Generation Interconnection

Feasibility Study Report

for

Queue Project AF2-297

SEDGE HILL 115 KV

48 MW Capacity / 80 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 Halifax County, Virginia. The installed facilities will have a total capability of 80 MW with 48 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is March 12, 2022. This study does not imply a TO commitment to this in-service date.

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Queue Number	AF2-297
Project Name	SEDGE HILL 115 KV
State	Virginia
County	Halifax
Transmission Owner	Dominion
MFO	80
MWE	80
MWC	48
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

AF2-297 "Sedge Hill 115 kV" will interconnect with the Dominion's transmission system via an existing substation Sedge Hill 115 kV substation. This is the primary Point of Interconnection (POI) chose 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 battery energy storage facility site to the existing switching station. The IC may not install any facilities on Dominion's right-of-way without first obtaining the necessary approval from Dominion Energy.

The IC requested that a secondary POI of direct connection at "Sedge Hill 230 kV" be reviewed for network impacts. This report does not provide costs for the physical interconnection of the secondary point of interconnection. It was just analyzed for network impacts. Results are shown in the Network Impacts – Secondary Point of Interconnection section of this report.

5 Cost Summary

The AF2-297 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	$ 2,700,000
Total System Network Upgrade Costs	$ 604,983,000
Total Costs	**$ 607,683,000**

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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 AF2-297 was evaluated as a 48 MW Capacity (80.0 MW Energy) injection at the Sedge Hill 115 kV substation in the Dominion Transmission 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.

The required Attachment Facilities, Direct Connection and Non-Direct Connection work for the interconnection of the AF2-297 generation project to the Dominion Transmission System is detailed in the following sections. The associated one-line with the generation project attachment facilities and primary direct and non-direct connection are shown in Attachment 1.

Note that the ITO findings were made from a conceptual review of this project. A more detailed review of the connection facilities and their cost will be identified in a future study phases. Further note that the cost estimate data contained in this document should be considered high level estimates since it was produced without a detailed engineering review. The applicant will be responsible for the actual cost of construction. ITO herein reserves the right to return to any issues in this document and, upon appropriate justification, request additional monies to complete any reinforcements to the transmission systems.

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The total physical interconnection costs is given in the table below:

Description	Total Cost
Attachment Facilities	$ 1,700,000
Sedge Hill 115kV expansion	$ 1,000,000
Total Physical Interconnection Costs	**$ 2,700,000**

It is estimated to take 24-30 months to complete this work upon execution of an Interconnection Construction Service Agreement (ICSA). These preliminary cost estimates are based on typical engineering costs. A more detailed engineering cost estimates are normally done when the IC provides an exact site plan location for the generation substation during the Facility Study phase. See Attachment One.

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.

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

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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.

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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 - Primary POI

The Queue Project AF2-297 was evaluated as an 80.0 MW (Capacity 48.0 MW) injection at the Sedge Hill 115 kV substation in the Dominion area. Project AF2-297 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-297 was studied with a commercial probability of 53%. Potential network impacts were as follows:

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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
106458349	314686	6CLOVER	230.0	DVP	934620	AD1-088 TAP	230.0	DVP	1	314906 8CLOVER R 500 314936 AF1-246 TAP 500 1	single	571.520019531	99.18	100.38	DC	6.87
106458102	314765	6MTEAGLE	230.0	DVP	314749	6CHARLVL	230.0	DVP	1	DVP_P1-2: LN 556-B	single	661.760009766	99.89	100.68	DC	5.23
96972664	314936	8RAWLINGS	500.0	DVP	940470	AE2-031 TAP	500.0	DVP	1	DVP_P1-2: LN 585-B	single	4070.19995117	99.81	100.15	DC	14.01

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
95872839	242631	05EDAN 1	138.0	AEP	242620	05DANVL 2	138.0	AEP	1	AEP_P4_#11112_05J.FERR 765_A1	breaker	402.0	114.4	115.02	DC	5.54
95872841	242631	05EDAN 1	138.0	AEP	242620	05DANVL 2	138.0	AEP	1	AEP_P4_#11111_05J.FERR 765_B1	breaker	402.0	108.53	109.18	DC	5.78
95872969	242687	05JOHNMT	138.0	AEP	242734	05NEWLDN	138.0	AEP	1	Base Case	single	167.0	127.3	129.06	DC	2.94
95872887	242734	05NEWLDN	138.0	AEP	242569	05BRUSHT	138.0	AEP	1	AEP_P4_#10317_05REUSEN 138_D	breaker	205.0	103.78	104.7	DC	4.15
95872952	242741	05OTTER	138.0	AEP	242687	05JOHNMT	138.0	AEP	1	Base Case	single	167.0	132.15	133.91	DC	2.94
106083115	313802	6PRINCEEDW	230.0	DVP	314692	6FARMVIL	230.0	DVP	1	DVP_P4-2: 556T591	breaker	699.0	112.04	113.68	DC	11.49
106083116	313802	6PRINCEEDW	230.0	DVP	314692	6FARMVIL	230.0	DVP	1	DVP_P4-2: 511T556-A	breaker	699.0	112.02	113.67	DC	11.49
106458232	313802	6PRINCEEDW	230.0	DVP	314692	6FARMVIL	230.0	DVP	1	DVP_P1-2: LN 556-B	single	571.520019531	108.07	109.27	DC	6.87
106458233	313802	6PRINCEEDW	230.0	DVP	314692	6FARMVIL	230.0	DVP	1	314906 8CLOVER 500 314936 AF1-246 TAP 500 1	single	571.520019531	105.75	106.95	DC	6.87
106083105	314268	6BRIERY	230.0	DVP	313802	6PRINCEEDW	230.0	DVP	1	DVP_P4-2: 556T591	breaker	699.0	112.91	114.56	DC	11.49
106083106	314268	6BRIERY	230.0	DVP	313802	6PRINCEEDW	230.0	DVP	1	DVP_P4-2: 511T556-A	breaker	699.0	112.9	114.54	DC	11.49
106458225	314268	6BRIERY	230.0	DVP	313802	6PRINCEEDW	230.0	DVP	1	DVP_P1-2: LN 556-B	single	571.520019531	109.14	110.34	DC	6.87

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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
106458226	314268	6BRIERY	230.0	DVP	313802	6PRINCEEDW	230.0	DVP	1	314906 8CLOVER 500 314936 AF1-246 TAP 500 1	single	571.520019531	106.81	108.02	DC	6.87
95442629	314667	4ALTVSTA	138.0	DVP	242741	05OTTER	138.0	AEP	1	Base Case	single	167.0	134.78	136.54	DC	2.94
95442632	314667	4ALTVSTA	138.0	DVP	242741	05OTTER	138.0	AEP	1	242575 05CAMDLM 138 926520 AC1-123 TAP 138 1	single	245.0	111.94	113.2	DC	3.08
97802101	314677	6BUCKING	230.0	DVP	314747	6BREMO	230.0	DVP	1	DVP_P4-2: 511T591	breaker	699.0	137.67	138.54	DC	15.29
97802102	314677	6BUCKING	230.0	DVP	314747	6BREMO	230.0	DVP	1	DVP_P4-2: 556T591	breaker	699.0	137.75	138.62	DC	15.29
106082960	314677	6BUCKING	230.0	DVP	314747	6BREMO	230.0	DVP	1	DVP_P4-2: 511T556-A	breaker	699.0	137.75	138.62	DC	15.29
106457938	314677	6BUCKING	230.0	DVP	314747	6BREMO	230.0	DVP	1	DVP_P1-2: LN 556-B	single	571.520019531	136.95	138.55	DC	9.14
106457939	314677	6BUCKING	230.0	DVP	314747	6BREMO	230.0	DVP	1	314906 8CLOVER 500 314936 AF1-246 TAP 500 1	single	571.520019531	134.79	136.38	DC	9.14
97802284	314686	6CLOVER	230.0	DVP	934620	AD1-088 TAP	230.0	DVP	1	DVP_P4-2: 511T591	breaker	699.0	103.29	104.93	DC	11.49
106083173	314686	6CLOVER	230.0	DVP	934620	AD1-088 TAP	230.0	DVP	1	DVP_P4-2: 556T591	breaker	699.0	103.38	105.02	DC	11.49
106083174	314686	6CLOVER	230.0	DVP	934620	AD1-088 TAP	230.0	DVP	1	DVP_P4-2: 511T556-A	breaker	699.0	103.38	105.02	DC	11.49
106458348	314686	6CLOVER	230.0	DVP	934620	AD1-088 TAP	230.0	DVP	1	DVP_P1-2: LN 556-B	single	571.520019531	101.51	102.71	DC	6.87
97802116	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	DVP_P4-2: 511T591	breaker	684.0	136.61	137.5	DC	15.3
97802118	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	DVP_P4-2: 556T591	breaker	684.0	136.7	137.59	DC	15.3
106082965	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	DVP_P4-2: 511T556-A	breaker	684.0	136.7	137.59	DC	15.3
106457949	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	DVP_P1-2: LN 556-B	single	559.299987793	136.51	138.15	DC	9.14
106457950	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	314906 8CLOVER 500 314936 AF1-246 TAP 500 1	single	559.299987793	134.3	135.94	DC	9.14
106457879	314697	6SEDGEHILL	230.0	DVP	927250	AC1-221 TAP	230.0	DVP	1	DVP_P1-2: LN 556-B	single	674.91998291	135.49	138.43	DC	23.01
106457880	314697	6SEDGEHILL	230.0	DVP	927250	AC1-221 TAP	230.0	DVP	1	314906 8CLOVER 500 314936 AF1-246 TAP 500 1	single	674.91998291	132.27	135.21	DC	23.01
96972407	314702	3KERR	115.0	DVP	304102	3GW KING TAP	115.0	CPLE	1	DVP_P4-6: CAROLINT122	breaker	199.0	142.26	143.28	DC	4.5
96972928	314702	3KERR	115.0	DVP	304102	3GW KING TAP	115.0	CPLE	1	DVP_P7-1: LN 22-90-A	tower	199.0	147.51	148.52	DC	4.46
96972929	314702	3KERR	115.0	DVP	304102	3GW KING TAP	115.0	CPLE	1	DVP_P7-1: LN 22-90-B	tower	199.0	137.47	138.48	DC	4.46
107361473	927250	AC1-221 TAP	230.0	DVP	304070	6PERSON 230 T	230.0	CPLE	1	DVP_P1-2: LN 556-B	single	718.0	137.52	140.1	DC	23.01
107361474	927250	AC1-221 TAP	230.0	DVP	304070	6PERSON 230 T	230.0	CPLE	1	314906 8CLOVER 500 314936 AF1-246 TAP 500 1	single	718.0	134.49	137.07	DC	23.01
106083096	934620	AD1-088 TAP	230.0	DVP	314268	6BRIERY	230.0	DVP	1	DVP_P4-2: 556T591	breaker	699.0	113.48	115.13	DC	11.49
106083097	934620	AD1-088 TAP	230.0	DVP	314268	6BRIERY	230.0	DVP	1	DVP_P4-2: 511T556-A	breaker	699.0	113.47	115.11	DC	11.49
106458207	934620	AD1-088 TAP	230.0	DVP	314268	6BRIERY	230.0	DVP	1	DVP_P1-2: LN 556-B	single	571.520019531	109.84	111.04	DC	6.87
106458208	934620	AD1-088 TAP	230.0	DVP	314268	6BRIERY	230.0	DVP	1	314906 8CLOVER 500 314936 AF1-246 TAP 500 1	single	571.520019531	107.51	108.72	DC	6.87

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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
95873111	242631	05EDAN 1	138.0	AEP	242620	05DANVL2	138.0	AEP	1	AEP_P1-2_#13 77	operation	402.0	108.48	109.13	DC	5.78
95872964	242687	05JOHNMT	138.0	AEP	242734	05NEWLDN	138.0	AEP	1	Base Case	operation	167.0	165.27	166.6	DC	4.91
95873130	242734	05NEWLDN	138.0	AEP	242569	05BRUSHT	138.0	AEP	1	AEP_P1-2_#54 81	operation	205.0	102.48	103.38	DC	4.07
95872947	242741	05OTTER	138.0	AEP	242687	05JOHNMT	138.0	AEP	1	Base Case	operation	167.0	170.12	171.45	DC	4.91
98085669	313707	6FORK UNION	230.0	DVP	961060	AF2-397 TAP	230.0	DVP	1	DVP_P1-2: LN 2027-B	operation	661.760009766	140.98	141.43	DC	6.66
106458230	313802	6PRINCE EDW	230.0	DVP	314692	6FARMVIL	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	571.520019531	134.52	136.52	DC	11.45
98085711	313867	6BREMODIST	230.0	DVP	313707	6FORK UNION	230.0	DVP	1	DVP_P1-2: LN 2027-B	operation	661.760009766	138.69	139.17	DC	6.99
106458223	314268	6BRIERY	230.0	DVP	313802	6PRINCE EDW	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	571.520019531	135.59	137.59	DC	11.45
95442624	314667	4ALTVSTA	138.0	DVP	242741	05OTTER	138.0	AEP	1	Base Case	operation	167.0	172.76	174.08	DC	4.91
106457935	314677	6BUCKING	230.0	DVP	314747	6BREMO	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	571.520019531	165.48	166.55	DC	15.24
106458346	314686	6CLOVER	230.0	DVP	934620	AD1-088 TAP	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	571.520019531	123.95	125.95	DC	11.45
106457946	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	559.299987793	164.12	165.2	DC	15.24
106457877	314697	6SEDGE HILL	230.0	DVP	927250	AC1-221 TAP	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	674.91998291	174.81	180.5	DC	38.35
98085691	314747	6BREMO	230.0	DVP	313867	6BREMODIST	230.0	DVP	1	DVP_P1-2: LN 2027-B	operation	661.760009766	141.07	141.55	DC	6.99
96972511	927250	AC1-221 TAP	230.0	DVP	304070	6PERSON230 T	230.0	CPLE	1	Base Case	operation	542.0	105.46	110.21	DC	25.74
107361470	927250	AC1-221 TAP	230.0	DVP	304070	6PERSON230 T	230.0	CPLE	1	DVP_P1-2: LN 556-B	operation	718.0	178.26	183.61	DC	38.35

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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
106458205	934620	AD1-088 TAP	230.0	DVP	314268	6BRIERY	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	571.520019531	136.29	138.29	DC	11.45

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11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
95872841,95872839	4	05EDAN 1 138.0 kV - 05DANVL2 138.0 kV Ckt 1	**AEP** **n6124 (518) : PJM Network Upgrade n6124. Increasing the Danville - East Danville 138 kV circuit summer rating to 572/572/572 MVA will still require us to rebuild the line. The network project has a projected in-service date of 06/01/2021.** **Project Type : FAC** **Cost : $9,000,000** **Time Estimate : Months**	$9,000,000
95442629,95442632	10	4ALTVSTA 138.0 kV - 05OTTER 138.0 kV Ckt 1	**AEP** **AEPA0014a (228) : Rebuild / reconductor 0.9 miles of overhead conductor (ACSR ~ 397.5 ~ 30/7 ~ LARK)** **Project Type : FAC** **Cost : $1,350,000** **Time Estimate : 24-36 Months** **AEPA0014b (229) : Replace 795 AAC station conductors at Altavista** **Project Type : FAC** **Cost : $100,000** **Time Estimate : 12-18 Months** **DVP** **dom-001 (1090) : Relay Change Outs (Secondary) at Altavista Substation** **Project Type : FAC** **Cost : $120,000** **Time Estimate : 6-12 Months**	$1,570,000
95872952	7	05OTTER 138.0 kV - 05JOHNMT 138.0 kV Ckt 1	**AEP** **AEPA0019a (241) : 2) Replace JohnMt - Otter Line, ACSR ~ 397.5 ~ 30/7 ~ LARK Conductor Section 1, 7 Miles. $10.5M** **Project Type : FAC** **Cost : $10,500,000** **Time Estimate : 24-36 Months** **AEPA0019b (242) : Replace 795 AAC station conductors at Otter** **Project Type : FAC** **Cost : $10,670,000** **Time Estimate : 18-24 Months**	$21,170,000
106083106,106458226,106458225,106083105	9	6BRIERY 230.0 kV - 6PRINCE EDW 230.0 kV Ckt 1	**DVP** **dom-212 (1311) : Rebuild 5.7 miles of 230 kV Line 235 from Briery to Prince EDW with 2-636 ACSR.** **Project Type : FAC** **Cost : $8,550,000** **Time Estimate : 30-36 Months**	$8,550,000

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ID	Idx	Facility	Upgrade Description	Cost
95872969	5	05JOHNMT 138.0 kV - 05NEWLDN 138.0 kV Ckt 1	AEP AEPA0020a (244) : Current Station Rating: S/N: 167, S/E: 240 1) Rebuild/reconductor ACSR ~ 397.5 ~ 30/7 ~ LARK ~ Fe Clamps 9 d, Conductor Section 1, 14.43 miles Project Type : FAC Cost : $21,650,000 Time Estimate : 12-18 Months	$21,650,000
96972664	3	8RAWLINGS 500.0 kV - AE2-031 TAP 500.0 kV Ckt 1	DVP dom-183 (1234) : Build new 500 kV Line from Rawlings to Morrisville Substation 110 miles. Project Type : FAC Cost : $400,000,000 Time Estimate : 60-72 Months	$400,000,000
106458102	2	6MTEAGLE 230.0 kV - 6CHARLVL 230.0 kV Ckt 1	DVP dom-073 (1139) : Rebuild 6.47 miles of 230 kV Line 2028 from Mt Eagle to Charlottesville with 2-636 ACSR. Project Type : FAC Cost : $16,175,000 Time Estimate : 30-36 Months	$16,175,000
106083173,106458349,97802284,106458348,106083174	1	6CLOVER 230.0 kV - AD1-088 TAP 230.0 kV Ckt 1	DVP dom-228 (1350) : Rebuild 33.36 miles of 230 kV line 235 from Clover to AD1-088 Tap with 2-636 ACSR. Project Type : FAC Cost : $50,040,000 Time Estimate : 48-60 Months	$50,040,000
96972928,96972929,96972407	14	3KERR 115.0 kV - 3GW KING TAP 115.0 kV Ckt 1	CPLE NonPJMArea (944) : The external (i.e. Non-PJM) Transmission Owner, CPLE, will not evaluate this violation until the impact study phase. DVP dom-002 (1091) : For DEV portion, rebuild 4.7 miles of 115 kV Line 45 from Kerr Dam to GW King Tap with 768 ACSS. Project Type : FAC Cost : $6,123,000 Time Estimate : 30-36 Months	$6,123,000
107361474,107361473	15	AC1-221 TAP 230.0 kV - 6PERSON230 T 230.0 kV Ckt 1	CPLE NonPJMArea (944) : The external (i.e. Non-PJM) Transmission Owner, CPLE, will not evaluate this violation until the impact study phase. DVP dom-006 (1072) : For DEV portion, rebuild 2 miles of 230 kV Line 296 from AC1-221 Tap to Persons DEP with 2-636 ACSR. Project Type : FAC Cost : $3,000,000 Time Estimate : 30-36 Months	$3,000,000

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ID	Idx	Facility	Upgrade Description	Cost
106458233,106083115,106458232,106083116	8	6PRINCE EDW 230.0 kV - 6FARMVIL 230.0 kV Ckt 1	DVP dom-199 (1298) : Rebuild 7.2 miles of 230 kV Line 235 from Prince EDW to Farmville with 2-636 ACSR. Project Type : FAC Cost : $10,800,000 Time Estimate : 30-36 Months	$10,800,000
97802102,97802101,106457939,106457938,106082960	11	6BUCKING 230.0 kV - 6BREMO 230.0 kV Ckt 1	DVP dom-034 (1123) : Rebuild 15.51 miles of 230 kV Line 298 from Buckingham to Bremo with 2-636 ACSR. Project Type : FAC Cost : $23,265,000 Time Estimate : 30-36 Months	$23,265,000
106457880,106457879	13	6SEDGE HILL 230.0 kV - AC1-221 TAP 230.0 kV Ckt 1	CPLE NonPJMArea (939) : The external (i.e. Non-PJM) Transmission Owner, CPLE, will not evaluate this violation until the impact study phase. DVP No upgrade needed on Dominion system. Need coordination with Duke.	$0
97802118,106082965,106457950,106457949,97802116	12	6FARMVIL 230.0 kV - 6BUCKING 230.0 kV Ckt 1	DVP dom-035 (1124) : Rebuild 12.76 miles of 230 kV Line 298 from Buckingham to Farmville with 2-636 ACSR. Project Type : FAC Cost : $19,140,000 Time Estimate : 30-36 Months	$19,140,000
106083096,106083097,106458207,106458208	16	AD1-088 TAP 230.0 kV - 6BRIERY 230.0 kV Ckt 1	DVP dom-235 (1334) : Rebuild 5.8 miles of 230 kV line 235 from AD1-088 Tap to Briery with 2-636 ACSR. Project Type : FAC Cost : $8,700,000 Time Estimate : 30-36 Months	$8,700,000
95872887	6	05NEWLDN 138.0 kV - 05BRUSHT 138.0 kV Ckt 1	AEP AEPA0018a (239) : Rebuild/Reconductor 2.9 miles of overhead conductor (ACSR ~ 556.5 ~ 26/7 ~ DOVE) to mitigate the overload. Project Type : FAC Cost : $5,800,000 Time Estimate : 24-36 Months	$5,800,000
			TOTAL COST	$604,983,000

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11.6 Flow Gate Details - Primary POI

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".

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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
106083174	314686	6CLOVER	DVP	934620	AD1-088 TAP	DVP	1	DVP_P4-2: 511T556-A	breaker	699.0	103.38	105.02	DC	11.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315153	1CLOVER1	24.1422	50/50	24.1422
315154	1CLOVER2	23.9016	50/50	23.9016
315266	1PLYWOOD A	0.9389	50/50	0.9389
925611	AC1-036 C	-0.3478	Adder	-0.41
925991	AC1-075 C	3.1972	Adder	3.76
925992	AC1-075 E	1.8115	Adder	2.13
926021	AC1-080 C	1.0685	Adder	1.26
926022	AC1-080 E	0.6010	Adder	0.71
926271	**AC1-105 C O1 (Suspended)**	**3.8688**	**50/50**	**3.8688**
926272	**AC1-105 E O1 (Suspended)**	**1.9259**	**50/50**	**1.9259**
926451	AC1-116 C	-0.2683	Adder	-0.32
927251	AC1-221 C	1.4819	50/50	1.4819
927252	AC1-221 E	1.4819	50/50	1.4819
927261	AC1-222 C	3.0620	50/50	3.0620
927262	AC1-222 E	2.9149	50/50	2.9149
932761	AC2-100 C	3.4104	50/50	3.4104
932762	AC2-100 E	1.6646	50/50	1.6646
934311	AD1-055 C	2.1260	50/50	2.1260
934312	AD1-055 E	0.5482	50/50	0.5482
934341	AD1-058 C	3.7149	50/50	3.7149
934342	AD1-058 E	0.9439	50/50	0.9439
934611	AD1-087 C O1	12.3358	50/50	12.3358
934612	AD1-087 E O1	5.7976	50/50	5.7976
934991	AD1-131 C	1.2180	50/50	1.2180
934992	AD1-131 E	0.8120	50/50	0.8120
935171	AD1-152 C O1	12.2592	50/50	12.2592
935172	AD1-152 E O1	8.1728	50/50	8.1728
935221	AD1-157 C	-1.1710	Adder	-1.38
935222	AD1-157 E	-0.7807	Adder	-0.92
936161	AD2-022 C O1	2.9386	Adder	3.46
936162	AD2-022 E O1	1.7632	Adder	2.07
936171	AD2-023 C O1	1.7142	Adder	2.02
936172	AD2-023 E O1	0.9306	Adder	1.09
937481	AD2-202 C O1	3.2691	50/50	3.2691
937482	AD2-202 E O1	1.8389	50/50	1.8389
938561	AE1-075 C	-0.6494	Adder	-0.76
940241	AE2-006	-0.1769	Adder	-0.21
942751	AE2-291 C O1	4.3135	Adder	5.07
942752	AE2-291 E O1	2.8757	Adder	3.38

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942761	AE2-292 C O1	5.3707	Adder	6.32
942762	AE2-292 E O1	3.5805	Adder	4.21
943901	AF1-058 C	1.7239	50/50	1.7239
943902	AF1-058 E	1.1493	50/50	1.1493
945811	AF1-246 C O1	13.3140	50/50	13.3140
945812	AF1-246 E O1	18.3860	50/50	18.3860
946293	AF1-293 BAT	7.5791	Merchant Transmission	7.5791
957481	AF2-042 C O1	95.1000	50/50	95.1000
957482	AF2-042 E O1	63.4000	50/50	63.4000
958503	AF2-144 BAT	0.3346	Merchant Transmission	0.3346
959751	AF2-266 O1	15.8505	50/50	15.8505
960061	AF2-297 C O1	6.8957	50/50	6.8957
960062	AF2-297 E O1	4.5971	50/50	4.5971
960821	AF2-373 C	0.2137	Adder	0.47
960822	AF2-373 E	0.3205	Adder	0.71
961063	AF2-397 BAT	5.3082	50/50	5.3082
WEC	WEC	0.2432	Confirmed LTF	0.2432
LGEE	LGEE	0.4604	Confirmed LTF	0.4604
CPLE	CPLE	2.6553	Confirmed LTF	2.6553
CBM-W2	CBM-W2	9.8853	Confirmed LTF	9.8853
NY	NY	0.3058	Confirmed LTF	0.3058
CBM-W1	CBM-W1	9.0697	Confirmed LTF	9.0697
TVA	TVA	2.0902	Confirmed LTF	2.0902
O-066	O-066	4.3075	Confirmed LTF	4.3075
CBM-S2	CBM-S2	18.0798	Confirmed LTF	18.0798
CBM-S1	CBM-S1	11.6383	Confirmed LTF	11.6383
G-007	G-007	0.6718	Confirmed LTF	0.6718
MADISON	MADISON	0.5927	Confirmed LTF	0.5927
MEC	MEC	1.4825	Confirmed LTF	1.4825
AA2-074	AA2-074	1.8099	LTF	1.8099

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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
106458102	314765	6MTEAGLE	DVP	314749	6CHARLVL	DVP	1	DVP_P1-2: LN 556-B	single	661.76	99.89	100.68	DC	5.23

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
313853	3PONTONDP	0.1175	80/20	0.1175
314333	6POWHATN	0.5026	80/20	0.5026
314429	3JTRSVLE	0.4701	80/20	0.4701
314572	3EMPORIA	0.0248	80/20	0.0248
314677	6BUCKING	0.8262	80/20	0.8262
314704	3LAWRENC	0.1498	80/20	0.1498
315153	1CLOVER1	12.0661	80/20	12.0661
315154	1CLOVER2	11.9459	80/20	11.9459
315158	1KERR 1	0.2503	80/20	0.2503
315159	1KERR 2	0.7008	80/20	0.7008
315160	1KERR 3	0.7008	80/20	0.7008
315161	1KERR 4	0.7008	80/20	0.7008
315162	1KERR 5	0.7008	80/20	0.7008
315163	1KERR 6	0.7008	80/20	0.7008
315164	1KERR 7	0.7008	80/20	0.7008
315191	1BEARGRDN G1	11.1138	80/20	11.1138
315192	1BEARGRDN G2	11.1138	80/20	11.1138
315193	1BEARGRDN S1	22.8730	80/20	22.8730
315266	1PLYWOOD A	0.8613	80/20	0.8613
920291	AA2-127	2.3088	80/20	2.3088
923572	AB1-173 C OP	0.7619	80/20	0.7619
923582	AB1-173AC OP	0.7619	80/20	0.7619
923911	AB2-031 C O1	0.7563	80/20	0.7563
923991	AB2-040 C O1	2.4834	80/20	2.4834
924021	AB2-043 C O1	0.4215	80/20	0.4215
924161	AB2-060 C OP	1.2385	80/20	1.2385
924301	**AB2-077 C O1 (Suspended)**	**1.5268**	**80/20**	**1.5268**
924311	**AB2-078 C O1 (Suspended)**	**1.5268**	**80/20**	**1.5268**
924321	**AB2-079 C O1 (Suspended)**	**1.5268**	**80/20**	**1.5268**
925171	AB2-174 C O1	0.4120	80/20	0.4120
925611	AC1-036 C	0.9926	80/20	0.9926
925781	AC1-054 C O1	3.8323	80/20	3.8323
925831	AC1-062	0.0698	80/20	0.0698
925991	AC1-075 C	3.0973	80/20	3.0973
926021	AC1-080 C	1.0351	80/20	1.0351
926271	**AC1-105 C O1 (Suspended)**	**3.8528**	**80/20**	**3.8528**
926451	AC1-116 C	3.2748	80/20	3.2748
927251	AC1-221 C	1.0129	80/20	1.0129

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
927261	AC1-222 C	2.3539	80/20	2.3539
932511	AC2-071 C	4.7190	80/20	4.7190
932761	AC2-100 C	2.3312	80/20	2.3312
933501	AC2-165 C	14.0739	80/20	14.0739
934311	AD1-055 C	1.6344	80/20	1.6344
934341	AD1-058 C	2.5393	80/20	2.5393
934611	AD1-087 C O1	6.5833	80/20	6.5833
934621	AD1-088 C	18.2491	80/20	18.2491
934991	AD1-131 C	0.8326	80/20	0.8326
935171	AD1-152 C O1	6.5424	80/20	6.5424
935221	AD1-157 C	2.0350	80/20	2.0350
936261	AD2-033 C	12.9496	80/20	12.9496
936361	AD2-046 C O1	5.5797	80/20	5.5797
936481	AD2-063 C O1	13.1904	80/20	13.1904
937481	AD2-202 C O1	1.7446	80/20	1.7446
938371	AE1-056 C	8.7731	80/20	8.7731
938551	AE1-074 C	0.7727	80/20	0.7727
938561	AE1-075 C	2.5546	80/20	2.5546
938821	AE1-108 C	26.5834	80/20	26.5834
939181	AE1-148 C O1	5.5739	80/20	5.5739
940241	AE2-006	0.5050	80/20	0.5050
940661	AE2-053 O1	2.0644	80/20	2.0644
941011	AE2-092 C	20.8855	80/20	20.8855
941791	AE2-182 C	2.9648	80/20	2.9648
942451	AE2-258	1.8230	80/20	1.8230
942461	AE2-259 C O1	15.7908	80/20	15.7908
942751	AE2-291 C O1	4.3709	80/20	4.3709
942761	AE2-292 C O1	5.4422	80/20	5.4422
943901	AF1-058 C	1.3072	80/20	1.3072
943911	AF1-059	9.7380	80/20	9.7380
945811	AF1-246 C O1	6.6545	80/20	6.6545
946281	AF1-292 C	0.5161	80/20	0.5161
946291	AF1-293 C O1	34.5352	80/20	34.5352
946301	AF1-294 C	5.2376	80/20	5.2376
946591	AF1-323 C	8.5226	80/20	8.5226
957481	AF2-042 C O1	47.5320	80/20	47.5320
957911	AF2-085	1.5186	80/20	1.5186
958131	AF2-107 C	4.5188	80/20	4.5188
958211	AF2-115 C	3.1937	80/20	3.1937
958501	AF2-144 C	2.1534	80/20	2.1534
958801	AF2-171 C O1	19.0548	80/20	19.0548
959311	AF2-222 C	17.9610	80/20	17.9610
959531	AF2-244 C	1.9845	80/20	1.9845
959751	AF2-266 O1	7.9220	80/20	7.9220
960061	AF2-297 C O1	5.2286	80/20	5.2286
960081	AF2-299 C	0.8699	80/20	0.8699
960111	AF2-302 C	3.0991	80/20	3.0991
960811	AF2-372 C	0.9644	80/20	0.9644
960821	AF2-373 C	0.6692	80/20	0.6692
961061	AF2-397 C O1	40.3229	80/20	40.3229
961081	AF2-399 C	0.4122	80/20	0.4122
WEC	WEC	0.0847	Confirmed LTF	0.0847

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
LGEE	LGEE	0.1683	Confirmed LTF	0.1683
CPLE	CPLE	2.5382	Confirmed LTF	2.5382
CBM-W2	CBM-W2	6.0115	Confirmed LTF	6.0115
NY	NY	0.3832	Confirmed LTF	0.3832
CBM-W1	CBM-W1	2.8022	Confirmed LTF	2.8022
TVA	TVA	1.4504	Confirmed LTF	1.4504
CBM-S2	CBM-S2	16.2765	Confirmed LTF	16.2765
CBM-S1	CBM-S1	7.6510	Confirmed LTF	7.6510
MADISON	MADISON	0.6471	Confirmed LTF	0.6471
MEC	MEC	0.6992	Confirmed LTF	0.6992
AA2-074	AA2-074	1.7271	LTF	1.7271

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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
96972664	314936	8RAWLINGS	DVP	940470	AE2-031 TAP	DVP	1	DVP_P1-2: LN 585-B	single	4070.2	99.81	100.15	DC	14.01

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
313853	3PONTONDP	0.0933	80/20	0.0933
314429	3JTRSVLE	0.3731	80/20	0.3731
314947	8GREENSVILLE	165.8983	80/20	165.8983
315102	1BRUNSWICKG1	27.5832	80/20	27.5832
315103	1BRUNSWICKG2	27.5832	80/20	27.5832
315104	1BRUNSWICKG3	27.5832	80/20	27.5832
315105	1BRUNSWICKS1	57.3040	80/20	57.3040
315153	1CLOVER1	34.7979	80/20	34.7979
315154	1CLOVER2	34.4511	80/20	34.4511
315158	1KERR 1	0.3886	80/20	0.3886
315159	1KERR 2	1.0879	80/20	1.0879
315160	1KERR 3	1.0879	80/20	1.0879
315161	1KERR 4	1.0879	80/20	1.0879
315162	1KERR 5	1.0879	80/20	1.0879
315163	1KERR 6	1.0879	80/20	1.0879
315164	1KERR 7	1.0879	80/20	1.0879
315266	1PLYWOOD A	2.1042	80/20	2.1042
923831	AB2-022 C	-1.7098	Adder	-2.01
924021	AB2-043 C O1	0.5442	80/20	0.5442
924161	AB2-060 C OP	1.5677	80/20	1.5677
924241	AB2-068 OP	-128.0681	Adder	-150.67
924301	**AB2-077 C O1 (Suspended)**	**2.0339**	**80/20**	**2.0339**
924311	**AB2-078 C O1 (Suspended)**	**2.0339**	**80/20**	**2.0339**
924321	**AB2-079 C O1 (Suspended)**	**2.0339**	**80/20**	**2.0339**
925331	AB2-190 C	-15.2463	Adder	-17.94
925611	AC1-036 C	0.9578	80/20	0.9578
925831	AC1-062	0.0554	80/20	0.0554
925861	AC1-065 C	-2.4191	Adder	-2.85
925991	AC1-075 C	8.3954	80/20	8.3954
926021	AC1-080 C	2.8058	80/20	2.8058
926051	AC1-083 C O1	5.2478	80/20	5.2478
926271	**AC1-105 C O1 (Suspended)**	**9.0580**	**80/20**	**9.0580**
926661	AC1-147 C	-1.9228	Adder	-2.26
926781	AC1-164 C	-27.3619	Adder	-32.19
927251	AC1-221 C	4.0131	80/20	4.0131
927261	AC1-222 C	6.3188	80/20	6.3188
932501	AC2-070 C	-1.0742	Adder	-1.26
932761	AC2-100 C	9.2356	80/20	9.2356

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
932831	AC2-110 C	-0.9676	Adder	-1.14
933261	AC2-137 C	-1.3882	Adder	-1.63
933731	AC2-196 C	-1.5059	Adder	-1.77
933941	AD1-017 C	1.0496	80/20	1.0496
934311	AD1-055 C	4.3873	80/20	4.3873
934341	AD1-058 C	10.0602	80/20	10.0602
934611	AD1-087 C O1	19.4205	80/20	19.4205
934621	AD1-088 C	19.0767	80/20	19.0767
934991	AD1-131 C	3.2984	80/20	3.2984
935111	AD1-144 C	-1.3609	Adder	-1.6
935171	AD1-152 C O1	19.2998	80/20	19.2998
935221	AD1-157 C	1.5236	80/20	1.5236
936151	AD2-021	-0.1583	Adder	-0.19
936161	AD2-022 C O1	13.3614	80/20	13.3614
936171	AD2-023 C O1	7.7942	80/20	7.7942
936261	AD2-033 C	13.0946	80/20	13.0946
936301	AD2-039 C	-0.9676	Adder	-1.14
936361	AD2-046 C O1	8.3729	80/20	8.3729
936481	AD2-063 C O1	15.0615	80/20	15.0615
937251	**AD2-164 (Withdrawn : 06/30/2020)**	**-3.8227**	**Adder**	**-4.5**
937481	AD2-202 C O1	5.1466	80/20	5.1466
937541	AD2-215 C	-1.3749	Adder	-1.62
938031	AE1-004 C	-0.9676	Adder	-1.14
938371	AE1-056 C	6.5685	80/20	6.5685
938491	AE1-068 C O1	190.0454	80/20	190.0454
938501	AE1-069 C O1	150.1652	80/20	150.1652
939181	AE1-148 C O1	8.2901	80/20	8.2901
939311	AE1-162 C	-1.7547	Adder	-2.06
940081	AE1-250 C	14.1417	80/20	14.1417
940241	AE2-006	0.4873	80/20	0.4873
940601	AE2-047 C O1	4.5937	80/20	4.5937
940661	AE2-053 O1	3.0704	80/20	3.0704
941431	AE2-140 C O1	16.8321	80/20	16.8321
941791	AE2-182 C	3.0993	80/20	3.0993
942131	AE2-225 C	-1.6759	Adder	-1.97
942171	AE2-229 C	-1.6759	Adder	-1.97
942451	AE2-258	2.3537	80/20	2.3537
942461	AE2-259 C O1	10.2120	80/20	10.2120
942751	AE2-291 C O1	11.9193	80/20	11.9193
942761	AE2-292 C O1	14.8407	80/20	14.8407
943811	AF1-049 C O1	11.8350	80/20	11.8350
943901	AF1-058 C	3.5020	80/20	3.5020
945811	AF1-246 C O1	21.5695	80/20	21.5695
946301	AF1-294 C	4.1574	80/20	4.1574
957481	AF2-042 C O1	152.7180	80/20	152.7180
958211	AF2-115 C	2.5350	80/20	2.5350
958801	AF2-171 C O1	15.2046	80/20	15.2046
959311	AF2-222 C	16.8160	80/20	16.8160
959751	AF2-266 O1	22.8465	80/20	22.8465
960061	AF2-297 C O1	14.0078	80/20	14.0078
960811	AF2-372 C	1.2847	80/20	1.2847
960821	AF2-373 C	1.3675	80/20	1.3675

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
961081	AF2-399 C	0.3278	80/20	0.3278
WEC	WEC	1.5536	Confirmed LTF	1.5536
LGEE	LGEE	2.9312	Confirmed LTF	2.9312
CPLE	CPLE	14.6172	Confirmed LTF	14.6172
CBM-W2	CBM-W2	61.6052	Confirmed LTF	61.6052
NY	NY	2.0832	Confirmed LTF	2.0832
CBM-W1	CBM-W1	58.0964	Confirmed LTF	58.0964
TVA	TVA	12.8968	Confirmed LTF	12.8968
CBM-S2	CBM-S2	104.4562	Confirmed LTF	104.4562
CBM-S1	CBM-S1	72.0366	Confirmed LTF	72.0366
MADISON	MADISON	3.5220	Confirmed LTF	3.5220
MEC	MEC	9.3529	Confirmed LTF	9.3529
AA2-074	AA2-074	9.9648	LTF	9.9648

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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
95872839	247631	05EDAN 1	AEP	247620	05DANVL 2	AEP	1	AEP_P4_#11112_05J.FERR 765_A1	breaker	402.0	114.4	115.02	DC	5.54

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
244012	05PINNACLE	-1.8090	Adder	-2.13
315131	1EDGECMA (Deactivation : 22/04/2019)	3.5545	Adder	4.18
315132	1EDGECMB (Deactivation : 22/04/2019)	3.5545	Adder	4.18
917332	Z2-043 E	0.3416	Adder	0.4
917342	Z2-044 E	0.2131	Adder	0.25
917512	Z2-088 E OP1	1.3831	Adder	1.63
918492	AA1-063AE OP	1.1318	Adder	1.33
918532	AA1-067 E	0.2426	Adder	0.29
919692	AA2-053 E OP	1.0995	Adder	1.29
919702	AA2-057 E OP	1.2081	Adder	1.42
920592	AA2-165 E	0.1660	Adder	0.2
920672	AA2-174 E OP	0.1271	Adder	0.15
922922	AB1-081 C OP	3.4267	Adder	4.03
922923	AB1-081 E OP	1.4686	Adder	1.73
923262	AB1-132 C OP (Suspended)	4.0634	Adder	4.78
923263	AB1-132 E OP (Suspended)	1.7414	Adder	2.05
923572	AB1-173 C OP	0.6354	Adder	0.75
923573	AB1-173 E OP	0.2965	Adder	0.35
923582	AB1-173AC OP	0.6354	Adder	0.75
923583	AB1-173AE OP	0.2965	Adder	0.35
923911	AB2-031 C O1	0.6307	Adder	0.74
923912	AB2-031 E O1	0.3106	Adder	0.37
923991	AB2-040 C O1	2.0708	Adder	2.44
923992	AB2-040 E O1	1.6943	Adder	1.99
924022	AB2-043 E O1	0.8878	Adder	1.04
924152	AB2-059 E OP	2.0805	Adder	2.45
924162	AB2-060 E OP	1.3365	Adder	1.57
924301	AB2-077 C O1 (Suspended)	0.6357	Adder	0.75
924302	AB2-077 E O1 (Suspended)	0.4238	Adder	0.5
924311	AB2-078 C O1 (Suspended)	0.6357	Adder	0.75
924312	AB2-078 E O1 (Suspended)	0.4238	Adder	0.5
924321	AB2-079 C O1 (Suspended)	0.6357	Adder	0.75
924322	AB2-079 E O1 (Suspended)	0.4238	Adder	0.5

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924501	AB2-099 C (Suspended)	0.1611	Adder	0.19
924502	AB2-099 E (Suspended)	0.0690	Adder	0.08
925122	AB2-169 E	1.6847	Adder	1.98
925172	AB2-174 E O1	1.7694	Adder	2.08
925591	AC1-034 C	2.6159	Adder	3.08
925592	AC1-034 E	1.9734	Adder	2.32
925611	AC1-036 C	0.2686	Adder	0.32
925612	AC1-036 E	0.4382	Adder	0.52
925781	AC1-054 C O1	2.4980	Adder	2.94
925782	AC1-054 E O1	1.1507	Adder	1.35
926051	AC1-083 C O1	3.9626	50/50	3.9626
926052	AC1-083 E O1	6.4654	50/50	6.4654
926071	AC1-086 C	5.9838	Adder	7.04
926072	AC1-086 E	2.7234	Adder	3.2
926201	AC1-098 C	1.9882	Adder	2.34
926202	AC1-098 E	1.1845	Adder	1.39
926211	AC1-099 C	0.6663	Adder	0.78
926212	AC1-099 E	0.3913	Adder	0.46
926271	AC1-105 C O1 (Suspended)	1.9582	Adder	2.3
926272	AC1-105 E O1 (Suspended)	0.9748	Adder	1.15
927021	AC1-189 C	3.0130	Adder	3.54
927022	AC1-189 E	1.5009	Adder	1.77
927141	AC1-208 C	2.9907	Adder	3.52
927142	AC1-208 E	1.3280	Adder	1.56
927251	AC1-221 C	1.5648	50/50	1.5648
927252	AC1-221 E	1.5648	50/50	1.5648
927261	AC1-222 C	1.2518	Adder	1.47
927262	AC1-222 E	1.1917	Adder	1.4
932631	AC2-084 C	2.8343	Adder	3.33
932632	AC2-084 E	1.3960	Adder	1.64
932761	AC2-100 C	3.6012	50/50	3.6012
932762	AC2-100 E	1.7578	50/50	1.7578
933941	AD1-017 C	0.7925	50/50	0.7925
933942	AD1-017 E	1.2931	50/50	1.2931
934311	AD1-055 C	0.8691	Adder	1.02
934312	AD1-055 E	0.2241	Adder	0.26
934331	AD1-057 C O1	3.4134	Adder	4.02
934332	AD1-057 E O1	1.8209	Adder	2.14
934341	AD1-058 C	3.9228	50/50	3.9228
934342	AD1-058 E	0.9968	50/50	0.9968
934611	AD1-087 C O1	2.7885	Adder	3.28
934612	AD1-087 E O1	1.3105	Adder	1.54
934991	AD1-131 C	1.2862	50/50	1.2862
934992	AD1-131 E	0.8574	50/50	0.8574
935171	AD1-152 C O1	2.7711	Adder	3.26
935172	AD1-152 E O1	1.8474	Adder	2.17
936161	AD2-022 C O1	10.5804	50/50	10.5804
936162	AD2-022 E O1	6.3482	50/50	6.3482
936171	AD2-023 C O1	6.1719	50/50	6.1719
936172	AD2-023 E O1	3.3505	50/50	3.3505
936261	AD2-033 C	3.7513	Adder	4.41

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936262	AD2-033 E	2.5008	Adder	2.94
936361	AD2-046 C O1	3.1497	Adder	3.71
936362	AD2-046 E O1	1.4484	Adder	1.7
936481	AD2-063 C O1	4.5403	Adder	5.34
936482	AD2-063 E O1	3.0016	Adder	3.53
937481	AD2-202 C O1	0.7390	Adder	0.87
937482	AD2-202 E O1	0.4157	Adder	0.49
939181	AE1-148 C O1	3.0900	Adder	3.64
939182	AE1-148 E O1	2.0600	Adder	2.42
939441	AE1-176	-0.1149	Adder	-0.14
940081	AE1-250 C	14.0508	50/50	14.0508
940082	AE1-250 E	9.3672	50/50	9.3672
940241	AE2-006	0.1366	Adder	0.16
940571	AE2-044 C	1.7134	Adder	2.02
940572	AE2-044 E	0.7343	Adder	0.86
940661	AE2-053 O1	1.1444	Adder	1.35
941541	AE2-151 C	0.3022	Adder	0.36
941542	AE2-151 E	0.1627	Adder	0.19
942451	AE2-258	0.7407	Adder	0.87
943171	AE2-346 C	0.3866	Adder	0.45
943172	AE2-346 E	0.1657	Adder	0.19
943901	AF1-058 C	0.7057	Adder	0.83
943902	AF1-058 E	0.4705	Adder	0.55
943911	AF1-059	4.9266	Adder	5.8
944141	AF1-082	1.1014	Adder	1.3
945811	AF1-246 C O1	1.9428	Adder	2.29
945812	AF1-246 E O1	2.6829	Adder	3.16
957481	AF2-042 C O1	7.3954	Adder	16.42
957482	AF2-042 E O1	4.9303	Adder	10.94
957861	AF2-080 C	1.4504	Adder	3.22
957862	AF2-080 E	0.6429	Adder	1.43
959231	AF2-214 C	1.9621	Adder	4.36
959232	AF2-214 E	2.9415	Adder	6.53
959311	AF2-222 C	2.4620	Adder	5.47
959312	AF2-222 E	1.6495	Adder	3.66
959511	AF2-242	1.2786	Adder	2.84
959751	AF2-266 O1	1.3105	Adder	2.91
960061	AF2-297 C O1	1.4962	Adder	3.32
960062	AF2-297 E O1	0.9974	Adder	2.21
960122	AF2-303 E O1	2.4361	Adder	5.41
960331	AF2-324 C O1	1.5851	Adder	3.52
960332	AF2-324 E O1	0.8510	Adder	1.89
960351	**AF2-326 C (Withdrawn : 07/22/2020)**	**0.5185**	**Adder**	**1.15**
960352	**AF2-326 E (Withdrawn : 07/22/2020)**	**0.1296**	**Adder**	**0.29**
960811	AF2-372 C	0.2128	Adder	0.47
960812	AF2-372 E	0.3473	Adder	0.77
960821	AF2-373 C	0.1698	Adder	0.38
960822	AF2-373 E	0.2547	Adder	0.57
960831	AF2-374 C	0.1904	Adder	0.42
960832	AF2-374 E	0.3107	Adder	0.69
NEWTON	NEWTON	0.3567	Confirmed LTF	0.3567

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CPLE	CPLE	5.5176	Confirmed LTF	5.5176
G-007A	G-007A	0.6186	Confirmed LTF	0.6186
VFT	VFT	1.6254	Confirmed LTF	1.6254
CBM-W2	CBM-W2	5.2744	Confirmed LTF	5.2744
TVA	TVA	1.9418	Confirmed LTF	1.9418
EDWARDS	EDWARDS	0.1740	Confirmed LTF	0.1740
CBM-S2	CBM-S2	37.0845	Confirmed LTF	37.0845
CBM-S1	CBM-S1	8.5967	Confirmed LTF	8.5967
TILTON	TILTON	0.3856	Confirmed LTF	0.3856
MADISON	MADISON	1.8829	Confirmed LTF	1.8829
GIBSON	GIBSON	0.2905	Confirmed LTF	0.2905
BLUEG	BLUEG	1.2187	Confirmed LTF	1.2187
TRIMBLE	TRIMBLE	0.4096	Confirmed LTF	0.4096
AA2-074	AA2-074	3.7471	LTF	3.7471

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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
95872969	242687	05JOHNMT	AEP	242734	05NEWLDN	AEP	1	Base Case	single	167.0	127.3	129.06	DC	2.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
246843	05SMG1	1.1678	80/20	1.1678
246844	05SMG2	3.0823	80/20	3.0823
246845	05SMG3	1.7494	80/20	1.7494
246846	05SMG4	3.0823	80/20	3.0823
246847	05SMG5	1.1678	80/20	1.1678
247284	05LEESVG	1.8553	80/20	1.8553
315156	1HALLBR1	2.7785	80/20	2.7785
315266	1PLYWOOD A	0.4352	80/20	0.4352
919841	AA2-070	0.5665	80/20	0.5665
925661	AC1-042 C	5.4443	80/20	5.4443
925991	AC1-075 C	6.7757	80/20	6.7757
926021	AC1-080 C	2.2644	80/20	2.2644
926051	AC1-083 C O1	2.7911	80/20	2.7911
926271	**AC1-105 C O1 (Suspended)**	**1.8710**	**80/20**	**1.8710**
926641	AC1-145 C	6.4813	80/20	6.4813
927261	AC1-222 C	1.9836	80/20	1.9836
933941	AD1-017 C	0.5582	80/20	0.5582
934311	AD1-055 C	1.3773	80/20	1.3773
938451	AE1-064 C	6.1559	80/20	6.1559
939941	AE1-230 C	2.4561	80/20	2.4561
940081	AE1-250 C	5.0616	80/20	5.0616
941801	AE2-185 C	12.2803	80/20	12.2803
941821	AE2-187 C	12.2803	80/20	12.2803
942671	AE2-283 C	13.5084	80/20	13.5084
942751	AE2-291 C O1	13.2076	80/20	13.2076
942761	AE2-292 C O1	16.4447	80/20	16.4447
943901	AF1-058 C	0.7358	80/20	0.7358
945081	AF1-173	4.7586	80/20	4.7586
960061	AF2-297 C O1	2.9434	80/20	2.9434
961121	AF2-403	2.7290	80/20	2.7290
NEWTON	NEWTON	0.2063	Confirmed LTF	0.2063
CPLE	CPLE	0.7998	Confirmed LTF	0.7998
FARMERCITY	FARMERCITY	0.0081	Confirmed LTF	0.0081
G-007A	G-007A	0.0096	Confirmed LTF	0.0096
VFT	VFT	0.0193	Confirmed LTF	0.0193
NY	NY	0.0144	Confirmed LTF	0.0144
PRAIRIE	PRAIRIE	0.3668	Confirmed LTF	0.3668
EDWARDS	EDWARDS	0.0721	Confirmed LTF	0.0721
CBM-S2	CBM-S2	4.2078	Confirmed LTF	4.2078
TILTON	TILTON	0.1392	Confirmed LTF	0.1392
MADISON	MADISON	0.2157	Confirmed LTF	0.2157

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
GIBSON	GIBSON	0.1179	Confirmed LTF	0.1179
BLUEG	BLUEG	0.4132	Confirmed LTF	0.4132
TRIMBLE	TRIMBLE	0.1347	Confirmed LTF	0.1347

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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
95872887	247234	05NEWLDN	AEP	242569	05BRUSHT	AEP	1	AEP_P4_#10317_05REUSEN 138_D	breaker	205.0	103.78	104.7	DC	4.15

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
247284	05LEESVG	1.5480	50/50	1.5480
315156	1HALLBR1	2.3619	50/50	2.3619
925661	AC1-042 C	4.5784	50/50	4.5784
925662	AC1-042 E	7.4701	50/50	7.4701
925991	AC1-075 C	5.7546	50/50	5.7546
925992	AC1-075 E	3.2604	50/50	3.2604
926021	AC1-080 C	1.9232	50/50	1.9232
926022	AC1-080 E	1.0818	50/50	1.0818
926051	AC1-083 C O1	1.9354	Adder	2.28
926052	AC1-083 E O1	3.1578	Adder	3.72
926641	AC1-145 C	5.4505	50/50	5.4505
926642	AC1-145 E	4.8911	50/50	4.8911
927261	AC1-222 C	1.4289	Adder	1.68
927262	AC1-222 E	1.3603	Adder	1.6
933941	AD1-017 C	0.3871	Adder	0.46
933942	AD1-017 E	0.6316	Adder	0.74
934311	AD1-055 C	0.9921	Adder	1.17
934312	AD1-055 E	0.2558	Adder	0.3
938451	AE1-064 C	4.2701	Adder	5.02
938452	AE1-064 E	2.1888	Adder	2.58
939941	AE1-230 C	2.0655	50/50	2.0655
939942	AE1-230 E	3.6719	50/50	3.6719
941801	AE2-185 C	10.3273	50/50	10.3273
941802	AE2-185 E	6.8849	50/50	6.8849
941821	AE2-187 C	10.3273	50/50	10.3273
941822	AE2-187 E	4.5899	50/50	4.5899
942671	AE2-283 C	11.3601	50/50	11.3601
942672	AE2-283 E	5.9669	50/50	5.9669
942751	AE2-291 C O1	11.2216	50/50	11.2216
942752	AE2-291 E O1	7.4811	50/50	7.4811
942761	AE2-292 C O1	13.9720	50/50	13.9720
942762	AE2-292 E O1	9.3147	50/50	9.3147
943901	AF1-058 C	0.5292	Adder	0.62
943902	AF1-058 E	0.3528	Adder	0.42
945081	AF1-173	4.0018	50/50	4.0018
960061	AF2-297 C O1	1.1219	Adder	2.49
960062	AF2-297 E O1	0.7479	Adder	1.66
961121	AF2-403	2.2950	50/50	2.2950
NEWTON	NEWTON	0.1612	Confirmed LTF	0.1612
CPLE	CPLE	0.6727	Confirmed LTF	0.6727
FARMERCITY	FARMERCITY	0.0062	Confirmed LTF	0.0062
NY	NY	0.0138	Confirmed LTF	0.0138

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
TVA	TVA	0.0028	Confirmed LTF	0.0028
PRAIRIE	PRAIRIE	0.2815	Confirmed LTF	0.2815
O-066	O-066	0.0269	Confirmed LTF	0.0269
EDWARDS	EDWARDS	0.0570	Confirmed LTF	0.0570
CBM-S2	CBM-S2	3.5605	Confirmed LTF	3.5605
TILTON	TILTON	0.1103	Confirmed LTF	0.1103
G-007	G-007	0.0031	Confirmed LTF	0.0031
MADISON	MADISON	0.1774	Confirmed LTF	0.1774
GIBSON	GIBSON	0.0928	Confirmed LTF	0.0928
BLUEG	BLUEG	0.3281	Confirmed LTF	0.3281
TRIMBLE	TRIMBLE	0.1068	Confirmed LTF	0.1068

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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
95872952	242741	05OTTER	AEP	242687	05JOHNMT	AEP	1	Base Case	single	167.0	132.15	133.91	DC	2.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
246843	05SMG1	1.1678	80/20	1.1678
246844	05SMG2	3.0823	80/20	3.0823
246845	05SMG3	1.7494	80/20	1.7494
246846	05SMG4	3.0823	80/20	3.0823
246847	05SMG5	1.1678	80/20	1.1678
247284	05LEESVG	1.8553	80/20	1.8553
315156	1HALLBR1	2.7785	80/20	2.7785
315266	1PLYWOOD A	0.4352	80/20	0.4352
919841	AA2-070	0.5665	80/20	0.5665
925661	AC1-042 C	5.4443	80/20	5.4443
925991	AC1-075 C	6.7757	80/20	6.7757
926021	AC1-080 C	2.2644	80/20	2.2644
926051	AC1-083 C O1	2.7911	80/20	2.7911
926271	**AC1-105 C O1 (Suspended)**	**1.8710**	**80/20**	**1.8710**
926641	AC1-145 C	6.4813	80/20	6.4813
927261	AC1-222 C	1.9836	80/20	1.9836
933941	AD1-017 C	0.5582	80/20	0.5582
934311	AD1-055 C	1.3773	80/20	1.3773
938451	AE1-064 C	6.1559	80/20	6.1559
939941	AE1-230 C	2.4561	80/20	2.4561
940081	AE1-250 C	5.0616	80/20	5.0616
941801	AE2-185 C	12.2803	80/20	12.2803
941821	AE2-187 C	12.2803	80/20	12.2803
942671	AE2-283 C	13.5084	80/20	13.5084
942751	AE2-291 C O1	13.2076	80/20	13.2076
942761	AE2-292 C O1	16.4447	80/20	16.4447
943901	AF1-058 C	0.7358	80/20	0.7358
945081	AF1-173	4.7586	80/20	4.7586
960061	AF2-297 C O1	2.9434	80/20	2.9434
961121	AF2-403	2.7290	80/20	2.7290
NEWTON	NEWTON	0.2063	Confirmed LTF	0.2063
CPLE	CPLE	0.7998	Confirmed LTF	0.7998
FARMERCITY	FARMERCITY	0.0081	Confirmed LTF	0.0081
G-007A	G-007A	0.0096	Confirmed LTF	0.0096
VFT	VFT	0.0193	Confirmed LTF	0.0193
NY	NY	0.0144	Confirmed LTF	0.0144
PRAIRIE	PRAIRIE	0.3668	Confirmed LTF	0.3668
EDWARDS	EDWARDS	0.0721	Confirmed LTF	0.0721
CBM-S2	CBM-S2	4.2078	Confirmed LTF	4.2078
TILTON	TILTON	0.1392	Confirmed LTF	0.1392
MADISON	MADISON	0.2157	Confirmed LTF	0.2157

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
GIBSON	GIBSON	0.1179	Confirmed LTF	0.1179
BLUEG	BLUEG	0.4132	Confirmed LTF	0.4132
TRIMBLE	TRIMBLE	0.1347	Confirmed LTF	0.1347

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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
106083116	313802	6PRINCE EDW	DVP	314692	6FARMVIL	DVP	1	DVP_P4-2: 511T556-A	breaker	699.0	112.02	113.67	DC	11.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315153	1CLOVER1	24.1422	50/50	24.1422
315154	1CLOVER2	23.9016	50/50	23.9016
315266	1PLYWOOD A	0.9389	50/50	0.9389
925611	AC1-036 C	-0.3478	Adder	-0.41
925991	AC1-075 C	3.1972	Adder	3.76
925992	AC1-075 E	1.8115	Adder	2.13
926021	AC1-080 C	1.0685	Adder	1.26
926022	AC1-080 E	0.6010	Adder	0.71
926271	**AC1-105 C O1 (Suspended)**	**3.8688**	**50/50**	**3.8688**
926272	**AC1-105 E O1 (Suspended)**	**1.9259**	**50/50**	**1.9259**
926451	AC1-116 C	-0.2683	Adder	-0.32
927251	AC1-221 C	1.4819	50/50	1.4819
927252	AC1-221 E	1.4819	50/50	1.4819
927261	AC1-222 C	3.0620	50/50	3.0620
927262	AC1-222 E	2.9149	50/50	2.9149
932761	AC2-100 C	3.4104	50/50	3.4104
932762	AC2-100 E	1.6646	50/50	1.6646
934311	AD1-055 C	2.1260	50/50	2.1260
934312	AD1-055 E	0.5482	50/50	0.5482
934341	AD1-058 C	3.7149	50/50	3.7149
934342	AD1-058 E	0.9439	50/50	0.9439
934611	AD1-087 C O1	12.3358	50/50	12.3358
934612	AD1-087 E O1	5.7976	50/50	5.7976
934621	AD1-088 C	41.9311	50/50	41.9311
934622	AD1-088 E	19.7323	50/50	19.7323
934991	AD1-131 C	1.2180	50/50	1.2180
934992	AD1-131 E	0.8120	50/50	0.8120
935171	AD1-152 C O1	12.2592	50/50	12.2592
935172	AD1-152 E O1	8.1728	50/50	8.1728
935221	AD1-157 C	-1.1710	Adder	-1.38
935222	AD1-157 E	-0.7807	Adder	-0.92
936161	AD2-022 C O1	2.9386	Adder	3.46
936162	AD2-022 E O1	1.7632	Adder	2.07
936171	AD2-023 C O1	1.7142	Adder	2.02
936172	AD2-023 E O1	0.9306	Adder	1.09
937481	AD2-202 C O1	3.2691	50/50	3.2691
937482	AD2-202 E O1	1.8389	50/50	1.8389
938561	AE1-075 C	-0.6494	Adder	-0.76
940241	AE2-006	-0.1769	Adder	-0.21

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941791	AE2-182 C	6.8123	50/50	6.8123
941792	AE2-182 E	3.1713	50/50	3.1713
942751	AE2-291 C O1	4.3135	Adder	5.07
942752	AE2-291 E O1	2.8757	Adder	3.38
942761	AE2-292 C O1	5.3707	Adder	6.32
942762	AE2-292 E O1	3.5805	Adder	4.21
943901	AF1-058 C	1.7239	50/50	1.7239
943902	AF1-058 E	1.1493	50/50	1.1493
945811	AF1-246 C O1	13.3140	50/50	13.3140
945812	AF1-246 E O1	18.3860	50/50	18.3860
946293	AF1-293 BAT	7.5791	Merchant Transmission	7.5791
957481	AF2-042 C O1	95.1000	50/50	95.1000
957482	AF2-042 E O1	63.4000	50/50	63.4000
958503	AF2-144 BAT	0.3346	Merchant Transmission	0.3346
959751	AF2-266 O1	15.8505	50/50	15.8505
960061	AF2-297 C O1	6.8957	50/50	6.8957
960062	AF2-297 E O1	4.5971	50/50	4.5971
960821	AF2-373 C	0.2137	Adder	0.47
960822	AF2-373 E	0.3205	Adder	0.71
961063	AF2-397 BAT	5.3082	50/50	5.3082
WEC	WEC	0.2432	Confirmed LTF	0.2432
LGEE	LGEE	0.4604	Confirmed LTF	0.4604
CPLE	CPLE	2.6553	Confirmed LTF	2.6553
CBM-W2	CBM-W2	9.8853	Confirmed LTF	9.8853
NY	NY	0.3058	Confirmed LTF	0.3058
CBM-W1	CBM-W1	9.0697	Confirmed LTF	9.0697
TVA	TVA	2.0902	Confirmed LTF	2.0902
O-066	O-066	4.3075	Confirmed LTF	4.3075
CBM-S2	CBM-S2	18.0798	Confirmed LTF	18.0798
CBM-S1	CBM-S1	11.6383	Confirmed LTF	11.6383
G-007	G-007	0.6718	Confirmed LTF	0.6718
MADISON	MADISON	0.5927	Confirmed LTF	0.5927
MEC	MEC	1.4825	Confirmed LTF	1.4825
AA2-074	AA2-074	1.8099	LTF	1.8099

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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
106083106	314268	6BRIERY	DVP	313802	6PRINCE EDW	DVP	1	DVP_P4-2: 511T556-A	breaker	699.0	112.9	114.54	DC	11.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315153	1CLOVER1	24.1422	50/50	24.1422
315154	1CLOVER2	23.9016	50/50	23.9016
315266	1PLYWOOD A	0.9389	50/50	0.9389
925611	AC1-036 C	-0.3478	Adder	-0.41
925991	AC1-075 C	3.1972	Adder	3.76
925992	AC1-075 E	1.8115	Adder	2.13
926021	AC1-080 C	1.0685	Adder	1.26
926022	AC1-080 E	0.6010	Adder	0.71
926271	**AC1-105 C O1 (Suspended)**	**3.8688**	**50/50**	**3.8688**
926272	**AC1-105 E O1 (Suspended)**	**1.9259**	**50/50**	**1.9259**
926451	AC1-116 C	-0.2683	Adder	-0.32
927251	AC1-221 C	1.4819	50/50	1.4819
927252	AC1-221 E	1.4819	50/50	1.4819
927261	AC1-222 C	3.0620	50/50	3.0620
927262	AC1-222 E	2.9149	50/50	2.9149
932761	AC2-100 C	3.4104	50/50	3.4104
932762	AC2-100 E	1.6646	50/50	1.6646
934311	AD1-055 C	2.1260	50/50	2.1260
934312	AD1-055 E	0.5482	50/50	0.5482
934341	AD1-058 C	3.7149	50/50	3.7149
934342	AD1-058 E	0.9439	50/50	0.9439
934611	AD1-087 C O1	12.3358	50/50	12.3358
934612	AD1-087 E O1	5.7976	50/50	5.7976
934621	AD1-088 C	41.9311	50/50	41.9311
934622	AD1-088 E	19.7323	50/50	19.7323
934991	AD1-131 C	1.2180	50/50	1.2180
934992	AD1-131 E	0.8120	50/50	0.8120
935171	AD1-152 C O1	12.2592	50/50	12.2592
935172	AD1-152 E O1	8.1728	50/50	8.1728
935221	AD1-157 C	-1.1710	Adder	-1.38
935222	AD1-157 E	-0.7807	Adder	-0.92
936161	AD2-022 C O1	2.9386	Adder	3.46
936162	AD2-022 E O1	1.7632	Adder	2.07
936171	AD2-023 C O1	1.7142	Adder	2.02
936172	AD2-023 E O1	0.9306	Adder	1.09
937481	AD2-202 C O1	3.2691	50/50	3.2691
937482	AD2-202 E O1	1.8389	50/50	1.8389
938561	AE1-075 C	-0.6494	Adder	-0.76
940241	AE2-006	-0.1769	Adder	-0.21

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941791	AE2-182 C	6.8123	50/50	6.8123
941792	AE2-182 E	3.1713	50/50	3.1713
942751	AE2-291 C O1	4.3135	Adder	5.07
942752	AE2-291 E O1	2.8757	Adder	3.38
942761	AE2-292 C O1	5.3707	Adder	6.32
942762	AE2-292 E O1	3.5805	Adder	4.21
943901	AF1-058 C	1.7239	50/50	1.7239
943902	AF1-058 E	1.1493	50/50	1.1493
945811	AF1-246 C O1	13.3140	50/50	13.3140
945812	AF1-246 E O1	18.3860	50/50	18.3860
946293	AF1-293 BAT	7.5791	Merchant Transmission	7.5791
957481	AF2-042 C O1	95.1000	50/50	95.1000
957482	AF2-042 E O1	63.4000	50/50	63.4000
958503	AF2-144 BAT	0.3346	Merchant Transmission	0.3346
959751	AF2-266 O1	15.8505	50/50	15.8505
960061	AF2-297 C O1	6.8957	50/50	6.8957
960062	AF2-297 E O1	4.5971	50/50	4.5971
960821	AF2-373 C	0.2137	Adder	0.47
960822	AF2-373 E	0.3205	Adder	0.71
961063	AF2-397 BAT	5.3082	50/50	5.3082
WEC	WEC	0.2432	Confirmed LTF	0.2432
LGEE	LGEE	0.4604	Confirmed LTF	0.4604
CPLE	CPLE	2.6553	Confirmed LTF	2.6553
CBM-W2	CBM-W2	9.8853	Confirmed LTF	9.8853
NY	NY	0.3058	Confirmed LTF	0.3058
CBM-W1	CBM-W1	9.0697	Confirmed LTF	9.0697
TVA	TVA	2.0902	Confirmed LTF	2.0902
O-066	O-066	4.3075	Confirmed LTF	4.3075
CBM-S2	CBM-S2	18.0798	Confirmed LTF	18.0798
CBM-S1	CBM-S1	11.6383	Confirmed LTF	11.6383
G-007	G-007	0.6718	Confirmed LTF	0.6718
MADISON	MADISON	0.5927	Confirmed LTF	0.5927
MEC	MEC	1.4825	Confirmed LTF	1.4825
AA2-074	AA2-074	1.8099	LTF	1.8099

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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
95442629	314667	4ALTVSTA	DVP	242741	05OTTER	AEP	1	Base Case	single	167.0	134.78	136.54	DC	2.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
246843	05SMG1	1.1678	80/20	1.1678
246844	05SMG2	3.0823	80/20	3.0823
246845	05SMG3	1.7494	80/20	1.7494
246846	05SMG4	3.0823	80/20	3.0823
246847	05SMG5	1.1678	80/20	1.1678
247284	05LEESVG	1.8553	80/20	1.8553
315156	1HALLBR1	2.7785	80/20	2.7785
315266	1PLYWOOD A	0.4352	80/20	0.4352
919841	AA2-070	0.5665	80/20	0.5665
925661	AC1-042 C	5.4443	80/20	5.4443
925991	AC1-075 C	6.7757	80/20	6.7757
926021	AC1-080 C	2.2644	80/20	2.2644
926051	AC1-083 C O1	2.7911	80/20	2.7911
926271	**AC1-105 C O1 (Suspended)**	**1.8710**	**80/20**	**1.8710**
926641	AC1-145 C	6.4813	80/20	6.4813
927261	AC1-222 C	1.9836	80/20	1.9836
933941	AD1-017 C	0.5582	80/20	0.5582
934311	AD1-055 C	1.3773	80/20	1.3773
938451	AE1-064 C	6.1559	80/20	6.1559
939941	AE1-230 C	2.4561	80/20	2.4561
940081	AE1-250 C	5.0616	80/20	5.0616
941801	AE2-185 C	12.2803	80/20	12.2803
941821	AE2-187 C	12.2803	80/20	12.2803
942671	AE2-283 C	13.5084	80/20	13.5084
942751	AE2-291 C O1	13.2076	80/20	13.2076
942761	AE2-292 C O1	16.4447	80/20	16.4447
943901	AF1-058 C	0.7358	80/20	0.7358
945081	AF1-173	4.7586	80/20	4.7586
960061	AF2-297 C O1	2.9434	80/20	2.9434
961121	AF2-403	2.7290	80/20	2.7290
NEWTON	NEWTON	0.2063	Confirmed LTF	0.2063
CPLE	CPLE	0.7998	Confirmed LTF	0.7998
FARMERCITY	FARMERCITY	0.0081	Confirmed LTF	0.0081
G-007A	G-007A	0.0096	Confirmed LTF	0.0096
VFT	VFT	0.0193	Confirmed LTF	0.0193
NY	NY	0.0144	Confirmed LTF	0.0144
PRAIRIE	PRAIRIE	0.3668	Confirmed LTF	0.3668
EDWARDS	EDWARDS	0.0721	Confirmed LTF	0.0721
CBM-S2	CBM-S2	4.2078	Confirmed LTF	4.2078
TILTON	TILTON	0.1392	Confirmed LTF	0.1392
MADISON	MADISON	0.2157	Confirmed LTF	0.2157

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
GIBSON	GIBSON	0.1179	Confirmed LTF	0.1179
BLUEG	BLUEG	0.4132	Confirmed LTF	0.4132
TRIMBLE	TRIMBLE	0.1347	Confirmed LTF	0.1347

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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
106457938	314677	6BUCKING	DVP	314747	6BREMO	DVP	1	DVP_P1-2: LN 556-B	single	571.52	136.95	138.55	DC	9.14

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
313853	3PONTONDP	0.2224	80/20	0.2224
314429	3JTRSVLE	0.8894	80/20	0.8894
314572	3EMPORIA	0.0292	80/20	0.0292
314677	6BUCKING	1.6255	80/20	1.6255
314704	3LAWRENC	0.2186	80/20	0.2186
315126	1ROARAP2	0.5601	80/20	0.5601
315153	1CLOVER1	22.4165	80/20	22.4165
315154	1CLOVER2	22.1931	80/20	22.1931
315158	1KERR 1	0.4151	80/20	0.4151
315159	1KERR 2	1.1623	80/20	1.1623
315160	1KERR 3	1.1623	80/20	1.1623
315161	1KERR 4	1.1623	80/20	1.1623
315162	1KERR 5	1.1623	80/20	1.1623
315163	1KERR 6	1.1623	80/20	1.1623
315164	1KERR 7	1.1623	80/20	1.1623
315266	1PLYWOOD A	1.5007	80/20	1.5007
923572	AB1-173 C OP	0.8992	80/20	0.8992
923582	AB1-173AC OP	0.8992	80/20	0.8992
923911	AB2-031 C O1	0.8926	80/20	0.8926
923991	AB2-040 C O1	2.9308	80/20	2.9308
924021	AB2-043 C O1	0.7438	80/20	0.7438
924161	AB2-060 C OP	2.1939	80/20	2.1939
924301	**AB2-077 C O1 (Suspended)**	**2.6879**	**80/20**	**2.6879**
924311	**AB2-078 C O1 (Suspended)**	**2.6879**	**80/20**	**2.6879**
924321	**AB2-079 C O1 (Suspended)**	**2.6879**	**80/20**	**2.6879**
925171	AB2-174 C O1	0.4858	80/20	0.4858
925611	AC1-036 C	1.8344	80/20	1.8344
925781	AC1-054 C O1	6.0680	80/20	6.0680
925831	AC1-062	0.1320	80/20	0.1320
925991	AC1-075 C	4.9449	80/20	4.9449
926021	AC1-080 C	1.6526	80/20	1.6526
926271	**AC1-105 C O1 (Suspended)**	**6.7508**	**80/20**	**6.7508**
926451	AC1-116 C	-0.3870	Adder	-0.46
927251	AC1-221 C	1.6580	80/20	1.6580
927261	AC1-222 C	4.0540	80/20	4.0540
932511	AC2-071 C	9.2838	80/20	9.2838
932761	AC2-100 C	3.8156	80/20	3.8156
934311	AD1-055 C	2.8148	80/20	2.8148

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934341	AD1-058 C	4.1563	80/20	4.1563
934611	AD1-087 C O1	12.0219	80/20	12.0219
934621	AD1-088 C	35.2545	80/20	35.2545
934991	AD1-131 C	1.3627	80/20	1.3627
935171	AD1-152 C O1	11.9472	80/20	11.9472
935221	AD1-157 C	3.8737	80/20	3.8737
936161	AD2-022 C O1	4.1538	80/20	4.1538
936171	AD2-023 C O1	2.4230	80/20	2.4230
936261	AD2-033 C	23.7814	80/20	23.7814
936361	AD2-046 C O1	9.3719	80/20	9.3719
936481	AD2-063 C O1	23.7816	80/20	23.7816
937481	AD2-202 C O1	3.1859	80/20	3.1859
938371	AE1-056 C	16.6999	80/20	16.6999
939181	AE1-148 C O1	9.3928	80/20	9.3928
940241	AE2-006	0.9333	80/20	0.9333
940661	AE2-053 O1	3.4788	80/20	3.4788
941791	AE2-182 C	5.7276	80/20	5.7276
942451	AE2-258	3.2168	80/20	3.2168
942461	AE2-259 C O1	30.4704	80/20	30.4704
942751	AE2-291 C O1	6.6384	80/20	6.6384
942761	AE2-292 C O1	8.2654	80/20	8.2654
943901	AF1-058 C	2.2854	80/20	2.2854
943911	AF1-059	15.6580	80/20	15.6580
945811	AF1-246 C O1	12.3619	80/20	12.3619
946281	AF1-292 C	0.6072	80/20	0.6072
946301	AF1-294 C	9.9099	80/20	9.9099
957481	AF2-042 C O1	88.2990	80/20	88.2990
958211	AF2-115 C	6.0426	80/20	6.0426
958801	AF2-171 C O1	36.0315	80/20	36.0315
959311	AF2-222 C	33.3260	80/20	33.3260
959751	AF2-266 O1	14.7175	80/20	14.7175
960061	AF2-297 C O1	9.1416	80/20	9.1416
960081	AF2-299 C	1.0235	80/20	1.0235
960811	AF2-372 C	1.6978	80/20	1.6978
960821	AF2-373 C	1.1751	80/20	1.1751
961081	AF2-399 C	0.7797	80/20	0.7797
WEC	WEC	0.2892	Confirmed LTF	0.2892
LGEE	LGEE	0.5465	Confirmed LTF	0.5465
CPLE	CPLE	3.4094	Confirmed LTF	3.4094
CBM-W2	CBM-W2	12.0639	Confirmed LTF	12.0639
NY	NY	0.3816	Confirmed LTF	0.3816
CBM-W1	CBM-W1	10.7461	Confirmed LTF	10.7461
TVA	TVA	2.5704	Confirmed LTF	2.5704
CBM-S2	CBM-S2	22.8483	Confirmed LTF	22.8483
CBM-S1	CBM-S1	14.2540	Confirmed LTF	14.2540
MADISON	MADISON	0.7620	Confirmed LTF	0.7620
MEC	MEC	1.7829	Confirmed LTF	1.7829
AA2-074	AA2-074	2.3229	LTF	2.3229

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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
106457949	314692	6FARMVIL	DVP	314677	6BUCKING	DVP	1	DVP_P1-2: LN 556-B	single	559.3	136.51	138.15	DC	9.14

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
313853	3PONTONDP	0.2224	80/20	0.2224
314429	3JTRSVLE	0.8896	80/20	0.8896
314572	3EMPORIA	0.0293	80/20	0.0293
314704	3LAWRENC	0.2187	80/20	0.2187
315126	1ROARAP2	0.5607	80/20	0.5607
315153	1CLOVER1	22.4218	80/20	22.4218
315154	1CLOVER2	22.1984	80/20	22.1984
315158	1KERR 1	0.4153	80/20	0.4153
315159	1KERR 2	1.1628	80/20	1.1628
315160	1KERR 3	1.1628	80/20	1.1628
315161	1KERR 4	1.1628	80/20	1.1628
315162	1KERR 5	1.1628	80/20	1.1628
315163	1KERR 6	1.1628	80/20	1.1628
315164	1KERR 7	1.1628	80/20	1.1628
315266	1PLYWOOD A	1.5012	80/20	1.5012
923572	AB1-173 C OP	0.9002	80/20	0.9002
923582	AB1-173AC OP	0.9002	80/20	0.9002
923911	AB2-031 C O1	0.8935	80/20	0.8935
923991	AB2-040 C O1	2.9339	80/20	2.9339
924021	AB2-043 C O1	0.7440	80/20	0.7440
924161	AB2-060 C OP	2.1946	80/20	2.1946
924301	**AB2-077 C O1 (Suspended)**	**2.6887**	**80/20**	**2.6887**
924311	**AB2-078 C O1 (Suspended)**	**2.6887**	**80/20**	**2.6887**
924321	**AB2-079 C O1 (Suspended)**	**2.6887**	**80/20**	**2.6887**
925171	AB2-174 C O1	0.4863	80/20	0.4863
925611	AC1-036 C	1.8348	80/20	1.8348
925781	AC1-054 C O1	6.0711	80/20	6.0711
925831	AC1-062	0.1320	80/20	0.1320
925991	AC1-075 C	4.9476	80/20	4.9476
926021	AC1-080 C	1.6535	80/20	1.6535
926271	**AC1-105 C O1 (Suspended)**	**6.7531**	**80/20**	**6.7531**
926451	AC1-116 C	-0.3868	Adder	-0.46
927251	AC1-221 C	1.6590	80/20	1.6590
927261	AC1-222 C	4.0556	80/20	4.0556
932761	AC2-100 C	3.8180	80/20	3.8180
934311	AD1-055 C	2.8159	80/20	2.8159
934341	AD1-058 C	4.1589	80/20	4.1589
934611	AD1-087 C O1	12.0253	80/20	12.0253

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934621	AD1-088 C	35.2595	80/20	35.2595
934991	AD1-131 C	1.3636	80/20	1.3636
935171	AD1-152 C O1	11.9506	80/20	11.9506
935221	AD1-157 C	3.8743	80/20	3.8743
936161	AD2-022 C O1	4.1580	80/20	4.1580
936171	AD2-023 C O1	2.4255	80/20	2.4255
936261	AD2-033 C	23.7869	80/20	23.7869
936361	AD2-046 C O1	9.3757	80/20	9.3757
936481	AD2-063 C O1	23.7879	80/20	23.7879
937481	AD2-202 C O1	3.1868	80/20	3.1868
938371	AE1-056 C	16.7026	80/20	16.7026
938561	AE1-075 C	-0.9128	Adder	-1.07
939181	AE1-148 C O1	9.3965	80/20	9.3965
940241	AE2-006	0.9335	80/20	0.9335
940661	AE2-053 O1	3.4802	80/20	3.4802
941791	AE2-182 C	5.7284	80/20	5.7284
942451	AE2-258	3.2178	80/20	3.2178
942461	AE2-259 C O1	30.4746	80/20	30.4746
942751	AE2-291 C O1	6.6426	80/20	6.6426
942761	AE2-292 C O1	8.2707	80/20	8.2707
943901	AF1-058 C	2.2862	80/20	2.2862
943911	AF1-059	15.6650	80/20	15.6650
945811	AF1-246 C O1	12.3648	80/20	12.3648
946281	AF1-292 C	0.6079	80/20	0.6079
946301	AF1-294 C	9.9116	80/20	9.9116
957481	AF2-042 C O1	88.3200	80/20	88.3200
958211	AF2-115 C	6.0437	80/20	6.0437
958801	AF2-171 C O1	36.0378	80/20	36.0378
959311	AF2-222 C	33.3330	80/20	33.3330
959751	AF2-266 O1	14.7210	80/20	14.7210
960061	AF2-297 C O1	9.1450	80/20	9.1450
960081	AF2-299 C	1.0245	80/20	1.0245
960811	AF2-372 C	1.6984	80/20	1.6984
960821	AF2-373 C	1.1755	80/20	1.1755
961081	AF2-399 C	0.7798	80/20	0.7798
WEC	WEC	0.2914	Confirmed LTF	0.2914
LGEE	LGEE	0.5505	Confirmed LTF	0.5505
CPLE	CPLE	3.4140	Confirmed LTF	3.4140
CBM-W2	CBM-W2	12.1212	Confirmed LTF	12.1212
NY	NY	0.3777	Confirmed LTF	0.3777
CBM-W1	CBM-W1	10.8337	Confirmed LTF	10.8337
TVA	TVA	2.5802	Confirmed LTF	2.5802
CBM-S2	CBM-S2	22.8888	Confirmed LTF	22.8888
CBM-S1	CBM-S1	14.3136	Confirmed LTF	14.3136
MADISON	MADISON	0.7620	Confirmed LTF	0.7620
MEC	MEC	1.7940	Confirmed LTF	1.7940
AA2-074	AA2-074	2.3261	LTF	2.3261

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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
106457879	314697	6SEDGE HILL	DVP	927250	AC1-221 TAP	DVP	1	DVP_P1-2: LN 556-B	single	674.92	135.49	138.43	DC	23.01

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
313853	3PONTONDP	0.1294	80/20	0.1294
314429	3JTRSVLE	0.5174	80/20	0.5174
314677	6BUCKING	0.4258	80/20	0.4258
315153	1CLOVER1	39.4381	80/20	39.4381
315154	1CLOVER2	39.0451	80/20	39.0451
315156	1HALLBR1	1.1309	80/20	1.1309
315158	1KERR 1	0.3659	80/20	0.3659
315159	1KERR 2	1.0244	80/20	1.0244
315160	1KERR 3	1.0244	80/20	1.0244
315161	1KERR 4	1.0244	80/20	1.0244
315162	1KERR 5	1.0244	80/20	1.0244
315163	1KERR 6	1.0244	80/20	1.0244
315164	1KERR 7	1.0244	80/20	1.0244
315192	1BEARGRDN G2	2.8787	80/20	2.8787
315193	1BEARGRDN S1	5.9246	80/20	5.9246
315266	1PLYWOOD A	3.3432	80/20	3.3432
924021	AB2-043 C O1	0.7329	80/20	0.7329
924161	AB2-060 C OP	2.1135	80/20	2.1135
924301	**AB2-077 C O1 (Suspended)**	**2.7328**	**80/20**	**2.7328**
924311	**AB2-078 C O1 (Suspended)**	**2.7328**	**80/20**	**2.7328**
924321	**AB2-079 C O1 (Suspended)**	**2.7328**	**80/20**	**2.7328**
925611	AC1-036 C	1.3105	80/20	1.3105
925661	AC1-042 C	1.3657	Adder	1.61
925781	AC1-054 C O1	5.0298	80/20	5.0298
925831	AC1-062	0.0768	80/20	0.0768
925991	AC1-075 C	11.9864	80/20	11.9864
926021	AC1-080 C	4.0059	80/20	4.0059
926271	**AC1-105 C O1 (Suspended)**	**14.5305**	**80/20**	**14.5305**
926641	AC1-145 C	1.6258	Adder	1.91
927251	AC1-221 C	-2.4414	Adder	-2.87
927261	AC1-222 C	10.1431	80/20	10.1431
932511	AC2-071 C	2.4320	80/20	2.4320
934311	AD1-055 C	7.0426	80/20	7.0426
934341	AD1-058 C	-6.1203	Adder	-7.2
934611	AD1-087 C O1	27.0094	80/20	27.0094
934621	AD1-088 C	24.0247	80/20	24.0247
935171	AD1-152 C O1	26.8416	80/20	26.8416
935221	AD1-157 C	2.1223	80/20	2.1223

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936261	AD2-033 C	17.8675	80/20	17.8675
936361	AD2-046 C O1	8.4639	80/20	8.4639
936481	AD2-063 C O1	20.4093	80/20	20.4093
937481	AD2-202 C O1	7.1578	80/20	7.1578
938371	AE1-056 C	9.1494	80/20	9.1494
939181	AE1-148 C O1	8.5347	80/20	8.5347
939941	AE1-230 C	0.6161	Adder	0.72
940241	AE2-006	0.6667	80/20	0.6667
940661	AE2-053 O1	3.1610	80/20	3.1610
941791	AE2-182 C	3.9032	80/20	3.9032
941801	AE2-185 C	3.0805	Adder	3.62
941821	AE2-187 C	3.0805	Adder	3.62
942451	AE2-258	3.1698	80/20	3.1698
942461	AE2-259 C O1	14.4012	80/20	14.4012
942671	AE2-283 C	3.3886	Adder	3.99
942751	AE2-291 C O1	15.7260	80/20	15.7260
942761	AE2-292 C O1	19.5804	80/20	19.5804
943901	AF1-058 C	5.7522	80/20	5.7522
943911	AF1-059	14.3780	80/20	14.3780
945081	AF1-173	1.1937	Adder	1.4
945811	AF1-246 C O1	21.7505	80/20	21.7505
946301	AF1-294 C	5.7653	80/20	5.7653
957481	AF2-042 C O1	155.3610	80/20	155.3610
958211	AF2-115 C	3.5154	80/20	3.5154
958801	AF2-171 C O1	21.0762	80/20	21.0762
959311	AF2-222 C	23.0530	80/20	23.0530
959751	AF2-266 O1	25.8930	80/20	25.8930
960061	AF2-297 C O1	23.0088	80/20	23.0088
960811	AF2-372 C	1.7262	80/20	1.7262
960821	AF2-373 C	2.1290	80/20	2.1290
961081	AF2-399 C	0.4546	80/20	0.4546
961121	AF2-403	0.3628	Adder	0.81
NEWTON	NEWTON	1.6150	Confirmed LTF	1.6150
FARMERCITY	FARMERCITY	0.0953	Confirmed LTF	0.0953
G-007A	G-007A	0.4939	Confirmed LTF	0.4939
VFT	VFT	1.3094	Confirmed LTF	1.3094
CALDERWOOD	CALDERWOOD	1.4284	Confirmed LTF	1.4284
PRAIRIE	PRAIRIE	4.4893	Confirmed LTF	4.4893
AC1-131	AC1-131	5.1015	LTF	5.1015
CHEOAH	CHEOAH	1.4720	Confirmed LTF	1.4720
EDWARDS	EDWARDS	0.4816	Confirmed LTF	0.4816
TILTON	TILTON	0.8429	Confirmed LTF	0.8429
GIBSON	GIBSON	0.7671	Confirmed LTF	0.7671
BLUEG	BLUEG	2.3314	Confirmed LTF	2.3314
TRIMBLE	TRIMBLE	0.7379	Confirmed LTF	0.7379
CATAWBA	CATAWBA	1.6961	Confirmed LTF	1.6961

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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
96972928	314702	3KERR	DVP	304102	3GW KING TAP	CPLE	1	DVP_P7-1: LN 22-90-A	tower	199.0	147.51	148.52	DC	4.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315158	1KERR 1	0.9045	50/50	0.9045
315159	1KERR 2	2.5325	50/50	2.5325
315160	1KERR 3	2.5325	50/50	2.5325
315161	1KERR 4	2.5325	50/50	2.5325
315162	1KERR 5	2.5325	50/50	2.5325
315163	1KERR 6	2.5325	50/50	2.5325
315164	1KERR 7	2.5325	50/50	2.5325
924021	AB2-043 C O1	0.6344	50/50	0.6344
924022	AB2-043 E O1	3.2887	50/50	3.2887
924161	AB2-060 C OP	1.8032	50/50	1.8032
924162	AB2-060 E OP	4.9193	50/50	4.9193
924301	**AB2-077 C O1 (Suspended)**	**2.3771**	**50/50**	**2.3771**
924302	**AB2-077 E O1 (Suspended)**	**1.5847**	**50/50**	**1.5847**
924311	**AB2-078 C O1 (Suspended)**	**2.3771**	**50/50**	**2.3771**
924312	**AB2-078 E O1 (Suspended)**	**1.5847**	**50/50**	**1.5847**
924321	**AB2-079 C O1 (Suspended)**	**2.3771**	**50/50**	**2.3771**
924322	**AB2-079 E O1 (Suspended)**	**1.5847**	**50/50**	**1.5847**
925611	AC1-036 C	0.8793	50/50	0.8793
925612	AC1-036 E	1.4347	50/50	1.4347
925781	AC1-054 C O1	15.5554	50/50	15.5554
925782	AC1-054 E O1	7.1660	50/50	7.1660
926271	**AC1-105 C O1 (Suspended)**	**2.4430**	**Adder**	**2.87**
926272	**AC1-105 E O1 (Suspended)**	**1.2161**	**Adder**	**1.43**
935221	AD1-157 C	0.8226	Adder	0.97
935222	AD1-157 E	0.5484	Adder	0.65
936261	AD2-033 C	12.6017	50/50	12.6017
936262	AD2-033 E	8.4011	50/50	8.4011
936361	AD2-046 C O1	17.8275	50/50	17.8275
936362	AD2-046 E O1	8.1981	50/50	8.1981
936481	AD2-063 C O1	16.1154	50/50	16.1154
936482	AD2-063 E O1	10.6541	50/50	10.6541
938371	AE1-056 C	3.5463	Adder	4.17
938372	AE1-056 E	1.9377	Adder	2.28
939181	AE1-148 C O1	17.2082	50/50	17.2082

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939182	AE1-148 E O1	11.4721	50/50	11.4721
940241	AE2-006	0.4474	50/50	0.4474
940661	AE2-053 O1	6.3734	50/50	6.3734
942451	AE2-258	2.7439	50/50	2.7439
942461	AE2-259 C O1	3.7842	Adder	4.45
942462	AE2-259 E O1	2.5228	Adder	2.97
943901	AF1-058 C	0.5680	Adder	0.67
943902	AF1-058 E	0.3787	Adder	0.45
943911	AF1-059	12.3260	50/50	12.3260
946301	AF1-294 C	2.4967	Adder	2.94
946302	AF1-294 E	1.6644	Adder	1.96
958211	AF2-115 C	0.8068	Adder	1.79
958212	AF2-115 E	0.5379	Adder	1.19
958801	AF2-171 C O1	10.8423	50/50	10.8423
958802	AF2-171 E O1	7.2282	50/50	7.2282
959311	AF2-222 C	14.9350	50/50	14.9350
959312	AF2-222 E	10.0065	50/50	10.0065
960061	AF2-297 C O1	1.2042	Adder	2.67
960062	AF2-297 E O1	0.8028	Adder	1.78
960811	AF2-372 C	1.5015	50/50	1.5015
960812	AF2-372 E	2.4504	50/50	2.4504
960821	AF2-373 C	0.2913	Adder	0.65
960822	AF2-373 E	0.4370	Adder	0.97
961081	AF2-399 C	0.2324	50/50	0.2324
961082	AF2-399 E	0.3930	50/50	0.3930
NEWTON	NEWTON	0.4481	Confirmed LTF	0.4481
FARMERCITY	FARMERCITY	0.0260	Confirmed LTF	0.0260
G-007A	G-007A	0.1726	Confirmed LTF	0.1726
VFT	VFT	0.4579	Confirmed LTF	0.4579
CALDERWOOD	CALDERWOOD	0.3713	Confirmed LTF	0.3713
PRAIRIE	PRAIRIE	1.2243	Confirmed LTF	1.2243
CHEOAH	CHEOAH	0.3814	Confirmed LTF	0.3814
EDWARDS	EDWARDS	0.1347	Confirmed LTF	0.1347
TILTON	TILTON	0.2375	Confirmed LTF	0.2375
GIBSON	GIBSON	0.2151	Confirmed LTF	0.2151
BLUEG	BLUEG	0.6597	Confirmed LTF	0.6597
TRIMBLE	TRIMBLE	0.2092	Confirmed LTF	0.2092
CATAWBA	CATAWBA	0.4193	Confirmed LTF	0.4193

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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
107361473	927250	AC1-221 TAP	DVP	304070	6PERSON230 T	CPLE	1	DVP_P1-2: LN 556-B	single	718.0	137.52	140.1	DC	23.01

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
313853	3PONTONDP	0.1294	80/20	0.1294
314429	3JTRSVLE	0.5174	80/20	0.5174
314677	6BUCKING	0.4258	80/20	0.4258
315153	1CLOVER1	39.4381	80/20	39.4381
315154	1CLOVER2	39.0451	80/20	39.0451
315156	1HALLBR1	1.1309	80/20	1.1309
315158	1KERR 1	0.3659	80/20	0.3659
315159	1KERR 2	1.0244	80/20	1.0244
315160	1KERR 3	1.0244	80/20	1.0244
315161	1KERR 4	1.0244	80/20	1.0244
315162	1KERR 5	1.0244	80/20	1.0244
315163	1KERR 6	1.0244	80/20	1.0244
315164	1KERR 7	1.0244	80/20	1.0244
315192	1BEARGRDN G2	2.8787	80/20	2.8787
315193	1BEARGRDN S1	5.9246	80/20	5.9246
315266	1PLYWOOD A	3.3432	80/20	3.3432
924021	AB2-043 C O1	0.7329	80/20	0.7329
924161	AB2-060 C OP	2.1135	80/20	2.1135
924301	**AB2-077 C O1 (Suspended)**	**2.7328**	**80/20**	**2.7328**
924311	**AB2-078 C O1 (Suspended)**	**2.7328**	**80/20**	**2.7328**
924321	**AB2-079 C O1 (Suspended)**	**2.7328**	**80/20**	**2.7328**
925611	AC1-036 C	1.3105	80/20	1.3105
925781	AC1-054 C O1	5.0298	80/20	5.0298
925831	AC1-062	0.0768	80/20	0.0768
925991	AC1-075 C	11.9864	80/20	11.9864
926021	AC1-080 C	4.0059	80/20	4.0059
926271	**AC1-105 C O1 (Suspended)**	**14.5305**	**80/20**	**14.5305**
927251	AC1-221 C	11.7277	80/20	11.7277
927261	AC1-222 C	10.1431	80/20	10.1431
932511	AC2-071 C	2.4320	80/20	2.4320
932761	AC2-100 C	26.9899	80/20	26.9899
934311	AD1-055 C	7.0426	80/20	7.0426
934341	AD1-058 C	29.3997	80/20	29.3997
934611	AD1-087 C O1	27.0094	80/20	27.0094
934621	AD1-088 C	24.0247	80/20	24.0247
934991	AD1-131 C	9.6392	80/20	9.6392
935171	AD1-152 C O1	26.8416	80/20	26.8416
935221	AD1-157 C	2.1223	80/20	2.1223

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936261	AD2-033 C	17.8675	80/20	17.8675
936361	AD2-046 C O1	8.4639	80/20	8.4639
936481	AD2-063 C O1	20.4093	80/20	20.4093
937481	AD2-202 C O1	7.1578	80/20	7.1578
938371	AE1-056 C	9.1494	80/20	9.1494
939181	AE1-148 C O1	8.5347	80/20	8.5347
940241	AE2-006	0.6667	80/20	0.6667
940661	AE2-053 O1	3.1610	80/20	3.1610
941791	AE2-182 C	3.9032	80/20	3.9032
942451	AE2-258	3.1698	80/20	3.1698
942461	AE2-259 C O1	14.4012	80/20	14.4012
942751	AE2-291 C O1	15.7260	80/20	15.7260
942761	AE2-292 C O1	19.5804	80/20	19.5804
943901	AF1-058 C	5.7522	80/20	5.7522
943911	AF1-059	14.3780	80/20	14.3780
945811	AF1-246 C O1	21.7505	80/20	21.7505
946301	AF1-294 C	5.7653	80/20	5.7653
957481	AF2-042 C O1	155.3610	80/20	155.3610
958211	AF2-115 C	3.5154	80/20	3.5154
958801	AF2-171 C O1	21.0762	80/20	21.0762
959311	AF2-222 C	23.0530	80/20	23.0530
959751	AF2-266 O1	25.8930	80/20	25.8930
960061	AF2-297 C O1	23.0088	80/20	23.0088
960811	AF2-372 C	1.7262	80/20	1.7262
960821	AF2-373 C	2.1290	80/20	2.1290
961081	AF2-399 C	0.4546	80/20	0.4546
NEWTON	NEWTON	1.6150	Confirmed LTF	1.6150
FARMERCITY	FARMERCITY	0.0953	Confirmed LTF	0.0953
G-007A	G-007A	0.4939	Confirmed LTF	0.4939
VFT	VFT	1.3094	Confirmed LTF	1.3094
CALDERWOOD	CALDERWOOD	1.4284	Confirmed LTF	1.4284
PRAIRIE	PRAIRIE	4.4893	Confirmed LTF	4.4893
AC1-131	AC1-131	5.1015	LTF	5.1015
CHEOAH	CHEOAH	1.4720	Confirmed LTF	1.4720
EDWARDS	EDWARDS	0.4816	Confirmed LTF	0.4816
TILTON	TILTON	0.8429	Confirmed LTF	0.8429
GIBSON	GIBSON	0.7671	Confirmed LTF	0.7671
BLUEG	BLUEG	2.3314	Confirmed LTF	2.3314
TRIMBLE	TRIMBLE	0.7379	Confirmed LTF	0.7379
CATAWBA	CATAWBA	1.6961	Confirmed LTF	1.6961

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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
106083097	934620	AD1-088 TAP	DVP	314268	6BRIERY	DVP	1	DVP_P4-2: 511T556-A	breaker	699.0	113.47	115.11	DC	11.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315153	1CLOVER1	24.1422	50/50	24.1422
315154	1CLOVER2	23.9016	50/50	23.9016
315266	1PLYWOOD A	0.9389	50/50	0.9389
925611	AC1-036 C	-0.3478	Adder	-0.41
925991	AC1-075 C	3.1972	Adder	3.76
925992	AC1-075 E	1.8115	Adder	2.13
926021	AC1-080 C	1.0685	Adder	1.26
926022	AC1-080 E	0.6010	Adder	0.71
926271	**AC1-105 C O1 (Suspended)**	**3.8688**	**50/50**	**3.8688**
926272	**AC1-105 E O1 (Suspended)**	**1.9259**	**50/50**	**1.9259**
926451	AC1-116 C	-0.2683	Adder	-0.32
927251	AC1-221 C	1.4819	50/50	1.4819
927252	AC1-221 E	1.4819	50/50	1.4819
927261	AC1-222 C	3.0620	50/50	3.0620
927262	AC1-222 E	2.9149	50/50	2.9149
932761	AC2-100 C	3.4104	50/50	3.4104
932762	AC2-100 E	1.6646	50/50	1.6646
934311	AD1-055 C	2.1260	50/50	2.1260
934312	AD1-055 E	0.5482	50/50	0.5482
934341	AD1-058 C	3.7149	50/50	3.7149
934342	AD1-058 E	0.9439	50/50	0.9439
934611	AD1-087 C O1	12.3358	50/50	12.3358
934612	AD1-087 E O1	5.7976	50/50	5.7976
934621	AD1-088 C	41.9311	50/50	41.9311
934622	AD1-088 E	19.7323	50/50	19.7323
934991	AD1-131 C	1.2180	50/50	1.2180
934992	AD1-131 E	0.8120	50/50	0.8120
935171	AD1-152 C O1	12.2592	50/50	12.2592
935172	AD1-152 E O1	8.1728	50/50	8.1728
935221	AD1-157 C	-1.1710	Adder	-1.38
935222	AD1-157 E	-0.7807	Adder	-0.92
936161	AD2-022 C O1	2.9386	Adder	3.46
936162	AD2-022 E O1	1.7632	Adder	2.07
936171	AD2-023 C O1	1.7142	Adder	2.02
936172	AD2-023 E O1	0.9306	Adder	1.09
937481	AD2-202 C O1	3.2691	50/50	3.2691
937482	AD2-202 E O1	1.8389	50/50	1.8389
938561	AE1-075 C	-0.6494	Adder	-0.76
940241	AE2-006	-0.1769	Adder	-0.21

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941791	AE2-182 C	6.8123	50/50	6.8123
941792	AE2-182 E	3.1713	50/50	3.1713
942751	AE2-291 C O1	4.3135	Adder	5.07
942752	AE2-291 E O1	2.8757	Adder	3.38
942761	AE2-292 C O1	5.3707	Adder	6.32
942762	AE2-292 E O1	3.5805	Adder	4.21
943901	AF1-058 C	1.7239	50/50	1.7239
943902	AF1-058 E	1.1493	50/50	1.1493
945811	AF1-246 C O1	13.3140	50/50	13.3140
945812	AF1-246 E O1	18.3860	50/50	18.3860
946293	AF1-293 BAT	7.5791	Merchant Transmission	7.5791
957481	AF2-042 C O1	95.1000	50/50	95.1000
957482	AF2-042 E O1	63.4000	50/50	63.4000
958503	AF2-144 BAT	0.3346	Merchant Transmission	0.3346
959751	AF2-266 O1	15.8505	50/50	15.8505
960061	AF2-297 C O1	6.8957	50/50	6.8957
960062	AF2-297 E O1	4.5971	50/50	4.5971
960821	AF2-373 C	0.2137	Adder	0.47
960822	AF2-373 E	0.3205	Adder	0.71
961063	AF2-397 BAT	5.3082	50/50	5.3082
WEC	WEC	0.2432	Confirmed LTF	0.2432
LGEE	LGEE	0.4604	Confirmed LTF	0.4604
CPLE	CPLE	2.6553	Confirmed LTF	2.6553
CBM-W2	CBM-W2	9.8853	Confirmed LTF	9.8853
NY	NY	0.3058	Confirmed LTF	0.3058
CBM-W1	CBM-W1	9.0697	Confirmed LTF	9.0697
TVA	TVA	2.0902	Confirmed LTF	2.0902
O-066	O-066	4.3075	Confirmed LTF	4.3075
CBM-S2	CBM-S2	18.0798	Confirmed LTF	18.0798
CBM-S1	CBM-S1	11.6383	Confirmed LTF	11.6383
G-007	G-007	0.6718	Confirmed LTF	0.6718
MADISON	MADISON	0.5927	Confirmed LTF	0.5927
MEC	MEC	1.4825	Confirmed LTF	1.4825
AA2-074	AA2-074	1.8099	LTF	1.8099

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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
AA1-063A	Carolina–Seaboard 115kV	In Service
AA1-067	Everetts 34.5kV	In Service
AA2-053	Carolina-Jackson 115kV	In Service
AA2-057	Hornertown-Whitakers 115kV	In Service
AA2-070	Smith Mountain 138kV	In Service
AA2-074	CPLE-PJM	Confirmed
AA2-127	Bear Garden 230kV	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
AB2-022	Elizabeth City 34.5kV	Engineering and Procurement
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
AB2-068	Chickahominy 500kV	Engineering and Procurement
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
AB2-169	Pantago-Five Points 115kV	Partially in Service - Under Construction
AB2-174	Emporia-Trego 115kV	Under Construction
AB2-190	Hopewell-Surry 230kV	Engineering and Procurement
AC1-034	Heartsease DP - Mayo Dunbar 115kV	Active
AC1-036	Twittys Creek 34.5kV	Engineering and Procurement
AC1-042	Altavista-Mt. Airy 69kV	Engineering and Procurement
AC1-054	Kerr Dam–Eatons Ferry 115 kV	Engineering and Procurement
AC1-062	Jetersville 34.5kV	In Service
AC1-065	Harmony Village-Shackleford 115kV	Engineering and Procurement
AC1-075	Perth-Hickory Grove 115kV	Engineering and Procurement
AC1-080	Perth-Hickory Grove 115kV	Engineering and Procurement
AC1-083	Smith Mountain-Bearskin 138kV	Active
AC1-086	Thelma 230kV	Active
AC1-098	Dawson-South Justice 115kV	Engineering and Procurement
AC1-099	Dawson-South Justice 115kV	Engineering and Procurement

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Queue Number	Project Name	Status
AC1-105	Halifax-Mt. Laurel 115kV	Suspended
AC1-116	Mount Eagle 34.5kV	Engineering and Procurement
AC1-131	PJM-CPLE	Confirmed
AC1-145	Gretna DP 69 kV	Engineering and Procurement
AC1-147	Grassfield 34.5kV	Engineering and Procurement
AC1-164	Chickahominy 230kV	Engineering and Procurement
AC1-189	Chinquapin-Everetts 230kV	Active
AC1-208	Cox-Whitakers 115kV	Engineering and Procurement
AC1-221	Halifax-Person 230kV	Engineering and Procurement
AC1-222	Crystal Hill-Halifax 115kV	Engineering and Procurement
AC2-070	Old Church 34.5kV	Engineering and Procurement
AC2-071	Buckingham 35kV	Engineering and Procurement
AC2-084	Dawson-South Justice 115kV	Active
AC2-100	Halifax-Person 230kV	Active
AC2-110	Harmony Village-Shackleford 115kV	Engineering and Procurement
AC2-137	Elko 34.5kV	Under Construction
AC2-165	Bremo-Powhatan 230kV	Active
AC2-196	Fentress 34.5kV	Engineering and Procurement
AD1-017	Smith Mountain-Bearskin 138 kV	Active
AD1-055	Crystal Hill-Halifax 115 kV	Engineering and Procurement
AD1-057	Hornertown-Hathaway 230 kV	Active
AD1-058	Halifax-Person 230 kV	Engineering and Procurement
AD1-087	Clover-Sedge Hill 230 kV	Active
AD1-088	Briery-Clover 230 kV	Active
AD1-131	Sedge Hill-Person 230 kV	Active
AD1-144	Kings Fork 34.5 kV	Engineering and Procurement
AD1-152	Clover-Sedge Hill 230 kV	Active
AD1-157	South Creek 34.5 kV	Engineering and Procurement
AD2-021	Elko 34.5 kV	Under Construction
AD2-022	East Danville-Roxborough 230 kV	Active
AD2-023	E. Danville-Roxborough 230 kV	Active
AD2-033	Chase City-Lunenburg 115 kV	Active
AD2-039	Harmony Village-Shackleford 115 kV	Engineering and Procurement
AD2-046	Boydton DP-Kerr Dam 115 kV	Active
AD2-063	Central-Chase City 115kV	Active
AD2-164	Peninsula 34.5kV	Withdrawn
AD2-202	Clover-Sedge Hill 230kV	Active
AD2-215	Kings Fork 34.5 kV	Engineering and Procurement
AE1-004	Harmony Village-Shackleford 115 kV	Engineering and Procurement
AE1-056	Red House-South Creek 115 kV	Active
AE1-064	Rockcastle 138 kV	Active
AE1-068	Carson-Rogers Rd 500 kV	Active
AE1-069	Carson-Rogers Road 500 kV	Active
AE1-074	Winterpock 34.5 kV	Engineering and Procurement
AE1-075	Powhatan 34.5 kV	Engineering and Procurement
AE1-108	Bremo-Scottsville 138 kV	Active
AE1-148	Kerr Dam-Ridge Rd 115 kV	Active
AE1-162	Smithfield 34.5 kV	Engineering and Procurement
AE1-176	Roanoke-Vinton 12 kV (Niagara Hydro)	In Service
AE1-230	Shockoe 69 kV	Active
AE1-250	Smith Mountain-E. Danville 138 kV	Active
AE2-006	Twittys Creek 34.5 kV	Engineering and Procurement

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Queue Number	Project Name	Status
AE2-044	Anaconda-Dunbar 115 kV	Active
AE2-047	Ridgeway-Solite 69 kV	Active
AE2-053	Kerr Dam-Ridge Road 115 kV	Active
AE2-092	Kidds Store-Sherwood 115 kV	Active
AE2-140	Axton-Danville 138 kV	Active
AE2-151	Earleys 34.5kV	Engineering and Procurement
AE2-182	Briery-Clover 230 kV	Active
AE2-185	Gladys DP-Stonemill Switching Station 69 kV	Active
AE2-187	Shockoe DP-Chatham 69 kV	Active
AE2-225	Suffolk 34 kV	Engineering and Procurement
AE2-229	Suffolk 34 kV	Engineering and Procurement
AE2-258	Chase City 115 kV	Active
AE2-259	Curdsville-Willis Mtn 115 kV	Active
AE2-283	Gladys-Stone Mill 69 kV	Active
AE2-291	Grit DP-Perth 115 kV	Active
AE2-292	Grit DP-Perth 115 kV	Active
AE2-346	Ahoskie 34.5 kV	Active
AF1-049	Berry Hill 138 kV	Active
AF1-058	Welco 34.5 kV	Engineering and Procurement
AF1-059	Brodnax-South Hill 115 kV	Active
AF1-082	Heartsease-Mayo Dunbar DP	Active
AF1-173	Gretna DP-Shockoe DP 69 kV	Active
AF1-246	Clover-Rawlings 500 kV	Active
AF1-292	Fields Crossroads 34.5 kV	Active
AF1-293	Kidds Store-Fort Union 115 kV	Active
AF1-294	Jetersville-Ponton 115 kV	Active
AF1-323	Scottsville-Colleen 138 kV	Active
AF2-042	Clover 500 kV	Active
AF2-080	Chinquapin-Everetts 230 kV	Active
AF2-085	Midlothian 34.5 kV	Active
AF2-107	Clifford 138 kV	Active
AF2-115	Jetersville-Ponton 115 kV	Active
AF2-144	Powhatan 34.5 kV	Active
AF2-171	Madisonville 115 kV	Active
AF2-214	Heartsease DP-Anaconda 115 kV	Active
AF2-222	Madisonville DP-Twitty's Creek 115 kV	Active
AF2-242	Wharton 115 kV	Active
AF2-244	Powhatan 34.5 kV	Active
AF2-266	Clover 230 kV	Active
AF2-297	Sedge Hill 115 kV	Active
AF2-299	Fields 34.5 kV	Active
AF2-302	Scottsville-Colleen 138 kV	Active
AF2-303	Edgecombe 230 kV	Active
AF2-324	Edgecombe 230 kV	Active
AF2-326	Battleboro 34.5kV	Withdrawn
AF2-372	Black Branch 34.5 kV	Active
AF2-373	Mount Laurel 115 kV	Active
AF2-374	Woodland 34.5 kV	Active
AF2-397	Fork Union-Mt. Eagle 230 kV	Active
AF2-399	Crewe 12.5 kV	Active
AF2-403	Shockoe DP-Chatham 69 kV	Active
Z2-043	Kelford 34.5kV	In Service

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Queue Number	Project Name	Status
Z2-044	Whitakers 34.5kV	In Service
Z2-088	Tarboro-Everetts 230kV	In Service

11.8 Contingency Descriptions - Primary POI

Contingency Name	Contingency Definition
DVP_P4-6: CAROLIN T122	CONTINGENCY 'DVP_P4-6: CAROLIN T122' /* CAROLINA 115 KV OPEN BRANCH FROM BUS 314559 TO BUS 315126 CKT 1 /* 3CAROLNA 115.00 - 1ROARAP2 14.400 OPEN BRANCH FROM BUS 314559 TO BUS 315128 CKT 1 /* 3CAROLNA 115.00 - 1ROARAP4 14.400 OPEN BUS 315126 /* ISLAND: 1ROARAP2 14.400 OPEN BUS 315128 /* ISLAND: 1ROARAP4 14.400 OPEN BRANCH FROM BUS 314559 TO BUS 314571 CKT 1 /* 3CAROLNA 115.00 - 3EATON F 115.00 OPEN BRANCH FROM BUS 313722 TO BUS 314559 CKT 1 /* 3OCCONEECHEE115.00 - 3CAROLNA 115.00 OPEN BRANCH FROM BUS 314259 TO BUS 314559 CKT Z1 /* 3CAROL56_1 115.00 - 3CAROLNA 115.00 OPEN BRANCH FROM BUS 314559 TO BUS 314578 CKT 1 /* 3CAROLNA 115.00 - 3HORNRTN 115.00 OPEN BRANCH FROM BUS 314559 TO BUS 314585 CKT 1 /* 3CAROLNA 115.00 - 3L GASTN 115.00 OPEN BRANCH FROM BUS 314559 TO BUS 314600 CKT 1 /* 3CAROLNA 115.00 - 3PLHITP 115.00 OPEN BRANCH FROM BUS 314559 TO BUS 314561 CKT 1 /* 3CAROLNA 115.00 - 6CAROLNA 230.00 OPEN BUS 314559 /* 3CAROLNA 115.00 KV END
314906 8CLOVER 500 314936 AF1-246 TAP 500 1	CONTINGENCY '314906 8CLOVER 500 314936 AF1-246 TAP 500 1' OPEN BRANCH FROM BUS 314906 TO BUS 945810 CKT 1 END
DVP_P1-2: LN 556-B	CONTINGENCY 'DVP_P1-2: LN 556-B' OPEN BRANCH FROM BUS 945810 TO BUS 314936 CKT 1 /* AF1-246 TAP 500.00 - 8RAWLINGS 500.00 END
AEP_P4_#11111_05J.FERR 765_B1	CONTINGENCY 'AEP_P4_#11111_05J.FERR 765_B1' OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765 242520 05J.FERR 500 1 OPEN BRANCH FROM BUS 242514 TO BUS 242684 CKT 2 / 242514 05J.FERR 765 242684 05J.FERR 138 2 OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500 306719 8ANTIOCH 500 1 END

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Contingency Name	Contingency Definition
DVP_P7-1: LN 22-90-A	CONTINGENCY 'DVP_P7-1: LN 22-90-A' OPEN BRANCH FROM BUS 314559 TO BUS 314571 CKT 1 /* 3CAROLNA 115.00 - 3EATON F 115.00 OPEN BRANCH FROM BUS 314571 TO BUS 925780 CKT 1 /* 3EATON F 115.00 - AC1-054 TAP 115.00 OPEN BUS 314571 /* ISLAND: 3EATON F 115.00 OPEN BRANCH FROM BUS 314265 TO BUS 314584 CKT 1 /* 3FIVEFORKSDP115.00 - 3LITTLTN 115.00 OPEN BRANCH FROM BUS 314265 TO BUS 314673 CKT 1 /* 3FIVEFORKSDP115.00 - 3PALMERSPRNG115.00 OPEN BRANCH FROM BUS 314559 TO BUS 314585 CKT 1 /* 3CAROLNA 115.00 - 3L GASTN 115.00 OPEN BRANCH FROM BUS 314584 TO BUS 314585 CKT 1 /* 3LITTLTN 115.00 - 3L GASTN 115.00 OPEN BUS 314265 /* ISLAND: 3FIVEFORKSDP115.00 OPEN BUS 314584 /* ISLAND: 3LITTLTN 115.00 OPEN BUS 314585 /* ISLAND: 3L GASTN 115.00 END
DVP_P1-2: LN 585-B	CONTINGENCY 'DVP_P1-2: LN 585-B' OPEN BRANCH FROM BUS 941030 TO BUS 938490 CKT 1 /* AE2-094 TAP 500.00 - AE1-068 TAP 500.00 END
AEP_P1-2_#1377	CONTINGENCY 'AEP_P1-2_#1377' OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765 242520 05J.FERR 500 1 OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500 306719 8ANTIOCH 500 1 END
DVP_P4-2: 556T591	CONTINGENCY 'DVP_P4-2: 556T591' /* RAWLINGS 500 KV OPEN BRANCH FROM BUS 945810 TO BUS 314936 CKT 1 /* AF1-246 TAP 500.00 - 8RAWLINGS 500.00 OPEN BRANCH FROM BUS 314935 TO BUS 314936 CKT 1 /* 8HERITAGE 500.00 - 8RAWLINGS 500.00 END

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Contingency Name	Contingency Definition
DVP_P7-1: LN 22-90-B	CONTINGENCY 'DVP_P7-1: LN 22-90-B' OPEN BRANCH FROM BUS 925780 TO BUS 314702 CKT 1 /* AC1-054 TAP 115.00 - 3KERR 115.00 OPEN BRANCH FROM BUS 314265 TO BUS 314584 CKT 1 /* 3FIVEFORKSDP115.00 - 3LITTLTN 115.00 OPEN BRANCH FROM BUS 314265 TO BUS 314673 CKT 1 /* 3FIVEFORKSDP115.00 - 3PALMERSPRNG115.00 OPEN BRANCH FROM BUS 314559 TO BUS 314585 CKT 1 /* 3CAROLNA 115.00 - 3L GASTN 115.00 OPEN BRANCH FROM BUS 314584 TO BUS 314585 CKT 1 /* 3LITTLTN 115.00 - 3L GASTN 115.00 OPEN BUS 314265 /* ISLAND: 3FIVEFORKSDP115.00 OPEN BUS 314584 /* ISLAND: 3LITTLTN 115.00 OPEN BUS 314585 /* ISLAND: 3L GASTN 115.00 END
AEP_P4_#10317_05REUSEN 138_D	CONTINGENCY 'AEP_P4_#10317_05REUSEN 138_D' OPEN BRANCH FROM BUS 242561 TO BUS 242641 CKT 1 / 242561 05BOONSBORO 138 242641 05FOREST 138 1 OPEN BRANCH FROM BUS 242561 TO BUS 242765 CKT 1 / 242561 05BOONSBORO 138 242765 05REUSEN 138 1 OPEN BRANCH FROM BUS 242591 TO BUS 242765 CKT 1 / 242591 05CENTRR 138 242765 05REUSEN 138 1 OPEN BRANCH FROM BUS 242641 TO BUS 242734 CKT 1 / 242641 05FOREST 138 242734 05NEWLDN 138 1 OPEN BRANCH FROM BUS 242719 TO BUS 242765 CKT 1 / 242719 05MONEL 138 242765 05REUSEN 138 1 OPEN BRANCH FROM BUS 242765 TO BUS 242882 CKT 4 / 242765 05REUSEN 138 242882 05REUSENS 69.0 4 OPEN BRANCH FROM BUS 242765 TO BUS 242889 CKT 1 / 242765 05REUSEN 138 242889 05REUSENS 34.5 1 REMOVE SWSHUNT FROM BUS 242765 / 242765 05REUSEN 138 OPEN BRANCH FROM BUS 242860 TO BUS 242882 CKT 1 / 242860 05ABERT 69.0 242882 05REUSENS 69.0 1 OPEN BRANCH FROM BUS 242876 TO BUS 242882 CKT 1 / 242876 05MONROE A 69.0 242882 05REUSENS 69.0 1 OPEN BRANCH FROM BUS 247360 TO BUS 242882 CKT 1 / 247360 05PEAKLANDSS69.0 242882 05REUSENS 69.0 1 REMOVE SWSHUNT FROM BUS 242882 / 242882 05REUSENS 69.0 OPEN BRANCH FROM BUS 247866 TO BUS 242889 CKT 1 / 247866 05GLAMORGNSS34.5 242889 05REUSENS 34.5 1 REMOVE UNIT 1 FROM BUS 242889 / 242889 05REUSENS 34.5 END
Base Case	

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Contingency Name	Contingency Definition
DVP_P1-2: LN 2027-B	CONTINGENCY 'DVP_P1-2: LN 2027-B' OPEN BRANCH FROM BUS 933500 TO BUS 314333 CKT 1 /* AC2-165 TAP 230.00 - 6POWHATN 230.00 OPEN BRANCH FROM BUS 314310 TO BUS 314322 CKT 1 /* 6JUDES F 230.00 - 6MDLTHAN 230.00 OPEN BRANCH FROM BUS 314310 TO BUS 314333 CKT 1 /* 6JUDES F 230.00 - 6POWHATN 230.00 OPEN BUS 314310 /* ISLAND: 6JUDES F 230.00 OPEN BUS 314333 /* ISLAND: 6POWHATN 230.00 OPEN BUS 923862 /* ISLAND: AB2-026 E 230.00 END
AEP_P1-2_#5481	CONTINGENCY 'AEP_P1-2_#5481' OPEN BRANCH FROM BUS 242561 TO BUS 242641 CKT 1 / 242561 05BOONSBORO 138 242641 05FOREST 138 1 OPEN BRANCH FROM BUS 242561 TO BUS 242765 CKT 1 / 242561 05BOONSBORO 138 242765 05REUSEN 138 1 OPEN BRANCH FROM BUS 242641 TO BUS 242734 CKT 1 / 242641 05FOREST 138 242734 05NEWLDN 138 1 END
AEP_P4_#11112_05J.FERR 765_A1	CONTINGENCY 'AEP_P4_#11112_05J.FERR 765_A1' OPEN BRANCH FROM BUS 242511 TO BUS 242514 CKT 1 / 242511 05BROADF 765 242514 05J.FERR 765 1 OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765 242520 05J.FERR 500 1 OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500 306719 8ANTIOCH 500 1 OPEN BRANCH FROM BUS 242566 TO BUS 242567 CKT ZB / 242566 05BROADF 138 242567 05BROADX 138 ZB END
242575 05CAMDLM 138 926520 AC1-123 TAP 138 1	CONTINGENCY '242575 05CAMDLM 138 926520 AC1-123 TAP 138 1' OPEN BRANCH FROM BUS 242575 TO BUS 926520 CKT 1 END
DVP_P4-2: 511T556-A	CONTINGENCY 'DVP_P4-2: 511T556-A' /* RAWLINGS 500 KV OPEN BRANCH FROM BUS 940470 TO BUS 314936 CKT 1 /* AE2-031 TAP 500.00 - 8RAWLINGS 500.00 OPEN BRANCH FROM BUS 945810 TO BUS 314936 CKT 1 /* AF1-246 TAP 500.00 - 8RAWLINGS 500.00 END
DVP_P4-2: 511T591	CONTINGENCY 'DVP_P4-2: 511T591' /* RAWLINGS 500 KV OPEN BRANCH FROM BUS 940470 TO BUS 314936 CKT 1 /* AE2-031 TAP 500.00 - 8RAWLINGS 500.00 OPEN BRANCH FROM BUS 314935 TO BUS 314936 CKT 1 /* 8HERITAGE 500.00 - 8RAWLINGS 500.00 END

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12 Short Circuit Analysis - Primary POI

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

13 Summer Peak - Load Flow Analysis - Secondary POI

The Queue Project AF2-297 was evaluated as an 80.0 MW (Capacity 48.0 MW) injection at the Sedge Hill 230 kV substation in the Dominion area. Project AF2-297 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-297 was studied with a commercial probability of 53%. Potential network impacts were as follows:

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13.1 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
10645810 2	31476 5	6MTEAGL E	230. 0	DVP	31474 9	6CHARL VL	230. 0	DVP	1	DVP_P 1-2: LN 556-B	singl e	661.7600097 66	99.93	100.76	DC	5.48
96972664	31493 6	8RAWLIN GS	500. 0	DVP	94047 0	AE2-031 TAP	500. 0	DVP	1	DVP_P 1-2: LN 585-B	singl e	4070.199951 17	99.91	100.32	DC	16.67

13.2 Multiple Facility Contingency

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

None

13.3 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
9587283 9	242631	05EDA N 1	138 .0	AEP	242620	05DANVL 2	138 .0	AEP	1	AEP_P4_#11112_05 J.FERR 765_A1	breaker	402.0	112.6	113.29	DC	6.21
9587284 1	242631	05EDA N 1	138 .0	AEP	242620	05DANVL 2	138 .0	AEP	1	AEP_P4_#11111_05 J.FERR 765_B1	breaker	402.0	106.83	107.55	DC	6.42
9780224 9	313802	6PRINC E EDW	230 .0	DVP	314692	6FARMVI L	230 .0	DVP	1	DVP_P4-2: 511T591	breaker	699.0	111.94	114.16	DC	15.5
1060831 15	313802	6PRINC E EDW	230 .0	DVP	314692	6FARMVI L	230 .0	DVP	1	DVP_P4-2: 556T591	breaker	699.0	112.04	114.26	DC	15.5
1064582 32	313802	6PRINC E EDW	230 .0	DVP	314692	6FARMVI L	230 .0	DVP	1	DVP_P1-2: LN 556-B	single	571.520019 531	108.07	109.69	DC	9.27
1488412 73	313802	6PRINC E EDW	230 .0	DVP	314692	6FARMVI L	230 .0	DVP	1	DVP_P4-2: 511T556	breaker	699.0	112.02	114.24	DC	15.5
9780224 8	314268	6BRIER Y	230 .0	DVP	313802	6PRINCE EDW	230 .0	DVP	1	DVP_P4-2: 511T591	breaker	699.0	112.81	115.03	DC	15.5
1060831 05	314268	6BRIER Y	230 .0	DVP	313802	6PRINCE EDW	230 .0	DVP	1	DVP_P4-2: 556T591	breaker	699.0	112.91	115.13	DC	15.5
1064582 25	314268	6BRIER Y	230 .0	DVP	313802	6PRINCE EDW	230 .0	DVP	1	DVP_P1-2: LN 556-B	single	571.520019 531	109.14	110.76	DC	9.27
1488412 64	314268	6BRIER Y	230 .0	DVP	313802	6PRINCE EDW	230 .0	DVP	1	DVP_P4-2: 511T556	breaker	699.0	112.9	115.11	DC	15.5
9780210 1	314677	6BUCKI NG	230 .0	DVP	314747	6BREMO	230 .0	DVP	1	DVP_P4-2: 511T591	breaker	699.0	149.66	150.63	DC	16.34
9780210 2	314677	6BUCKI NG	230 .0	DVP	314747	6BREMO	230 .0	DVP	1	DVP_P4-2: 556T591	breaker	699.0	149.74	150.72	DC	16.34
9780210 3	314677	6BUCKI NG	230 .0	DVP	314747	6BREMO	230 .0	DVP	1	DVP_P4-2: 511T556	breaker	699.0	149.74	150.72	DC	16.34
1064579 38	314677	6BUCKI NG	230 .0	DVP	314747	6BREMO	230 .0	DVP	1	DVP_P1-2: LN 556-B	single	571.520019 531	137.07	138.78	DC	9.77
1064579 40	314677	6BUCKI NG	230 .0	DVP	314747	6BREMO	230 .0	DVP	1	DVP_P1-2: LN 556-A	single	571.520019 531	116.89	118.59	DC	9.77
1492102 92	314677	6BUCKI NG	230 .0	DVP	314747	6BREMO	230 .0	DVP	1	314906 8CLOVER 500 945810 AF1-246 TAP 500 1	single	571.520019 531	116.89	118.59	DC	9.77

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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
97802284	314686	6CLOVER	230.0	DVP	934620	AD1-088 TAP	230.0	DVP	1	DVP_P4-2: 511T591	breaker	699.0	103.29	105.51	DC	15.5
106083173	314686	6CLOVER	230.0	DVP	934620	AD1-088 TAP	230.0	DVP	1	DVP_P4-2: 556T591	breaker	699.0	103.38	105.59	DC	15.5
106458348	314686	6CLOVER	230.0	DVP	934620	AD1-088 TAP	230.0	DVP	1	DVP_P1-2: LN 556-B	single	571.520019531	101.51	103.13	DC	9.27
148841329	314686	6CLOVER	230.0	DVP	934620	AD1-088 TAP	230.0	DVP	1	DVP_P4-2: 511T556	breaker	699.0	103.38	105.59	DC	15.5
97802116	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	DVP_P4-2: 511T591	breaker	684.0	148.87	149.87	DC	16.35
97802117	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	DVP_P4-2: 511T556	breaker	684.0	148.96	149.95	DC	16.35
97802118	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	DVP_P4-2: 556T591	breaker	684.0	148.96	149.95	DC	16.35
106457949	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	DVP_P1-2: LN 556-B	single	559.299987793	136.64	138.39	DC	9.77
106457951	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	DVP_P1-2: LN 556-A	single	559.299987793	116.01	117.75	DC	9.77
149210302	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	314906 8CLOVER 500 945810 AF1-246 TAP 500 1	single	559.299987793	116.01	117.75	DC	9.77
106457879	314697	6SEDGEHILL	230.0	DVP	927250	AC1-221 TAP	230.0	DVP	1	DVP_P1-2: LN 556-B	single	674.91998291	135.6	139.3	DC	28.83
96972508	927250	AC1-221 TAP	230.0	DVP	304070	6PERSON 230 T	230.0	CPLE	1	DVP_P1-2: LN 570	single	718.0	118.15	120.85	DC	19.43
107361473	927250	AC1-221 TAP	230.0	DVP	304070	6PERSON 230 T	230.0	CPLE	1	DVP_P1-2: LN 556-B	single	718.0	137.66	140.91	DC	28.83
97802247	934620	AD1-088 TAP	230.0	DVP	314268	6BRIERY	230.0	DVP	1	DVP_P4-2: 511T591	breaker	699.0	113.38	115.6	DC	15.5
106083096	934620	AD1-088 TAP	230.0	DVP	314268	6BRIERY	230.0	DVP	1	DVP_P4-2: 556T591	breaker	699.0	113.48	115.7	DC	15.5
106458207	934620	AD1-088 TAP	230.0	DVP	314268	6BRIERY	230.0	DVP	1	DVP_P1-2: LN 556-B	single	571.520019531	109.84	111.46	DC	9.27
148841259	934620	AD1-088 TAP	230.0	DVP	314268	6BRIERY	230.0	DVP	1	DVP_P4-2: 511T556	breaker	699.0	113.47	115.69	DC	15.5

13.4 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.

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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
95873111	242631	05EDAN 1	138.0	AEP	242620	05DANVL2	138.0	AEP	1	AEP_P1-2_#1377	operation	402.0	106.81	107.53	DC	6.42
106458230	313802	6PRINCEEDW	230.0	DVP	314692	6FARMVIL	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	571.520019531	134.52	137.22	DC	15.45
98085711	313867	6BREMODIST	230.0	DVP	313707	6FORK UNION	230.0	DVP	1	DVP_P1-2: LN 2027-B	operation	661.760009766	138.7	139.15	DC	6.64
106458223	314268	6BRIERY	230.0	DVP	313802	6PRINCEEDW	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	571.520019531	135.59	138.29	DC	15.45
106457935	314677	6BUCKING	230.0	DVP	314747	6BREMO	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	571.520019531	180.12	181.3	DC	16.28
106458346	314686	6CLOVER	230.0	DVP	934620	AD1-088 TAP	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	571.520019531	123.95	126.65	DC	15.45
106457946	314692	6FARMVIL	230.0	DVP	314677	6BUCKING	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	559.299987793	179.08	180.29	DC	16.28
106457877	314697	6SEDGE HILL	230.0	DVP	927250	AC1-221 TAP	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	674.919982901	177.66	184.78	DC	48.04
98085691	314747	6BREMO	230.0	DVP	313867	6BREMODIST	230.0	DVP	1	DVP_P1-2: LN 2027-B	operation	661.760009766	141.07	141.53	DC	6.64
96972511	927250	AC1-221 TAP	230.0	DVP	304070	6PERSON230 T	230.0	CPLE	1	Base Case	operation	542.0	102.78	108.84	DC	32.83
107361470	927250	AC1-221 TAP	230.0	DVP	304070	6PERSON230 T	230.0	CPLE	1	DVP_P1-2: LN 556-B	operation	718.0	180.94	187.63	DC	48.04
106458205	934620	AD1-088 TAP	230.0	DVP	314268	6BRIERY	230.0	DVP	1	DVP_P1-2: LN 556-B	operation	571.520019531	136.29	138.99	DC	15.45

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13.5 Flow Gate Details - Secondary POI

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".

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13.5.1 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
106458102	314765	6MTEAGLE	DVP	314749	6CHARLVL	DVP	1	DVP_P1-2: LN 556-B	single	661.76	99.93	100.76	DC	5.48

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
313853	3PONTONDP	0.1175	80/20	0.1175
314333	6POWHATN	0.5026	80/20	0.5026
314429	3JTRSVLE	0.4701	80/20	0.4701
314572	3EMPORIA	0.0248	80/20	0.0248
314677	6BUCKING	0.8262	80/20	0.8262
314704	3LAWRENC	0.1498	80/20	0.1498
315153	1CLOVER1	12.0661	80/20	12.0661
315154	1CLOVER2	11.9459	80/20	11.9459
315158	1KERR 1	0.2503	80/20	0.2503
315159	1KERR 2	0.7008	80/20	0.7008
315160	1KERR 3	0.7008	80/20	0.7008
315161	1KERR 4	0.7008	80/20	0.7008
315162	1KERR 5	0.7008	80/20	0.7008
315163	1KERR 6	0.7008	80/20	0.7008
315164	1KERR 7	0.7008	80/20	0.7008
315191	1BEARGRDN G1	11.1138	80/20	11.1138
315192	1BEARGRDN G2	11.1138	80/20	11.1138
315193	1BEARGRDN S1	22.8730	80/20	22.8730
315266	1PLYWOOD A	0.8613	80/20	0.8613
920291	AA2-127	2.3088	80/20	2.3088
923572	AB1-173 C OP	0.7619	80/20	0.7619
923582	AB1-173AC OP	0.7619	80/20	0.7619
923911	AB2-031 C O1	0.7563	80/20	0.7563
923991	AB2-040 C O1	2.4834	80/20	2.4834
924021	AB2-043 C O1	0.4215	80/20	0.4215
924161	AB2-060 C OP	1.2385	80/20	1.2385
924301	**AB2-077 C O1 (Suspended)**	**1.5268**	**80/20**	**1.5268**
924311	**AB2-078 C O1 (Suspended)**	**1.5268**	**80/20**	**1.5268**
924321	**AB2-079 C O1 (Suspended)**	**1.5268**	**80/20**	**1.5268**
925171	AB2-174 C O1	0.4120	80/20	0.4120
925611	AC1-036 C	0.9926	80/20	0.9926
925781	AC1-054 C O1	3.8323	80/20	3.8323
925831	AC1-062	0.0698	80/20	0.0698
925991	AC1-075 C	3.0973	80/20	3.0973
926021	AC1-080 C	1.0351	80/20	1.0351
926271	**AC1-105 C O1 (Suspended)**	**3.8528**	**80/20**	**3.8528**
926451	AC1-116 C	3.2748	80/20	3.2748
927251	AC1-221 C	1.0129	80/20	1.0129

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
927261	AC1-222 C	2.3539	80/20	2.3539
932511	AC2-071 C	4.7190	80/20	4.7190
932761	AC2-100 C	2.3312	80/20	2.3312
933501	AC2-165 C	14.0739	80/20	14.0739
934311	AD1-055 C	1.6344	80/20	1.6344
934341	AD1-058 C	2.5393	80/20	2.5393
934611	AD1-087 C O1	6.5833	80/20	6.5833
934621	AD1-088 C	18.2491	80/20	18.2491
934991	AD1-131 C	0.8326	80/20	0.8326
935171	AD1-152 C O1	6.5424	80/20	6.5424
935221	AD1-157 C	2.0350	80/20	2.0350
936261	AD2-033 C	12.9496	80/20	12.9496
936361	AD2-046 C O1	5.5797	80/20	5.5797
936481	AD2-063 C O1	13.1904	80/20	13.1904
937481	AD2-202 C O1	1.7446	80/20	1.7446
938371	AE1-056 C	8.7731	80/20	8.7731
938551	AE1-074 C	0.7727	80/20	0.7727
938561	AE1-075 C	2.5546	80/20	2.5546
938821	AE1-108 C	26.5834	80/20	26.5834
939181	AE1-148 C O1	5.5739	80/20	5.5739
940241	AE2-006	0.5050	80/20	0.5050
940661	AE2-053 O1	2.0644	80/20	2.0644
941011	AE2-092 C	20.8855	80/20	20.8855
941791	AE2-182 C	2.9648	80/20	2.9648
942451	AE2-258	1.8230	80/20	1.8230
942461	AE2-259 C O1	15.7908	80/20	15.7908
942751	AE2-291 C O1	4.3709	80/20	4.3709
942761	AE2-292 C O1	5.4422	80/20	5.4422
943901	AF1-058 C	1.3072	80/20	1.3072
943911	AF1-059	9.7380	80/20	9.7380
945811	AF1-246 C O1	6.6545	80/20	6.6545
946281	AF1-292 C	0.5161	80/20	0.5161
946291	AF1-293 C O1	34.5352	80/20	34.5352
946301	AF1-294 C	5.2376	80/20	5.2376
946591	AF1-323 C	8.5226	80/20	8.5226
957481	AF2-042 C O2	47.5320	80/20	47.5320
957911	AF2-085	1.5186	80/20	1.5186
958131	AF2-107 C	4.5188	80/20	4.5188
958211	AF2-115 C	3.1937	80/20	3.1937
958501	AF2-144 C	2.1534	80/20	2.1534
958801	AF2-171 C O2	19.3986	80/20	19.3986
959311	AF2-222 C	17.9610	80/20	17.9610
959531	AF2-244 C	1.9845	80/20	1.9845
959751	AF2-266 O2	7.9220	80/20	7.9220
960061	AF2-297 C O2	5.4797	80/20	5.4797
960081	AF2-299 C	0.8699	80/20	0.8699
960111	AF2-302 C	3.0991	80/20	3.0991
960811	AF2-372 C	0.9644	80/20	0.9644
960821	AF2-373 C	0.6692	80/20	0.6692
961061	AF2-397 C O2	28.3280	80/20	28.3280
961081	AF2-399 C	0.4122	80/20	0.4122
WEC	WEC	0.0847	Confirmed LTF	0.0847

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
LGEE	LGEE	0.1683	Confirmed LTF	0.1683
CPLE	CPLE	2.5382	Confirmed LTF	2.5382
CBM-W2	CBM-W2	6.0115	Confirmed LTF	6.0115
NY	NY	0.3832	Confirmed LTF	0.3832
CBM-W1	CBM-W1	2.8022	Confirmed LTF	2.8022
TVA	TVA	1.4504	Confirmed LTF	1.4504
CBM-S2	CBM-S2	16.2765	Confirmed LTF	16.2765
CBM-S1	CBM-S1	7.6510	Confirmed LTF	7.6510
MADISON	MADISON	0.6471	Confirmed LTF	0.6471
MEC	MEC	0.6992	Confirmed LTF	0.6992
AA2-074	AA2-074	1.7271	LTF	1.7271

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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
96972664	314936	8RAWLINGS	DVP	940470	AE2-031 TAP	DVP	1	DVP_P1-2: LN 585-B	single	4070.2	99.91	100.32	DC	16.67

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
313853	3PONTONDP	0.0933	80/20	0.0933
314429	3JTRSVLE	0.3731	80/20	0.3731
314947	8GREENSVILLE	165.8983	80/20	165.8983
315102	1BRUNSWICKG1	27.5832	80/20	27.5832
315103	1BRUNSWICKG2	27.5832	80/20	27.5832
315104	1BRUNSWICKG3	27.5832	80/20	27.5832
315105	1BRUNSWICKS1	57.3040	80/20	57.3040
315153	1CLOVER1	34.7979	80/20	34.7979
315154	1CLOVER2	34.4511	80/20	34.4511
315158	1KERR 1	0.3886	80/20	0.3886
315159	1KERR 2	1.0879	80/20	1.0879
315160	1KERR 3	1.0879	80/20	1.0879
315161	1KERR 4	1.0879	80/20	1.0879
315162	1KERR 5	1.0879	80/20	1.0879
315163	1KERR 6	1.0879	80/20	1.0879
315164	1KERR 7	1.0879	80/20	1.0879
315266	1PLYWOOD A	2.1042	80/20	2.1042
923831	AB2-022 C	-1.7098	Adder	-2.01
924021	AB2-043 C O1	0.5442	80/20	0.5442
924161	AB2-060 C OP	1.5677	80/20	1.5677
924241	AB2-068 OP	-128.0681	Adder	-150.67
924301	**AB2-077 C O1 (Suspended)**	**2.0339**	**80/20**	**2.0339**
924311	**AB2-078 C O1 (Suspended)**	**2.0339**	**80/20**	**2.0339**
924321	**AB2-079 C O1 (Suspended)**	**2.0339**	**80/20**	**2.0339**
925331	AB2-190 C	-15.2463	Adder	-17.94
925611	AC1-036 C	0.9578	80/20	0.9578
925831	AC1-062	0.0554	80/20	0.0554
925861	AC1-065 C	-2.4191	Adder	-2.85
925991	AC1-075 C	8.3954	80/20	8.3954
926021	AC1-080 C	2.8058	80/20	2.8058
926051	AC1-083 C O1	5.2478	80/20	5.2478
926271	**AC1-105 C O1 (Suspended)**	**9.0580**	**80/20**	**9.0580**
926661	AC1-147 C	-1.9228	Adder	-2.26
926781	AC1-164 C	-27.3619	Adder	-32.19
927251	AC1-221 C	4.0131	80/20	4.0131
927261	AC1-222 C	6.3188	80/20	6.3188
932501	AC2-070 C	-1.0742	Adder	-1.26
932761	AC2-100 C	9.2356	80/20	9.2356

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
932831	AC2-110 C	-0.9676	Adder	-1.14
933261	AC2-137 C	-1.3882	Adder	-1.63
933731	AC2-196 C	-1.5059	Adder	-1.77
933941	AD1-017 C	1.0496	80/20	1.0496
934311	AD1-055 C	4.3873	80/20	4.3873
934341	AD1-058 C	10.0602	80/20	10.0602
934611	AD1-087 C O1	19.4205	80/20	19.4205
934621	AD1-088 C	19.0767	80/20	19.0767
934991	AD1-131 C	3.2984	80/20	3.2984
935111	AD1-144 C	-1.3609	Adder	-1.6
935171	AD1-152 C O1	19.2998	80/20	19.2998
935221	AD1-157 C	1.5236	80/20	1.5236
936151	AD2-021	-0.1583	Adder	-0.19
936161	AD2-022 C O1	13.3614	80/20	13.3614
936171	AD2-023 C O1	7.7942	80/20	7.7942
936261	AD2-033 C	13.0946	80/20	13.0946
936301	AD2-039 C	-0.9676	Adder	-1.14
936361	AD2-046 C O1	8.3729	80/20	8.3729
936481	AD2-063 C O1	15.0615	80/20	15.0615
937251	**AD2-164 (Withdrawn : 06/30/2020)**	**-3.8227**	**Adder**	**-4.5**
937481	AD2-202 C O1	5.1466	80/20	5.1466
937541	AD2-215 C	-1.3749	Adder	-1.62
938031	AE1-004 C	-0.9676	Adder	-1.14
938371	AE1-056 C	6.5685	80/20	6.5685
938491	AE1-068 C O1	190.0454	80/20	190.0454
938501	AE1-069 C O1	150.1652	80/20	150.1652
939181	AE1-148 C O1	8.2901	80/20	8.2901
939311	AE1-162 C	-1.7547	Adder	-2.06
940081	AE1-250 C	14.1417	80/20	14.1417
940241	AE2-006	0.4873	80/20	0.4873
940601	AE2-047 C O1	4.5937	80/20	4.5937
940661	AE2-053 O1	3.0704	80/20	3.0704
941431	AE2-140 C O1	16.8321	80/20	16.8321
941791	AE2-182 C	3.0993	80/20	3.0993
942131	AE2-225 C	-1.6759	Adder	-1.97
942171	AE2-229 C	-1.6759	Adder	-1.97
942451	AE2-258	2.3537	80/20	2.3537
942461	AE2-259 C O1	10.2120	80/20	10.2120
942751	AE2-291 C O1	11.9193	80/20	11.9193
942761	AE2-292 C O1	14.8407	80/20	14.8407
943811	AF1-049 C O1	11.8350	80/20	11.8350
943901	AF1-058 C	3.5020	80/20	3.5020
945811	AF1-246 C O1	21.5695	80/20	21.5695
946301	AF1-294 C	4.1574	80/20	4.1574
957481	AF2-042 C O2	154.0680	80/20	154.0680
958211	AF2-115 C	2.5350	80/20	2.5350
958801	AF2-171 C O2	15.2127	80/20	15.2127
959311	AF2-222 C	16.8160	80/20	16.8160
959751	AF2-266 O2	25.6780	80/20	25.6780
960061	AF2-297 C O2	16.6670	80/20	16.6670
960811	AF2-372 C	1.2847	80/20	1.2847
960821	AF2-373 C	1.3675	80/20	1.3675

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
961081	AF2-399 C	0.3278	80/20	0.3278
WEC	WEC	1.5536	Confirmed LTF	1.5536
LGEE	LGEE	2.9312	Confirmed LTF	2.9312
CPLE	CPLE	14.6172	Confirmed LTF	14.6172
CBM-W2	CBM-W2	61.6052	Confirmed LTF	61.6052
NY	NY	2.0832	Confirmed LTF	2.0832
CBM-W1	CBM-W1	58.0964	Confirmed LTF	58.0964
TVA	TVA	12.8968	Confirmed LTF	12.8968
CBM-S2	CBM-S2	104.4562	Confirmed LTF	104.4562
CBM-S1	CBM-S1	72.0366	Confirmed LTF	72.0366
MADISON	MADISON	3.5220	Confirmed LTF	3.5220
MEC	MEC	9.3529	Confirmed LTF	9.3529
AA2-074	AA2-074	9.9648	LTF	9.9648

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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
95872839	247631	05EDAN 1	AEP	247620	05DANVL 2	AEP	1	AEP_P4_#11112_05J.FERR 765_A1	breaker	402.0	112.6	113.29	DC	6.21

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
244012	05PINNACLE	-1.8090	Adder	-2.13
917332	Z2-043 E	0.3416	Adder	0.4
917342	Z2-044 E	0.2131	Adder	0.25
917512	Z2-088 E OP1	1.3831	Adder	1.63
918492	AA1-063AE OP	1.1318	Adder	1.33
918532	AA1-067 E	0.2426	Adder	0.29
919692	AA2-053 E OP	1.0995	Adder	1.29
919702	AA2-057 E OP	1.2081	Adder	1.42
920592	AA2-165 E	0.1660	Adder	0.2
920672	AA2-174 E OP	0.1271	Adder	0.15
922922	AB1-081 C OP	3.4267	Adder	4.03
922923	AB1-081 E OP	1.4686	Adder	1.73
923262	**AB1-132 C OP (Suspended)**	**4.0634**	**Adder**	**4.78**
923263	**AB1-132 E OP (Suspended)**	**1.7414**	**Adder**	**2.05**
923572	AB1-173 C OP	0.6354	Adder	0.75
923573	AB1-173 E OP	0.2965	Adder	0.35
923582	AB1-173AC OP	0.6354	Adder	0.75
923583	AB1-173AE OP	0.2965	Adder	0.35
923911	AB2-031 C O1	0.6307	Adder	0.74
923912	AB2-031 E O1	0.3106	Adder	0.37
923991	AB2-040 C O1	2.0708	Adder	2.44
923992	AB2-040 E O1	1.6943	Adder	1.99
924022	AB2-043 E O1	0.8878	Adder	1.04
924152	AB2-059 E OP	2.0805	Adder	2.45
924162	AB2-060 E OP	1.3365	Adder	1.57
924301	**AB2-077 C O1 (Suspended)**	**0.6357**	**Adder**	**0.75**
924302	**AB2-077 E O1 (Suspended)**	**0.4238**	**Adder**	**0.5**
924311	**AB2-078 C O1 (Suspended)**	**0.6357**	**Adder**	**0.75**
924312	**AB2-078 E O1 (Suspended)**	**0.4238**	**Adder**	**0.5**
924321	**AB2-079 C O1 (Suspended)**	**0.6357**	**Adder**	**0.75**
924322	**AB2-079 E O1 (Suspended)**	**0.4238**	**Adder**	**0.5**
924501	**AB2-099 C (Suspended)**	**0.1611**	**Adder**	**0.19**
924502	**AB2-099 E (Suspended)**	**0.0690**	**Adder**	**0.08**
925122	AB2-169 E	1.6847	Adder	1.98
925172	AB2-174 E O1	1.7694	Adder	2.08

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925591	AC1-034 C	2.6159	Adder	3.08
925592	AC1-034 E	1.9734	Adder	2.32
925611	AC1-036 C	0.2686	Adder	0.32
925612	AC1-036 E	0.4382	Adder	0.52
925781	AC1-054 C O1	2.4980	Adder	2.94
925782	AC1-054 E O1	1.1507	Adder	1.35
926051	AC1-083 C O1	3.9626	50/50	3.9626
926052	AC1-083 E O1	6.4654	50/50	6.4654
926071	AC1-086 C	5.9838	Adder	7.04
926072	AC1-086 E	2.7234	Adder	3.2
926201	AC1-098 C	1.9882	Adder	2.34
926202	AC1-098 E	1.1845	Adder	1.39
926211	AC1-099 C	0.6663	Adder	0.78
926212	AC1-099 E	0.3913	Adder	0.46
926271	**AC1-105 C O1 (Suspended)**	**1.9582**	**Adder**	**2.3**
926272	**AC1-105 E O1 (Suspended)**	**0.9748**	**Adder**	**1.15**
927021	AC1-189 C	3.0130	Adder	3.54
927022	AC1-189 E	1.5009	Adder	1.77
927141	AC1-208 C	2.9907	Adder	3.52
927142	AC1-208 E	1.3280	Adder	1.56
927251	AC1-221 C	1.5648	50/50	1.5648
927252	AC1-221 E	1.5648	50/50	1.5648
927261	AC1-222 C	1.2518	Adder	1.47
927262	AC1-222 E	1.1917	Adder	1.4
932631	AC2-084 C	2.8343	Adder	3.33
932632	AC2-084 E	1.3960	Adder	1.64
932761	AC2-100 C	3.6012	50/50	3.6012
932762	AC2-100 E	1.7578	50/50	1.7578
933941	AD1-017 C	0.7925	50/50	0.7925
933942	AD1-017 E	1.2931	50/50	1.2931
934311	AD1-055 C	0.8691	Adder	1.02
934312	AD1-055 E	0.2241	Adder	0.26
934331	AD1-057 C O1	3.4134	Adder	4.02
934332	AD1-057 E O1	1.8209	Adder	2.14
934341	AD1-058 C	3.9228	50/50	3.9228
934342	AD1-058 E	0.9968	50/50	0.9968
934611	AD1-087 C O1	2.7885	Adder	3.28
934612	AD1-087 E O1	1.3105	Adder	1.54
934991	AD1-131 C	1.2862	50/50	1.2862
934992	AD1-131 E	0.8574	50/50	0.8574
935171	AD1-152 C O1	2.7711	Adder	3.26
935172	AD1-152 E O1	1.8474	Adder	2.17
936161	AD2-022 C O1	10.5804	50/50	10.5804
936162	AD2-022 E O1	6.3482	50/50	6.3482
936171	AD2-023 C O1	6.1719	50/50	6.1719
936172	AD2-023 E O1	3.3505	50/50	3.3505
936261	AD2-033 C	3.7513	Adder	4.41
936262	AD2-033 E	2.5008	Adder	2.94
936361	AD2-046 C O1	3.1497	Adder	3.71
936362	AD2-046 E O1	1.4484	Adder	1.7
936481	AD2-063 C O1	4.5403	Adder	5.34

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936482	AD2-063 E O1	3.0016	Adder	3.53
937481	AD2-202 C O1	0.7390	Adder	0.87
937482	AD2-202 E O1	0.4157	Adder	0.49
939181	AE1-148 C O1	3.0900	Adder	3.64
939182	AE1-148 E O1	2.0600	Adder	2.42
939441	AE1-176	-0.1149	Adder	-0.14
940081	AE1-250 C	14.0508	50/50	14.0508
940082	AE1-250 E	9.3672	50/50	9.3672
940241	AE2-006	0.1366	Adder	0.16
940571	AE2-044 C	1.7134	Adder	2.02
940572	AE2-044 E	0.7343	Adder	0.86
940661	AE2-053 O1	1.1444	Adder	1.35
941541	AE2-151 C	0.3022	Adder	0.36
941542	AE2-151 E	0.1627	Adder	0.19
942451	AE2-258	0.7407	Adder	0.87
943171	AE2-346 C	0.3866	Adder	0.45
943172	AE2-346 E	0.1657	Adder	0.19
943901	AF1-058 C	0.7057	Adder	0.83
943902	AF1-058 E	0.4705	Adder	0.55
943911	AF1-059	4.9266	Adder	5.8
944141	AF1-082	1.1014	Adder	1.3
945811	AF1-246 C O1	1.9428	Adder	2.29
945812	AF1-246 E O1	2.6829	Adder	3.16
957481	AF2-042 C O2	7.3549	Adder	16.33
957482	AF2-042 E O2	4.9032	Adder	10.88
957861	AF2-080 C	1.4504	Adder	3.22
957862	AF2-080 E	0.6429	Adder	1.43
959231	AF2-214 C	1.9621	Adder	4.36
959232	AF2-214 E	2.9415	Adder	6.53
959311	AF2-222 C	2.4620	Adder	5.47
959312	AF2-222 E	1.6495	Adder	3.66
959511	AF2-242	1.2786	Adder	2.84
959751	AF2-266 O2	1.2258	Adder	2.72
960061	AF2-297 C O2	1.6795	Adder	3.73
960062	AF2-297 E O2	1.1197	Adder	2.49
960121	AF2-303 C O2	3.7421	Adder	8.31
960122	AF2-303 E O2	2.4405	Adder	5.42
960331	AF2-324 C O2	1.5809	Adder	3.51
960332	AF2-324 E O2	0.8488	Adder	1.88
960351	**AF2-326 C (Withdrawn : 07/22/2020)**	**0.5185**	**Adder**	**1.15**
960352	**AF2-326 E (Withdrawn : 07/22/2020)**	**0.1296**	**Adder**	**0.29**
960811	AF2-372 C	0.2128	Adder	0.47
960812	AF2-372 E	0.3473	Adder	0.77
960821	AF2-373 C	0.1698	Adder	0.38
960822	AF2-373 E	0.2547	Adder	0.57
960831	AF2-374 C	0.1904	Adder	0.42
960832	AF2-374 E	0.3107	Adder	0.69
NEWTON	NEWTON	0.3567	Confirmed LTF	0.3567
CPLE	CPLE	5.5176	Confirmed LTF	5.5176
G-007A	G-007A	0.6186	Confirmed LTF	0.6186
VFT	VFT	1.6254	Confirmed LTF	1.6254

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-W2	CBM-W2	5.2744	Confirmed LTF	5.2744
TVA	TVA	1.9418	Confirmed LTF	1.9418
EDWARDS	EDWARDS	0.1740	Confirmed LTF	0.1740
CBM-S2	CBM-S2	37.0845	Confirmed LTF	37.0845
CBM-S1	CBM-S1	8.5967	Confirmed LTF	8.5967
TILTON	TILTON	0.3856	Confirmed LTF	0.3856
MADISON	MADISON	1.8829	Confirmed LTF	1.8829
GIBSON	GIBSON	0.2905	Confirmed LTF	0.2905
BLUEG	BLUEG	1.2187	Confirmed LTF	1.2187
TRIMBLE	TRIMBLE	0.4096	Confirmed LTF	0.4096
AA2-074	AA2-074	3.7471	LTF	3.7471

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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
148841273	313802	6PRINCE EDW	DVP	314692	6FARMVIL	DVP	1	DVP_P4-2: 511T556	breaker	699.0	112.02	114.24	DC	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315153	1CLOVER1	24.1422	50/50	24.1422
315154	1CLOVER2	23.9016	50/50	23.9016
315266	1PLYWOOD A	0.9389	50/50	0.9389
925611	AC1-036 C	-0.3478	Adder	-0.41
925991	AC1-075 C	3.1972	Adder	3.76
925992	AC1-075 E	1.8115	Adder	2.13
926021	AC1-080 C	1.0685	Adder	1.26
926022	AC1-080 E	0.6010	Adder	0.71
926271	**AC1-105 C O1 (Suspended)**	**3.8688**	**50/50**	**3.8688**
926272	**AC1-105 E O1 (Suspended)**	**1.9259**	**50/50**	**1.9259**
926451	AC1-116 C	-0.2683	Adder	-0.32
927251	AC1-221 C	1.4819	50/50	1.4819
927252	AC1-221 E	1.4819	50/50	1.4819
927261	AC1-222 C	3.0620	50/50	3.0620
927262	AC1-222 E	2.9149	50/50	2.9149
932761	AC2-100 C	3.4104	50/50	3.4104
932762	AC2-100 E	1.6646	50/50	1.6646
934311	AD1-055 C	2.1260	50/50	2.1260
934312	AD1-055 E	0.5482	50/50	0.5482
934341	AD1-058 C	3.7149	50/50	3.7149
934342	AD1-058 E	0.9439	50/50	0.9439
934611	AD1-087 C O1	12.3358	50/50	12.3358
934612	AD1-087 E O1	5.7976	50/50	5.7976
934621	AD1-088 C	41.9311	50/50	41.9311
934622	AD1-088 E	19.7323	50/50	19.7323
934991	AD1-131 C	1.2180	50/50	1.2180
934992	AD1-131 E	0.8120	50/50	0.8120
935171	AD1-152 C O1	12.2592	50/50	12.2592
935172	AD1-152 E O1	8.1728	50/50	8.1728
935221	AD1-157 C	-1.1710	Adder	-1.38
935222	AD1-157 E	-0.7807	Adder	-0.92
936161	AD2-022 C O1	2.9386	Adder	3.46
936162	AD2-022 E O1	1.7632	Adder	2.07
936171	AD2-023 C O1	1.7142	Adder	2.02
936172	AD2-023 E O1	0.9306	Adder	1.09
937481	AD2-202 C O1	3.2691	50/50	3.2691
937482	AD2-202 E O1	1.8389	50/50	1.8389
938561	AE1-075 C	-0.6494	Adder	-0.76
940241	AE2-006	-0.1769	Adder	-0.21
941791	AE2-182 C	6.8123	50/50	6.8123

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941792	AE2-182 E	3.1713	50/50	3.1713
942751	AE2-291 C O1	4.3135	Adder	5.07
942752	AE2-291 E O1	2.8757	Adder	3.38
942761	AE2-292 C O1	5.3707	Adder	6.32
942762	AE2-292 E O1	3.5805	Adder	4.21
943901	AF1-058 C	1.7239	50/50	1.7239
943902	AF1-058 E	1.1493	50/50	1.1493
945811	AF1-246 C O1	13.3140	50/50	13.3140
945812	AF1-246 E O1	18.3860	50/50	18.3860
946293	AF1-293 BAT	7.5791	Merchant Transmission	7.5791
957481	AF2-042 C O2	95.1000	50/50	95.1000
957482	AF2-042 E O2	63.4000	50/50	63.4000
958503	AF2-144 BAT	0.3346	Merchant Transmission	0.3346
959751	AF2-266 O2	15.8500	50/50	15.8500
960061	AF2-297 C O2	9.3019	50/50	9.3019
960062	AF2-297 E O2	6.2013	50/50	6.2013
960821	AF2-373 C	0.2137	Adder	0.47
960822	AF2-373 E	0.3205	Adder	0.71
961063	AF2-397 BAT	5.3724	50/50	5.3724
WEC	WEC	0.2432	Confirmed LTF	0.2432
LGEE	LGEE	0.4604	Confirmed LTF	0.4604
CPLE	CPLE	2.6553	Confirmed LTF	2.6553
CBM-W2	CBM-W2	9.8853	Confirmed LTF	9.8853
NY	NY	0.3058	Confirmed LTF	0.3058
CBM-W1	CBM-W1	9.0697	Confirmed LTF	9.0697
TVA	TVA	2.0902	Confirmed LTF	2.0902
O-066	O-066	4.3075	Confirmed LTF	4.3075
CBM-S2	CBM-S2	18.0798	Confirmed LTF	18.0798
CBM-S1	CBM-S1	11.6383	Confirmed LTF	11.6383
G-007	G-007	0.6718	Confirmed LTF	0.6718
MADISON	MADISON	0.5927	Confirmed LTF	0.5927
MEC	MEC	1.4825	Confirmed LTF	1.4825
AA2-074	AA2-074	1.8099	LTF	1.8099

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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
148841264	314268	6BRIERY	DVP	313802	6PRINCE EDW	DVP	1	DVP_P4-2: 511T556	breaker	699.0	112.9	115.11	DC	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315153	1CLOVER1	24.1422	50/50	24.1422
315154	1CLOVER2	23.9016	50/50	23.9016
315266	1PLYWOOD A	0.9389	50/50	0.9389
925611	AC1-036 C	-0.3478	Adder	-0.41
925991	AC1-075 C	3.1972	Adder	3.76
925992	AC1-075 E	1.8115	Adder	2.13
926021	AC1-080 C	1.0685	Adder	1.26
926022	AC1-080 E	0.6010	Adder	0.71
926271	**AC1-105 C O1 (Suspended)**	**3.8688**	**50/50**	**3.8688**
926272	**AC1-105 E O1 (Suspended)**	**1.9259**	**50/50**	**1.9259**
926451	AC1-116 C	-0.2683	Adder	-0.32
927251	AC1-221 C	1.4819	50/50	1.4819
927252	AC1-221 E	1.4819	50/50	1.4819
927261	AC1-222 C	3.0620	50/50	3.0620
927262	AC1-222 E	2.9149	50/50	2.9149
932761	AC2-100 C	3.4104	50/50	3.4104
932762	AC2-100 E	1.6646	50/50	1.6646
934311	AD1-055 C	2.1260	50/50	2.1260
934312	AD1-055 E	0.5482	50/50	0.5482
934341	AD1-058 C	3.7149	50/50	3.7149
934342	AD1-058 E	0.9439	50/50	0.9439
934611	AD1-087 C O1	12.3358	50/50	12.3358
934612	AD1-087 E O1	5.7976	50/50	5.7976
934621	AD1-088 C	41.9311	50/50	41.9311
934622	AD1-088 E	19.7323	50/50	19.7323
934991	AD1-131 C	1.2180	50/50	1.2180
934992	AD1-131 E	0.8120	50/50	0.8120
935171	AD1-152 C O1	12.2592	50/50	12.2592
935172	AD1-152 E O1	8.1728	50/50	8.1728
935221	AD1-157 C	-1.1710	Adder	-1.38
935222	AD1-157 E	-0.7807	Adder	-0.92
936161	AD2-022 C O1	2.9386	Adder	3.46
936162	AD2-022 E O1	1.7632	Adder	2.07
936171	AD2-023 C O1	1.7142	Adder	2.02
936172	AD2-023 E O1	0.9306	Adder	1.09
937481	AD2-202 C O1	3.2691	50/50	3.2691
937482	AD2-202 E O1	1.8389	50/50	1.8389
938561	AE1-075 C	-0.6494	Adder	-0.76
940241	AE2-006	-0.1769	Adder	-0.21
941791	AE2-182 C	6.8123	50/50	6.8123

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941792	AE2-182 E	3.1713	50/50	3.1713
942751	AE2-291 C O1	4.3135	Adder	5.07
942752	AE2-291 E O1	2.8757	Adder	3.38
942761	AE2-292 C O1	5.3707	Adder	6.32
942762	AE2-292 E O1	3.5805	Adder	4.21
943901	AF1-058 C	1.7239	50/50	1.7239
943902	AF1-058 E	1.1493	50/50	1.1493
945811	AF1-246 C O1	13.3140	50/50	13.3140
945812	AF1-246 E O1	18.3860	50/50	18.3860
946293	AF1-293 BAT	7.5791	Merchant Transmission	7.5791
957481	AF2-042 C O2	95.1000	50/50	95.1000
957482	AF2-042 E O2	63.4000	50/50	63.4000
958503	AF2-144 BAT	0.3346	Merchant Transmission	0.3346
959751	AF2-266 O2	15.8500	50/50	15.8500
960061	AF2-297 C O2	9.3019	50/50	9.3019
960062	AF2-297 E O2	6.2013	50/50	6.2013
960821	AF2-373 C	0.2137	Adder	0.47
960822	AF2-373 E	0.3205	Adder	0.71
961063	AF2-397 BAT	5.3724	50/50	5.3724
WEC	WEC	0.2432	Confirmed LTF	0.2432
LGEE	LGEE	0.4604	Confirmed LTF	0.4604
CPLE	CPLE	2.6553	Confirmed LTF	2.6553
CBM-W2	CBM-W2	9.8853	Confirmed LTF	9.8853
NY	NY	0.3058	Confirmed LTF	0.3058
CBM-W1	CBM-W1	9.0697	Confirmed LTF	9.0697
TVA	TVA	2.0902	Confirmed LTF	2.0902
O-066	O-066	4.3075	Confirmed LTF	4.3075
CBM-S2	CBM-S2	18.0798	Confirmed LTF	18.0798
CBM-S1	CBM-S1	11.6383	Confirmed LTF	11.6383
G-007	G-007	0.6718	Confirmed LTF	0.6718
MADISON	MADISON	0.5927	Confirmed LTF	0.5927
MEC	MEC	1.4825	Confirmed LTF	1.4825
AA2-074	AA2-074	1.8099	LTF	1.8099

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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
97802103	314677	6BUCKING	DVP	314747	6BREMO	DVP	1	DVP_P4-2: 511T556	breaker	699.0	149.74	150.72	DC	16.34

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
313853	3PONTONDP	0.2225	50/50	0.2225
314429	3JTRSVLE	0.8900	50/50	0.8900
314677	6BUCKING	1.6254	50/50	1.6254
315153	1CLOVER1	22.4668	50/50	22.4668
315154	1CLOVER2	22.2429	50/50	22.2429
924022	AB2-043 E O1	3.2830	Adder	3.86
924032	AB2-045 E	4.3975	50/50	4.3975
924162	AB2-060 E OP	5.0960	Adder	6.0
924301	**AB2-077 C O1 (Suspended)**	**2.2889**	**Adder**	**2.69**
924302	**AB2-077 E O1 (Suspended)**	**1.5259**	**Adder**	**1.8**
924311	**AB2-078 C O1 (Suspended)**	**2.2889**	**Adder**	**2.69**
924312	**AB2-078 E O1 (Suspended)**	**1.5259**	**Adder**	**1.8**
924321	**AB2-079 C O1 (Suspended)**	**2.2889**	**Adder**	**2.69**
924322	**AB2-079 E O1 (Suspended)**	**1.5259**	**Adder**	**1.8**
925611	AC1-036 C	1.8363	50/50	1.8363
925612	AC1-036 E	2.9961	50/50	2.9961
925781	AC1-054 C O1	5.1714	Adder	6.08
925782	AC1-054 E O1	2.3823	Adder	2.8
925831	AC1-062	0.1321	50/50	0.1321
925991	AC1-075 C	4.2224	Adder	4.97
925992	AC1-075 E	2.3923	Adder	2.81
926021	AC1-080 C	1.4111	Adder	1.66
926022	AC1-080 E	0.7938	Adder	0.93
926271	**AC1-105 C O1 (Suspended)**	**5.7567**	**Adder**	**6.77**
926272	**AC1-105 E O1 (Suspended)**	**2.8657**	**Adder**	**3.37**
926451	AC1-116 C	-0.3880	Adder	-0.46
927251	AC1-221 C	1.4229	Adder	1.67
927252	AC1-221 E	1.4229	Adder	1.67
927261	AC1-222 C	3.4591	Adder	4.07
927262	AC1-222 E	3.2930	Adder	3.87
932511	AC2-071 C	9.2835	50/50	9.2835
932512	AC2-071 E	4.6767	50/50	4.6767
932761	AC2-100 C	3.2747	Adder	3.85
932762	AC2-100 E	1.5984	Adder	1.88

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934311	AD1-055 C	2.4018	Adder	2.83
934312	AD1-055 E	0.6193	Adder	0.73
934341	AD1-058 C	3.5671	Adder	4.2
934342	AD1-058 E	0.9064	Adder	1.07
934611	AD1-087 C O1	10.2490	Adder	12.06
934612	AD1-087 E O1	4.8168	Adder	5.67
934621	AD1-088 C	35.2759	50/50	35.2759
934622	AD1-088 E	16.6004	50/50	16.6004
934991	AD1-131 C	1.1695	Adder	1.38
934992	AD1-131 E	0.7797	Adder	0.92
935171	AD1-152 C O1	10.1853	Adder	11.98
935172	AD1-152 E O1	6.7902	Adder	7.99
935221	AD1-157 C	3.8759	50/50	3.8759
935222	AD1-157 E	2.5840	50/50	2.5840
936261	AD2-033 C	23.8079	50/50	23.8079
936262	AD2-033 E	15.8720	50/50	15.8720
936361	AD2-046 C O1	7.9875	Adder	9.4
936362	AD2-046 E O1	3.6731	Adder	4.32
936481	AD2-063 C O1	20.2427	Adder	23.81
936482	AD2-063 E O1	13.3827	Adder	15.74
937481	AD2-202 C O1	2.7161	Adder	3.2
937482	AD2-202 E O1	1.5278	Adder	1.8
938371	AE1-056 C	16.7096	50/50	16.7096
938372	AE1-056 E	9.1300	50/50	9.1300
939181	AE1-148 C O1	8.0045	Adder	9.42
939182	AE1-148 E O1	5.3363	Adder	6.28
940241	AE2-006	0.9343	50/50	0.9343
940661	AE2-053 O1	2.9646	Adder	3.49
941791	AE2-182 C	5.7311	50/50	5.7311
941792	AE2-182 E	2.6679	50/50	2.6679
942451	AE2-258	2.7391	Adder	3.22
942461	AE2-259 C O1	30.4818	50/50	30.4818
942462	AE2-259 E O1	20.3212	50/50	20.3212
942751	AE2-291 C O1	5.6712	Adder	6.67
942752	AE2-291 E O1	3.7808	Adder	4.45
942761	AE2-292 C O1	7.0612	Adder	8.31
942762	AE2-292 E O1	4.7075	Adder	5.54
943901	AF1-058 C	1.9498	Adder	2.29
943902	AF1-058 E	1.2999	Adder	1.53
943911	AF1-059	13.3220	Adder	15.67
945811	AF1-246 C O1	10.5311	Adder	12.39
945812	AF1-246 E O1	17.1094	50/50	17.1094
946293	AF1-293 BAT	11.0414	Merchant Transmission	11.0414
946301	AF1-294 C	9.9165	50/50	9.9165
946302	AF1-294 E	6.6110	50/50	6.6110
957481	AF2-042 C O2	88.4970	50/50	88.4970
957482	AF2-042 E O2	58.9980	50/50	58.9980
958211	AF2-115 C	6.0467	50/50	6.0467
958212	AF2-115 E	4.0311	50/50	4.0311
958801	AF2-171 C O2	36.7731	50/50	36.7731
958802	AF2-171 E O2	24.5154	50/50	24.5154
959311	AF2-222 C	33.3580	50/50	33.3580

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959312	AF2-222 E	22.3499	50/50	22.3499
959751	AF2-266 O2	6.6446	Adder	14.75
960061	AF2-297 C O2	4.4171	Adder	9.8
960062	AF2-297 E O2	2.9448	Adder	6.54
960811	AF2-372 C	0.7663	Adder	1.7
960812	AF2-372 E	1.2505	Adder	2.78
960821	AF2-373 C	0.5309	Adder	1.18
960822	AF2-373 E	0.7963	Adder	1.77
961063	AF2-397 BAT	4.1525	Merchant Transmission	4.1525
961081	AF2-399 C	0.7802	50/50	0.7802
961082	AF2-399 E	1.3191	50/50	1.3191
WEC	WEC	0.2974	Confirmed LTF	0.2974
LGEE	LGEE	0.5619	Confirmed LTF	0.5619
CPLE	CPLE	3.4934	Confirmed LTF	3.4934
CBM-W2	CBM-W2	12.4079	Confirmed LTF	12.4079
NY	NY	0.3932	Confirmed LTF	0.3932
CBM-W1	CBM-W1	11.0588	Confirmed LTF	11.0588
TVA	TVA	2.6432	Confirmed LTF	2.6432
O-066	O-066	5.4835	Confirmed LTF	5.4835
CBM-S2	CBM-S2	23.4437	Confirmed LTF	23.4437
CBM-S1	CBM-S1	14.6544	Confirmed LTF	14.6544
G-007	G-007	0.8549	Confirmed LTF	0.8549
MADISON	MADISON	0.7822	Confirmed LTF	0.7822
MEC	MEC	1.8337	Confirmed LTF	1.8337
AA2-074	AA2-074	2.3805	LTF	2.3805

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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
148841329	314686	6CLOVER	DVP	934620	AD1-088 TAP	DVP	1	DVP_P4-2: 511T556	breaker	699.0	103.38	105.59	DC	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315153	1CLOVER1	24.1422	50/50	24.1422
315154	1CLOVER2	23.9016	50/50	23.9016
315266	1PLYWOOD A	0.9389	50/50	0.9389
925611	AC1-036 C	-0.3478	Adder	-0.41
925991	AC1-075 C	3.1972	Adder	3.76
925992	AC1-075 E	1.8115	Adder	2.13
926021	AC1-080 C	1.0685	Adder	1.26
926022	AC1-080 E	0.6010	Adder	0.71
926271	**AC1-105 C O1 (Suspended)**	**3.8688**	**50/50**	**3.8688**
926272	**AC1-105 E O1 (Suspended)**	**1.9259**	**50/50**	**1.9259**
926451	AC1-116 C	-0.2683	Adder	-0.32
927251	AC1-221 C	1.4819	50/50	1.4819
927252	AC1-221 E	1.4819	50/50	1.4819
927261	AC1-222 C	3.0620	50/50	3.0620
927262	AC1-222 E	2.9149	50/50	2.9149
932761	AC2-100 C	3.4104	50/50	3.4104
932762	AC2-100 E	1.6646	50/50	1.6646
934311	AD1-055 C	2.1260	50/50	2.1260
934312	AD1-055 E	0.5482	50/50	0.5482
934341	AD1-058 C	3.7149	50/50	3.7149
934342	AD1-058 E	0.9439	50/50	0.9439
934611	AD1-087 C O1	12.3358	50/50	12.3358
934612	AD1-087 E O1	5.7976	50/50	5.7976
934991	AD1-131 C	1.2180	50/50	1.2180
934992	AD1-131 E	0.8120	50/50	0.8120
935171	AD1-152 C O1	12.2592	50/50	12.2592
935172	AD1-152 E O1	8.1728	50/50	8.1728
935221	AD1-157 C	-1.1710	Adder	-1.38
935222	AD1-157 E	-0.7807	Adder	-0.92
936161	AD2-022 C O1	2.9386	Adder	3.46
936162	AD2-022 E O1	1.7632	Adder	2.07
936171	AD2-023 C O1	1.7142	Adder	2.02
936172	AD2-023 E O1	0.9306	Adder	1.09
937481	AD2-202 C O1	3.2691	50/50	3.2691
937482	AD2-202 E O1	1.8389	50/50	1.8389
938561	AE1-075 C	-0.6494	Adder	-0.76
940241	AE2-006	-0.1769	Adder	-0.21
942751	AE2-291 C O1	4.3135	Adder	5.07
942752	AE2-291 E O1	2.8757	Adder	3.38
942761	AE2-292 C O1	5.3707	Adder	6.32

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942762	AE2-292 E O1	3.5805	Adder	4.21
943901	AF1-058 C	1.7239	50/50	1.7239
943902	AF1-058 E	1.1493	50/50	1.1493
945811	AF1-246 C O1	13.3140	50/50	13.3140
945812	AF1-246 E O1	18.3860	50/50	18.3860
946293	AF1-293 BAT	7.5791	Merchant Transmission	7.5791
957481	AF2-042 C O2	95.1000	50/50	95.1000
957482	AF2-042 E O2	63.4000	50/50	63.4000
958503	AF2-144 BAT	0.3346	Merchant Transmission	0.3346
959751	AF2-266 O2	15.8500	50/50	15.8500
960061	AF2-297 C O2	9.3019	50/50	9.3019
960062	AF2-297 E O2	6.2013	50/50	6.2013
960821	AF2-373 C	0.2137	Adder	0.47
960822	AF2-373 E	0.3205	Adder	0.71
961063	AF2-397 BAT	5.3724	50/50	5.3724
WEC	WEC	0.2432	Confirmed LTF	0.2432
LGEE	LGEE	0.4604	Confirmed LTF	0.4604
CPLE	CPLE	2.6553	Confirmed LTF	2.6553
CBM-W2	CBM-W2	9.8853	Confirmed LTF	9.8853
NY	NY	0.3058	Confirmed LTF	0.3058
CBM-W1	CBM-W1	9.0697	Confirmed LTF	9.0697
TVA	TVA	2.0902	Confirmed LTF	2.0902
O-066	O-066	4.3075	Confirmed LTF	4.3075
CBM-S2	CBM-S2	18.0798	Confirmed LTF	18.0798
CBM-S1	CBM-S1	11.6383	Confirmed LTF	11.6383
G-007	G-007	0.6718	Confirmed LTF	0.6718
MADISON	MADISON	0.5927	Confirmed LTF	0.5927
MEC	MEC	1.4825	Confirmed LTF	1.4825
AA2-074	AA2-074	1.8099	LTF	1.8099

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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
97802118	314692	6FARMVIL	DVP	314677	6BUCKING	DVP	1	DVP_P4-2: 556T591	breaker	684.0	148.96	149.95	DC	16.35

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
313853	3PONTONDP	0.2225	50/50	0.2225
314429	3JTRSVLE	0.8902	50/50	0.8902
315153	1CLOVER1	22.4721	50/50	22.4721
315154	1CLOVER2	22.2481	50/50	22.2481
924022	AB2-043 E O1	3.2840	Adder	3.86
924162	AB2-060 E OP	5.0975	Adder	6.0
924301	**AB2-077 C O1 (Suspended)**	**2.2896**	**Adder**	**2.69**
924302	**AB2-077 E O1 (Suspended)**	**1.5264**	**Adder**	**1.8**
924311	**AB2-078 C O1 (Suspended)**	**2.2896**	**Adder**	**2.69**
924312	**AB2-078 E O1 (Suspended)**	**1.5264**	**Adder**	**1.8**
924321	**AB2-079 C O1 (Suspended)**	**2.2896**	**Adder**	**2.69**
924322	**AB2-079 E O1 (Suspended)**	**1.5264**	**Adder**	**1.8**
925611	AC1-036 C	1.8367	50/50	1.8367
925612	AC1-036 E	2.9967	50/50	2.9967
925781	AC1-054 C O1	5.1741	Adder	6.09
925782	AC1-054 E O1	2.3836	Adder	2.8
925831	AC1-062	0.1321	50/50	0.1321
925991	AC1-075 C	4.2247	Adder	4.97
925992	AC1-075 E	2.3936	Adder	2.82
926021	AC1-080 C	1.4119	Adder	1.66
926022	AC1-080 E	0.7942	Adder	0.93
926271	**AC1-105 C O1 (Suspended)**	**5.7587**	**Adder**	**6.77**
926272	**AC1-105 E O1 (Suspended)**	**2.8667**	**Adder**	**3.37**
926451	AC1-116 C	-0.3877	Adder	-0.46
927251	AC1-221 C	1.4238	Adder	1.68
927252	AC1-221 E	1.4238	Adder	1.68
927261	AC1-222 C	3.4605	Adder	4.07
927262	AC1-222 E	3.2943	Adder	3.88
932761	AC2-100 C	3.2767	Adder	3.85
932762	AC2-100 E	1.5993	Adder	1.88
934311	AD1-055 C	2.4027	Adder	2.83
934312	AD1-055 E	0.6196	Adder	0.73
934341	AD1-058 C	3.5693	Adder	4.2
934342	AD1-058 E	0.9069	Adder	1.07

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934611	AD1-087 C O1	10.2518	Adder	12.06
934612	AD1-087 E O1	4.8182	Adder	5.67
934621	AD1-088 C	35.2809	50/50	35.2809
934622	AD1-088 E	16.6028	50/50	16.6028
934991	AD1-131 C	1.1702	Adder	1.38
934992	AD1-131 E	0.7802	Adder	0.92
935171	AD1-152 C O1	10.1882	Adder	11.99
935172	AD1-152 E O1	6.7921	Adder	7.99
935221	AD1-157 C	3.8766	50/50	3.8766
935222	AD1-157 E	2.5844	50/50	2.5844
936261	AD2-033 C	23.8134	50/50	23.8134
936262	AD2-033 E	15.8756	50/50	15.8756
936361	AD2-046 C O1	7.9908	Adder	9.4
936362	AD2-046 E O1	3.6746	Adder	4.32
936481	AD2-063 C O1	20.2480	Adder	23.82
936482	AD2-063 E O1	13.3862	Adder	15.75
937481	AD2-202 C O1	2.7168	Adder	3.2
937482	AD2-202 E O1	1.5282	Adder	1.8
938371	AE1-056 C	16.7123	50/50	16.7123
938372	AE1-056 E	9.1315	50/50	9.1315
938561	AE1-075 C	-0.9180	Adder	-1.08
939181	AE1-148 C O1	8.0077	Adder	9.42
939182	AE1-148 E O1	5.3385	Adder	6.28
940241	AE2-006	0.9345	50/50	0.9345
940661	AE2-053 O1	2.9658	Adder	3.49
941791	AE2-182 C	5.7319	50/50	5.7319
941792	AE2-182 E	2.6683	50/50	2.6683
942451	AE2-258	2.7399	Adder	3.22
942461	AE2-259 C O1	30.4860	50/50	30.4860
942462	AE2-259 E O1	20.3240	50/50	20.3240
942751	AE2-291 C O1	5.6749	Adder	6.68
942752	AE2-291 E O1	3.7832	Adder	4.45
942761	AE2-292 C O1	7.0658	Adder	8.31
942762	AE2-292 E O1	4.7105	Adder	5.54
943901	AF1-058 C	1.9505	Adder	2.29
943902	AF1-058 E	1.3004	Adder	1.53
943911	AF1-059	13.3280	Adder	15.68
945811	AF1-246 C O1	10.5336	Adder	12.39
945812	AF1-246 E O1	17.1135	50/50	17.1135
946293	AF1-293 BAT	11.0357	Merchant Transmission	11.0357
946301	AF1-294 C	9.9182	50/50	9.9182
946302	AF1-294 E	6.6122	50/50	6.6122
957481	AF2-042 C O2	88.5180	50/50	88.5180
957482	AF2-042 E O2	59.0120	50/50	59.0120
958211	AF2-115 C	6.0477	50/50	6.0477
958212	AF2-115 E	4.0318	50/50	4.0318
958503	AF2-144 BAT	0.4731	Merchant Transmission	0.4731
958801	AF2-171 C O2	36.7794	50/50	36.7794
958802	AF2-171 E O2	24.5196	50/50	24.5196
959311	AF2-222 C	33.3650	50/50	33.3650
959312	AF2-222 E	22.3545	50/50	22.3545
959751	AF2-266 O2	6.6462	Adder	14.75

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960061	AF2-297 C O2	4.4186	Adder	9.81
960062	AF2-297 E O2	2.9458	Adder	6.54
960811	AF2-372 C	0.7665	Adder	1.7
960812	AF2-372 E	1.2509	Adder	2.78
960821	AF2-373 C	0.5310	Adder	1.18
960822	AF2-373 E	0.7965	Adder	1.77
961063	AF2-397 BAT	4.1505	Merchant Transmission	4.1505
961081	AF2-399 C	0.7803	50/50	0.7803
961082	AF2-399 E	1.3193	50/50	1.3193
WEC	WEC	0.2996	Confirmed LTF	0.2996
LGEE	LGEE	0.5659	Confirmed LTF	0.5659
CPLE	CPLE	3.4980	Confirmed LTF	3.4980
CBM-W2	CBM-W2	12.4652	Confirmed LTF	12.4652
NY	NY	0.3893	Confirmed LTF	0.3893
CBM-W1	CBM-W1	11.1464	Confirmed LTF	11.1464
TVA	TVA	2.6530	Confirmed LTF	2.6530
O-066	O-066	5.4365	Confirmed LTF	5.4365
CBM-S2	CBM-S2	23.4841	Confirmed LTF	23.4841
CBM-S1	CBM-S1	14.7140	Confirmed LTF	14.7140
G-007	G-007	0.8476	Confirmed LTF	0.8476
MADISON	MADISON	0.7822	Confirmed LTF	0.7822
MEC	MEC	1.8448	Confirmed LTF	1.8448
AA2-074	AA2-074	2.3836	LTF	2.3836

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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
106457879	314697	6SEDGE HILL	DVP	927250	AC1-221 TAP	DVP	1	DVP_P1-2: LN 556-B	single	674.92	135.6	139.3	DC	28.83

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
313853	3PONTONDP	0.1294	80/20	0.1294
314429	3JTRSVLE	0.5174	80/20	0.5174
314677	6BUCKING	0.4258	80/20	0.4258
315153	1CLOVER1	39.4381	80/20	39.4381
315154	1CLOVER2	39.0451	80/20	39.0451
315156	1HALLBR1	1.1309	80/20	1.1309
315158	1KERR 1	0.3659	80/20	0.3659
315159	1KERR 2	1.0244	80/20	1.0244
315160	1KERR 3	1.0244	80/20	1.0244
315161	1KERR 4	1.0244	80/20	1.0244
315162	1KERR 5	1.0244	80/20	1.0244
315163	1KERR 6	1.0244	80/20	1.0244
315164	1KERR 7	1.0244	80/20	1.0244
315192	1BEARGRDN G2	2.8787	80/20	2.8787
315193	1BEARGRDN S1	5.9246	80/20	5.9246
315266	1PLYWOOD A	3.3432	80/20	3.3432
924021	AB2-043 C O1	0.7329	80/20	0.7329
924161	AB2-060 C OP	2.1135	80/20	2.1135
924301	**AB2-077 C O1 (Suspended)**	**2.7328**	**80/20**	**2.7328**
924311	**AB2-078 C O1 (Suspended)**	**2.7328**	**80/20**	**2.7328**
924321	**AB2-079 C O1 (Suspended)**	**2.7328**	**80/20**	**2.7328**
925611	AC1-036 C	1.3105	80/20	1.3105
925661	AC1-042 C	1.3657	Adder	1.61
925781	AC1-054 C O1	5.0298	80/20	5.0298
925831	AC1-062	0.0768	80/20	0.0768
925991	AC1-075 C	11.9864	80/20	11.9864
926021	AC1-080 C	4.0059	80/20	4.0059
926271	**AC1-105 C O1 (Suspended)**	**14.5305**	**80/20**	**14.5305**
926641	AC1-145 C	1.6258	Adder	1.91
927251	AC1-221 C	-2.4414	Adder	-2.87
927261	AC1-222 C	10.1431	80/20	10.1431
932511	AC2-071 C	2.4320	80/20	2.4320
934311	AD1-055 C	7.0426	80/20	7.0426
934341	AD1-058 C	-6.1203	Adder	-7.2
934611	AD1-087 C O1	27.0094	80/20	27.0094
934621	AD1-088 C	24.0247	80/20	24.0247
935171	AD1-152 C O1	26.8416	80/20	26.8416
935221	AD1-157 C	2.1223	80/20	2.1223

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936261	AD2-033 C	17.8675	80/20	17.8675
936361	AD2-046 C O1	8.4639	80/20	8.4639
936481	AD2-063 C O1	20.4093	80/20	20.4093
937481	AD2-202 C O1	7.1578	80/20	7.1578
938371	AE1-056 C	9.1494	80/20	9.1494
939181	AE1-148 C O1	8.5347	80/20	8.5347
939941	AE1-230 C	0.6161	Adder	0.72
940241	AE2-006	0.6667	80/20	0.6667
940661	AE2-053 O1	3.1610	80/20	3.1610
941791	AE2-182 C	3.9032	80/20	3.9032
941801	AE2-185 C	3.0805	Adder	3.62
941821	AE2-187 C	3.0805	Adder	3.62
942451	AE2-258	3.1698	80/20	3.1698
942461	AE2-259 C O1	14.4012	80/20	14.4012
942671	AE2-283 C	3.3886	Adder	3.99
942751	AE2-291 C O1	15.7260	80/20	15.7260
942761	AE2-292 C O1	19.5804	80/20	19.5804
943901	AF1-058 C	5.7522	80/20	5.7522
943911	AF1-059	14.3780	80/20	14.3780
945081	AF1-173	1.1937	Adder	1.4
945811	AF1-246 C O1	21.7505	80/20	21.7505
946301	AF1-294 C	5.7653	80/20	5.7653
957481	AF2-042 C O2	155.3610	80/20	155.3610
958211	AF2-115 C	3.5154	80/20	3.5154
958801	AF2-171 C O2	21.1149	80/20	21.1149
959311	AF2-222 C	23.0530	80/20	23.0530
959751	AF2-266 O2	25.8935	80/20	25.8935
960061	AF2-297 C O2	28.8259	80/20	28.8259
960811	AF2-372 C	1.7262	80/20	1.7262
960821	AF2-373 C	2.1290	80/20	2.1290
961081	AF2-399 C	0.4546	80/20	0.4546
961121	AF2-403	0.3628	Adder	0.81
NEWTON	NEWTON	1.6150	Confirmed LTF	1.6150
FARMERCITY	FARMERCITY	0.0953	Confirmed LTF	0.0953
G-007A	G-007A	0.4939	Confirmed LTF	0.4939
VFT	VFT	1.3094	Confirmed LTF	1.3094
CALDERWOOD	CALDERWOOD	1.4284	Confirmed LTF	1.4284
PRAIRIE	PRAIRIE	4.4893	Confirmed LTF	4.4893
AC1-131	AC1-131	5.1015	LTF	5.1015
CHEOAH	CHEOAH	1.4720	Confirmed LTF	1.4720
EDWARDS	EDWARDS	0.4816	Confirmed LTF	0.4816
TILTON	TILTON	0.8429	Confirmed LTF	0.8429
GIBSON	GIBSON	0.7671	Confirmed LTF	0.7671
BLUEG	BLUEG	2.3314	Confirmed LTF	2.3314
TRIMBLE	TRIMBLE	0.7379	Confirmed LTF	0.7379
CATAWBA	CATAWBA	1.6961	Confirmed LTF	1.6961

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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
107361473	927250	AC1-221 TAP	DVP	304070	6PERSON230 T	CPLE	1	DVP_P1-2: LN 556-B	single	718.0	137.66	140.91	DC	28.83

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
313853	3PONTONDP	0.1294	80/20	0.1294
314429	3JTRSVLE	0.5174	80/20	0.5174
314677	6BUCKING	0.4258	80/20	0.4258
315153	1CLOVER1	39.4381	80/20	39.4381
315154	1CLOVER2	39.0451	80/20	39.0451
315156	1HALLBR1	1.1309	80/20	1.1309
315158	1KERR 1	0.3659	80/20	0.3659
315159	1KERR 2	1.0244	80/20	1.0244
315160	1KERR 3	1.0244	80/20	1.0244
315161	1KERR 4	1.0244	80/20	1.0244
315162	1KERR 5	1.0244	80/20	1.0244
315163	1KERR 6	1.0244	80/20	1.0244
315164	1KERR 7	1.0244	80/20	1.0244
315192	1BEARGRDN G2	2.8787	80/20	2.8787
315193	1BEARGRDN S1	5.9246	80/20	5.9246
315266	1PLYWOOD A	3.3432	80/20	3.3432
924021	AB2-043 C O1	0.7329	80/20	0.7329
924161	AB2-060 C OP	2.1135	80/20	2.1135
924301	**AB2-077 C O1 (Suspended)**	**2.7328**	**80/20**	**2.7328**
924311	**AB2-078 C O1 (Suspended)**	**2.7328**	**80/20**	**2.7328**
924321	**AB2-079 C O1 (Suspended)**	**2.7328**	**80/20**	**2.7328**
925611	AC1-036 C	1.3105	80/20	1.3105
925781	AC1-054 C O1	5.0298	80/20	5.0298
925831	AC1-062	0.0768	80/20	0.0768
925991	AC1-075 C	11.9864	80/20	11.9864
926021	AC1-080 C	4.0059	80/20	4.0059
926271	**AC1-105 C O1 (Suspended)**	**14.5305**	**80/20**	**14.5305**
927251	AC1-221 C	11.7277	80/20	11.7277
927261	AC1-222 C	10.1431	80/20	10.1431
932511	AC2-071 C	2.4320	80/20	2.4320
932761	AC2-100 C	26.9899	80/20	26.9899
934311	AD1-055 C	7.0426	80/20	7.0426
934341	AD1-058 C	29.3997	80/20	29.3997
934611	AD1-087 C O1	27.0094	80/20	27.0094
934621	AD1-088 C	24.0247	80/20	24.0247
934991	AD1-131 C	9.6392	80/20	9.6392
935171	AD1-152 C O1	26.8416	80/20	26.8416
935221	AD1-157 C	2.1223	80/20	2.1223

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936261	AD2-033 C	17.8675	80/20	17.8675
936361	AD2-046 C O1	8.4639	80/20	8.4639
936481	AD2-063 C O1	20.4093	80/20	20.4093
937481	AD2-202 C O1	7.1578	80/20	7.1578
938371	AE1-056 C	9.1494	80/20	9.1494
939181	AE1-148 C O1	8.5347	80/20	8.5347
940241	AE2-006	0.6667	80/20	0.6667
940661	AE2-053 O1	3.1610	80/20	3.1610
941791	AE2-182 C	3.9032	80/20	3.9032
942451	AE2-258	3.1698	80/20	3.1698
942461	AE2-259 C O1	14.4012	80/20	14.4012
942751	AE2-291 C O1	15.7260	80/20	15.7260
942761	AE2-292 C O1	19.5804	80/20	19.5804
943901	AF1-058 C	5.7522	80/20	5.7522
943911	AF1-059	14.3780	80/20	14.3780
945811	AF1-246 C O1	21.7505	80/20	21.7505
946301	AF1-294 C	5.7653	80/20	5.7653
957481	AF2-042 C O2	155.3610	80/20	155.3610
958211	AF2-115 C	3.5154	80/20	3.5154
958801	AF2-171 C O2	21.1149	80/20	21.1149
959311	AF2-222 C	23.0530	80/20	23.0530
959751	AF2-266 O2	25.8935	80/20	25.8935
960061	AF2-297 C O2	28.8259	80/20	28.8259
960811	AF2-372 C	1.7262	80/20	1.7262
960821	AF2-373 C	2.1290	80/20	2.1290
961081	AF2-399 C	0.4546	80/20	0.4546
NEWTON	NEWTON	1.6150	Confirmed LTF	1.6150
FARMERCITY	FARMERCITY	0.0953	Confirmed LTF	0.0953
G-007A	G-007A	0.4939	Confirmed LTF	0.4939
VFT	VFT	1.3094	Confirmed LTF	1.3094
CALDERWOOD	CALDERWOOD	1.4284	Confirmed LTF	1.4284
PRAIRIE	PRAIRIE	4.4893	Confirmed LTF	4.4893
AC1-131	AC1-131	5.1015	LTF	5.1015
CHEOAH	CHEOAH	1.4720	Confirmed LTF	1.4720
EDWARDS	EDWARDS	0.4816	Confirmed LTF	0.4816
TILTON	TILTON	0.8429	Confirmed LTF	0.8429
GIBSON	GIBSON	0.7671	Confirmed LTF	0.7671
BLUEG	BLUEG	2.3314	Confirmed LTF	2.3314
TRIMBLE	TRIMBLE	0.7379	Confirmed LTF	0.7379
CATAWBA	CATAWBA	1.6961	Confirmed LTF	1.6961

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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
148841259	934620	AD1-088 TAP	DVP	314268	6BRIERY	DVP	1	DVP_P4-2: 511T556	breaker	699.0	113.47	115.69	DC	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315153	1CLOVER1	24.1422	50/50	24.1422
315154	1CLOVER2	23.9016	50/50	23.9016
315266	1PLYWOOD A	0.9389	50/50	0.9389
925611	AC1-036 C	-0.3478	Adder	-0.41
925991	AC1-075 C	3.1972	Adder	3.76
925992	AC1-075 E	1.8115	Adder	2.13
926021	AC1-080 C	1.0685	Adder	1.26
926022	AC1-080 E	0.6010	Adder	0.71
926271	**AC1-105 C O1 (Suspended)**	**3.8688**	**50/50**	**3.8688**
926272	**AC1-105 E O1 (Suspended)**	**1.9259**	**50/50**	**1.9259**
926451	AC1-116 C	-0.2683	Adder	-0.32
927251	AC1-221 C	1.4819	50/50	1.4819
927252	AC1-221 E	1.4819	50/50	1.4819
927261	AC1-222 C	3.0620	50/50	3.0620
927262	AC1-222 E	2.9149	50/50	2.9149
932761	AC2-100 C	3.4104	50/50	3.4104
932762	AC2-100 E	1.6646	50/50	1.6646
934311	AD1-055 C	2.1260	50/50	2.1260
934312	AD1-055 E	0.5482	50/50	0.5482
934341	AD1-058 C	3.7149	50/50	3.7149
934342	AD1-058 E	0.9439	50/50	0.9439
934611	AD1-087 C O1	12.3358	50/50	12.3358
934612	AD1-087 E O1	5.7976	50/50	5.7976
934621	AD1-088 C	41.9311	50/50	41.9311
934622	AD1-088 E	19.7323	50/50	19.7323
934991	AD1-131 C	1.2180	50/50	1.2180
934992	AD1-131 E	0.8120	50/50	0.8120
935171	AD1-152 C O1	12.2592	50/50	12.2592
935172	AD1-152 E O1	8.1728	50/50	8.1728
935221	AD1-157 C	-1.1710	Adder	-1.38
935222	AD1-157 E	-0.7807	Adder	-0.92
936161	AD2-022 C O1	2.9386	Adder	3.46
936162	AD2-022 E O1	1.7632	Adder	2.07
936171	AD2-023 C O1	1.7142	Adder	2.02
936172	AD2-023 E O1	0.9306	Adder	1.09
937481	AD2-202 C O1	3.2691	50/50	3.2691
937482	AD2-202 E O1	1.8389	50/50	1.8389
938561	AE1-075 C	-0.6494	Adder	-0.76
940241	AE2-006	-0.1769	Adder	-0.21
941791	AE2-182 C	6.8123	50/50	6.8123

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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941792	AE2-182 E	3.1713	50/50	3.1713
942751	AE2-291 C O1	4.3135	Adder	5.07
942752	AE2-291 E O1	2.8757	Adder	3.38
942761	AE2-292 C O1	5.3707	Adder	6.32
942762	AE2-292 E O1	3.5805	Adder	4.21
943901	AF1-058 C	1.7239	50/50	1.7239
943902	AF1-058 E	1.1493	50/50	1.1493
945811	AF1-246 C O1	13.3140	50/50	13.3140
945812	AF1-246 E O1	18.3860	50/50	18.3860
946293	AF1-293 BAT	7.5791	Merchant Transmission	7.5791
957481	AF2-042 C O2	95.1000	50/50	95.1000
957482	AF2-042 E O2	63.4000	50/50	63.4000
958503	AF2-144 BAT	0.3346	Merchant Transmission	0.3346
959751	AF2-266 O2	15.8500	50/50	15.8500
960061	AF2-297 C O2	9.3019	50/50	9.3019
960062	AF2-297 E O2	6.2013	50/50	6.2013
960821	AF2-373 C	0.2137	Adder	0.47
960822	AF2-373 E	0.3205	Adder	0.71
961063	AF2-397 BAT	5.3724	50/50	5.3724
WEC	WEC	0.2432	Confirmed LTF	0.2432
LGEE	LGEE	0.4604	Confirmed LTF	0.4604
CPLE	CPLE	2.6553	Confirmed LTF	2.6553
CBM-W2	CBM-W2	9.8853	Confirmed LTF	9.8853
NY	NY	0.3058	Confirmed LTF	0.3058
CBM-W1	CBM-W1	9.0697	Confirmed LTF	9.0697
TVA	TVA	2.0902	Confirmed LTF	2.0902
O-066	O-066	4.3075	Confirmed LTF	4.3075
CBM-S2	CBM-S2	18.0798	Confirmed LTF	18.0798
CBM-S1	CBM-S1	11.6383	Confirmed LTF	11.6383
G-007	G-007	0.6718	Confirmed LTF	0.6718
MADISON	MADISON	0.5927	Confirmed LTF	0.5927
MEC	MEC	1.4825	Confirmed LTF	1.4825
AA2-074	AA2-074	1.8099	LTF	1.8099

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13.6 Contingency Descriptions - Secondary POI

Contingency Name	Contingency Definition
Base Case	
DVP_P1-2: LN 556-B	CONTINGENCY 'DVP_P1-2: LN 556-B' OPEN BRANCH FROM BUS 945810 TO BUS 314936 CKT 1 /* AF1-246 TAP 500.00 - 8RAWLINGS 500.00 END
AEP_P4_#11111_05J.FERR 765_B1	CONTINGENCY 'AEP_P4_#11111_05J.FERR 765_B1' OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765 242520 05J.FERR 500 1 OPEN BRANCH FROM BUS 242514 TO BUS 242684 CKT 2 / 242514 05J.FERR 765 242684 05J.FERR 138 2 OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500 306719 8ANTIOCH 500 1 END
DVP_P4-2: 511T556	CONTINGENCY 'DVP_P4-2: 511T556' /* RAWLINGS 500 KV OPEN BRANCH FROM BUS 940470 TO BUS 314936 CKT 1 /* AE2-031 TAP 500.00 - 8RAWLINGS 500.00 OPEN BRANCH FROM BUS 945810 TO BUS 314936 CKT 1 /* AF1-246 TAP 500.00 - 8RAWLINGS 500.00 END
DVP_P1-2: LN 585-B	CONTINGENCY 'DVP_P1-2: LN 585-B' OPEN BRANCH FROM BUS 941030 TO BUS 938490 CKT 1 /* AE2-094 TAP 500.00 - AE1-068 TAP 500.00 END
AEP_P1-2_#1377	CONTINGENCY 'AEP_P1-2_#1377' OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765 242520 05J.FERR 500 1 OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500 306719 8ANTIOCH 500 1 END
DVP_P4-2: 556T591	CONTINGENCY 'DVP_P4-2: 556T591' /* RAWLINGS 500 KV OPEN BRANCH FROM BUS 945810 TO BUS 314936 CKT 1 /* AF1-246 TAP 500.00 - 8RAWLINGS 500.00 OPEN BRANCH FROM BUS 314935 TO BUS 314936 CKT 1 /* 8HERITAGE 500.00 - 8RAWLINGS 500.00 END

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Contingency Name	Contingency Definition
314906 8CLOVER 500 945810 AF1-246 TAP 500 1	CONTINGENCY '314906 8CLOVER 500 945810 AF1-246 TAP 500 1' OPEN BRANCH FROM BUS 314906 TO BUS 945810 CKT 1 END
DVP_P1-2: LN 2027-B	CONTINGENCY 'DVP_P1-2: LN 2027-B' OPEN BRANCH FROM BUS 933500 TO BUS 314333 CKT 1 /* AC2-165 TAP 230.00 - 6POWHATN 230.00 OPEN BRANCH FROM BUS 314310 TO BUS 314322 CKT 1 /* 6JUDES F 230.00 - 6MDLTHAN 230.00 OPEN BRANCH FROM BUS 314310 TO BUS 314333 CKT 1 /* 6JUDES F 230.00 - 6POWHATN 230.00 OPEN BUS 314310 /* ISLAND: 6JUDES F 230.00 OPEN BUS 314333 /* ISLAND: 6POWHATN 230.00 OPEN BUS 923862 /* ISLAND: AB2-026 E 230.00 END
DVP_P1-2: LN 556-A	CONTINGENCY 'DVP_P1-2: LN 556-A' OPEN BRANCH FROM BUS 314686 TO BUS 314906 CKT 1 /* 6CLOVER 230.00 - 8CLOVER 500.00 OPEN BRANCH FROM BUS 314686 TO BUS 314906 CKT 2 /* 6CLOVER 230.00 - 8CLOVER 500.00 OPEN BRANCH FROM BUS 314686 TO BUS 314906 CKT 3 /* 6CLOVER 230.00 - 8CLOVER 500.00 OPEN BRANCH FROM BUS 314906 TO BUS 945810 CKT 1 /* 8CLOVER 500.00 - AF1-246 TAP 500.00 OPEN BUS 314906 /* ISLAND: 8CLOVER 500.00 OPEN BUS 314915 /* ISLAND: 8CLOVER_STC 500.00 END
DVP_P1-2: LN 570	CONTINGENCY 'DVP_P1-2: LN 570' OPEN BRANCH FROM BUS 304183 TO BUS 314935 CKT 1 /* 8WAKE 500 TT500.00 - 8HERITAGE 500.00 END
AEP_P4_#11112_05J.FERR 765_A1	CONTINGENCY 'AEP_P4_#11112_05J.FERR 765_A1' OPEN BRANCH FROM BUS 242511 TO BUS 242514 CKT 1 / 242511 05BROADF 765 242514 05J.FERR 765 1 OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765 242520 05J.FERR 500 1 OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500 306719 8ANTIOCH 500 1 OPEN BRANCH FROM BUS 242566 TO BUS 242567 CKT ZB / 242566 05BROADF 138 242567 05BROADX 138 ZB END

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Contingency Name	Contingency Definition
DVP_P4-2: 511T591	CONTINGENCY 'DVP_P4-2: 511T591' /* RAWLINGS 500 KV OPEN BRANCH FROM BUS 940470 TO BUS 314936 CKT 1 /* AE2-031 TAP 500.00 - 8RAWLINGS 500.00 OPEN BRANCH FROM BUS 314935 TO BUS 314936 CKT 1 /* 8HERITAGE 500.00 - 8RAWLINGS 500.00 END

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14 Affected Systems

14.1 TVA

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

14.2 Duke Energy Progress

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

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