Generation Interconnection

Feasibility Study Report

for

Queue Project AF2-299

FIELDS 34.5 KV

15 MW Capacity / 25 MW Energy

July 2020

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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 Greensville County, Virginia. The installed facilities will have a total capability of 25 MW with 15 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is December 12, 2022. This study does not imply a TO commitment to this in-service date.

Queue Number	AF2-299
Project Name	FIELDS 34.5 KV
State	Virginia
County	Greensville
Transmission Owner	Dominion
MFO	25
MWE	25
MWC	15
Fuel	Solar
Basecase Study Year	2023

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

AF2-299 will interconnect with the Dominion distribution system. The POI is a direct connection to an existing Fields 34.5 kV substation in the Dominion area. This is the primary Point of Interconnection (POI) chosen by the IC with the ITO's transmission system. The IC is responsible for securing right-of-way, permits and constructing the proposed attachment line from the solar facility site to the proposed new substation. Attachment 1 shows a one-line diagram of the proposed interconnection facilities. The IC may not install any facilities on Dominion's right-of-way without first obtaining the necessary approval from Dominion Energy.

There is no secondary point of interconnection specified for AF2-299.

5 Cost Summary

The costs associated with interconnecting the AF2-299 project to the Dominion distribution system will be documented in the two-party Interconnection Agreement between the IC and ITO.

The AF2-299 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	$ To be provided in two-party IA with ITO
Total System Network Upgrade Costs	$ 661,659,000
Total Costs	**$ 661,659,000**

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 88-129. 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.

6 Transmission Owner Scope of Work

Dominion assessed the impact of the proposed Queue Project AF2-244 was evaluated as a 15 MW Capacity (25.0 MW Energy) injection at the Fields 115 kV substation in the Dominion Distribution System, for compliance with NERC Reliability Criteria on Dominion Transmission System. The system was assessed using the summer 2023 AF2 case provided to Dominion by PJM. When performing a generation analysis, Dominion's main analysis will be load flow study results under single contingency (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 Schedule

The schedule for the required Network Impact Reinforcements will be more clearly identified in future study phases. The estimate elapsed time to complete each of the required reinforcements is identified in the "System Reinforcements" section of the report.

8 Transmission Owner Analysis

8.1 Power Flow Analysis

PJM performed a power flow analysis of the transmission system using a 2023 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.

9 Interconnection Customer Requirements

9.1 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.

9.2 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 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.

9.3 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.

10 Revenue Metering and SCADA Requirements

10.1 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.

10.1.1 Meteorological Data Reporting Requirements

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

- Back Panel temperature (Fahrenheit)
- Irradiance (Watts/meter2)
- Ambient air temperature (Fahrenheit) – (Accepted, not required)
- Wind speed (meters/second) – (Accepted, not required)
- Wind direction (decimal degrees from true north) – (Accepted, not required)

10.2 Interconnected Transmission Owner Requirements

See Section 3.4.6 “Metering and telecommunications” of Dominion’s “Dominion’s Facility Interconnection Requirements” document located at: https://www.dominionenergy.com/company/moving-energy/electric-transmission-access.

11 Summer Peak - Load Flow Analysis

The Queue Project AF2-299 was evaluated as a 25.0 MW (Capacity 15.0 MW) injection at the Fields 115 kV substation in the Dominion area. Project AF2-299 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-299 was studied with a commercial probability of 53%. Potential network impacts were as follows:

11.1 Generation Deliverability

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

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
97452693	313854	3CONSLDL	115.0	DVP	314554	3BTLEBRO	115.0	DVP	1	DVP_P1-2: LN 239	single	165.440002441	99.99	100.52	DC	0.87

11.2 Multiple Facility Contingency

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

None

11.3 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
97802860	314299	6HARROWG	230.0	DVP	314263	6TYLER1	230.0	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	137.02	138.14	DC	6.06
97802855	314331	6POE	230.0	DVP	314299	6HARROWG	230.0	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	137.04	138.16	DC	6.06
98087080	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	DVP_P1-2: LN 2056-A	single	678.679992676	110.53	111.54	DC	6.84
98087081	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	DVP_P1-2: LN 2012-B	single	678.679992676	109.43	110.19	DC	6.79
96974116	314554	3BTLEBRO	115.0	DVP	304223	3ROCKYMT1 15T	115.0	CPLE	1	DVP_P7-1: LN 2058-2181	tower	93.0	521.72	522.61	DC	1.84
97802815	314583	6LAKEVEW	230.0	DVP	314561	6CAROLNA	230.0	DVP	1	DVP_P4-2: 23872	breaker	459.0	160.51	161.77	DC	5.83
97803005	924510	AB2-100 TAP	230.0	DVP	314583	6LAKEVEW	230.0	DVP	1	DVP_P4-2: 23872	breaker	459.0	111.07	113.76	DC	12.34
97803006	924510	AB2-100 TAP	230.0	DVP	314583	6LAKEVEW	230.0	DVP	1	DVP_P4-2: 238T2002	breaker	459.0	111.04	113.74	DC	12.34
97802909	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P4-2: 201262	breaker	830.0	127.53	128.91	DC	11.39
97802910	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P4-2: 2012T2014	breaker	830.0	126.28	127.65	DC	11.33
98087202	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P1-2: LN 2056-A	single	678.679992676	112.8	113.81	DC	6.84
98087203	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P1-2: LN 2012-B	single	678.679992676	111.69	112.45	DC	6.8

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
98578195	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P7-1: LN 2058-2181	tower	830.0	131.83	133.15	DC	10.83
98578196	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P7-1: LN 56-2012-B	tower	830.0	129.32	130.75	DC	11.75

11.4 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
98087493	314266	6NORTHAMPTON	230.0	DVP	936400	AD2-051 TAP	230.0	DVP	1	3144356SAPONY 230 940480 AE2-033 TAP 230 1	operation	571.520019531	119.53	120.67	DC	6.43
98087073	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	DVP_P1-2: LN 246	operation	678.679992676	183.68	185.29	DC	10.84
98087078	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	Base Case	operation	678.679992676	145.24	146.78	DC	10.35
98087451	314561	6CAROLNA	230.0	DVP	314599	6ROA VAL	230.0	DVP	1	3144356SAPONY 230 940480 AE2-033 TAP 230 1	operation	548.020019531	125.06	126.24	DC	6.43
98087123	314563	6CLUBHSE	230.0	DVP	940480	AE2-033 TAP	230.0	DVP	1	DVP_P1-2: LN 246	operation	678.679992676	164.68	166.28	DC	10.84
98087128	314563	6CLUBHSE	230.0	DVP	940480	AE2-033 TAP	230.0	DVP	1	Base Case	operation	678.679992676	127.79	129.33	DC	10.35
98087513	314563	6CLUBHSE	230.0	DVP	924510	AB2-100 TAP	230.0	DVP	1	3144356SAPONY 230 940480 AE2-033 TAP 230 1	operation	375.059997559	115.14	118.44	DC	12.35

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
98087514	314563	6CLUBHSE	230.0	DVP	924510	AB2-100 TAP	230.0	DVP	1	DVP_P1-2: LN 238-A	operation	375.059997559	115.14	118.44	DC	12.35
98087355	314579	6HORNRTN	230.0	DVP	934330	AD1-057 TAP	230.0	DVP	1	DVP_P1-2: LN 238-A	operation	441.799987793	135.39	136.85	DC	6.46
98087469	314583	6LAKEVEW	230.0	DVP	314579	6HORNRTN	230.0	DVP	1	DVP_P1-2: LN 238-A	operation	441.799987793	118.05	119.52	DC	6.49
98087457	314599	6ROA VAL	230.0	DVP	314266	6NORTHAMPTON	230.0	DVP	1	3144356SAPONY 230 940480 AE2-033 TAP 230 1	operation	548.020019531	125.02	126.21	DC	6.43
98087352	924510	AB2-100 TAP	230.0	DVP	314583	6LAKEVEW	230.0	DVP	1	3144356SAPONY 230 940480 AE2-033 TAP 230 1	operation	375.059997559	135.9	139.19	DC	12.34
98087353	924510	AB2-100 TAP	230.0	DVP	314583	6LAKEVEW	230.0	DVP	1	DVP_P1-2: LN 238-A	operation	375.059997559	135.9	139.19	DC	12.34
98087239	934330	AD1-057 TAP	230.0	DVP	313845	6HATHAWAY	230.0	DVP	1	DVP_P1-2: LN 238-A	operation	441.799987793	148.3	149.77	DC	6.46
98087423	936400	AD2-051 TAP	230.0	DVP	314569	6EARLEYS	230.0	DVP	1	3144356SAPONY 230 940480 AE2-033 TAP 230 1	operation	571.520019531	129.21	130.34	DC	6.43
98087196	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P1-2: LN 2012-B	operation	678.679992676	153.18	154.86	DC	11.33
98087201	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	Base Case	operation	678.679992676	146.84	148.38	DC	10.35

11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
97802855	3	6POE 230.0 kV - 6HARROWG 230.0 kV Ckt 1	DVP dom-037 (1103) : Rebuild 12.3 miles of 230 kV Line 2003 from Poe to Harrowgate with 2-636 ACSR. Project Type : FAC Cost : $30,750,000 Time Estimate : 30-36 Months	$30,750,000
97803005,97803006	7	AB2-100 TAP 230.0 kV - 6LAKEVEW 230.0 kV Ckt 1	DVP dom-049 (1115) : Rebuild 16.0 miles of 230 kV Line 254 from AB2-100 Tap to Lakeview with 2-636 ACSR. Project Type : FAC Cost : $24,000,000 Time Estimate : 30-36 Months	$24,000,000
97802910,98087202,98087203,97802909,98578195,98578196	8	AE2-033 TAP 230.0 kV - 6SAPONY 230.0 kV Ckt 1	DVP dom-050 (1116) : Rebuild 2.47 miles of 230 kV Line 238 from AE2-033 TAP to Sapony with 2-795 150C ACSR. Project Type : FAC Cost : $3,705,000 Time Estimate : 30-36 Months	$3,705,000
97452693	1	3CONSLDL 115.0 kV - 3BTLEBRO 115.0 kV Ckt 1	DVP dom-201 (1313) : Reconductor 3.98 miles of 115 kV Line 27 from Consolidated DSL to Battleboro with 636 ACSR. Project Type : FAC Cost : $2,388,000 Time Estimate : 30-36 Months	$2,388,000
97802815	6	6LAKEVEW 230.0 kV - 6CAROLNA 230.0 kV Ckt 1	DVP dom-061 (1127) : Rebuild 1.37 miles of 230 kV Line 2141 from Lakeview to Carolina with 2-636 ACSR. Project Type : FAC Cost : $1,781,000 Time Estimate : 30-36 Months	$1,781,000
98087080,98087081	4	6SAPONY 230.0 kV - 6CARSON 230.0 kV Ckt 1	DVP dom-051 (1117) : Rebuild 11.79 miles of 230 kV Line 238 from Sapony to Carson with 2-795 150C ACSR. Project Type : FAC Cost : $17,685,000 Time Estimate : 30-36 Months	$17,685,000

ID	Idx	Facility	Upgrade Description	Cost
96974116	5	3BTLEBRO 115.0 kV - 3ROCKYMT115T 115.0 kV Ckt 1	**CPLE** **NonPJMArea (923) : The external (i.e. Non-PJM) Transmission Owner, CPLE, will not evaluate this violation until the impact study phase.** **Project Type : FAC** **Cost : $0** **Time Estimate : N/A Months** **DVP** **dom-007 (1073) : Build new 500 kV line between Everetts and Suffolk.** **Project Type : CON** **Cost : $570,000,000** **Time Estimate : 48-60 Months** **n6118 (1258) : Upgrading the breaker leads at DVPs terminal will bring the rating to 239/239/239 MVA (Limited by terminal equipment at Rocky Mount) Approximately $0.1 Million** **Project Type : FAC** **Cost : $100,000** **Time Estimate : 18 Months**	$570,100,000
97802860	2	6HARROWG 230.0 kV - 6TYLER1 230.0 kV Ckt 1	**DVP** **dom-036 (1102) : Rebuild 4.5 miles of 230 kV Line 2003 from Harrowgate to Tyler with 2-636 ACSR.** **Project Type : FAC** **Cost : $11,250,000** **Time Estimate : 30-36 Months**	$11,250,000
			TOTAL COST	**$661,659,000**

11.6 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".

11.6.1 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
97452693	313854	3CONSLDL	DVP	314554	3BTLEBRO	DVP	1	DVP_P1-2: LN 239	single	165.44	99.99	100.52	DC	0.87

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.0280	80/20	0.0280
314582	3KELFORD	0.5210	80/20	0.5210
314589	3MURPHYS	0.0430	80/20	0.0430
314623	3WITAKRS	1.0378	80/20	1.0378
315115	1S HAMPT1	0.5249	80/20	0.5249
315126	1ROARAP2	0.9731	80/20	0.9731
315128	1ROARAP4	0.9286	80/20	0.9286
315139	1GASTONA	1.1147	80/20	1.1147
315141	1GASTONB	1.1147	80/20	1.1147
315606	3AA2-053SOLA	0.9631	80/20	0.9631
315607	3AA1-063SOLA	0.8574	80/20	0.8574
315608	3AA2-088SOLA	0.4771	80/20	0.4771
315612	3AA2-057SOLA	4.6707	80/20	4.6707
920591	AA2-165 C	0.5538	80/20	0.5538
920671	AA2-174 C OP	0.0441	80/20	0.0441
922922	AB1-081 C OP	-7.5175	Adder	-8.84
923262	**AB1-132 C OP (Suspended)**	**4.9350**	**80/20**	**4.9350**
923572	AB1-173 C OP	1.1059	80/20	1.1059
923582	AB1-173AC OP	1.1059	80/20	1.1059
923801	AB2-015 C OP	2.6470	80/20	2.6470
923911	AB2-031 C O1	1.0977	80/20	1.0977
923991	AB2-040 C O1	3.6045	80/20	3.6045
924501	**AB2-099 C (Suspended)**	**0.2796**	**80/20**	**0.2796**
925171	AB2-174 C O1	0.5463	80/20	0.5463
925781	AC1-054 C O1	2.5383	80/20	2.5383
926071	AC1-086 C	7.2674	80/20	7.2674
926201	AC1-098 C	14.0789	80/20	14.0789
926211	AC1-099 C	4.7179	80/20	4.7179
927141	AC1-208 C	22.9539	80/20	22.9539
932631	AC2-084 C	20.0700	80/20	20.0700
941541	AE2-151 C	0.5252	80/20	0.5252
943171	AE2-346 C	0.6711	80/20	0.6711
946281	AF1-292 C	0.5181	80/20	0.5181
957521	AF2-046 C	7.7465	80/20	7.7465
959731	AF2-264 C	1.0562	80/20	1.0562
960081	AF2-299 C	0.8732	80/20	0.8732
960831	AF2-374 C	0.6792	80/20	0.6792
961091	AF2-400 C	0.1429	80/20	0.1429
NEWTON	NEWTON	0.5104	Confirmed LTF	0.5104
FARMERCITY	FARMERCITY	0.0294	Confirmed LTF	0.0294
G-007A	G-007A	0.3093	Confirmed LTF	0.3093

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
VFT	VFT	0.8256	Confirmed LTF	0.8256
CALDERWOOD	CALDERWOOD	0.4105	Confirmed LTF	0.4105
PRAIRIE	PRAIRIE	1.3845	Confirmed LTF	1.3845
CHEOAH	CHEOAH	0.4214	Confirmed LTF	0.4214
EDWARDS	EDWARDS	0.1536	Confirmed LTF	0.1536
TILTON	TILTON	0.2715	Confirmed LTF	0.2715
GIBSON	GIBSON	0.2457	Confirmed LTF	0.2457
BLUEG	BLUEG	0.7569	Confirmed LTF	0.7569
TRIMBLE	TRIMBLE	0.2399	Confirmed LTF	0.2399
CATAWBA	CATAWBA	0.4452	Confirmed LTF	0.4452

11.6.2 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
97802860	314299	6HARROWG	DVP	314263	6TYLER1	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	137.02	138.14	DC	6.06

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314435	6SAPONY	0.9991	50/50	0.9991
314539	3UNCAMP	1.0317	Adder	1.21
314541	3WATKINS	0.3195	Adder	0.38
314572	3EMPORIA	0.0998	50/50	0.0998
314704	3LAWRENC	0.3711	50/50	0.3711
315131	**1EDGECMA (Deactivation : 22/04/2019)**	**4.8777**	**Adder**	**5.74**
315132	**1EDGECMB (Deactivation : 22/04/2019)**	**4.8777**	**Adder**	**5.74**
315136	1ROSEMG1	2.3684	50/50	2.3684
315137	1ROSEMS1	1.4687	50/50	1.4687
315138	1ROSEMG2	1.1100	50/50	1.1100
315139	1GASTONA	3.6125	50/50	3.6125
315141	1GASTONB	3.6125	50/50	3.6125
315294	1DOMTR10	4.0021	Adder	4.71
900672	V4-068 E	0.1643	Adder	0.19
907092	X1-038 E	2.5793	Adder	3.03
917332	Z2-043 E	0.6384	Adder	0.75
917342	Z2-044 E	0.3171	Adder	0.37
917512	Z2-088 E OP1	1.8525	Adder	2.18
918492	AA1-063AE OP	2.8026	Adder	3.3
918512	AA1-065 E OP	1.9029	Adder	2.24
918532	AA1-067 E	0.3158	Adder	0.37
919692	AA2-053 E OP	2.7695	Adder	3.26
919702	AA2-057 E OP	1.9657	Adder	2.31
920042	AA2-088 E OP	5.7728	Adder	6.79
920592	AA2-165 E	0.2702	Adder	0.32
920672	AA2-174 E OP	0.3200	Adder	0.38
922922	AB1-081 C OP	4.6600	Adder	5.48
922923	AB1-081 E OP	1.9972	Adder	2.35
923262	**AB1-132 C OP (Suspended)**	**15.9928**	**50/50**	**15.9928**
923263	**AB1-132 E OP (Suspended)**	**6.8540**	**50/50**	**6.8540**
923572	AB1-173 C OP	2.7475	50/50	2.7475
923573	AB1-173 E OP	1.2822	50/50	1.2822
923582	AB1-173AC OP	2.7475	50/50	2.7475
923583	AB1-173AE OP	1.2822	50/50	1.2822
923801	AB2-015 C OP	3.8649	Adder	4.55
923802	AB2-015 E OP	3.1693	Adder	3.73
923852	AB2-025 E	2.6023	50/50	2.6023
923911	AB2-031 C O1	2.7272	50/50	2.7272

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923912	AB2-031 E O1	1.3432	50/50	1.3432
923991	AB2-040 C O1	8.9549	50/50	8.9549
923992	AB2-040 E O1	7.3267	50/50	7.3267
924022	AB2-043 E O1	1.1913	Adder	1.4
924152	AB2-059 E OP	2.8293	Adder	3.33
924162	AB2-060 E OP	1.7804	Adder	2.09
924301	**AB2-077 C O1 (Suspended)**	**0.8369**	**Adder**	**0.98**
924302	**AB2-077 E O1 (Suspended)**	**0.5579**	**Adder**	**0.66**
924311	**AB2-078 C O1 (Suspended)**	**0.8369**	**Adder**	**0.98**
924312	**AB2-078 E O1 (Suspended)**	**0.5579**	**Adder**	**0.66**
924321	**AB2-079 C O1 (Suspended)**	**0.8369**	**Adder**	**0.98**
924322	**AB2-079 E O1 (Suspended)**	**0.5579**	**Adder**	**0.66**
924501	**AB2-099 C (Suspended)**	**0.3109**	**Adder**	**0.37**
924502	**AB2-099 E (Suspended)**	**0.1332**	**Adder**	**0.16**
924511	AB2-100 C	3.4439	50/50	3.4439
924512	AB2-100 E	9.8337	50/50	9.8337
925061	**AB2-161 C O1 (Suspended)**	**3.3322**	**50/50**	**3.3322**
925062	**AB2-161 E O1 (Suspended)**	**5.4368**	**50/50**	**5.4368**
925122	AB2-169 E	2.2556	Adder	2.65
925171	AB2-174 C O1	1.5519	50/50	1.5519
925172	AB2-174 E O1	8.1400	50/50	8.1400
925591	AC1-034 C	3.5574	Adder	4.19
925592	AC1-034 E	2.6837	Adder	3.16
925781	AC1-054 C O1	4.0091	Adder	4.72
925782	AC1-054 E O1	1.8469	Adder	2.17
926071	AC1-086 C	23.5512	50/50	23.5512
926072	AC1-086 E	10.7190	50/50	10.7190
926201	AC1-098 C	3.6712	Adder	4.32
926202	AC1-098 E	2.1871	Adder	2.57
926211	AC1-099 C	1.2303	Adder	1.45
926212	AC1-099 E	0.7225	Adder	0.85
927021	AC1-189 C	4.0002	Adder	4.71
927022	AC1-189 E	1.9926	Adder	2.34
927141	AC1-208 C	5.7384	Adder	6.75
927142	AC1-208 E	2.5481	Adder	3.0
932581	AC2-078 C O1	6.5573	50/50	6.5573
932582	AC2-078 E O1	10.6987	50/50	10.6987
932591	AC2-079 C O1	3.4283	Adder	4.03
932592	AC2-079 E O1	5.5936	Adder	6.58
932631	AC2-084 C	5.2335	Adder	6.16
932632	AC2-084 E	2.5777	Adder	3.03
933991	AD1-023 C	5.0135	Adder	5.9
933992	AD1-023 E	2.7293	Adder	3.21
934331	AD1-057 C O1	7.2541	Adder	8.53
934332	AD1-057 E O1	3.8696	Adder	4.55

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934521	AD1-076 C	19.0190	Adder	22.38
934522	AD1-076 E	9.6844	Adder	11.39
934571	AD1-082 C	7.5940	50/50	7.5940
934572	AD1-082 E	4.3319	50/50	4.3319
936261	AD2-033 C	4.5356	Adder	5.34
936262	AD2-033 E	3.0237	Adder	3.56
936361	AD2-046 C O1	4.1377	Adder	4.87
936362	AD2-046 E O1	1.9027	Adder	2.24
936401	AD2-051 C O1	4.2709	Adder	5.02
936402	AD2-051 E O1	1.8339	Adder	2.16
936481	AD2-063 C O1	5.8224	Adder	6.85
936482	AD2-063 E O1	3.8493	Adder	4.53
936661	AD2-085 C	2.0955	Adder	2.47
936662	AD2-085 E	3.4190	Adder	4.02
938171	AE1-026 C O1	12.8244	Adder	15.09
938172	AE1-026 E O1	3.3834	Adder	3.98
938221	AE1-035 C	1.0625	Adder	1.25
938222	AE1-035 E	0.5233	Adder	0.62
938631	AE1-085 C O1	13.5690	50/50	13.5690
938632	AE1-085 E O1	6.7845	50/50	6.7845
938771	AE1-103 C O1	1.5476	Adder	1.82
938772	AE1-103 E O1	2.1372	Adder	2.51
939181	AE1-148 C O1	4.0631	Adder	4.78
939182	AE1-148 E O1	2.7087	Adder	3.19
939191	AE1-149 C O1	18.4740	50/50	18.4740
939192	AE1-149 E O1	12.3160	50/50	12.3160
940061	AE2-000BC O1	15.7842	50/50	15.7842
940062	AE2-000BE O1	10.5228	50/50	10.5228
940481	AE2-033 C	35.9338	50/50	35.9338
940482	AE2-033 E	24.2250	50/50	24.2250
940571	AE2-044 C	2.3300	Adder	2.74
940572	AE2-044 E	0.9986	Adder	1.17
940651	AE2-052	6.1580	50/50	6.1580
940661	AE2-053 O1	1.5048	Adder	1.77
941541	AE2-151 C	0.5688	Adder	0.67
941542	AE2-151 E	0.3063	Adder	0.36
942341	AE2-247 C	0.9153	Adder	1.08
942342	AE2-247 E	1.2640	Adder	1.49
942451	AE2-258	0.9939	Adder	1.17
942471	AE2-260 C O1	25.7561	50/50	25.7561
942472	AE2-260 E O1	36.5319	50/50	36.5319
943171	AE2-346 C	0.7461	Adder	0.88
943172	AE2-346 E	0.3198	Adder	0.38
943461	AF1-017 C	0.8281	Adder	0.97
943462	AF1-017 E	1.3511	Adder	1.59
943911	AF1-059	15.4300	50/50	15.4300
944141	AF1-082	1.4979	Adder	1.76
946011	AF1-266	30.0794	50/50	30.0794
946281	AF1-292 C	2.1575	50/50	2.1575
946282	AF1-292 E	1.4545	50/50	1.4545
957521	AF2-046 C	4.8701	Adder	10.81
957522	AF2-046 E	2.4497	Adder	5.44

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957861	AF2-080 C	1.9256	Adder	4.27
957862	AF2-080 E	0.8536	Adder	1.89
958142	AF2-108 BAT	0.3276	Merchant Transmission	0.3276
959231	AF2-214 C	2.6683	Adder	5.92
959232	AF2-214 E	4.0002	Adder	8.88
959511	AF2-242	1.6932	Adder	3.76
959731	AF2-264 C	0.6416	Adder	1.42
959732	AF2-264 E	0.3160	Adder	0.7
960081	AF2-299 C	3.6363	50/50	3.6363
960082	AF2-299 E	2.4242	50/50	2.4242
960122	AF2-303 E O1	3.3429	Adder	7.42
960331	AF2-324 C O1	2.1751	Adder	4.83
960332	AF2-324 E O1	1.1678	Adder	2.59
960351	AF2-326 C	0.7035	Adder	1.56
960352	AF2-326 E	0.1759	Adder	0.39
960361	AF2-327 C	3.2912	50/50	3.2912
960362	AF2-327 E	0.8228	50/50	0.8228
960811	AF2-372 C	0.2802	Adder	0.62
960812	AF2-372 E	0.4572	Adder	1.01
960831	AF2-374 C	0.4002	Adder	0.89
960832	AF2-374 E	0.6530	Adder	1.45
961091	AF2-400 C	0.1106	Adder	0.25
961092	AF2-400 E	0.1815	Adder	0.4
961111	AF2-402 C O1	1.0328	50/50	1.0328
961112	AF2-402 E O1	1.6885	50/50	1.6885
WEC	WEC	0.2063	Confirmed LTF	0.2063
LGEE	LGEE	0.3879	Confirmed LTF	0.3879
CPLE	CPLE	2.3563	Confirmed LTF	2.3563
CBM-W2	CBM-W2	8.2801	Confirmed LTF	8.2801
NY	NY	0.2732	Confirmed LTF	0.2732
CBM-W1	CBM-W1	7.7062	Confirmed LTF	7.7062
TVA	TVA	1.7374	Confirmed LTF	1.7374
O-066	O-066	3.8909	Confirmed LTF	3.8909
CBM-S2	CBM-S2	15.0511	Confirmed LTF	15.0511
CBM-S1	CBM-S1	9.6872	Confirmed LTF	9.6872
G-007	G-007	0.6074	Confirmed LTF	0.6074
MADISON	MADISON	0.4879	Confirmed LTF	0.4879
MEC	MEC	1.2490	Confirmed LTF	1.2490
AA2-074	AA2-074	1.6056	LTF	1.6056

11.6.3 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
97802855	314331	6POE	DVP	314299	6HARROWG	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	137.04	138.16	DC	6.06

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314435	6SAPONY	0.9991	50/50	0.9991
314539	3UNCAMP	1.0317	Adder	1.21
314541	3WATKINS	0.3195	Adder	0.38
314572	3EMPORIA	0.0998	50/50	0.0998
314704	3LAWRENC	0.3711	50/50	0.3711
315131	**1EDGECMA (Deactivation : 22/04/2019)**	**4.8777**	**Adder**	**5.74**
315132	**1EDGECMB (Deactivation : 22/04/2019)**	**4.8777**	**Adder**	**5.74**
315136	1ROSEMG1	2.3684	50/50	2.3684
315137	1ROSEMS1	1.4687	50/50	1.4687
315138	1ROSEMG2	1.1100	50/50	1.1100
315139	1GASTONA	3.6125	50/50	3.6125
315141	1GASTONB	3.6125	50/50	3.6125
315294	1DOMTR10	4.0021	Adder	4.71
900672	V4-068 E	0.1643	Adder	0.19
907092	X1-038 E	2.5793	Adder	3.03
917332	Z2-043 E	0.6384	Adder	0.75
917342	Z2-044 E	0.3171	Adder	0.37
917512	Z2-088 E OP1	1.8525	Adder	2.18
918492	AA1-063AE OP	2.8026	Adder	3.3
918512	AA1-065 E OP	1.9029	Adder	2.24
918532	AA1-067 E	0.3158	Adder	0.37
919692	AA2-053 E OP	2.7695	Adder	3.26
919702	AA2-057 E OP	1.9657	Adder	2.31
920042	AA2-088 E OP	5.7728	Adder	6.79
920592	AA2-165 E	0.2702	Adder	0.32
920672	AA2-174 E OP	0.3200	Adder	0.38
922922	AB1-081 C OP	4.6600	Adder	5.48
922923	AB1-081 E OP	1.9972	Adder	2.35
923262	**AB1-132 C OP (Suspended)**	**15.9928**	**50/50**	**15.9928**
923263	**AB1-132 E OP (Suspended)**	**6.8540**	**50/50**	**6.8540**
923572	AB1-173 C OP	2.7475	50/50	2.7475
923573	AB1-173 E OP	1.2822	50/50	1.2822
923582	AB1-173AC OP	2.7475	50/50	2.7475
923583	AB1-173AE OP	1.2822	50/50	1.2822
923801	AB2-015 C OP	3.8649	Adder	4.55
923802	AB2-015 E OP	3.1693	Adder	3.73
923852	AB2-025 E	2.6023	50/50	2.6023
923911	AB2-031 C O1	2.7272	50/50	2.7272

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923912	AB2-031 E O1	1.3432	50/50	1.3432
923991	AB2-040 C O1	8.9549	50/50	8.9549
923992	AB2-040 E O1	7.3267	50/50	7.3267
924022	AB2-043 E O1	1.1913	Adder	1.4
924152	AB2-059 E OP	2.8293	Adder	3.33
924162	AB2-060 E OP	1.7804	Adder	2.09
924301	**AB2-077 C O1 (Suspended)**	**0.8369**	**Adder**	**0.98**
924302	**AB2-077 E O1 (Suspended)**	**0.5579**	**Adder**	**0.66**
924311	**AB2-078 C O1 (Suspended)**	**0.8369**	**Adder**	**0.98**
924312	**AB2-078 E O1 (Suspended)**	**0.5579**	**Adder**	**0.66**
924321	**AB2-079 C O1 (Suspended)**	**0.8369**	**Adder**	**0.98**
924322	**AB2-079 E O1 (Suspended)**	**0.5579**	**Adder**	**0.66**
924501	**AB2-099 C (Suspended)**	**0.3109**	**Adder**	**0.37**
924502	**AB2-099 E (Suspended)**	**0.1332**	**Adder**	**0.16**
924511	AB2-100 C	3.4439	50/50	3.4439
924512	AB2-100 E	9.8337	50/50	9.8337
925061	**AB2-161 C O1 (Suspended)**	**3.3322**	**50/50**	**3.3322**
925062	**AB2-161 E O1 (Suspended)**	**5.4368**	**50/50**	**5.4368**
925122	AB2-169 E	2.2556	Adder	2.65
925171	AB2-174 C O1	1.5519	50/50	1.5519
925172	AB2-174 E O1	8.1400	50/50	8.1400
925591	AC1-034 C	3.5574	Adder	4.19
925592	AC1-034 E	2.6837	Adder	3.16
925781	AC1-054 C O1	4.0091	Adder	4.72
925782	AC1-054 E O1	1.8469	Adder	2.17
926071	AC1-086 C	23.5512	50/50	23.5512
926072	AC1-086 E	10.7190	50/50	10.7190
926201	AC1-098 C	3.6712	Adder	4.32
926202	AC1-098 E	2.1871	Adder	2.57
926211	AC1-099 C	1.2303	Adder	1.45
926212	AC1-099 E	0.7225	Adder	0.85
927021	AC1-189 C	4.0002	Adder	4.71
927022	AC1-189 E	1.9926	Adder	2.34
927141	AC1-208 C	5.7384	Adder	6.75
927142	AC1-208 E	2.5481	Adder	3.0
932581	AC2-078 C O1	6.5573	50/50	6.5573
932582	AC2-078 E O1	10.6987	50/50	10.6987
932591	AC2-079 C O1	3.4283	Adder	4.03
932592	AC2-079 E O1	5.5936	Adder	6.58
932631	AC2-084 C	5.2335	Adder	6.16
932632	AC2-084 E	2.5777	Adder	3.03
933991	AD1-023 C	5.0135	Adder	5.9
933992	AD1-023 E	2.7293	Adder	3.21
934331	AD1-057 C O1	7.2541	Adder	8.53
934332	AD1-057 E O1	3.8696	Adder	4.55

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934521	AD1-076 C	19.0190	Adder	22.38
934522	AD1-076 E	9.6844	Adder	11.39
934571	AD1-082 C	7.5940	50/50	7.5940
934572	AD1-082 E	4.3319	50/50	4.3319
936261	AD2-033 C	4.5356	Adder	5.34
936262	AD2-033 E	3.0237	Adder	3.56
936361	AD2-046 C O1	4.1377	Adder	4.87
936362	AD2-046 E O1	1.9027	Adder	2.24
936401	AD2-051 C O1	4.2709	Adder	5.02
936402	AD2-051 E O1	1.8339	Adder	2.16
936481	AD2-063 C O1	5.8224	Adder	6.85
936482	AD2-063 E O1	3.8493	Adder	4.53
936661	AD2-085 C	2.0955	Adder	2.47
936662	AD2-085 E	3.4190	Adder	4.02
938171	AE1-026 C O1	12.8244	Adder	15.09
938172	AE1-026 E O1	3.3834	Adder	3.98
938221	AE1-035 C	1.0625	Adder	1.25
938222	AE1-035 E	0.5233	Adder	0.62
938631	AE1-085 C O1	13.5690	50/50	13.5690
938632	AE1-085 E O1	6.7845	50/50	6.7845
938771	AE1-103 C O1	1.5476	Adder	1.82
938772	AE1-103 E O1	2.1372	Adder	2.51
939181	AE1-148 C O1	4.0631	Adder	4.78
939182	AE1-148 E O1	2.7087	Adder	3.19
939191	AE1-149 C O1	18.4740	50/50	18.4740
939192	AE1-149 E O1	12.3160	50/50	12.3160
940061	AE2-000BC O1	15.7842	50/50	15.7842
940062	AE2-000BE O1	10.5228	50/50	10.5228
940481	AE2-033 C	35.9338	50/50	35.9338
940482	AE2-033 E	24.2250	50/50	24.2250
940571	AE2-044 C	2.3300	Adder	2.74
940572	AE2-044 E	0.9986	Adder	1.17
940651	AE2-052	6.1580	50/50	6.1580
940661	AE2-053 O1	1.5048	Adder	1.77
941541	AE2-151 C	0.5688	Adder	0.67
941542	AE2-151 E	0.3063	Adder	0.36
942341	AE2-247 C	0.9153	Adder	1.08
942342	AE2-247 E	1.2640	Adder	1.49
942451	AE2-258	0.9939	Adder	1.17
942471	AE2-260 C O1	25.7561	50/50	25.7561
942472	AE2-260 E O1	36.5319	50/50	36.5319
943171	AE2-346 C	0.7461	Adder	0.88
943172	AE2-346 E	0.3198	Adder	0.38
943461	AF1-017 C	0.8281	Adder	0.97
943462	AF1-017 E	1.3511	Adder	1.59
943911	AF1-059	15.4300	50/50	15.4300
944141	AF1-082	1.4979	Adder	1.76
946011	AF1-266	30.0794	50/50	30.0794
946281	AF1-292 C	2.1575	50/50	2.1575
946282	AF1-292 E	1.4545	50/50	1.4545
957521	AF2-046 C	4.8701	Adder	10.81
957522	AF2-046 E	2.4497	Adder	5.44

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957861	AF2-080 C	1.9256	Adder	4.27
957862	AF2-080 E	0.8536	Adder	1.89
958142	AF2-108 BAT	0.3276	Merchant Transmission	0.3276
959231	AF2-214 C	2.6683	Adder	5.92
959232	AF2-214 E	4.0002	Adder	8.88
959511	AF2-242	1.6932	Adder	3.76
959731	AF2-264 C	0.6416	Adder	1.42
959732	AF2-264 E	0.3160	Adder	0.7
960081	AF2-299 C	3.6363	50/50	3.6363
960082	AF2-299 E	2.4242	50/50	2.4242
960122	AF2-303 E O1	3.3429	Adder	7.42
960331	AF2-324 C O1	2.1751	Adder	4.83
960332	AF2-324 E O1	1.1678	Adder	2.59
960351	AF2-326 C	0.7035	Adder	1.56
960352	AF2-326 E	0.1759	Adder	0.39
960361	AF2-327 C	3.2912	50/50	3.2912
960362	AF2-327 E	0.8228	50/50	0.8228
960811	AF2-372 C	0.2802	Adder	0.62
960812	AF2-372 E	0.4572	Adder	1.01
960831	AF2-374 C	0.4002	Adder	0.89
960832	AF2-374 E	0.6530	Adder	1.45
961091	AF2-400 C	0.1106	Adder	0.25
961092	AF2-400 E	0.1815	Adder	0.4
961111	AF2-402 C O1	1.0328	50/50	1.0328
961112	AF2-402 E O1	1.6885	50/50	1.6885
WEC	WEC	0.2063	Confirmed LTF	0.2063
LGEE	LGEE	0.3879	Confirmed LTF	0.3879
CPLE	CPLE	2.3563	Confirmed LTF	2.3563
CBM-W2	CBM-W2	8.2801	Confirmed LTF	8.2801
NY	NY	0.2732	Confirmed LTF	0.2732
CBM-W1	CBM-W1	7.7062	Confirmed LTF	7.7062
TVA	TVA	1.7374	Confirmed LTF	1.7374
O-066	O-066	3.8909	Confirmed LTF	3.8909
CBM-S2	CBM-S2	15.0511	Confirmed LTF	15.0511
CBM-S1	CBM-S1	9.6872	Confirmed LTF	9.6872
G-007	G-007	0.6074	Confirmed LTF	0.6074
MADISON	MADISON	0.4879	Confirmed LTF	0.4879
MEC	MEC	1.2490	Confirmed LTF	1.2490
AA2-074	AA2-074	1.6056	LTF	1.6056

11.6.4 Index 4

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
98087080	314435	6SAPONY	DVP	314282	6CARSON	DVP	1	DVP_P1-2: LN 2056-A	single	678.68	110.53	111.54	DC	6.84

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314435	6SAPONY	1.8286	80/20	1.8286
314572	3EMPORIA	0.1876	80/20	0.1876
314574	6EVERETS	0.1883	80/20	0.1883
314582	3KELFORD	0.4744	80/20	0.4744
314589	3MURPHYS	0.0974	80/20	0.0974
314623	3WITAKRS	0.1676	80/20	0.1676
314704	3LAWRENC	0.6901	80/20	0.6901
315115	1S HAMPT1	1.1726	80/20	1.1726
315126	1ROARAP2	2.4995	80/20	2.4995
315128	1ROARAP4	2.3852	80/20	2.3852
315136	1ROSEMG1	5.2913	80/20	5.2913
315137	1ROSEMS1	3.2811	80/20	3.2811
315138	1ROSEMG2	2.4799	80/20	2.4799
315139	1GASTONA	7.5984	80/20	7.5984
315141	1GASTONB	7.5984	80/20	7.5984
315158	1KERR 1	0.3975	80/20	0.3975
315159	1KERR 2	1.1129	80/20	1.1129
315160	1KERR 3	1.1129	80/20	1.1129
315161	1KERR 4	1.1129	80/20	1.1129
315162	1KERR 5	1.1129	80/20	1.1129
315163	1KERR 6	1.1129	80/20	1.1129
315164	1KERR 7	1.1129	80/20	1.1129
315294	1DOMTR10	5.6529	Adder	6.65
315602	1HOLLOMANSOL	1.4155	80/20	1.4155
315606	3AA2-053SOLA	2.4129	80/20	2.4129
315607	3AA1-063SOLA	2.1444	80/20	2.1444
315608	3AA2-088SOLA	1.1138	80/20	1.1138
315612	3AA2-057SOLA	1.0759	80/20	1.0759
920591	AA2-165 C	0.1276	80/20	0.1276
920671	AA2-174 C OP	0.1105	80/20	0.1105
923262	**AB1-132 C OP (Suspended)**	**33.6386**	**80/20**	**33.6386**
923572	AB1-173 C OP	5.1592	80/20	5.1592
923582	AB1-173AC OP	5.1592	80/20	5.1592
923801	AB2-015 C OP	5.8090	80/20	5.8090
923911	AB2-031 C O1	5.1209	80/20	5.1209
923991	AB2-040 C O1	16.8150	80/20	16.8150
924021	AB2-043 C O1	0.4624	80/20	0.4624
924161	AB2-060 C OP	1.3126	80/20	1.3126
924301	**AB2-077 C O1 (Suspended)**	**1.6784**	**80/20**	**1.6784**

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924311	AB2-078 C O1 (Suspended)	1.6784	80/20	1.6784
924321	AB2-079 C O1 (Suspended)	1.6784	80/20	1.6784
924501	AB2-099 C (Suspended)	0.5991	80/20	0.5991
924511	AB2-100 C	6.5686	80/20	6.5686
925121	AB2-169 C	0.6932	80/20	0.6932
925171	AB2-174 C O1	2.9156	80/20	2.9156
925611	AC1-036 C	0.6307	80/20	0.6307
925781	AC1-054 C O1	8.3375	80/20	8.3375
926071	AC1-086 C	49.5369	80/20	49.5369
926201	AC1-098 C	6.4815	80/20	6.4815
926211	AC1-099 C	2.1720	80/20	2.1720
927141	AC1-208 C	10.2739	80/20	10.2739
932631	AC2-084 C	9.2396	80/20	9.2396
933991	AD1-023 C	8.9775	80/20	8.9775
934331	AD1-057 C O1	24.5494	80/20	24.5494
934521	AD1-076 C	27.8728	Adder	32.79
936261	AD2-033 C	9.0659	80/20	9.0659
936361	AD2-046 C O1	8.3170	80/20	8.3170
936401	AD2-051 C O1	8.3709	80/20	8.3709
936481	AD2-063 C O1	11.6847	80/20	11.6847
938171	AE1-026 C O1	23.3938	80/20	23.3938
938221	AE1-035 C	2.0515	80/20	2.0515
938771	AE1-103 C O1	2.1827	80/20	2.1827
939181	AE1-148 C O1	8.1675	80/20	8.1675
940241	AE2-006	0.3209	80/20	0.3209
940481	AE2-033 C	66.0211	80/20	66.0211
940661	AE2-053 O1	3.0250	80/20	3.0250
941541	AE2-151 C	1.1046	80/20	1.1046
942451	AE2-258	2.0001	80/20	2.0001
942471	AE2-260 C O1	48.7392	80/20	48.7392
943171	AE2-346 C	1.4377	80/20	1.4377
943911	AF1-059	28.2420	80/20	28.2420
946011	AF1-266	55.2648	80/20	55.2648
946281	AF1-292 C	4.0580	80/20	4.0580
957521	AF2-046 C	17.3822	80/20	17.3822
959311	AF2-222 C	10.6840	80/20	10.6840
959511	AF2-242	4.9622	80/20	4.9622
959731	AF2-264 C	2.3124	80/20	2.3124
960081	AF2-299 C	6.8394	80/20	6.8394
960811	AF2-372 C	1.0602	80/20	1.0602
960831	AF2-374 C	1.5369	80/20	1.5369
961091	AF2-400 C	0.3137	80/20	0.3137
WEC	WEC	0.1613	Confirmed LTF	0.1613
LGEE	LGEE	0.3058	Confirmed LTF	0.3058
CPLE	CPLE	2.0301	Confirmed LTF	2.0301
CBM-W2	CBM-W2	6.6503	Confirmed LTF	6.6503
NY	NY	0.2848	Confirmed LTF	0.2848
CBM-W1	CBM-W1	5.9798	Confirmed LTF	5.9798
TVA	TVA	1.4112	Confirmed LTF	1.4112
CBM-S2	CBM-S2	12.5831	Confirmed LTF	12.5831
CBM-S1	CBM-S1	7.8384	Confirmed LTF	7.8384

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
MADISON	MADISON	0.4072	Confirmed LTF	0.4072
MEC	MEC	0.9884	Confirmed LTF	0.9884
AA2-074	AA2-074	1.3833	LTF	1.3833

11.6.5 Index 5

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
96974116	314554	3BTLEBRO	DVP	304223	3ROCKYMT115T	CPLE	1	DVP_P7-1: LN 2058-2181	tower	93.0	521.72	522.61	DC	1.84

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314541	3WATKINS	0.2106	Adder	0.25
314582	3KELFORD	0.3883	50/50	0.3883
314623	3WITAKRS	0.5537	50/50	0.5537
315131	**1EDGECMA (Deactivation : 22/04/2019)**	**12.1487**	**50/50**	**12.1487**
315132	**1EDGECMB (Deactivation : 22/04/2019)**	**12.1487**	**50/50**	**12.1487**
315136	1ROSEMG1	1.5941	50/50	1.5941
315137	1ROSEMS1	0.9885	50/50	0.9885
315138	1ROSEMG2	0.7471	50/50	0.7471
315139	1GASTONA	2.0488	50/50	2.0488
315141	1GASTONB	2.0488	50/50	2.0488
315601	1CONETOE2SOL	1.3283	50/50	1.3283
315612	3AA2-057SOLA	2.5571	50/50	2.5571
900672	V4-068 E	0.1239	Adder	0.15
917332	Z2-043 E	0.9788	50/50	0.9788
917342	Z2-044 E	1.3758	50/50	1.3758
917512	Z2-088 E OP1	3.3002	50/50	3.3002
918492	AA1-063AE OP	1.9451	Adder	2.29
918512	AA1-065 E OP	1.4319	Adder	1.68
918532	AA1-067 E	0.2468	Adder	0.29
919692	AA2-053 E OP	1.9800	Adder	2.33
919702	AA2-057 E OP	6.9976	50/50	6.9976
920042	AA2-088 E OP	4.0200	Adder	4.73
920591	AA2-165 C	0.3032	50/50	0.3032
920592	AA2-165 E	0.9618	50/50	0.9618
920672	AA2-174 E OP	0.2288	Adder	0.27
922922	AB1-081 C OP	22.9723	50/50	22.9723
922923	AB1-081 E OP	9.8453	50/50	9.8453
923262	**AB1-132 C OP (Suspended)**	**9.0703**	**50/50**	**9.0703**
923263	**AB1-132 E OP (Suspended)**	**3.8873**	**50/50**	**3.8873**
923572	AB1-173 C OP	1.0085	Adder	1.19
923573	AB1-173 E OP	0.4707	Adder	0.55
923582	AB1-173AC OP	1.0085	Adder	1.19
923583	AB1-173AE OP	0.4707	Adder	0.55
923911	AB2-031 C O1	1.0011	Adder	1.18
923912	AB2-031 E O1	0.4931	Adder	0.58
923991	AB2-040 C O1	3.2871	Adder	3.87
923992	AB2-040 E O1	2.6894	Adder	3.16

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924151	AB2-059 C OP	4.6702	50/50	4.6702
924152	AB2-059 E OP	13.9475	50/50	13.9475
924501	**AB2-099 C (Suspended)**	**0.2638**	**Adder**	**0.31**
924502	**AB2-099 E (Suspended)**	**0.1131**	**Adder**	**0.13**
924512	AB2-100 E	2.0948	Adder	2.46
925172	AB2-174 E O1	2.7106	Adder	3.19
925591	AC1-034 C	17.5369	50/50	17.5369
925592	AC1-034 E	13.2296	50/50	13.2296
926071	AC1-086 C	13.3571	50/50	13.3571
926072	AC1-086 E	6.0793	50/50	6.0793
926201	AC1-098 C	8.4859	50/50	8.4859
926202	AC1-098 E	5.0555	50/50	5.0555
926211	AC1-099 C	2.8437	50/50	2.8437
926212	AC1-099 E	1.6701	50/50	1.6701
927021	AC1-189 C	6.0732	50/50	6.0732
927022	AC1-189 E	3.0252	50/50	3.0252
927141	AC1-208 C	13.5254	50/50	13.5254
927142	AC1-208 E	6.0058	50/50	6.0058
932631	AC2-084 C	12.0970	50/50	12.0970
932632	AC2-084 E	5.9582	50/50	5.9582
934331	AD1-057 C O1	10.1862	50/50	10.1862
934332	AD1-057 E O1	5.4338	50/50	5.4338
936401	AD2-051 C O1	3.1726	Adder	3.73
936402	AD2-051 E O1	1.3623	Adder	1.6
938171	AE1-026 C O1	9.9093	Adder	11.66
938172	AE1-026 E O1	2.6143	Adder	3.08
938221	AE1-035 C	0.7995	Adder	0.94
938222	AE1-035 E	0.3938	Adder	0.46
940571	AE2-044 C	11.4862	50/50	11.4862
940572	AE2-044 E	4.9226	50/50	4.9226
941541	AE2-151 C	0.5014	Adder	0.59
941542	AE2-151 E	0.2700	Adder	0.32
942471	AE2-260 C O1	4.9565	Adder	5.83
942472	AE2-260 E O1	7.0302	Adder	8.27
943171	AE2-346 C	0.6332	Adder	0.74
943172	AE2-346 E	0.2714	Adder	0.32
944141	AF1-082	7.3840	50/50	7.3840
946281	AF1-292 C	0.5556	Adder	0.65
946282	AF1-292 E	0.3746	Adder	0.44
957521	AF2-046 C	3.7559	Adder	8.34
957522	AF2-046 E	1.8893	Adder	4.19
957861	AF2-080 C	5.5159	50/50	5.5159
957862	AF2-080 E	2.4452	50/50	2.4452
959231	AF2-214 C	24.8183	50/50	24.8183
959232	AF2-214 E	37.2070	50/50	37.2070
959511	AF2-242	1.3281	Adder	2.95
959731	AF2-264 C	0.5208	Adder	1.16
959732	AF2-264 E	0.2565	Adder	0.57
960081	AF2-299 C	0.4963	Adder	1.1
960082	AF2-299 E	0.3309	Adder	0.73
960122	AF2-303 E O1	15.7095	50/50	15.7095
960331	AF2-324 C O1	10.2216	50/50	10.2216

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960332	AF2-324 E O1	5.4879	50/50	5.4879
960351	AF2-326 C	6.9299	50/50	6.9299
960352	AF2-326 E	1.7325	50/50	1.7325
960831	AF2-374 C	0.3253	Adder	0.72
960832	AF2-374 E	0.5307	Adder	1.18
NEWTON	NEWTON	0.8596	Confirmed LTF	0.8596
FARMERCITY	FARMERCITY	0.0493	Confirmed LTF	0.0493
G-007A	G-007A	0.5131	Confirmed LTF	0.5131
VFT	VFT	1.3610	Confirmed LTF	1.3610
CALDERWOOD	CALDERWOOD	0.6834	Confirmed LTF	0.6834
PRAIRIE	PRAIRIE	2.3221	Confirmed LTF	2.3221
CHEOAH	CHEOAH	0.7007	Confirmed LTF	0.7007
EDWARDS	EDWARDS	0.2597	Confirmed LTF	0.2597
TILTON	TILTON	0.4593	Confirmed LTF	0.4593
GIBSON	GIBSON	0.4155	Confirmed LTF	0.4155
BLUEG	BLUEG	1.2812	Confirmed LTF	1.2812
TRIMBLE	TRIMBLE	0.4068	Confirmed LTF	0.4068
CATAWBA	CATAWBA	0.7382	Confirmed LTF	0.7382

11.6.6 Index 6

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
97802815	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	DVP_P4-2: 23872	breaker	459.0	160.51	161.77	DC	5.83

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314539	3UNCAMP	-0.9070	Adder	-1.07
314541	3WATKINS	-0.2911	Adder	-0.34
314572	3EMPORIA	0.0797	50/50	0.0797
314704	3LAWRENC	0.3224	50/50	0.3224
315131	**1EDGECMA (Deactivation : 22/04/2019)**	**8.8241**	**50/50**	**8.8241**
315132	**1EDGECMB (Deactivation : 22/04/2019)**	**8.8241**	**50/50**	**8.8241**
315136	1ROSEMG1	6.5873	50/50	6.5873
315137	1ROSEMS1	4.0848	50/50	4.0848
315138	1ROSEMG2	3.0873	50/50	3.0873
315139	1GASTONA	10.3679	50/50	10.3679
315141	1GASTONB	10.3679	50/50	10.3679
907092	X1-038 E	-2.2675	Adder	-2.67
917342	Z2-044 E	0.2211	Adder	0.26
917512	Z2-088 E OP1	1.4488	Adder	1.7
922922	AB1-081 C OP	6.6724	50/50	6.6724
922923	AB1-081 E OP	2.8596	50/50	2.8596
923262	**AB1-132 C OP (Suspended)**	**45.8993**	**50/50**	**45.8993**
923263	**AB1-132 E OP (Suspended)**	**19.6711**	**50/50**	**19.6711**
923801	AB2-015 C OP	-3.4718	Adder	-4.08
924151	AB2-059 C OP	1.3565	50/50	1.3565
924152	AB2-059 E OP	4.0511	50/50	4.0511
924511	AB2-100 C	5.1474	50/50	5.1474
924512	AB2-100 E	14.6979	50/50	14.6979
925172	AB2-174 E O1	3.5575	Adder	4.19
925591	AC1-034 C	5.0937	50/50	5.0937
925592	AC1-034 E	3.8426	50/50	3.8426
926071	AC1-086 C	67.5921	50/50	67.5921
926072	AC1-086 E	30.7634	50/50	30.7634
934331	AD1-057 C O1	20.0206	50/50	20.0206
934332	AD1-057 E O1	10.6798	50/50	10.6798
938173	AE1-026 BAT	11.6712	Merchant Transmission	11.6712
940481	AE2-033 C	38.5147	50/50	38.5147
940482	AE2-033 E	25.9650	50/50	25.9650
940571	AE2-044 C	3.3362	50/50	3.3362
940572	AE2-044 E	1.2153	Adder	1.43
942471	AE2-260 C O1	35.7893	50/50	35.7893
942472	AE2-260 E O1	50.7627	50/50	50.7627
943911	AF1-059	9.7112	Adder	11.42

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944141	AF1-082	1.8230	Adder	2.14
946011	AF1-266	32.2399	50/50	32.2399
946281	AF1-292 C	2.0749	50/50	2.0749
946282	AF1-292 E	1.3988	50/50	1.3988
959231	AF2-214 C	7.2086	50/50	7.2086
959232	AF2-214 E	10.8069	50/50	10.8069
960081	AF2-299 C	3.4970	50/50	3.4970
960082	AF2-299 E	2.3313	50/50	2.3313
960122	AF2-303 E O1	11.4105	50/50	11.4105
960331	AF2-324 C O1	7.4244	50/50	7.4244
960332	AF2-324 E O1	3.9861	50/50	3.9861
960351	AF2-326 C	0.7992	Adder	1.77
960352	AF2-326 E	0.1998	Adder	0.44
WEC	WEC	0.1468	Confirmed LTF	0.1468
LGEE	LGEE	0.2750	Confirmed LTF	0.2750
CPLE	CPLE	1.6299	Confirmed LTF	1.6299
CBM-W2	CBM-W2	5.7985	Confirmed LTF	5.7985
NY	NY	0.1631	Confirmed LTF	0.1631
CBM-W1	CBM-W1	5.5044	Confirmed LTF	5.5044
TVA	TVA	1.2096	Confirmed LTF	1.2096
O-066	O-066	2.3587	Confirmed LTF	2.3587
CBM-S2	CBM-S2	10.4156	Confirmed LTF	10.4156
CBM-S1	CBM-S1	6.7564	Confirmed LTF	6.7564
G-007	G-007	0.3682	Confirmed LTF	0.3682
MADISON	MADISON	0.3306	Confirmed LTF	0.3306
MEC	MEC	0.8819	Confirmed LTF	0.8819

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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
97803006	924510	AB2-100 TAP	DVP	314583	6LAKEVEW	DVP	1	DVP_P4-2: 238T2002	breaker	459.0	111.04	113.74	DC	12.34

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.1888	50/50	0.1888
314704	3LAWRENC	0.7155	50/50	0.7155
923572	AB1-173 C OP	4.0256	50/50	4.0256
923573	AB1-173 E OP	1.8786	50/50	1.8786
923582	AB1-173AC OP	4.0256	50/50	4.0256
923583	AB1-173AE OP	1.8786	50/50	1.8786
923911	AB2-031 C O1	3.9957	50/50	3.9957
923912	AB2-031 E O1	1.9681	50/50	1.9681
923991	AB2-040 C O1	13.1204	50/50	13.1204
923992	AB2-040 E O1	10.7348	50/50	10.7348
924022	AB2-043 E O1	1.3950	Adder	1.64
924162	AB2-060 E OP	2.0844	Adder	2.45
924301	**AB2-077 C O1 (Suspended)**	**0.9556**	**Adder**	**1.12**
924302	**AB2-077 E O1 (Suspended)**	**0.6371**	**Adder**	**0.75**
924311	**AB2-078 C O1 (Suspended)**	**0.9556**	**Adder**	**1.12**
924312	**AB2-078 E O1 (Suspended)**	**0.6371**	**Adder**	**0.75**
924321	**AB2-079 C O1 (Suspended)**	**0.9556**	**Adder**	**1.12**
924322	**AB2-079 E O1 (Suspended)**	**0.6371**	**Adder**	**0.75**
924511	AB2-100 C	8.9138	50/50	8.9138
924512	AB2-100 E	25.4526	50/50	25.4526
925171	AB2-174 C O1	2.5494	50/50	2.5494
925172	AB2-174 E O1	13.3718	50/50	13.3718
925611	AC1-036 C	0.3721	Adder	0.44
925612	AC1-036 E	0.6071	Adder	0.71
936261	AD2-033 C	5.3305	Adder	6.27
936262	AD2-033 E	3.5537	Adder	4.18
936481	AD2-063 C O1	6.8299	Adder	8.04
936482	AD2-063 E O1	4.5153	Adder	5.31
940241	AE2-006	0.1893	Adder	0.22
940481	AE2-033 C	67.1736	50/50	67.1736
940482	AE2-033 E	45.2856	50/50	45.2856
942451	AE2-258	1.1639	Adder	1.37
942471	AE2-260 C O1	62.4187	50/50	62.4187
942472	AE2-260 E O1	88.5333	50/50	88.5333
943911	AF1-059	27.4500	50/50	27.4500
946011	AF1-266	56.2296	50/50	56.2296

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
946281	AF1-292 C	4.3923	50/50	4.3923
946282	AF1-292 E	2.9611	50/50	2.9611
959311	AF2-222 C	3.3481	Adder	7.43
959312	AF2-222 E	2.2432	Adder	4.98
960081	AF2-299 C	7.4028	50/50	7.4028
960082	AF2-299 E	4.9352	50/50	4.9352
960811	AF2-372 C	0.3199	Adder	0.71
960812	AF2-372 E	0.5221	Adder	1.16
NEWTON	NEWTON	0.0677	Confirmed LTF	0.0677
FARMERCITY	FARMERCITY	0.0041	Confirmed LTF	0.0041
CALDERWOOD	CALDERWOOD	0.0626	Confirmed LTF	0.0626
NY	NY	0.0160	Confirmed LTF	0.0160
PRAIRIE	PRAIRIE	0.1937	Confirmed LTF	0.1937
O-066	O-066	0.1949	Confirmed LTF	0.1949
CHEOAH	CHEOAH	0.0646	Confirmed LTF	0.0646
EDWARDS	EDWARDS	0.0203	Confirmed LTF	0.0203
TILTON	TILTON	0.0346	Confirmed LTF	0.0346
G-007	G-007	0.0302	Confirmed LTF	0.0302
GIBSON	GIBSON	0.0317	Confirmed LTF	0.0317
BLUEG	BLUEG	0.0937	Confirmed LTF	0.0937
TRIMBLE	TRIMBLE	0.0295	Confirmed LTF	0.0295
CATAWBA	CATAWBA	0.0749	Confirmed LTF	0.0749

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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
98578195	940480	AE2-033 TAP	DVP	314435	6SAPONY	DVP	1	DVP_P7-1: LN 2058-2181	tower	830.0	131.83	133.15	DC	10.83

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314539	3UNCAMP	1.1800	Adder	1.39
314541	3WATKINS	0.4059	Adder	0.48
314572	3EMPORIA	0.1781	50/50	0.1781
314704	3LAWRENC	0.6562	50/50	0.6562
315126	1ROARAP2	2.3517	50/50	2.3517
315131	**1EDGECMA (Deactivation : 22/04/2019)**	**11.4287**	**Adder**	**13.45**
315132	**1EDGECMB (Deactivation : 22/04/2019)**	**11.4287**	**Adder**	**13.45**
315136	1ROSEMG1	4.4470	50/50	4.4470
315137	1ROSEMS1	2.7576	50/50	2.7576
315138	1ROSEMG2	2.0842	50/50	2.0842
315139	1GASTONA	6.6590	50/50	6.6590
315141	1GASTONB	6.6590	50/50	6.6590
315294	1DOMTR10	6.4730	Adder	7.62
900672	V4-068 E	0.2567	Adder	0.3
907092	X1-038 E	2.9500	Adder	3.47
917332	Z2-043 E	1.0904	Adder	1.28
917342	Z2-044 E	0.5705	Adder	0.67
917512	Z2-088 E OP1	3.8340	Adder	4.51
918492	AA1-063AE OP	4.7118	Adder	5.54
918512	AA1-065 E OP	3.1865	Adder	3.75
918532	AA1-067 E	0.5486	Adder	0.65
919692	AA2-053 E OP	4.8480	Adder	5.7
919702	AA2-057 E OP	3.5108	Adder	4.13
920042	AA2-088 E OP	8.5732	Adder	10.09
920592	AA2-165 E	0.4825	Adder	0.57
920672	AA2-174 E OP	0.5602	Adder	0.66
922922	AB1-081 C OP	8.7046	Adder	10.24
922923	AB1-081 E OP	3.7305	Adder	4.39
923262	**AB1-132 C OP (Suspended)**	**29.4798**	**50/50**	**29.4798**
923263	**AB1-132 E OP (Suspended)**	**12.6342**	**50/50**	**12.6342**
923572	AB1-173 C OP	4.8865	50/50	4.8865
923573	AB1-173 E OP	2.2803	50/50	2.2803
923582	AB1-173AC OP	4.8865	50/50	4.8865
923583	AB1-173AE OP	2.2803	50/50	2.2803
923801	AB2-015 C OP	4.7154	Adder	5.55
923802	AB2-015 E OP	3.8666	Adder	4.55
923911	AB2-031 C O1	4.8503	50/50	4.8503

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923912	AB2-031 E O1	2.3889	50/50	2.3889
923991	AB2-040 C O1	15.9262	50/50	15.9262
923992	AB2-040 E O1	13.0306	50/50	13.0306
924022	AB2-043 E O1	1.9475	Adder	2.29
924152	AB2-059 E OP	5.2849	Adder	6.22
924162	AB2-060 E OP	2.9089	Adder	3.42
924301	**AB2-077 C O1 (Suspended)**	**1.3639**	**Adder**	**1.6**
924302	**AB2-077 E O1 (Suspended)**	**0.9093**	**Adder**	**1.07**
924311	**AB2-078 C O1 (Suspended)**	**1.3639**	**Adder**	**1.6**
924312	**AB2-078 E O1 (Suspended)**	**0.9093**	**Adder**	**1.07**
924321	**AB2-079 C O1 (Suspended)**	**1.3639**	**Adder**	**1.6**
924322	**AB2-079 E O1 (Suspended)**	**0.9093**	**Adder**	**1.07**
924501	**AB2-099 C (Suspended)**	**0.5127**	**Adder**	**0.6**
924502	**AB2-099 E (Suspended)**	**0.2197**	**Adder**	**0.26**
924511	AB2-100 C	6.2132	50/50	6.2132
924512	AB2-100 E	17.7411	50/50	17.7411
925122	AB2-169 E	3.7423	Adder	4.4
925171	AB2-174 C O1	2.7644	50/50	2.7644
925172	AB2-174 E O1	14.4997	50/50	14.4997
925591	AC1-034 C	6.6450	Adder	7.82
925592	AC1-034 E	5.0129	Adder	5.9
925611	AC1-036 C	0.5114	Adder	0.6
925612	AC1-036 E	0.8344	Adder	0.98
925781	AC1-054 C O1	6.7381	Adder	7.93
925782	AC1-054 E O1	3.1041	Adder	3.65
926071	AC1-086 C	43.4125	50/50	43.4125
926072	AC1-086 E	19.7585	50/50	19.7585
926201	AC1-098 C	6.4358	Adder	7.57
926202	AC1-098 E	3.8341	Adder	4.51
926211	AC1-099 C	2.1567	Adder	2.54
926212	AC1-099 E	1.2666	Adder	1.49
927021	AC1-189 C	7.8724	Adder	9.26
927022	AC1-189 E	3.9215	Adder	4.61
927141	AC1-208 C	10.1488	Adder	11.94
927142	AC1-208 E	4.5065	Adder	5.3
932631	AC2-084 C	9.1744	Adder	10.79
932632	AC2-084 E	4.5187	Adder	5.32
933991	AD1-023 C	8.0608	Adder	9.48
933992	AD1-023 E	4.3883	Adder	5.16
934331	AD1-057 C O1	17.4625	50/50	17.4625
934332	AD1-057 E O1	9.3152	50/50	9.3152
934521	AD1-076 C	29.9773	Adder	35.27
934522	AD1-076 E	15.2644	Adder	17.96
936261	AD2-033 C	7.3540	Adder	8.65
936262	AD2-033 E	4.9027	Adder	5.77
936361	AD2-046 C O1	6.7643	Adder	7.96
936362	AD2-046 E O1	3.1106	Adder	3.66

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936401	AD2-051 C O1	7.1905	Adder	8.46
936402	AD2-051 E O1	3.0875	Adder	3.63
936481	AD2-063 C O1	9.4860	Adder	11.16
936482	AD2-063 E O1	6.2713	Adder	7.38
938171	AE1-026 C O1	20.8241	Adder	24.5
938172	AE1-026 E O1	5.4939	Adder	6.46
938221	AE1-035 C	1.7791	Adder	2.09
938222	AE1-035 E	0.8763	Adder	1.03
938771	AE1-103 C O1	1.7700	Adder	2.08
938772	AE1-103 E O1	2.4443	Adder	2.88
939181	AE1-148 C O1	6.6422	Adder	7.81
939182	AE1-148 E O1	4.4281	Adder	5.21
940241	AE2-006	0.2602	Adder	0.31
940481	AE2-033 C	64.4066	50/50	64.4066
940482	AE2-033 E	43.4202	50/50	43.4202
940571	AE2-044 C	4.3523	Adder	5.12
940572	AE2-044 E	1.8653	Adder	2.19
940661	AE2-053 O1	2.4601	Adder	2.89
941541	AE2-151 C	0.9553	Adder	1.12
941542	AE2-151 E	0.5144	Adder	0.61
942451	AE2-258	1.6248	Adder	1.91
942471	AE2-260 C O1	46.3897	50/50	46.3897
942472	AE2-260 E O1	65.7983	50/50	65.7983
943171	AE2-346 C	1.2305	Adder	1.45
943172	AE2-346 E	0.5274	Adder	0.62
943911	AF1-059	22.8480	Adder	26.88
944141	AF1-082	2.7979	Adder	3.29
946011	AF1-266	53.9134	50/50	53.9134
946281	AF1-292 C	3.8562	50/50	3.8562
946282	AF1-292 E	2.5997	50/50	2.5997
957521	AF2-046 C	7.6850	Adder	17.06
957522	AF2-046 E	3.8656	Adder	8.58
957861	AF2-080 C	3.7895	Adder	8.41
957862	AF2-080 E	1.6799	Adder	3.73
959231	AF2-214 C	4.9842	Adder	11.06
959232	AF2-214 E	7.4721	Adder	16.59
959311	AF2-222 C	4.5897	Adder	10.19
959312	AF2-222 E	3.0751	Adder	6.83
959511	AF2-242	2.8602	Adder	6.35
959731	AF2-264 C	1.0364	Adder	2.3
959732	AF2-264 E	0.5105	Adder	1.13
960081	AF2-299 C	6.4992	50/50	6.4992
960082	AF2-299 E	4.3328	50/50	4.3328
960122	AF2-303 E O1	7.8326	Adder	17.39
960331	AF2-324 C O1	5.0964	Adder	11.31
960332	AF2-324 E O1	2.7362	Adder	6.07
960351	AF2-326 C	1.2763	Adder	2.83
960352	AF2-326 E	0.3191	Adder	0.71
960811	AF2-372 C	0.4566	Adder	1.01
960812	AF2-372 E	0.7452	Adder	1.65
960831	AF2-374 C	0.6838	Adder	1.52
960832	AF2-374 E	1.1157	Adder	2.48

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
961091	AF2-400 C	0.1350	Adder	0.3
961092	AF2-400 E	0.2214	Adder	0.49
WEC	WEC	0.2000	Confirmed LTF	0.2000
LGEE	LGEE	0.3782	Confirmed LTF	0.3782
CPLE	CPLE	2.4542	Confirmed LTF	2.4542
CBM-W2	CBM-W2	8.0999	Confirmed LTF	8.0999
NY	NY	0.2992	Confirmed LTF	0.2992
CBM-W1	CBM-W1	7.4560	Confirmed LTF	7.4560
TVA	TVA	1.7052	Confirmed LTF	1.7052
O-066	O-066	4.2202	Confirmed LTF	4.2202
CBM-S2	CBM-S2	15.0916	Confirmed LTF	15.0916
CBM-S1	CBM-S1	9.4998	Confirmed LTF	9.4998
G-007	G-007	0.6594	Confirmed LTF	0.6594
MADISON	MADISON	0.4818	Confirmed LTF	0.4818
MEC	MEC	1.2156	Confirmed LTF	1.2156
AA2-074	AA2-074	1.6722	LTF	1.6722

11.7 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
AA1-063	Huntsville (Cabin Creek) 69kV	Withdrawn
AA1-063A	Carolina–Seaboard 115kV	In Service
AA1-065	Earleys 230kV	In Service
AA1-067	Everetts 34.5kV	In Service
AA2-053	Carolina-Jackson 115kV	In Service
AA2-057	Hornertown-Whitakers 115kV	In Service
AA2-074	CPLE-PJM	Confirmed
AA2-088	Boykins-Handsome 115kV	In Service
AA2-165	Hornertown-Whitakers 115kV	In Service
AA2-174	Carolina-Jackson 115kV	In Service
AB1-081	Anaconda-Mayo Dunbar 115kV	Under Construction
AB1-132	Thelma 230kV	Suspended
AB1-173	Brink-Trego 115kV	Engineering and Procurement
AB1-173A	Brink-Trego 115kV	Engineering and Procurement
AB2-015	Franklin 115kV	Engineering and Procurement
AB2-025	Sapony 34.5kV	In Service
AB2-031	Brink-Trego 115kV	Engineering and Procurement
AB2-040	Brink 115kV	Engineering and Procurement
AB2-043	Chase City 115kV	Under Construction
AB2-059	Benson-Dunbar 115kV	Under Construction
AB2-060	Chase City-Lunenburg 115kV	Under Construction
AB2-077	Buggs Island-Chase City 115kV	Suspended
AB2-078	Buggs Island-Chase City 115kV	Suspended
AB2-079	Buggs Island-Chase City 115kV	Suspended
AB2-099	Ahoskie 34.5kV	Suspended
AB2-100	Clubhouse-Lakeview 230kV	Under Construction
AB2-161	Waverly #2 DP 115kV	Suspended
AB2-169	Pantago-Five Points 115kV	Partially in Service - Under Construction
AB2-174	Emporia-Trego 115kV	Under Construction
AC1-034	Heartsease DP - Mayo Dunbar 115kV	Active
AC1-036	Twittys Creek 34.5kV	Engineering and Procurement
AC1-054	Kerr Dam–Eatons Ferry 115 kV	Engineering and Procurement
AC1-086	Thelma 230kV	Active
AC1-098	Dawson-South Justice 115kV	Engineering and Procurement
AC1-099	Dawson-South Justice 115kV	Engineering and Procurement
AC1-189	Chinquapin-Everetts 230kV	Active
AC1-208	Cox-Whitakers 115kV	Active
AC2-078	Disputanta-Waverly 115kV	Active
AC2-079	Ivor-Oakridge 115kV	Active

Queue Number	Project Name	Status
AC2-084	Dawson-South Justice 115kV	Active
AD1-023	Cashie-Trowbridge 230 kV	Active
AD1-057	Hornertown-Hathaway 230 kV	Active
AD1-076	Trowbridge 230 kV	Active
AD1-082	Bakers Pond-Ivor 115kV	Active
AD2-033	Chase City-Lunenburg 115 kV	Active
AD2-046	Boydton DP-Kerr Dam 115 kV	Active
AD2-051	Earleys – Northampton 230kV	Active
AD2-063	Central-Chase City 115kV	Active
AD2-085	Myrtle-Windsor DP 115kV	Active
AE1-026	Cashie 230 kV	Active
AE1-035	Earleys 230 kV	Engineering and Procurement
AE1-085	Bakers Pond-Bell Ave 115 kV	Active
AE1-103	Holland-Union Camp 115 kV	Active
AE1-148	Kerr Dam-Ridge Rd 115 kV	Active
AE1-149	Disputanta-Poe 115 kV	Active
AE2-000B	N/A	N/A
AE2-006	Twittys Creek 34.5 kV	Engineering and Procurement
AE2-033	Clubhouse-Sappony 230 kV	Active
AE2-044	Anaconda-Dunbar 115 kV	Active
AE2-052	Disputanta-Poe 115 kV	Active
AE2-053	Kerr Dam-Ridge Road 115 kV	Active
AE2-151	Earleys 34.5kV	Engineering and Procurement
AE2-247	Myrtle-Windsor 115 kV	Active
AE2-258	Chase City 115 kV	Active
AE2-260	Clubhouse 230 kV	Active
AE2-346	Ahoskie 34.5 kV	Active
AF1-017	Myrtle-Windsor 115 kV	Active
AF1-059	Brodnax-South Hill 115 kV	Active
AF1-082	Heartsease-Mayo Dunbar DP	Active
AF1-266	Clubhouse-Sapony 230 kV	Active
AF1-292	Fields Crossroads 34.5 kV	Active
AF2-046	Tunis-Mapleton 115 kV	Active
AF2-080	Chinquapin-Everetts 230 kV	Active
AF2-108	Locks 34.5 kV	Active
AF2-214	Heartsease DP-Anaconda 115 kV	Active
AF2-222	Pamplin-Chase City 115 kV	Active
AF2-242	Wharton 115 kV	Active
AF2-264	Tunis 34.5 kV	Active
AF2-299	Fields 34.5 kV	Active
AF2-303	Edgecombe 230 kV	Active
AF2-324	Edgecombe 230 kV	Active
AF2-326	Edgecombe 13 kV	Active
AF2-327	Wakefield 13 kV	Active
AF2-372	Black Branch 34.5 kV	Active
AF2-374	Woodland 34.5 kV	Active
AF2-400	Franklin 13.2 kV	Active
AF2-402	Ivor-Oak Ridge 115 kV	Active
V4-068	Murphy's 34.5kV	In Service
X1-038	Union Camp 115kV	In Service
Z2-043	Kelford 34.5kV	In Service
Z2-044	Whitakers 34.5kV	In Service

Queue Number	Project Name	Status
Z2-088	Tarboro-Everetts 230kV	In Service

11.8 Contingency Descriptions

Contingency Name	Contingency Definition
DVP_P1-2: LN 2056-A	CONTINGENCY 'DVP_P1-2: LN 2056-A' OPEN BRANCH FROM BUS 313845 TO BUS 934330 CKT 1 /* 6HATHAWAY 230.00 - AD1-057 TAP 230.00 END
DVP_P4-2: 201262	CONTINGENCY 'DVP_P4-2: 201262' /* EARLEYS 230 KV OPEN BRANCH FROM BUS 936400 TO BUS 314569 CKT 1 /* AD2-051 TAP 230.00 - 6EARLEYS 230.00 OPEN BRANCH FROM BUS 314568 TO BUS 314569 CKT 1 /* 3EARLEYS 115.00 - 6EARLEYS 230.00 END
DVP_P4-2: 23872	CONTINGENCY 'DVP_P4-2: 23872' /* CARSON 230 KV OPEN BRANCH FROM BUS 314282 TO BUS 314435 CKT 1 /* 6CARSON 230.00 - 6SAPONY 230.00 OPEN BRANCH FROM BUS 314435 TO BUS 940480 CKT 1 /* 6SAPONY 230.00 - AE2-033 TAP 230.00 OPEN BUS 314435 /* ISLAND: 6SAPONY 230.00 OPEN BUS 923852 /* ISLAND: AB2-025 E 230.00 OPEN BRANCH FROM BUS 314282 TO BUS 314902 CKT 1 /* 6CARSON 230.00 - 8CARSON 500.00 OPEN BUS 314455 /* 6CARSO_1 230.00 KV END
DVP_P1-2: LN 239	CONTINGENCY 'DVP_P1-2: LN 239' OPEN BRANCH FROM BUS 314579 TO BUS 314605 CKT 1 /* 6HORNRTN 230.00 - 6ROSEMRY 230.00 OPEN BRANCH FROM BUS 314579 TO BUS 314583 CKT 1 /* 6HORNRTN 230.00 - 6LAKEVEW 230.00 OPEN BUS 314605 /* ISLAND: 6ROSEMRY 230.00 OPEN BUS 314627 /* ISLAND: 1ROSEMRY 13.800 OPEN BUS 315136 /* ISLAND: 1ROSEMG1 13.800 OPEN BUS 315137 /* ISLAND: 1ROSEMS1 13.800 OPEN BUS 315138 /* ISLAND: 1ROSEMG2 13.800 END
DVP_P1-2: LN 2012-B	CONTINGENCY 'DVP_P1-2: LN 2012-B' OPEN BRANCH FROM BUS 936400 TO BUS 314569 CKT 1 /* AD2-051 TAP230.00 - 6EARLEYS 230.00 END

Contingency Name	Contingency Definition
DVP_P4-2: 24972-4	CONTINGENCY 'DVP_P4-2: 24972-4' /* CARSON 230 KV OPEN BRANCH FROM BUS 314282 TO BUS 314285 CKT 1 /* 6CARSON 230.00 - 6CHRL249 230.00 OPEN BRANCH FROM BUS 314285 TO BUS 314316 CKT 1 /* 6CHRL249 230.00 - 6LOCKS 230.00 OPEN BRANCH FROM BUS 314314 TO BUS 314316 CKT 2 /* 3LOCKS 115.00 - 6LOCKS 230.00 OPEN BUS 314285 /* ISLAND: 6CHRL249 230.00 OPEN BRANCH FROM BUS 314282 TO BUS 314902 CKT 1 /* 6CARSON 230.00 - 8CARSON 500.00 OPEN BUS 314455 /* 6CARSO_1 230.00 KV END
DVP_P4-2: 238T2002	CONTINGENCY 'DVP_P4-2: 238T2002' /* CARSON 230 KV OPEN BRANCH FROM BUS 314282 TO BUS 314435 CKT 1 /* 6CARSON 230.00 - 6SAPONY 230.00 OPEN BRANCH FROM BUS 314435 TO BUS 940480 CKT 1 /* 6SAPONY 230.00 - AE2-033 TAP 230.00 OPEN BUS 314435 /* ISLAND: 6SAPONY 230.00 OPEN BUS 923852 /* ISLAND: AB2-025 E 230.00 OPEN BRANCH FROM BUS 314282 TO BUS 314331 CKT 1 /* 6CARSON 230.00 - 6POE 230.00 OPEN BRANCH FROM BUS 314329 TO BUS 314331 CKT 1 /* 3POE 115.00 - 6POE 230.00 END
DVP_P1-2: LN 238-A	CONTINGENCY 'DVP_P1-2: LN 238-A' OPEN BRANCH FROM BUS 314282 TO BUS 314435 CKT 1 /* 6CARSON 230.00 - 6SAPONY 230.00 OPEN BRANCH FROM BUS 314435 TO BUS 940480 CKT 1 /* 6SAPONY 230.00 - AE2-033 TAP 230.00 OPEN BUS 314435 /* ISLAND: 6SAPONY 230.00 OPEN BUS 923852 /* ISLAND: AB2-025 E 230.00 END
DVP_P1-2: LN 246	CONTINGENCY 'DVP_P1-2: LN 246' OPEN BRANCH FROM BUS 957790 TO BUS 314575 CKT 1 /* 6SUFFOLK 230.00 - 6NUCO TP 230.00 OPEN BRANCH FROM BUS 314569 TO BUS 314575 CKT 1 /* 6EARLEYS 230.00 - 6NUCO TP 230.00 OPEN BRANCH FROM BUS 314575 TO BUS 314590 CKT 1 /* 6NUCO TP 230.00 - 6NUCOR 230.00 OPEN BUS 314575 /* ISLAND: 6NUCO TP 230.00 OPEN BUS 314590 /* ISLAND: 6NUCOR 230.00 END
Base Case	

Contingency Name	Contingency Definition
DVP_P7-1: LN 56-2012-B	CONTINGENCY 'DVP_P7-1: LN 56-2012-B' /* . OPEN BRANCH FROM BUS 313723 TO BUS 314604 CKT 1 /* 3PECAN 115.00 - 3SEABORD 115.00 OPEN BRANCH FROM BUS 314558 TO BUS 314587 CKT 1 /* 3BOYKINS 115.00 - 3MARGTSV 115.00 OPEN BRANCH FROM BUS 314587 TO BUS 314604 CKT 1 /* 3MARGTSV 115.00 - 3SEABORD 115.00 OPEN BUS 314587 /* ISLAND: 3MARGTSV 115.00 OPEN BUS 314604 /* ISLAND: 3SEABORD 115.00 OPEN BRANCH FROM BUS 936400 TO BUS 314569 CKT 1 /* AD2-051 TAP - 6EARLEYS 230.00 END
314435 6SAPONY 230 940480 AE2-033 TAP 230 1	CONTINGENCY '314435 6SAPONY 230 940480 AE2-033 TAP 230 1' OPEN BRANCH FROM BUS 314435 TO BUS 940480 CKT 1 END
DVP_P7-1: LN 2058-2181	CONTINGENCY 'DVP_P7-1: LN 2058-2181' /* . OPEN BRANCH FROM BUS 304222 TO BUS 313845 CKT 1 /* 6ROCKYMT230T230.00 - 6HATHAWAY 230.00 OPEN BRANCH FROM BUS 313844 TO BUS 313845 CKT 2 /* 3HATHAWAY 115.00 - 6HATHAWAY 230.00 OPEN BUS 304226 /* ISLAND: 6PA-RMOUNT#4115.00 OPEN BRANCH FROM BUS 304226 TO BUS 314591 CKT 1 /* 6PA-RMOUNT#4230.00 - 6NASH 230.00 OPEN BRANCH FROM BUS 313845 TO BUS 314591 CKT 1 /* 6HATHAWAY 230.00 - 6NASH 230.00 OPEN BUS 314591 /* ISLAND: 6NASH 230.00 END
DVP_P4-2: 2012T2014	CONTINGENCY 'DVP_P4-2: 2012T2014' /* EARLEYS 230 KV OPEN BRANCH FROM BUS 936400 TO BUS 314569 CKT 1 /* AD2-051 TAP 230.00 - 6EARLEYS 230.00 OPEN BRANCH FROM BUS 313857 TO BUS 314569 CKT 1 /* 6WINDSORDP 230.00 - 6EARLEYS 230.00 OPEN BRANCH FROM BUS 313857 TO BUS 314574 CKT 1 /* 6WINDSORDP 230.00 - 6EVERETS 230.00 OPEN BUS 313857 /* ISLAND: 6WINDSORDP 230.00 OPEN BUS 314552 /* ISLAND: 3WINDSORDP 115.00 END

12 Short Circuit Analysis

Short circuit analysis will be provided in the System Impact Study report.

13 Affected Systems

13.1 TVA

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

13.2 Duke Energy Progress

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