



**Generation Interconnection  
Feasibility Study Report  
for  
Queue Project AF2-242  
WHARTON 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 Edgecombe County, North Carolina. 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 September 30, 2023. This study does not imply a TO commitment to this in-service date.

<b>Queue Number</b>	<b>AF2-242</b>
<b>Project Name</b>	WHARTON 115 KV
<b>State</b>	North Carolina
<b>County</b>	Edgecombe
<b>Transmission Owner</b>	Dominion
<b>MFO</b>	80
<b>MWE</b>	80
<b>MWC</b>	48
<b>Fuel</b>	Solar
<b>Basecase Study Year</b>	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

AF2-242 “Wharton 115 kV” will interconnect with the Dominion’s transmission system via an existing substation Wharton 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. Attachment 1 shows a one-line diagram of the proposed interconnection facilities. The IC may not install any facilities on Dominion’s right-of-way without first obtaining the necessary approval from Dominion Energy.

There is no secondary point of interconnection specified for AF2-242.

#### 5 Cost Summary

The AF2-242 project will be responsible for the following costs:

<b>Description</b>	<b>Total Cost</b>
Total Physical Interconnection Costs	\$ 7,200,000
Total System Network Upgrade Costs	\$ 1,051,234,000
<b>Total Costs</b>	<b>\$ 1,058,434,000</b>

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 AF2-242 was evaluated as a 48 MW Capacity (80.0 MW Energy) injection at the Wharton 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 AF2-242 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.

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

Description	Total Cost
Attachment Facilities	\$ 1,700,000
Expansion of the Wharton 115kV substation	\$ 5,500,000
<b>Total Physical Interconnection Costs</b>	<b>\$ 7,200,000</b>

## 7 Schedule

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

## 8 Transmission Owner Analysis

### 8.1 Power Flow Analysis

PJM performed a power flow analysis of the transmission system using a 2023 summer peak load flow model and the results were verified by Dominion. Additionally, Dominion performed an analysis of its transmission system and no further deficiencies were identified.

## 9 Interconnection Customer Requirements

### 9.1 System Protection

The IC must design its Customer Facilities in accordance with all applicable standards, including the standards in Dominion’s “Dominion Energy Electric Transmission Generator Interconnection Requirements” documented in Dominion’s Facility Interconnection Requirements “Exhibit C” located at:

<https://www.dominionenergy.com/company/moving-energy/electric-transmission-access>. Preliminary Protection requirements will be provided as part of the Facilities Study. Detailed Protection Requirements will be provided once the project enters the construction phase.

### 9.2 Compliance Issues and Interconnection Customer Requirements

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

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

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

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

### 9.3 Power Factor Requirements

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

## 10 Revenue Metering and SCADA Requirements

### 10.1 PJM Requirements

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

#### 10.1.1 Meteorological Data Reporting Requirements

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

- Back Panel temperature (Fahrenheit)
- Irradiance (Watts/meter<sup>2</sup>)
- Ambient air temperature (Fahrenheit) – (Accepted, not required)
- Wind speed (meters/second) – (Accepted, not required)
- Wind direction (decimal degrees from true north) – (Accepted, not required)

### 10.2 Interconnected Transmission Owner Requirements

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

## 11 Summer Peak - Load Flow Analysis

The Queue Project AF2-242 was evaluated as an 80.0 MW (Capacity 48.0 MW) injection at the Wharton 115 kV substation in the Dominion area. Project AF2-242 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-242 was studied with a commercial probability of 53%. Potential network impacts were as follows:

### 11.1 Generation Deliverability

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC D C	MW IMPAC T
98043093	314575	6NUC O TP	230.0	DVP	957790	AF2-073 TAP	230.0	DVP	1	Base Case	single	571.520019531	98.72	100.34	DC	9.3
97377406	925120	AB2-169 TAP	115.0	DVP	314592	3PANTEG O	115.0	DVP	1	DVP_P1-2: LN 82	single	74.2600021362	38.14	102.77	DC	47.99

### 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	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC D C	MW IMPAC T
95819383	242631	05EDAN 1	138.0	AEP	242620	05DANVL2	138.0	AEP	1	AEP_P4_#11111_0 5J.FERR 765_A1	breaker	402.0	113.76	114.29	DC	4.73
95819385	242631	05EDAN 1	138.0	AEP	242620	05DANVL2	138.0	AEP	1	AEP_P4_#11111_0 5J.FERR 765_B1	breaker	402.0	107.74	108.29	DC	4.89
97781680	313714	6PERQUIM ANS	230.0	DVP	314662	6S HERTFORD	230.0	DVP	1	DVP_P4-2: 246T2034	breaker	897.0	214.18	217.04	DC	25.65
97781681	313714	6PERQUIM ANS	230.0	DVP	314662	6S HERTFORD	230.0	DVP	1	DVP_P4-2: 203462	breaker	897.0	209.2	211.89	DC	24.14
98043100	313714	6PERQUIM ANS	230.0	DVP	314662	6S HERTFORD	230.0	DVP	1	DVP_P1-2: LN 246	single	733.200012207	134.55	136.34	DC	13.18
98043101	313714	6PERQUIM ANS	230.0	DVP	314662	6S HERTFORD	230.0	DVP	1	DVP_P1-2: LN 2034-B	single	733.200012207	120.27	122.25	DC	14.47
98043105	313714	6PERQUIM ANS	230.0	DVP	314662	6S HERTFORD	230.0	DVP	1	Base Case	single	733.200012207	108.69	110.1	DC	10.39
98568994	313714	6PERQUIM ANS	230.0	DVP	314662	6S HERTFORD	230.0	DVP	1	DVP_P7-1: LN 25-2034-A	tower	897.0	239.26	241.6	DC	20.96
96941403	313845	6HATHAW AY	230.0	DVP	304222	6ROCKYMT 230T	230.0	CPE	1	DVP_P1-2: LN 2181	single	478.0	108.07	109.21	DC	5.43
98043296	313845	6HATHAW AY	230.0	DVP	314591	6NASH	230.0	DVP	1	DVP_P1-2: LN 2058	single	449.320007324	118.59	119.84	DC	5.62
97781779	313851	6ECITYDP2	230.0	DVP	314638	6ELIZ CT	230.0	DVP	1	DVP_P4-2: 246T247	breaker	1204.0	146.09	147.64	DC	18.64
97781780	313851	6ECITYDP2	230.0	DVP	314638	6ELIZ CT	230.0	DVP	1	DVP_P4-2: 24742	breaker	1204.0	120.34	121.55	DC	14.62
97781710	313885	6WALBMR L	230.0	DVP	313714	6PERQUIM ANS	230.0	DVP	1	DVP_P4-2: 246T2034	breaker	897.0	185.72	188.58	DC	25.65
97781711	313885	6WALBMR L	230.0	DVP	313714	6PERQUIM ANS	230.0	DVP	1	DVP_P4-2: 203462	breaker	897.0	180.42	183.12	DC	24.14
98043187	313885	6WALBMR L	230.0	DVP	313714	6PERQUIM ANS	230.0	DVP	1	DVP_P1-2: LN 246	single	733.200012207	129.46	131.25	DC	13.18
98043188	313885	6WALBMR L	230.0	DVP	313714	6PERQUIM ANS	230.0	DVP	1	DVP_P1-2: LN 2034-B	single	733.200012207	114.97	116.94	DC	14.47
98043192	313885	6WALBMR L	230.0	DVP	313714	6PERQUIM ANS	230.0	DVP	1	Base Case	single	733.200012207	103.61	105.02	DC	10.39

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 PROJE CT LOADI NG %	POST PROJE CT LOADI NG %	AC  DC	MW IMPA CT
98569014	313885	6WALBMR L	230.0	DVP	313714	6PERQUIM ANS	230.0	DV P	1	DVP_P7-1: LN 25-2034-A	tower	897.0	207.74	210.08	DC	20.96
97781700	314203	6MACKEYS	230.0	DVP	314637	6EDENTON	230.0	DV P	1	DVP_P4-2: 246T2034	breaker	895.0	189.25	192.11	DC	25.65
97781701	314203	6MACKEYS	230.0	DVP	314637	6EDENTON	230.0	DV P	1	DVP_P4-2: 203462	breaker	895.0	183.95	186.64	DC	24.14
98043161	314203	6MACKEYS	230.0	DVP	314637	6EDENTON	230.0	DV P	1	DVP_P1-2: LN 246	single	731.320007324	133.61	135.4	DC	13.18
98043162	314203	6MACKEYS	230.0	DVP	314637	6EDENTON	230.0	DV P	1	DVP_P1-2: LN 2034-B	single	731.320007324	119.08	121.06	DC	14.47
98043166	314203	6MACKEYS	230.0	DVP	314637	6EDENTON	230.0	DV P	1	Base Case	single	731.320007324	107.69	109.11	DC	10.39
98569004	314203	6MACKEYS	230.0	DVP	314637	6EDENTON	230.0	DV P	1	DVP_P7-1: LN 25-2034-A	tower	895.0	211.32	213.66	DC	20.96
97781800	314299	6HARROW G	230.0	DVP	314263	6TYLER1	230.0	DV P	1	DVP_P4-2: 24972-4	breaker	541.0	136.52	137.05	DC	6.26
97781795	314331	6POE	230.0	DVP	314299	6HARROW G	230.0	DV P	1	DVP_P4-2: 24972-4	breaker	541.0	136.54	137.07	DC	6.26
98043285	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DV P	1	DVP_P1-2: LN 246	single	678.679992676	128.65	129.71	DC	7.39
97781901	314550	6HICKORY	230.0	DVP	314466	6FENTRES	230.0	DV P	1	DVP_P4-2: 246T247	breaker	699.0	121.13	121.74	DC	9.49
97781902	314550	6HICKORY	230.0	DVP	314466	6FENTRES	230.0	DV P	1	DVP_P4-2: 26922	breaker	699.0	109.64	110.12	DC	7.52
96941770	314554	3BTLEBRO	115.0	DVP	304223	3ROCKYMT 115T	115.0	CPL E	1	DVP_P7-1: LN 2058-2181	tower	93.0	521.92	524.3	DC	4.91
97781831	314561	6CAROLNA	230.0	DVP	314583	6LAKEVEW	230.0	DV P	1	DVP_P4-2: 246T247	breaker	459.0	131.19	133.7	DC	11.49
97781832	314561	6CAROLNA	230.0	DVP	314583	6LAKEVEW	230.0	DV P	1	DVP_P4-2: 218T2160	breaker	459.0	128.21	132.2	DC	18.3
97781833	314561	6CAROLNA	230.0	DVP	314583	6LAKEVEW	230.0	DV P	1	DVP_P4-2: 2020T2144	breaker	459.0	121.93	122.85	DC	9.35
98043335	314563	6CLUBHSE	230.0	DVP	940480	AE2-033 TAP	230.0	DV P	1	DVP_P1-2: LN 246	single	678.679992676	113.82	114.91	DC	7.4
98043075	314569	6EARLEYS	230.0	DVP	314575	6NUCO TP	230.0	DV P	1	DVP_P1-2: LN 2092	single	571.520019531	166.69	169.11	DC	13.91
98043076	314569	6EARLEYS	230.0	DVP	314575	6NUCO TP	230.0	DV P	1	DVP_P1-2: LN 2131	single	571.520019531	166.36	168.78	DC	13.91
98043081	314569	6EARLEYS	230.0	DVP	314575	6NUCO TP	230.0	DV P	1	Base Case	single	571.520019531	105.13	106.74	DC	9.3
96941352	314574	6EVERETS	230.0	DVP	304451	6GREENVIL ET	230.0	CPL E	1	DVP_P1-2: LN 2092	single	478.0	108.57	111.57	DC	14.32
96941775	314574	6EVERETS	230.0	DVP	304451	6GREENVIL ET	230.0	CPL E	1	DVP_P7-1: LN 2058-2181	tower	478.0	184.22	189.15	DC	23.55
98043087	314575	6NUCO TP	230.0	DVP	957790	AF2-073 TAP	230.0	DV P	1	DVP_P1-2: LN 2092	single	571.520019531	160.29	162.71	DC	13.91
98043088	314575	6NUCO TP	230.0	DVP	957790	AF2-073 TAP	230.0	DV P	1	DVP_P1-2: LN 2131	single	571.520019531	159.98	162.39	DC	13.91
98043247	314583	6LAKEVEW	230.0	DVP	924510	AB2-100 TAP	230.0	DV P	1	DVP_P1-2: LN 246	single	375.059997559	143.69	145.58	DC	7.09
98043248	314583	6LAKEVEW	230.0	DVP	924510	AB2-100 TAP	230.0	DV P	1	314572 3EMPORIA 115 925170 AB2-174 TAP 115 1	single	375.059997559	133.92	135.42	DC	5.62
98043252	314583	6LAKEVEW	230.0	DVP	924510	AB2-100 TAP	230.0	DV P	1	Base Case	single	375.059997559	112.45	113.84	DC	5.2
96941410	314591	6NASH	230.0	DVP	304226	6PARMOUNT#4	230.0	CPL E	1	DVP_P1-2: LN 2058	single	478.0	106.16	107.33	DC	5.62
98043044	314616	6TRWBRD G	230.0	DVP	933990	AD1-023 TAP	230.0	DV P	1	DVP_P1-2: LN 2092	single	571.520019531	139.15	141.66	DC	14.38
98043045	314616	6TRWBRD G	230.0	DVP	933990	AD1-023 TAP	230.0	DV P	1	DVP_P1-2: LN 2131	single	571.520019531	137.74	140.25	DC	14.38
98043025	314620	6CASHIE	230.0	DVP	314569	6EARLEYS	230.0	DV P	1	DVP_P1-2: LN 2092	single	571.520019531	175.42	177.94	DC	14.38
98043026	314620	6CASHIE	230.0	DVP	314569	6EARLEYS	230.0	DV P	1	DVP_P1-2: LN 2131	single	571.520019531	174.02	176.53	DC	14.38

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 PROJE CT LOADING %	POST PROJE CT LOADING %	AC/DC	MW IMPACT
97781715	314637	6EDENTON	230.0	DVP	313885	6WALBMRL	230.0	DVP	1	DVP_P4-2: 246T2034	breaker	897.0	185.72	188.58	DC	25.65
97781716	314637	6EDENTON	230.0	DVP	313885	6WALBMRL	230.0	DVP	1	DVP_P4-2: 203462	breaker	897.0	180.42	183.12	DC	24.14
98043199	314637	6EDENTON	230.0	DVP	313885	6WALBMRL	230.0	DVP	1	DVP_P1-2: LN 246	single	733.200012207	129.48	131.27	DC	13.18
98043200	314637	6EDENTON	230.0	DVP	313885	6WALBMRL	230.0	DVP	1	DVP_P1-2: LN 2034-B	single	733.200012207	114.98	116.95	DC	14.47
98043204	314637	6EDENTON	230.0	DVP	313885	6WALBMRL	230.0	DVP	1	Base Case	single	733.200012207	103.61	105.02	DC	10.39
98569009	314637	6EDENTON	230.0	DVP	313885	6WALBMRL	230.0	DVP	1	DVP_P7-1: LN 25-2034-A	tower	897.0	207.75	210.09	DC	20.96
97781655	314638	6ELIZ CT	230.0	DVP	314647	6SHAWBRO	230.0	DVP	1	DVP_P4-2: 246T247	breaker	699.0	243.11	245.77	DC	18.63
97781656	314638	6ELIZ CT	230.0	DVP	314647	6SHAWBRO	230.0	DVP	1	DVP_P4-2: 24742	breaker	699.0	204.53	206.62	DC	14.62
98043124	314638	6ELIZ CT	230.0	DVP	314647	6SHAWBRO	230.0	DVP	1	DVP_P1-2: LN 247	single	571.520019531	123.05	124.57	DC	8.71
98043125	314638	6ELIZ CT	230.0	DVP	314647	6SHAWBRO	230.0	DVP	1	DVP_P1-2: LN 2144	single	571.520019531	106.24	107.77	DC	8.72
97781774	314639	6TANGLE W	230.0	DVP	313851	6ECITYDP2	230.0	DVP	1	DVP_P4-2: 246T247	breaker	1204.0	148.06	149.61	DC	18.64
97781775	314639	6TANGLE W	230.0	DVP	313851	6ECITYDP2	230.0	DVP	1	DVP_P4-2: 24742	breaker	1204.0	122.31	123.53	DC	14.62
97781962	314645	6SLIGO L269	230.0	DVP	314466	6FENTRES	230.0	DVP	1	DVP_P4-2: 246T247	breaker	699.0	110.88	111.46	DC	9.1
97782000	314647	6SHAWBRO	230.0	DVP	938530	AE1-072 TAP	230.0	DVP	1	DVP_P4-2: 246T247	breaker	699.0	101.71	102.3	DC	9.1
97781769	314651	6WINFALL	230.0	DVP	314639	6TANGLEW	230.0	DVP	1	DVP_P4-2: 246T247	breaker	1163.0	155.77	157.38	DC	18.64
97781770	314651	6WINFALL	230.0	DVP	314639	6TANGLEW	230.0	DVP	1	DVP_P4-2: 24742	breaker	1163.0	130.29	131.55	DC	14.63
97781685	314662	6SHERTFORD	230.0	DVP	314651	6WINFALL	230.0	DVP	1	DVP_P4-2: 246T2034	breaker	897.0	212.95	215.81	DC	25.65
97781686	314662	6SHERTFORD	230.0	DVP	314651	6WINFALL	230.0	DVP	1	DVP_P4-2: 203462	breaker	897.0	207.68	210.37	DC	24.14
98043112	314662	6SHERTFORD	230.0	DVP	314651	6WINFALL	230.0	DVP	1	DVP_P1-2: LN 246	single	733.200012207	132.75	134.54	DC	13.18
98043113	314662	6SHERTFORD	230.0	DVP	314651	6WINFALL	230.0	DVP	1	DVP_P1-2: LN 2034-B	single	733.200012207	118.48	120.45	DC	14.47
98043117	314662	6SHERTFORD	230.0	DVP	314651	6WINFALL	230.0	DVP	1	Base Case	single	733.200012207	106.88	108.3	DC	10.39
98568999	314662	6SHERTFORD	230.0	DVP	314651	6WINFALL	230.0	DVP	1	DVP_P7-1: LN 25-2034-A	tower	897.0	237.93	240.27	DC	20.96
98043141	924510	AB2-100 TAP	230.0	DVP	314563	6CLUBHSE	230.0	DVP	1	DVP_P1-2: LN 246	single	375.059997559	160.05	161.94	DC	7.07
98043142	924510	AB2-100 TAP	230.0	DVP	314563	6CLUBHSE	230.0	DVP	1	314572 3EMPORIA 115 925170 AB2-174 TAP 115 1	single	375.059997559	150.13	151.62	DC	5.6
98043146	924510	AB2-100 TAP	230.0	DVP	314563	6CLUBHSE	230.0	DVP	1	Base Case	single	375.059997559	128.75	130.14	DC	5.19
98043036	933990	AD1-023 TAP	230.0	DVP	314620	6CASHIE	230.0	DVP	1	DVP_P1-2: LN 2092	single	571.520019531	150.04	152.56	DC	14.38
98043037	933990	AD1-023 TAP	230.0	DVP	314620	6CASHIE	230.0	DVP	1	DVP_P1-2: LN 2131	single	571.520019531	148.64	151.15	DC	14.38
97781951	938530	AE1-072 TAP	230.0	DVP	314645	6SLIGO L269	230.0	DVP	1	DVP_P4-2: 246T247	breaker	699.0	112.02	112.61	DC	9.1
97671841	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P2-2: BREMO B1	bus	830.0	124.35	124.85	DC	9.1
97781851	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P4-2: 2056T2181	breaker	830.0	126.35	126.8	DC	8.34
98569069	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P7-1: LN 2058-2181	tower	830.0	131.3	131.87	DC	10.58
98043063	957790	AF2-073 TAP	230.0	DVP	957820	AF2-076 TAP	230.0	DVP	1	DVP_P1-2: LN 2092	single	571.520019531	170.82	173.24	DC	13.91

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
98043064	957790	AF2-073 TAP	230.0	DVP	957820	AF2-076 TAP	230.0	DVP	1	DVP_P1-2: LN 2131	single	571.520019531	169.85	172.28	DC	13.91
98043069	957790	AF2-073 TAP	230.0	DVP	957820	AF2-076 TAP	230.0	DVP	1	Base Case	single	571.520019531	107.74	109.36	DC	9.3
98043051	957820	AF2-076 TAP	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	DVP_P1-2: LN 2092	single	571.520019531	175.61	178.04	DC	13.91
98043052	957820	AF2-076 TAP	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	DVP_P1-2: LN 2131	single	571.520019531	174.91	177.34	DC	13.91
98043057	957820	AF2-076 TAP	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	Base Case	single	571.520019531	112.3	113.92	DC	9.3

#### 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	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
95819655	242631	05EDAN 1	138.0	AEP	242620	05DANVL2	138.0	AEP	1	AEP_P1 - 2_#1377	operation	402.0	107.69	108.24	DC	4.89
98043654	313701	6CHINQUAPIN	230.0	DVP	314609	6TARBORO	230.0	DVP	1	DVP_P1 -2: LN 218	operation	441.799987793	122.07	127.17	DC	22.55
98043467	313713	6SWAMP	230.0	DVP	314648	6SUNBURY	230.0	DVP	1	DVP_P1 -2: LN 2020	operation	984.179992676	149.5	151.0	DC	14.75
98043094	313714	6PERQUIMANS	230.0	DVP	314662	6SHERTFORD	230.0	DVP	1	DVP_P1 -2: LN 2034-B	operation	733.200012207	255.92	259.21	DC	24.12
98043099	313714	6PERQUIMANS	230.0	DVP	314662	6SHERTFORD	230.0	DVP	1	Base Case	operation	733.200012207	208.08	210.45	DC	17.31
96941399	313845	6HATHAWAY	230.0	DVP	304222	6ROCKYMT230T	230.0	CPL E	1	DVP_P1 -2: LN 2181	operation	478.0	149.61	150.47	DC	9.06
98043291	313845	6HATHAWAY	230.0	DVP	314591	6NASH	230.0	DVP	1	DVP_P1 -2: LN 2058	operation	449.320007324	163.17	164.11	DC	9.37
98043488	313851	6ECITYDP2	230.0	DVP	314638	6ELIZ CT	230.0	DVP	1	DVP_P1 -2: LN 247	operation	984.179992676	147.09	148.56	DC	14.53
98043181	313885	6WALBMRL	230.0	DVP	313714	6PERQUIMANS	230.0	DVP	1	DVP_P1 -2: LN 2034-B	operation	733.200012207	220.72	224.01	DC	24.12
98043186	313885	6WALBMRL	230.0	DVP	313714	6PERQUIMANS	230.0	DVP	1	Base Case	operation	733.200012207	177.96	180.32	DC	17.31

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
98043155	314203	6MACKEYS	230.0	DVP	314637	6EDENTON	230.0	DVP	1	DVP_P1-2: LN 2034-B	operation	731.320007324	225.1	228.4	DC	24.12
98043160	314203	6MACKEYS	230.0	DVP	314637	6EDENTON	230.0	DVP	1	Base Case	operation	731.320007324	182.23	184.6	DC	17.31
98043279	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	DVP_P1-2: LN 246	operation	678.679992676	182.92	183.74	DC	12.32
98043284	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	Base Case	operation	678.679992676	144.68	145.27	DC	8.96
98043594	314550	6HICKORY	230.0	DVP	314466	6FENTRES	230.0	DVP	1	3146456SLIGO L269 230 938530 AE1-072 TAP 230 1	operation	571.520019531	133.83	134.43	DC	7.63
98043437	314561	6CAROLNA	230.0	DVP	314583	6LAKEVEW	230.0	DVP	1	DVP_P1-2: LN 2092	operation	375.059997559	148.86	149.98	DC	9.32
98043329	314563	6CLUBHSE	230.0	DVP	940480	AE2-033 TAP	230.0	DVP	1	DVP_P1-2: LN 246	operation	678.679992676	163.91	164.73	DC	12.33
98043334	314563	6CLUBHSE	230.0	DVP	940480	AE2-033 TAP	230.0	DVP	1	Base Case	operation	678.679992676	127.22	127.82	DC	8.97
98043396	314564	6EDGECOM	230.0	DVP	313845	6HATHAWAY	230.0	DVP	1	DVP_P1-2: LN 218	operation	441.799987793	125.77	130.87	DC	22.55
98043070	314569	6EARLEYS	230.0	DVP	314575	6NUCO TP	230.0	DVP	1	DVP_P1-2: LN 2092	operation	571.520019531	276.16	280.22	DC	23.19
98043077	314569	6EARLEYS	230.0	DVP	314575	6NUCO TP	230.0	DVP	1	Base Case	operation	571.520019531	147.33	150.05	DC	15.5
96941346	314574	6EVERETS	230.0	DVP	304451	6GREENVILLE	230.0	CPL E	1	DVP_P1-2: LN 2092	operation	478.0	182.61	187.61	DC	23.86
96941351	314574	6EVERETS	230.0	DVP	304451	6GREENVILLE	230.0	CPL E	1	Base Case	operation	478.0	127.49	131.85	DC	20.81
98043082	314575	6NUCO TP	230.0	DVP	957790	AF2-073 TAP	230.0	DVP	1	DVP_P1-2: LN 2092	operation	571.520019531	269.75	273.81	DC	23.19
98043089	314575	6NUCO TP	230.0	DVP	957790	AF2-073 TAP	230.0	DVP	1	Base Case	operation	571.520019531	140.93	143.64	DC	15.5
98043242	314583	6LAKEVEW	230.0	DVP	924510	AB2-100 TAP	230.0	DVP	1	DVP_P1-2: LN 246	operation	375.059997559	200.91	202.33	DC	11.81
98043246	314583	6LAKEVEW	230.0	DVP	924510	AB2-100 TAP	230.0	DVP	1	Base Case	operation	375.059997559	157.64	158.68	DC	8.67
96941405	314591	6NASH	230.0	DVP	304226	6PARRMOUNT#4	230.0	CPL E	1	DVP_P1-2: LN 2058	operation	478.0	148.07	148.95	DC	9.37
98043792	314594	6PLYMOTH	230.0	DVP	314203	6MACKEYS	230.0	DVP	1	DVP_P1-2: LN 246	operation	789.599975586	100.34	103.12	DC	21.99
98043728	314609	6TARBORO	230.0	DVP	314610	6TOTDP4	230.0	DVP	1	DVP_P1-2: LN 218	operation	441.799987793	112.27	117.37	DC	22.55
98043736	314610	6TOTDP4	230.0	DVP	314564	6EDGECOM	230.0	DVP	1	DVP_P1-2: LN 218	operation	441.799987793	110.75	115.86	DC	22.55
98043038	314616	6TRWBRDG	230.0	DVP	933990	AD1-023 TAP	230.0	DVP	1	DVP_P1-2: LN 2092	operation	571.520019531	310.61	314.8	DC	23.97
98043043	314616	6TRWBRDG	230.0	DVP	933990	AD1-023 TAP	230.0	DVP	1	Base Case	operation	571.520019531	157.87	159.77	DC	10.82

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
98043787	314616	6TRWBRDG	230.0	DVP	314594	6PLYMOTH	230.0	DVP	1	DVP_P1-2: LN 246	operation	789.599975586	102.63	105.42	DC	21.99
98043019	314620	6CASHIE	230.0	DVP	314569	6EARLEYS	230.0	DVP	1	DVP_P1-2: LN 2092	operation	571.520019531	356.64	360.83	DC	23.97
98043024	314620	6CASHIE	230.0	DVP	314569	6EARLEYS	230.0	DVP	1	Base Case	operation	571.520019531	184.21	186.1	DC	10.82
157444138	314622	3WHARTON	115.0	DVP	314576	3FIVE PT	115.0	DVP	1	DVP_P1-2: LN 82	operation	74.2600021362	0.0	107.73	DC	80.0
98043193	314637	6EDENTON	230.0	DVP	313885	6WALBMRL	230.0	DVP	1	DVP_P1-2: LN 2034-B	operation	733.200012207	220.73	224.02	DC	24.12
98043198	314637	6EDENTON	230.0	DVP	313885	6WALBMRL	230.0	DVP	1	Base Case	operation	733.200012207	177.96	180.32	DC	17.31
98043118	314638	6ELIZ CT	230.0	DVP	314647	6SHAWBRO	230.0	DVP	1	DVP_P1-2: LN 247	operation	571.520019531	249.93	252.47	DC	14.52
98043123	314638	6ELIZ CT	230.0	DVP	314647	6SHAWBRO	230.0	DVP	1	Base Case	operation	568.700012207	159.37	160.94	DC	8.94
98043461	314639	6TANGLEW	230.0	DVP	313851	6ECITYDP2	230.0	DVP	1	DVP_P1-2: LN 247	operation	984.179992676	149.5	150.98	DC	14.53
98043602	314645	6SLIGO L269	230.0	DVP	314466	6FENTRES	230.0	DVP	1	3145506HICKORY 230 937220 AD2-160 TAP 230 1	operation	571.520019531	133.52	134.11	DC	7.53
98043715	314647	6SHAWBRO	230.0	DVP	938530	AE1-072 TAP	230.0	DVP	1	3145506HICKORY 230 937220 AD2-160 TAP 230 1	operation	571.520019531	118.52	119.11	DC	7.53
98043483	314648	6SUNBURY	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	DVP_P1-2: LN 2020	operation	984.179992676	148.11	149.61	DC	14.75
98043313	314651	6WINFALL	230.0	DVP	314639	6TANGLEW	230.0	DVP	1	DVP_P1-2: LN 247	operation	898.640014648	167.91	169.52	DC	14.53
98043318	314651	6WINFALL	230.0	DVP	314639	6TANGLEW	230.0	DVP	1	Base Case	operation	823.440002441	119.72	120.8	DC	8.95
98043697	314651	6WINFALL	230.0	DVP	313713	6SWAMP	230.0	DVP	1	DVP_P1-2: LN 2020	operation	984.179992676	121.14	122.64	DC	14.76
98043106	314662	6SHERTFORD	230.0	DVP	314651	6WINFALL	230.0	DVP	1	DVP_P1-2: LN 2034-B	operation	733.200012207	254.06	257.35	DC	24.12
98043111	314662	6SHERTFORD	230.0	DVP	314651	6WINFALL	230.0	DVP	1	Base Case	operation	733.200012207	203.81	206.17	DC	17.31
98043136	924510	AB2-100 TAP	230.0	DVP	314563	6CLUBHSE	230.0	DVP	1	DVP_P1-2: LN 246	operation	375.059997559	222.92	224.34	DC	11.78
98043140	924510	AB2-100 TAP	230.0	DVP	314563	6CLUBHSE	230.0	DVP	1	Base Case	operation	375.059997559	178.16	179.2	DC	8.65
97377405	925120	AB2-169 TAP	115.0	DVP	314592	3PANTEGO	115.0	DVP	1	DVP_P1-2: LN 82	operation	74.2600021362	85.26	192.97	DC	79.98
98043757	927020	AC1-189 TAP	230.0	DVP	313701	6CHINQUAPI N	230.0	DVP	1	DVP_P1-2: LN 218	operation	441.799987793	107.29	112.4	DC	22.57
98043030	933990	AD1-023 TAP	230.0	DVP	314620	6CASHIE	230.0	DVP	1	DVP_P1-2: LN 2092	operation	571.520019531	327.45	331.64	DC	23.97

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
98043035	933990	AD1-023 TAP	230.0	DVP	314620	6CASHIE	230.0	DVP	1	Base Case	operation	571.520019531	168.78	170.68	DC	10.82
98043576	938530	AE1-072 TAP	230.0	DVP	314645	6SLIGO L269	230.0	DVP	1	3145506HICKORY 230937220AD2-160 TAP 230 1	operation	571.520019531	134.9	135.5	DC	7.53
98043403	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P1-2: LN 2056-A	operation	678.679992676	153.47	154.02	DC	8.28
98043407	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	Base Case	operation	678.679992676	146.27	146.87	DC	8.97
98043058	957790	AF2-073 TAP	230.0	DVP	957820	AF2-076 TAP	230.0	DVP	1	DVP_P1-2: LN 2092	operation	571.520019531	285.7	289.76	DC	23.19
98043065	957790	AF2-073 TAP	230.0	DVP	957820	AF2-076 TAP	230.0	DVP	1	Base Case	operation	571.520019531	154.93	157.65	DC	15.5
98043046	957820	AF2-076 TAP	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	DVP_P1-2: LN 2092	operation	571.520019531	293.52	297.58	DC	23.19
98043053	957820	AF2-076 TAP	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	Base Case	operation	571.520019531	162.54	165.26	DC	15.5

## 11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
98043088,98043087,98043093	1	6NUCO TP 230.0 kV - AF2-073 TAP 230.0 kV Ckt 1	<u>DVP</u> dom-222 (1348) : Rebuild 18.1 miles of 230 kV Line 246 from Nuco TP to AF2-073 with 2-636 ACSR. Project Type : FAC Cost : \$27,150,000 Time Estimate : 36-40 Months	\$27,150,000
95819385,95819383	3	05EDAN 1 138.0 kV - 05DANVL2 138.0 kV Ckt 1	<u>AEP</u> 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	\$9,000,000
98569014,98043192,98043187,98043188,97781710,97781711	8	6WALBMRL 230.0 kV - 6PERQUIMANS 230.0 kV Ckt 1	<u>DVP</u> dom-203 (1329) : Wreck and rebuild 16.7 miles of existing single circuit line 2131 between Mackeys to Perquimans 230 kV. Add new circuit between Mackeys to Perquimans 230 kV, constructed as a double circuit line. Utilize 2-636 ACSR for all new and modified circuits. Add a breaker at each 230 kV terminal. Project Type : CON Cost : \$44,150,000 Time Estimate : 36-40 Months	\$44,150,000
98043200,98569009,98043204,97781716,98043199,97781715	23	6EDENTON 230.0 kV - 6WALBMRL 230.0 kV Ckt 1		
98569004,97781701,97781700,98043166,98043161,98043162	9	6MACKEYS 230.0 kV - 6EDENTON 230.0 kV Ckt 1		
97781774,97781775	25	6TANGLEW 230.0 kV - 6CITYDP2 230.0 kV Ckt 1	<u>DVP</u> dom-200 (1318) : Wreck and rebuild 5.6 miles of existing single circuit line 2020 between Elizabeth City to Pasquotank 230 kV. Add new circuit between Elizabeth City to Pasquotank 230 kV, constructed as a double circuit line. Utilize 2-636 ACSR for all new and modified circuits. Add a three breaker station at Pasquotank and Elizabeth City DP 230 kV. Project Type : CON Cost : \$27,000,000 Time Estimate : 36-40 Months	\$54,325,000
97781770,97781769	28	6WINFALL 230.0 kV - 6TANGLEW 230.0 kV Ckt 1	<u>DVP</u> dom-256 (1374) : Wreck and rebuild 9.97 miles of existing single circuit line 2020 between Winfall to Pasquotank 230 kV. Add new circuit between Winfall to Pasquotank 230 kV, constructed as a double circuit line. Utilize 2-636 ACSR for all new and modified circuits. Add a breaker at Pasquotank 230 kV and at Winfall 230 kV. Project Type : CON Cost : \$27,325,000 Time Estimate : 36-40 Months	
97781780,97781779	7	6CITYDP2 230.0 kV - 6ELIZ CT 230.0 kV Ckt 1		

ID	Idx	Facility	Upgrade Description	Cost
98043025,98043026	22	6CASHIE 230.0 kV - 6EARLEYS 230.0 kV Ckt 1	<u>DVP</u> dom-251 (1377) : Rebuild 20.556 miles of 230 kV Line 2034 from Cashie to Earleys with 2-795 ACSR. Upgrade wave trap at Earleys 230 kV and line switch at Cashie 230 kV. Project Type : FAC Cost : \$31,284,000 Time Estimate : 36-40 Months	\$31,284,000
98043051,98043052,98043057	35	AF2-076 TAP 230.0 kV - 6SUFFOLK 230.0 kV Ckt 1	<u>DVP</u> dom-243 (1369) : Rebuild 2.8 miles of 230 kV Line 246 from AF2-076 Tap to Suffolk with 2-768 ACSS. Project Type : FAC Cost : \$4,200,000 Time Estimate : 36-40 Months	\$4,200,000
98569069,97671841,97781851	33	AE2-033 TAP 230.0 kV - 6SAPONY 230.0 kV Ckt 1	<u>DVP</u> dom-050 (1116) : Rebuild 2.47 miles of 230 kV Line 238 from AE2-033 TAP to Sapony with 2-795 150C ACSR. Project Type : FAC Cost : \$3,705,000 Time Estimate : 30-36 Months	\$3,705,000
97781951	32	AE1-072 TAP 230.0 kV - 6SLIGO L269 230.0 kV Ckt 1	<u>DVP</u> dom-239 (1116) : Rebuild 1.7 miles of 230 kV line 269 from AE1-072 Tap to Sligo with 2-636 ACSR. Project Type : FAC Cost : \$2,550,000 Time Estimate : 30-36 Months	\$2,550,000
98043081,98043076,98043075	17	6EARLEYS 230.0 kV - 6NUCO TP 230.0 kV Ckt 1	<u>DVP</u> dom-017 (1110) : Rebuild 13.7 miles of 230 kV Line 246 from Earleys to Nucor Tap with 2-636 ACSR. Project Type : FAC Cost : \$20,550,000 Time Estimate : 30-36 Months	\$20,550,000
98043037,98043036	31	AD1-023 TAP 230.0 kV - 6CASHIE 230.0 kV Ckt 1	<u>DVP</u> dom-233 (1359) : Rebuild 5.3 miles of 230 kV line 2034 from AD1-023 Tap to Cashie with 2-795 ACSR. Project Type : FAC Cost : \$7,950,000 Time Estimate : 36-42 Months	\$7,950,000
97377406	2	AB2-169 TAP 115.0 kV - 3PANTEGO 115.0 kV Ckt 1	<u>DVP</u> dom-232 (1358) : Reconnector 6.75 miles of 115 kV line 1031 from AB2-169 to Pantego with 636 ACSR. Project Type : FAC Cost : \$4,050,000 Time Estimate : 30-36 Months	\$4,050,000

ID	Idx	Facility	Upgrade Description	Cost
98043146,98043142,98043141	30	AB2-100 TAP 230.0 kV - 6CLUBHSE 230.0 kV Ckt 1	<u>DVP</u> dom-048 (1141) : Rebuild 2.0 miles of 230 kV Line 254 from Clubhouse to AB2-100 Tap with 2-636 ACSR. Project Type : FAC Cost : \$3,000,000 Time Estimate : 30-36 Months	\$3,000,000
96941403	5	6HATHAWAY 230.0 kV - 6ROCKYMT230T 230.0 kV Ckt 1	<u>CPL</u> NonPJMArea (948) : The external (i.e. Non-PJM) Transmission Owner, CPL, will not evaluate this violation until the impact study phase. <u>DVP</u> dom-003 (1096) : For DEV portion, rebuild 4.13 miles of 230 kV Line 2058 from Hathaway to Rocky Mountain with 2-636 ACSR. Project Type : FAC Cost : \$10,325,000 Time Estimate : 30-36 Months	\$10,325,000
96941775,96941352	18	6EVERETS 230.0 kV - 6GREENVILE T 230.0 kV Ckt 1	<u>CPL</u> NonPJMArea (948) : The external (i.e. Non-PJM) Transmission Owner, CPL, will not evaluate this violation until the impact study phase. <u>DVP</u> dom-173 (1251) : Rebuild 20.32 miles of 230 kV Line 218 from Everetts to Greenville with 2-636 ACSR Project Type : FAC Cost : \$30,480,000 Time Estimate : 30-36 Months	\$30,480,000
96941410	20	6NASH 230.0 kV - 6PA- RMOUNT#4 230.0 kV Ckt 1	<u>CPL</u> NonPJMArea (948) : The external (i.e. Non-PJM) Transmission Owner, CPL, will not evaluate this violation until the impact study phase. <u>DVP</u> dom-005 (1098) : For DEV portion, rebuild 3.3 miles of 230 kV Line 2181 from Nash to Parmount with 2-636 ACSR. Project Type : FAC Cost : \$8,250,000 Time Estimate : 30-36 Months	\$8,250,000

ID	Idx	Facility	Upgrade Description	Cost
96941770	14	3BTLEBRO 115.0 kV - 3ROCKYMT115T 115.0 kV Ckt 1	<p><u>CPLE</u> NonPJMArea (948) : The external (i.e. Non-PJM) Transmission Owner, CPLE, will not evaluate this violation until the impact study phase.</p> <p><u>DVP</u> dom-007 (1100) : Build new 500 kV line between Everetts and Suffolk. Project Type : CON Cost : \$570,000,000 Time Estimate : 48-60 Months</p> <p>n6118 (1285) : Upgrading the breaker leads at DVPs terminal will bring the rating to 239/239/239 MVA (Limited by terminal equipment at Rocky Mount) Approximately \$0.1 Million Project Type : FAC Cost : \$100,000 Time Estimate : 18 Months</p>	\$570,100,000
97781902,9778 1901	13	6HICKORY 230.0 kV - 6FENTRES 230.0 kV Ckt 1	<p><u>DVP</u> dom-218 (1317) : Rebuild 4.27 miles of 230 kV Line 2087 from Hickory to Fentress with 2-636 ACSR. Project Type : FAC Cost : \$6,405,000 Time Estimate : 30-36 Months</p>	\$6,405,000
97781680,9778 1681,98043101, 98043100,9804 3105,98568994	4	6PERQUIMANS 230.0 kV - 6S HERTFORD 230.0 kV Ckt 1	<p><u>DVP</u> dom-257 (1383) : Wreck and rebuild 8.0 miles of existing single circuit line 2131 between Winfall to Perquimans 230 kV. Add new circuit between Winfall to Perquimans 230 kV, constructed as a double circuit line. Utilize 2-636 ACSR for all new and modified circuits. Add a Breaker at Perquimans 230 kV and two breakers at Winfall 230 kV.</p>	\$23,600,000
97781685,9778 1686,98043112, 98043113,9804 3117,98568999	29	6S HERTFORD 230.0 kV - 6WINFALL 230.0 kV Ckt 1	<p>Project Type : CON Cost : \$23,600,000 Time Estimate : 30-36 Months</p>	
97781800	10	6HARROWG 230.0 kV - 6TYLER1 230.0 kV Ckt 1	<p><u>DVP</u> dom-036 (1125) : Rebuild 4.5 miles of 230 kV Line 2003 from Harrowgate to Tyler with 2-636 ACSR. Project Type : FAC Cost : \$11,250,000 Time Estimate : 30-36 Months</p>	\$11,250,000
97781795	11	6POE 230.0 kV - 6HARROWG 230.0 kV Ckt 1	<p><u>DVP</u> dom-037 (1126) : Rebuild 12.3 miles of 230 kV Line 2003 from Poe to Harrowgate with 2-636 ACSR. Project Type : FAC Cost : \$30,750,000 Time Estimate : 30-36 Months</p>	\$30,750,000

ID	Idx	Facility	Upgrade Description	Cost
97781833,97781832,97781831	15	6CAROLNA 230.0 kV - 6LAKEVEW 230.0 kV Ckt 1	<u>DVP</u> dom-220 (1346) : Rebuild 1.37 miles of 230 kV Line 2141 from Carolina to Lakeview with 2-636 ACSR. Project Type : FAC Cost : \$2,055,000 Time Estimate : 30-36 Months	\$2,055,000
98043296	6	6HATHAWAY 230.0 kV - 6NASH 230.0 kV Ckt 1	<u>DVP</u> dom-143 (1222) : Rebuild 0.76 miles of 230 kV Line 2181 from Hathaway to Nash with 2-636 ACSR. Project Type : FAC Cost : \$1,900,000 Time Estimate : 30-36 Months	\$1,900,000
97782000	27	6SHAWBRO 230.0 kV - AE1- 072 TAP 230.0 kV Ckt 1	<u>DVP</u> dom-226 (1325) : Rebuild 2 miles of 230 kV Line 269 from Shawboro to AE1-072 Tap with 2-636 ACSR. Project Type : FAC Cost : \$3,000,000 Time Estimate : 30-36 Months	\$3,000,000
97781962	26	6SLIGO L269 230.0 kV - 6FENTRES 230.0 kV Ckt 1	<u>DVP</u> dom-225 (1343) : Rebuild 21.64 miles of 230 kV Line 269 from Sligo to Fentress with 2-636 ACSR. Project Type : FAC Cost : \$32,460,000 Time Estimate : 36-40 Months	\$32,460,000
98043285	12	6SAPONY 230.0 kV - 6CARSON 230.0 kV Ckt 1	<u>DVP</u> dom-051 (1144) : Rebuild 11.79 miles of 230 kV Line 238 from Sapony to Carson with 2-795 150C ACSR. Project Type : FAC Cost : \$17,685,000 Time Estimate : 30-36 Months	\$17,685,000
98043044,98043045	21	6TRWBRDG 230.0 kV - AD1- 023 TAP 230.0 kV Ckt 1	<u>DVP</u> dom-223 (1349) : Rebuild 9.2 miles of 230 kV Line 2034 from Trowbridge to AD1-023 with 2-636 ACSR. Project Type : FAC Cost : \$13,800,000 Time Estimate : 30-36 Months	\$13,800,000

ID	Idx	Facility	Upgrade Description	Cost
97781656,9778 1655,98043125, 98043124	24	6ELIZ CT 230.0 kV - 6SHAWBRO 230.0 kV Ckt 1	<u>DVP</u> dom-255 (1381) : Rebuild 10.28 miles of 230 kV Line 2021 from Elizabeth City to Shawboro with 2-768.2 ACSS 250C. Replace Breaker, Breaker Lead, Wave Trap and Line lead at Elizabeth City 230 kV. Replace Wavetrapp, relay (Secondary CT), Line Lead at Shawboro 230 kV. Project Type : FAC Cost : \$17,140,000 Time Estimate : 36-40 Months	\$17,140,000
98043335	16	6CLUBHSE 230.0 kV - AE2-033 TAP 230.0 kV Ckt 1	<u>DVP</u> dom-047 (1140) : Rebuild 14.28 miles of 230 kV Line 238 from Clubhouse to AE2-033 Tap with 2-795 150C ACSR. Project Type : FAC Cost : \$21,420,000 Time Estimate : 30-36 Months	\$21,420,000
98043247,9804 3248,98043252	19	6LAKEVEW 230.0 kV - AB2- 100 TAP 230.0 kV Ckt 1	<u>DVP</u> dom-049 (1142) : Rebuild 16.0 miles of 230 kV Line 254 from AB2-100 Tap to Lakeview with 2-636 ACSR. Project Type : FAC Cost : \$24,000,000 Time Estimate : 30-36 Months	\$24,000,000
98043069,9804 3063,98043064	34	AF2-073 TAP 230.0 kV - AF2- 076 TAP 230.0 kV Ckt 1	<u>DVP</u> dom-242 (1368) : Rebuild 9.8 miles of 230 kV Line 246 from AF2-073 Tap to AF2-076 Tap with 2-795 ACSR. Project Type : FAC Cost : \$14,700,000 Time Estimate : 36-40 Months	\$14,700,000
			<b>TOTAL COST</b>	<b>\$1,051,234,000</b>

## 11.6 Flow Gate Details

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

### 11.6.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
98043088	314575	6NUCO TP	DVP	957790	AF2-073 TAP	DVP	1	DVP_P1-2: LN 2131	single	571.52	159.98	162.39	DC	13.91

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.0506	80/20	0.0506
314574	6EVERETS	0.4657	80/20	0.4657
314582	3KELFORD	0.7842	80/20	0.7842
314589	3MURPHYS	0.1032	80/20	0.1032
314623	3WITAKRS	0.2359	80/20	0.2359
314704	3LAWRENC	0.1825	80/20	0.1825
315126	1ROARAP2	1.4097	80/20	1.4097
315128	1ROARAP4	1.3452	80/20	1.3452
315131	1EDGEEMA (Deactivation : 22/04/2019)	9.0439	80/20	9.0439
315132	1EDGEEMB (Deactivation : 22/04/2019)	9.0439	80/20	9.0439
315136	1ROSEMG1	2.3511	80/20	2.3511
315137	1ROSEMS1	1.4579	80/20	1.4579
315138	1ROSEMG2	1.1019	80/20	1.1019
315139	1GASTONA	3.4385	80/20	3.4385
315141	1GASTONB	3.4385	80/20	3.4385
315161	1KERR 4	0.5966	80/20	0.5966
315162	1KERR 5	0.5966	80/20	0.5966
315163	1KERR 6	0.5966	80/20	0.5966
315164	1KERR 7	0.5966	80/20	0.5966
315292	1DOMTR78	2.8729	80/20	2.8729
315294	1DOMTR10	21.5849	80/20	21.5849
315601	1CONETOE2SOL	1.9914	80/20	1.9914
315602	1HOLLOMANSOL	3.5568	80/20	3.5568
315606	3AA2-053SOLA	1.7258	80/20	1.7258
315607	3AA1-063SOLA	1.2920	80/20	1.2920
315608	3AA2-088SOLA	0.7480	80/20	0.7480
315611	6Z1-036WIND	-2.9421	Adder	-3.46
315612	3AA2-057SOLA	1.3289	80/20	1.3289
315614	AA2-178 C	3.4313	80/20	3.4313
920591	AA2-165 C	0.1576	80/20	0.1576
920671	AA2-174 C OP	0.0790	80/20	0.0790
922922	AB1-081 C OP	8.5938	80/20	8.5938
923262	AB1-132 C OP (Suspended)	15.2225	80/20	15.2225
923572	AB1-173 C OP	1.8023	80/20	1.8023
923582	AB1-173AC OP	1.8023	80/20	1.8023
923831	AB2-022 C	-0.8983	Adder	-1.06
923911	AB2-031 C O1	1.7889	80/20	1.7889
923991	AB2-040 C O1	5.8740	80/20	5.8740
924151	AB2-059 C OP	1.7471	80/20	1.7471

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924501	AB2-099 C (Suspended)	1.0074	80/20	1.0074
924511	AB2-100 C	1.2658	80/20	1.2658
925121	AB2-169 C	2.0776	80/20	2.0776
925171	AB2-174 C O1	0.9219	80/20	0.9219
925591	AC1-034 C	6.5604	80/20	6.5604
925781	AC1-054 C O1	4.5595	80/20	4.5595
926071	AC1-086 C	22.4169	80/20	22.4169
926201	AC1-098 C	8.0374	80/20	8.0374
926211	AC1-099 C	2.6934	80/20	2.6934
927021	AC1-189 C	11.8954	80/20	11.8954
927141	AC1-208 C	10.1471	80/20	10.1471
932631	AC2-084 C	11.4575	80/20	11.4575
933991	AD1-023 C	28.2004	80/20	28.2004
934331	AD1-057 C O1	10.1856	80/20	10.1856
934521	AD1-076 C	113.9255	80/20	113.9255
935111	AD1-144 C	-0.7751	Adder	-0.91
936361	AD2-046 C O1	3.6817	Adder	4.33
936401	AD2-051 C O1	19.8648	80/20	19.8648
937541	AD2-215 C	-0.7831	Adder	-0.92
938171	AE1-026 C O1	69.7636	80/20	69.7636
938221	AE1-035 C	5.1550	80/20	5.1550
940491	AE2-034 C	14.9192	80/20	14.9192
940571	AE2-044 C	4.2969	80/20	4.2969
941541	AE2-151 C	2.0903	80/20	2.0903
942131	AE2-225 C	-1.0773	Adder	-1.27
942171	AE2-229 C	-1.0773	Adder	-1.27
942471	AE2-260 C O1	8.3171	80/20	8.3171
942851	AE2-304 C	-0.2716	Adder	-0.32
943171	AE2-346 C	2.4178	80/20	2.4178
943911	AF1-059	8.3370	80/20	8.3370
944141	AF1-082	2.7623	80/20	2.7623
945711	AF1-236 C O1	163.3302	80/20	163.3302
946281	AF1-292 C	0.9859	80/20	0.9859
957521	AF2-046 C	20.4051	80/20	20.4051
957531	AF2-047 C	35.4510	80/20	35.4510
957861	AF2-080 C	10.8039	80/20	10.8039
959231	AF2-214 C	9.2843	80/20	9.2843
959511	AF2-242 C	13.9123	80/20	13.9123
959731	AF2-264 C	3.3334	80/20	3.3334
960081	AF2-299 C	1.6616	80/20	1.6616
960331	AF2-324 C O1	7.6094	80/20	7.6094
960351	AF2-326 C (Withdrawn : 07/22/2020)	2.4520	80/20	2.4520
960831	AF2-374 C	2.1136	80/20	2.1136
WEC	WEC	0.3333	Confirmed LTF	0.3333
LGEE	LGEE	0.6224	Confirmed LTF	0.6224
CPL	CPL	3.7739	Confirmed LTF	3.7739
CBM-W2	CBM-W2	12.8665	Confirmed LTF	12.8665
NY	NY	0.2909	Confirmed LTF	0.2909
CBM-W1	CBM-W1	12.5600	Confirmed LTF	12.5600
TVA	TVA	2.6600	Confirmed LTF	2.6600
CBM-S2	CBM-S2	22.9639	Confirmed LTF	22.9639
CBM-S1	CBM-S1	14.9015	Confirmed LTF	14.9015

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>MADISON</b>	MADISON	0.7056	Confirmed LTF	0.7056
<b>MEC</b>	MEC	1.9799	Confirmed LTF	1.9799
<b>AA2-074</b>	AA2-074	2.5717	LTF	2.5717

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
97377406	925120	AB2-169 TAP	DVP	314592	3PANTEGO	DVP	1	DVP_P1-2: LN 82	single	74.26	38.14	102.77	DC	47.99

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925121	AB2-169 C	6.7259	80/20	6.7259
959511	AF2-242 C	47.9904	80/20	47.9904
NEWTON	NEWTON	0.0215	Confirmed LTF	0.0215
FARMERCITY	FARMERCITY	0.0011	Confirmed LTF	0.0011
CALDERWOOD	CALDERWOOD	0.0099	Confirmed LTF	0.0099
NY	NY	0.0111	Confirmed LTF	0.0111
PRAIRIE	PRAIRIE	0.0517	Confirmed LTF	0.0517
CHEOAH	CHEOAH	0.0100	Confirmed LTF	0.0100
EDWARDS	EDWARDS	0.0070	Confirmed LTF	0.0070
TILTON	TILTON	0.0126	Confirmed LTF	0.0126
GIBSON	GIBSON	0.0109	Confirmed LTF	0.0109
BLUEG	BLUEG	0.0347	Confirmed LTF	0.0347
TRIMBLE	TRIMBLE	0.0111	Confirmed LTF	0.0111
CATAWBA	CATAWBA	0.0070	Confirmed LTF	0.0070

### 11.6.3 Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
95819383	242631	05EDAN1	AEP	242620	05DANVL2	AEP	1	AEP_P4_#11112_05J.FER R 765_A1	breaker	402.0	113.76	114.29	DC	4.73

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
244012	05PINNACLE	-1.8090	Adder	-2.13
315131	1EDGECEMA (Deactivation : 22/04/2019)	3.5545	Adder	4.18
315132	1EDGECEMB (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

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

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 C	1.2786	Adder	2.84
959512	AF2-242 E	0.8524	Adder	1.89
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

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>NEWTON</b>	NEWTON	0.3567	Confirmed LTF	0.3567
<b>CPL</b>	CPL	5.5176	Confirmed LTF	5.5176
<b>G-007A</b>	G-007A	0.6186	Confirmed LTF	0.6186
<b>VFT</b>	VFT	1.6254	Confirmed LTF	1.6254
<b>CBM-W2</b>	CBM-W2	5.2744	Confirmed LTF	5.2744
<b>TVA</b>	TVA	1.9418	Confirmed LTF	1.9418
<b>EDWARDS</b>	EDWARDS	0.1740	Confirmed LTF	0.1740
<b>CBM-S2</b>	CBM-S2	37.0845	Confirmed LTF	37.0845
<b>CBM-S1</b>	CBM-S1	8.5967	Confirmed LTF	8.5967
<b>TILTON</b>	TILTON	0.3856	Confirmed LTF	0.3856
<b>MADISON</b>	MADISON	1.8829	Confirmed LTF	1.8829
<b>GIBSON</b>	GIBSON	0.2905	Confirmed LTF	0.2905
<b>BLUEG</b>	BLUEG	1.2187	Confirmed LTF	1.2187
<b>TRIMBLE</b>	TRIMBLE	0.4096	Confirmed LTF	0.4096
<b>AA2-074</b>	AA2-074	3.7471	LTF	3.7471

#### 11.6.4 Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
98568994	313714	6PERQUIMANS	DVP	314662	6S HERTFORD	DVP	1	DVP_P7-1: LN 25-2034-A	tower	897.0	239.26	241.6	DC	20.96

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315292	1DOMTR78	6.8353	50/50	6.8353
315294	1DOMTR10	51.3559	50/50	51.3559
315611	6Z1-036WIND	36.7189	50/50	36.7189
315614	AA2-178 C	8.7358	50/50	8.7358
916042	Z1-036 E (Suspended)	246.0166	50/50	246.0166
920692	AA2-178 E	21.7046	50/50	21.7046
925121	AB2-169 C	3.2999	50/50	3.2999
925122	AB2-169 E	17.1686	50/50	17.1686
934521	AD1-076 C	282.9665	50/50	282.9665
934522	AD1-076 E	144.0861	50/50	144.0861
940491	AE2-034 C	37.9831	50/50	37.9831
940492	AE2-034 E	16.2785	50/50	16.2785
945711	AF1-236 C O1	415.8247	50/50	415.8247
945712	AF1-236 E O1	678.4509	50/50	678.4509
957531	AF2-047 C	90.2551	50/50	90.2551
957532	AF2-047 E	45.3989	50/50	45.3989
959511	AF2-242 C	12.5770	50/50	12.5770
959512	AF2-242 E	8.3846	50/50	8.3846
WEC	WEC	0.0271	Confirmed LTF	0.0271
LGEE	LGEE	0.0513	Confirmed LTF	0.0513
CPL	CPL	0.4624	Confirmed LTF	0.4624
CBM-W2	CBM-W2	1.2367	Confirmed LTF	1.2367
NY	NY	0.0619	Confirmed LTF	0.0619
CBM-W1	CBM-W1	0.9883	Confirmed LTF	0.9883
TVA	TVA	0.2702	Confirmed LTF	0.2702
O-066	O-066	0.8534	Confirmed LTF	0.8534
CBM-S2	CBM-S2	2.6761	Confirmed LTF	2.6761
CBM-S1	CBM-S1	1.4825	Confirmed LTF	1.4825
G-007	G-007	0.1321	Confirmed LTF	0.1321
MADISON	MADISON	0.0907	Confirmed LTF	0.0907
MEC	MEC	0.1748	Confirmed LTF	0.1748

### 11.6.5 Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
96941403	313845	6HATHAWAY	DVP	304222	6ROCKYMT230T	CPL	1	DVP_P1-2: LN 2181	single	478.0	108.07	109.21	DC	5.43

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314435	6SAPONY	0.1766	80/20	0.1766
314572	3EMPORIA	0.0497	80/20	0.0497
314574	6EVERETS	0.2240	80/20	0.2240
314582	3KELFORD	0.3819	80/20	0.3819
314589	3MURPHYS	0.0609	80/20	0.0609
314623	3WITAKRS	0.3141	80/20	0.3141
314704	3LAWRENC	0.1694	80/20	0.1694
315115	1S HAMPT1	0.7849	80/20	0.7849
315126	1ROARAP2	1.1859	80/20	1.1859
315128	1ROARAP4	1.1317	80/20	1.1317
315131	1EDGEEMA (Deactivation : 22/04/2019)	25.0630	80/20	25.0630
315132	1EDGEEMB (Deactivation : 22/04/2019)	25.0630	80/20	25.0630
315136	1ROSEMG1	2.9028	80/20	2.9028
315137	1ROSEMS1	1.8000	80/20	1.8000
315138	1ROSEMG2	1.3604	80/20	1.3604
315139	1GASTONA	3.5951	80/20	3.5951
315141	1GASTONB	3.5951	80/20	3.5951
315292	1DOMTR78	0.8569	80/20	0.8569
315294	1DOMTR10	6.4385	80/20	6.4385
315601	1CONETOE2SOL	2.6952	80/20	2.6952
315602	1HOLLOMANSOL	1.0473	80/20	1.0473
315605	6W1-029WIND	0.2433	80/20	0.2433
315606	3AA2-053SOLA	1.2090	80/20	1.2090
315607	3AA1-063SOLA	1.0879	80/20	1.0879
315608	3AA2-088SOLA	0.6661	80/20	0.6661
315611	6Z1-036WIND	2.4371	80/20	2.4371
315612	3AA2-057SOLA	1.5529	80/20	1.5529
315614	AA2-178 C	0.7843	80/20	0.7843
920591	AA2-165 C	0.1841	80/20	0.1841
920671	AA2-174 C OP	0.0554	80/20	0.0554
922922	AB1-081 C OP	15.1732	80/20	15.1732
923262	AB1-132 C OP (Suspended)	15.9155	80/20	15.9155
923572	AB1-173 C OP	1.6606	80/20	1.6606
923582	AB1-173AC OP	1.6606	80/20	1.6606
923801	AB2-015 C OP	4.0595	80/20	4.0595
923911	AB2-031 C O1	1.6483	80/20	1.6483
923991	AB2-040 C O1	5.4124	80/20	5.4124
924151	AB2-059 C OP	3.0847	80/20	3.0847
924501	AB2-099 C (Suspended)	0.4117	80/20	0.4117

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924511	AB2-100 C	1.4667	80/20	1.4667
925121	AB2-169 C	0.7206	80/20	0.7206
925171	AB2-174 C O1	0.8699	80/20	0.8699
925591	AC1-034 C	11.5831	80/20	11.5831
925781	AC1-054 C O1	2.9325	80/20	2.9325
926071	AC1-086 C	23.4374	80/20	23.4374
926201	AC1-098 C	6.2999	80/20	6.2999
926211	AC1-099 C	2.1111	80/20	2.1111
927021	AC1-189 C	12.1966	80/20	12.1966
927141	AC1-208 C	9.7050	80/20	9.7050
932631	AC2-084 C	8.9807	80/20	8.9807
933991	AD1-023 C	7.5960	80/20	7.5960
934331	AD1-057 C O1	20.1230	80/20	20.1230
934521	AD1-076 C	29.5910	80/20	29.5910
936401	AD2-051 C O1	6.0417	80/20	6.0417
938171	AE1-026 C O1	19.1647	80/20	19.1647
938221	AE1-035 C	1.5178	80/20	1.5178
938771	AE1-103 C O1	1.6073	80/20	1.6073
940481	AE2-033 C	7.1912	80/20	7.1912
940491	AE2-034 C	3.4100	80/20	3.4100
940571	AE2-044 C	7.5866	80/20	7.5866
941501	AE2-147 C	4.7016	80/20	4.7016
941541	AE2-151 C	0.7823	80/20	0.7823
942471	AE2-260 C O1	9.8487	80/20	9.8487
942851	AE2-304 C	0.2065	80/20	0.2065
943171	AE2-346 C	0.9880	80/20	0.9880
943911	AF1-059	6.8970	80/20	6.8970
944141	AF1-082	4.8771	80/20	4.8771
944871	AF1-152 C	1.5672	80/20	1.5672
945711	AF1-236 C O1	37.3312	80/20	37.3312
946011	AF1-266	6.0196	80/20	6.0196
946281	AF1-292 C	0.9994	80/20	0.9994
957521	AF2-046 C	11.0658	80/20	11.0658
957531	AF2-047 C	8.1028	80/20	8.1028
957791	AF2-073 C (Withdrawn : 07/02/2020)	3.3956	80/20	3.3956
957801	AF2-074 C (Withdrawn : 07/02/2020)	1.5091	80/20	1.5091
957861	AF2-080 C	11.0774	80/20	11.0774
959231	AF2-214 C	16.3925	80/20	16.3925
959511	AF2-242 C	5.4341	80/20	5.4341
959731	AF2-264 C	1.5338	80/20	1.5338
960081	AF2-299 C	1.6844	80/20	1.6844
960331	AF2-324 C O1	21.0875	80/20	21.0875
960351	AF2-326 C (Withdrawn : 07/22/2020)	3.7166	80/20	3.7166
960831	AF2-374 C	0.9486	80/20	0.9486
961091	AF2-400 C	0.2192	80/20	0.2192
NEWTON	NEWTON	1.3496	Confirmed LTF	1.3496
FARMERCITY	FARMERCITY	0.0774	Confirmed LTF	0.0774
G-007A	G-007A	0.8871	Confirmed LTF	0.8871
VFT	VFT	2.3607	Confirmed LTF	2.3607
CALDERWOOD	CALDERWOOD	1.0725	Confirmed LTF	1.0725

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>PRAIRIE</b>	PRAIRIE	3.6420	Confirmed LTF	3.6420
<b>AC1-131</b>	AC1-131	3.5528	LTF	3.5528
<b>CHEOAH</b>	CHEOAH	1.1001	Confirmed LTF	1.1001
<b>EDWARDS</b>	EDWARDS	0.4070	Confirmed LTF	0.4070
<b>TILTON</b>	TILTON	0.7201	Confirmed LTF	0.7201
<b>GIBSON</b>	GIBSON	0.6519	Confirmed LTF	0.6519
<b>BLUEG</b>	BLUEG	2.0138	Confirmed LTF	2.0138
<b>TRIMBLE</b>	TRIMBLE	0.6389	Confirmed LTF	0.6389
<b>CATAWBA</b>	CATAWBA	1.1585	Confirmed LTF	1.1585

11.6.6 Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
98043296	313845	6HATHAWAY	DVP	314591	6NASH	DVP	1	DVP_P1-2: LN 2058	single	449.32	118.59	119.84	DC	5.62

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314435	6SAPONY	0.1795	80/20	0.1795
314572	3EMPORIA	0.0495	80/20	0.0495
314574	6EVERETS	0.2332	80/20	0.2332
314582	3KELFORD	0.3455	80/20	0.3455
314589	3MURPHYS	0.0594	80/20	0.0594
314623	3WITAKRS	0.2214	80/20	0.2214
314704	3LAWRENC	0.1687	80/20	0.1687
315115	1S HAMPT1	0.7687	80/20	0.7687
315126	1ROARAP2	1.1465	80/20	1.1465
315128	1ROARAP4	1.0941	80/20	1.0941
315131	1EDGEEMA (Deactivation : 22/04/2019)	26.1992	80/20	26.1992
315132	1EDGEEMB (Deactivation : 22/04/2019)	26.1992	80/20	26.1992
315136	1ROSEMG1	2.9849	80/20	2.9849
315137	1ROSEMS1	1.8510	80/20	1.8510
315138	1ROSEMG2	1.3990	80/20	1.3990
315139	1GASTONA	3.6772	80/20	3.6772
315141	1GASTONB	3.6772	80/20	3.6772
315292	1DOMTR78	0.8777	80/20	0.8777
315294	1DOMTR10	6.5947	80/20	6.5947
315601	1CONETOE2SOL	2.8147	80/20	2.8147
315602	1HOLLOMANSOL	1.0595	80/20	1.0595
315605	6W1-029WIND	0.2467	80/20	0.2467
315606	3AA2-053SOLA	1.1705	80/20	1.1705
315607	3AA1-063SOLA	1.0545	80/20	1.0545
315608	3AA2-088SOLA	0.6494	80/20	0.6494
315611	6Z1-036WIND	2.4749	80/20	2.4749
315612	3AA2-057SOLA	1.1428	80/20	1.1428
315614	AA2-178 C	0.7978	80/20	0.7978
920591	AA2-165 C	0.1355	80/20	0.1355
920671	AA2-174 C OP	0.0536	80/20	0.0536
922922	AB1-081 C OP	10.5510	80/20	10.5510
923262	AB1-132 C OP (Suspended)	16.2792	80/20	16.2792
923572	AB1-173 C OP	1.6336	80/20	1.6336
923582	AB1-173AC OP	1.6336	80/20	1.6336
923801	AB2-015 C OP	3.9820	80/20	3.9820
923911	AB2-031 C O1	1.6215	80/20	1.6215
923991	AB2-040 C O1	5.3244	80/20	5.3244
924151	AB2-059 C OP	2.1450	80/20	2.1450
924501	AB2-099 C (Suspended)	0.4014	80/20	0.4014

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924511	AB2-100 C	1.4928	80/20	1.4928
925121	AB2-169 C	0.7426	80/20	0.7426
925171	AB2-174 C O1	0.8593	80/20	0.8593
925591	AC1-034 C	8.0545	80/20	8.0545
925781	AC1-054 C O1	2.8182	80/20	2.8182
926071	AC1-086 C	23.9731	80/20	23.9731
926201	AC1-098 C	5.1403	80/20	5.1403
926211	AC1-099 C	1.7225	80/20	1.7225
927021	AC1-189 C	12.7300	80/20	12.7300
927141	AC1-208 C	7.7959	80/20	7.7959
932631	AC2-084 C	7.3277	80/20	7.3277
933991	AD1-023 C	7.7172	80/20	7.7172
934331	AD1-057 C O1	20.9211	80/20	20.9211
934521	AD1-076 C	30.1201	80/20	30.1201
936401	AD2-051 C O1	6.1146	80/20	6.1146
938171	AE1-026 C O1	19.4515	80/20	19.4515
938221	AE1-035 C	1.5355	80/20	1.5355
938771	AE1-103 C O1	1.5796	80/20	1.5796
940481	AE2-033 C	7.3096	80/20	7.3096
940491	AE2-034 C	3.4688	80/20	3.4688
940571	AE2-044 C	5.2755	80/20	5.2755
941501	AE2-147 C	4.7673	80/20	4.7673
941541	AE2-151 C	0.7628	80/20	0.7628
942471	AE2-260 C O1	10.0150	80/20	10.0150
942851	AE2-304 C	0.2096	80/20	0.2096
943171	AE2-346 C	0.9633	80/20	0.9633
943911	AF1-059	6.8380	80/20	6.8380
944141	AF1-082	3.3914	80/20	3.3914
944871	AF1-152 C	1.5891	80/20	1.5891
945711	AF1-236 C O1	37.9749	80/20	37.9749
946011	AF1-266	6.1187	80/20	6.1187
946281	AF1-292 C	0.9992	80/20	0.9992
957521	AF2-046 C	10.7844	80/20	10.7844
957531	AF2-047 C	8.2425	80/20	8.2425
957791	AF2-073 C (Withdrawn : 07/02/2020)	3.4329	80/20	3.4329
957801	AF2-074 C (Withdrawn : 07/02/2020)	1.5257	80/20	1.5257
957861	AF2-080 C	11.5619	80/20	11.5619
959231	AF2-214 C	11.3988	80/20	11.3988
959511	AF2-242 C	5.6218	80/20	5.6218
959731	AF2-264 C	1.4952	80/20	1.4952
960081	AF2-299 C	1.6841	80/20	1.6841
960331	AF2-324 C O1	22.0434	80/20	22.0434
960351	AF2-326 C (Withdrawn : 07/22/2020)	2.5194	80/20	2.5194
960831	AF2-374 C	0.9226	80/20	0.9226
961091	AF2-400 C	0.2150	80/20	0.2150
NEWTON	NEWTON	1.3582	Confirmed LTF	1.3582
FARMERCITY	FARMERCITY	0.0779	Confirmed LTF	0.0779
G-007A	G-007A	0.9063	Confirmed LTF	0.9063
VFT	VFT	2.4123	Confirmed LTF	2.4123
CALDERWOOD	CALDERWOOD	1.0810	Confirmed LTF	1.0810

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>PRAIRIE</b>	PRAIRIE	3.6653	Confirmed LTF	3.6653
<b>AC1-131</b>	AC1-131	3.5783	LTF	3.5783
<b>CHEOAH</b>	CHEOAH	1.1086	Confirmed LTF	1.1086
<b>EDWARDS</b>	EDWARDS	0.4095	Confirmed LTF	0.4095
<b>TILTON</b>	TILTON	0.7245	Confirmed LTF	0.7245
<b>GIBSON</b>	GIBSON	0.6557	Confirmed LTF	0.6557
<b>BLUEG</b>	BLUEG	2.0259	Confirmed LTF	2.0259
<b>TRIMBLE</b>	TRIMBLE	0.6428	Confirmed LTF	0.6428
<b>CATAWBA</b>	CATAWBA	1.1687	Confirmed LTF	1.1687

11.6.7 Index 7

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
97781779	313851	6ECITYDP2	DVP	314638	6ELIZ CT	DVP	1	DVP_P4-2: 246T247	breaker	1204.0	146.09	147.64	DC	18.64

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.2926	50/50	0.2926
314582	3KELFORD	0.4235	50/50	0.4235
314589	3MURPHYS	0.0577	50/50	0.0577
314639	6TANGLEW	1.7857	50/50	1.7857
315131	1EDGECSMA (Deactivation : 22/04/2019)	4.5435	Adder	5.35
315132	1EDGECSMB (Deactivation : 22/04/2019)	4.5435	Adder	5.35
315292	1DOMTR78	2.8229	50/50	2.8229
315294	1DOMTR10	21.2090	50/50	21.2090
315601	1CONETOE2SOL	1.2230	50/50	1.2230
315602	1HOLLOMANSOL	1.8880	50/50	1.8880
315605	6W1-029WIND	3.1396	50/50	3.1396
315606	3AA2-053SOLA	0.9453	50/50	0.9453
315611	6Z1-036WIND	23.6402	50/50	23.6402
315614	AA2-178 C	4.4569	50/50	4.4569
900672	V4-068 E	0.1834	50/50	0.1834
901082	W1-029 E	122.0175	50/50	122.0175
916042	Z1-036 E (Suspended)	158.3896	50/50	158.3896
917122	Z2-027 E	4.4366	50/50	4.4366
917332	Z2-043 E	1.0676	50/50	1.0676
917342	Z2-044 E	0.2871	Adder	0.34
917512	Z2-088 E OP1	3.0386	50/50	3.0386
918512	AA1-065 E OP	4.9008	50/50	4.9008
918532	AA1-067 E	0.7270	50/50	0.7270
919692	AA2-053 E OP	2.3531	50/50	2.3531
919702	AA2-057 E OP	1.7587	Adder	2.07
920592	AA2-165 E	0.2417	Adder	0.28
920671	AA2-174 C OP	0.0433	50/50	0.0433
920672	AA2-174 E OP	0.2719	50/50	0.2719
920692	AA2-178 E	11.0734	50/50	11.0734
922922	AB1-081 C OP	4.2759	Adder	5.03
922923	AB1-081 E OP	1.8325	Adder	2.16
923262	AB1-132 C OP (Suspended)	7.1029	Adder	8.36
923263	AB1-132 E OP (Suspended)	3.0441	Adder	3.58
923831	AB2-022 C	-2.4861	Adder	-2.92
924152	AB2-059 E OP	2.5961	Adder	3.05
924501	AB2-099 C (Suspended)	0.5433	50/50	0.5433
924502	AB2-099 E (Suspended)	0.2328	50/50	0.2328
925121	AB2-169 C	1.8459	50/50	1.8459

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925122	AB2-169 E	9.6037	50/50	9.6037
925591	AC1-034 C	3.2642	Adder	3.84
925592	AC1-034 E	2.4625	Adder	2.9
926071	AC1-086 C	10.4598	Adder	12.31
926072	AC1-086 E	4.7606	Adder	5.6
926201	AC1-098 C	4.4402	50/50	4.4402
926202	AC1-098 E	2.6452	50/50	2.6452
926211	AC1-099 C	1.4879	50/50	1.4879
926212	AC1-099 E	0.8739	50/50	0.8739
927021	AC1-189 C	7.3692	50/50	7.3692
927022	AC1-189 E	3.6708	50/50	3.6708
927141	AC1-208 C	5.6768	50/50	5.6768
927142	AC1-208 E	2.5208	50/50	2.5208
932631	AC2-084 C	6.3296	50/50	6.3296
932632	AC2-084 E	3.1176	50/50	3.1176
933991	AD1-023 C	25.7024	50/50	25.7024
933992	AD1-023 E	13.9924	50/50	13.9924
934331	AD1-057 C O1	4.9380	Adder	5.81
934332	AD1-057 E O1	2.6341	Adder	3.1
934521	AD1-076 C	120.4549	50/50	120.4549
934522	AD1-076 E	61.3355	50/50	61.3355
936401	AD2-051 C O1	10.5492	50/50	10.5492
936402	AD2-051 E O1	4.5297	50/50	4.5297
938171	AE1-026 C O1	57.9195	50/50	57.9195
938172	AE1-026 E O1	15.2805	50/50	15.2805
938221	AE1-035 C	2.7363	50/50	2.7363
938222	AE1-035 E	1.3477	50/50	1.3477
940491	AE2-034 C	19.3784	50/50	19.3784
940492	AE2-034 E	8.3050	50/50	8.3050
940571	AE2-044 C	2.1380	Adder	2.52
940572	AE2-044 E	0.9163	Adder	1.08
941501	AE2-147 C	60.6717	50/50	60.6717
941502	AE2-147 E	40.4478	50/50	40.4478
941541	AE2-151 C	1.1192	50/50	1.1192
941542	AE2-151 E	0.6026	50/50	0.6026
942851	AE2-304 C	2.3249	50/50	2.3249
942852	AE2-304 E	0.9041	50/50	0.9041
943171	AE2-346 C	1.3038	50/50	1.3038
943172	AE2-346 E	0.5588	50/50	0.5588
944141	AF1-082	1.3744	Adder	1.62
944871	AF1-152 C	20.2239	50/50	20.2239
944872	AF1-152 E	13.4826	50/50	13.4826
945711	AF1-236 C O1	212.1471	50/50	212.1471
945712	AF1-236 E O1	346.1348	50/50	346.1348
957521	AF2-046 C	11.3093	50/50	11.3093
957522	AF2-046 E	5.6887	50/50	5.6887
957531	AF2-047 C	46.0467	50/50	46.0467
957532	AF2-047 E	23.1618	50/50	23.1618
957861	AF2-080 C	6.6930	50/50	6.6930
957862	AF2-080 E	2.9670	50/50	2.9670
959231	AF2-214 C	2.4483	Adder	5.43
959232	AF2-214 E	3.6705	Adder	8.15

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959511	AF2-242 C	11.1811	50/50	11.1811
959512	AF2-242 E	7.4541	50/50	7.4541
959731	AF2-264 C	1.8168	50/50	1.8168
959732	AF2-264 E	0.8948	50/50	0.8948
960122	AF2-303 E O1	3.1139	Adder	6.91
960331	AF2-324 C O1	2.0261	Adder	4.5
960332	AF2-324 E O1	1.0878	Adder	2.41
960351	AF2-326 C (Withdrawn : 07/22/2020)	0.6454	Adder	1.43
960352	AF2-326 E (Withdrawn : 07/22/2020)	0.1614	Adder	0.36
960831	AF2-374 C	1.1376	50/50	1.1376
960832	AF2-374 E	1.8560	50/50	1.8560
WEC	WEC	0.1944	Confirmed LTF	0.1944
LGEE	LGEE	0.3634	Confirmed LTF	0.3634
CPL	CPL	2.2696	Confirmed LTF	2.2696
CBM-W2	CBM-W2	7.5839	Confirmed LTF	7.5839
NY	NY	0.1841	Confirmed LTF	0.1841
CBM-W1	CBM-W1	7.3183	Confirmed LTF	7.3183
TVA	TVA	1.5736	Confirmed LTF	1.5736
O-066	O-066	2.7082	Confirmed LTF	2.7082
CBM-S2	CBM-S2	13.7333	Confirmed LTF	13.7333
CBM-S1	CBM-S1	8.8012	Confirmed LTF	8.8012
G-007	G-007	0.4233	Confirmed LTF	0.4233
MADISON	MADISON	0.4234	Confirmed LTF	0.4234
MEC	MEC	1.1600	Confirmed LTF	1.1600
AA2-074	AA2-074	1.5467	LTF	1.5467

11.6.8 Index 8

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
98569014	313885	6WALBMRL	DVP	313714	6PERQUIMANS	DVP	1	DVP_P7-1: LN 25-2034-A	tower	897.0	207.74	210.08	DC	20.96

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315292	1DOMTR78	6.8353	50/50	6.8353
315294	1DOMTR10	51.3559	50/50	51.3559
315614	AA2-178 C	8.7358	50/50	8.7358
920692	AA2-178 E	21.7046	50/50	21.7046
925121	AB2-169 C	3.2999	50/50	3.2999
925122	AB2-169 E	17.1686	50/50	17.1686
934521	AD1-076 C	282.9665	50/50	282.9665
934522	AD1-076 E	144.0861	50/50	144.0861
940491	AE2-034 C	37.9831	50/50	37.9831
940492	AE2-034 E	16.2785	50/50	16.2785
945711	AF1-236 C O1	415.8247	50/50	415.8247
945712	AF1-236 E O1	678.4509	50/50	678.4509
957531	AF2-047 C	90.2551	50/50	90.2551
957532	AF2-047 E	45.3989	50/50	45.3989
959511	AF2-242 C	12.5770	50/50	12.5770
959512	AF2-242 E	8.3846	50/50	8.3846
WEC	WEC	0.0271	Confirmed LTF	0.0271
LGEE	LGEE	0.0513	Confirmed LTF	0.0513
CPLE	CPLE	0.4624	Confirmed LTF	0.4624
CBM-W2	CBM-W2	1.2367	Confirmed LTF	1.2367
NY	NY	0.0619	Confirmed LTF	0.0619
CBM-W1	CBM-W1	0.9883	Confirmed LTF	0.9883
TVA	TVA	0.2702	Confirmed LTF	0.2702
O-066	O-066	0.8534	Confirmed LTF	0.8534
CBM-S2	CBM-S2	2.6761	Confirmed LTF	2.6761
CBM-S1	CBM-S1	1.4825	Confirmed LTF	1.4825
G-007	G-007	0.1321	Confirmed LTF	0.1321
MADISON	MADISON	0.0907	Confirmed LTF	0.0907
MEC	MEC	0.1748	Confirmed LTF	0.1748

## 11.6.9 Index 9

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
98569004	314203	6MACKEYS	DVP	314637	6EDENTON	DVP	1	DVP_P7-1: LN 25-2034-A	tower	895.0	211.32	213.66	DC	20.96

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315292	1DOMTR78	6.8353	50/50	6.8353
315294	1DOMTR10	51.3559	50/50	51.3559
315614	AA2-178 C	8.7358	50/50	8.7358
920692	AA2-178 E	21.7046	50/50	21.7046
925121	AB2-169 C	3.2999	50/50	3.2999
925122	AB2-169 E	17.1686	50/50	17.1686
934521	AD1-076 C	282.9665	50/50	282.9665
934522	AD1-076 E	144.0861	50/50	144.0861
940491	AE2-034 C	37.9831	50/50	37.9831
940492	AE2-034 E	16.2785	50/50	16.2785
945711	AF1-236 C O1	415.8247	50/50	415.8247
945712	AF1-236 E O1	678.4509	50/50	678.4509
957531	AF2-047 C	90.2551	50/50	90.2551
957532	AF2-047 E	45.3989	50/50	45.3989
959511	AF2-242 C	12.5770	50/50	12.5770
959512	AF2-242 E	8.3846	50/50	8.3846
WEC	WEC	0.0271	Confirmed LTF	0.0271
LGEE	LGEE	0.0513	Confirmed LTF	0.0513
CPLE	CPLE	0.4624	Confirmed LTF	0.4624
CBM-W2	CBM-W2	1.2367	Confirmed LTF	1.2367
NY	NY	0.0619	Confirmed LTF	0.0619
CBM-W1	CBM-W1	0.9883	Confirmed LTF	0.9883
TVA	TVA	0.2702	Confirmed LTF	0.2702
O-066	O-066	0.8534	Confirmed LTF	0.8534
CBM-S2	CBM-S2	2.6761	Confirmed LTF	2.6761
CBM-S1	CBM-S1	1.4825	Confirmed LTF	1.4825
G-007	G-007	0.1321	Confirmed LTF	0.1321
MADISON	MADISON	0.0907	Confirmed LTF	0.0907
MEC	MEC	0.1748	Confirmed LTF	0.1748

11.6.10 Index 10

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
97781800	314299	6HARROWG	DVP	314263	6TYLER1	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	136.52	137.05	DC	6.26

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

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

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957861	AF2-080 C	1.9256	Adder	4.27
957862	AF2-080 E	0.8536	Adder	1.89
958142	AF2-108 BAT	0.3276	Merchant Transmission	0.3276
959231	AF2-214 C	2.6683	Adder	5.92
959232	AF2-214 E	4.0002	Adder	8.88
959511	AF2-242 C	1.6932	Adder	3.76
959512	AF2-242 E	1.1288	Adder	2.51
959731	AF2-264 C	0.6416	Adder	1.42
959732	AF2-264 E	0.3160	Adder	0.7
960081	AF2-299 C	3.6363	50/50	3.6363
960082	AF2-299 E	2.4242	50/50	2.4242
960122	AF2-303 E O1	3.3429	Adder	7.42
960331	AF2-324 C O1	2.1751	Adder	4.83
960332	AF2-324 E O1	1.1678	Adder	2.59
960351	AF2-326 C (Withdrawn : 07/22/2020)	0.7035	Adder	1.56
960352	AF2-326 E (Withdrawn : 07/22/2020)	0.1759	Adder	0.39
960361	AF2-327 C (Withdrawn : 07/22/2020)	3.2912	50/50	3.2912
960362	AF2-327 E (Withdrawn : 07/22/2020)	0.8228	50/50	0.8228
960811	AF2-372 C	0.2802	Adder	0.62
960812	AF2-372 E	0.4572	Adder	1.01
960831	AF2-374 C	0.4002	Adder	0.89
960832	AF2-374 E	0.6530	Adder	1.45
961091	AF2-400 C	0.1106	Adder	0.25
961092	AF2-400 E	0.1815	Adder	0.4
961111	AF2-402 C O1	1.0328	50/50	1.0328
961112	AF2-402 E O1	1.6885	50/50	1.6885
WEC	WEC	0.2063	Confirmed LTF	0.2063
LGEE	LGEE	0.3879	Confirmed LTF	0.3879
CPL	CPL	2.3563	Confirmed LTF	2.3563
CBM-W2	CBM-W2	8.2801	Confirmed LTF	8.2801
NY	NY	0.2732	Confirmed LTF	0.2732
CBM-W1	CBM-W1	7.7062	Confirmed LTF	7.7062
TVA	TVA	1.7374	Confirmed LTF	1.7374
O-066	O-066	3.8909	Confirmed LTF	3.8909
CBM-S2	CBM-S2	15.0511	Confirmed LTF	15.0511
CBM-S1	CBM-S1	9.6872	Confirmed LTF	9.6872
G-007	G-007	0.6074	Confirmed LTF	0.6074
MADISON	MADISON	0.4879	Confirmed LTF	0.4879
MEC	MEC	1.2490	Confirmed LTF	1.2490
AA2-074	AA2-074	1.6056	LTF	1.6056

11.6.11 Index 11

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
97781795	314331	6POE	DVP	314299	6HARROWG	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	136.54	137.07	DC	6.26

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

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

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957861	AF2-080 C	1.9256	Adder	4.27
957862	AF2-080 E	0.8536	Adder	1.89
958142	AF2-108 BAT	0.3276	Merchant Transmission	0.3276
959231	AF2-214 C	2.6683	Adder	5.92
959232	AF2-214 E	4.0002	Adder	8.88
959511	AF2-242 C	1.6932	Adder	3.76
959512	AF2-242 E	1.1288	Adder	2.51
959731	AF2-264 C	0.6416	Adder	1.42
959732	AF2-264 E	0.3160	Adder	0.7
960081	AF2-299 C	3.6363	50/50	3.6363
960082	AF2-299 E	2.4242	50/50	2.4242
960122	AF2-303 E O1	3.3429	Adder	7.42
960331	AF2-324 C O1	2.1751	Adder	4.83
960332	AF2-324 E O1	1.1678	Adder	2.59
960351	AF2-326 C (Withdrawn : 07/22/2020)	0.7035	Adder	1.56
960352	AF2-326 E (Withdrawn : 07/22/2020)	0.1759	Adder	0.39
960361	AF2-327 C (Withdrawn : 07/22/2020)	3.2912	50/50	3.2912
960362	AF2-327 E (Withdrawn : 07/22/2020)	0.8228	50/50	0.8228
960811	AF2-372 C	0.2802	Adder	0.62
960812	AF2-372 E	0.4572	Adder	1.01
960831	AF2-374 C	0.4002	Adder	0.89
960832	AF2-374 E	0.6530	Adder	1.45
961091	AF2-400 C	0.1106	Adder	0.25
961092	AF2-400 E	0.1815	Adder	0.4
961111	AF2-402 C O1	1.0328	50/50	1.0328
961112	AF2-402 E O1	1.6885	50/50	1.6885
WEC	WEC	0.2063	Confirmed LTF	0.2063
LGEE	LGEE	0.3879	Confirmed LTF	0.3879
CPL	CPL	2.3563	Confirmed LTF	2.3563
CBM-W2	CBM-W2	8.2801	Confirmed LTF	8.2801
NY	NY	0.2732	Confirmed LTF	0.2732
CBM-W1	CBM-W1	7.7062	Confirmed LTF	7.7062
TVA	TVA	1.7374	Confirmed LTF	1.7374
O-066	O-066	3.8909	Confirmed LTF	3.8909
CBM-S2	CBM-S2	15.0511	Confirmed LTF	15.0511
CBM-S1	CBM-S1	9.6872	Confirmed LTF	9.6872
G-007	G-007	0.6074	Confirmed LTF	0.6074
MADISON	MADISON	0.4879	Confirmed LTF	0.4879
MEC	MEC	1.2490	Confirmed LTF	1.2490
AA2-074	AA2-074	1.6056	LTF	1.6056

## 11.6.12 Index 12

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
98043285	314435	6SAPONY	DVP	314282	6CARSON	DVP	1	DVP_P1-2: LN 246	single	678.68	128.65	129.71	DC	7.39

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314435	6SAPONY	1.7767	80/20	1.7767
314572	3EMPORIA	0.1786	80/20	0.1786
314574	6EVERETS	0.2977	80/20	0.2977
314582	3KELFORD	0.5909	80/20	0.5909
314589	3MURPHYS	0.1033	80/20	0.1033
314623	3WITAKRS	0.2747	80/20	0.2747
314704	3LAWRENC	0.6597	80/20	0.6597
315126	1ROARAP2	2.4063	80/20	2.4063
315128	1ROARAP4	2.2963	80/20	2.2963
315131	1EDGEEMA (Deactivation : 22/04/2019)	10.4823	80/20	10.4823
315132	1EDGEEMB (Deactivation : 22/04/2019)	10.4823	80/20	10.4823
315136	1ROSEMG1	4.3501	80/20	4.3501
315137	1ROSEMS1	2.6975	80/20	2.6975
315138	1ROSEMG2	2.0388	80/20	2.0388
315139	1GASTONA	6.6383	80/20	6.6383
315141	1GASTONB	6.6383	80/20	6.6383
315158	1KERR 1	0.4002	80/20	0.4002
315159	1KERR 2	1.1205	80/20	1.1205
315160	1KERR 3	1.1205	80/20	1.1205
315161	1KERR 4	1.1205	80/20	1.1205
315162	1KERR 5	1.1205	80/20	1.1205
315163	1KERR 6	1.1205	80/20	1.1205
315164	1KERR 7	1.1205	80/20	1.1205
315294	1DOMTR10	7.7321	Adder	9.1
315601	1CONETOE2SOL	1.6673	80/20	1.6673
315602	1HOLLOMANSOL	1.9043	80/20	1.9043
315606	3AA2-053SOLA	2.3991	80/20	2.3991
315607	3AA1-063SOLA	2.0770	80/20	2.0770
315608	3AA2-088SOLA	1.0872	80/20	1.0872
315612	3AA2-057SOLA	1.5527	80/20	1.5527
920591	AA2-165 C	0.1841	80/20	0.1841
920671	AA2-174 C OP	0.1099	80/20	0.1099
922922	AB1-081 C OP	9.9876	80/20	9.9876
923262	AB1-132 C OP (Suspended)	29.3882	80/20	29.3882
923572	AB1-173 C OP	4.9272	80/20	4.9272
923582	AB1-173AC OP	4.9272	80/20	4.9272
923801	AB2-015 C OP	4.4378	Adder	5.22
923911	AB2-031 C O1	4.8907	80/20	4.8907
923991	AB2-040 C O1	16.0591	80/20	16.0591

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924151	AB2-059 C OP	2.0304	80/20	2.0304
924301	AB2-077 C O1 (Suspended)	1.4183	Adder	1.67
924311	AB2-078 C O1 (Suspended)	1.4183	Adder	1.67
924321	AB2-079 C O1 (Suspended)	1.4183	Adder	1.67
924501	AB2-099 C (Suspended)	0.7157	80/20	0.7157
924511	AB2-100 C	6.1819	80/20	6.1819
925171	AB2-174 C O1	2.7810	80/20	2.7810
925591	AC1-034 C	7.6245	80/20	7.6245
925611	AC1-036 C	0.5293	Adder	0.62
925781	AC1-054 C O1	8.2530	80/20	8.2530
926071	AC1-086 C	43.2777	80/20	43.2777
926201	AC1-098 C	8.1359	80/20	8.1359
926211	AC1-099 C	2.7264	80/20	2.7264
927021	AC1-189 C	9.0732	80/20	9.0732
927141	AC1-208 C	12.4257	80/20	12.4257
932631	AC2-084 C	11.5980	80/20	11.5980
933991	AD1-023 C	11.8384	80/20	11.8384
934331	AD1-057 C O1	15.6382	80/20	15.6382
934521	AD1-076 C	36.3614	Adder	42.78
936261	AD2-033 C	7.6172	Adder	8.96
936361	AD2-046 C O1	8.3565	80/20	8.3565
936401	AD2-051 C O1	10.9951	80/20	10.9951
936481	AD2-063 C O1	9.8387	Adder	11.57
938171	AE1-026 C O1	31.0088	80/20	31.0088
938221	AE1-035 C	2.7600	80/20	2.7600
939181	AE1-148 C O1	8.2015	80/20	8.2015
940241	AE2-006	0.2693	Adder	0.32
940481	AE2-033 C	63.9572	80/20	63.9572
940491	AE2-034 C	3.6978	Adder	4.35
940571	AE2-044 C	4.9938	80/20	4.9938
940661	AE2-053 O1	2.5820	Adder	3.04
941541	AE2-151 C	1.3698	80/20	1.3698
942451	AE2-258	1.6869	Adder	1.98
942471	AE2-260 C O1	46.1499	80/20	46.1499
943171	AE2-346 C	1.7176	80/20	1.7176
943911	AF1-059	27.1850	80/20	27.1850
944141	AF1-082	3.2103	80/20	3.2103
945711	AF1-236 C O1	40.4822	Adder	47.63
946011	AF1-266	53.5372	80/20	53.5372
946281	AF1-292 C	3.8601	80/20	3.8601
957521	AF2-046 C	18.8652	80/20	18.8652
957531	AF2-047 C	4.6569	Adder	10.34
957861	AF2-080 C	8.2406	80/20	8.2406
959231	AF2-214 C	10.7902	80/20	10.7902
959311	AF2-222 C	4.7483	Adder	10.54
959511	AF2-242 C	7.3930	80/20	7.3930
959731	AF2-264 C	2.6430	80/20	2.6430
960081	AF2-299 C	6.5058	80/20	6.5058
960331	AF2-324 C O1	8.8196	80/20	8.8196

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960351	AF2-326 C (Withdrawn : 07/22/2020)	2.8438	80/20	2.8438
960811	AF2-372 C	0.4748	Adder	1.05
960831	AF2-374 C	1.7399	80/20	1.7399
961091	AF2-400 C	0.1270	Adder	0.28
WEC	WEC	0.3178	Confirmed LTF	0.3178
LGEE	LGEE	0.5973	Confirmed LTF	0.5973
CPL	CPL	3.6396	Confirmed LTF	3.6396
CBM-W2	CBM-W2	12.5225	Confirmed LTF	12.5225
NY	NY	0.3783	Confirmed LTF	0.3783
CBM-W1	CBM-W1	11.9095	Confirmed LTF	11.9095
TVA	TVA	2.6124	Confirmed LTF	2.6124
CBM-S2	CBM-S2	22.6171	Confirmed LTF	22.6171
CBM-S1	CBM-S1	14.6033	Confirmed LTF	14.6033
MADISON	MADISON	0.7096	Confirmed LTF	0.7096
MEC	MEC	1.9068	Confirmed LTF	1.9068
AA2-074	AA2-074	2.4804	LTF	2.4804

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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
97781901	314550	6HICKORY	DVP	314466	6FENTRES	DVP	1	DVP_P4-2: 246T247	breaker	699.0	121.13	121.74	DC	9.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314638	6ELIZ CT	0.5186	50/50	0.5186
314639	6TANGLEW	0.9114	50/50	0.9114
314643	3O INLET	1.1127	50/50	1.1127
315294	1DOMTR10	9.1912	Adder	10.81
315603	6AA1-139SOLA	8.4750	50/50	8.4750
315605	6W1-029WIND	1.6024	50/50	1.6024
315611	6Z1-036WIND	12.0639	50/50	12.0639
315614	AA2-178 C	2.2736	50/50	2.2736
901082	W1-029 E	62.2749	50/50	62.2749
913392	Y1-086 E	4.9053	50/50	4.9053
916042	Z1-036 E (Suspended)	80.8279	50/50	80.8279
917122	Z2-027 E	2.2645	50/50	2.2645
917332	Z2-043 E	0.4615	Adder	0.54
918512	AA1-065 E OP	2.1212	Adder	2.5
918532	AA1-067 E	0.3144	Adder	0.37
919152	AA1-139 E	21.0568	50/50	21.0568
920692	AA2-178 E	5.6489	50/50	5.6489
923831	AB2-022 C	5.1427	50/50	5.1427
923832	AB2-022 E	2.7691	50/50	2.7691
924501	AB2-099 C (Suspended)	0.2349	Adder	0.28
924502	AB2-099 E (Suspended)	0.1007	Adder	0.12
925122	AB2-169 E	4.1602	Adder	4.89
933991	AD1-023 C	13.1041	50/50	13.1041
933992	AD1-023 E	7.1339	50/50	7.1339
934521	AD1-076 C	61.4269	50/50	61.4269
934522	AD1-076 E	31.2785	50/50	31.2785
936401	AD2-051 C O1	4.5653	Adder	5.37
936402	AD2-051 E O1	1.9603	Adder	2.31
937221	AD2-160 C O1	22.7304	50/50	22.7304
937222	AD2-160 E O1	11.9196	50/50	11.9196
938171	AE1-026 C O1	25.0968	Adder	29.53
938172	AE1-026 E O1	6.6211	Adder	7.79
938221	AE1-035 C	1.1843	Adder	1.39
938222	AE1-035 E	0.5833	Adder	0.69
938531	AE1-072 C O1	38.7587	50/50	38.7587
938532	AE1-072 E O1	20.2048	50/50	20.2048
940491	AE2-034 C	9.8855	50/50	9.8855
940492	AE2-034 E	4.2367	50/50	4.2367
941501	AE2-147 C	30.9654	50/50	30.9654
941502	AE2-147 E	20.6436	50/50	20.6436
941541	AE2-151 C	0.4841	Adder	0.57

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941542	AE2-151 E	0.2607	Adder	0.31
942401	AE2-253 C	23.9085	50/50	23.9085
942402	AE2-253 E	10.7415	50/50	10.7415
942851	AE2-304 C	1.1865	50/50	1.1865
942852	AE2-304 E	0.4614	50/50	0.4614
943171	AE2-346 C	0.5637	Adder	0.66
943172	AE2-346 E	0.2416	Adder	0.28
944871	AF1-152 C	10.3218	50/50	10.3218
944872	AF1-152 E	6.8812	50/50	6.8812
945711	AF1-236 C O1	108.2231	50/50	108.2231
945712	AF1-236 E O1	176.5746	50/50	176.5746
957531	AF2-047 C	23.4899	50/50	23.4899
957532	AF2-047 E	11.8156	50/50	11.8156
957871	AF2-081 C O1	32.7550	50/50	32.7550
957872	AF2-081 E O1	14.0378	50/50	14.0378
959511	AF2-242 C	2.5659	Adder	5.7
959512	AF2-242 E	1.7106	Adder	3.8
960831	AF2-374 C	0.2607	Adder	0.58
960832	AF2-374 E	0.4253	Adder	0.94
WEC	WEC	0.0885	Confirmed LTF	0.0885
LGEE	LGEE	0.1660	Confirmed LTF	0.1660
CPL	CPL	1.1365	Confirmed LTF	1.1365
CBM-W2	CBM-W2	3.5954	Confirmed LTF	3.5954
NY	NY	0.1128	Confirmed LTF	0.1128
CBM-W1	CBM-W1	3.3026	Confirmed LTF	3.3026
TVA	TVA	0.7560	Confirmed LTF	0.7560
O-066	O-066	1.6128	Confirmed LTF	1.6128
CBM-S2	CBM-S2	6.8146	Confirmed LTF	6.8146
CBM-S1	CBM-S1	4.2004	Confirmed LTF	4.2004
G-007	G-007	0.2517	Confirmed LTF	0.2517
MADISON	MADISON	0.2157	Confirmed LTF	0.2157
MEC	MEC	0.5387	Confirmed LTF	0.5387

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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
96941770	314554	3BTLBRO	DVP	304223	3ROCKYMT115T	CPL	1	DVP_P7-1: LN 2058-2181	tower	93.0	521.92	524.3	DC	4.91

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924151	AB2-059 C OP	4.6702	50/50	4.6702
924152	AB2-059 E OP	13.9475	50/50	13.9475
924501	AB2-099 C (Suspended)	0.2638	Adder	0.31
924502	AB2-099 E (Suspended)	0.1131	Adder	0.13
924512	AB2-100 E	2.0948	Adder	2.46
925172	AB2-174 E O1	2.7106	Adder	3.19
925591	AC1-034 C	17.5369	50/50	17.5369
925592	AC1-034 E	13.2296	50/50	13.2296
926071	AC1-086 C	13.3571	50/50	13.3571
926072	AC1-086 E	6.0793	50/50	6.0793
926201	AC1-098 C	8.4859	50/50	8.4859
926202	AC1-098 E	5.0555	50/50	5.0555
926211	AC1-099 C	2.8437	50/50	2.8437
926212	AC1-099 E	1.6701	50/50	1.6701
927021	AC1-189 C	6.0732	50/50	6.0732
927022	AC1-189 E	3.0252	50/50	3.0252
927141	AC1-208 C	13.5254	50/50	13.5254
927142	AC1-208 E	6.0058	50/50	6.0058
932631	AC2-084 C	12.0970	50/50	12.0970
932632	AC2-084 E	5.9582	50/50	5.9582
934331	AD1-057 C O1	10.1862	50/50	10.1862
934332	AD1-057 E O1	5.4338	50/50	5.4338
936401	AD2-051 C O1	3.1726	Adder	3.73
936402	AD2-051 E O1	1.3623	Adder	1.6
938171	AE1-026 C O1	9.9093	Adder	11.66
938172	AE1-026 E O1	2.6143	Adder	3.08
938221	AE1-035 C	0.7995	Adder	0.94
938222	AE1-035 E	0.3938	Adder	0.46
940571	AE2-044 C	11.4862	50/50	11.4862
940572	AE2-044 E	4.9226	50/50	4.9226
941541	AE2-151 C	0.5014	Adder	0.59
941542	AE2-151 E	0.2700	Adder	0.32
942471	AE2-260 C O1	4.9565	Adder	5.83
942472	AE2-260 E O1	7.0302	Adder	8.27
943171	AE2-346 C	0.6332	Adder	0.74
943172	AE2-346 E	0.2714	Adder	0.32
944141	AF1-082	7.3840	50/50	7.3840
946281	AF1-292 C	0.5556	Adder	0.65
946282	AF1-292 E	0.3746	Adder	0.44
957521	AF2-046 C	3.7559	Adder	8.34
957522	AF2-046 E	1.8893	Adder	4.19
957861	AF2-080 C	5.5159	50/50	5.5159
957862	AF2-080 E	2.4452	50/50	2.4452
959231	AF2-214 C	24.8183	50/50	24.8183
959232	AF2-214 E	37.2070	50/50	37.2070
959511	AF2-242 C	1.3281	Adder	2.95
959512	AF2-242 E	0.8854	Adder	1.97
959731	AF2-264 C	0.5208	Adder	1.16
959732	AF2-264 E	0.2565	Adder	0.57
960081	AF2-299 C	0.4963	Adder	1.1
960082	AF2-299 E	0.3309	Adder	0.73
960122	AF2-303 E O1	15.7095	50/50	15.7095

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960331	AF2-324 C O1	10.2216	50/50	10.2216
960332	AF2-324 E O1	5.4879	50/50	5.4879
960351	AF2-326 C (Withdrawn : 07/22/2020)	6.9299	50/50	6.9299
960352	AF2-326 E (Withdrawn : 07/22/2020)	1.7325	50/50	1.7325
960831	AF2-374 C	0.3253	Adder	0.72
960832	AF2-374 E	0.5307	Adder	1.18
NEWTON	NEWTON	0.8596	Confirmed LTF	0.8596
FARMERCITY	FARMERCITY	0.0493	Confirmed LTF	0.0493
G-007A	G-007A	0.5131	Confirmed LTF	0.5131
VFT	VFT	1.3610	Confirmed LTF	1.3610
CALDERWOOD	CALDERWOOD	0.6834	Confirmed LTF	0.6834
PRAIRIE	PRAIRIE	2.3221	Confirmed LTF	2.3221
AC1-131	AC1-131	2.2905	LTF	2.2905
CHEOAH	CHEOAH	0.7007	Confirmed LTF	0.7007
EDWARDS	EDWARDS	0.2597	Confirmed LTF	0.2597
TILTON	TILTON	0.4593	Confirmed LTF	0.4593
GIBSON	GIBSON	0.4155	Confirmed LTF	0.4155
BLUEG	BLUEG	1.2812	Confirmed LTF	1.2812
TRIMBLE	TRIMBLE	0.4068	Confirmed LTF	0.4068
CATAWBA	CATAWBA	0.7382	Confirmed LTF	0.7382

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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
97781831	314561	6CAROLNA	DVP	314583	6LAKEVEW	DVP	1	DVP_P4-2: 246T247	breaker	459.0	131.19	133.7	DC	11.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314539	3UNCAMP	1.4053	Adder	1.65
314541	3WATKINS	0.5711	50/50	0.5711
314574	6EVERETS	0.2227	50/50	0.2227
314582	3KELFORD	0.6290	50/50	0.6290
314589	3MURPHYS	0.1233	50/50	0.1233
315115	1S HAMPT1	1.3410	50/50	1.3410
315126	1ROARAP2	2.6110	50/50	2.6110
315128	1ROARAP4	2.4916	50/50	2.4916
315292	1DOMTR78	1.4736	50/50	1.4736
315294	1DOMTR10	11.0717	50/50	11.0717
315602	1HOLLOMANSOL	2.5426	50/50	2.5426
315606	3AA2-053SOLA	2.6531	50/50	2.6531
315607	3AA1-063SOLA	2.3064	50/50	2.3064
315608	3AA2-088SOLA	1.2826	50/50	1.2826
315611	6Z1-036WIND	3.8033	Adder	4.47
315614	AA2-178 C	1.5334	50/50	1.5334
900672	V4-068 E	0.3918	50/50	0.3918
901082	W1-029 E	14.4727	Adder	17.03
907092	X1-038 E	3.5132	Adder	4.13
916042	<b>Z1-036 E (Suspended)</b>	<b>25.4821</b>	<b>Adder</b>	<b>29.98</b>
917122	Z2-027 E	0.3785	Adder	0.45
917332	Z2-043 E	1.5854	50/50	1.5854
918492	AA1-063AE OP	6.3046	50/50	6.3046
918512	AA1-065 E OP	6.6002	50/50	6.6002
918532	AA1-067 E	0.5533	50/50	0.5533
919692	AA2-053 E OP	6.6044	50/50	6.6044
919702	AA2-057 E OP	1.4685	Adder	1.73
920042	AA2-088 E OP	12.1315	50/50	12.1315
920592	AA2-165 E	0.2018	Adder	0.24
920671	AA2-174 C OP	0.1215	50/50	0.1215
920672	AA2-174 E OP	0.7632	50/50	0.7632
920692	AA2-178 E	3.8098	50/50	3.8098
923572	AB1-173 C OP	1.6126	50/50	1.6126
923573	AB1-173 E OP	0.7525	50/50	0.7525
923582	AB1-173AC OP	1.6126	50/50	1.6126
923583	AB1-173AE OP	0.7525	50/50	0.7525
923801	AB2-015 C OP	6.6240	50/50	6.6240
923802	AB2-015 E OP	5.4317	50/50	5.4317
923911	AB2-031 C O1	1.6006	50/50	1.6006
923912	AB2-031 E O1	0.7884	50/50	0.7884
923991	AB2-040 C O1	5.2558	50/50	5.2558

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923992	AB2-040 E O1	4.3002	50/50	4.3002
924501	AB2-099 C (Suspended)	0.8753	50/50	0.8753
924502	AB2-099 E (Suspended)	0.3751	50/50	0.3751
925121	AB2-169 C	1.0466	50/50	1.0466
925122	AB2-169 E	5.4450	50/50	5.4450
925172	AB2-174 E O1	2.5943	Adder	3.05
925781	AC1-054 C O1	6.8250	50/50	6.8250
925782	AC1-054 E O1	3.1441	50/50	3.1441
926201	AC1-098 C	6.3394	50/50	6.3394
926202	AC1-098 E	3.7766	50/50	3.7766
926211	AC1-099 C	2.1244	50/50	2.1244
926212	AC1-099 E	1.2476	50/50	1.2476
927141	AC1-208 C	8.9621	50/50	8.9621
927142	AC1-208 E	3.9795	50/50	3.9795
932631	AC2-084 C	9.0370	50/50	9.0370
932632	AC2-084 E	4.4510	50/50	4.4510
933991	AD1-023 C	16.1927	50/50	16.1927
933992	AD1-023 E	8.8153	50/50	8.8153
934521	AD1-076 C	59.2718	50/50	59.2718
934522	AD1-076 E	30.1811	50/50	30.1811
936361	AD2-046 C O1	4.4782	Adder	5.27
936362	AD2-046 E O1	2.0593	Adder	2.42
936401	AD2-051 C O1	14.9094	50/50	14.9094
936402	AD2-051 E O1	6.4019	50/50	6.4019
938171	AE1-026 C O1	42.1521	50/50	42.1521
938172	AE1-026 E O1	11.1207	50/50	11.1207
938221	AE1-035 C	3.6851	50/50	3.6851
938222	AE1-035 E	1.8151	50/50	1.8151
938771	AE1-103 C O1	2.1079	Adder	2.48
938772	AE1-103 E O1	2.9109	Adder	3.42
939181	AE1-148 C O1	4.3151	Adder	5.08
939182	AE1-148 E O1	2.8767	Adder	3.38
940491	AE2-034 C	6.6671	50/50	6.6671
940492	AE2-034 E	2.8573	50/50	2.8573
940661	AE2-053 O1	1.5982	Adder	1.88
941501	AE2-147 C	7.1964	Adder	8.47
941502	AE2-147 E	4.7976	Adder	5.64
941541	AE2-151 C	1.6871	50/50	1.6871
941542	AE2-151 E	0.9085	50/50	0.9085
942851	AE2-304 C	0.3142	Adder	0.37
942852	AE2-304 E	0.1222	Adder	0.14
943171	AE2-346 C	2.1008	50/50	2.1008
943172	AE2-346 E	0.9004	50/50	0.9004
944871	AF1-152 C	2.3988	Adder	2.82
944872	AF1-152 E	1.5992	Adder	1.88
945711	AF1-236 C O1	72.9887	50/50	72.9887
945712	AF1-236 E O1	119.0867	50/50	119.0867
946012	AF1-266 BAT	7.7860	Merchant Transmission	7.7860
957521	AF2-046 C	22.6277	50/50	22.6277
957522	AF2-046 E	11.3818	50/50	11.3818
957531	AF2-047 C	15.8423	50/50	15.8423
957532	AF2-047 E	7.9687	50/50	7.9687

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
959511	AF2-242 C	6.8918	50/50	6.8918
959512	AF2-242 E	4.5946	50/50	4.5946
959731	AF2-264 C	3.2046	50/50	3.2046
959732	AF2-264 E	1.5784	50/50	1.5784
960831	AF2-374 C	2.0586	50/50	2.0586
960832	AF2-374 E	3.3588	50/50	3.3588
961091	AF2-400 C	0.3577	50/50	0.3577
961092	AF2-400 E	0.5869	50/50	0.5869
WEC	WEC	0.0466	Confirmed LTF	0.0466
LGEE	LGEE	0.0873	Confirmed LTF	0.0873
CPL	CPL	0.5715	Confirmed LTF	0.5715
CBM-W2	CBM-W2	1.7772	Confirmed LTF	1.7772
NY	NY	0.0503	Confirmed LTF	0.0503
CBM-W1	CBM-W1	1.7514	Confirmed LTF	1.7514
TVA	TVA	0.3654	Confirmed LTF	0.3654
O-066	O-066	0.7325	Confirmed LTF	0.7325
CBM-S2	CBM-S2	3.2079	Confirmed LTF	3.2079
CBM-S1	CBM-S1	2.0533	Confirmed LTF	2.0533
G-007	G-007	0.1144	Confirmed LTF	0.1144
MADISON	MADISON	0.0927	Confirmed LTF	0.0927
MEC	MEC	0.2749	Confirmed LTF	0.2749

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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
98043335	314563	6CLUBHSE	DVP	940480	AE2-033 TAP	DVP	1	DVP_P1-2: LN 246	single	678.68	113.82	114.91	DC	7.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.1786	80/20	0.1786
314574	6EVERETS	0.2978	80/20	0.2978
314582	3KELFORD	0.5911	80/20	0.5911
314589	3MURPHYS	0.1034	80/20	0.1034
314623	3WITAKRS	0.2748	80/20	0.2748
314704	3LAWRENC	0.6598	80/20	0.6598
315126	1ROARAP2	2.4069	80/20	2.4069
315128	1ROARAP4	2.2969	80/20	2.2969
315131	1EDGEEMA (Deactivation : 22/04/2019)	10.4870	80/20	10.4870
315132	1EDGEEMB (Deactivation : 22/04/2019)	10.4870	80/20	10.4870
315136	1ROSEMG1	4.3510	80/20	4.3510
315137	1ROSEMS1	2.6981	80/20	2.6981
315138	1ROSEMG2	2.0392	80/20	2.0392
315139	1GASTONA	6.6397	80/20	6.6397
315141	1GASTONB	6.6397	80/20	6.6397
315158	1KERR 1	0.4004	80/20	0.4004
315159	1KERR 2	1.1211	80/20	1.1211
315160	1KERR 3	1.1211	80/20	1.1211
315161	1KERR 4	1.1211	80/20	1.1211
315162	1KERR 5	1.1211	80/20	1.1211
315163	1KERR 6	1.1211	80/20	1.1211
315164	1KERR 7	1.1211	80/20	1.1211
315294	1DOMTR10	7.7360	Adder	9.1
315601	1CONETOE2SOL	1.6679	80/20	1.6679
315602	1HOLLOMANSOL	1.9050	80/20	1.9050
315606	3AA2-053SOLA	2.3998	80/20	2.3998
315607	3AA1-063SOLA	2.0776	80/20	2.0776
315608	3AA2-088SOLA	1.0877	80/20	1.0877
315612	3AA2-057SOLA	1.5532	80/20	1.5532
920591	AA2-165 C	0.1842	80/20	0.1842
920671	AA2-174 C OP	0.1099	80/20	0.1099
922922	AB1-081 C OP	9.9915	80/20	9.9915
923262	AB1-132 C OP (Suspended)	29.3941	80/20	29.3941
923572	AB1-173 C OP	4.9282	80/20	4.9282
923582	AB1-173AC OP	4.9282	80/20	4.9282
923801	AB2-015 C OP	4.4408	Adder	5.22
923911	AB2-031 C O1	4.8917	80/20	4.8917
923991	AB2-040 C O1	16.0622	80/20	16.0622
924021	AB2-043 C O1	0.4591	80/20	0.4591

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924151	AB2-059 C OP	2.0312	80/20	2.0312
924301	AB2-077 C O1 (Suspended)	1.4190	Adder	1.67
924311	AB2-078 C O1 (Suspended)	1.4190	Adder	1.67
924321	AB2-079 C O1 (Suspended)	1.4190	Adder	1.67
924501	AB2-099 C (Suspended)	0.7159	80/20	0.7159
924511	AB2-100 C	6.1828	80/20	6.1828
925121	AB2-169 C	0.9963	80/20	0.9963
925171	AB2-174 C O1	2.7816	80/20	2.7816
925591	AC1-034 C	7.6275	80/20	7.6275
925611	AC1-036 C	0.5297	Adder	0.62
925781	AC1-054 C O1	8.2561	80/20	8.2561
926071	AC1-086 C	43.2863	80/20	43.2863
926201	AC1-098 C	8.1389	80/20	8.1389
926211	AC1-099 C	2.7274	80/20	2.7274
927021	AC1-189 C	9.0769	80/20	9.0769
927141	AC1-208 C	12.4295	80/20	12.4295
932631	AC2-084 C	11.6023	80/20	11.6023
933991	AD1-023 C	11.8446	80/20	11.8446
934331	AD1-057 C O1	15.6425	80/20	15.6425
934521	AD1-076 C	36.3805	Adder	42.8
936261	AD2-033 C	7.6218	Adder	8.97
936361	AD2-046 C O1	8.3608	80/20	8.3608
936401	AD2-051 C O1	10.9988	80/20	10.9988
936481	AD2-063 C O1	9.8440	Adder	11.58
938171	AE1-026 C O1	31.0221	80/20	31.0221
938221	AE1-035 C	2.7609	80/20	2.7609
939181	AE1-148 C O1	8.2053	80/20	8.2053
940241	AE2-006	0.2695	Adder	0.32
940491	AE2-034 C	3.7003	Adder	4.35
940571	AE2-044 C	4.9958	80/20	4.9958
940661	AE2-053 O1	3.0390	80/20	3.0390
941541	AE2-151 C	1.3703	80/20	1.3703
942451	AE2-258	1.9856	80/20	1.9856
942471	AE2-260 C O1	46.1557	80/20	46.1557
943171	AE2-346 C	1.7182	80/20	1.7182
943911	AF1-059	27.1930	80/20	27.1930
944141	AF1-082	3.2116	80/20	3.2116
945711	AF1-236 C O1	40.5095	Adder	47.66
946281	AF1-292 C	3.8607	80/20	3.8607
957521	AF2-046 C	18.8722	80/20	18.8722
957531	AF2-047 C	4.6601	Adder	10.34
957861	AF2-080 C	8.2440	80/20	8.2440
959231	AF2-214 C	10.7944	80/20	10.7944
959311	AF2-222 C	4.7514	Adder	10.55
959511	AF2-242 C	7.3963	80/20	7.3963
959731	AF2-264 C	2.6440	80/20	2.6440
960081	AF2-299 C	6.5069	80/20	6.5069
960331	AF2-324 C O1	8.8235	80/20	8.8235
960351	AF2-326 C (Withdrawn : 07/22/2020)	2.8450	80/20	2.8450

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>960811</b>	AF2-372 C	0.4751	Adder	1.05
<b>960831</b>	AF2-374 C	1.7405	80/20	1.7405
<b>961091</b>	AF2-400 C	0.1271	Adder	0.28
<b>WEC</b>	WEC	0.3200	Confirmed LTF	0.3200
<b>LGEE</b>	LGEE	0.6013	Confirmed LTF	0.6013
<b>CPL</b>	CPL	3.6442	Confirmed LTF	3.6442
<b>CBM-W2</b>	CBM-W2	12.5798	Confirmed LTF	12.5798
<b>NY</b>	NY	0.3744	Confirmed LTF	0.3744
<b>CBM-W1</b>	CBM-W1	11.9971	Confirmed LTF	11.9971
<b>TVA</b>	TVA	2.6222	Confirmed LTF	2.6222
<b>CBM-S2</b>	CBM-S2	22.6576	Confirmed LTF	22.6576
<b>CBM-S1</b>	CBM-S1	14.6629	Confirmed LTF	14.6629
<b>MADISON</b>	MADISON	0.7096	Confirmed LTF	0.7096
<b>MEC</b>	MEC	1.9179	Confirmed LTF	1.9179
<b>AA2-074</b>	AA2-074	2.4836	LTF	2.4836

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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
98043075	314569	6EARLEYS	DVP	314575	6NUCO TP	DVP	1	DVP_P1-2: LN 2092	single	571.52	166.69	169.11	DC	13.91

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.0506	80/20	0.0506
314574	6EVERETS	0.4657	80/20	0.4657
314582	3KELFORD	0.7842	80/20	0.7842
314589	3MURPHYS	0.1032	80/20	0.1032
314623	3WITAKRS	0.2359	80/20	0.2359
314704	3LAWRENC	0.1825	80/20	0.1825
315126	1ROARAP2	1.4097	80/20	1.4097
315128	1ROARAP4	1.3452	80/20	1.3452
315131	1EDGEEMA (Deactivation : 22/04/2019)	9.0439	80/20	9.0439
315132	1EDGEEMB (Deactivation : 22/04/2019)	9.0439	80/20	9.0439
315136	1ROSEMG1	2.3511	80/20	2.3511
315137	1ROSEMS1	1.4579	80/20	1.4579
315138	1ROSEMG2	1.1019	80/20	1.1019
315139	1GASTONA	3.4385	80/20	3.4385
315141	1GASTONB	3.4385	80/20	3.4385
315161	1KERR 4	0.5966	80/20	0.5966
315162	1KERR 5	0.5966	80/20	0.5966
315163	1KERR 6	0.5966	80/20	0.5966
315164	1KERR 7	0.5966	80/20	0.5966
315292	1DOMTR78	2.8729	80/20	2.8729
315294	1DOMTR10	21.5849	80/20	21.5849
315601	1CONETOE2SOL	1.9914	80/20	1.9914
315602	1HOLLOMANSOL	3.5568	80/20	3.5568
315606	3AA2-053SOLA	1.7258	80/20	1.7258
315607	3AA1-063SOLA	1.2920	80/20	1.2920
315608	3AA2-088SOLA	0.7480	80/20	0.7480
315611	6Z1-036WIND	13.8532	80/20	13.8532
315612	3AA2-057SOLA	1.3289	80/20	1.3289
315614	AA2-178 C	3.4313	80/20	3.4313
920591	AA2-165 C	0.1576	80/20	0.1576
920671	AA2-174 C OP	0.0790	80/20	0.0790
922922	AB1-081 C OP	8.5938	80/20	8.5938
923262	AB1-132 C OP (Suspended)	15.2225	80/20	15.2225
923572	AB1-173 C OP	1.8023	80/20	1.8023
923582	AB1-173AC OP	1.8023	80/20	1.8023
923831	AB2-022 C	-0.8983	Adder	-1.06
923911	AB2-031 C O1	1.7889	80/20	1.7889
923991	AB2-040 C O1	5.8740	80/20	5.8740
924151	AB2-059 C OP	1.7471	80/20	1.7471

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924501	AB2-099 C (Suspended)	1.0074	80/20	1.0074
924511	AB2-100 C	1.2658	80/20	1.2658
925121	AB2-169 C	2.0776	80/20	2.0776
925171	AB2-174 C O1	0.9219	80/20	0.9219
925591	AC1-034 C	6.5604	80/20	6.5604
925781	AC1-054 C O1	4.5595	80/20	4.5595
926071	AC1-086 C	22.4169	80/20	22.4169
926201	AC1-098 C	8.0374	80/20	8.0374
926211	AC1-099 C	2.6934	80/20	2.6934
927021	AC1-189 C	11.8954	80/20	11.8954
927141	AC1-208 C	10.1471	80/20	10.1471
932631	AC2-084 C	11.4575	80/20	11.4575
933991	AD1-023 C	28.2004	80/20	28.2004
934331	AD1-057 C O1	10.1856	80/20	10.1856
934521	AD1-076 C	113.9255	80/20	113.9255
935111	AD1-144 C	-0.7751	Adder	-0.91
936401	AD2-051 C O1	19.8648	80/20	19.8648
937541	AD2-215 C	-0.7831	Adder	-0.92
938171	AE1-026 C O1	69.7636	80/20	69.7636
938221	AE1-035 C	5.1550	80/20	5.1550
940491	AE2-034 C	14.9192	80/20	14.9192
940571	AE2-044 C	4.2969	80/20	4.2969
941541	AE2-151 C	2.0903	80/20	2.0903
942131	AE2-225 C	-1.0773	Adder	-1.27
942171	AE2-229 C	-1.0773	Adder	-1.27
942471	AE2-260 C O1	8.3171	80/20	8.3171
943171	AE2-346 C	2.4178	80/20	2.4178
943911	AF1-059	8.3370	80/20	8.3370
944141	AF1-082	2.7623	80/20	2.7623
945711	AF1-236 C O1	163.3302	80/20	163.3302
946281	AF1-292 C	0.9859	80/20	0.9859
957521	AF2-046 C	20.4051	80/20	20.4051
957531	AF2-047 C	35.4510	80/20	35.4510
957861	AF2-080 C	10.8039	80/20	10.8039
959231	AF2-214 C	9.2843	80/20	9.2843
959511	AF2-242 C	13.9123	80/20	13.9123
959731	AF2-264 C	3.3334	80/20	3.3334
960081	AF2-299 C	1.6616	80/20	1.6616
960331	AF2-324 C O1	7.6094	80/20	7.6094
960351	AF2-326 C (Withdrawn : 07/22/2020)	2.4520	80/20	2.4520
960831	AF2-374 C	2.1136	80/20	2.1136
WEC	WEC	0.3333	Confirmed LTF	0.3333
LGEE	LGEE	0.6224	Confirmed LTF	0.6224
CPL	CPL	3.7739	Confirmed LTF	3.7739
CBM-W2	CBM-W2	12.8665	Confirmed LTF	12.8665
NY	NY	0.2909	Confirmed LTF	0.2909
CBM-W1	CBM-W1	12.5600	Confirmed LTF	12.5600
TVA	TVA	2.6600	Confirmed LTF	2.6600
CBM-S2	CBM-S2	22.9639	Confirmed LTF	22.9639
CBM-S1	CBM-S1	14.9015	Confirmed LTF	14.9015
MADISON	MADISON	0.7056	Confirmed LTF	0.7056
MEC	MEC	1.9799	Confirmed LTF	1.9799

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>AA2-074</b>	AA2-074	2.5717	LTF	2.5717

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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
96941775	314574	6EVERETS	DVP	304451	6GREENVILE	CPL	1	DVP_P7-1: LN 2058-2181	tower	478.0	184.22	189.15	DC	23.55

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314539	3UNCAMP	0.9820	Adder	1.16
314541	3WATKINS	0.2993	Adder	0.35
314574	6EVERETS	0.6442	50/50	0.6442
314582	3KELFORD	0.3890	50/50	0.3890
315131	1EDGECSMA (Deactivation : 22/04/2019)	9.7655	50/50	9.7655
315132	1EDGECSMB (Deactivation : 22/04/2019)	9.7655	50/50	9.7655
315136	1ROSEMG1	1.7016	50/50	1.7016
315137	1ROSEMS1	1.0552	50/50	1.0552
315138	1ROSEMG2	0.7975	50/50	0.7975
315141	1GASTONB	2.3466	50/50	2.3466
315292	1DOMTR78	1.8394	50/50	1.8394
315294	1DOMTR10	13.8199	50/50	13.8199
315601	1CONETOE2SOL	2.5245	50/50	2.5245
315602	1HOLLOMANSOL	1.6852	50/50	1.6852
315611	6Z1-036WIND	3.5636	Adder	4.19
315614	AA2-178 C	1.4283	50/50	1.4283
900672	V4-068 E	0.1798	Adder	0.21
901082	W1-029 E	13.0911	Adder	15.4
907092	X1-038 E	2.4550	Adder	2.89
913392	Y1-086 E	0.7706	Adder	0.91
916042	Z1-036 E (Suspended)	23.8763	Adder	28.09
917122	Z2-027 E	0.4007	Adder	0.47
917332	Z2-043 E	0.9806	50/50	0.9806
917342	Z2-044 E	0.2246	Adder	0.26
917512	Z2-088 E OP1	6.2724	50/50	6.2724
918492	AA1-063AE OP	2.0465	Adder	2.41
918512	AA1-065 E OP	4.3745	50/50	4.3745
918532	AA1-067 E	1.6006	50/50	1.6006
919152	AA1-139 E	1.8100	Adder	2.13
919692	AA2-053 E OP	2.1059	Adder	2.48
919702	AA2-057 E OP	1.4646	Adder	1.72
920042	AA2-088 E OP	5.2584	Adder	6.19
920592	AA2-165 E	0.2013	Adder	0.24
920672	AA2-174 E OP	0.2433	Adder	0.29
920692	AA2-178 E	3.5486	50/50	3.5486
922922	AB1-081 C OP	3.5909	Adder	4.22
922923	AB1-081 E OP	1.5390	Adder	1.81
923262	AB1-132 C OP (Suspended)	8.8300	Adder	10.39

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923263	AB1-132 E OP (Suspended)	3.7843	Adder	4.45
923572	AB1-173 C OP	1.0108	Adder	1.19
923573	AB1-173 E OP	0.4717	Adder	0.55
923582	AB1-173AC OP	1.0108	Adder	1.19
923583	AB1-173AE OP	0.4717	Adder	0.55
923801	AB2-015 C OP	3.6431	Adder	4.29
923802	AB2-015 E OP	2.9873	Adder	3.51
923831	AB2-022 C	0.8079	Adder	0.95
923832	AB2-022 E	0.4350	Adder	0.51
923852	AB2-025 E	0.2989	Adder	0.35
923911	AB2-031 C O1	1.0033	Adder	1.18
923912	AB2-031 E O1	0.4942	Adder	0.58
923991	AB2-040 C O1	3.2946	Adder	3.88
923992	AB2-040 E O1	2.6956	Adder	3.17
924152	AB2-059 E OP	2.1802	Adder	2.56
924501	AB2-099 C (Suspended)	0.5225	50/50	0.5225
924502	AB2-099 E (Suspended)	0.2239	50/50	0.2239
924512	AB2-100 E	2.4516	Adder	2.88
925121	AB2-169 C	1.7406	50/50	1.7406
925122	AB2-169 E	9.0559	50/50	9.0559
925172	AB2-174 E O1	2.7662	Adder	3.25
925591	AC1-034 C	2.7413	Adder	3.23
925592	AC1-034 E	2.0680	Adder	2.43
926071	AC1-086 C	13.0033	Adder	15.3
926072	AC1-086 E	5.9182	Adder	6.96
926201	AC1-098 C	3.4152	Adder	4.02
926202	AC1-098 E	2.0346	Adder	2.39
926211	AC1-099 C	1.1445	Adder	1.35
926212	AC1-099 E	0.6721	Adder	0.79
927021	AC1-189 C	15.5976	50/50	15.5976
927022	AC1-189 E	7.7696	50/50	7.7696
927141	AC1-208 C	4.4227	Adder	5.2
927142	AC1-208 E	1.9639	Adder	2.31
932631	AC2-084 C	4.8685	Adder	5.73
932632	AC2-084 E	2.3979	Adder	2.82
933991	AD1-023 C	13.5602	50/50	13.5602
933992	AD1-023 E	7.3822	50/50	7.3822
934331	AD1-057 C O1	9.0197	50/50	9.0197
934332	AD1-057 E O1	4.8115	50/50	4.8115
934521	AD1-076 C	55.0866	50/50	55.0866
934522	AD1-076 E	28.0500	50/50	28.0500
936401	AD2-051 C O1	9.4655	50/50	9.4655
936402	AD2-051 E O1	4.0644	50/50	4.0644
938171	AE1-026 C O1	33.4414	50/50	33.4414
938172	AE1-026 E O1	8.8226	50/50	8.8226
938221	AE1-035 C	2.4424	50/50	2.4424
938222	AE1-035 E	1.2030	50/50	1.2030
938531	AE1-072 C O1	5.1803	Adder	6.09
938532	AE1-072 E O1	2.7005	Adder	3.18
938771	AE1-103 C O1	1.4730	Adder	1.73
938772	AE1-103 E O1	2.0341	Adder	2.39
940481	AE2-033 C	4.5821	Adder	5.39

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
940482	AE2-033 E	3.0891	Adder	3.63
940491	AE2-034 C	6.2101	50/50	6.2101
940492	AE2-034 E	2.6615	50/50	2.6615
940571	AE2-044 C	1.7955	Adder	2.11
940572	AE2-044 E	0.7695	Adder	0.91
941101	AE2-104 C O1	0.9879	Adder	1.16
941102	AE2-104 E O1	1.5706	Adder	1.85
941501	AE2-147 C	6.5094	Adder	7.66
941502	AE2-147 E	4.3396	Adder	5.11
941541	AE2-151 C	1.0340	50/50	1.0340
941542	AE2-151 E	0.5567	50/50	0.5567
942131	AE2-225 C	0.6120	Adder	0.72
942132	AE2-225 E	0.4080	Adder	0.48
942171	AE2-229 C	0.6120	Adder	0.72
942172	AE2-229 E	0.4080	Adder	0.48
942471	AE2-260 C O1	5.8246	Adder	6.85
942472	AE2-260 E O1	8.2616	Adder	9.72
942851	AE2-304 C	0.2951	Adder	0.35
942852	AE2-304 E	0.1148	Adder	0.14
943171	AE2-346 C	1.2540	50/50	1.2540
943172	AE2-346 E	0.5374	50/50	0.5374
943611	AF1-032 C	0.4998	Adder	0.59
943612	AF1-032 E	0.2652	Adder	0.31
944141	AF1-082	1.1542	Adder	1.36
944871	AF1-152 C	2.1698	Adder	2.55
944872	AF1-152 E	1.4465	Adder	1.7
945711	AF1-236 C O1	67.9860	50/50	67.9860
945712	AF1-236 E O1	110.9246	50/50	110.9246
946011	AF1-266	3.8356	Adder	4.51
946281	AF1-292 C	0.5991	Adder	0.7
946282	AF1-292 E	0.4039	Adder	0.48
957491	AF2-043 C	0.3244	Adder	0.72
957492	AF2-043 E	0.2162	Adder	0.48
957521	AF2-046 C	12.4840	50/50	12.4840
957522	AF2-046 E	6.2795	50/50	6.2795
957531	AF2-047 C	14.7564	50/50	14.7564
957532	AF2-047 E	7.4226	50/50	7.4226
957791	AF2-073 C (Withdrawn : 07/02/2020)	2.3407	Adder	5.2
957792	AF2-073 E (Withdrawn : 07/02/2020)	1.4965	Adder	3.32
957801	AF2-074 C (Withdrawn : 07/02/2020)	1.0403	Adder	2.31
957802	AF2-074 E (Withdrawn : 07/02/2020)	0.6651	Adder	1.48
957821	AF2-076 C O1	0.9148	Adder	2.03
957822	AF2-076 E O1	0.6099	Adder	1.35
957861	AF2-080 C	14.1664	50/50	14.1664
957862	AF2-080 E	6.2799	50/50	6.2799
957871	AF2-081 C O1	1.4922	Adder	3.31
957872	AF2-081 E O1	0.6395	Adder	1.42
958161	AF2-110 C	0.2159	Adder	0.48
958162	AF2-110 E	0.3376	Adder	0.75

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959231	AF2-214 C	2.0561	Adder	4.56
959232	AF2-214 E	3.0825	Adder	6.84
959511	AF2-242 C	14.1288	50/50	14.1288
959512	AF2-242 E	9.4192	50/50	9.4192
959731	AF2-264 C	1.8484	50/50	1.8484
959732	AF2-264 E	0.9104	50/50	0.9104
960081	AF2-299 C	0.5351	Adder	1.19
960082	AF2-299 E	0.3568	Adder	0.79
960122	AF2-303 E O1	12.6277	50/50	12.6277
960331	AF2-324 C O1	8.2165	50/50	8.2165
960332	AF2-324 E O1	4.4113	50/50	4.4113
960351	AF2-326 C (Withdrawn : 07/22/2020)	0.4689	Adder	1.04
960352	AF2-326 E (Withdrawn : 07/22/2020)	0.1172	Adder	0.26
960831	AF2-374 C	1.0851	50/50	1.0851
960832	AF2-374 E	1.7703	50/50	1.7703
961091	AF2-400 C	0.1043	Adder	0.23
961092	AF2-400 E	0.1711	Adder	0.38
NEWTON	NEWTON	1.6397	Confirmed LTF	1.6397
FARMERCITY	FARMERCITY	0.0953	Confirmed LTF	0.0953
G-007A	G-007A	1.1724	Confirmed LTF	1.1724
VFT	VFT	3.1218	Confirmed LTF	3.1218
CALDERWOOD	CALDERWOOD	1.3494	Confirmed LTF	1.3494
PRAIRIE	PRAIRIE	4.4867	Confirmed LTF	4.4867
AC1-131	AC1-131	5.7225	LTF	5.7225
CHEOAH	CHEOAH	1.3844	Confirmed LTF	1.3844
EDWARDS	EDWARDS	0.4918	Confirmed LTF	0.4918
TILTON	TILTON	0.8662	Confirmed LTF	0.8662
GIBSON	GIBSON	0.7862	Confirmed LTF	0.7862
BLUEG	BLUEG	2.4113	Confirmed LTF	2.4113
TRIMBLE	TRIMBLE	0.7646	Confirmed LTF	0.7646
CATAWBA	CATAWBA	1.4574	Confirmed LTF	1.4574

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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
98043247	314583	6LAKEVEW	DVP	924510	AB2-100 TAP	DVP	1	DVP_P1-2: LN 246	single	375.06	143.69	145.58	DC	7.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.2845	80/20	0.2845
314582	3KELFORD	0.4976	80/20	0.4976
314589	3MURPHYS	0.0771	80/20	0.0771
314623	3WITAKRS	0.2391	80/20	0.2391
315115	1S HAMPT1	0.7350	80/20	0.7350
315126	1ROARAP2	1.4379	80/20	1.4379
315128	1ROARAP4	1.3722	80/20	1.3722
315131	1EDGEEMA (Deactivation : 22/04/2019)	10.1604	80/20	10.1604
315132	1EDGEEMB (Deactivation : 22/04/2019)	10.1604	80/20	10.1604
315136	1ROSEMG1	4.5383	80/20	4.5383
315137	1ROSEMS1	2.8142	80/20	2.8142
315138	1ROSEMG2	2.1269	80/20	2.1269
315139	1GASTONA	6.9609	80/20	6.9609
315141	1GASTONB	6.9609	80/20	6.9609
315161	1KERR 4	0.3967	80/20	0.3967
315162	1KERR 5	0.3967	80/20	0.3967
315163	1KERR 6	0.3967	80/20	0.3967
315164	1KERR 7	0.3967	80/20	0.3967
315292	1DOMTR78	1.1664	80/20	1.1664
315294	1DOMTR10	8.7636	80/20	8.7636
315601	1CONETOE2SOL	1.6052	80/20	1.6052
315602	1HOLLOMANSOL	1.8182	80/20	1.8182
315606	3AA2-053SOLA	1.5271	80/20	1.5271
315607	3AA1-063SOLA	1.2895	80/20	1.2895
315608	3AA2-088SOLA	0.7371	80/20	0.7371
315612	3AA2-057SOLA	1.2816	80/20	1.2816
315614	AA2-178 C	0.9769	80/20	0.9769
920591	AA2-165 C	0.1520	80/20	0.1520
920671	AA2-174 C OP	0.0699	80/20	0.0699
922922	AB1-081 C OP	9.2949	80/20	9.2949
923262	AB1-132 C OP (Suspended)	30.8162	80/20	30.8162
923801	AB2-015 C OP	3.5565	80/20	3.5565
924151	AB2-059 C OP	1.8896	80/20	1.8896
924501	AB2-099 C (Suspended)	0.6038	80/20	0.6038
925121	AB2-169 C	0.9567	80/20	0.9567
925591	AC1-034 C	7.0956	80/20	7.0956
925781	AC1-054 C O1	3.6761	80/20	3.6761
926071	AC1-086 C	45.3806	80/20	45.3806
926201	AC1-098 C	6.4364	80/20	6.4364

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
926211	AC1-099 C	2.1569	80/20	2.1569
927021	AC1-189 C	8.7154	80/20	8.7154
927141	AC1-208 C	9.2895	80/20	9.2895
932631	AC2-084 C	9.1752	80/20	9.1752
933991	AD1-023 C	11.3908	80/20	11.3908
934331	AD1-057 C O1	15.9055	80/20	15.9055
934521	AD1-076 C	41.3318	80/20	41.3318
936401	AD2-051 C O1	10.5361	80/20	10.5361
938171	AE1-026 C O1	29.7744	80/20	29.7744
938221	AE1-035 C	2.6351	80/20	2.6351
938771	AE1-103 C O1	1.2961	80/20	1.2961
940491	AE2-034 C	4.2475	80/20	4.2475
940571	AE2-044 C	4.6474	80/20	4.6474
941541	AE2-151 C	1.1943	80/20	1.1943
943171	AE2-346 C	1.4492	80/20	1.4492
944141	AF1-082	2.9876	80/20	2.9876
945711	AF1-236 C O1	46.4996	80/20	46.4996
957521	AF2-046 C	14.4520	80/20	14.4520
957531	AF2-047 C	10.0928	80/20	10.0928
957861	AF2-080 C	7.9157	80/20	7.9157
959231	AF2-214 C	10.0418	80/20	10.0418
959511	AF2-242 C	7.0877	80/20	7.0877
959731	AF2-264 C	2.1377	80/20	2.1377
960331	AF2-324 C O1	8.5488	80/20	8.5488
960351	AF2-326 C (Withdrawn : 07/22/2020)	2.6203	80/20	2.6203
960831	AF2-374 C	1.3590	80/20	1.3590
961091	AF2-400 C	0.1921	80/20	0.1921
WEC	WEC	0.2703	Confirmed LTF	0.2703
LGEE	LGEE	0.5055	Confirmed LTF	0.5055
CPLE	CPLE	3.1706	Confirmed LTF	3.1706
CBM-W2	CBM-W2	10.6470	Confirmed LTF	10.6470
NY	NY	0.2754	Confirmed LTF	0.2754
CBM-W1	CBM-W1	10.1581	Confirmed LTF	10.1581
TVA	TVA	2.2176	Confirmed LTF	2.2176
CBM-S2	CBM-S2	19.4208	Confirmed LTF	19.4208
CBM-S1	CBM-S1	12.3881	Confirmed LTF	12.3881
MADISON	MADISON	0.6088	Confirmed LTF	0.6088
MEC	MEC	1.6208	Confirmed LTF	1.6208
AA2-074	AA2-074	2.1604	LTF	2.1604

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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
96941410	314591	6NASH	DVP	304226	6PA-RMOUNT#4	CPL	1	DVP_P1-2: LN 2058	single	478.0	106.16	107.33	DC	5.62

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314435	6SAPONY	0.1795	80/20	0.1795
314572	3EMPORIA	0.0495	80/20	0.0495
314574	6EVERETS	0.2332	80/20	0.2332
314582	3KELFORD	0.3455	80/20	0.3455
314589	3MURPHYS	0.0594	80/20	0.0594
314623	3WITAKRS	0.2214	80/20	0.2214
314704	3LAWRENC	0.1687	80/20	0.1687
315115	1S HAMPT1	0.7687	80/20	0.7687
315126	1ROARAP2	1.1465	80/20	1.1465
315128	1ROARAP4	1.0941	80/20	1.0941
315131	1EDGEEMA (Deactivation : 22/04/2019)	26.1992	80/20	26.1992
315132	1EDGEEMB (Deactivation : 22/04/2019)	26.1992	80/20	26.1992
315136	1ROSEMG1	2.9849	80/20	2.9849
315137	1ROSEMS1	1.8510	80/20	1.8510
315138	1ROSEMG2	1.3990	80/20	1.3990
315139	1GASTONA	3.6772	80/20	3.6772
315141	1GASTONB	3.6772	80/20	3.6772
315292	1DOMTR78	0.8777	80/20	0.8777
315294	1DOMTR10	6.5947	80/20	6.5947
315601	1CONETOE2SOL	2.8147	80/20	2.8147
315602	1HOLLOMANSOL	1.0595	80/20	1.0595
315605	6W1-029WIND	0.2467	80/20	0.2467
315606	3AA2-053SOLA	1.1705	80/20	1.1705
315607	3AA1-063SOLA	1.0545	80/20	1.0545
315608	3AA2-088SOLA	0.6494	80/20	0.6494
315611	6Z1-036WIND	2.4749	80/20	2.4749
315612	3AA2-057SOLA	1.1428	80/20	1.1428
315614	AA2-178 C	0.7978	80/20	0.7978
920591	AA2-165 C	0.1355	80/20	0.1355
920671	AA2-174 C OP	0.0536	80/20	0.0536
922922	AB1-081 C OP	10.5510	80/20	10.5510
923262	AB1-132 C OP (Suspended)	16.2792	80/20	16.2792
923572	AB1-173 C OP	1.6336	80/20	1.6336
923582	AB1-173AC OP	1.6336	80/20	1.6336
923801	AB2-015 C OP	3.9820	80/20	3.9820
923911	AB2-031 C O1	1.6215	80/20	1.6215
923991	AB2-040 C O1	5.3244	80/20	5.3244
924151	AB2-059 C OP	2.1450	80/20	2.1450
924501	AB2-099 C (Suspended)	0.4014	80/20	0.4014

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924511	AB2-100 C	1.4928	80/20	1.4928
925121	AB2-169 C	0.7426	80/20	0.7426
925171	AB2-174 C O1	0.8593	80/20	0.8593
925591	AC1-034 C	8.0545	80/20	8.0545
925781	AC1-054 C O1	2.8182	80/20	2.8182
926071	AC1-086 C	23.9731	80/20	23.9731
926201	AC1-098 C	5.1403	80/20	5.1403
926211	AC1-099 C	1.7225	80/20	1.7225
927021	AC1-189 C	12.7300	80/20	12.7300
927141	AC1-208 C	7.7959	80/20	7.7959
932631	AC2-084 C	7.3277	80/20	7.3277
933991	AD1-023 C	7.7172	80/20	7.7172
934331	AD1-057 C O1	20.9211	80/20	20.9211
934521	AD1-076 C	30.1201	80/20	30.1201
936401	AD2-051 C O1	6.1146	80/20	6.1146
938171	AE1-026 C O1	19.4515	80/20	19.4515
938221	AE1-035 C	1.5355	80/20	1.5355
938771	AE1-103 C O1	1.5796	80/20	1.5796
940481	AE2-033 C	7.3096	80/20	7.3096
940491	AE2-034 C	3.4688	80/20	3.4688
940571	AE2-044 C	5.2755	80/20	5.2755
941501	AE2-147 C	4.7673	80/20	4.7673
941541	AE2-151 C	0.7628	80/20	0.7628
942471	AE2-260 C O1	10.0150	80/20	10.0150
942851	AE2-304 C	0.2096	80/20	0.2096
943171	AE2-346 C	0.9633	80/20	0.9633
943911	AF1-059	6.8380	80/20	6.8380
944141	AF1-082	3.3914	80/20	3.3914
944871	AF1-152 C	1.5891	80/20	1.5891
945711	AF1-236 C O1	37.9749	80/20	37.9749
946011	AF1-266	6.1187	80/20	6.1187
946281	AF1-292 C	0.9992	80/20	0.9992
957521	AF2-046 C	10.7844	80/20	10.7844
957531	AF2-047 C	8.2425	80/20	8.2425
957791	AF2-073 C (Withdrawn : 07/02/2020)	3.4329	80/20	3.4329
957801	AF2-074 C (Withdrawn : 07/02/2020)	1.5257	80/20	1.5257
957861	AF2-080 C	11.5619	80/20	11.5619
959231	AF2-214 C	11.3988	80/20	11.3988
959511	AF2-242 C	5.6218	80/20	5.6218
959731	AF2-264 C	1.4952	80/20	1.4952
960081	AF2-299 C	1.6841	80/20	1.6841
960331	AF2-324 C O1	22.0434	80/20	22.0434
960351	AF2-326 C (Withdrawn : 07/22/2020)	2.5194	80/20	2.5194
960831	AF2-374 C	0.9226	80/20	0.9226
961091	AF2-400 C	0.2150	80/20	0.2150
NEWTON	NEWTON	1.3582	Confirmed LTF	1.3582
FARMERCITY	FARMERCITY	0.0779	Confirmed LTF	0.0779
G-007A	G-007A	0.9063	Confirmed LTF	0.9063
VFT	VFT	2.4123	Confirmed LTF	2.4123
CALDERWOOD	CALDERWOOD	1.0810	Confirmed LTF	1.0810

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>PRAIRIE</b>	PRAIRIE	3.6653	Confirmed LTF	3.6653
<b>AC1-131</b>	AC1-131	3.5783	LTF	3.5783
<b>CHEOAH</b>	CHEOAH	1.1086	Confirmed LTF	1.1086
<b>EDWARDS</b>	EDWARDS	0.4095	Confirmed LTF	0.4095
<b>TILTON</b>	TILTON	0.7245	Confirmed LTF	0.7245
<b>GIBSON</b>	GIBSON	0.6557	Confirmed LTF	0.6557
<b>BLUEG</b>	BLUEG	2.0259	Confirmed LTF	2.0259
<b>TRIMBLE</b>	TRIMBLE	0.6428	Confirmed LTF	0.6428
<b>CATAWBA</b>	CATAWBA	1.1687	Confirmed LTF	1.1687

## 11.6.21 Index 21

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
98043044	314616	6TRWBRDG	DVP	933990	AD1-023 TAP	DVP	1	DVP_P1-2: LN 2092	single	571.52	139.15	141.66	DC	14.38

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.1347	80/20	0.1347
315292	1DOMTR78	5.1530	80/20	5.1530
315294	1DOMTR10	38.7161	80/20	38.7161
315611	6Z1-036WIND	29.2449	80/20	29.2449
315614	AA2-178 C	7.2436	80/20	7.2436
925121	AB2-169 C	2.8959	80/20	2.8959
927021	AC1-189 C	2.9754	80/20	2.9754
934521	AD1-076 C	240.4865	80/20	240.4865
940491	AE2-034 C	31.4950	80/20	31.4950
945711	AF1-236 C O1	344.7948	80/20	344.7948
957531	AF2-047 C	74.8380	80/20	74.8380
957861	AF2-080 C	2.7024	80/20	2.7024
959511	AF2-242 C	14.3837	80/20	14.3837
WEC	WEC	0.0476	Confirmed LTF	0.0476
LGEE	LGEE	0.0890	Confirmed LTF	0.0890
CPLE	CPLE	0.6787	Confirmed LTF	0.6787
CBM-W2	CBM-W2	1.9738	Confirmed LTF	1.9738
NY	NY	0.0597	Confirmed LTF	0.0597
CBM-W1	CBM-W1	1.7764	Confirmed LTF	1.7764
TVA	TVA	0.4158	Confirmed LTF	0.4158
CBM-S2	CBM-S2	3.8957	Confirmed LTF	3.8957
CBM-S1	CBM-S1	2.3089	Confirmed LTF	2.3089
MADISON	MADISON	0.1230	Confirmed LTF	0.1230
MEC	MEC	0.2924	Confirmed LTF	0.2924

## 11.6.22 Index 22

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
98043025	314620	6CASHIE	DVP	314569	6EARLEYS	DVP	1	DVP_P1-2: LN 2092	single	571.52	175.42	177.94	DC	14.38

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.1347	80/20	0.1347
315292	1DOMTR78	5.1530	80/20	5.1530
315294	1DOMTR10	38.7161	80/20	38.7161
315611	6Z1-036WIND	29.2449	80/20	29.2449
315614	AA2-178 C	7.2436	80/20	7.2436
925121	AB2-169 C	2.8959	80/20	2.8959
927021	AC1-189 C	2.9754	80/20	2.9754
933991	AD1-023 C	62.3814	80/20	62.3814
934521	AD1-076 C	240.4865	80/20	240.4865
938171	AE1-026 C O1	158.2513	80/20	158.2513
940491	AE2-034 C	31.4950	80/20	31.4950
945711	AF1-236 C O1	344.7948	80/20	344.7948
957531	AF2-047 C	74.8380	80/20	74.8380
957861	AF2-080 C	2.7024	80/20	2.7024
959511	AF2-242 C	14.3837	80/20	14.3837
WEC	WEC	0.0476	Confirmed LTF	0.0476
LGEE	LGEE	0.0890	Confirmed LTF	0.0890
CPL	CPL	0.6787	Confirmed LTF	0.6787
CBM-W2	CBM-W2	1.9738	Confirmed LTF	1.9738
NY	NY	0.0597	Confirmed LTF	0.0597
CBM-W1	CBM-W1	1.7764	Confirmed LTF	1.7764
TVA	TVA	0.4158	Confirmed LTF	0.4158
CBM-S2	CBM-S2	3.8957	Confirmed LTF	3.8957
CBM-S1	CBM-S1	2.3089	Confirmed LTF	2.3089
MADISON	MADISON	0.1230	Confirmed LTF	0.1230
MEC	MEC	0.2924	Confirmed LTF	0.2924

## 11.6.23 Index 23

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
98569009	314637	6EDENTON	DVP	313885	6WALBMRL	DVP	1	DVP_P7-1: LN 25-2034-A	tower	897.0	207.75	210.09	DC	20.96

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315292	1DOMTR78	6.8353	50/50	6.8353
315294	1DOMTR10	51.3559	50/50	51.3559
315614	AA2-178 C	8.7358	50/50	8.7358
920692	AA2-178 E	21.7046	50/50	21.7046
925121	AB2-169 C	3.2999	50/50	3.2999
925122	AB2-169 E	17.1686	50/50	17.1686
934521	AD1-076 C	282.9665	50/50	282.9665
934522	AD1-076 E	144.0861	50/50	144.0861
940491	AE2-034 C	37.9831	50/50	37.9831
940492	AE2-034 E	16.2785	50/50	16.2785
945711	AF1-236 C O1	415.8247	50/50	415.8247
945712	AF1-236 E O1	678.4509	50/50	678.4509
957531	AF2-047 C	90.2551	50/50	90.2551
957532	AF2-047 E	45.3989	50/50	45.3989
959511	AF2-242 C	12.5770	50/50	12.5770
959512	AF2-242 E	8.3846	50/50	8.3846
WEC	WEC	0.0271	Confirmed LTF	0.0271
LGEE	LGEE	0.0513	Confirmed LTF	0.0513
CPLE	CPLE	0.4624	Confirmed LTF	0.4624
CBM-W2	CBM-W2	1.2367	Confirmed LTF	1.2367
NY	NY	0.0619	Confirmed LTF	0.0619
CBM-W1	CBM-W1	0.9883	Confirmed LTF	0.9883
TVA	TVA	0.2702	Confirmed LTF	0.2702
O-066	O-066	0.8534	Confirmed LTF	0.8534
CBM-S2	CBM-S2	2.6761	Confirmed LTF	2.6761
CBM-S1	CBM-S1	1.4825	Confirmed LTF	1.4825
G-007	G-007	0.1321	Confirmed LTF	0.1321
MADISON	MADISON	0.0907	Confirmed LTF	0.0907
MEC	MEC	0.1748	Confirmed LTF	0.1748

11.6.24 Index 24

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
97781655	314638	6ELIZ CT	DVP	314647	6SHAWBRO	DVP	1	DVP_P4-2: 246T247	breaker	699.0	243.11	245.77	DC	18.63

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.2925	50/50	0.2925
314582	3KELFORD	0.4234	50/50	0.4234
314589	3MURPHYS	0.0577	50/50	0.0577
314638	6ELIZ CT	1.0159	50/50	1.0159
314639	6TANGLEW	1.7856	50/50	1.7856
315292	1DOMTR78	2.8225	50/50	2.8225
315294	1DOMTR10	21.2064	50/50	21.2064
315601	1CONETOE2SOL	1.2226	50/50	1.2226
315602	1HOLLOMANSOL	1.8876	50/50	1.8876
315605	6W1-029WIND	3.1395	50/50	3.1395
315606	3AA2-053SOLA	0.9449	50/50	0.9449
315611	6Z1-036WIND	23.6387	50/50	23.6387
315614	AA2-178 C	4.4565	50/50	4.4565
900672	V4-068 E	0.1834	50/50	0.1834
901082	W1-029 E	122.0103	50/50	122.0103
913392	Y1-086 E	9.6096	50/50	9.6096
916042	Z1-036 E (Suspended)	158.3791	50/50	158.3791
917122	Z2-027 E	4.4364	50/50	4.4364
917332	Z2-043 E	1.0673	50/50	1.0673
917512	Z2-088 E OP1	3.0377	50/50	3.0377
918512	AA1-065 E OP	4.8998	50/50	4.8998
918532	AA1-067 E	0.7268	50/50	0.7268
919692	AA2-053 E OP	2.3521	50/50	2.3521
919702	AA2-057 E OP	1.7580	Adder	2.07
920592	AA2-165 E	0.2416	Adder	0.28
920671	AA2-174 C OP	0.0433	50/50	0.0433
920672	AA2-174 E OP	0.2718	50/50	0.2718
920692	AA2-178 E	11.0724	50/50	11.0724
923262	AB1-132 C OP (Suspended)	7.1000	Adder	8.35
923263	AB1-132 E OP (Suspended)	3.0429	Adder	3.58
923831	AB2-022 C	10.0746	50/50	10.0746
923832	AB2-022 E	5.4248	50/50	5.4248
924501	AB2-099 C (Suspended)	0.5431	50/50	0.5431
924502	AB2-099 E (Suspended)	0.2328	50/50	0.2328
925121	AB2-169 C	1.8456	50/50	1.8456
925122	AB2-169 E	9.6022	50/50	9.6022
926071	AC1-086 C	10.4556	Adder	12.3
926072	AC1-086 E	4.7587	Adder	5.6
926201	AC1-098 C	4.4387	50/50	4.4387
926202	AC1-098 E	2.6443	50/50	2.6443

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
926211	AC1-099 C	1.4874	50/50	1.4874
926212	AC1-099 E	0.8736	50/50	0.8736
927021	AC1-189 C	7.3671	50/50	7.3671
927022	AC1-189 E	3.6697	50/50	3.6697
927141	AC1-208 C	5.6746	50/50	5.6746
927142	AC1-208 E	2.5198	50/50	2.5198
932631	AC2-084 C	6.3275	50/50	6.3275
932632	AC2-084 E	3.1165	50/50	3.1165
933991	AD1-023 C	25.6993	50/50	25.6993
933992	AD1-023 E	13.9907	50/50	13.9907
934521	AD1-076 C	120.4421	50/50	120.4421
934522	AD1-076 E	61.3289	50/50	61.3289
936401	AD2-051 C O1	10.5471	50/50	10.5471
936402	AD2-051 E O1	4.5288	50/50	4.5288
938171	AE1-026 C O1	57.9119	50/50	57.9119
938172	AE1-026 E O1	15.2785	50/50	15.2785
938221	AE1-035 C	2.7357	50/50	2.7357
938222	AE1-035 E	1.3475	50/50	1.3475
940491	AE2-034 C	19.3767	50/50	19.3767
940492	AE2-034 E	8.3043	50/50	8.3043
941501	AE2-147 C	60.6681	50/50	60.6681
941502	AE2-147 E	40.4454	50/50	40.4454
941541	AE2-151 C	1.1190	50/50	1.1190
941542	AE2-151 E	0.6025	50/50	0.6025
942851	AE2-304 C	2.3247	50/50	2.3247
942852	AE2-304 E	0.9041	50/50	0.9041
943171	AE2-346 C	1.3035	50/50	1.3035
943172	AE2-346 E	0.5586	50/50	0.5586
944871	AF1-152 C	20.2227	50/50	20.2227
944872	AF1-152 E	13.4818	50/50	13.4818
945711	AF1-236 C O1	212.1287	50/50	212.1287
945712	AF1-236 E O1	346.1048	50/50	346.1048
957521	AF2-046 C	11.3053	50/50	11.3053
957522	AF2-046 E	5.6867	50/50	5.6867
957531	AF2-047 C	46.0427	50/50	46.0427
957532	AF2-047 E	23.1598	50/50	23.1598
957861	AF2-080 C	6.6911	50/50	6.6911
957862	AF2-080 E	2.9661	50/50	2.9661
959511	AF2-242 C	11.1792	50/50	11.1792
959512	AF2-242 E	7.4528	50/50	7.4528
959731	AF2-264 C	1.8162	50/50	1.8162
959732	AF2-264 E	0.8946	50/50	0.8946
960831	AF2-374 C	1.1373	50/50	1.1373
960832	AF2-374 E	1.8555	50/50	1.8555
WEC	WEC	0.1931	Confirmed LTF	0.1931
LGEE	LGEE	0.3611	Confirmed LTF	0.3611
CPL	CPL	2.2670	Confirmed LTF	2.2670
CBM-W2	CBM-W2	7.5512	Confirmed LTF	7.5512
NY	NY	0.1864	Confirmed LTF	0.1864
CBM-W1	CBM-W1	7.2683	Confirmed LTF	7.2683
TVA	TVA	1.5680	Confirmed LTF	1.5680
O-066	O-066	2.7350	Confirmed LTF	2.7350

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>CBM-S2</b>	CBM-S2	13.7102	Confirmed LTF	13.7102
<b>CBM-S1</b>	CBM-S1	8.7671	Confirmed LTF	8.7671
<b>G-007</b>	G-007	0.4274	Confirmed LTF	0.4274
<b>MADISON</b>	MADISON	0.4234	Confirmed LTF	0.4234
<b>MEC</b>	MEC	1.1536	Confirmed LTF	1.1536
<b>AA2-074</b>	AA2-074	1.5448	LTF	1.5448

11.6.25 Index 25

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
97781774	314639	6TANGLEW	DVP	313851	6ECITYDP2	DVP	1	DVP_P4-2: 246T247	breaker	1204.0	148.06	149.61	DC	18.64

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.2926	50/50	0.2926
314582	3KELFORD	0.4235	50/50	0.4235
314589	3MURPHYS	0.0577	50/50	0.0577
314639	6TANGLEW	1.7857	50/50	1.7857
315131	1EDGEEMA (Deactivation : 22/04/2019)	4.5435	Adder	5.35
315132	1EDGEEMB (Deactivation : 22/04/2019)	4.5435	Adder	5.35
315292	1DOMTR78	2.8229	50/50	2.8229
315294	1DOMTR10	21.2090	50/50	21.2090
315601	1CONETOE2SOL	1.2230	50/50	1.2230
315602	1HOLLOMANSOL	1.8880	50/50	1.8880
315605	6W1-029WIND	3.1396	50/50	3.1396
315606	3AA2-053SOLA	0.9453	50/50	0.9453
315611	6Z1-036WIND	23.6402	50/50	23.6402
315614	AA2-178 C	4.4569	50/50	4.4569
900672	V4-068 E	0.1834	50/50	0.1834
901082	W1-029 E	122.0175	50/50	122.0175
916042	Z1-036 E (Suspended)	158.3896	50/50	158.3896
917122	Z2-027 E	4.4366	50/50	4.4366
917332	Z2-043 E	1.0676	50/50	1.0676
917342	Z2-044 E	0.2871	Adder	0.34
917512	Z2-088 E OP1	3.0386	50/50	3.0386
918512	AA1-065 E OP	4.9008	50/50	4.9008
918532	AA1-067 E	0.7270	50/50	0.7270
919692	AA2-053 E OP	2.3531	50/50	2.3531
919702	AA2-057 E OP	1.7587	Adder	2.07
920592	AA2-165 E	0.2417	Adder	0.28
920671	AA2-174 C OP	0.0433	50/50	0.0433
920672	AA2-174 E OP	0.2719	50/50	0.2719
920692	AA2-178 E	11.0734	50/50	11.0734
922922	AB1-081 C OP	4.2759	Adder	5.03
922923	AB1-081 E OP	1.8325	Adder	2.16
923262	AB1-132 C OP (Suspended)	7.1029	Adder	8.36
923263	AB1-132 E OP (Suspended)	3.0441	Adder	3.58
923831	AB2-022 C	-2.4861	Adder	-2.92
924152	AB2-059 E OP	2.5961	Adder	3.05
924501	AB2-099 C (Suspended)	0.5433	50/50	0.5433
924502	AB2-099 E (Suspended)	0.2328	50/50	0.2328
925121	AB2-169 C	1.8459	50/50	1.8459

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925122	AB2-169 E	9.6037	50/50	9.6037
925591	AC1-034 C	3.2642	Adder	3.84
925592	AC1-034 E	2.4625	Adder	2.9
926071	AC1-086 C	10.4598	Adder	12.31
926072	AC1-086 E	4.7606	Adder	5.6
926201	AC1-098 C	4.4402	50/50	4.4402
926202	AC1-098 E	2.6452	50/50	2.6452
926211	AC1-099 C	1.4879	50/50	1.4879
926212	AC1-099 E	0.8739	50/50	0.8739
927021	AC1-189 C	7.3692	50/50	7.3692
927022	AC1-189 E	3.6708	50/50	3.6708
927141	AC1-208 C	5.6768	50/50	5.6768
927142	AC1-208 E	2.5208	50/50	2.5208
932631	AC2-084 C	6.3296	50/50	6.3296
932632	AC2-084 E	3.1176	50/50	3.1176
933991	AD1-023 C	25.7024	50/50	25.7024
933992	AD1-023 E	13.9924	50/50	13.9924
934331	AD1-057 C O1	4.9380	Adder	5.81
934332	AD1-057 E O1	2.6341	Adder	3.1
934521	AD1-076 C	120.4549	50/50	120.4549
934522	AD1-076 E	61.3355	50/50	61.3355
936401	AD2-051 C O1	10.5492	50/50	10.5492
936402	AD2-051 E O1	4.5297	50/50	4.5297
938171	AE1-026 C O1	57.9195	50/50	57.9195
938172	AE1-026 E O1	15.2805	50/50	15.2805
938221	AE1-035 C	2.7363	50/50	2.7363
938222	AE1-035 E	1.3477	50/50	1.3477
940491	AE2-034 C	19.3784	50/50	19.3784
940492	AE2-034 E	8.3050	50/50	8.3050
940571	AE2-044 C	2.1380	Adder	2.52
940572	AE2-044 E	0.9163	Adder	1.08
941501	AE2-147 C	60.6717	50/50	60.6717
941502	AE2-147 E	40.4478	50/50	40.4478
941541	AE2-151 C	1.1192	50/50	1.1192
941542	AE2-151 E	0.6026	50/50	0.6026
942851	AE2-304 C	2.3249	50/50	2.3249
942852	AE2-304 E	0.9041	50/50	0.9041
943171	AE2-346 C	1.3038	50/50	1.3038
943172	AE2-346 E	0.5588	50/50	0.5588
944141	AF1-082	1.3744	Adder	1.62
944871	AF1-152 C	20.2239	50/50	20.2239
944872	AF1-152 E	13.4826	50/50	13.4826
945711	AF1-236 C O1	212.1471	50/50	212.1471
945712	AF1-236 E O1	346.1348	50/50	346.1348
957521	AF2-046 C	11.3093	50/50	11.3093
957522	AF2-046 E	5.6887	50/50	5.6887
957531	AF2-047 C	46.0467	50/50	46.0467
957532	AF2-047 E	23.1618	50/50	23.1618
957861	AF2-080 C	6.6930	50/50	6.6930
957862	AF2-080 E	2.9670	50/50	2.9670
959231	AF2-214 C	2.4483	Adder	5.43
959232	AF2-214 E	3.6705	Adder	8.15

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959511	AF2-242 C	11.1811	50/50	11.1811
959512	AF2-242 E	7.4541	50/50	7.4541
959731	AF2-264 C	1.8168	50/50	1.8168
959732	AF2-264 E	0.8948	50/50	0.8948
960122	AF2-303 E O1	3.1139	Adder	6.91
960331	AF2-324 C O1	2.0261	Adder	4.5
960332	AF2-324 E O1	1.0878	Adder	2.41
960351	AF2-326 C (Withdrawn : 07/22/2020)	0.6454	Adder	1.43
960352	AF2-326 E (Withdrawn : 07/22/2020)	0.1614	Adder	0.36
960831	AF2-374 C	1.1376	50/50	1.1376
960832	AF2-374 E	1.8560	50/50	1.8560
WEC	WEC	0.1944	Confirmed LTF	0.1944
LGEE	LGEE	0.3634	Confirmed LTF	0.3634
CPL	CPL	2.2696	Confirmed LTF	2.2696
CBM-W2	CBM-W2	7.5839	Confirmed LTF	7.5839
NY	NY	0.1841	Confirmed LTF	0.1841
CBM-W1	CBM-W1	7.3183	Confirmed LTF	7.3183
TVA	TVA	1.5736	Confirmed LTF	1.5736
O-066	O-066	2.7082	Confirmed LTF	2.7082
CBM-S2	CBM-S2	13.7333	Confirmed LTF	13.7333
CBM-S1	CBM-S1	8.8012	Confirmed LTF	8.8012
G-007	G-007	0.4233	Confirmed LTF	0.4233
MADISON	MADISON	0.4234	Confirmed LTF	0.4234
MEC	MEC	1.1600	Confirmed LTF	1.1600
AA2-074	AA2-074	1.5467	LTF	1.5467

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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
97781962	314645	6SLIGO L269	DVP	314466	6FENTRES	DVP	1	DVP_P4-2: 246T247	breaker	699.0	110.88	111.46	DC	9.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314638	6ELIZ CT	0.4967	50/50	0.4967
314639	6TANGLEW	0.8729	50/50	0.8729
314643	3O INLET	1.0656	50/50	1.0656
315294	1DOMTR10	8.8062	Adder	10.36
315603	6AA1-139SOLA	4.0686	50/50	4.0686
315605	6W1-029WIND	1.5347	50/50	1.5347
315611	6Z1-036WIND	11.5545	50/50	11.5545
315614	AA2-178 C	2.1779	50/50	2.1779
901082	W1-029 E	59.6431	50/50	59.6431
913392	Y1-086 E	4.6979	50/50	4.6979
916042	Z1-036 E (Suspended)	77.4154	50/50	77.4154
917122	Z2-027 E	2.1688	50/50	2.1688
917332	Z2-043 E	0.4426	Adder	0.52
917512	Z2-088 E OP1	1.2591	Adder	1.48
918512	AA1-065 E OP	2.0333	Adder	2.39
918532	AA1-067 E	0.3014	Adder	0.35
919152	AA1-139 E	10.1088	50/50	10.1088
920692	AA2-178 E	5.4110	50/50	5.4110
923831	AB2-022 C	4.9252	50/50	4.9252
923832	AB2-022 E	2.6520	50/50	2.6520
924501	AB2-099 C (Suspended)	0.2252	Adder	0.26
924502	AB2-099 E (Suspended)	0.0965	Adder	0.11
925122	AB2-169 E	3.9865	Adder	4.69
926201	AC1-098 C	1.8393	Adder	2.16
926202	AC1-098 E	1.0958	Adder	1.29
926211	AC1-099 C	0.6164	Adder	0.73
926212	AC1-099 E	0.3620	Adder	0.43
927021	AC1-189 C	3.0543	Adder	3.59
927022	AC1-189 E	1.5214	Adder	1.79
932631	AC2-084 C	2.6220	Adder	3.08
932632	AC2-084 E	1.2914	Adder	1.52
933991	AD1-023 C	12.5555	50/50	12.5555
933992	AD1-023 E	6.8353	50/50	6.8353
934521	AD1-076 C	58.8485	50/50	58.8485
934522	AD1-076 E	29.9656	50/50	29.9656
936401	AD2-051 C O1	4.3765	Adder	5.15
936402	AD2-051 E O1	1.8792	Adder	2.21
937221	AD2-160 C O1	6.2104	50/50	6.2104
937222	AD2-160 E O1	3.2566	50/50	3.2566
938171	AE1-026 C O1	24.0460	Adder	28.29
938172	AE1-026 E O1	6.3439	Adder	7.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938221	AE1-035 C	1.1352	Adder	1.34
938222	AE1-035 E	0.5591	Adder	0.66
938531	AE1-072 C O1	44.8847	50/50	44.8847
938532	AE1-072 E O1	23.3983	50/50	23.3983
940491	AE2-034 C	9.4693	50/50	9.4693
940492	AE2-034 E	4.0583	50/50	4.0583
941501	AE2-147 C	29.6568	50/50	29.6568
941502	AE2-147 E	19.7712	50/50	19.7712
941541	AE2-151 C	0.4642	Adder	0.55
941542	AE2-151 E	0.2499	Adder	0.29
942401	AE2-253 C	6.5322	50/50	6.5322
942402	AE2-253 E	2.9348	50/50	2.9348
942851	AE2-304 C	1.1364	50/50	1.1364
942852	AE2-304 E	0.4419	50/50	0.4419
943171	AE2-346 C	0.5406	Adder	0.64
943172	AE2-346 E	0.2317	Adder	0.27
944871	AF1-152 C	9.8856	50/50	9.8856
944872	AF1-152 E	6.5904	50/50	6.5904
945711	AF1-236 C O1	103.6665	50/50	103.6665
945712	AF1-236 E O1	169.1401	50/50	169.1401
957521	AF2-046 C	2.4827	Adder	5.51
957522	AF2-046 E	1.2488	Adder	2.77
957531	AF2-047 C	22.5009	50/50	22.5009
957532	AF2-047 E	11.3181	50/50	11.3181
957861	AF2-080 C	1.4702	Adder	3.26
957862	AF2-080 E	0.6518	Adder	1.45
957871	AF2-081 C O1	15.7248	50/50	15.7248
957872	AF2-081 E O1	6.7392	50/50	6.7392
959511	AF2-242 C	2.4593	Adder	5.46
959512	AF2-242 E	1.6395	Adder	3.64
959731	AF2-264 C	0.3991	Adder	0.89
959732	AF2-264 E	0.1966	Adder	0.44
960831	AF2-374 C	0.2499	Adder	0.55
960832	AF2-374 E	0.4078	Adder	0.91
WEC	WEC	0.0885	Confirmed LTF	0.0885
LGEE	LGEE	0.1660	Confirmed LTF	0.1660
CPL	CPL	1.0961	Confirmed LTF	1.0961
CBM-W2	CBM-W2	3.5381	Confirmed LTF	3.5381
NY	NY	0.1012	Confirmed LTF	0.1012
CBM-W1	CBM-W1	3.3151	Confirmed LTF	3.3151
TVA	TVA	0.7406	Confirmed LTF	0.7406
O-066	O-066	1.4650	Confirmed LTF	1.4650
CBM-S2	CBM-S2	6.5950	Confirmed LTF	6.5950
CBM-S1	CBM-S1	4.1322	Confirmed LTF	4.1322
G-007	G-007	0.2288	Confirmed LTF	0.2288
MADISON	MADISON	0.2076	Confirmed LTF	0.2076
MEC	MEC	0.5355	Confirmed LTF	0.5355

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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
97782000	314647	6SHAWBRO	DVP	938530	AE1-072 TAP	DVP	1	DVP_P4-2: 246T247	breaker	699.0	101.71	102.3	DC	9.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314638	6ELIZ CT	0.4967	50/50	0.4967
314639	6TANGLEW	0.8729	50/50	0.8729
314643	3O INLET	1.0656	50/50	1.0656
315294	1DOMTR10	8.8062	Adder	10.36
315603	6AA1-139SOLA	4.0686	50/50	4.0686
315605	6W1-029WIND	1.5347	50/50	1.5347
315611	6Z1-036WIND	11.5545	50/50	11.5545
315614	AA2-178 C	2.1779	50/50	2.1779
901082	W1-029 E	59.6431	50/50	59.6431
913392	Y1-086 E	4.6979	50/50	4.6979
916042	Z1-036 E (Suspended)	77.4154	50/50	77.4154
917122	Z2-027 E	2.1688	50/50	2.1688
917332	Z2-043 E	0.4426	Adder	0.52
917512	Z2-088 E OP1	1.2591	Adder	1.48
918512	AA1-065 E OP	2.0333	Adder	2.39
918532	AA1-067 E	0.3014	Adder	0.35
919152	AA1-139 E	10.1088	50/50	10.1088
920692	AA2-178 E	5.4110	50/50	5.4110
923831	AB2-022 C	4.9252	50/50	4.9252
923832	AB2-022 E	2.6520	50/50	2.6520
924501	AB2-099 C (Suspended)	0.2252	Adder	0.26
924502	AB2-099 E (Suspended)	0.0965	Adder	0.11
925122	AB2-169 E	3.9865	Adder	4.69
926201	AC1-098 C	1.8393	Adder	2.16
926202	AC1-098 E	1.0958	Adder	1.29
926211	AC1-099 C	0.6164	Adder	0.73
926212	AC1-099 E	0.3620	Adder	0.43
927021	AC1-189 C	3.0543	Adder	3.59
927022	AC1-189 E	1.5214	Adder	1.79
932631	AC2-084 C	2.6220	Adder	3.08
932632	AC2-084 E	1.2914	Adder	1.52
933991	AD1-023 C	12.5555	50/50	12.5555
933992	AD1-023 E	6.8353	50/50	6.8353
934521	AD1-076 C	58.8485	50/50	58.8485
934522	AD1-076 E	29.9656	50/50	29.9656
936401	AD2-051 C O1	4.3765	Adder	5.15
936402	AD2-051 E O1	1.8792	Adder	2.21
937221	AD2-160 C O1	6.2104	50/50	6.2104
937222	AD2-160 E O1	3.2566	50/50	3.2566
938171	AE1-026 C O1	24.0460	Adder	28.29
938172	AE1-026 E O1	6.3439	Adder	7.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938221	AE1-035 C	1.1352	Adder	1.34
938222	AE1-035 E	0.5591	Adder	0.66
940491	AE2-034 C	9.4693	50/50	9.4693
940492	AE2-034 E	4.0583	50/50	4.0583
941501	AE2-147 C	29.6568	50/50	29.6568
941502	AE2-147 E	19.7712	50/50	19.7712
941541	AE2-151 C	0.4642	Adder	0.55
941542	AE2-151 E	0.2499	Adder	0.29
942401	AE2-253 C	6.5322	50/50	6.5322
942402	AE2-253 E	2.9348	50/50	2.9348
942851	AE2-304 C	1.1364	50/50	1.1364
942852	AE2-304 E	0.4419	50/50	0.4419
943171	AE2-346 C	0.5406	Adder	0.64
943172	AE2-346 E	0.2317	Adder	0.27
944871	AF1-152 C	9.8856	50/50	9.8856
944872	AF1-152 E	6.5904	50/50	6.5904
945711	AF1-236 C O1	103.6665	50/50	103.6665
945712	AF1-236 E O1	169.1401	50/50	169.1401
957531	AF2-047 C	22.5009	50/50	22.5009
957532	AF2-047 E	11.3181	50/50	11.3181
957861	AF2-080 C	1.4702	Adder	3.26
957862	AF2-080 E	0.6518	Adder	1.45
957871	AF2-081 C O1	15.7248	50/50	15.7248
957872	AF2-081 E O1	6.7392	50/50	6.7392
959511	AF2-242 C	2.4593	Adder	5.46
959512	AF2-242 E	1.6395	Adder	3.64
959731	AF2-264 C	0.3991	Adder	0.89
959732	AF2-264 E	0.1966	Adder	0.44
960831	AF2-374 C	0.2499	Adder	0.55
960832	AF2-374 E	0.4078	Adder	0.91
WEC	WEC	0.0885	Confirmed LTF	0.0885
LGEE	LGEE	0.1660	Confirmed LTF	0.1660
CPL	CPL	1.0961	Confirmed LTF	1.0961
CBM-W2	CBM-W2	3.5381	Confirmed LTF	3.5381
NY	NY	0.1012	Confirmed LTF	0.1012
CBM-W1	CBM-W1	3.3151	Confirmed LTF	3.3151
TVA	TVA	0.7406	Confirmed LTF	0.7406
O-066	O-066	1.4650	Confirmed LTF	1.4650
CBM-S2	CBM-S2	6.5950	Confirmed LTF	6.5950
CBM-S1	CBM-S1	4.1322	Confirmed LTF	4.1322
G-007	G-007	0.2288	Confirmed LTF	0.2288
MADISON	MADISON	0.2076	Confirmed LTF	0.2076
MEC	MEC	0.5355	Confirmed LTF	0.5355

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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
97781769	314651	6WINFALL	DVP	314639	6TANGLEW	DVP	1	DVP_P4-2: 246T247	breaker	1163.0	155.77	157.38	DC	18.64

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.2927	50/50	0.2927
314582	3KELFORD	0.4237	50/50	0.4237
314589	3MURPHYS	0.0578	50/50	0.0578
315131	1EDGECEMA (Deactivation : 22/04/2019)	4.5469	Adder	5.35
315132	1EDGECEMB (Deactivation : 22/04/2019)	4.5469	Adder	5.35
315292	1DOMTR78	2.8235	50/50	2.8235
315294	1DOMTR10	21.2142	50/50	21.2142
315601	1CONETOE2SOL	1.2237	50/50	1.2237
315602	1HOLLOMANSOL	1.8886	50/50	1.8886
315605	6W1-029WIND	3.1400	50/50	3.1400
315606	3AA2-053SOLA	0.9459	50/50	0.9459
315611	6Z1-036WIND	23.6430	50/50	23.6430
315614	AA2-178 C	4.4575	50/50	4.4575
900672	V4-068 E	0.1836	50/50	0.1836
901082	W1-029 E	122.0302	50/50	122.0302
916042	Z1-036 E (Suspended)	158.4079	50/50	158.4079
917332	Z2-043 E	1.0681	50/50	1.0681
917342	Z2-044 E	0.2873	Adder	0.34
917512	Z2-088 E OP1	3.0403	50/50	3.0403
918492	AA1-063AE OP	1.6965	Adder	2.0
918512	AA1-065 E OP	4.9025	50/50	4.9025
918532	AA1-067 E	0.7273	50/50	0.7273
919692	AA2-053 E OP	2.3546	50/50	2.3546
919702	AA2-057 E OP	1.7600	Adder	2.07
920592	AA2-165 E	0.2419	Adder	0.28
920671	AA2-174 C OP	0.0433	50/50	0.0433
920672	AA2-174 E OP	0.2721	50/50	0.2721
920692	AA2-178 E	11.0750	50/50	11.0750
922922	AB1-081 C OP	4.2792	Adder	5.03
922923	AB1-081 E OP	1.8340	Adder	2.16
923262	AB1-132 C OP (Suspended)	7.1079	Adder	8.36
923263	AB1-132 E OP (Suspended)	3.0462	Adder	3.58
923831	AB2-022 C	-2.4854	Adder	-2.92
924152	AB2-059 E OP	2.5981	Adder	3.06
924501	AB2-099 C (Suspended)	0.5435	50/50	0.5435
924502	AB2-099 E (Suspended)	0.2329	50/50	0.2329
925121	AB2-169 C	1.8464	50/50	1.8464
925122	AB2-169 E	9.6061	50/50	9.6061

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925591	AC1-034 C	3.2667	Adder	3.84
925592	AC1-034 E	2.4644	Adder	2.9
926071	AC1-086 C	10.4672	Adder	12.31
926072	AC1-086 E	4.7640	Adder	5.6
926201	AC1-098 C	4.4428	50/50	4.4428
926202	AC1-098 E	2.6468	50/50	2.6468
926211	AC1-099 C	1.4888	50/50	1.4888
926212	AC1-099 E	0.8744	50/50	0.8744
927021	AC1-189 C	7.3729	50/50	7.3729
927022	AC1-189 E	3.6727	50/50	3.6727
927141	AC1-208 C	5.6807	50/50	5.6807
927142	AC1-208 E	2.5225	50/50	2.5225
932631	AC2-084 C	6.3334	50/50	6.3334
932632	AC2-084 E	3.1194	50/50	3.1194
933991	AD1-023 C	25.7086	50/50	25.7086
933992	AD1-023 E	13.9958	50/50	13.9958
934331	AD1-057 C O1	4.9422	Adder	5.81
934332	AD1-057 E O1	2.6364	Adder	3.1
934521	AD1-076 C	120.4774	50/50	120.4774
934522	AD1-076 E	61.3469	50/50	61.3469
936401	AD2-051 C O1	10.5528	50/50	10.5528
936402	AD2-051 E O1	4.5313	50/50	4.5313
938171	AE1-026 C O1	57.9347	50/50	57.9347
938172	AE1-026 E O1	15.2845	50/50	15.2845
938221	AE1-035 C	2.7372	50/50	2.7372
938222	AE1-035 E	1.3482	50/50	1.3482
940491	AE2-034 C	19.3813	50/50	19.3813
940492	AE2-034 E	8.3063	50/50	8.3063
940571	AE2-044 C	2.1396	Adder	2.52
940572	AE2-044 E	0.9170	Adder	1.08
941501	AE2-147 C	60.6780	50/50	60.6780
941502	AE2-147 E	40.4520	50/50	40.4520
941541	AE2-151 C	1.1197	50/50	1.1197
941542	AE2-151 E	0.6029	50/50	0.6029
942851	AE2-304 C	2.3251	50/50	2.3251
942852	AE2-304 E	0.9042	50/50	0.9042
943171	AE2-346 C	1.3044	50/50	1.3044
943172	AE2-346 E	0.5590	50/50	0.5590
944141	AF1-082	1.3755	Adder	1.62
944871	AF1-152 C	20.2260	50/50	20.2260
944872	AF1-152 E	13.4840	50/50	13.4840
945711	AF1-236 C O1	212.1793	50/50	212.1793
945712	AF1-236 E O1	346.1873	50/50	346.1873
957521	AF2-046 C	11.3163	50/50	11.3163
957522	AF2-046 E	5.6922	50/50	5.6922
957531	AF2-047 C	46.0537	50/50	46.0537
957532	AF2-047 E	23.1653	50/50	23.1653
957861	AF2-080 C	6.6964	50/50	6.6964
957862	AF2-080 E	2.9685	50/50	2.9685
959231	AF2-214 C	2.4502	Adder	5.44
959232	AF2-214 E	3.6733	Adder	8.15
959511	AF2-242 C	11.1845	50/50	11.1845

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959512	AF2-242 E	7.4563	50/50	7.4563
959731	AF2-264 C	1.8178	50/50	1.8178
959732	AF2-264 E	0.8954	50/50	0.8954
960122	AF2-303 E O1	3.1162	Adder	6.92
960331	AF2-324 C O1	2.0276	Adder	4.5
960332	AF2-324 E O1	1.0886	Adder	2.42
960351	AF2-326 C (Withdrawn : 07/22/2020)	0.6459	Adder	1.43
960352	AF2-326 E (Withdrawn : 07/22/2020)	0.1615	Adder	0.36
960831	AF2-374 C	1.1381	50/50	1.1381
960832	AF2-374 E	1.8569	50/50	1.8569
WEC	WEC	0.1969	Confirmed LTF	0.1969
LGEE	LGEE	0.3680	Confirmed LTF	0.3680
CPL	CPL	2.2749	Confirmed LTF	2.2749
CBM-W2	CBM-W2	7.6495	Confirmed LTF	7.6495
NY	NY	0.1797	Confirmed LTF	0.1797
CBM-W1	CBM-W1	7.4184	Confirmed LTF	7.4184
TVA	TVA	1.5848	Confirmed LTF	1.5848
O-066	O-066	2.6544	Confirmed LTF	2.6544
CBM-S2	CBM-S2	13.7795	Confirmed LTF	13.7795
CBM-S1	CBM-S1	8.8693	Confirmed LTF	8.8693
G-007	G-007	0.4150	Confirmed LTF	0.4150
MADISON	MADISON	0.4234	Confirmed LTF	0.4234
MEC	MEC	1.1727	Confirmed LTF	1.1727
AA2-074	AA2-074	1.5502	LTF	1.5502

11.6.29 Index 29

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
98568999	314662	6S HERTFORD	DVP	314651	6WINFALL	DVP	1	DVP_P7-1: LN 25-2034-A	tower	897.0	237.93	240.27	DC	20.96

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
315292	1DOMTR78	6.8353	50/50	6.8353
315294	1DOMTR10	51.3559	50/50	51.3559
315611	6Z1-036WIND	36.7189	50/50	36.7189
315614	AA2-178 C	8.7358	50/50	8.7358
916042	Z1-036 E (Suspended)	246.0166	50/50	246.0166
920692	AA2-178 E	21.7046	50/50	21.7046
925121	AB2-169 C	3.2999	50/50	3.2999
925122	AB2-169 E	17.1686	50/50	17.1686
934521	AD1-076 C	282.9665	50/50	282.9665
934522	AD1-076 E	144.0861	50/50	144.0861
940491	AE2-034 C	37.9831	50/50	37.9831
940492	AE2-034 E	16.2785	50/50	16.2785
942851	AE2-304 C	3.4261	50/50	3.4261
942852	AE2-304 E	1.3324	50/50	1.3324
945711	AF1-236 C O1	415.8247	50/50	415.8247
945712	AF1-236 E O1	678.4509	50/50	678.4509
957531	AF2-047 C	90.2551	50/50	90.2551
957532	AF2-047 E	45.3989	50/50	45.3989
959511	AF2-242 C	12.5770	50/50	12.5770
959512	AF2-242 E	8.3846	50/50	8.3846
WEC	WEC	0.0271	Confirmed LTF	0.0271
LGEE	LGEE	0.0513	Confirmed LTF	0.0513
CPL	CPL	0.4624	Confirmed LTF	0.4624
CBM-W2	CBM-W2	1.2367	Confirmed LTF	1.2367
NY	NY	0.0619	Confirmed LTF	0.0619
CBM-W1	CBM-W1	0.9883	Confirmed LTF	0.9883
TVA	TVA	0.2702	Confirmed LTF	0.2702
O-066	O-066	0.8534	Confirmed LTF	0.8534
CBM-S2	CBM-S2	2.6761	Confirmed LTF	2.6761
CBM-S1	CBM-S1	1.4825	Confirmed LTF	1.4825
G-007	G-007	0.1321	Confirmed LTF	0.1321
MADISON	MADISON	0.0907	Confirmed LTF	0.0907
MEC	MEC	0.1748	Confirmed LTF	0.1748

11.6.30 Index 30

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
98043141	924510	AB2-100 TAP	DVP	314563	6CLUBHSE	DVP	1	DVP_P1-2: LN 246	single	375.06	160.05	161.94	DC	7.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.2838	80/20	0.2838
314582	3KELFORD	0.4966	80/20	0.4966
314589	3MURPHYS	0.0769	80/20	0.0769
314623	3WITAKRS	0.2386	80/20	0.2386
315115	1S HAMPT1	0.7317	80/20	0.7317
315126	1ROARAP2	1.4350	80/20	1.4350
315128	1ROARAP4	1.3694	80/20	1.3694
315131	1EDGEEMA (Deactivation : 22/04/2019)	10.1401	80/20	10.1401
315132	1EDGEEMB (Deactivation : 22/04/2019)	10.1401	80/20	10.1401
315136	1ROSEMG1	4.5338	80/20	4.5338
315137	1ROSEMS1	2.8114	80/20	2.8114
315138	1ROSEMG2	2.1248	80/20	2.1248
315139	1GASTONA	6.9543	80/20	6.9543
315141	1GASTONB	6.9543	80/20	6.9543
315161	1KERR 4	0.3942	80/20	0.3942
315162	1KERR 5	0.3942	80/20	0.3942
315163	1KERR 6	0.3942	80/20	0.3942
315164	1KERR 7	0.3942	80/20	0.3942
315292	1DOMTR78	1.1634	80/20	1.1634
315294	1DOMTR10	8.7409	80/20	8.7409
315601	1CONETOE2SOL	1.6020	80/20	1.6020
315602	1HOLLOMANSOL	1.8149	80/20	1.8149
315606	3AA2-053SOLA	1.5240	80/20	1.5240
315607	3AA1-063SOLA	1.2864	80/20	1.2864
315608	3AA2-088SOLA	0.7348	80/20	0.7348
315612	3AA2-057SOLA	1.2789	80/20	1.2789
315614	AA2-178 C	0.9735	80/20	0.9735
920591	AA2-165 C	0.1516	80/20	0.1516
920671	AA2-174 C OP	0.0698	80/20	0.0698
922922	AB1-081 C OP	9.2753	80/20	9.2753
923262	AB1-132 C OP (Suspended)	30.7868	80/20	30.7868
923801	AB2-015 C OP	3.5395	80/20	3.5395
924151	AB2-059 C OP	1.8856	80/20	1.8856
924501	AB2-099 C (Suspended)	0.6026	80/20	0.6026
924511	AB2-100 C	7.3542	80/20	7.3542
925121	AB2-169 C	0.9543	80/20	0.9543
925591	AC1-034 C	7.0807	80/20	7.0807
925781	AC1-054 C O1	3.6606	80/20	3.6606
926071	AC1-086 C	45.3373	80/20	45.3373

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
926201	AC1-098 C	6.4236	80/20	6.4236
926211	AC1-099 C	2.1526	80/20	2.1526
927021	AC1-189 C	8.6967	80/20	8.6967
927141	AC1-208 C	9.2701	80/20	9.2701
932631	AC2-084 C	9.1570	80/20	9.1570
933991	AD1-023 C	11.3636	80/20	11.3636
934331	AD1-057 C O1	15.8841	80/20	15.8841
934521	AD1-076 C	41.2196	80/20	41.2196
936401	AD2-051 C O1	10.5183	80/20	10.5183
938171	AE1-026 C O1	29.7099	80/20	29.7099
938221	AE1-035 C	2.6304	80/20	2.6304
938771	AE1-103 C O1	1.2888	80/20	1.2888
940491	AE2-034 C	4.2328	80/20	4.2328
940571	AE2-044 C	4.6376	80/20	4.6376
941541	AE2-151 C	1.1920	80/20	1.1920
943171	AE2-346 C	1.4462	80/20	1.4462
944141	AF1-082	2.9813	80/20	2.9813
945711	AF1-236 C O1	46.3386	80/20	46.3386
957521	AF2-046 C	14.4171	80/20	14.4171
957531	AF2-047 C	10.0578	80/20	10.0578
957861	AF2-080 C	7.8987	80/20	7.8987
959231	AF2-214 C	10.0206	80/20	10.0206
959511	AF2-242 C	7.0709	80/20	7.0709
959731	AF2-264 C	2.1330	80/20	2.1330
960331	AF2-324 C O1	8.5317	80/20	8.5317
960351	AF2-326 C (Withdrawn : 07/22/2020)	2.6147	80/20	2.6147
960831	AF2-374 C	1.3564	80/20	1.3564
961091	AF2-400 C	0.1911	80/20	0.1911
WEC	WEC	0.2592	Confirmed LTF	0.2592
LGEE	LGEE	0.4855	Confirmed LTF	0.4855
CPLE	CPLE	3.1474	Confirmed LTF	3.1474
CBM-W2	CBM-W2	10.3603	Confirmed LTF	10.3603
NY	NY	0.2947	Confirmed LTF	0.2947
CBM-W1	CBM-W1	9.7203	Confirmed LTF	9.7203
TVA	TVA	2.1686	Confirmed LTF	2.1686
CBM-S2	CBM-S2	19.2185	Confirmed LTF	19.2185
CBM-S1	CBM-S1	12.0899	Confirmed LTF	12.0899
MADISON	MADISON	0.6088	Confirmed LTF	0.6088
MEC	MEC	1.5652	Confirmed LTF	1.5652
AA2-074	AA2-074	2.1447	LTF	2.1447

11.6.31 Index 31

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
98043036	933990	AD1-023 TAP	DVP	314620	6CASHIE	DVP	1	DVP_P1-2: LN 2092	single	571.52	150.04	152.56	DC	14.38

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.1347	80/20	0.1347
315292	1DOMTR78	5.1530	80/20	5.1530
315294	1DOMTR10	38.7161	80/20	38.7161
315611	6Z1-036WIND	29.2449	80/20	29.2449
315614	AA2-178 C	7.2436	80/20	7.2436
925121	AB2-169 C	2.8959	80/20	2.8959
927021	AC1-189 C	2.9754	80/20	2.9754
933991	AD1-023 C	62.3814	80/20	62.3814
934521	AD1-076 C	240.4865	80/20	240.4865
940491	AE2-034 C	31.4950	80/20	31.4950
945711	AF1-236 C O1	344.7948	80/20	344.7948
957531	AF2-047 C	74.8380	80/20	74.8380
957861	AF2-080 C	2.7024	80/20	2.7024
959511	AF2-242 C	14.3837	80/20	14.3837
WEC	WEC	0.0476	Confirmed LTF	0.0476
LGEE	LGEE	0.0890	Confirmed LTF	0.0890
CPLE	CPLE	0.6787	Confirmed LTF	0.6787
CBM-W2	CBM-W2	1.9738	Confirmed LTF	1.9738
NY	NY	0.0597	Confirmed LTF	0.0597
CBM-W1	CBM-W1	1.7764	Confirmed LTF	1.7764
TVA	TVA	0.4158	Confirmed LTF	0.4158
CBM-S2	CBM-S2	3.8957	Confirmed LTF	3.8957
CBM-S1	CBM-S1	2.3089	Confirmed LTF	2.3089
MADISON	MADISON	0.1230	Confirmed LTF	0.1230
MEC	MEC	0.2924	Confirmed LTF	0.2924

11.6.32 Index 32

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
97781951	938530	AE1-072 TAP	DVP	314645	6SLIGO L269	DVP	1	DVP_P4-2: 246T247	breaker	699.0	112.02	112.61	DC	9.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314638	6ELIZ CT	0.4967	50/50	0.4967
314639	6TANGLEW	0.8729	50/50	0.8729
314643	3O INLET	1.0656	50/50	1.0656
315294	1DOMTR10	8.8062	Adder	10.36
315603	6AA1-139SOLA	4.0686	50/50	4.0686
315605	6W1-029WIND	1.5347	50/50	1.5347
315611	6Z1-036WIND	11.5545	50/50	11.5545
315614	AA2-178 C	2.1779	50/50	2.1779
901082	W1-029 E	59.6431	50/50	59.6431
913392	Y1-086 E	4.6979	50/50	4.6979
916042	Z1-036 E (Suspended)	77.4154	50/50	77.4154
917122	Z2-027 E	2.1688	50/50	2.1688
917332	Z2-043 E	0.4426	Adder	0.52
917512	Z2-088 E OP1	1.2591	Adder	1.48
918512	AA1-065 E OP	2.0333	Adder	2.39
918532	AA1-067 E	0.3014	Adder	0.35
919152	AA1-139 E	10.1088	50/50	10.1088
920692	AA2-178 E	5.4110	50/50	5.4110
923831	AB2-022 C	4.9252	50/50	4.9252
923832	AB2-022 E	2.6520	50/50	2.6520
924501	AB2-099 C (Suspended)	0.2252	Adder	0.26
924502	AB2-099 E (Suspended)	0.0965	Adder	0.11
925122	AB2-169 E	3.9865	Adder	4.69
926201	AC1-098 C	1.8393	Adder	2.16
926202	AC1-098 E	1.0958	Adder	1.29
926211	AC1-099 C	0.6164	Adder	0.73
926212	AC1-099 E	0.3620	Adder	0.43
927021	AC1-189 C	3.0543	Adder	3.59
927022	AC1-189 E	1.5214	Adder	1.79
932631	AC2-084 C	2.6220	Adder	3.08
932632	AC2-084 E	1.2914	Adder	1.52
933991	AD1-023 C	12.5555	50/50	12.5555
933992	AD1-023 E	6.8353	50/50	6.8353
934521	AD1-076 C	58.8485	50/50	58.8485
934522	AD1-076 E	29.9656	50/50	29.9656
936401	AD2-051 C O1	4.3765	Adder	5.15
936402	AD2-051 E O1	1.8792	Adder	2.21
937221	AD2-160 C O1	6.2104	50/50	6.2104
937222	AD2-160 E O1	3.2566	50/50	3.2566
938171	AE1-026 C O1	24.0460	Adder	28.29
938172	AE1-026 E O1	6.3439	Adder	7.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938221	AE1-035 C	1.1352	Adder	1.34
938222	AE1-035 E	0.5591	Adder	0.66
938531	AE1-072 C O1	44.8847	50/50	44.8847
938532	AE1-072 E O1	23.3983	50/50	23.3983
940491	AE2-034 C	9.4693	50/50	9.4693
940492	AE2-034 E	4.0583	50/50	4.0583
941501	AE2-147 C	29.6568	50/50	29.6568
941502	AE2-147 E	19.7712	50/50	19.7712
941541	AE2-151 C	0.4642	Adder	0.55
941542	AE2-151 E	0.2499	Adder	0.29
942401	AE2-253 C	6.5322	50/50	6.5322
942402	AE2-253 E	2.9348	50/50	2.9348
942851	AE2-304 C	1.1364	50/50	1.1364
942852	AE2-304 E	0.4419	50/50	0.4419
943171	AE2-346 C	0.5406	Adder	0.64
943172	AE2-346 E	0.2317	Adder	0.27
944871	AF1-152 C	9.8856	50/50	9.8856
944872	AF1-152 E	6.5904	50/50	6.5904
945711	AF1-236 C O1	103.6665	50/50	103.6665
945712	AF1-236 E O1	169.1401	50/50	169.1401
957521	AF2-046 C	2.4827	Adder	5.51
957522	AF2-046 E	1.2488	Adder	2.77
957531	AF2-047 C	22.5009	50/50	22.5009
957532	AF2-047 E	11.3181	50/50	11.3181
957861	AF2-080 C	1.4702	Adder	3.26
957862	AF2-080 E	0.6518	Adder	1.45
957871	AF2-081 C O1	15.7248	50/50	15.7248
957872	AF2-081 E O1	6.7392	50/50	6.7392
959511	AF2-242 C	2.4593	Adder	5.46
959512	AF2-242 E	1.6395	Adder	3.64
959731	AF2-264 C	0.3991	Adder	0.89
959732	AF2-264 E	0.1966	Adder	0.44
960831	AF2-374 C	0.2499	Adder	0.55
960832	AF2-374 E	0.4078	Adder	0.91
WEC	WEC	0.0885	Confirmed LTF	0.0885
LGEE	LGEE	0.1660	Confirmed LTF	0.1660
CPL	CPL	1.0961	Confirmed LTF	1.0961
CBM-W2	CBM-W2	3.5381	Confirmed LTF	3.5381
NY	NY	0.1012	Confirmed LTF	0.1012
CBM-W1	CBM-W1	3.3151	Confirmed LTF	3.3151
TVA	TVA	0.7406	Confirmed LTF	0.7406
O-066	O-066	1.4650	Confirmed LTF	1.4650
CBM-S2	CBM-S2	6.5950	Confirmed LTF	6.5950
CBM-S1	CBM-S1	4.1322	Confirmed LTF	4.1322
G-007	G-007	0.2288	Confirmed LTF	0.2288
MADISON	MADISON	0.2076	Confirmed LTF	0.2076
MEC	MEC	0.5355	Confirmed LTF	0.5355

11.6.33 Index 33

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
98569069	940480	AE2-033 TAP	DVP	314435	6SAPONY	DVP	1	DVP_P7-1: LN 2058-2181	tower	830.0	131.3	131.87	DC	10.58

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

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936401	AD2-051 C O1	7.1905	Adder	8.46
936402	AD2-051 E O1	3.0875	Adder	3.63
936481	AD2-063 C O1	9.4860	Adder	11.16
936482	AD2-063 E O1	6.2713	Adder	7.38
938171	AE1-026 C O1	20.8241	Adder	24.5
938172	AE1-026 E O1	5.4939	Adder	6.46
938221	AE1-035 C	1.7791	Adder	2.09
938222	AE1-035 E	0.8763	Adder	1.03
938771	AE1-103 C O1	1.7700	Adder	2.08
938772	AE1-103 E O1	2.4443	Adder	2.88
939181	AE1-148 C O1	6.6422	Adder	7.81
939182	AE1-148 E O1	4.4281	Adder	5.21
940241	AE2-006	0.2602	Adder	0.31
940481	AE2-033 C	64.4066	50/50	64.4066
940482	AE2-033 E	43.4202	50/50	43.4202
940571	AE2-044 C	4.3523	Adder	5.12
940572	AE2-044 E	1.8653	Adder	2.19
940661	AE2-053 O1	2.4601	Adder	2.89
941541	AE2-151 C	0.9553	Adder	1.12
941542	AE2-151 E	0.5144	Adder	0.61
942451	AE2-258	1.6248	Adder	1.91
942471	AE2-260 C O1	46.3897	50/50	46.3897
942472	AE2-260 E O1	65.7983	50/50	65.7983
943171	AE2-346 C	1.2305	Adder	1.45
943172	AE2-346 E	0.5274	Adder	0.62
943911	AF1-059	22.8480	Adder	26.88
944141	AF1-082	2.7979	Adder	3.29
946011	AF1-266	53.9134	50/50	53.9134
946281	AF1-292 C	3.8562	50/50	3.8562
946282	AF1-292 E	2.5997	50/50	2.5997
957521	AF2-046 C	7.6850	Adder	17.06
957522	AF2-046 E	3.8656	Adder	8.58
957861	AF2-080 C	3.7895	Adder	8.41
957862	AF2-080 E	1.6799	Adder	3.73
959231	AF2-214 C	4.9842	Adder	11.06
959232	AF2-214 E	7.4721	Adder	16.59
959311	AF2-222 C	4.5897	Adder	10.19
959312	AF2-222 E	3.0751	Adder	6.83
959511	AF2-242 C	2.8602	Adder	6.35
959512	AF2-242 E	1.9068	Adder	4.23
959731	AF2-264 C	1.0364	Adder	2.3
959732	AF2-264 E	0.5105	Adder	1.13
960081	AF2-299 C	6.4992	50/50	6.4992
960082	AF2-299 E	4.3328	50/50	4.3328
960122	AF2-303 E O1	7.8326	Adder	17.39
960331	AF2-324 C O1	5.0964	Adder	11.31
960332	AF2-324 E O1	2.7362	Adder	6.07
960351	AF2-326 C (Withdrawn : 07/22/2020)	1.2763	Adder	2.83
960352	AF2-326 E (Withdrawn : 07/22/2020)	0.3191	Adder	0.71
960811	AF2-372 C	0.4566	Adder	1.01
960812	AF2-372 E	0.7452	Adder	1.65

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960831	AF2-374 C	0.6838	Adder	1.52
960832	AF2-374 E	1.1157	Adder	2.48
961091	AF2-400 C	0.1350	Adder	0.3
961092	AF2-400 E	0.2214	Adder	0.49
WEC	WEC	0.2000	Confirmed LTF	0.2000
LGEE	LGEE	0.3782	Confirmed LTF	0.3782
CPL	CPL	2.4542	Confirmed LTF	2.4542
CBM-W2	CBM-W2	8.0999	Confirmed LTF	8.0999
NY	NY	0.2992	Confirmed LTF	0.2992
CBM-W1	CBM-W1	7.4560	Confirmed LTF	7.4560
TVA	TVA	1.7052	Confirmed LTF	1.7052
O-066	O-066	4.2202	Confirmed LTF	4.2202
CBM-S2	CBM-S2	15.0916	Confirmed LTF	15.0916
CBM-S1	CBM-S1	9.4998	Confirmed LTF	9.4998
G-007	G-007	0.6594	Confirmed LTF	0.6594
MADISON	MADISON	0.4818	Confirmed LTF	0.4818
MEC	MEC	1.2156	Confirmed LTF	1.2156
AA2-074	AA2-074	1.6722	LTF	1.6722

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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
98043063	957790	AF2-073 TAP	DVP	957820	AF2-076 TAP	DVP	1	DVP_P1-2: LN 2092	single	571.52	170.82	173.24	DC	13.91

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.0506	80/20	0.0506
314574	6EVERETS	0.4657	80/20	0.4657
314582	3KELFORD	0.7842	80/20	0.7842
314589	3MURPHYS	0.1032	80/20	0.1032
314623	3WITAKRS	0.2359	80/20	0.2359
314704	3LAWRENC	0.1825	80/20	0.1825
315126	1ROARAP2	1.4097	80/20	1.4097
315128	1ROARAP4	1.3452	80/20	1.3452
315131	1EDGEEMA (Deactivation : 22/04/2019)	9.0439	80/20	9.0439
315132	1EDGEEMB (Deactivation : 22/04/2019)	9.0439	80/20	9.0439
315136	1ROSEMG1	2.3511	80/20	2.3511
315137	1ROSEMS1	1.4579	80/20	1.4579
315138	1ROSEMG2	1.1019	80/20	1.1019
315139	1GASTONA	3.4385	80/20	3.4385
315141	1GASTONB	3.4385	80/20	3.4385
315161	1KERR 4	0.5966	80/20	0.5966
315162	1KERR 5	0.5966	80/20	0.5966
315163	1KERR 6	0.5966	80/20	0.5966
315164	1KERR 7	0.5966	80/20	0.5966
315292	1DOMTR78	2.8729	80/20	2.8729
315294	1DOMTR10	21.5849	80/20	21.5849
315601	1CONETOE2SOL	1.9914	80/20	1.9914
315602	1HOLLOMANSOL	3.5568	80/20	3.5568
315606	3AA2-053SOLA	1.7258	80/20	1.7258
315607	3AA1-063SOLA	1.2920	80/20	1.2920
315608	3AA2-088SOLA	0.7480	80/20	0.7480
315611	6Z1-036WIND	13.8532	80/20	13.8532
315612	3AA2-057SOLA	1.3289	80/20	1.3289
315614	AA2-178 C	3.4313	80/20	3.4313
920591	AA2-165 C	0.1576	80/20	0.1576
920671	AA2-174 C OP	0.0790	80/20	0.0790
922922	AB1-081 C OP	8.5938	80/20	8.5938
923262	AB1-132 C OP (Suspended)	15.2225	80/20	15.2225
923572	AB1-173 C OP	1.8023	80/20	1.8023
923582	AB1-173AC OP	1.8023	80/20	1.8023
923911	AB2-031 C O1	1.7889	80/20	1.7889
923991	AB2-040 C O1	5.8740	80/20	5.8740
924151	AB2-059 C OP	1.7471	80/20	1.7471
924501	AB2-099 C (Suspended)	1.0074	80/20	1.0074

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924511	AB2-100 C	1.2658	80/20	1.2658
925121	AB2-169 C	2.0776	80/20	2.0776
925171	AB2-174 C O1	0.9219	80/20	0.9219
925591	AC1-034 C	6.5604	80/20	6.5604
925781	AC1-054 C O1	4.5595	80/20	4.5595
926071	AC1-086 C	22.4169	80/20	22.4169
926201	AC1-098 C	8.0374	80/20	8.0374
926211	AC1-099 C	2.6934	80/20	2.6934
927021	AC1-189 C	11.8954	80/20	11.8954
927141	AC1-208 C	10.1471	80/20	10.1471
932631	AC2-084 C	11.4575	80/20	11.4575
933991	AD1-023 C	28.2004	80/20	28.2004
934331	AD1-057 C O1	10.1856	80/20	10.1856
934521	AD1-076 C	113.9255	80/20	113.9255
935111	AD1-144 C	-0.7751	Adder	-0.91
936401	AD2-051 C O1	19.8648	80/20	19.8648
937541	AD2-215 C	-0.7831	Adder	-0.92
938171	AE1-026 C O1	69.7636	80/20	69.7636
938221	AE1-035 C	5.1550	80/20	5.1550
940491	AE2-034 C	14.9192	80/20	14.9192
940571	AE2-044 C	4.2969	80/20	4.2969
941541	AE2-151 C	2.0903	80/20	2.0903
942131	AE2-225 C	-1.0773	Adder	-1.27
942171	AE2-229 C	-1.0773	Adder	-1.27
942471	AE2-260 C O1	8.3171	80/20	8.3171
943171	AE2-346 C	2.4178	80/20	2.4178
943911	AF1-059	8.3370	80/20	8.3370
944141	AF1-082	2.7623	80/20	2.7623
945711	AF1-236 C O1	163.3302	80/20	163.3302
946281	AF1-292 C	0.9859	80/20	0.9859
957521	AF2-046 C	20.4051	80/20	20.4051
957531	AF2-047 C	35.4510	80/20	35.4510
957791	AF2-073 C (Withdrawn : 07/02/2020)	41.1750	80/20	41.1750
957801	AF2-074 C (Withdrawn : 07/02/2020)	18.3000	80/20	18.3000
957861	AF2-080 C	10.8039	80/20	10.8039
959231	AF2-214 C	9.2843	80/20	9.2843
959511	AF2-242 C	13.9123	80/20	13.9123
959731	AF2-264 C	3.3334	80/20	3.3334
960081	AF2-299 C	1.6616	80/20	1.6616
960331	AF2-324 C O1	7.6094	80/20	7.6094
960351	AF2-326 C (Withdrawn : 07/22/2020)	2.4520	80/20	2.4520
960831	AF2-374 C	2.1136	80/20	2.1136
WEC	WEC	0.3333	Confirmed LTF	0.3333
LGEE	LGEE	0.6224	Confirmed LTF	0.6224
CPL	CPL	3.7739	Confirmed LTF	3.7739
CBM-W2	CBM-W2	12.8665	Confirmed LTF	12.8665
NY	NY	0.2909	Confirmed LTF	0.2909
CBM-W1	CBM-W1	12.5600	Confirmed LTF	12.5600
TVA	TVA	2.6600	Confirmed LTF	2.6600
CBM-S2	CBM-S2	22.9639	Confirmed LTF	22.9639

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>CBM-S1</b>	CBM-S1	14.9015	Confirmed LTF	14.9015
<b>MADISON</b>	MADISON	0.7056	Confirmed LTF	0.7056
<b>MEC</b>	MEC	1.9799	Confirmed LTF	1.9799
<b>AA2-074</b>	AA2-074	2.5717	LTF	2.5717

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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
98043051	957820	AF2-076 TAP	DVP	314537	6SUFFOLK	DVP	1	DVP_P1-2: LN 2092	single	571.52	175.61	178.04	DC	13.91

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.0506	80/20	0.0506
314574	6EVERETS	0.4657	80/20	0.4657
314582	3KELFORD	0.7842	80/20	0.7842
314589	3MURPHYS	0.1032	80/20	0.1032
314623	3WITAKRS	0.2359	80/20	0.2359
314704	3LAWRENC	0.1825	80/20	0.1825
315126	1ROARAP2	1.4097	80/20	1.4097
315128	1ROARAP4	1.3452	80/20	1.3452
315131	1EDGEEMA (Deactivation : 22/04/2019)	9.0439	80/20	9.0439
315132	1EDGEEMB (Deactivation : 22/04/2019)	9.0439	80/20	9.0439
315136	1ROSEMG1	2.3511	80/20	2.3511
315137	1ROSEMS1	1.4579	80/20	1.4579
315138	1ROSEMG2	1.1019	80/20	1.1019
315139	1GASTONA	3.4385	80/20	3.4385
315141	1GASTONB	3.4385	80/20	3.4385
315161	1KERR 4	0.5966	80/20	0.5966
315162	1KERR 5	0.5966	80/20	0.5966
315163	1KERR 6	0.5966	80/20	0.5966
315164	1KERR 7	0.5966	80/20	0.5966
315292	1DOMTR78	2.8729	80/20	2.8729
315294	1DOMTR10	21.5849	80/20	21.5849
315601	1CONETOE2SOL	1.9914	80/20	1.9914
315602	1HOLLOMANSOL	3.5568	80/20	3.5568
315606	3AA2-053SOLA	1.7258	80/20	1.7258
315607	3AA1-063SOLA	1.2920	80/20	1.2920
315608	3AA2-088SOLA	0.7480	80/20	0.7480
315611	6Z1-036WIND	13.8532	80/20	13.8532
315612	3AA2-057SOLA	1.3289	80/20	1.3289
315614	AA2-178 C	3.4313	80/20	3.4313
920591	AA2-165 C	0.1576	80/20	0.1576
920671	AA2-174 C OP	0.0790	80/20	0.0790
922922	AB1-081 C OP	8.5938	80/20	8.5938
923262	AB1-132 C OP (Suspended)	15.2225	80/20	15.2225
923572	AB1-173 C OP	1.8023	80/20	1.8023
923582	AB1-173AC OP	1.8023	80/20	1.8023
923911	AB2-031 C O1	1.7889	80/20	1.7889
923991	AB2-040 C O1	5.8740	80/20	5.8740
924151	AB2-059 C OP	1.7471	80/20	1.7471
924501	AB2-099 C (Suspended)	1.0074	80/20	1.0074

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924511	AB2-100 C	1.2658	80/20	1.2658
925121	AB2-169 C	2.0776	80/20	2.0776
925171	AB2-174 C O1	0.9219	80/20	0.9219
925591	AC1-034 C	6.5604	80/20	6.5604
925781	AC1-054 C O1	4.5595	80/20	4.5595
926071	AC1-086 C	22.4169	80/20	22.4169
926201	AC1-098 C	8.0374	80/20	8.0374
926211	AC1-099 C	2.6934	80/20	2.6934
927021	AC1-189 C	11.8954	80/20	11.8954
927141	AC1-208 C	10.1471	80/20	10.1471
932631	AC2-084 C	11.4575	80/20	11.4575
933991	AD1-023 C	28.2004	80/20	28.2004
934331	AD1-057 C O1	10.1856	80/20	10.1856
934521	AD1-076 C	113.9255	80/20	113.9255
936401	AD2-051 C O1	19.8648	80/20	19.8648
938171	AE1-026 C O1	69.7636	80/20	69.7636
938221	AE1-035 C	5.1550	80/20	5.1550
940491	AE2-034 C	14.9192	80/20	14.9192
940571	AE2-044 C	4.2969	80/20	4.2969
941541	AE2-151 C	2.0903	80/20	2.0903
942131	AE2-225 C	-1.0773	Adder	-1.27
942171	AE2-229 C	-1.0773	Adder	-1.27
942471	AE2-260 C O1	8.3171	80/20	8.3171
943171	AE2-346 C	2.4178	80/20	2.4178
943911	AF1-059	8.3370	80/20	8.3370
944141	AF1-082	2.7623	80/20	2.7623
945711	AF1-236 C O1	163.3302	80/20	163.3302
946281	AF1-292 C	0.9859	80/20	0.9859
957521	AF2-046 C	20.4051	80/20	20.4051
957531	AF2-047 C	35.4510	80/20	35.4510
957791	AF2-073 C (Withdrawn : 07/02/2020)	41.1750	80/20	41.1750
957801	AF2-074 C (Withdrawn : 07/02/2020)	18.3000	80/20	18.3000
957821	AF2-076 C O1	25.8699	80/20	25.8699
957861	AF2-080 C	10.8039	80/20	10.8039
959231	AF2-214 C	9.2843	80/20	9.2843
959511	AF2-242 C	13.9123	80/20	13.9123
959731	AF2-264 C	3.3334	80/20	3.3334
960081	AF2-299 C	1.6616	80/20	1.6616
960331	AF2-324 C O1	7.6094	80/20	7.6094
960351	AF2-326 C (Withdrawn : 07/22/2020)	2.4520	80/20	2.4520
960831	AF2-374 C	2.1136	80/20	2.1136
WEC	WEC	0.3333	Confirmed LTF	0.3333
LGEE	LGEE	0.6224	Confirmed LTF	0.6224
CPL	CPL	3.7739	Confirmed LTF	3.7739
CBM-W2	CBM-W2	12.8665	Confirmed LTF	12.8665
NY	NY	0.2909	Confirmed LTF	0.2909
CBM-W1	CBM-W1	12.5600	Confirmed LTF	12.5600
TVA	TVA	2.6600	Confirmed LTF	2.6600
CBM-S2	CBM-S2	22.9639	Confirmed LTF	22.9639
CBM-S1	CBM-S1	14.9015	Confirmed LTF	14.9015

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
MADISON	MADISON	0.7056	Confirmed LTF	0.7056
MEC	MEC	1.9799	Confirmed LTF	1.9799
AA2-074	AA2-074	2.5717	LTF	2.5717

## 11.7 Queue Dependencies

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

Queue Number	Project Name	Status
AA1-063	Huntsville (Cabin Creek) 69kV	Withdrawn
AA1-063A	Carolina–Seaboard 115kV	In Service
AA1-065	Earleys 230kV	In Service
AA1-067	Everetts 34.5kV	In Service
AA1-139	Hickory-Shawboro 230kV	In Service
AA2-053	Carolina-Jackson 115kV	In Service
AA2-057	Hornertown-Whitakers 115kV	In Service
AA2-074	CPLP-PJM	Confirmed
AA2-088	Boykins-Handsome 115kV	In Service
AA2-165	Hornertown-Whitakers 115kV	In Service
AA2-174	Carolina-Jackson 115kV	In Service
AA2-178	Mackeys 230kV	Under Construction
AB1-081	Anaconda-Mayo Dunbar 115kV	Under Construction
AB1-132	Thelma 230kV	Suspended
AB1-173	Brink-Trego 115kV	Engineering and Procurement
AB1-173A	Brink-Trego 115kV	Engineering and Procurement
AB2-015	Franklin 115kV	Engineering and Procurement
AB2-022	Elizabeth City 34.5kV	Engineering and Procurement
AB2-025	Sapony 34.5kV	In Service
AB2-031	Brink-Trego 115kV	Engineering and Procurement
AB2-040	Brink 115kV	Engineering and Procurement
AB2-043	Chase City 115kV	Under Construction
AB2-059	Benson-Dunbar 115kV	Under Construction
AB2-060	Chase City-Lunenburg 115kV	Under Construction
AB2-077	Buggs Island-Chase City 115kV	Suspended
AB2-078	Buggs Island-Chase City 115kV	Suspended
AB2-079	Buggs Island-Chase City 115kV	Suspended
AB2-099	Ahoskie 34.5kV	Suspended
AB2-100	Clubhouse-Lakeview 230kV	Under Construction
AB2-161	Waverly #2 DP 115kV	Suspended
AB2-169	Pantago-Five Points 115kV	Partially in Service - Under Construction
AB2-174	Emporia-Trego 115kV	Under Construction
AC1-034	Heartsease DP - Mayo Dunbar 115kV	Active

Queue Number	Project Name	Status
AC1-036	Twittys Creek 34.5kV	Engineering and Procurement
AC1-054	Kerr Dam–Eatons Ferry 115 kV	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
AC1-105	Halifax-Mt. Laurel 115kV	Suspended
AC1-131	PJM-CPLE	Confirmed
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
AC2-078	Disputanta-Waverly 115kV	Active
AC2-079	Ivor-Oak Ridge 115kV	Active
AC2-084	Dawson-South Justice 115kV	Active
AC2-100	Halifax-Person 230kV	Active
AD1-017	Smith Mountain-Bearskin 138 kV	Active
AD1-023	Cashie-Trowbridge 230 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
AD1-076	Trowbridge 230 kV	Active
AD1-082	Bakers Pond-Ivor 115kV	Active
AD1-087	Clover-Sedge Hill 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
AD2-022	East Danville-Roxborough 230 kV	Active
AD2-023	E. Danville-Roxborough 230 kV	Active
AD2-033	Chase City-Lunenburg 115 kV	Active
AD2-046	Boydton DP-Kerr Dam 115 kV	Active
AD2-051	Earleys – Northampton 230kV	Active
AD2-063	Central-Chase City 115kV	Active
AD2-085	Myrtle-Windsor DP 115kV	Active
AD2-160	Hickory-Moyock 230kV	Active
AD2-202	Clover-Sedge Hill 230kV	Active
AD2-215	Kings Fork 34.5 kV	Engineering and Procurement
AE1-026	Cashie 230 kV	Active
AE1-035	Earleys 230 kV	Engineering and Procurement
AE1-072	Shawboro-Sligo 230 kV	Active
AE1-085	Bakers Pond-Bell Ave 115 kV	Active
AE1-103	Holland-Union Camp 115 kV	Active
AE1-148	Kerr Dam-Ridge Rd 115 kV	Active
AE1-149	Disputanta-Poe 115 kV	Active
AE1-176	Roanoke-Vinton 12 kV (Niagara Hydro)	In Service
AE1-250	Smith Mountain-E. Danville 138 kV	Active
AE2-000B	N/A	N/A
AE2-006	Twittys Creek 34.5 kV	Engineering and Procurement
AE2-033	Clubhouse-Sappony 230 kV	Active
AE2-034	Mackeys 230 kV	Active
AE2-044	Anaconda-Dunbar 115 kV	Active
AE2-052	Disputanta-Poe 115 kV	Active

Queue Number	Project Name	Status
AE2-053	Kerr Dam-Ridge Road 115 kV	Active
AE2-104	Suffolk 115 kV	Active
AE2-147	Swamp 230 kV	Active
AE2-151	Earleys 34.5kV	Engineering and Procurement
AE2-225	Suffolk 34 kV	Engineering and Procurement
AE2-229	Suffolk 34 kV	Engineering and Procurement
AE2-247	Myrtle-Windsor 115 kV	Active
AE2-253	Hickory-Moyock 230 kV	Active
AE2-258	Chase City 115 kV	Active
AE2-260	Clubhouse 230 kV	Active
AE2-304	South Hertford 34 kV	Engineering and Procurement
AE2-346	Ahoskie 34.5 kV	Active
AF1-017	Myrtle-Windsor 115 kV	Active
AF1-032	Suffolk 34.5 kV	Engineering and Procurement
AF1-058	Welco 34.5 kV	Engineering and Procurement
AF1-059	Brodnax-South Hill 115 kV	Active
AF1-082	Heartsease-Mayo Dunbar DP	Active
AF1-152	Swamp 230 kV	Active
AF1-236	Mackeys 230 kV	Active
AF1-246	Clover-Rawlings 500 kV	Active
AF1-266	Clubhouse-Sapony 230 kV	Active
AF1-292	Fields Crossroads 34.5 kV	Active
AF2-042	Clover 500 kV	Active
AF2-043	Suffolk 34.5 kV	Active
AF2-046	Tunis-Mapleton 115 kV	Active
AF2-047	Creswell-Riders Creek 115 kV	Active
AF2-073	Nucor Steel-Suffolk 230 kV	Withdrawn
AF2-074	Nucor Steel-Suffolk 230 kV	Withdrawn
AF2-076	Suffolk-Nucor Steel 230 kV	Active
AF2-080	Chinquapin-Everetts 230 kV	Active
AF2-081	Moyock 230 kV	Active
AF2-108	Locks 34.5 kV	Active
AF2-110	Suffolk 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
AF2-264	Tunis 34.5 kV	Active
AF2-266	Clover 230 kV	Active
AF2-297	Sedge Hill 115 kV	Active
AF2-299	Fields 34.5 kV	Active
AF2-303	Edgecombe 230 kV	Active
AF2-324	Edgecombe 230 kV	Active
AF2-326	Battleboro 34.5kV	Withdrawn
AF2-327	Wakefield 13 kV	Withdrawn
AF2-372	Black Branch 34.5 kV	Active
AF2-373	Mount Laurel 115 kV	Active
AF2-374	Woodland 34.5 kV	Active
AF2-400	Franklin 13.2 kV	Active
AF2-402	Ivor-Oak Ridge 115 kV	Active
V4-068	Murphy's 34.5kV	In Service
W1-029	Winfall 230kV	In Service
X1-038	Union Camp 115kV	In Service

Queue Number	Project Name	Status
Y1-086	Morgans Corner	In Service
Z1-036	WinFall-Chowan 230kV	Suspended
Z2-027	Pasquotank 34.5kV	In Service
Z2-043	Kelford 34.5kV	In Service
Z2-044	Whitakers 34.5kV	In Service
Z2-088	Tarboro-Everetts 230kV	In Service

## 11.8 Contingency Descriptions

Contingency Name	Contingency Definition
<b>DVP_P4-2: 218T2160</b>	CONTINGENCY 'DVP_P4-2: 218T2160' /* EVERETTS 230 KV OPEN BRANCH FROM BUS 304451 TO BUS 314574 CKT 1 /* 6GREENVILE T230.00 - 6EVERETS 230.00 OPEN BRANCH FROM BUS 927020 TO BUS 314574 CKT 1 /* AC1-189 TAP 230.00 - 6EVERETS 230.00 END
<b>DVP_P1-2: LN 247</b>	CONTINGENCY 'DVP_P1-2: LN 247' OPEN BRANCH FROM BUS 313713 TO BUS 314648 CKT 1 /* 6SWAMP 230.00 - 6SUNBURY 230.00 OPEN BRANCH FROM BUS 314537 TO BUS 314648 CKT 1 /* 6SUFFOLK 230.00 - 6SUNBURY 230.00 OPEN BUS 314648 /* ISLAND: 6SUNBURY 230.00 END
<b>DVP_P1-2: LN 246</b>	CONTINGENCY 'DVP_P1-2: LN 246' OPEN BRANCH FROM BUS 957790 TO BUS 314575 CKT 1 /* 6SUFFOLK 230.00 - 6NUCO TP 230.00 OPEN BRANCH FROM BUS 314569 TO BUS 314575 CKT 1 /* 6EARLEYS 230.00 - 6NUCO TP 230.00 OPEN BRANCH FROM BUS 314575 TO BUS 314590 CKT 1 /* 6NUCO TP 230.00 - 6NUCOR 230.00 OPEN BUS 314575 /* ISLAND: 6NUCO TP 230.00 OPEN BUS 314590 /* ISLAND: 6NUCOR 230.00 END
<b>314550 6HICKORY 230 937220 AD2-160 TAP 230 1</b>	CONTINGENCY '314550 6HICKORY 230 937220 AD2-160 TAP 230 1' OPEN BRANCH FROM BUS 314550 TO BUS 937220 CKT 1 END

Contingency Name	Contingency Definition
<b>DVP_P2-2: BREMO B1</b>	CONTINGENCY 'DVP_P2-2: BREMO B1' /* BREMO 230 KV OPEN BRANCH FROM BUS 314326 TO BUS 314747 CKT 1 /* 6BEARGRDN 230.00 - 6BREMO 230.00 OPEN BRANCH FROM BUS 314326 TO BUS 315191 CKT 1 /* 6BEARGRDN 230.00 - 1BEARGRDN G118.000 OPEN BUS 315191 /* ISLAND: 1BEARGRDN G118.000 OPEN BRANCH FROM BUS 314326 TO BUS 314747 CKT 2 /* 6BEARGRDN 230.00 - 6BREMO 230.00 OPEN BRANCH FROM BUS 314326 TO BUS 315192 CKT 1 /* 6BEARGRDN 230.00 - 1BEARGRDN G218.000 OPEN BRANCH FROM BUS 314326 TO BUS 315193 CKT 1 /* 6BEARGRDN 230.00 - 1BEARGRDN S122.000 OPEN BUS 315192 /* ISLAND: 1BEARGRDN G218.000 OPEN BUS 315193 /* ISLAND: 1BEARGRDN S122.000 OPEN BRANCH FROM BUS 314677 TO BUS 314747 CKT 1 /* 6BUCKING 230.00 - 6BREMO 230.00 OPEN BRANCH FROM BUS 313868 TO BUS 314747 CKT 1 /* 6CARTERV 230.00 - 6BREMO 230.00 OPEN BRANCH FROM BUS 313867 TO BUS 314747 CKT 1 /* 6BREMODIST 230.00 - 6BREMO 230.00 OPEN BRANCH FROM BUS 314744 TO BUS 314747 CKT 1 /* 3BREMO 115.00 - 6BREMO 230.00 OPEN BUS 314747 /* 6BREMO 230.00 KV OPEN BUS 314326 /* ISLAND: 6BEARGRDN 230.00 END
<b>DVP_P4-2: 203462</b>	CONTINGENCY 'DVP_P4-2: 203462' /* EARLEYS 230 KV OPEN BRANCH FROM BUS 314569 TO BUS 314620 CKT 1 /* 6EARLEYS 230.00 - 6CASHIE 230.00 OPEN BRANCH FROM BUS 933990 TO BUS 314620 CKT 1 /* AD1-023 TAP 230.00 - 6CASHIE 230.00 OPEN BUS 314620 /* ISLAND: 6CASHIE 230.00 OPEN BRANCH FROM BUS 314568 TO BUS 314569 CKT 2 /* 3EARLEYS 115.00 - 6EARLEYS 230.00 END
<b>DVP_P1-2: LN 2131</b>	CONTINGENCY 'DVP_P1-2: LN 2131' OPEN BRANCH FROM BUS 313714 TO BUS 313885 CKT 1 /* 6PERQUIMANS 230.00 - 6WALBMRL 230.00 OPEN BRANCH FROM BUS 313885 TO BUS 314637 CKT 1 /* 6WALBMRL 230.00 - 6EDENTON 230.00 OPEN BRANCH FROM BUS 314203 TO BUS 314637 CKT 1 /* 6MACKEYS 230.00 - 6EDENTON 230.00 OPEN BUS 313885 /* ISLAND: 6WALBMRL 230.00 OPEN BUS 314637 /* ISLAND: 6EDENTON 230.00 END

Contingency Name	Contingency Definition
<b>DVP_P4-2: 24742</b>	CONTINGENCY 'DVP_P4-2: 24742' /* SUFFOLK 230 KV OPEN BRANCH FROM BUS 313713 TO BUS 314648 CKT 1 /* 6SWAMP 230.00 - 6SUNBURY 230.00 OPEN BRANCH FROM BUS 314537 TO BUS 314648 CKT 1 /* 6SUFFOLK 230.00 - 6SUNBURY 230.00 OPEN BUS 314648 /* ISLAND: 6SUNBURY 230.00 OPEN BRANCH FROM BUS 314536 TO BUS 314537 CKT 1 /* 3SUFFOLK 115.00 - 6SUFFOLK 230.00 OPEN BRANCH FROM BUS 314537 TO BUS 314928 CKT 1 /* 6SUFFOLK 230.00 - 8SUFFOLK 500.00 REMOVE SWSHUNT FROM BUS 314537 END
<b>DVP_P4-2: 26922</b>	CONTINGENCY 'DVP_P4-2: 26922' /* FENTRESS 230 KV OPEN BRANCH FROM BUS 314466 TO BUS 314645 CKT 1 /* 6FENTRES 230.00 - 6SLIGO L269 230.00 OPEN BRANCH FROM BUS 314645 TO BUS 938530 CKT 1 /* 6SLIGO L269 230.00 - AE1-072 TAP 230.00 OPEN BUS 314645 /* ISLAND: 6SLIGO L269 230.00 OPEN BRANCH FROM BUS 314466 TO BUS 314909 CKT 2 /* 6FENTRES 230.00 - 8FENTRES 500.00 OPEN BUS 314654 /* 6FENTR_1 230.00 KV OPEN BUS 313889 /* 6FENTRES_STC230.00 KV END
<b>DVP_P7-1: LN 2058-2181</b>	CONTINGENCY 'DVP_P7-1: LN 2058-2181' /* . OPEN BRANCH FROM BUS 304222 TO BUS 313845 CKT 1 /* 6ROCKYMT230T230.00 - 6HATHAWAY 230.00 OPEN BRANCH FROM BUS 313844 TO BUS 313845 CKT 2 /* 3HATHAWAY 115.00 - 6HATHAWAY 230.00 OPEN BUS 304226 /* ISLAND: 6PA-RMOUNT#4115.00 OPEN BRANCH FROM BUS 304226 TO BUS 314591 CKT 1 /* 6PA-RMOUNT#4230.00 - 6NASH 230.00 OPEN BRANCH FROM BUS 313845 TO BUS 314591 CKT 1 /* 6HATHAWAY 230.00 - 6NASH 230.00 OPEN BUS 314591 /* ISLAND: 6NASH 230.00 END

Contingency Name	Contingency Definition
<b>DVP_P4-2: 246T2034</b>	CONTINGENCY 'DVP_P4-2: 246T2034' /* EARLEYS 230 KV OPEN BRANCH FROM BUS 314537 TO BUS 957820 CKT 1 /* 6SUFFOLK 230.00 - 6NUCO TP 230.00 OPEN BRANCH FROM BUS 314569 TO BUS 314575 CKT 1 /* 6EARLEYS 230.00 - 6NUCO TP 230.00 OPEN BRANCH FROM BUS 314575 TO BUS 314590 CKT 1 /* 6NUCO TP 230.00 - 6NUCOR 230.00 OPEN BUS 314575 /* ISLAND: 6NUCO TP 230.00 OPEN BUS 314590 /* ISLAND: 6NUCOR 230.00 OPEN BRANCH FROM BUS 314569 TO BUS 314620 CKT 1 /* 6EARLEYS 230.00 - 6CASHIE 230.00 OPEN BRANCH FROM BUS 933990 TO BUS 314620 CKT 1 /* AD1-023 TAP 230.00 - 6CASHIE 230.00 OPEN BUS 314620 /* ISLAND: 6CASHIE 230.00 END
<b>DVP_P1-2: LN 2181</b>	CONTINGENCY 'DVP_P1-2: LN 2181' OPEN BUS 304226 /* ISLAND: 6PA-RMOUNT#4115.00 OPEN BRANCH FROM BUS 304226 TO BUS 314591 CKT 1 /* 6PA-RMOUNT#4230.00 - 6NASH 230.00 OPEN BRANCH FROM BUS 313845 TO BUS 314591 CKT 1 /* 6HATHAWAY 230.00 - 6NASH 230.00 OPEN BUS 314591 /* ISLAND: 6NASH 230.00 END
<b>314572 3EMPORIA 115 925170 AB2-174 TAP 115 1</b>	CONTINGENCY '314572 3EMPORIA 115 925170 AB2-174 TAP 115 1' OPEN BRANCH FROM BUS 314572 TO BUS 925170 CKT 1 END
<b>DVP_P7-1: LN 25-2034-A</b>	CONTINGENCY 'DVP_P7-1: LN 25-2034-A' OPEN BRANCH FROM BUS 314573 TO BUS 314596 CKT 1 /* 3EVERETS 115.00 - 3POPLR C 115.00 OPEN BRANCH FROM BUS 314596 TO BUS 314614 CKT 1 /* 3POPLR C 115.00 - 3TRWBRDG2 115.00 OPEN BUS 314596 /* ISLAND: 3POPLR C 115.00 OPEN BRANCH FROM BUS 314614 TO BUS 314616 CKT 1 /* 3TRWBRDG2 115.00 - 6TRWBRDG 230.00 OPEN BRANCH FROM BUS 314616 TO BUS 933990 CKT 1 /* 6TRWBRDG 230.00 - AD1-023 TAP 230.00 END

Contingency Name	Contingency Definition
<b>DVP_P4-2: 246T247</b>	CONTINGENCY 'DVP_P4-2: 246T247' /* SUFFOLK 230 KV OPEN BRANCH FROM BUS 314537 TO BUS 957820 CKT 1 /* 6SUFFOLK 230.00 - 6NUCO TP 230.00 OPEN BRANCH FROM BUS 314569 TO BUS 314575 CKT 1 /* 6EARLEYS 230.00 - 6NUCO TP 230.00 OPEN BRANCH FROM BUS 314575 TO BUS 314590 CKT 1 /* 6NUCO TP 230.00 - 6NUCOR 230.00 OPEN BUS 314575 /* ISLAND: 6NUCO TP 230.00 OPEN BUS 314590 /* ISLAND: 6NUCOR 230.00 OPEN BRANCH FROM BUS 313713 TO BUS 314648 CKT 1 /* 6SWAMP 230.00 - 6SUNBURY 230.00 OPEN BRANCH FROM BUS 314537 TO BUS 314648 CKT 1 /* 6SUFFOLK 230.00 - 6SUNBURY 230.00 OPEN BUS 314648 /* ISLAND: 6SUNBURY 230.00 END
<b>DVP_P1-2: LN 2056-A</b>	CONTINGENCY 'DVP_P1-2: LN 2056-A' OPEN BRANCH FROM BUS 313845 TO BUS 934330 CKT 1 /* 6HATHAWAY 230.00 - AD1-057 TAP 230.00 END
<b>AEP_P4_#11111_05J.FERR 765_B1</b>	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
<b>DVP_P1-2: LN 218</b>	CONTINGENCY 'DVP_P1-2: LN 218' OPEN BRANCH FROM BUS 304451 TO BUS 314574 CKT 1 /* 6GREENVILE T230.00 - 6EVERETS 230.00 END
<b>DVP_P4-2: 2020T2144</b>	CONTINGENCY 'DVP_P4-2: 2020T2144' /* WINFALL 230 KV OPEN BRANCH FROM BUS 313851 TO BUS 314638 CKT 1 /* 6ECITYDP2 230.00 - 6ELIZ CT 230.00 OPEN BRANCH FROM BUS 313851 TO BUS 314639 CKT 1 /* 6ECITYDP2 230.00 - 6TANGLEW 230.00 OPEN BRANCH FROM BUS 314639 TO BUS 314651 CKT 1 /* 6TANGLEW 230.00 - 6WINFALL 230.00 OPEN BUS 313851 /* ISLAND: 6ECITYDP2 230.00 OPEN BUS 314639 /* ISLAND: 6TANGLEW 230.00 OPEN BUS 917122 /* ISLAND: Z2-027 E 230.00 OPEN BRANCH FROM BUS 313713 TO BUS 314651 CKT 1 /* 6SWAMP 230.00 - 6WINFALL 230.00 END

Contingency Name	Contingency Definition
<b>AEP_P1-2_#1377</b>	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
<b>DVP_P1-2: LN 82</b>	CONTINGENCY 'DVP_P1-2: LN 82' OPEN BRANCH FROM BUS 314573 TO BUS 314622 CKT 1 /* 3EVERETS 115.00 - 3WHARTON 115.00 OPEN BRANCH FROM BUS 314618 TO BUS 314622 CKT 1 /* 3VOA TAP 115.00 - 3WHARTON 115.00 OPEN BRANCH FROM BUS 314622 TO BUS 314876 CKT 1 /* 3WHARTON 115.00 - 3WHART_2 115.00 OPEN BUS 314618 /* ISLAND: 3VOA TAP 115.00 OPEN BUS 314876 /* ISLAND: 3WHART_2 115.00 END
<b>DVP_P1-2: LN 2020</b>	CONTINGENCY 'DVP_P1-2: LN 2020' OPEN BRANCH FROM BUS 313851 TO BUS 314638 CKT 1 /* 6ECITYDP2 230.00 - 6ELIZ CT 230.00 OPEN BRANCH FROM BUS 313851 TO BUS 314639 CKT 1 /* 6ECITYDP2 230.00 - 6TANGLEW 230.00 OPEN BRANCH FROM BUS 314639 TO BUS 314651 CKT 1 /* 6TANGLEW 230.00 - 6WINFALL 230.00 OPEN BUS 313851 /* ISLAND: 6ECITYDP2 230.00 OPEN BUS 314639 /* ISLAND: 6TANGLEW 230.00 OPEN BUS 917122 /* ISLAND: Z2-027 E 230.00 END
<b>314645 6SLIGO L269 230 938530 AE1-072 TAP 230 1</b>	CONTINGENCY '314645 6SLIGO L269 230 938530 AE1-072 TAP 230 1' OPEN BRANCH FROM BUS 314645 TO BUS 938530 CKT 1 END
<b>Base Case</b>	
<b>DVP_P1-2: LN 2144</b>	CONTINGENCY 'DVP_P1-2: LN 2144' OPEN BRANCH FROM BUS 313713 TO BUS 314651 CKT 1 /* 6SWAMP 230.00 - 6WINFALL 230.00 END
<b>DVP_P1-2: LN 2058</b>	CONTINGENCY 'DVP_P1-2: LN 2058' OPEN BRANCH FROM BUS 304222 TO BUS 313845 CKT 1 /* 6ROCKYMT230T230.00 - 6HATHAWAY 230.00 OPEN BRANCH FROM BUS 313844 TO BUS 313845 CKT 2 /* 3HATHAWAY 115.00 - 6HATHAWAY 230.00 END

Contingency Name	Contingency Definition
<b>DVP_P1-2: LN 2092</b>	CONTINGENCY 'DVP_P1-2: LN 2092' OPEN BRANCH FROM BUS 313714 TO BUS 314662 CKT 1 /* 6PERQUIMANS 230.00 - 6S HERTFORD 230.00 OPEN BRANCH FROM BUS 314651 TO BUS 314662 CKT 1 /* 6WINFALL 230.00 - 6S HERTFORD 230.00 OPEN BUS 314662 /* ISLAND: 6S HERTFORD 230.00 END
<b>DVP_P1-2: LN 2034-B</b>	CONTINGENCY 'DVP_P1-2: LN 2034-B' OPEN BRANCH FROM BUS 314569 TO BUS 314620 CKT 1 /* 6EARLEYS 230.00 - 6CASHIE 230.00 OPEN BRANCH FROM BUS 933990 TO BUS 314620 CKT 1 /* AD1-023 TAP 230.00 - 6CASHIE 230.00 OPEN BUS 314620 /* ISLAND: 6CASHIE 230.00 END
<b>DVP_P4-2: 24972-4</b>	CONTINGENCY 'DVP_P4-2: 24972-4' /* CARSON 230 KV OPEN BRANCH FROM BUS 314282 TO BUS 314285 CKT 1 /* 6CARSON 230.00 - 6CHRL249 230.00 OPEN BRANCH FROM BUS 314285 TO BUS 314316 CKT 1 /* 6CHRL249 230.00 - 6LOCKS 230.00 OPEN BRANCH FROM BUS 314314 TO BUS 314316 CKT 2 /* 3LOCKS 115.00 - 6LOCKS 230.00 OPEN BUS 314285 /* ISLAND: 6CHRL249 230.00 OPEN BRANCH FROM BUS 314282 TO BUS 314902 CKT 1 /* 6CARSON 230.00 - 8CARSON 500.00 OPEN BUS 314455 /* 6CARSO_1 230.00 KV END
<b>DVP_P4-2: 2056T2181</b>	CONTINGENCY 'DVP_P4-2: 2056T2181' /* HATHAWAY 230 KV OPEN BRANCH FROM BUS 313845 TO BUS 934330 CKT 1 /* 6HATHAWAY 230.00 - AD1-057 TAP 230.00 OPEN BUS 304226 /* ISLAND: 6PA-RMOUNT#4115.00 OPEN BRANCH FROM BUS 304226 TO BUS 314591 CKT 1 /* 6PA-RMOUNT#4230.00 - 6NASH 230.00 OPEN BRANCH FROM BUS 313845 TO BUS 314591 CKT 1 /* 6HATHAWAY 230.00 - 6NASH 230.00 OPEN BUS 314591 /* ISLAND: 6NASH 230.00 END
<b>AEP_P4_#11112_05J.FERR 765_A1</b>	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

## **12 Short Circuit Analysis**

Short circuit analysis to be provided as part of the System Impact Study report.

## **13 Affected Systems**

### **13.1 TVA**

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

### **13.2 Duke Energy Progress**

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