related to construction of switching station

- 5. All Construction and Methods oversight and approval of activities related to construction and energization of switching station
- 6. All Project Management oversight activities related to construction and energization of switching station
- 7. Review and approve all riser conductor, connectors, spacers, and bolts related to connection of the switching station to the Bulk Electric Transmission System
- 8. Review and approve all material related to the integration of the security fence software package back to the Corporate Security Fusion Center

#### Option to Build, Stand Alone Network Upgrade Relay Protection Equipment – Dominion:

- 1. All Protection & Controls Engineering oversight and approval of activities related to equipment procurement, design, construction, and energization of switching station
- 2. All relay panel installation methods oversight and approval of activities related to construction and energization of switching station
- 3. All relay, communications, security settings related to the connection of the switching station to the Bulk Electric Transmission System
- 4. One (1), 5616 station security panel
- 5. One (1), 5616 station security fence panel
- 6. One (1), 5603 network panel no. 1
- 7. One (1), 5603 network panel no. 2
- 8. One (1), high voltage protection (HVP) box (Provided by IT) (to be verified during detail engineering)
- 9. One (1), telephone interface box (to be verified during detail engineering)

## Option to Build, Transmission Owner Interconnection Facilities; Physical Facilities & Oversight – Dominion:

- 1. All Physical Engineering related oversight and approvals of activities related to equipment procurement, design, construction, and energization of switching station
- 2. All Construction and Methods oversight and approval of activities related to construction and energization of switching station
- 3. All Project Management oversight activities related to construction and energization of switching station

## Option to Build, Transmission Owner Interconnection Facilities Relay Protection Equipment – Dominion:

- 1. All Protection & Controls Engineering oversight and approval of activities related to equipment procurement, design, construction, and energization of switching station
- 2. All relay panel installation methods oversight and approval of activities related to construction

- and energization of switching station
- 3. All relay, communications, security settings related to the connection of the switching station to the Bulk Electric Transmission System

#### 5. MILESTONE SCHEDULE FOR COMPLETION OF TO WORK

Facilities outlined in this report are estimated to take 49 months to construct, from the time the Generator Interconnection Agreement is fully executed. This schedule may be impacted by the timeline for procurement and installation of long lead items, the ability to obtain outages to construct and test the proposed facilities.

Description	Start	Finish
	month	month
Detailed Design	1	11
Permitting	3	39
Construction	36	49

#### 6. ASSUMPTIONS IN DEVELOPING SCOPE/COST/SCHEDULE

#### **General Assumptions:**

- The estimated procurement lead time for breakers is based on current Dominion pre-ordered breaker production slots. These production slots will be assigned after the agreement is executed.
- 2. The preliminary construction schedule is dependent on outage availability.

#### **TOIF/SANU Conceptual Design Notes:**

- 1. Security and fence type design level 4.
- 2. Currently, the scope and estimate assume DVP standard spread footer foundations. Once the soil information is available and it is prudent to change the design to "pile foundations" the DVP team should be informed to adjust the project estimate at the earliest possible opportunity.

#### **Network Upgrades Conceptual Design Notes:**

- 1. All new deadend engineered steel structures will be designed for full-construction deadend loading for construction conditions.
- 2. Existing wires were modeled based on the NERC tensions.

- 3. Crossing insulator assemblies will be used whenever crossing over substation fence.
- 4. A geotechnical evaluation will be required for all new structures to be installed during detailed engineering.
- This project has considered the completion of construction for project 992959,
   Finneywood Substation, to be completed before the start of construction for AG1-098. If
   the scope of work for project 992959 is modified, this scope will need to be revised as
   well.
- 6. This project accommodates for future reconductoring of line 235 with splices on new backbones 235/276 and 2XX/277.
- 7. Project area Code required loading include: NESC Medium (250B) but new structures to be designed for NESC Heavy, 90 mph wind (250C), and 3/4" Ice & 30 mph wind (250D).
- 8. For detailed engineering, a LiDAR survey is required. The conceptual design is based on 2012 LiDAR survey acquired for NERC and LiDAR acquired in 2022 for project 992842.
- 9. A right of way width of 120 ft is assumed however plan and profiles and map viewer extents provided varies up to 220 ft. Our design is assuming only 120 ft would be available.
- 10. A georeferenced substation location plan dated 12/8/2023 was utilized for this design.
- 11. Cross slopes are not accounted for in this conceptual design. Structures designed assuming a 1.5- ft foundation reveal at the center of any engineered structure on foundations.
- 12. A wetland delineation has not been completed as part of this conceptual package.
- 13. No FAA height limitations were factored into this conceptual design.

#### 7. REVENUE METERING REQUIREMENTS

All revenue metering needed for this interconnection project must meet the metering requirements stated in Appendix 2, section 8 of the AG1-098 GIA, and in PJM Manuals M01 and M14D. The details of applicable revenue metering requirements are given in section 4.1.6 Metering and Telecommunications of TO's Facility Interconnection Connection Requirement NERC Standard FAC-001 posted on PJM website.

The revenue metering will be installed on the Transmission Owner side of the Point of Change in Ownership will be installed, owned and maintained by Transmission Owner.

- a. Hourly compensated MWh received from the Generating Facility to the TO;
- b. Hourly compensated MVARh received from the Generating Facility to the TO;
- c. Hourly compensated MWh delivered from the TO to the Generating Facility; and
- d. Hourly compensated MVARh delivered from the TO to the Generating Facility.

The Project Developer will access revenue meter via wireless transceivers or fiber cabling to meter with RS-485 or Ethernet communication port for dial-up reads. Project Developer must provide revenue and real time data to PJM from Project Developer Market Operations Center per "PJM Telemetry Data Exchange Summary" document available at PJM.com.

#### 8. LAND REQUIREMENTS FOR INTERCONNECTION SUBSTATION

Land requirements for the Interconnection Substation needed for this interconnection project must meet the requirements in Dominion's Facility Interconnection Requirements, NERC Compliance Procedure FAC-001 (version 23), that is posted on PJM's website.

The Project Developer would be responsible for the following expectations in the area of Real Estate.

- The land required for Dominion's substation and project specific areas around must be deeded over title-in-fee.
- Any additional land needed for Storm Water Management, Landscaping, and Wetlands/Wetlands Mitigation.
- Dominion Real Estate and Counsel will provide standard real estate checklist word document. Process needs to start at least 6 months prior to closing date.
- Required subdivision plat and associated documentation to be reviewed prior to subdividing parcel with the county.
- Suitable Access Road from Substation to a Virginia/North Carolina State Maintained Roadway.
- Dominion will require access road, transmission line and utilities easement to the Substation.
- Any other Land/Permitting requirements required by the Substation.

#### 9. ENVIRONMENTAL AND PERMITING

The Project Developer would be responsible for the following expectations in the area of Environmental and Permitting.

 Assessment of environmental impacts related to the Interconnection Facility and/or Network Upgrades including:

**Environmental Impact Study requirements** 

**Environmental Permitting** 

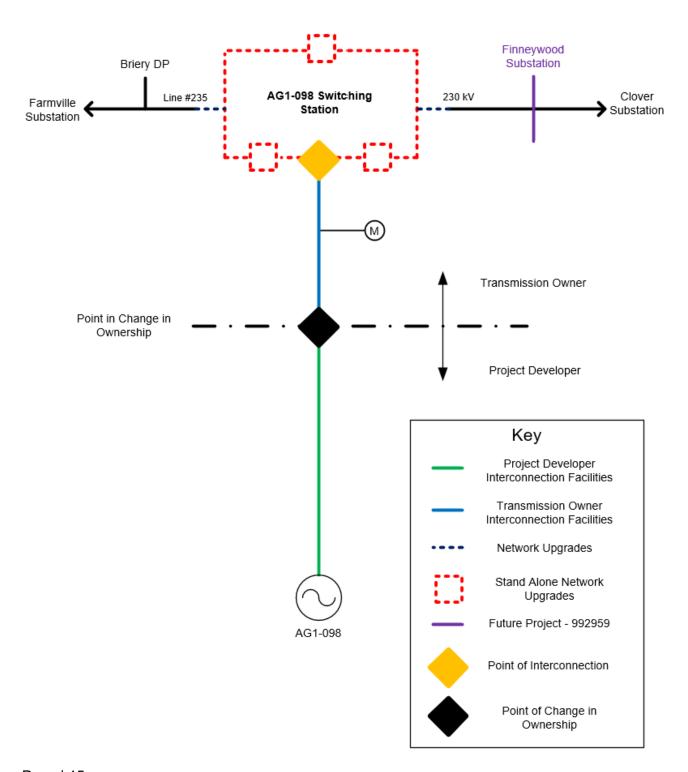
• Dominion will require a stormwater easement for substation specific stormwater design BMP's to allow access to and use of the facilities.

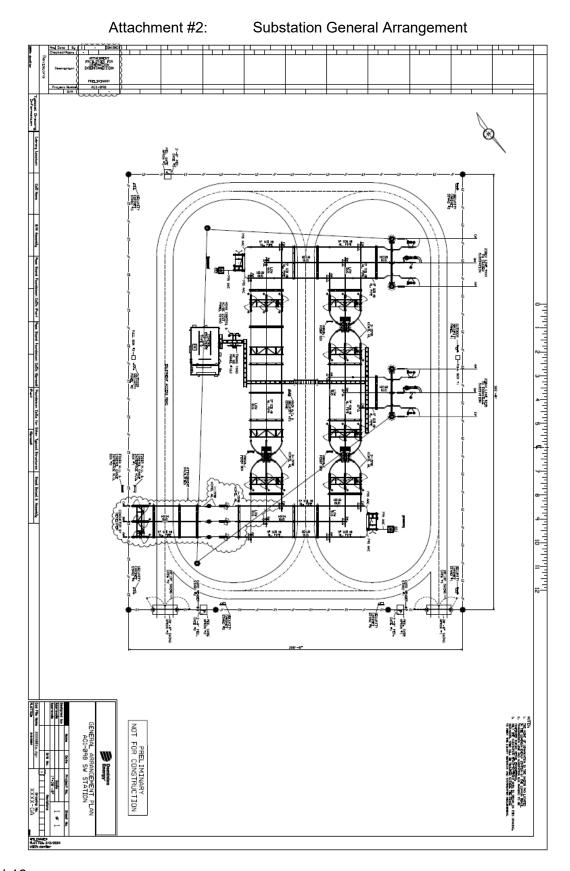
A maintenance agreement should be in place in perpetuity for said stormwater facilities.

- Conditional Use Permit for Substation
- Any additional land needed for Storm Water Management, Landscaping, and Wetlands/Wetlands Mitigation
- Any other Permitting requirements required by the Substation

#### C. APPENDICES

Attachment #1: Single line Diagram for the Physical Interconnection





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