Generation Interconnection

Feasibility Study Report

for

Queue Project AG1-466

ORANGE 34.5 KV

8.4 MW Capacity / 14 MW Energy

January 2021

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1 Introduction

This Feasibility Study has been prepared in accordance with the PJM Open Access Transmission Tariff, 36.2, as well as the Feasibility Study Agreement between the Interconnection Customer (IC), and PJM Interconnection, LLC (PJM), Transmission Provider (TP). The Interconnected Transmission Owner (ITO) is Dominion.

2 Preface

The intent of the feasibility study is to determine a plan, with ballpark cost and construction time estimates, to connect the subject generation to the PJM network at a location specified by the Interconnection Customer. The Interconnection Customer may request the interconnection of generation as a capacity resource or as an energy-only resource. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: (1) Direct Connections, which are new facilities and/or facilities upgrades needed to connect the generator to the PJM network, and (2) Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system.

In some instances a generator interconnection may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection, may also contribute to the need for the same network reinforcement. Cost allocation rules for network upgrades can be found in PJM Manual 14A, Attachment B. The possibility of sharing the reinforcement costs with other projects may be identified in the feasibility study, but the actual allocation will be deferred until the impact study is performed.

The Interconnection Customer seeking to interconnect a wind or solar generation facility shall maintain meteorological data facilities as well as provide that meteorological data which is required per Schedule H to the Interconnection Service Agreement and Section 8 of Manual 14D.

The Feasibility Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

3 General

The Interconnection Customer (IC), has proposed a Solar generating facility located in Orange County, Virginia. The installed facilities will have a total capability of 14 MW with 8.4 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is December 19, 2022. This study does not imply a TO commitment to this in-service date.

Queue Number	AG1-466
Project Name	ORANGE 34.5 KV
State	Virginia
County	Orange
Transmission Owner	Dominion
MFO	14
MWE	14
MWC	8.4
Fuel	Solar
Basecase Study Year	2024

Any new service customers who can feasibly be commercially operable prior to June 1st of the basecase study year are required to request interim deliverability analysis.

4 Point of Interconnection

AG1-466 will interconnect with the Dominion transmission system at the DoubleDay 115 kV substation.

5 Cost Summary

The AG1-466 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	$ To be provided in the two-party IA with ITO
Total System Network Upgrade Costs	$4,922,400[1]
Total Costs	$4,922,400

This cost excludes a Federal Income Tax Gross Up charges. This tax may or may not be charged based on whether this project meets the eligibility requirements of IRS Notice 2016-36, 2016-25 I.R.B. (6/20/2016). If at a future date it is determined that the Federal Income Tax Gross charge is required, the Transmission Owner shall be reimbursed by the Interconnection Customer for such taxes.

Cost allocations for any System Upgrades will be provided in the System Impact Study Report.

[1] This project currently causes and/or contributes to overloads of the Transmission System (see Summer Peak Load Flow Analysis section below) and therefore has potential to have cost allocation for the system reinforcements listed in the report. This will be re-evaluated in the System Impact phase. The results may vary with queue customers withdrawing from the queue and other generators deactivating over time. If a customer is the first to cause the need for a project (causes loading to exceed 100% of rating), then the customer is responsible. If a customer contributes to a facility that is already overloaded by a prior queue, then they may receive cost allocation.

6 Transmission Owner Scope of Work

Remote Terminal Work: During the Facilities Study, ITO's System Protection Engineering Department will review transmission line protection as well as anti-islanding required to accommodate the new generation and interconnection substation. System Protection Engineering will determine the minimal acceptable protection requirements to reliably interconnect the proposed generating facility with the transmission system. The review is based on maintaining system reliability by reviewing ITO's protection requirements with the known transmission system configuration which includes generating facilities in the area. This review may determine that transmission line protection and communication upgrades are required at remote substations.The total

7 Transmission Owner Analysis

Dominion assessed the impact of the proposed project for compliance with NERC Reliability Criteria on the Dominion Transmission System. The system was assessed using the summer 2024 AG1 case provided to Dominion by PJM.

When performing a generation analysis, Dominion's main analysis includes load flow study results following a single contingency event for both normal and stressed system conditions. Dominion Criteria considers a transmission facility overloaded if it exceeds 94% of its emergency rating under normal and stressed system conditions. A full listing of Dominion's Planning Criteria and interconnection requirements can be found in the Company's Facility Connection Requirements which are publicly available at: http://www.dominionenergy.com.

The results of these studies evaluate the system under a limited set of operating conditions and do not guarantee the full delivery of the capacity and associated energy of this proposed generation facility under all operating conditions. NERC Planning and Operating Reliability Criteria allow for the re-dispatch of generating units to resolve projected and actual deficiencies in real time and planning studies. Specifically, in Planning Studies, NERC Planning Event 3 and 6 Contingency Conditions (Loss of generator, transmission circuit, transformer, shunt device, or Single Pole of a DC line followed by the loss of a generator, transmission circuit, transformer, shunt device or single pole of a DC line) allow for re-dispatch of generating units to resolve potential reliability deficiencies. For Dominion Planning Criteria the re-dispatch of generating units for these contingency conditions is allowed as long as the projected loading does not exceed 100% of a facility Load Dump Rating.

7.1 Power Flow Analysis

PJM performed a power flow analysis of the transmission system using a 2024 summer peak load flow model and the results were verified by Dominion. Additionally, Dominion performed an analysis of its transmission system and no further deficiencies were identified.

8 Interconnection Customer Requirements

8.1 System Protection

The IC must design its Customer Facilities in accordance with all applicable standards, including the standards in Dominion's "Dominion Energy Electric Transmission Generator Interconnection Requirements" documented in Dominion's Facility Interconnection Requirements "Exhibit C" located at: https://www.dominionenergy.com/company/moving-energy/electric-transmission-access. Preliminary Protection requirements will be provided as part of the Facilities Study. Detailed Protection Requirements will be provided once the project enters the construction phase.

8.2 Compliance Issues and Interconnection Customer Requirements

The proposed Customer Facilities must be designed in accordance with Dominion's "Dominion's Facility Interconnection Requirements" document located at: https://www.dominionenergy.com/company/moving-energy/electric-transmission-access. In particular, the IC is responsible for the following:

1. The purchase and installation of a fully rated protection device (circuit breaker, circuit switcher, fuse) to protect the IC's GSU transformer(s).
2. The purchase and installation of the minimum required Dominion generation interconnection relaying and control facilities as described in the System Protection section noted above. This includes over/under voltage protection, over/under frequency protection, and zero sequence voltage protection relays.
3. The purchase and installation of supervisory control and data acquisition ("SCADA") equipment to provide information in a compatible format to the Dominion Transmission System Control Center.
4. Compliance with the Dominion and PJM generator power factor and voltage control requirements.

The GSU(s) associated with the IC queue request shall meet the grounding requirements as noted in Dominion's "Dominion's Facility Interconnection Requirements" document located at: https://www.dominionenergy.com/company/moving-energy/electric-transmission-access.

The IC will also be required to meet all PJM, SERC, and NERC reliability criteria and operating procedures for standards compliance. For example, the IC will need to properly locate and report the over and under voltage and over and under frequency system protection elements for its units as well as the submission of the generator model and protection data required to satisfy the PJM and SERC audits. Failure to comply with these requirements may result in a disconnection of service if the violation is found to compromise the reliability of the Dominion system.

8.3 Power Factor Requirements

The IC shall design its non-synchronous Customer Facility with the ability to maintain a power factor of at least 0.95 leading (absorbing VARs) to 0.95 lagging (supplying VARs) measured at the high-side of the facility substation transformer(s) connected to the Dominion transmission system.

9 Revenue Metering and SCADA Requirements

9.1 PJM Requirements

The Interconnection Customer will be required to install equipment necessary to provide Revenue Metering (KWH, KVARH) and real time data (KW, KVAR) for IC's generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Section 8 of Attachment O.

9.2 Meteorological Data Reporting Requirements

The solar generation facility shall provide the Transmission Provider with site-specific meteorological data including:

- Back Panel temperature (Fahrenheit) - (Required for plants with Maximum Facility Output of 3 MW or higher)
- Irradiance (Watts/meter^2) - (Required for plants with Maximum Facility Output of 3 MW or higher)
- Ambient air temperature (Fahrenheit) - (Accepted, not required)

- Wind speed (meters/second) - (Accepted, not required)
- Wind direction (decimal degrees from true north) - (Accepted, not required)

9.3 Interconnected Transmission Owner Requirements

The IC will be required to comply with all Interconnected Transmission Owner's revenue metering requirements for generation interconnection customers located at the following link:

http://www.pjm.com/planning/design-engineering/to-tech-standards/

10 Summer Peak - Load Flow Analysis

The Queue Project AG1-466 was evaluated as a 14.0 MW (Capacity 8.4 MW) injection at the DoubleDay 115 kV substation in the Dominion area. Project AG1-466 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-466 was studied with a commercial probability of 53.0 %. Potential network impacts were as follows:

10.1 Generation Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

None

10.2 Multiple Facility Contingency

(Double Circuit Tower Line, Fault with a Stuck Breaker, and Bus Fault contingencies for the full energy output)

None

10.3 Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
166990956	313703	3UNIONVILLE	115.0	DVP	314764	3LOCST G	115.0	DVP	1	DVP_P7-1: LN 2-2199-A	tower	235.0	100.19	101.58	DC	3.29
166990937	314761	3PINE GLADE	115.0	DVP	314778	3PAY TAP	115.0	DVP	1	DVP_P7-1: LN 2-2199-A	tower	260.0	113.73	115.0	DC	3.29
166990935	926000	AC1-076 TAP	115.0	DVP	314761	3PINE GLADE	115.0	DVP	1	DVP_P7-1: LN 2-2199-A	tower	260.0	113.73	115.0	DC	3.29

10.4 Potential Congestion due to Local Energy Deliverability

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which shall study all overload conditions associated with the overloaded element(s) identified.

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
168540597	313703	3UNIONVILLE	115.0	DVP	314764	3LOCST G	115.0	DVP	1	DVP_P1-2: LN 2-A	operation	191.759994507	102.38	103.91	DC	2.93
169474990	314761	3PINE GLADE	115.0	DVP	314778	3PAY TAP	115.0	DVP	1	DVP_P1-2: LN 2-A	operation	212.440002441	120.48	121.86	DC	2.93

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
169768908	926000	AC1-076 TAP	115.0	DVP	314761	3PINEGLADE	115.0	DVP	1	DVP_P1-2: LN2-A	operation	212.440002441	120.48	121.86	DC	2.93

10.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
166990956	1	3UNIONVILLE 115.0 kV - 3LOCST G 115.0 kV Ckt 1	DVP dom-261 (1137) : Reconductor 5.0 miles of 115 kV line 153 from Unionville to Locust Grove with 768.2 ACSS 250 C Project Type : FAC Cost : $3,000,000 Time Estimate : 30-36 Months	$3,000,000
166990937	2	3PINE GLADE 115.0 kV - 3PAY TAP 115.0 kV Ckt 1	DVP dom-367 (1243) : Reconductor 3.2 miles of 115 kV Line 153 from Pine Glade to Paytes Tap with 768.2 ACSS 250 C Project Type : FAC Cost : $1,920,000 Time Estimate : 30-36 Months	$1,920,000
166990935	3	AC1-076 TAP 115.0 kV - 3PINE GLADE 115.0 kV Ckt 1	DVP dom-385 (1261) : Reconductor 0.004 miles of 115 kV Line 153 from AC1-076 Tap to Pine Glade with 768.2 ACSS 250 C Project Type : FAC Cost : $2,400 Time Estimate : 30-36 Months	$2,400
			TOTAL COST	$4,922,400[1]

10.6 Flow Gate Details

The following indices contain additional information about each facility presented in the body of the report. For each index, a description of the flowgate and its contingency was included for convenience. The intent of the indices is to provide more details on which projects/generators have contributions to the flowgate in question. All New Service Queue Requests, through the end of the Queue under study, that are contributors to a flowgate will be listed in the indices. Please note that there may be contributors that are subsequently queued after the queue under study that are not listed in the indices. Although this information is not used "as is" for cost allocation purposes, it can be used to gage the impact of other projects/generators. It should be noted the project/generator MW contributions presented in the body of the report are Full MW Impact contributions which are also noted in the indices column named "Full MW Impact", whereas the loading percentages reported in the body of the report, take into consideration the PJM Generator Deliverability Test rules such as commercial probability of each project as well as the ramping impact of "Adder" contributions. The MW Impact found and used in the analysis is shown in the indices column named "Gendeliv MW Impact".

10.6.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
166990956	313703	3UNIONVILLE	DVP	314764	3LOCSTG	DVP	1	DVP_P7-1: LN 2-2199-A	tower	235.0	100.19	101.58	DC	3.29

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925671	**AC1-043 C (Suspended)**	**21.4027**	**50/50**	**21.4027**
925672	**AC1-043 E (Suspended)**	**34.9203**	**50/50**	**34.9203**
926001	AC1-076 C	-6.0433	Adder	-7.11
926481	AC1-120 C O1	22.3039	50/50	22.3039
926482	AC1-120 E O1	11.4899	50/50	11.4899
926501	AC1-121 C O1	7.6599	50/50	7.6599
926502	AC1-121 E O1	3.6047	50/50	3.6047
934861	AD1-115 C	10.7014	50/50	10.7014
934862	AD1-115 E	17.4601	50/50	17.4601
964282	AG1-289 BAT	14.9463	50/50	14.9463
965971	AG1-466 C	1.9726	50/50	1.9726
965972	AG1-466 E	1.3150	50/50	1.3150
965981	AG1-467 C	2.1980	50/50	2.1980
965982	AG1-467 E	1.4653	50/50	1.4653
966001	AG1-469 C	1.7130	50/50	1.7130
966002	AG1-469 E	1.1420	50/50	1.1420
966331	AG1-502 C	27.0350	50/50	27.0350
966332	AG1-502 E	18.0234	50/50	18.0234
966341	AG1-503 C	6.7588	50/50	6.7588
966342	AG1-503 E	4.5058	50/50	4.5058
966501	AG1-519 C	0.4750	Adder	1.05
966502	AG1-519 E	0.3166	Adder	0.7
WEC	WEC	0.0457	Confirmed LTF	0.0457
LGEE	LGEE	0.0986	Confirmed LTF	0.0986
CPLE	CPLE	0.1440	Confirmed LTF	0.1440
CBM-W2	CBM-W2	1.5411	Confirmed LTF	1.5411
NY	NY	0.1145	Confirmed LTF	0.1145
TVA	TVA	0.2674	Confirmed LTF	0.2674
O-066	O-066	1.6421	Confirmed LTF	1.6421
SIGE	SIGE	0.0421	Confirmed LTF	0.0421
CBM-S2	CBM-S2	2.2759	Confirmed LTF	2.2759
CBM-S1	CBM-S1	0.0703	Confirmed LTF	0.0703
G-007	G-007	0.2583	Confirmed LTF	0.2583
MEC	MEC	0.2463	Confirmed LTF	0.2463
LAGN	LAGN	0.3220	Confirmed LTF	0.3220
CBM-W1	CBM-W1	1.9207	Confirmed LTF	1.9207

10.6.2 Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
166990937	314761	3PINE GLADE	DVP	314778	3PAY TAP	DVP	1	DVP_P7-1: LN 2-2199-A	tower	260.0	113.73	115.0	DC	3.29

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925671	**AC1-043 C (Suspended)**	**21.4027**	**50/50**	**21.4027**
925672	**AC1-043 E (Suspended)**	**34.9203**	**50/50**	**34.9203**
926001	AC1-076 C	16.6902	50/50	16.6902
926002	AC1-076 E	27.1391	50/50	27.1391
926481	AC1-120 C O1	22.3039	50/50	22.3039
926482	AC1-120 E O1	11.4899	50/50	11.4899
926501	AC1-121 C O1	7.6599	50/50	7.6599
926502	AC1-121 E O1	3.6047	50/50	3.6047
934861	AD1-115 C	10.7014	50/50	10.7014
934862	AD1-115 E	17.4601	50/50	17.4601
941381	**AE2-134 (Suspended)**	**11.5008**	**50/50**	**11.5008**
964282	AG1-289 BAT	14.9463	50/50	14.9463
965971	AG1-466 C	1.9726	50/50	1.9726
965972	AG1-466 E	1.3150	50/50	1.3150
965981	AG1-467 C	2.1980	50/50	2.1980
965982	AG1-467 E	1.4653	50/50	1.4653
966001	AG1-469 C	1.7130	50/50	1.7130
966002	AG1-469 E	1.1420	50/50	1.1420
966331	AG1-502 C	27.0350	50/50	27.0350
966332	AG1-502 E	18.0234	50/50	18.0234
966341	AG1-503 C	6.7588	50/50	6.7588
966342	AG1-503 E	4.5058	50/50	4.5058
966501	AG1-519 C	0.4750	Adder	1.05
966502	AG1-519 E	0.3166	Adder	0.7
WEC	WEC	0.0457	Confirmed LTF	0.0457
LGEE	LGEE	0.0986	Confirmed LTF	0.0986
CPLE	CPLE	0.1440	Confirmed LTF	0.1440
CBM-W2	CBM-W2	1.5411	Confirmed LTF	1.5411
NY	NY	0.1145	Confirmed LTF	0.1145
TVA	TVA	0.2674	Confirmed LTF	0.2674
O-066	O-066	1.6421	Confirmed LTF	1.6421
SIGE	SIGE	0.0421	Confirmed LTF	0.0421
CBM-S2	CBM-S2	2.2759	Confirmed LTF	2.2759
CBM-S1	CBM-S1	0.0703	Confirmed LTF	0.0703
G-007	G-007	0.2583	Confirmed LTF	0.2583
MEC	MEC	0.2463	Confirmed LTF	0.2463
LAGN	LAGN	0.3220	Confirmed LTF	0.3220
CBM-W1	CBM-W1	1.9207	Confirmed LTF	1.9207

10.6.3 Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC|DC	MW IMPACT
166990935	926000	AC1-076 TAP	DVP	314761	3PINE GLADE	DVP	1	DVP_P7-1: LN 2-2199-A	tower	260.0	113.73	115.0	DC	3.29

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925671	**AC1-043 C (Suspended)**	**21.4027**	**50/50**	**21.4027**
925672	**AC1-043 E (Suspended)**	**34.9203**	**50/50**	**34.9203**
926001	AC1-076 C	16.6902	50/50	16.6902
926002	AC1-076 E	27.1391	50/50	27.1391
926481	AC1-120 C O1	22.3039	50/50	22.3039
926482	AC1-120 E O1	11.4899	50/50	11.4899
926501	AC1-121 C O1	7.6599	50/50	7.6599
926502	AC1-121 E O1	3.6047	50/50	3.6047
934861	AD1-115 C	10.7014	50/50	10.7014
934862	AD1-115 E	17.4601	50/50	17.4601
941381	**AE2-134 (Suspended)**	**11.5008**	**50/50**	**11.5008**
964282	AG1-289 BAT	14.9463	50/50	14.9463
965971	AG1-466 C	1.9726	50/50	1.9726
965972	AG1-466 E	1.3150	50/50	1.3150
965981	AG1-467 C	2.1980	50/50	2.1980
965982	AG1-467 E	1.4653	50/50	1.4653
966001	AG1-469 C	1.7130	50/50	1.7130
966002	AG1-469 E	1.1420	50/50	1.1420
966331	AG1-502 C	27.0350	50/50	27.0350
966332	AG1-502 E	18.0234	50/50	18.0234
966341	AG1-503 C	6.7588	50/50	6.7588
966342	AG1-503 E	4.5058	50/50	4.5058
966501	AG1-519 C	0.4750	Adder	1.05
966502	AG1-519 E	0.3166	Adder	0.7
WEC	WEC	0.0457	Confirmed LTF	0.0457
LGEE	LGEE	0.0986	Confirmed LTF	0.0986
CPLE	CPLE	0.1440	Confirmed LTF	0.1440
CBM-W2	CBM-W2	1.5411	Confirmed LTF	1.5411
NY	NY	0.1145	Confirmed LTF	0.1145
TVA	TVA	0.2674	Confirmed LTF	0.2674
O-066	O-066	1.6421	Confirmed LTF	1.6421
SIGE	SIGE	0.0421	Confirmed LTF	0.0421
CBM-S2	CBM-S2	2.2759	Confirmed LTF	2.2759
CBM-S1	CBM-S1	0.0703	Confirmed LTF	0.0703
G-007	G-007	0.2583	Confirmed LTF	0.2583
MEC	MEC	0.2463	Confirmed LTF	0.2463
LAGN	LAGN	0.3220	Confirmed LTF	0.3220
CBM-W1	CBM-W1	1.9207	Confirmed LTF	1.9207

10.7 Queue Dependencies

The Queue Projects below are listed in one or more indices for the overloads identified in your report. These projects contribute to the loading of the overloaded facilities identified in your report. The percent overload of a facility and cost allocation you may have towards a particular reinforcement could vary depending on the action of these earlier projects. The status of each project at the time of the analysis is presented in the table. This list may change as earlier projects withdraw or modify their requests.

Queue Number	Project Name	Status
AC1-043	Mountain Run-Mitchell 115 kV	Suspended
AC1-076	Locust Grove-Paytes 115kV	Engineering and Procurement
AC1-120	Mitchell-Mountain Run 115kV	Engineering and Procurement
AC1-121	Mitchell-Mountain Run 115kV	Engineering and Procurement
AD1-115	Mountain Run-Mitchell 115 kV	Active
AE2-134	Locust Grove-Paytes 115 kV	Suspended
AG1-289	Lake of the Woods DP-Wilderness DP 115 kV	Active
AG1-466	Orange 34.5 kV	Active
AG1-467	Somerset 34.5 kV	Active
AG1-469	Gordonsville 34.5 kV	Active
AG1-502	Oak Green 115 kV	Active
AG1-503	Oak Green 115 kV	Active
AG1-519	Cash's Corner 230 kV	Active

10.8 Contingency Descriptions

Contingency Name	Contingency Definition
DVP_P7-1: LN 2-2199-A	CONTINGENCY 'DVP_P7-1: LN 2-2199-A' /* . OPEN BRANCH FROM BUS 314345 TO BUS 925670 CKT 1 /* 3MT RUN 115.00 - AC1-043 TAP 115.00 OPEN BRANCH FROM BUS 313897 TO BUS 939220 CKT 1 /* 6LUCKYHILL 230.00 - AE1-153 TAP 230.00 OPEN BRANCH FROM BUS 314758 TO BUS 939220 CKT 1 /* 6GORDNVL 230.00 - AE1-153 TAP 230.00 OPEN BUS 939220 /* ISLAND: AE1-153 TAP 230.00 OPEN BUS 939221 /* ISLAND: AE1-153 MAIN230.00 OPEN BUS 939222 /* ISLAND: AE1-153 COL134.500 OPEN BUS 939223 /* ISLAND: AE1-153 COL234.500 OPEN BUS 939224 /* ISLAND: AE1-153 TER 13.800 OPEN BUS 939225 /* ISLAND: AE1-153 C 0.6300 OPEN BUS 939226 /* ISLAND: AE1-153 E 0.6300 END
DVP_P1-2: LN 2-A	CONTINGENCY 'DVP_P1-2: LN 2-A' OPEN BRANCH FROM BUS 314345 TO BUS 925670 CKT 1 /* 3MT RUN 115.00 - AC1-043 TAP 115.00 END

11 Short Circuit Analysis

The following Breakers are overdutied:

None

12 Affected Systems

12.1 TVA

TVA Impacts to be determined during later study phases (as applicable).

12.2 Duke Energy Progress

Duke Energy Progress Impacts to be determined during later study phases (as applicable).

13 Attachment 1: One Line Diagram