



**Generation Interconnection  
Feasibility Study Report  
for  
Queue Project AF2-358  
AIREY-VIENNA 69 KV  
60 MW Capacity / 100 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 DPL.

## 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.

An Interconnection Customer with a proposed new Customer Facility that has a Maximum Facility Output equal to or greater than 100 MW shall install and maintain, at its expense, phasor measurement units (PMUs). See Section 8.5.3 of Appendix 2 to the Interconnection Service Agreement as well as section 4.3 of PJM Manual 14D for additional information.

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 Dorchester County, MD. The installed facilities will have a total capability of 100 MW with 60 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is December 15, 2023. This study does not imply a TO commitment to this in-service date.

<b>Queue Number</b>	<b>AF2-358</b>
<b>Project Name</b>	AIREY-VIENNA 69 KV
<b>State</b>	Dorchester County
<b>County</b>	Maryland
<b>Transmission Owner</b>	DPL
<b>MFO</b>	100
<b>MWE</b>	100
<b>MWC</b>	60
<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 Primary Point of Interconnection

AF2-358 will have a primary point of interconnection with the DPL transmission system tapping the Airey to Vienna 69 kV line via a new 3-breaker ring bus to be constructed as part of this project.

### 5 Cost Summary

The AF2-358 project will be responsible for the following costs:

<b>Description</b>	<b>Total Cost</b>
<b>Total Physical Interconnection Costs</b>	\$ 6,300,000
<b>Total System Network Upgrade Costs</b>	\$495,081,957
<b>Total Costs</b>	\$501,381,957

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.

## 5.1 DPL Costs

Cost estimates will further be refined as a part of the Impact Study and Facilities Study for this project. The Interconnection Customer will be responsible for all costs incurred by DPL in connection with the AF2-358 project. DPL reserves the right to reassess issues presented in this document and, upon appropriate justification, submit additional costs related to the AF2-358 project.

## 6 Transmission Owner Scope of Work

Construct a new 3-breaker ring bus substation connecting to the Vienna to Airey Tap 69 kV line. Two of the terminal positions will be to accommodate the Vienna to Airey Tap line, while the remaining position will accommodate the generator.

### Major Equipment:

- Three (3) 2000A 69kV Circuit Breakers
- Six (6) 2000A 69 kV breaker disconnect switches
- Three (3) 2000A 69 kV line disconnect switches
- One (1) new control building and
- Six (6) new relay panel
- Associated bus work

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

Description	Total Cost
New 3-breaker ring bus tapping Vienna – Airey 69 kV	\$6,300,000
<b>Total Physical Interconnection Costs</b>	<b>\$6,300,000</b>

### Estimate Assumption:

- Any land necessary for the project will be provided by the developer and is not included in this estimate
- All site prep completed by the developer
- At least 4 acres required to perform this scope of work

## 7 Schedule

DPL would take approximately 36-48 months to complete the TO scope of work.

## 8 Transmission Owner Analysis

None

## 9 Interconnection Customer Requirements

### 9.1 Required Relaying and Communications

New protection relays are required for the new terminals.

Front line and back-up line protection will be required. A relay panel at the generator terminal will be required for front line and back-up protection.

New protection relays are required for the new line terminals. Frontline and Backup line protection will be required. A relay panel will be required for each transmission line (2 total).

A breaker control relay on a breaker control panel will be required for the control and operation of each new 69 kV circuit breaker (3 total).

The project will require re-wiring and adjustment of existing relay schemes at Vienna and West Cambridge substation to accommodate the new 69 kV substation.

### 9.2 Interconnection Customer Scope of Direct Connection Work

The IC is responsible for all design and construction related to activities on their side of the Point of Interconnection. Site preparation, including grading and an access road, as necessary, is assumed to be by the IC. Route selection, line design, and right-of-way acquisition of the direct connect facilities is not included in this report and is the responsibility of the IC. Protective relaying and metering design and installation must comply with DPL's applicable standards. The IC is also required to provide revenue metering and real-time telemetering data to PJM in conformance with the requirements contained in PJM Manuals M-01 and M-14 and the PJM Tariff.

### 9.3 DPL Interconnection Customer Scope of Direct Connection Work Requirements

- DPL requires that an IC circuit breaker is located within 500 feet of the DPL substation to facilitate the relay protection scheme between DPL and the IC at the Point of Interconnection (POI).

## 9.4 Special Operating Requirements

1. DPL will require the capability to remotely disconnect the generator from the grid by communication from its System Operations facility. Such disconnection may be facilitated by a generator breaker, or other method depending upon the specific circumstances and the evaluation by DPL.
2. DPL reserves the right to charge the Interconnection Customer operation and maintenance expenses to maintain the Interconnection Customer attachment facilities, including metering and telecommunications facilities, owned by DPL.

## 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.

### 10.2 Interconnected Transmission Owner Requirements

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

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

A three phase 69 kV revenue metering point will need to be established within the Interconnection Customer Facilities at the Point of Interconnection. The Interconnection Customer will purchase and install all metering instrument transformers as well as construct a metering structure per the DPL's specifications. The secondary wiring connections at the instrument transformers will be completed by the Interconnection Customer and inspected by DPL, while the connections at the metering enclosure will be completed by the DPL. The metering control cable and meter cabinets will be supplied by the DPL and installed by the Interconnection Customer. The Interconnection Customer will install conduit for the control cable between the instrument transformers and the metering enclosure. The location of the metering enclosure will be determined during construction. The Interconnection Customer will provide 690V power to the meter cabinet. The DPL will provide, program, install, and own the primary & backup solid state multi-function meters for the new metering position.

Each meter will be equipped with load profile, telemetry, and DNP outputs. The Interconnection Customer will be provided with one-meter DNP output for each meter. DPL will supply a wireless modem for MV90 interrogation. In the event that a wireless modem is unable to reliably communicate, the IC will be required to make provisions for a POTS (Plain Old Telephone Service) line or equivalent technology approved by DPL within approximately three feet of the DPL metering position to facilitate remote interrogation and data collection. It is the Interconnection Customer's responsibility to send the data that PJM and DPL require

directly to PJM. The Interconnection Customer will grant permission for PJM to send DPL the following telemetry that the Interconnection Customer sends to PJM: real time MW, MVAR, volts, amperes, generator status, and interval MWH and MVARH.

DPL's revenue meters will be the official meters and must be the source for reporting generation output to PJM. The Interconnection Customer is responsible for installing telemetry equipment necessary to obtain the revenue meter data and submitting the data to PJM.

## 11 Summer Peak - Load Flow Analysis - Primary POI

The Queue Project AF2-358 was evaluated as a 100.0 MW (Capacity 60.0 MW) injection tapping the Airey to Vienna 69 kV line in the DPL area. Project AF2-358 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-358 was studied with a commercial probability of 53.0 %. 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 PROJECT LOADING %	POST PROJECT LOADING %	AC/D C	MW IMPACT
102001245	232239	SHARPTW N	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	DPL_P1_2_CKT13707	single	42.0	85.99	108.66	DC	9.52
102001246	232239	SHARPTW N	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	DPL_P1_2_CKT6708	single	42.0	80.13	107.22	DC	11.38
102001301	232241	VIENN_69	69.0	DP&L	232838	MARDEL A	69.0	DP&L	1	DPL_P1_2_CKT6728	single	64.0	88.48	103.21	DC	9.43
102001302	232241	VIENN_69	69.0	DP&L	232838	MARDEL A	69.0	DP&L	1	DPL_P1_3_LORE TO AT1&2	single	64.0	85.56	100.8	DC	9.75

### 11.2 Multiple Facility Contingency

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

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/D C	MW IMPACT
99647357	200012	NEWFRDM	500.0	PJM	200028	WINDSOR	500.0	PJM	1	PECO_P4_PEACH215/* \$ CHESCO \$ PEACH215 \$ STBK	breaker	3011.0	99.96	100.35	DC	25.34
99647358	200012	NEWFRDM	500.0	PJM	200028	WINDSOR	500.0	PJM	1	PECO_P4_PEACH205/* \$ CHESCO \$ PEACH205 \$ STBK	breaker	3011.0	99.89	100.29	DC	25.34
102000925	232230	TRAP ALT	69.0	DP&L	232232	TRAPPE TP	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	96.95	111.25	DC	24.86
102000926	232232	TRAPPET P	69.0	DP&L	232227	EASTN_69	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	95.6	110.4	DC	25.74
102000764	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	DPL_P4-2_DP12	breaker	93.0	97.38	122.82	DC	23.65

### 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 PROJECT LOADING %	POST PROJECT LOADING %	AC/D C	MW IMPACT
99647179	200051	ROCKSPG S	500.0	PJM	200065	PCHBTM 2S	500.0	PJM	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	143.37	144.18	DC	50.79
100302272	213559	DELCOTA P	230.0	PECO	228401	MCKLTON	230.0	AE	1	PECO_P2-2_CHI230B1/* \$ DELCO \$ CHI230B1 \$ B	bus	725.0	108.59	109.09	DC	7.86

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 D C	MW IMPA CT
100302574	213559	DELCOTA P	230.0	PECO	228401	MCKLTON	230.0	AE	1	PECO_P4_CHICH045/* \$ DELCO \$ CHICH045 \$ STBK	breaker	725.0	108.59	109.09	DC	7.86
100302428	231000	CLAY_230	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	149.24	150.11	DC	15.31
100302775	231000	CLAY_230	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	single	804.0	111.34	111.86	DC	9.22
100302441	231001	EDGEMR5	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	144.06	144.85	DC	13.87
100302792	231001	EDGEMR5	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-84	single	804.0	110.15	110.66	DC	8.96
100302793	231001	EDGEMR5	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	DPL_P1-2_CKT 23015	single	804.0	109.95	110.43	DC	8.34
100302801	231001	EDGEMR5	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	single	804.0	110.51	110.99	DC	8.35
102000920	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P4_PEACH215/* \$ CHESCO \$ PEACH215 \$ STBK	breaker	378.0	121.06	122.23	DC	9.81
102000921	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P4_PEACH205/* \$ CHESCO \$ PEACH205 \$ STBK	breaker	378.0	119.05	120.22	DC	9.81
100302381	232001	COOLSPRS	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	DPL_P4-2_DP15	breaker	678.0	156.9	158.57	DC	25.14
99647116	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	DPL_P4-2_DP25B	breaker	804.0	152.77	154.44	DC	29.78
99647117	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	DPL_P4-2_DP23	breaker	804.0	152.64	154.31	DC	29.78
99647118	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	DPL_P4-2_DP24	breaker	804.0	152.63	154.3	DC	29.78
100302454	232006	INDRIV4	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	DPL_P4-2_DP36	breaker	805.0	136.39	138.03	DC	29.46
102002012	232100	CHURCH	138.0	DP&L	232107	TOWNSE ND	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_FSA-A	tower	348.0	132.79	139.42	DC	23.3
102002018	232106	MIDLTNT P	138.0	DP&L	232104	MT PLSNT	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_FSA-A	tower	348.0	128.68	135.31	DC	23.3
102002002	232107	TOWNSE ND	138.0	DP&L	232106	MIDLTNT P	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_FSA-A	tower	348.0	137.99	144.62	DC	23.3
102001000	232114	SHARNGT N	138.0	DP&L	232112	FELTON	138.0	DP&L	1	DPL_P4-2_DP6	breaker	242.0	104.09	105.8	DC	9.28
102000763	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	206.97	234.5	DC	25.74
102000748	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	211.91	239.45	DC	25.74
102000749	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	DPL_P4-2_DP12	breaker	93.0	102.43	127.87	DC	23.65
102000875	232241	VIENN_69	69.0	DP&L	232838	MARDELA	69.0	DP&L	1	DPL_P4-2_DP56	breaker	64.0	112.99	140.67	DC	17.71
102000889	232821	TANYARD	69.0	DP&L	232820	TALBOT	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	107.85	122.65	DC	25.74
102000890	232838	MARDELA	69.0	DP&L	232270	HEBRON	69.0	DP&L	1	DPL_P4-2_DP56	breaker	64.0	102.68	130.36	DC	17.71

#### 11.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC/D C	MW IMPAC T
99647901	200012	NEWFRDM	500.0	PJM	200028	WINDSOR	500.0	PJM	1	PECO_P1-2_5014/* \$ CHESCO \$ 5014 \$ L	operati on	3011.0	99.89	100.28	DC	25.34
99647701	200051	ROCKSPGS	500.0	PJM	200065	PCHBTM2S	500.0	PJM	1	PECO_P1-2_5038/* \$ CHESCO \$ 5038 \$ L	operati on	2905.0	141.91	142.71	DC	50.41
99647823	200064	PCHBTM1S	500.0	PJM	200004	CNASTONE	500.0	PJM	1	PECO_P1-2_5007_S/* \$ CHESCO \$ 5007_S \$ L	operati on	3525.0	119.22	119.78	DC	41.81
99647839	200066	PCHBTM1N	500.0	PJM	270072	FUR RUN_500	500.0	PJM	1	PECO_P1-2_5012/* \$ CHESCO \$ 5012 \$ L	operati on	3525.0	114.72	115.23	DC	38.31
100302964	213489	CHICHST1	230.0	PECO	213588	EDDYSTN4	230.0	PECO	1	PECO_P1-2_220-04/* \$ DELCO \$ 220-04 \$ L	operati on	1078.0	108.53	109.01	DC	11.09
100302774	231000	CLAY_230	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	operati on	804.0	140.06	140.94	DC	15.36
100302790	231001	EDGEGR5	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-84	operati on	804.0	138.08	138.93	DC	14.93
100302800	231001	EDGEGR5	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	operati on	804.0	135.61	136.41	DC	13.91
102001366	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P1-2_5014/* \$ CHESCO \$ 5014 \$ L	operati on	378.0	119.02	120.19	DC	9.81
100302721	232001	COOLSPRS	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	DPL_P1_2_CK T 23034	operati on	678.0	157.28	159.29	DC	30.3
100302723	232001	COOLSPRS	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	Base Case	operati on	550.0	107.42	108.9	DC	18.14
99647522	232002	CEDAR CK	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	CKT 23032B	operati on	679.0	169.26	171.55	DC	34.45
99647523	232002	CEDAR CK	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	Base Case	operati on	551.0	133.12	135.13	DC	24.84
99647621	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	CKT 23030B	operati on	804.0	152.47	154.12	DC	29.83
99647622	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	Base Case	operati on	650.0	139.06	140.38	DC	18.93
100302715	232004	MILF_230	230.0	DP&L	232000	STEELE	230.0	DP&L	1	CKT 23032B	operati on	550.0	169.71	170.43	DC	8.7
100302947	232004	MILF_230	230.0	DP&L	232002	CEDAR CK	230.0	DP&L	1	CKT 23032B	operati on	804.0	106.86	108.26	DC	24.97
100302787	232006	INDRIV4	230.0	DP&L	232001	COOLSPRS	230.0	DP&L	1	DPL_P1_2_CK T 23034	operati on	800.0	138.2	139.56	DC	24.23
100302788	232006	INDRIV4	230.0	DP&L	232001	COOLSPRS	230.0	DP&L	1	Base Case	operati on	650.0	100.11	101.0	DC	12.78
100302796	232006	INDRIV4	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	DPL_P1_2_CK T 23069	operati on	805.0	134.43	136.1	DC	29.85
100302798	232006	INDRIV4	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	Base Case	operati on	650.0	102.6	103.78	DC	17.06

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 LOADIN G %	POST PROJECT LOADIN G %	AC/DC	MW IMPACT
99647830	232013	SILVER RUN	230.0	PJM	231004	RL_230	230.0	DP&L	1	CKT 23032A	operation	679.0	113.6	114.93	DC	20.05
102001397	232100	CHURCH	138.0	DP&L	232107	TOWNSEND	138.0	DP&L	1	CKT 23032B	operation	348.0	101.6	105.42	DC	13.44
102001412	232106	MIDLNTNTP	138.0	DP&L	232104	MT PLSNT	138.0	DP&L	1	CKT 23032B	operation	348.0	100.06	103.89	DC	13.44
102001360	232107	TOWNSEND	138.0	DP&L	232106	MIDLNTNP	138.0	DP&L	1	CKT 23032B	operation	348.0	109.4	113.23	DC	13.44
102001362	232107	TOWNSEND	138.0	DP&L	232106	MIDLNTNP	138.0	DP&L	1	Base Case	operation	273.0	105.83	110.12	DC	11.71
102001306	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	DPL_P1_2_23085 &13710	operation	93.0	96.49	122.0	DC	23.72
102001287	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	DPL_P1_2_23085 &13710	operation	93.0	101.54	127.05	DC	23.72
102001239	232239	SHARPTW N	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	DPL_P1_2_CKT 6708	operation	42.0	122.31	167.45	DC	18.96
102001244	232239	SHARPTW N	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	Base Case	operation	42.0	98.85	134.64	DC	15.03
102001192	232241	VIENN_69	69.0	DP&L	232239	SHARPTW N	69.0	DP&L	1	DPL_P1_2_CKT 6708	operation	42.0	134.46	179.6	DC	18.96
102001197	232241	VIENN_69	69.0	DP&L	232239	SHARPTW N	69.0	DP&L	1	Base Case	operation	42.0	111.0	146.78	DC	15.03
102001295	232241	VIENN_69	69.0	DP&L	232838	MARDELA	69.0	DP&L	1	DPL_P1_2_CKT 6705	operation	64.0	105.32	138.16	DC	21.01
102001300	232241	VIENN_69	69.0	DP&L	232838	MARDELA	69.0	DP&L	1	Base Case	operation	64.0	86.92	113.28	DC	16.87
102001233	232242	VIENNALC	69.0	DP&L	232241	VIENN_69	69.0	DP&L	1	DPL_P1_2_CKT 6715	operation	95.0	61.08	166.34	DC	100.0
102001238	232242	VIENNALC	69.0	DP&L	232241	VIENN_69	69.0	DP&L	1	Base Case	operation	95.0	22.92	106.85	DC	79.74
102001148	232291	ROCKAWL KN	69.0	DP&L	232271	NSALSBR Y	69.0	DP&L	1	DPL_P1_2_CKT 6728	operation	58.0	191.67	218.76	DC	15.71
102001153	232291	ROCKAWL KN	69.0	DP&L	232271	NSALSBR Y	69.0	DP&L	1	Base Case	operation	58.0	167.0	196.09	DC	16.87
102001374	232292	BAYLY	69.0	DP&L	232237	CAMBRID G	69.0	DP&L	1	Base Case	operation	50.0	81.63	122.16	DC	20.27
102001343	232838	MARDELA	69.0	DP&L	232270	HEBRON	69.0	DP&L	1	Base Case	operation	50.0	98.26	132.0	DC	16.87
102001344	232838	MARDELA	69.0	DP&L	232270	HEBRON	69.0	DP&L	1	DPL_P1_2_CKT 6705	operation	64.0	95.17	128.0	DC	21.01
102001388	924830	AB2-136 TAP	69.0	DP&L	232292	BAYLY	69.0	DP&L	1	Base Case	operation	51.0	80.03	119.76	DC	20.27
102001220	960670	AF2-358 TAP	69.0	DP&L	232242	VIENNALC	69.0	DP&L	1	DPL_P1_2_CKT 6715	operation	95.0	62.45	167.71	DC	100.0
102001225	960670	AF2-358 TAP	69.0	DP&L	232242	VIENNALC	69.0	DP&L	1	Base Case	operation	95.0	24.29	108.22	DC	79.74

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

ID	Idx	Facility	Upgrade Description	Cost
100302793,100 302792	11	EDGEMR 5 230.0 kV - LINWOOD 230.0 kV Ckt 1	<p><b>DPL:</b> dt22085r0001 (1058) : To mitigate the (DPL) Edge Moor - (PECO) Linwood 230 kV line (from bus 231001 to 214236) overload it will require increasing the emergency rating of the Edge Moor - Linwood 230 kV line by rebuilding the line with new poles, foundations, insulators and OPGW Project Type : FAC Cost : \$20,000,000 Time Estimate : 36-48 Months</p> <p><b>PECO:</b> pe024 (1698) : Rebuild 8.64 miles of 230 kV line from Linwood to Edgemoor with 2x1590 kcmil 54/19 ACSR Project Type : FAC Cost : \$4,500,000 Time Estimate : 36.0 Months</p>	\$24,500,000
102000925	4	TRAP ALT 69.0 kV - TRAPPETP 69.0 kV Ckt 1	<p><b>DPL:</b> dt6716r0004 (1063) : To mitigate the (DPL) Trappe Tap - Trappe Tap Alt 69 kV line (from bus 232232 to 232230) overload, it will require increasing the emergency rating of the line by rebuilding it with new poles, conductor, foundations, insulators, and OPGW. The disconnect switches will also need to be replaced. Project Type : FAC Cost : \$475,000 Time Estimate : 9-12 Months</p>	\$475,000

ID	Idx	Facility	Upgrade Description	Cost
102002012	16	CHURCH 138.0 kV - TOWNSEND 138.0 kV Ckt 1	<p><b>DPL:</b>  ds13833r0001 (1040) : To mitigate the (DP&amp;L) CHURCH to TOWNSEND 138 kV line (from bus 232100 to bus 232107 ckt 1) overload will require substation reinforcements at Church Substation.  Project Type : FAC  Cost : \$500,000  Time Estimate : 24-36 Months</p> <p>ds13833r0002 (1041) : To mitigate the (DP&amp;L) CHURCH to TOWNSEND 138 kV line (from bus 232100 to bus 232107 ckt 1) overload will require substation reinforcements (on top of ds13833r001) at Church Substation.  Project Type : FAC  Cost : \$200,000  Time Estimate : 24.0 Months</p> <p>ds13833r0003 (1042): To mitigate the (DP&amp;L) CHURCH to TOWNSEND 138 kV line (from bus 232100 to bus 232107 ckt 1) overload will require substation reinforcements (on top of ds13833r001, ds13833r002) at Church Substation.  Project Type : FAC  Cost : \$100,000  Time Estimate : 12-18 Months</p> <p>dt13833r0001 (1043) : To mitigate the (DP&amp;L) CHURCH to TOWNSEND 138 kV line (from bus 232100 to bus 232107 ckt 1) overload will require a rebuild of the 13833 Church to Townsend 138 kV Line along with substation reinforcements (on top of ds13833r001, ds13833r002, ds13833r003) at Church and Townsend Substations  Project Type : FAC  Cost : \$26,000,000  Time Estimate : 48-60 Months</p>	\$26,800,000
99647358,99647357	3	NEWFRDM 500.0 kV - WINDSOR 500.0 kV Ckt 1	<p><b>PSEG:</b>  r_PS_I024b_NF500 (1928) : Upgrade Wavetrap and Breakers  Project Type : FAC  Cost : \$8,547,957  Time Estimate : 25.0 Months</p>	\$8,547,957
102001000	19	SHARNGTN 138.0 kV - FELTON 138.0 kV Ckt 1	<p><b>DPL:</b>  dt13709r0001 (1052) : To mitigate the (DP&amp;L) Felton - S. Harrington 138 kV line (from bus 232112 to bus 232114 ckt 1) overload, it will require increasing the emergency rating of the Felton - S. Harrington 138 kV line by rebuilding the line which includes the installation of new poles, foundations insulators and OPGW  Project Type : FAC  Cost : \$17,000,000  Time Estimate : 36-48 Months</p>	\$17,000,000

ID	Idx	Facility	Upgrade Description	Cost
102000889	21	TANYARD 69.0 kV - TALBOT 69.0 kV Ckt 1	<p><b>DPL:</b>  dt6716r0003 (1050) : To mitigate the (DP&amp;L) Tanyard - Talbot 69 kV line (from bus 232820 to bus 232821 ckt 1) overload, it will require increasing the emergency rating of the Tanyard - Talbot 69 kV line by rebuilding the line. This includes installation of new poles, foundations, insulators and OPGW.  Project Type : FAC  Cost : \$7,499,000  Time Estimate : 36-48 Months</p> <p>ds6716r0003 (1051) : To mitigate the (DP&amp;L) Tanyard - Talbot 69 kV line (from bus 232820 to bus 232821 ckt 1) overload, it will require increasing the emergency rating of the Tanyard - Talbot 69 kV line by replacing terminal equipment at the Tanyard and Talbot taps.  Project Type : FAC  Cost : \$200,000  Time Estimate : 12-18 Months</p>	\$7,699,000
102000890	22	MARDELA 69.0 kV - HEBRON 69.0 kV Ckt 1	<p><b>DPL:</b>  s0835 (1038) : Rebuild the 6708 line from Vienna - Hebron (N. Salisbury to Hebron Section already completed) with new poles, conductor, foundations, insulators and OPGW  Project Type : CON  Cost : \$15,000,000  Time Estimate : 36-48 Months</p>	\$0
102000764,102000763	6	PRESTON 69.0 kV - TANYARD 69.0 kV Ckt 1	<p><b>DPL:</b>  b2946 (1022) : PJM baseline upgrade b2946 conversion of Preston station to a Ring Bus  Project Type : CON  Cost : \$6,000,000  Time Estimate : 30-36 Months</p> <p>dt6716r0001 (1047) : To mitigate the (DP&amp;L) Preston - Tanyard 69 kV line (from bus 232821 to bus 232233 ckt 1) overload, it will require increasing the emergency rating of the Preston-Tanyard 69 kV line by rebuilding the line. This includes installation of new poles, foundations, insulators and OPGW.  Project Type : FAC  Cost : \$11,000,000  Time Estimate : 36-48 Months</p> <p>ds6716r0002 (1048) : To mitigate the (DP&amp;L) Preston - Tanyard 69 kV line (from bus 232821 to bus 232233 ckt 1) overload, it will require increasing the emergency rating of the Preston-Tanyard 69 kV line by replacing the terminal equipment at the Tanyard Tap  Project Type : FAC  Cost : \$100,000  Time Estimate : 9-12 Months</p>	\$11,100,000

ID	Idx	Facility	Upgrade Description	Cost
100302454	15	INDRIV 4 230.0 kV - MILF_230 230.0 kV Ckt 1	<p><b>DPL:</b>  dt23034r0001 (1060) : To mitigate the (DPL) Indian River - Milford 230 kV line (from bus 232006 to 232004) overload it will require increasing the emergency rating of the line by rebuild with new poles, foundations, insulators, and OPGW. In addition terminal upgrades will be required at Milford and Indian River  Project Type : FAC  Cost : \$60,000,000  Time Estimate : 48-60 Months</p> <p>ds23034r0001 (1061) : To mitigate the (DPL) Indian River - Milford 230 kV line (from bus 232006 to 232004) overload it will require increasing the emergency rating of the line by making terminal upgrades at Milford  Project Type : FAC  Cost : \$250,000  Time Estimate : 9-12 Months</p>	\$60,250,000
100302381	13	COOLSPRS 230.0 kV - MILF_230 230.0 kV Ckt 1	<p><b>DPL:</b>  dt23069r0001 (1073) : Rebuild 23069 Cool Spring - Milford (232001 to 232004) with new poles, conductor, foundations, insulators and OPGW  Project Type : FAC  Cost : \$52,000,000  Time Estimate : 48-60 Months</p> <p>ds23069r0001 (1074) : Upgrade terminal equipment at Milford and Cool Spring  Project Type : FAC  Cost : \$400,000  Time Estimate : 12-18 Months</p> <p>ds23069r0002 (1075) : Upgrade terminal equipment at Milford and Cool Spring  Project Type : FAC  Cost : \$200,000  Time Estimate : 9-12 Months</p>	\$52,600,000
100302272,100302574	8	DELCOTAP 230.0 kV - MCKLTON 230.0 kV Ckt 1	<p><b>ACE:</b>  as2301r0001_ae2i (56) : To mitigate the (ACE)Mickleton to Delco Tap 230 kV line (from bus 228401 to bus 213559 ckt 1) overload, it will require various terminal reinforcements at Mickleton.  Project Type : FAC  Cost : \$200,000  Time Estimate : 12-32 Months</p>	\$200,000
102001302,102001301,102000875	2	VIENN_69 69.0 kV - MARDELA 69.0 kV Ckt 1	<p><b>DPL:</b>  s0835 (1038) : Rebuild the 6708 line from Vienna - Hebron (N. Salisbury to Hebron Section already completed) with new poles, conductor, foundations, insulators and OPGW  Project Type : CON  Cost : \$15,000,000  Time Estimate : 36-48 Months</p>	\$0

ID	Idx	Facility	Upgrade Description	Cost
99647179	7	ROCKSPGS 500.0 kV - PCHBTM2S 500.0 kV Ckt 1	<u>PECO:</u> pe027 (1922): Expand Peach Bottom 500 kV station to build a new 500 kV line between Beach Bottom and Rock Springs. (The estimated cost is for PECO portion only, right of way cost not included) Project Type : CON Cost : \$153,600,000 Time Estimate : 84.0 Months	\$153,600,000
102002002	18	TOWNSEND 138.0 kV - MIDLTNTP 138.0 kV Ckt 1	<u>DPL:</u> ds13808r0001 (1020) : Upgrade disconnect switch at Middletown Tap Project Type : FAC Cost : \$100,000 Time Estimate : 12.0 Months  dt13808r0001 (1044) : To mitigate the (DP&L) TOWNSEND to MIDLTNTP 138 kV line (from bus 232107 to bus 232106 ckt 1) overload, it will require increasing the emergency rating of the Townsend to Middletown Tap 138 kV line by reconductoring a small portion of the line Project Type : FAC Cost : \$100,000 Time Estimate : 9-12 Months  dt13808r0004 (1078) : Rebuild the 13808-1 line from Townsend - Middletown Tap with new poles, conductor, foundations, insulators, and OPGW. Terminal equipment at Townsend would also need to be upgraded Project Type : FAC Cost : \$7,500,000 Time Estimate : 36-48 Months	\$7,700,000
102000926	5	TRAPPETP 69.0 kV - EASTN_69 69.0 kV Ckt 1	<u>DPL:</u> dt6716r0006 (1079): Rebuild the 6716-1 Easton - Trappe Tap 69 kV with new poles, conductor, foundations, insulators, and OPGW. Terminal equipment at Easton and the line disconnect at the Trappe Tap will also need to be upgraded. Project Type : FAC Cost : \$6,500,000 Time Estimate : 36-48 Months	\$6,500,000

ID	Idx	Facility	Upgrade Description	Cost
102000749,102000748	20	TODD 69.0 kV - PRESTON 69.0 kV Ckt 1	<p><b>DPL:</b>  <b>b2946 (1022): PJM baseline upgrade b2946 conversion of Preston station to a Ring Bus</b>  <b>Project Type : CON</b>  <b>Cost : \$6,000,000</b>  <b>Time Estimate : 30-36 Months</b></p> <p><b>ds6716r0001 (1034): Previously identified in AB2-172, To mitigate the (DP&amp;L) TODD to PRESTON 69 kV line (from bus 232234 to bus 232233 ckt 1) overload will require substation reinforcements at Todd Substation. Replace 600A Disconnect Switch at Todd</b>  <b>Project Type : FAC</b>  <b>Cost : \$100,000</b>  <b>Time Estimate : 12.0 Months</b></p> <p><b>ds6716r0002 (1048) : To mitigate the (DP&amp;L) Preston - Tanyard 69 kV line (from bus 232821 to bus 232233 ckt 1) overload, it will require increasing the emergency rating of the Preston-Tanyard 69 kV line by replacing the terminal equipment at the Tanyard Tap</b>  <b>Project Type : FAC</b>  <b>Cost : \$100,000</b>  <b>Time Estimate : 9-12 Months</b></p> <p><b>dt6716r0005 (1065) : To mitigate the (DP&amp;L) Preston - Todd 69 kV line (from bus 232234 to bus 232233 ckt 1) overload, it will require increasing the emergency rating of the Preston-Todd 69 kV line by rebuilding the line. This includes installation of new poles, conductor, foundations, insulators and OPGW.</b>  <b>Project Type : FAC</b>  <b>Cost : \$9,000,000</b>  <b>Time Estimate : 36-48 Months</b></p> <p><b>ds6716r0004 (1066) : To mitigate the (DP&amp;L) Preston - Todd 69 kV line (from bus 232234 to bus 232233 ckt 1) overload, it will require increasing the emergency rating of the Preston-Todd 69 kV line by upgrading terminal equipment at the Todd Substation</b>  <b>Project Type : FAC</b>  <b>Cost : \$100,000</b>  <b>Time Estimate : 9-12 Months</b></p>	\$9,300,000

ID	Idx	Facility	Upgrade Description	Cost
100302775,100 302428	9	CLAY_230 230.0 kV - LINWOOD 230.0 kV Ckt 1	<p><b>DPL:</b>  b2985 (1033): PJM baseline upgrade b2985: Replace the 230 kV CB #225 at Linwood Substation (PECO) with a double circuit breaker (back to back circuit breakers in one device). The baseline project has a projected in-service date of 06/01/2022.  Project Type : CON  Cost : \$0  Time Estimate : 0.0 Months</p> <p>dt22084r0001 (1056): To mitigate the (DPL) Claymont - (PECO) Linwood line (from bus 213750 to 231000) overload, it will require increasing the emergency rating of the Claymont - Linwood 230 kV line by rebuilding the line with new poles, foundations, insulators and OPGW and replacing terminal equipment at Claymont  Project Type : FAC  Cost : \$7,100,000  Time Estimate : 36-48 Months</p> <p><b>PECO:</b>  pe025 (1699) : Rebuild 1.55 miles of 230 kV line from Linwood to Claymont with 2x1590 kcmil 54/19 ACSR  Project Type : FAC  Cost : \$4,500,000  Time Estimate : 36.0 Months</p> <p>pe026 (1700) : Replace 1 line trap at Linwood station  Project Type : FAC  Cost : \$900,000  Time Estimate : 3.0 Months</p>	\$12,500,000
100302801,100 302441	10	EDGE MR 5 230.0 kV - CLAY_230 230.0 kV Ckt 1	<p><b>DPL:</b>  dt23015r0001 (1046) : To mitigate the (DP&amp;L) Edge Moor to Claymont 230 kV line (from bus 231000 to bus 231001 ckt 1) overload, it will require increasing the emergency rating of the Edge Moor to Claymont 230 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, terminal equipment will need to be upgraded at Claymont and Edge Moor Substations  Project Type : FAC  Cost : \$23,000,000  Time Estimate : 36-48 Months</p>	\$23,000,000

ID	Idx	Facility	Upgrade Description	Cost
102000921,102000920	12	GLASGOW 138.0 kV - CECIL138 138.0 kV Ckt 1	<p><b>DPL:</b>  <b>dt13810r0001 (1037) : To mitigate the (DPL) Glasgow to Cecil 138 kV line 13810 (from bus 231124 to bus 231130 ckt 1) overload, it will require increasing the emergency rating of the Glasgow to Cecil 138 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, various terminal reinforcements are required at Glasgow.</b>  Project Type : FAC  Cost : \$5,000,000  Time Estimate : 36-60 Months</p> <p><b>ds13810r0001 (1064) : To mitigate the (DPL) Glasgow - Cecil 138 kV line (from bus 231130 to 231124) overload it will require increasing the emergency rating of the line by upgrading terminal equipment at Glasgow</b>  Project Type : FAC  Cost : \$100,000  Time Estimate : 9-12 Months</p>	\$5,100,000
99647118,99647117,99647116	14	CARTANZA 230.0 kV - SILVER RUN 230.0 kV Ckt 1	<p><b>DPL:</b>  <b>dt23032r0002 (1027) : Rebuild Cartanza - Silver Run 230 kV line</b>  Project Type : FAC  Cost : \$67,000,000  Time Estimate : 48-60 Months</p> <p><b>ds23032r0001 (1028) : Replace 3000A CBs at Cartanza with 4000A CBs</b>  Project Type : FAC  Cost : \$1,000,000  Time Estimate : 12-18 Months</p>	\$68,000,000
102002018	17	MIDLTNTP 138.0 kV - MT PLSNT 138.0 kV Ckt 1	<p><b>DPL:</b>  <b>dt13808r0002 (1019) : Partial reconductor of 13808 line between Mt. Pleasant and Middletown Tap</b>  Project Type : FAC  Cost : \$110,000  Time Estimate : 9-12 Months</p> <p><b>ds13808r0002 (1021) : Upgrade disconnect switch at Middletown Tap</b>  Project Type : FAC  Cost : \$100,000  Time Estimate : 12.0 Months</p>	\$210,000
102001246,102001245	1	SHARPTWN 69.0 kV - LAUREL 69.0 kV Ckt 1	<p><b>DPL:</b>  <b>s2072 (1030) : Rebuild 6705 line from Sharptown - Laurel</b>  Project Type : FAC  Cost : \$11,700,000  Time Estimate : 36-48 Months</p>	\$0
			<b>TOTAL COST</b>	<b>\$494,081,957</b>

## 11.6 Flow Gate Details - Primary POI

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

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### 11.6.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
102001245	232239	SHARPTWN	DP&L	232249	LAUREL	DP&L	1	DPL_P1_2_CKT 13707	single	42.0	85.99	108.66	DC	9.52

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232417	X3-008 C	0.1696	80/20	0.1696
232426	Y1-080 FULL	0.0344	80/20	0.0344
232907	VN8	1.5547	80/20	1.5547
232919	VN10	0.2976	80/20	0.2976
924831	AB2-136 C	3.6709	80/20	3.6709
925151	AB2-172 C OP	2.4584	80/20	2.4584
927031	AC1-190 C	4.6424	80/20	4.6424
932161	AC2-023 C	1.8399	80/20	1.8399
938651	AE1-087 C	2.0702	80/20	2.0702
946041	AF1-269 (Withdrawn : 05/12/2020)	1.7143	80/20	1.7143
960341	AF2-325 C	0.5941	80/20	0.5941
960671	AF2-358 C O1	9.5232	80/20	9.5232
960871	AF2-378 C	0.1609	80/20	0.1609
961181	AF2-409 O1	5.8910	80/20	5.8910
NEWTON	NEWTON	0.0032	Confirmed LTF	0.0032
FARMERCITY	FARMERCITY	0.0002	Confirmed LTF	0.0002
CALDERWOOD	CALDERWOOD	0.0015	Confirmed LTF	0.0015
NY	NY	0.0044	Confirmed LTF	0.0044
PRAIRIE	PRAIRIE	0.0077	Confirmed LTF	0.0077
CHEOAH	CHEOAH	0.0015	Confirmed LTF	0.0015
EDWARDS	EDWARDS	0.0010	Confirmed LTF	0.0010
TILTON	TILTON	0.0019	Confirmed LTF	0.0019
GIBSON	GIBSON	0.0016	Confirmed LTF	0.0016
BLUEG	BLUEG	0.0052	Confirmed LTF	0.0052
TRIMBLE	TRIMBLE	0.0017	Confirmed LTF	0.0017
CATAWBA	CATAWBA	0.0010	Confirmed LTF	0.0010

## 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
102000875	232241	VIENN_69	DP&L	232838	MARDELA	DP&L	1	DPL_P4-2_DP56	breaker	64.0	112.99	140.67	DC	17.71

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232417	X3-008 C	0.1889	50/50	0.1889
232418	X3-008 E	1.7872	50/50	1.7872
232426	Y1-080 FULL	0.0384	50/50	0.0384
232427	Y1-080 E	0.3652	50/50	0.3652
232919	VN10	0.3322	50/50	0.3322
924831	AB2-136 C	4.0942	50/50	4.0942
924832	AB2-136 E	4.3419	50/50	4.3419
925151	AB2-172 C OP	2.7385	50/50	2.7385
925152	AB2-172 E OP	4.4680	50/50	4.4680
927031	AC1-190 C	5.1726	50/50	5.1726
927032	AC1-190 E	2.2169	50/50	2.2169
938651	AE1-087 C	2.3061	50/50	2.3061
938652	AE1-087 E	0.5765	50/50	0.5765
939152	AE1-145 BAT	1.9916	Merchant Transmission	1.9916
945663	AF1-231 BAT	1.9002	50/50	1.9002
945782	AF1-243 BAT	0.5014	50/50	0.5014
945792	AF1-244 BAT	0.9508	50/50	0.9508
946041	AF1-269 (Withdrawn : 05/12/2020)	1.9129	50/50	1.9129
957613	AF2-055 BAT	3.0081	50/50	3.0081
957662	AF2-060 BAT	0.4750	Merchant Transmission	0.4750
957672	AF2-061 BAT	2.1111	Merchant Transmission	2.1111
959163	AF2-207 BAT	2.2740	Merchant Transmission	2.2740
959583	AF2-249 BAT	0.3913	50/50	0.3913
960341	AF2-325 C	0.6624	50/50	0.6624
960342	AF2-325 E	0.9147	50/50	0.9147
960671	AF2-358 C O1	10.6278	50/50	10.6278
960672	AF2-358 E O1	7.0852	50/50	7.0852
960871	AF2-378 C	0.1795	50/50	0.1795
960872	AF2-378 E	0.2490	50/50	0.2490
961181	AF2-409 O1	2.3120	Adder	5.13
WEC	WEC	0.0095	Confirmed LTF	0.0095
LGEE	LGEE	0.0171	Confirmed LTF	0.0171
CPLE	CPLE	0.0198	Confirmed LTF	0.0198
G-007A	G-007A	0.0527	Confirmed LTF	0.0527
VFT	VFT	0.1548	Confirmed LTF	0.1548
CBM-W2	CBM-W2	0.2457	Confirmed LTF	0.2457
CBM-W1	CBM-W1	0.3753	Confirmed LTF	0.3753
TVA	TVA	0.0420	Confirmed LTF	0.0420
CBM-S2	CBM-S2	0.1734	Confirmed LTF	0.1734
CBM-S1	CBM-S1	0.2556	Confirmed LTF	0.2556
MEC	MEC	0.0477	Confirmed LTF	0.0477

### 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
99647358	200012	NEWFRDM	PJM	200028	WINDSOR	PJM	1	PECO_P4_PEACH205/ * \$ CHESCO \$ PEACH205 \$ STBK	breaker	3011.0	99.89	100.29	DC	25.34

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200036	SALEM-G1 (Deactivation : 01/10/2020)	60.1827	50/50	60.1827
200037	SALEM-G2 (Deactivation : 01/04/2020)	43.4484	50/50	43.4484
200039	HOPE CG1 (Deactivation : 01/10/2019)	44.5606	50/50	44.5606
200052	ROCKSP 1	5.6632	50/50	5.6632
200053	ROCKSP 2	5.6632	50/50	5.6632
200054	ROCKSP 3	5.7151	50/50	5.7151
200055	ROCKSP 4	5.7151	50/50	5.7151
200062	SALEM G3	11.6198	50/50	11.6198
219582	COXSCOSP1_E	0.0098	Adder	0.01
219614	COXSCOSP2_E	0.0098	Adder	0.01
219624	KINSLEYBEA E	0.3049	Adder	0.36
219664	THOROFSP1_E	0.0221	Adder	0.03
219666	THOROFSP2_E	0.0220	Adder	0.03
219684	THOSOLAR E	0.1223	Adder	0.14
219707	BEAVBRSP1_E	0.0213	Adder	0.03
219709	BEAVBRSP2_E	0.0214	Adder	0.03
227881	GRENWCHG	0.2621	Adder	0.31
227928	V4-067E	0.2552	Adder	0.3
228102	BLE#2 ST (Deactivation : 30/04/2019)	25.3519	Adder	29.83
228261	V4-054E	1.1056	Adder	1.3
228334	MANNMILG	1.4319	Adder	1.68
228343	QUINTN#1 (Deactivation : 26/04/2020)	0.2957	Adder	0.35
228357	V2-046E	2.1972	Adder	2.58
228712	V2-041E	0.4579	Adder	0.54
228721	V2-035E	0.2155	Adder	0.25
228733	AB1-119 E	0.1343	Adder	0.16
231708	CHRIST3	1.8983	Adder	2.23
231903	GEN4	2.2603	Adder	2.66
231904	DC1 NUG	5.8562	Adder	6.89
231905	DC2 NUG	5.8562	Adder	6.89
232003	CARTANZA	14.0660	50/50	14.0660
232405	W1-003 E	0.9786	Adder	1.15
232407	W1-004 E	0.9786	Adder	1.15
232409	W1-005 E	0.9786	Adder	1.15
232411	W1-006 E	0.9786	Adder	1.15
232412	X1-032 E	0.8686	Adder	1.02
232418	X3-008 E	2.6573	Adder	3.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232423	X3-066 E	0.7664	Adder	0.9
232425	Y1-079 E	1.2902	Adder	1.52
232427	Y1-080 E	0.4521	Adder	0.53
232429	Y3-058 E	2.0160	Adder	2.37
232433	Z2-076 E	0.4389	Adder	0.52
232435	Z2-077 E	0.4389	Adder	0.52
232436	AB1-176 C	0.3111	Adder	0.37
232922	MR3 (Deactivation : 01/06/2021)	22.8654	Adder	26.9
902092	W1-130E	0.9715	Adder	1.14
902432	W2-030 E	0.9580	Adder	1.13
913271	Y1-065 C	44.8879	50/50	44.8879
917082	Z2-012 E	2.6954	Adder	3.17
919831	AA2-069 (Suspended)	101.1009	Adder	118.94
923153	AB1-116 E	0.1407	Adder	0.17
923282	AB1-137 C	0.9181	Adder	1.08
923283	AB1-137 E	0.3935	Adder	0.46
923322	AB1-141 C OP	2.7759	Adder	3.27
923323	AB1-141 E OP	1.2954	Adder	1.52
923332	AB1-142 C OP	2.7759	Adder	3.27
923532	AB1-169AC	93.6776	Adder	110.21
923603	AB1-176 E	0.5130	Adder	0.6
923921	AB2-032 C	2.7965	Adder	3.29
923922	AB2-032 E	1.3160	Adder	1.55
923951	AB2-036 C	7.2721	Adder	8.56
923952	AB2-036 E	11.8979	Adder	14.0
923961	AB2-037 C	16.2909	Adder	19.17
923962	AB2-037 E	26.6135	Adder	31.31
924051	AB2-049 C	0.6981	Adder	0.82
924052	AB2-049 E	1.1391	Adder	1.34
924531	AB2-102 C	42.4977	Adder	50.0
924532	AB2-102 E	0.9444	Adder	1.11
924681	AB2-120 C OP	8.2607	Adder	9.72
924682	AB2-120 E OP	13.4780	Adder	15.86
924701	AB2-122 C	0.1103	Adder	0.13
924702	AB2-122 E	0.1891	Adder	0.22
924781	AB2-130 C OP	7.0304	Adder	8.27
924782	AB2-130 E OP	11.4707	Adder	13.49
924801	AB2-133 C OP	5.0161	Adder	5.9
924802	AB2-133 E OP	6.3619	Adder	7.48
924821	AB2-135 C	6.1913	Adder	7.28
924822	AB2-135 E	7.0610	Adder	8.31
924831	AB2-136 C	5.3320	Adder	6.27
924832	AB2-136 E	5.6545	Adder	6.65
924971	AB2-153 C	1.5627	Adder	1.84
924972	AB2-153 E	2.5497	Adder	3.0
925151	AB2-172 C OP	4.0717	Adder	4.79
925152	AB2-172 E OP	6.6434	Adder	7.82
925251	AB2-179 C OP	7.2335	Adder	8.51
925252	AB2-179 E OP	2.3855	Adder	2.81
925261	AB2-180 C	3.0349	Adder	3.57
925262	AB2-180 E	1.3007	Adder	1.53
925271	AB2-185 C OP	2.9134	Adder	3.43

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925272	AB2-185 E OP	1.2486	Adder	1.47
926131	AC1-091 C	1.9831	50/50	1.9831
926132	AC1-091 E	3.2522	50/50	3.2522
926141	AC1-092 C	1.9831	50/50	1.9831
926142	AC1-092 E	3.2522	50/50	3.2522
926151	AC1-093 C	1.8773	50/50	1.8773
926152	AC1-093 E	3.0936	50/50	3.0936
926161	AC1-094 C	1.5865	50/50	1.5865
926162	AC1-094 E	2.6177	50/50	2.6177
927031	AC1-190 C	7.5047	Adder	8.83
927032	AC1-190 E	3.2163	Adder	3.78
927191	AC1-213 C	0.6948	Adder	0.82
927192	AC1-213 E	0.4559	Adder	0.54
930001	AB1-001 C	0.1249	Adder	0.15
930002	AB1-001 E	0.2053	Adder	0.24
930201	AB1-056 C	14.0906	Adder	16.58
930202	AB1-056 E	40.1276	Adder	47.21
930881	AB1-137 C	0.9181	Adder	1.08
930882	AB1-137 E	0.3935	Adder	0.46
930932	AB1-142 E OP	1.2954	Adder	1.52
932081	AC2-018 C1	0.1910	50/50	0.1910
932082	AC2-018 E1	7.1978	50/50	7.1978
932091	AC2-018 C2	0.1910	50/50	0.1910
932092	AC2-018 E2	7.1978	50/50	7.1978
932161	AC2-023 C	5.7380	Adder	6.75
932162	AC2-023 E	4.1790	Adder	4.92
932361	AC2-050 C O1	0.5421	Adder	0.64
932362	AC2-050 E O1	0.8845	Adder	1.04
933631	AC2-185 C	4.0190	50/50	4.0190
933632	AC2-185 E	6.5574	50/50	6.5574
933641	AC2-186 C	4.1530	Adder	4.89
933642	AC2-186 E	6.7759	Adder	7.97
933962	AD1-019 E	1.1994	Adder	1.41
936451	AD2-059 C	0.0442	Adder	0.05
936452	AD2-059 E	0.1387	Adder	0.16
936491	AD2-064 C (Withdrawn : 06/16/2020)	0.0975	Adder	0.11
936492	AD2-064 E (Withdrawn : 06/16/2020)	0.1343	Adder	0.16
936501	AD2-065 C	0.1922	Adder	0.23
936502	AD2-065 E	0.2651	Adder	0.31
936611	AD2-076 C O1	3.8176	Adder	4.49
936612	AD2-076 E O1	6.2288	Adder	7.33
937011	AD2-135 C	0.1158	Adder	0.14
937012	AD2-135 E	0.1969	Adder	0.23
937281	AD2-167	2.4832	50/50	2.4832
938421	AE1-061 C	0.4687	Adder	0.55
938422	AE1-061 E	0.4687	Adder	0.55
938431	AE1-062 C	1.8093	Adder	2.13
938432	AE1-062 E	1.8093	Adder	2.13
938651	AE1-087 C	3.4288	Adder	4.03
938652	AE1-087 E	0.8572	Adder	1.01
938781	AE1-104 C O1	20.4636	Adder	24.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938782	AE1-104 E O1	52.3558	Adder	61.6
938811	AE1-107 C	5.9617	Adder	7.01
938812	AE1-107 E	4.2501	Adder	5.0
938871	AE1-115 C	1.7104	Adder	2.01
938872	AE1-115 E	1.7104	Adder	2.01
938891	AE1-117 C O1	9.0717	Adder	10.67
938892	AE1-117 E O1	24.1547	Adder	28.42
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	9.0713	Adder	10.67
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	24.1538	Adder	28.42
939151	AE1-145	4.3478	Adder	5.12
939301	AE1-161 C	3.4673	Adder	4.08
939302	AE1-161 E	5.2010	Adder	6.12
939501	AE1-179 C O1	6.3516	Adder	7.47
939502	AE1-179 E O1	4.4824	Adder	5.27
939621	AE1-192 C O1	10.2164	Adder	12.02
939622	AE1-192 E O1	4.9995	Adder	5.88
939821	AE1-218 C O1	0.1422	Adder	0.17
939822	AE1-218 E O1	0.2132	Adder	0.25
939831	AE1-219 C O1	0.3198	Adder	0.38
939832	AE1-219 E O1	0.4620	Adder	0.54
939931	AE1-229 C O1	15.5090	Adder	18.25
939932	AE1-229 E O1	10.5078	Adder	12.36
940001	AE1-240 C O1	5.2593	Adder	6.19
940002	AE1-240 E O1	3.7541	Adder	4.42
940361	AE2-020 C	16.4835	Adder	19.39
940362	AE2-020 E	77.1768	Adder	90.8
940371	AE2-021 C	16.4835	Adder	19.39
940372	AE2-021 E	77.1768	Adder	90.8
940381	AE2-022 C	9.6154	Adder	11.31
940382	AE2-022 E	45.0198	Adder	52.96
940741	AE2-061	0.3343	50/50	0.3343
940772	AE2-064 E	0.1486	Adder	0.17
941021	AE2-093 C	4.1593	Adder	4.89
941022	AE2-093 E	6.6084	Adder	7.77
941181	AE2-112 C	1.3245	Adder	1.56
941182	AE2-112 E	2.1610	Adder	2.54
942101	AE2-222 C O1	13.4381	Adder	15.81
942102	AE2-222 E O1	33.7573	Adder	39.71
942381	AE2-251 C	52.2193	Adder	61.43
942382	AE2-251 E	133.6145	Adder	157.19
942441	AE2-257 C	7.2147	Adder	8.49
942442	AE2-257 E	19.0207	Adder	22.38
943071	AE2-334 C	5.1317	Adder	6.04
943072	AE2-334 E	2.7357	Adder	3.22
943361	AF1-007 C	0.4157	Adder	0.49
943362	AF1-007 E	1.1815	Adder	1.39
943441	AF1-015 C	1.3301	Adder	1.56
943442	AF1-015 E	1.8368	Adder	2.16
943651	AF1-036 C	1.7222	Adder	2.03

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943652	AF1-036 E	2.3783	Adder	2.8
943732	AF1-041 E	0.3766	Adder	0.44
944921	AF1-157 C O1	3.2714	Adder	3.85
944922	AF1-157 E O1	2.1809	Adder	2.57
944951	AF1-160 C	1.8093	Adder	2.13
944952	AF1-160 E	1.8998	Adder	2.24
945431	AF1-208 C O1	4.7617	Adder	5.6
945432	AF1-208 E O1	3.1744	Adder	3.73
945661	AF1-231 C	1.6520	Adder	1.94
945662	AF1-231 E	2.4780	Adder	2.92
945731	AF1-238 C	9.3207	Adder	10.97
945732	AF1-238 E	13.9810	Adder	16.45
945741	AF1-239 C	2.1931	Adder	2.58
945742	AF1-239 E	3.2897	Adder	3.87
945781	AF1-243	1.0869	Adder	1.28
945791	AF1-244	1.7368	Adder	2.04
945931	AF1-258	0.6937	Adder	0.82
945941	AF1-259	0.1648	Adder	0.19
945971	AF1-262	0.1564	Adder	0.18
946041	AF1-269 (Withdrawn : 05/12/2020)	2.3682	Adder	2.79
957221	AF2-016 C	10.1422	Adder	22.51
957222	AF2-016 E	15.2133	Adder	33.77
957251	AF2-019 C	1.5009	Adder	3.33
957252	AF2-019 E	2.2514	Adder	5.0
957261	AF2-020 C	0.7557	Adder	1.68
957262	AF2-020 E	1.1336	Adder	2.52
957281	AF2-022 C	1.9682	Adder	4.37
957282	AF2-022 E	2.9524	Adder	6.55
957291	AF2-023 C O1	1.8128	Adder	4.02
957292	AF2-023 E O1	2.7192	Adder	6.04
957301	AF2-024 C	1.5901	Adder	3.53
957302	AF2-024 E	2.3851	Adder	5.29
957311	AF2-025 C	0.6712	Adder	1.49
957312	AF2-025 E	1.0068	Adder	2.23
957321	AF2-026 C	1.1718	Adder	2.6
957322	AF2-026 E	1.7577	Adder	3.9
957611	AF2-055 C	4.0322	Adder	8.95
957612	AF2-055 E	1.7281	Adder	3.84
957641	AF2-058	0.2363	Adder	0.52
957661	AF2-060	1.0369	Adder	2.3
957671	AF2-061 O1	4.6086	Adder	10.23
958151	AF2-109 C	1.0807	Adder	2.4
958152	AF2-109 E	1.0807	Adder	2.4
958781	AF2-169 C O1 (Withdrawn : 06/09/2020)	0.4110	Adder	0.91
958782	AF2-169 E O1 (Withdrawn : 06/09/2020)	48.9040	Adder	108.55
958811	AF2-172 C	0.3626	Adder	0.8
958812	AF2-172 E	0.5916	Adder	1.31
958831	AF2-174 C	0.3493	Adder	0.78
958832	AF2-174 E	0.4824	Adder	1.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959021	AF2-193 C O1	13.7996	Adder	30.63
959022	AF2-193 E O1	37.2242	Adder	82.63
959031	AF2-194 C O1	13.7996	Adder	30.63
959032	AF2-194 E O1	37.2242	Adder	82.63
959051	AF2-196 C	1.0429	Adder	2.31
959052	AF2-196 E	2.4333	Adder	5.4
959111	AF2-202 C	0.1077	Adder	0.24
959112	AF2-202 E	0.1474	Adder	0.33
959161	AF2-207 C O1	2.3209	Adder	5.15
959162	AF2-207 E O1	3.4814	Adder	7.73
959571	AF2-248 C	0.3914	Adder	0.87
959572	AF2-248 E	0.4374	Adder	0.97
959581	AF2-249 C	0.0691	Adder	0.15
959582	AF2-249 E	0.2763	Adder	0.61
959591	AF2-250 C	0.1266	Adder	0.28
959592	AF2-250 E	0.0978	Adder	0.22
960221	AF2-313 C	1.3867	Adder	3.08
960222	AF2-313 E	0.7862	Adder	1.75
960341	AF2-325 C	0.4780	Adder	1.06
960342	AF2-325 E	0.6601	Adder	1.47
960671	AF2-358 C O1	6.8497	Adder	15.2
960672	AF2-358 E O1	4.5664	Adder	10.14
960871	AF2-378 C	0.1264	Adder	0.28
960872	AF2-378 E	0.1754	Adder	0.39
960881	AF2-379 C	0.1886	Adder	0.42
960882	AF2-379 E	0.2599	Adder	0.58
960941	AF2-385 C O1	5.5260	Adder	12.27
960942	AF2-385 E O1	3.1084	Adder	6.9
960961	AF2-387 C O1	7.4033	Adder	16.43
960962	AF2-387 E O1	3.7128	Adder	8.24
961181	AF2-409 O1	11.4274	Adder	25.37
999905	MARINGEN 2	0.6327	Adder	0.74
999906	PVILLEG 2	0.2667	Adder	0.31
NEWTON	NEWTON	1.6805	Confirmed LTF	1.6805
FARMERCITY	FARMERCITY	0.0873	Confirmed LTF	0.0873
CALDERWOOD	CALDERWOOD	0.7535	Confirmed LTF	0.7535
NY	NY	3.2483	Confirmed LTF	3.2483
PRAIRIE	PRAIRIE	4.0191	Confirmed LTF	4.0191
O-066	O-066	49.8557	Confirmed LTF	49.8557
CHEOAH	CHEOAH	0.7578	Confirmed LTF	0.7578
EDWARDS	EDWARDS	0.5498	Confirmed LTF	0.5498
TILTON	TILTON	0.9897	Confirmed LTF	0.9897
G-007	G-007	7.1448	Confirmed LTF	7.1448
MADISON	MADISON	0.0242	Confirmed LTF	0.0242
GIBSON	GIBSON	0.8550	Confirmed LTF	0.8550
BLUEG	BLUEG	2.7186	Confirmed LTF	2.7186
TRIMBLE	TRIMBLE	0.8715	Confirmed LTF	0.8715
CATAWBA	CATAWBA	0.5159	Confirmed LTF	0.5159

#### 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
102000925	232230	TRAP ALT	DP&L	232232	TRAPPETP	DP&L	1	DPL_P4-2_DP11	breaker	173.0	96.95	111.25	DC	24.86

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.2932	50/50	0.2932
232405	W1-003 E	0.4937	50/50	0.4937
232406	W1-004 FULL	0.2932	50/50	0.2932
232407	W1-004 E	0.4937	50/50	0.4937
232408	W1-005 C	0.2932	50/50	0.2932
232409	W1-005 E	0.4937	50/50	0.4937
232410	W1-006 C	0.2932	50/50	0.2932
232411	W1-006 E	0.4937	50/50	0.4937
232412	X1-032 E	0.4570	50/50	0.4570
232417	X3-008 C	0.5005	50/50	0.5005
232418	X3-008 E	4.7346	50/50	4.7346
232426	Y1-080 FULL	0.0578	50/50	0.0578
232427	Y1-080 E	0.5493	50/50	0.5493
232428	Y3-058 C	0.1469	50/50	0.1469
232429	Y3-058 E	1.3891	50/50	1.3891
232433	Z2-076 E	0.1460	Adder	0.17
232435	Z2-077 E	0.1460	Adder	0.17
232905	BAYVIEW1	0.2360	50/50	0.2360
232907	VN8	3.8101	50/50	3.8101
232919	VN10	0.3829	50/50	0.3829
232921	TASLEY2G	0.4135	50/50	0.4135
232926	CRISFLD1	0.1990	50/50	0.1990
293670	O-025 C	0.1336	50/50	0.1336
917081	Z2-012 C	0.1435	50/50	0.1435
917082	Z2-012 E	1.3571	50/50	1.3571
918831	AA1-102	0.7463	50/50	0.7463
923282	AB1-137 C	0.2780	Adder	0.33
923283	AB1-137 E	0.1192	Adder	0.14
924681	AB2-120 C OP	3.5213	Adder	4.14
924682	AB2-120 E OP	5.7454	Adder	6.76
924781	AB2-130 C OP	3.7193	50/50	3.7193
924782	AB2-130 E OP	6.0684	50/50	6.0684
924831	AB2-136 C	7.3691	50/50	7.3691
924832	AB2-136 E	7.8148	50/50	7.8148
925151	AB2-172 C OP	7.2546	50/50	7.2546
925152	AB2-172 E OP	11.8364	50/50	11.8364
925261	AB2-180 C	2.0912	50/50	2.0912
925262	AB2-180 E	0.8962	50/50	0.8962
927031	AC1-190 C	12.8460	50/50	12.8460
927032	AC1-190 E	5.5055	50/50	5.5055
927191	AC1-213 C	0.4130	50/50	0.4130
927192	AC1-213 E	0.2710	50/50	0.2710

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	3.9758	Adder	4.68
930202	AB1-056 E	11.3223	Adder	13.32
930881	AB1-137 C	0.2780	Adder	0.33
930882	AB1-137 E	0.1192	Adder	0.14
932161	AC2-023 C	4.3375	50/50	4.3375
932162	AC2-023 E	3.1590	50/50	3.1590
938651	AE1-087 C	6.1091	50/50	6.1091
938652	AE1-087 E	1.5273	50/50	1.5273
938891	AE1-117 C O1	2.7543	Adder	3.24
938892	AE1-117 E O1	7.3337	Adder	8.63
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.7659	Adder	3.25
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	7.3647	Adder	8.66
939151	AE1-145	1.8552	Adder	2.18
939621	AE1-192 C O1	5.1437	50/50	5.1437
939622	AE1-192 E O1	2.5171	50/50	2.5171
942441	AE2-257 C	2.1683	Adder	2.55
942442	AE2-257 E	5.7163	Adder	6.73
943361	AF1-007 C	0.1173	Adder	0.14
943362	AF1-007 E	0.3334	Adder	0.39
944921	AF1-157 C O1	1.2667	Adder	1.49
944922	AF1-157 E O1	0.8445	Adder	0.99
945661	AF1-231 C	0.7069	Adder	0.83
945662	AF1-231 E	1.0604	Adder	1.25
945781	AF1-243	0.5472	50/50	0.5472
945791	AF1-244	0.9230	50/50	0.9230
945931	AF1-258	0.4780	50/50	0.4780
946041	AF1-269 (Withdrawn : 05/12/2020)	2.8774	50/50	2.8774
957611	AF2-055 C	3.8304	50/50	3.8304
957612	AF2-055 E	1.6416	50/50	1.6416
957661	AF2-060	0.4425	Adder	0.98
957671	AF2-061 O1	1.9665	Adder	4.37
959021	AF2-193 C O1	3.8937	Adder	8.64
959022	AF2-193 E O1	10.5031	Adder	23.31
959031	AF2-194 C O1	3.8937	Adder	8.64
959032	AF2-194 E O1	10.5031	Adder	23.31
959051	AF2-196 C	0.3134	Adder	0.7
959052	AF2-196 E	0.7313	Adder	1.62
959161	AF2-207 C O1	2.4521	50/50	2.4521
959162	AF2-207 E O1	3.6781	50/50	3.6781
959571	AF2-248 C	0.4229	50/50	0.4229
959572	AF2-248 E	0.4727	50/50	0.4727
959581	AF2-249 C	0.0746	50/50	0.0746
959582	AF2-249 E	0.2985	50/50	0.2985
959591	AF2-250 C	0.1368	50/50	0.1368
959592	AF2-250 E	0.1057	50/50	0.1057
960341	AF2-325 C	1.3732	50/50	1.3732
960342	AF2-325 E	1.8963	50/50	1.8963
960671	AF2-358 C O1	14.9130	50/50	14.9130

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960672	AF2-358 E O1	9.9420	50/50	9.9420
960871	AF2-378 C	0.3451	50/50	0.3451
960872	AF2-378 E	0.4787	50/50	0.4787
960881	AF2-379 C	0.1997	50/50	0.1997
960882	AF2-379 E	0.2751	50/50	0.2751
960941	AF2-385 C O1	5.8382	50/50	5.8382
960942	AF2-385 E O1	3.2840	50/50	3.2840
961181	AF2-409 O1	14.4370	50/50	14.4370
NEWTON	NEWTON	0.0731	Confirmed LTF	0.0731
FARMERCITY	FARMERCITY	0.0038	Confirmed LTF	0.0038
CALDERWOOD	CALDERWOOD	0.0338	Confirmed LTF	0.0338
NY	NY	0.0271	Confirmed LTF	0.0271
PRAIRIE	PRAIRIE	0.1756	Confirmed LTF	0.1756
O-066	O-066	0.2822	Confirmed LTF	0.2822
CHEOAH	CHEOAH	0.0340	Confirmed LTF	0.0340
EDWARDS	EDWARDS	0.0238	Confirmed LTF	0.0238
TILTON	TILTON	0.0428	Confirmed LTF	0.0428
G-007	G-007	0.0364	Confirmed LTF	0.0364
GIBSON	GIBSON	0.0371	Confirmed LTF	0.0371
BLUEG	BLUEG	0.1180	Confirmed LTF	0.1180
TRIMBLE	TRIMBLE	0.0378	Confirmed LTF	0.0378
CATAWBA	CATAWBA	0.0238	Confirmed LTF	0.0238

## 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
102000926	232232	TRAPPETP	DP&L	232227	EASTN_69	DP&L	1	DPL_P4-2_DP11	breaker	173.0	95.6	110.4	DC	25.74

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.3036	50/50	0.3036
232405	W1-003 E	0.5112	50/50	0.5112
232406	W1-004 FULL	0.3036	50/50	0.3036
232407	W1-004 E	0.5112	50/50	0.5112
232408	W1-005 C	0.3036	50/50	0.3036
232409	W1-005 E	0.5112	50/50	0.5112
232410	W1-006 C	0.3036	50/50	0.3036
232411	W1-006 E	0.5112	50/50	0.5112
232412	X1-032 E	0.4732	50/50	0.4732
232417	X3-008 C	0.5183	50/50	0.5183
232418	X3-008 E	4.9023	50/50	4.9023
232426	Y1-080 FULL	0.0598	50/50	0.0598
232427	Y1-080 E	0.5688	50/50	0.5688
232428	Y3-058 C	0.1521	50/50	0.1521
232429	Y3-058 E	1.4383	50/50	1.4383
232433	Z2-076 E	0.1512	Adder	0.18
232435	Z2-077 E	0.1512	Adder	0.18
232905	BAYVIEW1	0.2443	50/50	0.2443
232907	VN8	3.9453	50/50	3.9453
232919	VN10	0.3965	50/50	0.3965
232921	TASLEY2G	0.4282	50/50	0.4282
232926	CRISFLD1	0.2061	50/50	0.2061
293670	O-025 C	0.1383	50/50	0.1383
917081	Z2-012 C	0.1486	50/50	0.1486
917082	Z2-012 E	1.4052	50/50	1.4052
918831	AA1-102	0.7727	50/50	0.7727
923282	AB1-137 C	0.2879	Adder	0.34
923283	AB1-137 E	0.1234	Adder	0.15
924681	AB2-120 C OP	3.6460	Adder	4.29
924682	AB2-120 E OP	5.9488	Adder	7.0
924781	AB2-130 C OP	3.8511	50/50	3.8511
924782	AB2-130 E OP	6.2834	50/50	6.2834
924831	AB2-136 C	7.6302	50/50	7.6302
924832	AB2-136 E	8.0917	50/50	8.0917
925151	AB2-172 C OP	7.5117	50/50	7.5117
925152	AB2-172 E OP	12.2559	50/50	12.2559
925261	AB2-180 C	2.1652	50/50	2.1652
925262	AB2-180 E	0.9280	50/50	0.9280
927031	AC1-190 C	13.3011	50/50	13.3011
927032	AC1-190 E	5.7005	50/50	5.7005
927191	AC1-213 C	0.4276	50/50	0.4276
927192	AC1-213 E	0.2806	50/50	0.2806

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	4.1164	Adder	4.84
930202	AB1-056 E	11.7229	Adder	13.79
930881	AB1-137 C	0.2879	Adder	0.34
930882	AB1-137 E	0.1234	Adder	0.15
932161	AC2-023 C	4.4912	50/50	4.4912
932162	AC2-023 E	3.2710	50/50	3.2710
938651	AE1-087 C	6.3256	50/50	6.3256
938652	AE1-087 E	1.5814	50/50	1.5814
938891	AE1-117 C O1	2.8516	Adder	3.35
938892	AE1-117 E O1	7.5929	Adder	8.93
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.8640	Adder	3.37
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	7.6258	Adder	8.97
939151	AE1-145	1.9210	Adder	2.26
939621	AE1-192 C O1	5.3260	50/50	5.3260
939622	AE1-192 E O1	2.6064	50/50	2.6064
942441	AE2-257 C	2.2451	Adder	2.64
942442	AE2-257 E	5.9190	Adder	6.96
943361	AF1-007 C	0.1214	Adder	0.14
943362	AF1-007 E	0.3452	Adder	0.41
944921	AF1-157 C O1	1.3116	Adder	1.54
944922	AF1-157 E O1	0.8744	Adder	1.03
945661	AF1-231 C	0.7320	Adder	0.86
945662	AF1-231 E	1.0980	Adder	1.29
945781	AF1-243	0.5666	50/50	0.5666
945791	AF1-244	0.9557	50/50	0.9557
945931	AF1-258	0.4949	50/50	0.4949
946041	AF1-269 (Withdrawn : 05/12/2020)	2.9792	50/50	2.9792
957611	AF2-055 C	3.9662	50/50	3.9662
957612	AF2-055 E	1.6998	50/50	1.6998
957661	AF2-060	0.4582	Adder	1.02
957671	AF2-061 O1	2.0363	Adder	4.52
959021	AF2-193 C O1	4.0314	Adder	8.95
959022	AF2-193 E O1	10.8747	Adder	24.14
959031	AF2-194 C O1	4.0314	Adder	8.95
959032	AF2-194 E O1	10.8747	Adder	24.14
959051	AF2-196 C	0.3245	Adder	0.72
959052	AF2-196 E	0.7572	Adder	1.68
959161	AF2-207 C O1	2.5390	50/50	2.5390
959162	AF2-207 E O1	3.8084	50/50	3.8084
959571	AF2-248 C	0.4379	50/50	0.4379
959572	AF2-248 E	0.4894	50/50	0.4894
959581	AF2-249 C	0.0773	50/50	0.0773
959582	AF2-249 E	0.3091	50/50	0.3091
959591	AF2-250 C	0.1417	50/50	0.1417
959592	AF2-250 E	0.1095	50/50	0.1095
960341	AF2-325 C	1.4218	50/50	1.4218
960342	AF2-325 E	1.9635	50/50	1.9635
960671	AF2-358 C O1	15.4410	50/50	15.4410

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960672	AF2-358 E O1	10.2940	50/50	10.2940
960871	AF2-378 C	0.3573	50/50	0.3573
960872	AF2-378 E	0.4957	50/50	0.4957
960881	AF2-379 C	0.2067	50/50	0.2067
960882	AF2-379 E	0.2849	50/50	0.2849
960941	AF2-385 C O1	6.0451	50/50	6.0451
960942	AF2-385 E O1	3.4004	50/50	3.4004
961181	AF2-409 O1	14.9490	50/50	14.9490
NEWTON	NEWTON	0.0752	Confirmed LTF	0.0752
FARMERCITY	FARMERCITY	0.0039	Confirmed LTF	0.0039
CALDERWOOD	CALDERWOOD	0.0348	Confirmed LTF	0.0348
NY	NY	0.0288	Confirmed LTF	0.0288
PRAIRIE	PRAIRIE	0.1808	Confirmed LTF	0.1808
O-066	O-066	0.2890	Confirmed LTF	0.2890
CHEOAH	CHEOAH	0.0350	Confirmed LTF	0.0350
EDWARDS	EDWARDS	0.0245	Confirmed LTF	0.0245
TILTON	TILTON	0.0441	Confirmed LTF	0.0441
G-007	G-007	0.0374	Confirmed LTF	0.0374
GIBSON	GIBSON	0.0382	Confirmed LTF	0.0382
BLUEG	BLUEG	0.1215	Confirmed LTF	0.1215
TRIMBLE	TRIMBLE	0.0390	Confirmed LTF	0.0390
CATAWBA	CATAWBA	0.0245	Confirmed LTF	0.0245

## 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
102000763	232233	PRESTON	DP&L	232821	TANYARD	DP&L	1	DPL_P4-2_DP11	breaker	93.0	206.97	234.5	DC	25.74

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.3036	50/50	0.3036
232405	W1-003 E	0.5112	50/50	0.5112
232406	W1-004 FULL	0.3036	50/50	0.3036
232407	W1-004 E	0.5112	50/50	0.5112
232408	W1-005 C	0.3036	50/50	0.3036
232409	W1-005 E	0.5112	50/50	0.5112
232410	W1-006 C	0.3036	50/50	0.3036
232411	W1-006 E	0.5112	50/50	0.5112
232412	X1-032 E	0.4732	50/50	0.4732
232417	X3-008 C	0.5183	50/50	0.5183
232418	X3-008 E	4.9023	50/50	4.9023
232426	Y1-080 FULL	0.0598	50/50	0.0598
232427	Y1-080 E	0.5688	50/50	0.5688
232428	Y3-058 C	0.1521	50/50	0.1521
232429	Y3-058 E	1.4383	50/50	1.4383
232433	Z2-076 E	0.1512	Adder	0.18
232435	Z2-077 E	0.1512	Adder	0.18
232905	BAYVIEW1	0.2443	50/50	0.2443
232907	VN8	3.9453	50/50	3.9453
232919	VN10	0.3965	50/50	0.3965
232921	TASLEY2G	0.4282	50/50	0.4282
232926	CRISFLD1	0.2061	50/50	0.2061
293670	O-025 C	0.1383	50/50	0.1383
917081	Z2-012 C	0.1486	50/50	0.1486
917082	Z2-012 E	1.4052	50/50	1.4052
918831	AA1-102	0.7727	50/50	0.7727
923282	AB1-137 C	0.2879	Adder	0.34
923283	AB1-137 E	0.1234	Adder	0.15
924681	AB2-120 C OP	3.6460	Adder	4.29
924682	AB2-120 E OP	5.9488	Adder	7.0
924781	AB2-130 C OP	3.8511	50/50	3.8511
924782	AB2-130 E OP	6.2834	50/50	6.2834
924831	AB2-136 C	7.6302	50/50	7.6302
924832	AB2-136 E	8.0917	50/50	8.0917
925151	AB2-172 C OP	7.5117	50/50	7.5117
925152	AB2-172 E OP	12.2559	50/50	12.2559
925261	AB2-180 C	2.1652	50/50	2.1652
925262	AB2-180 E	0.9280	50/50	0.9280
927031	AC1-190 C	13.3011	50/50	13.3011
927032	AC1-190 E	5.7005	50/50	5.7005
927191	AC1-213 C	0.4276	50/50	0.4276
927192	AC1-213 E	0.2806	50/50	0.2806

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	4.1164	Adder	4.84
930202	AB1-056 E	11.7229	Adder	13.79
930881	AB1-137 C	0.2879	Adder	0.34
930882	AB1-137 E	0.1234	Adder	0.15
932161	AC2-023 C	4.4912	50/50	4.4912
932162	AC2-023 E	3.2710	50/50	3.2710
938651	AE1-087 C	6.3256	50/50	6.3256
938652	AE1-087 E	1.5814	50/50	1.5814
938891	AE1-117 C O1	2.8516	Adder	3.35
938892	AE1-117 E O1	7.5929	Adder	8.93
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.8640	Adder	3.37
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	7.6258	Adder	8.97
939151	AE1-145	1.9210	Adder	2.26
939621	AE1-192 C O1	5.3260	50/50	5.3260
939622	AE1-192 E O1	2.6064	50/50	2.6064
942441	AE2-257 C	2.2451	Adder	2.64
942442	AE2-257 E	5.9190	Adder	6.96
943361	AF1-007 C	0.1214	Adder	0.14
943362	AF1-007 E	0.3452	Adder	0.41
944921	AF1-157 C O1	1.3116	Adder	1.54
944922	AF1-157 E O1	0.8744	Adder	1.03
945661	AF1-231 C	0.7320	Adder	0.86
945662	AF1-231 E	1.0980	Adder	1.29
945781	AF1-243	0.5666	50/50	0.5666
945791	AF1-244	0.9557	50/50	0.9557
945931	AF1-258	0.4949	50/50	0.4949
946041	AF1-269 (Withdrawn : 05/12/2020)	2.9792	50/50	2.9792
957611	AF2-055 C	3.9662	50/50	3.9662
957612	AF2-055 E	1.6998	50/50	1.6998
957661	AF2-060	0.4582	Adder	1.02
957671	AF2-061 O1	2.0363	Adder	4.52
959021	AF2-193 C O1	4.0314	Adder	8.95
959022	AF2-193 E O1	10.8747	Adder	24.14
959031	AF2-194 C O1	4.0314	Adder	8.95
959032	AF2-194 E O1	10.8747	Adder	24.14
959051	AF2-196 C	0.3245	Adder	0.72
959052	AF2-196 E	0.7572	Adder	1.68
959161	AF2-207 C O1	2.5390	50/50	2.5390
959162	AF2-207 E O1	3.8084	50/50	3.8084
959571	AF2-248 C	0.4379	50/50	0.4379
959572	AF2-248 E	0.4894	50/50	0.4894
959581	AF2-249 C	0.0773	50/50	0.0773
959582	AF2-249 E	0.3091	50/50	0.3091
959591	AF2-250 C	0.1417	50/50	0.1417
959592	AF2-250 E	0.1095	50/50	0.1095
960341	AF2-325 C	1.4218	50/50	1.4218
960342	AF2-325 E	1.9635	50/50	1.9635
960671	AF2-358 C O1	15.4410	50/50	15.4410

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960672	AF2-358 E O1	10.2940	50/50	10.2940
960871	AF2-378 C	0.3573	50/50	0.3573
960872	AF2-378 E	0.4957	50/50	0.4957
960881	AF2-379 C	0.2067	50/50	0.2067
960882	AF2-379 E	0.2849	50/50	0.2849
960941	AF2-385 C O1	6.0451	50/50	6.0451
960942	AF2-385 E O1	3.4004	50/50	3.4004
961181	AF2-409 O1	14.9490	50/50	14.9490
<b>NEWTON</b>	<b>NEWTON</b>	0.0752	Confirmed LTF	0.0752
<b>FARMERCITY</b>	<b>FARMERCITY</b>	0.0039	Confirmed LTF	0.0039
<b>CALDERWOOD</b>	<b>CALDERWOOD</b>	0.0348	Confirmed LTF	0.0348
<b>NY</b>	<b>NY</b>	0.0288	Confirmed LTF	0.0288
<b>PRAIRIE</b>	<b>PRAIRIE</b>	0.1808	Confirmed LTF	0.1808
<b>O-066</b>	<b>O-066</b>	0.2890	Confirmed LTF	0.2890
<b>CHEOAH</b>	<b>CHEOAH</b>	0.0350	Confirmed LTF	0.0350
<b>EDWARDS</b>	<b>EDWARDS</b>	0.0245	Confirmed LTF	0.0245
<b>TILTON</b>	<b>TILTON</b>	0.0441	Confirmed LTF	0.0441
<b>G-007</b>	<b>G-007</b>	0.0374	Confirmed LTF	0.0374
<b>GIBSON</b>	<b>GIBSON</b>	0.0382	Confirmed LTF	0.0382
<b>BLUEG</b>	<b>BLUEG</b>	0.1215	Confirmed LTF	0.1215
<b>TRIMBLE</b>	<b>TRIMBLE</b>	0.0390	Confirmed LTF	0.0390
<b>CATAWBA</b>	<b>CATAWBA</b>	0.0245	Confirmed LTF	0.0245

## 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
99647179	200051	ROCKSPGS	PJM	200065	PCHBTM2S	PJM	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	143.37	144.18	DC	50.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200052	ROCKSP 1	16.6890	50/50	16.6890
200053	ROCKSP 2	16.6890	50/50	16.6890
200054	ROCKSP 3	16.8421	50/50	16.8421
200055	ROCKSP 4	16.8421	50/50	16.8421
200062	SALEM G3	16.2247	Adder	19.09
227928	V4-067E	0.4406	Adder	0.52
228102	BLE#2 ST (Deactivation : 30/04/2019)	42.5055	Adder	50.01
228261	V4-054E	1.7764	Adder	2.09
228334	MANNMILG	2.3111	Adder	2.72
228343	QUINTN#1 (Deactivation : 26/04/2020)	0.4777	Adder	0.56
228357	V2-046E	3.5420	Adder	4.17
228712	V2-041E	0.7384	Adder	0.87
228721	V2-035E	0.3430	Adder	0.4
228733	AB1-119 E	0.2013	Adder	0.24
231708	CHRIST3	3.9092	Adder	4.6
231903	GEN4	4.5764	Adder	5.38
231904	DC1 NUG	11.8569	Adder	13.95
231905	DC2 NUG	11.8569	Adder	13.95
231911	HR5	11.3695	50/50	11.3695
231912	HR6	11.3695	50/50	11.3695
231913	HR7	11.3695	50/50	11.3695
231914	HR8	17.2816	50/50	17.2816
232003	CARTANZA	27.4782	50/50	27.4782
232405	W1-003 E	1.9515	Adder	2.3
232407	W1-004 E	1.9515	Adder	2.3
232409	W1-005 E	1.9515	Adder	2.3
232411	W1-006 E	1.9515	Adder	2.3
232412	X1-032 E	1.7334	Adder	2.04
232418	X3-008 E	5.3366	Adder	6.28
232423	X3-066 E	1.5503	Adder	1.82
232425	Y1-079 E	2.6117	Adder	3.07
232427	Y1-080 E	0.9063	Adder	1.07
232429	Y3-058 E	4.0261	Adder	4.74
232433	Z2-076 E	0.8725	Adder	1.03
232435	Z2-077 E	0.8725	Adder	1.03
232436	AB1-176 C	0.6293	Adder	0.74
232922	MR3 (Deactivation : 01/06/2021)	44.6678	Adder	52.55
902092	W1-130E	1.5601	Adder	1.84
902432	W2-030 E	1.6428	Adder	1.93

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
913271	Y1-065 C	132.2819	50/50	132.2819
917082	Z2-012 E	5.3751	Adder	6.32
919831	AA2-069 (Suspended)	197.5019	Adder	232.36
923153	AB1-116 E	0.2133	Adder	0.25
923282	AB1-137 C	1.8237	Adder	2.15
923283	AB1-137 E	0.7816	Adder	0.92
923322	AB1-141 C OP	5.6214	Adder	6.61
923323	AB1-141 E OP	2.6233	Adder	3.09
923332	AB1-142 C OP	5.6214	Adder	6.61
923532	AB1-169AC	150.5350	Adder	177.1
923603	AB1-176 E	1.0377	Adder	1.22
923921	AB2-032 C	5.6630	Adder	6.66
923922	AB2-032 E	2.6649	Adder	3.14
923951	AB2-036 C	14.7305	Adder	17.33
923952	AB2-036 E	24.1005	Adder	28.35
923961	AB2-037 C	33.1367	Adder	38.98
923962	AB2-037 E	54.1333	Adder	63.69
924051	AB2-049 C	1.0480	Adder	1.23
924052	AB2-049 E	1.7099	Adder	2.01
924531	AB2-102 C	68.4675	Adder	80.55
924532	AB2-102 E	1.5215	Adder	1.79
924681	AB2-120 C OP	16.4727	Adder	19.38
924682	AB2-120 E OP	26.8765	Adder	31.62
924701	AB2-122 C	0.1904	Adder	0.22
924702	AB2-122 E	0.3264	Adder	0.38
924781	AB2-130 C OP	13.9977	Adder	16.47
924782	AB2-130 E OP	22.8383	Adder	26.87
924801	AB2-133 C OP	10.1386	Adder	11.93
924802	AB2-133 E OP	12.8588	Adder	15.13
924821	AB2-135 C	12.4478	Adder	14.64
924822	AB2-135 E	14.1963	Adder	16.7
924831	AB2-136 C	10.6939	Adder	12.58
924832	AB2-136 E	11.3407	Adder	13.34
924971	AB2-153 C	3.1646	Adder	3.72
924972	AB2-153 E	5.1633	Adder	6.07
925151	AB2-172 C OP	8.1771	Adder	9.62
925152	AB2-172 E OP	13.3415	Adder	15.7
925251	AB2-179 C OP	14.7173	Adder	17.31
925252	AB2-179 E OP	4.8536	Adder	5.71
925261	AB2-180 C	6.0608	Adder	7.13
925262	AB2-180 E	2.5975	Adder	3.06
925271	AB2-185 C OP	5.8973	Adder	6.94
925272	AB2-185 E OP	2.5274	Adder	2.97
926131	AC1-091 C	3.2822	Adder	3.86
926132	AC1-091 E	5.3828	Adder	6.33
926141	AC1-092 C	3.2822	Adder	3.86
926142	AC1-092 E	5.3828	Adder	6.33
926151	AC1-093 C	3.1071	Adder	3.66
926152	AC1-093 E	5.1202	Adder	6.02
926161	AC1-094 C	2.6257	Adder	3.09
926162	AC1-094 E	4.3325	Adder	5.1
927031	AC1-190 C	15.0684	Adder	17.73

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
927032	AC1-190 E	6.4579	Adder	7.6
927191	AC1-213 C	1.3862	Adder	1.63
927192	AC1-213 E	0.9097	Adder	1.07
930201	AB1-056 C	27.9738	Adder	32.91
930202	AB1-056 E	79.6645	Adder	93.72
930881	AB1-137 C	1.8237	Adder	2.15
930882	AB1-137 E	0.7816	Adder	0.92
930932	AB1-142 E OP	2.6233	Adder	3.09
932081	AC2-018 C1	0.5629	50/50	0.5629
932082	AC2-018 E1	21.2116	50/50	21.2116
932091	AC2-018 C2	0.5629	50/50	0.5629
932092	AC2-018 E2	21.2116	50/50	21.2116
932161	AC2-023 C	11.4670	Adder	13.49
932162	AC2-023 E	8.3515	Adder	9.83
933631	AC2-185 C	6.6519	Adder	7.83
933632	AC2-185 E	10.8530	Adder	12.77
933641	AC2-186 C	8.2210	Adder	9.67
933642	AC2-186 E	13.4132	Adder	15.78
933962	AD1-019 E	2.0666	Adder	2.43
936451	AD2-059 C	0.0915	Adder	0.11
936452	AD2-059 E	0.2872	Adder	0.34
936491	AD2-064 C (Withdrawn : 06/16/2020)	0.1461	Adder	0.17
936492	AD2-064 E (Withdrawn : 06/16/2020)	0.2013	Adder	0.24
936501	AD2-065 C	0.2923	Adder	0.34
936502	AD2-065 E	0.4032	Adder	0.47
936611	AD2-076 C O1	7.7313	Adder	9.1
936612	AD2-076 E O1	12.6143	Adder	14.84
937011	AD2-135 C	0.1697	Adder	0.2
937012	AD2-135 E	0.2885	Adder	0.34
937281	AD2-167	7.3177	50/50	7.3177
938421	AE1-061 C	0.7527	Adder	0.89
938422	AE1-061 E	0.7527	Adder	0.89
938431	AE1-062 C	2.7281	Adder	3.21
938432	AE1-062 E	2.7281	Adder	3.21
938651	AE1-087 C	6.8860	Adder	8.1
938652	AE1-087 E	1.7215	Adder	2.03
938781	AE1-104 C O1	34.3096	Adder	40.36
938782	AE1-104 E O1	87.7807	Adder	103.27
938811	AE1-107 C	12.1342	Adder	14.28
938812	AE1-107 E	8.6505	Adder	10.18
938871	AE1-115 C	2.7742	Adder	3.26
938872	AE1-115 E	2.7742	Adder	3.26
938891	AE1-117 C O1	18.0199	Adder	21.2
938892	AE1-117 E O1	47.9806	Adder	56.45
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	18.0195	Adder	21.2
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	47.9797	Adder	56.45
939151	AE1-145	8.6698	Adder	10.2

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939301	AE1-161 C	5.4777	Adder	6.44
939302	AE1-161 E	8.2166	Adder	9.67
939501	AE1-179 C O1	10.1819	Adder	11.98
939502	AE1-179 E O1	7.1855	Adder	8.45
939621	AE1-192 C O1	20.3733	Adder	23.97
939622	AE1-192 E O1	9.9699	Adder	11.73
939821	AE1-218 C O1	0.2175	Adder	0.26
939822	AE1-218 E O1	0.3262	Adder	0.38
939831	AE1-219 C O1	0.4893	Adder	0.58
939832	AE1-219 E O1	0.7068	Adder	0.83
939931	AE1-229 C O1	24.8457	Adder	29.23
939932	AE1-229 E O1	16.8337	Adder	19.8
940001	AE1-240 C O1	8.4379	Adder	9.93
940002	AE1-240 E O1	6.0229	Adder	7.09
940361	AE2-020 C	28.7011	Adder	33.77
940362	AE2-020 E	134.3805	Adder	158.09
940371	AE2-021 C	28.7011	Adder	33.77
940372	AE2-021 E	134.3805	Adder	158.09
940381	AE2-022 C	16.7423	Adder	19.7
940382	AE2-022 E	78.3886	Adder	92.22
940741	AE2-061	0.9851	50/50	0.9851
941021	AE2-093 C	8.4185	Adder	9.9
941022	AE2-093 E	13.3757	Adder	15.74
941181	AE2-112 C	2.6823	Adder	3.16
941182	AE2-112 E	4.3764	Adder	5.15
942101	AE2-222 C O1	23.1841	Adder	27.28
942102	AE2-222 E O1	58.2399	Adder	68.52
942381	AE2-251 C	90.9245	Adder	106.97
942382	AE2-251 E	232.6501	Adder	273.71
942441	AE2-257 C	14.3299	Adder	16.86
942442	AE2-257 E	37.7788	Adder	44.45
943071	AE2-334 C	7.8723	Adder	9.26
943072	AE2-334 E	4.1967	Adder	4.94
943361	AF1-007 C	0.8253	Adder	0.97
943362	AF1-007 E	2.3456	Adder	2.76
943441	AF1-015 C	2.6922	Adder	3.17
943442	AF1-015 E	3.7178	Adder	4.37
943651	AF1-036 C	3.4878	Adder	4.1
943652	AF1-036 E	4.8165	Adder	5.67
943732	AF1-041 E	0.6506	Adder	0.77
944921	AF1-157 C O1	6.5061	Adder	7.65
944922	AF1-157 E O1	4.3374	Adder	5.1
944951	AF1-160 C	2.7281	Adder	3.21
944952	AF1-160 E	2.8645	Adder	3.37
945431	AF1-208 C O1	7.6664	Adder	9.02
945432	AF1-208 E O1	5.1110	Adder	6.01
945661	AF1-231 C	3.2944	Adder	3.88
945662	AF1-231 E	4.9416	Adder	5.81
945731	AF1-238 C	14.9050	Adder	17.54
945732	AF1-238 E	22.3575	Adder	26.3
945741	AF1-239 C	3.5071	Adder	4.13
945742	AF1-239 E	5.2606	Adder	6.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
945781	AF1-243	2.1674	Adder	2.55
945791	AF1-244	3.4666	Adder	4.08
945931	AF1-258	1.3853	Adder	1.63
945941	AF1-259	0.3334	Adder	0.39
945971	AF1-262	0.2490	Adder	0.29
946041	AF1-269 (Withdrawn : 05/12/2020)	4.7471	Adder	5.58
957221	AF2-016 C	17.3652	Adder	38.55
957222	AF2-016 E	26.0477	Adder	57.82
957251	AF2-019 C	2.4710	Adder	5.49
957252	AF2-019 E	3.7066	Adder	8.23
957261	AF2-020 C	1.2145	Adder	2.7
957262	AF2-020 E	1.8218	Adder	4.04
957281	AF2-022 C	3.1768	Adder	7.05
957282	AF2-022 E	4.7653	Adder	10.58
957291	AF2-023 C O1	2.9406	Adder	6.53
957292	AF2-023 E O1	4.4109	Adder	9.79
957311	AF2-025 C	1.1550	Adder	2.56
957312	AF2-025 E	1.7325	Adder	3.85
957321	AF2-026 C	1.8860	Adder	4.19
957322	AF2-026 E	2.8291	Adder	6.28
957611	AF2-055 C	8.0410	Adder	17.85
957612	AF2-055 E	3.4461	Adder	7.65
957641	AF2-058	0.3796	Adder	0.84
957661	AF2-060	2.0678	Adder	4.59
957671	AF2-061 O1	9.1900	Adder	20.4
958151	AF2-109 C	2.1843	Adder	4.85
958152	AF2-109 E	2.1843	Adder	4.85
958781	AF2-169 C O1 (Withdrawn : 06/09/2020)	0.6890	Adder	1.53
958782	AF2-169 E O1 (Withdrawn : 06/09/2020)	81.9933	Adder	182.01
958811	AF2-172 C	0.5819	Adder	1.29
958812	AF2-172 E	0.9494	Adder	2.11
959021	AF2-193 C O1	27.3961	Adder	60.81
959022	AF2-193 E O1	73.9003	Adder	164.04
959031	AF2-194 C O1	27.3961	Adder	60.81
959032	AF2-194 E O1	73.9003	Adder	164.04
959051	AF2-196 C	2.0713	Adder	4.6
959052	AF2-196 E	4.8331	Adder	10.73
959111	AF2-202 C	0.1731	Adder	0.38
959112	AF2-202 E	0.2369	Adder	0.53
959161	AF2-207 C O1	4.6291	Adder	10.28
959162	AF2-207 E O1	6.9437	Adder	15.41
959571	AF2-248 C	0.7807	Adder	1.73
959572	AF2-248 E	0.8725	Adder	1.94
959581	AF2-249 C	0.1378	Adder	0.31
959582	AF2-249 E	0.5511	Adder	1.22
959591	AF2-250 C	0.2526	Adder	0.56
959592	AF2-250 E	0.1952	Adder	0.43
960221	AF2-313 C	2.8051	Adder	6.23
960222	AF2-313 E	1.5903	Adder	3.53

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960341	AF2-325 C	0.9592	Adder	2.13
960342	AF2-325 E	1.3246	Adder	2.94
960671	AF2-358 C O1	13.7275	Adder	30.47
960672	AF2-358 E O1	9.1516	Adder	20.31
960871	AF2-378 C	0.2536	Adder	0.56
960872	AF2-378 E	0.3518	Adder	0.78
960881	AF2-379 C	0.3766	Adder	0.84
960882	AF2-379 E	0.5189	Adder	1.15
960941	AF2-385 C O1	11.0218	Adder	24.47
960942	AF2-385 E O1	6.1997	Adder	13.76
960961	AF2-387 C O1	14.9938	Adder	33.28
960962	AF2-387 E O1	7.5194	Adder	16.69
961181	AF2-409 O1	22.9205	Adder	50.88
999905	MARINGEN 2	1.0891	Adder	1.28
999906	PVILLEG 2	0.4607	Adder	0.54
NEWTON	NEWTON	5.7851	Confirmed LTF	5.7851
FARMERCITY	FARMERCITY	0.3024	Confirmed LTF	0.3024
G-007A	G-007A	25.6916	Confirmed LTF	25.6916
VFT	VFT	55.8505	Confirmed LTF	55.8505
CALDERWOOD	CALDERWOOD	2.7509	Confirmed LTF	2.7509
PRAIRIE	PRAIRIE	13.9689	Confirmed LTF	13.9689
CHEOAH	CHEOAH	2.7728	Confirmed LTF	2.7728
EDWARDS	EDWARDS	1.8767	Confirmed LTF	1.8767
TILTON	TILTON	3.3793	Confirmed LTF	3.3793
GIBSON	GIBSON	2.9358	Confirmed LTF	2.9358
BLUEG	BLUEG	9.3362	Confirmed LTF	9.3362
TRIMBLE	TRIMBLE	2.9917	Confirmed LTF	2.9917
CATAWBA	CATAWBA	1.9831	Confirmed LTF	1.9831

11.6.8 Index 8

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
100302574	213559	DELCOTA P	PECO	228401	MCKLTO N	AE	1	PECO_P4_CHICH045/ * \$ DELCO \$ CHICH045 \$ STBK	breaker	725.0	108.59	109.09	DC	7.86

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
213400	COVANTA DELA	9.2810	50/50	9.2810
213888	PHLISCT1	10.7448	50/50	10.7448
213889	PHLISCT2	10.7448	50/50	10.7448
213890	PHLISCT3	10.7448	50/50	10.7448
213893	PHLISST1	14.8865	50/50	14.8865
227881	GRENWCHG	-0.1411	Adder	-0.17
228334	MANNMILG	-0.5475	Adder	-0.64
231505	HR4	9.2811	50/50	9.2811
231708	CHRIST3	1.6851	Adder	1.98
231900	EM5	22.5391	50/50	22.5391
231901	EM4	5.9917	50/50	5.9917
231903	GEN4	0.8905	Adder	1.05
231904	DC1 NUG	2.3072	Adder	2.71
231905	DC2 NUG	2.3072	Adder	2.71
231908	HR1	4.3044	50/50	4.3044
231909	HR2	4.2688	50/50	4.2688
231910	HR3	4.3044	50/50	4.3044
231916	EM3	2.9369	50/50	2.9369
232405	W1-003 E	0.2904	Adder	0.34
232407	W1-004 E	0.2904	Adder	0.34
232409	W1-005 E	0.2904	Adder	0.34
232411	W1-006 E	0.2904	Adder	0.34
232412	X1-032 E	0.2592	Adder	0.3
232418	X3-008 E	0.8424	Adder	0.99
232423	X3-066 E	0.2738	Adder	0.32
232425	Y1-079 E	0.4521	Adder	0.53
232427	Y1-080 E	0.1406	Adder	0.17
232429	Y3-058 E	0.6062	Adder	0.71
232436	AB1-176 C	0.1111	Adder	0.13
912161	X4-027 CT1	0.7192	50/50	0.7192
912162	X4-027 CT2	0.7254	50/50	0.7254
912163	X4-027 CT3	0.7254	50/50	0.7254
917082	Z2-012 E	0.7996	Adder	0.94
919901	AB1-000 1	2.1566	50/50	2.1566
919911	AB1-000 2	2.1566	50/50	2.1566
919921	AB1-000 3	2.1566	50/50	2.1566
923322	AB1-141 C OP	1.0003	Adder	1.18
923323	AB1-141 E OP	0.4668	Adder	0.55
923332	AB1-142 C OP	1.0003	Adder	1.18
923603	AB1-176 E	0.1833	Adder	0.22
923921	AB2-032 C	1.0077	Adder	1.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923922	AB2-032 E	0.4742	Adder	0.56
923951	AB2-036 C	2.5476	Adder	3.0
923952	AB2-036 E	4.1682	Adder	4.9
923961	AB2-037 C	5.5605	Adder	6.54
923962	AB2-037 E	9.0838	Adder	10.69
924681	AB2-120 C OP	2.4496	Adder	2.88
924682	AB2-120 E OP	3.9968	Adder	4.7
924801	AB2-133 C OP	1.8277	Adder	2.15
924802	AB2-133 E OP	2.3181	Adder	2.73
924821	AB2-135 C	2.1356	Adder	2.51
924822	AB2-135 E	2.4356	Adder	2.87
924831	AB2-136 C	1.6674	Adder	1.96
924832	AB2-136 E	1.7683	Adder	2.08
924971	AB2-153 C	0.5631	Adder	0.66
924972	AB2-153 E	0.9188	Adder	1.08
925151	AB2-172 C OP	1.2907	Adder	1.52
925152	AB2-172 E OP	2.1059	Adder	2.48
925251	AB2-179 C OP	3.0464	Adder	3.58
925252	AB2-179 E OP	1.0047	Adder	1.18
925261	AB2-180 C	0.9126	Adder	1.07
925262	AB2-180 E	0.3911	Adder	0.46
925271	AB2-185 C OP	1.0209	Adder	1.2
925272	AB2-185 E OP	0.4375	Adder	0.51
927031	AC1-190 C	2.3732	Adder	2.79
927032	AC1-190 E	1.0171	Adder	1.2
927191	AC1-213 C	0.2072	Adder	0.24
927192	AC1-213 E	0.1360	Adder	0.16
930932	AB1-142 E OP	0.4668	Adder	0.55
932161	AC2-023 C	1.7356	Adder	2.04
932162	AC2-023 E	1.2640	Adder	1.49
934661	AD1-097 1	3.4794	50/50	3.4794
934671	AD1-097 2	3.4794	50/50	3.4794
934681	AD1-097 3	3.4794	50/50	3.4794
934691	AD1-097 4	2.0596	50/50	2.0596
936451	AD2-059 C	0.0269	Adder	0.03
936452	AD2-059 E	0.0844	Adder	0.1
936611	AD2-076 C O1	1.3847	Adder	1.63
936612	AD2-076 E O1	2.2593	Adder	2.66
938651	AE1-087 C	1.0869	Adder	1.28
938652	AE1-087 E	0.2717	Adder	0.32
938811	AE1-107 C	2.5905	Adder	3.05
938812	AE1-107 E	1.8468	Adder	2.17
938873	AE1-115 BAT	1.5426	Merchant Transmission	1.5426
939151	AE1-145	1.2891	Adder	1.52
939621	AE1-192 C O1	3.0306	Adder	3.57
939622	AE1-192 E O1	1.4831	Adder	1.74
941021	AE2-093 C	1.4103	Adder	1.66
941022	AE2-093 E	2.2407	Adder	2.64
941181	AE2-112 C	0.4804	Adder	0.57
941182	AE2-112 E	0.7838	Adder	0.92
943441	AF1-015 C	0.4510	Adder	0.53
943442	AF1-015 E	0.6228	Adder	0.73

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943651	AF1-036 C	0.6247	Adder	0.73
943652	AF1-036 E	0.8627	Adder	1.01
945661	AF1-231 C	0.4901	Adder	0.58
945662	AF1-231 E	0.7352	Adder	0.86
945781	AF1-243	0.3224	Adder	0.38
945791	AF1-244	0.5189	Adder	0.61
945931	AF1-258	0.2086	Adder	0.25
945941	AF1-259	0.0589	Adder	0.07
946041	AF1-269 (Withdrawn : 05/12/2020)	0.7364	Adder	0.87
957293	AF2-023 BAT	2.0445	Merchant Transmission	2.0445
957303	AF2-024 BAT	2.7303	Merchant Transmission	2.7303
957611	AF2-055 C	1.1961	Adder	2.66
957612	AF2-055 E	0.5126	Adder	1.14
957661	AF2-060	0.3075	Adder	0.68
957671	AF2-061 O1	1.3665	Adder	3.03
958151	AF2-109 C	0.3938	Adder	0.87
958152	AF2-109 E	0.3938	Adder	0.87
959161	AF2-207 C O1	0.6902	Adder	1.53
959162	AF2-207 E O1	1.0354	Adder	2.3
959571	AF2-248 C	0.1165	Adder	0.26
959572	AF2-248 E	0.1302	Adder	0.29
959581	AF2-249 C	0.0206	Adder	0.05
959582	AF2-249 E	0.0822	Adder	0.18
959591	AF2-250 C	0.0377	Adder	0.08
959592	AF2-250 E	0.0291	Adder	0.06
960221	AF2-313 C	0.4954	Adder	1.1
960222	AF2-313 E	0.2809	Adder	0.62
960341	AF2-325 C	0.1502	Adder	0.33
960342	AF2-325 E	0.2074	Adder	0.46
960671	AF2-358 C O1	2.1254	Adder	4.72
960672	AF2-358 E O1	1.4169	Adder	3.15
960871	AF2-378 C	0.0396	Adder	0.09
960872	AF2-378 E	0.0550	Adder	0.12
960881	AF2-379 C	0.0565	Adder	0.13
960882	AF2-379 E	0.0778	Adder	0.17
960941	AF2-385 C O1	1.6434	Adder	3.65
960942	AF2-385 E O1	0.9244	Adder	2.05
960961	AF2-387 C O1	2.5539	Adder	5.67
960962	AF2-387 E O1	1.2808	Adder	2.84
961181	AF2-409 O1	3.5495	Adder	7.88
NEWTON	NEWTON	0.0967	Confirmed LTF	0.0967
FARMERCITY	FARMERCITY	0.0049	Confirmed LTF	0.0049
CALDERWOOD	CALDERWOOD	0.0323	Confirmed LTF	0.0323
NY	NY	0.8721	Confirmed LTF	0.8721
PRAIRIE	PRAIRIE	0.2221	Confirmed LTF	0.2221
O-066	O-066	14.2598	Confirmed LTF	14.2598
CHEOAH	CHEOAH	0.0325	Confirmed LTF	0.0325
EDWARDS	EDWARDS	0.0329	Confirmed LTF	0.0329
TILTON	TILTON	0.0586	Confirmed LTF	0.0586
G-007	G-007	2.5126	Confirmed LTF	2.5126
MADISON	MADISON	0.0141	Confirmed LTF	0.0141
GIBSON	GIBSON	0.0497	Confirmed LTF	0.0497

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>BLUEG</b>	BLUEG	0.1580	Confirmed LTF	0.1580
<b>TRIMBLE</b>	TRIMBLE	0.0506	Confirmed LTF	0.0506
<b>CATAWBA</b>	CATAWBA	0.0154	Confirmed LTF	0.0154

11.6.9 Index 9

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 LOADING %	POST PROJECT LOADING %	AC/D C	MW IMPACT
100302428	231000	CLAY_230	DP&L	213750	LINWOOD	PECO	1	PECO_P4_LINWO225/ * \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	149.24	150.11	DC	15.31

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231505	HR4	15.8460	50/50	15.8460
231708	CHRIST3	2.9960	Adder	3.52
231900	EM5	38.4819	50/50	38.4819
231901	EM4	10.6021	50/50	10.6021
231903	GEN4	1.6776	Adder	1.97
231904	DC1 NUG	4.3464	Adder	5.11
231905	DC2 NUG	4.3464	Adder	5.11
231908	HR1	7.6165	50/50	7.6165
231909	HR2	7.6798	50/50	7.6798
231910	HR3	7.6165	50/50	7.6165
231916	EM3	5.2837	50/50	5.2837
231917	EM10	0.8786	50/50	0.8786
231919	CHRIST1	1.2713	50/50	1.2713
232405	W1-003 E	0.5706	Adder	0.67
232407	W1-004 E	0.5706	Adder	0.67
232409	W1-005 E	0.5706	Adder	0.67
232411	W1-006 E	0.5706	Adder	0.67
232412	X1-032 E	0.5087	Adder	0.6
232418	X3-008 E	1.6329	Adder	1.92
232423	X3-066 E	0.5173	Adder	0.61
232425	Y1-079 E	0.8584	Adder	1.01
232427	Y1-080 E	0.2736	Adder	0.32
232429	Y3-058 E	1.1880	Adder	1.4
232433	Z2-076 E	0.2504	Adder	0.29
232435	Z2-077 E	0.2504	Adder	0.29
232436	AB1-176 C	0.2100	Adder	0.25
232922	MR3 (Deactivation : 01/06/2021)	11.5259	Adder	13.56
917082	Z2-012 E	1.5712	Adder	1.85
919831	AA2-069 (Suspended)	50.9626	Adder	59.96
919921	AB1-000 3	-1.4309	Adder	-1.68
923282	AB1-137 C	0.5215	Adder	0.61
923283	AB1-137 E	0.2235	Adder	0.26
923322	AB1-141 C OP	1.8872	Adder	2.22
923323	AB1-141 E OP	0.8807	Adder	1.04
923332	AB1-142 C OP	1.8872	Adder	2.22
923603	AB1-176 E	0.3463	Adder	0.41
923921	AB2-032 C	1.9012	Adder	2.24
923922	AB2-032 E	0.8947	Adder	1.05
923951	AB2-036 C	4.8387	Adder	5.69
923952	AB2-036 E	7.9165	Adder	9.31
923961	AB2-037 C	10.6457	Adder	12.52

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923962	AB2-037 E	17.3912	Adder	20.46
924681	AB2-120 C OP	4.8140	Adder	5.66
924682	AB2-120 E OP	7.8544	Adder	9.24
924781	AB2-130 C OP	4.0628	Adder	4.78
924782	AB2-130 E OP	6.6288	Adder	7.8
924801	AB2-133 C OP	3.4368	Adder	4.04
924802	AB2-133 E OP	4.3588	Adder	5.13
924821	AB2-135 C	4.0578	Adder	4.77
924822	AB2-135 E	4.6277	Adder	5.44
924831	AB2-136 C	3.2413	Adder	3.81
924832	AB2-136 E	3.4373	Adder	4.04
924971	AB2-153 C	1.0624	Adder	1.25
924972	AB2-153 E	1.7334	Adder	2.04
925151	AB2-172 C OP	2.5020	Adder	2.94
925152	AB2-172 E OP	4.0821	Adder	4.8
925251	AB2-179 C OP	5.5665	Adder	6.55
925252	AB2-179 E OP	1.8358	Adder	2.16
925261	AB2-180 C	1.7883	Adder	2.1
925262	AB2-180 E	0.7664	Adder	0.9
925271	AB2-185 C OP	1.9383	Adder	2.28
925272	AB2-185 E OP	0.8307	Adder	0.98
926131	AC1-091 C	0.8330	Adder	0.98
926132	AC1-091 E	1.3662	Adder	1.61
926141	AC1-092 C	0.8330	Adder	0.98
926142	AC1-092 E	1.3662	Adder	1.61
926151	AC1-093 C	0.7886	Adder	0.93
926152	AC1-093 E	1.2995	Adder	1.53
926161	AC1-094 C	0.6664	Adder	0.78
926162	AC1-094 E	1.0996	Adder	1.29
927031	AC1-190 C	4.6026	Adder	5.41
927032	AC1-190 E	1.9726	Adder	2.32
927191	AC1-213 C	0.4067	Adder	0.48
927192	AC1-213 E	0.2669	Adder	0.31
930201	AB1-056 C	7.9734	Adder	9.38
930202	AB1-056 E	22.7069	Adder	26.71
930881	AB1-137 C	0.5215	Adder	0.61
930882	AB1-137 E	0.2235	Adder	0.26
930932	AB1-142 E OP	0.8807	Adder	1.04
932161	AC2-023 C	3.3968	Adder	4.0
932162	AC2-023 E	2.4739	Adder	2.91
933631	AC2-185 C	1.6883	Adder	1.99
933632	AC2-185 E	2.7545	Adder	3.24
933641	AC2-186 C	2.3275	Adder	2.74
933642	AC2-186 E	3.7976	Adder	4.47
936451	AD2-059 C	0.0482	Adder	0.06
936452	AD2-059 E	0.1511	Adder	0.18
936611	AD2-076 C O1	2.6084	Adder	3.07
936612	AD2-076 E O1	4.2559	Adder	5.01
938651	AE1-087 C	2.1069	Adder	2.48
938652	AE1-087 E	0.5267	Adder	0.62
938811	AE1-107 C	4.7343	Adder	5.57
938812	AE1-107 E	3.3751	Adder	3.97

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938891	AE1-117 C O1	5.1530	Adder	6.06
938892	AE1-117 E O1	13.7206	Adder	16.14
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	5.1537	Adder	6.06
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	13.7224	Adder	16.14
939151	AE1-145	2.5335	Adder	2.98
939621	AE1-192 C O1	5.9553	Adder	7.01
939622	AE1-192 E O1	2.9143	Adder	3.43
940271	AE2-010	-0.4740	Adder	-0.56
941021	AE2-093 C	2.6985	Adder	3.17
941022	AE2-093 E	4.2874	Adder	5.04
941181	AE2-112 C	0.9050	Adder	1.06
941182	AE2-112 E	1.4765	Adder	1.74
942441	AE2-257 C	4.0953	Adder	4.82
942442	AE2-257 E	10.7967	Adder	12.7
943361	AF1-007 C	0.2352	Adder	0.28
943362	AF1-007 E	0.6686	Adder	0.79
943441	AF1-015 C	0.8630	Adder	1.02
943442	AF1-015 E	1.1917	Adder	1.4
943651	AF1-036 C	1.1767	Adder	1.38
943652	AF1-036 E	1.6250	Adder	1.91
944921	AF1-157 C O1	1.8751	Adder	2.21
944922	AF1-157 E O1	1.2501	Adder	1.47
945661	AF1-231 C	0.9631	Adder	1.13
945662	AF1-231 E	1.4446	Adder	1.7
945781	AF1-243	0.6335	Adder	0.75
945791	AF1-244	1.0182	Adder	1.2
945931	AF1-258	0.4088	Adder	0.48
945941	AF1-259	0.1113	Adder	0.13
946041	AF1-269 (Withdrawn : 05/12/2020)	1.4332	Adder	1.69
957443	AF2-038 BAT	1.8778	Merchant Transmission	1.8778
957611	AF2-055 C	2.3505	Adder	5.22
957612	AF2-055 E	1.0073	Adder	2.24
957661	AF2-060	0.6042	Adder	1.34
957671	AF2-061 O1	2.6855	Adder	5.96
958151	AF2-109 C	0.7404	Adder	1.64
958152	AF2-109 E	0.7404	Adder	1.64
959021	AF2-193 C O1	7.8088	Adder	17.33
959022	AF2-193 E O1	21.0640	Adder	46.76
959031	AF2-194 C O1	7.8088	Adder	17.33
959032	AF2-194 E O1	21.0640	Adder	46.76
959051	AF2-196 C	0.5920	Adder	1.31
959052	AF2-196 E	1.3812	Adder	3.07
959161	AF2-207 C O1	1.3555	Adder	3.01
959162	AF2-207 E O1	2.0333	Adder	4.51
959571	AF2-248 C	0.2288	Adder	0.51
959572	AF2-248 E	0.2557	Adder	0.57
959581	AF2-249 C	0.0404	Adder	0.09
959582	AF2-249 E	0.1615	Adder	0.36

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959591	AF2-250 C	0.0740	Adder	0.16
959592	AF2-250 E	0.0572	Adder	0.13
960221	AF2-313 C	0.9361	Adder	2.08
960222	AF2-313 E	0.5307	Adder	1.18
960341	AF2-325 C	0.2917	Adder	0.65
960342	AF2-325 E	0.4028	Adder	0.89
960671	AF2-358 C O1	4.1383	Adder	9.19
960672	AF2-358 E O1	2.7589	Adder	6.12
960871	AF2-378 C	0.0770	Adder	0.17
960872	AF2-378 E	0.1068	Adder	0.24
960881	AF2-379 C	0.1107	Adder	0.25
960882	AF2-379 E	0.1526	Adder	0.34
960941	AF2-385 C O1	3.2274	Adder	7.16
960942	AF2-385 E O1	1.8154	Adder	4.03
960961	AF2-387 C O1	4.8680	Adder	10.81
960962	AF2-387 E O1	2.4413	Adder	5.42
961181	AF2-409 O1	6.9116	Adder	15.34
NEWTON	NEWTON	0.0322	Confirmed LTF	0.0322
CPL	CPL	0.0377	Confirmed LTF	0.0377
FARMERCITY	FARMERCITY	0.0015	Confirmed LTF	0.0015
NY	NY	0.9368	Confirmed LTF	0.9368
PRAIRIE	PRAIRIE	0.0646	Confirmed LTF	0.0646
O-066	O-066	14.6093	Confirmed LTF	14.6093
EDWARDS	EDWARDS	0.0122	Confirmed LTF	0.0122
CBM-S2	CBM-S2	0.2139	Confirmed LTF	0.2139
TILTON	TILTON	0.0214	Confirmed LTF	0.0214
G-007	G-007	2.2142	Confirmed LTF	2.2142
MADISON	MADISON	0.0181	Confirmed LTF	0.0181
GIBSON	GIBSON	0.0169	Confirmed LTF	0.0169
BLUEG	BLUEG	0.0538	Confirmed LTF	0.0538
TRIMBLE	TRIMBLE	0.0178	Confirmed LTF	0.0178

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 LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPACT
100302441	231001	EDGEM R 5	DP&L	231000	CLAY_230	DP&L	1	PECO_P4_LINWO225/ * \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	144.06	144.85	DC	13.87

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231505	HR4	15.8233	50/50	15.8233
231708	CHRIST3	2.7911	50/50	2.7911
231900	EM5	38.4268	50/50	38.4268
231901	EM4	8.3186	50/50	8.3186
231903	GEN4	1.4363	Adder	1.69
231904	DC1 NUG	3.7212	Adder	4.38
231905	DC2 NUG	3.7212	Adder	4.38
231908	HR1	5.9760	50/50	5.9760
231910	HR3	5.9760	50/50	5.9760
231918	WEST 1	0.6504	50/50	0.6504
231919	CHRIST1	1.0067	50/50	1.0067
231920	CHRIST2	1.0023	50/50	1.0023
232405	W1-003 E	0.5171	Adder	0.61
232407	W1-004 E	0.5171	Adder	0.61
232409	W1-005 E	0.5171	Adder	0.61
232411	W1-006 E	0.5171	Adder	0.61
232412	X1-032 E	0.4610	Adder	0.54
232416	X2-083	0.1070	50/50	0.1070
232418	X3-008 E	1.4773	Adder	1.74
232423	X3-066 E	0.4615	Adder	0.54
232425	Y1-079 E	0.7700	Adder	0.91
232427	Y1-080 E	0.2478	Adder	0.29
232429	Y3-058 E	1.0763	Adder	1.27
232433	Z2-076 E	0.2269	Adder	0.27
232435	Z2-077 E	0.2269	Adder	0.27
232436	AB1-176 C	0.1873	Adder	0.22
232922	MR3 (Deactivation : 01/06/2021)	10.4343	Adder	12.28
917082	Z2-012 E	1.4240	Adder	1.68
919831	AA2-069 (Suspended)	46.1362	Adder	54.28
919921	AB1-000 3	-1.2968	Adder	-1.53
923282	AB1-137 C	0.4725	Adder	0.56
923283	AB1-137 E	0.2025	Adder	0.24
923322	AB1-141 C OP	1.6835	Adder	1.98
923323	AB1-141 E OP	0.7856	Adder	0.92
923332	AB1-142 C OP	1.6835	Adder	1.98
923603	AB1-176 E	0.3089	Adder	0.36
923921	AB2-032 C	1.6960	Adder	2.0
923922	AB2-032 E	0.7981	Adder	0.94
923951	AB2-036 C	4.3456	Adder	5.11
923952	AB2-036 E	7.1099	Adder	8.36
923961	AB2-037 C	9.6867	Adder	11.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923962	AB2-037 E	15.8245	Adder	18.62
924681	AB2-120 C OP	4.3628	Adder	5.13
924682	AB2-120 E OP	7.1182	Adder	8.37
924781	AB2-130 C OP	3.6795	Adder	4.33
924782	AB2-130 E OP	6.0034	Adder	7.06
924801	AB2-133 C OP	3.0487	Adder	3.59
924802	AB2-133 E OP	3.8666	Adder	4.55
924821	AB2-135 C	3.6102	Adder	4.25
924822	AB2-135 E	4.1173	Adder	4.84
924831	AB2-136 C	2.9343	Adder	3.45
924832	AB2-136 E	3.1118	Adder	3.66
924971	AB2-153 C	0.9477	Adder	1.11
924972	AB2-153 E	1.5463	Adder	1.82
925151	AB2-172 C OP	2.2636	Adder	2.66
925152	AB2-172 E OP	3.6932	Adder	4.34
925251	AB2-179 C OP	4.8359	Adder	5.69
925252	AB2-179 E OP	1.5948	Adder	1.88
925261	AB2-180 C	1.6203	Adder	1.91
925262	AB2-180 E	0.6944	Adder	0.82
925271	AB2-185 C OP	1.7387	Adder	2.05
925272	AB2-185 E OP	0.7452	Adder	0.88
926131	AC1-091 C	0.7529	Adder	0.89
926132	AC1-091 E	1.2347	Adder	1.45
926141	AC1-092 C	0.7529	Adder	0.89
926142	AC1-092 E	1.2347	Adder	1.45
926151	AC1-093 C	0.7127	Adder	0.84
926152	AC1-093 E	1.1745	Adder	1.38
926161	AC1-094 C	0.6023	Adder	0.71
926162	AC1-094 E	0.9938	Adder	1.17
927031	AC1-190 C	4.1647	Adder	4.9
927032	AC1-190 E	1.7849	Adder	2.1
927191	AC1-213 C	0.3686	Adder	0.43
927192	AC1-213 E	0.2419	Adder	0.28
930201	AB1-056 C	7.2240	Adder	8.5
930202	AB1-056 E	20.5728	Adder	24.2
930881	AB1-137 C	0.4725	Adder	0.56
930882	AB1-137 E	0.2025	Adder	0.24
930932	AB1-142 E OP	0.7856	Adder	0.92
932161	AC2-023 C	3.0776	Adder	3.62
932162	AC2-023 E	2.2414	Adder	2.64
933631	AC2-185 C	1.5259	Adder	1.8
933632	AC2-185 E	2.4895	Adder	2.93
933641	AC2-186 C	2.1021	Adder	2.47
933642	AC2-186 E	3.4297	Adder	4.03
936451	AD2-059 C	0.0415	Adder	0.05
936452	AD2-059 E	0.1303	Adder	0.15
936611	AD2-076 C O1	2.3237	Adder	2.73
936612	AD2-076 E O1	3.7913	Adder	4.46
938651	AE1-087 C	1.9062	Adder	2.24
938652	AE1-087 E	0.4765	Adder	0.56
938811	AE1-107 C	4.0576	Adder	4.77
938812	AE1-107 E	2.8927	Adder	3.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938891	AE1-117 C O1	4.6686	Adder	5.49
938892	AE1-117 E O1	12.4310	Adder	14.62
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	4.6694	Adder	5.49
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	12.4329	Adder	14.63
939151	AE1-145	2.2960	Adder	2.7
939621	AE1-192 C O1	5.3972	Adder	6.35
939622	AE1-192 E O1	2.6412	Adder	3.11
940271	AE2-010	-0.4298	Adder	-0.51
941021	AE2-093 C	2.4382	Adder	2.87
941022	AE2-093 E	3.8740	Adder	4.56
941181	AE2-112 C	0.8062	Adder	0.95
941182	AE2-112 E	1.3154	Adder	1.55
942441	AE2-257 C	3.7105	Adder	4.37
942442	AE2-257 E	9.7821	Adder	11.51
943361	AF1-007 C	0.2131	Adder	0.25
943362	AF1-007 E	0.6057	Adder	0.71
943441	AF1-015 C	0.7797	Adder	0.92
943442	AF1-015 E	1.0768	Adder	1.27
943651	AF1-036 C	1.0483	Adder	1.23
943652	AF1-036 E	1.4476	Adder	1.7
944921	AF1-157 C O1	1.6986	Adder	2.0
944922	AF1-157 E O1	1.1324	Adder	1.33
945661	AF1-231 C	0.8728	Adder	1.03
945662	AF1-231 E	1.3092	Adder	1.54
945781	AF1-243	0.5742	Adder	0.68
945791	AF1-244	0.9228	Adder	1.09
945931	AF1-258	0.3704	Adder	0.44
945941	AF1-259	0.0993	Adder	0.12
946041	AF1-269 (Withdrawn : 05/12/2020)	1.2978	Adder	1.53
957443	AF2-038 BAT	1.7026	Merchant Transmission	1.7026
957611	AF2-055 C	2.1302	Adder	4.73
957612	AF2-055 E	0.9129	Adder	2.03
957661	AF2-060	0.5476	Adder	1.22
957671	AF2-061 O1	2.4338	Adder	5.4
958151	AF2-109 C	0.6568	Adder	1.46
958152	AF2-109 E	0.6568	Adder	1.46
959021	AF2-193 C O1	7.0748	Adder	15.7
959022	AF2-193 E O1	19.0842	Adder	42.36
959031	AF2-194 C O1	7.0748	Adder	15.7
959032	AF2-194 E O1	19.0842	Adder	42.36
959051	AF2-196 C	0.5363	Adder	1.19
959052	AF2-196 E	1.2514	Adder	2.78
959161	AF2-207 C O1	1.2282	Adder	2.73
959162	AF2-207 E O1	1.8423	Adder	4.09
959571	AF2-248 C	0.2073	Adder	0.46
959572	AF2-248 E	0.2317	Adder	0.51
959581	AF2-249 C	0.0366	Adder	0.08
959582	AF2-249 E	0.1463	Adder	0.32

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959591	AF2-250 C	0.0671	Adder	0.15
959592	AF2-250 E	0.0518	Adder	0.11
960221	AF2-313 C	0.8351	Adder	1.85
960222	AF2-313 E	0.4734	Adder	1.05
960341	AF2-325 C	0.2640	Adder	0.59
960342	AF2-325 E	0.3646	Adder	0.81
960671	AF2-358 C O1	3.7480	Adder	8.32
960672	AF2-358 E O1	2.4987	Adder	5.55
960871	AF2-378 C	0.0697	Adder	0.15
960872	AF2-378 E	0.0967	Adder	0.21
960881	AF2-379 C	0.1004	Adder	0.22
960882	AF2-379 E	0.1383	Adder	0.31
960941	AF2-385 C O1	2.9242	Adder	6.49
960942	AF2-385 E O1	1.6449	Adder	3.65
960961	AF2-387 C O1	4.3859	Adder	9.74
960962	AF2-387 E O1	2.1995	Adder	4.88
961181	AF2-409 O1	6.2674	Adder	13.91
NEWTON	NEWTON	0.0183	Confirmed LTF	0.0183
CPL	CPL	0.0404	Confirmed LTF	0.0404
FARMERCITY	FARMERCITY	0.0008	Confirmed LTF	0.0008
NY	NY	0.8433	Confirmed LTF	0.8433
TVA	TVA	0.0056	Confirmed LTF	0.0056
PRAIRIE	PRAIRIE	0.0336	Confirmed LTF	0.0336
O-066	O-066	13.1779	Confirmed LTF	13.1779
EDWARDS	EDWARDS	0.0077	Confirmed LTF	0.0077
CBM-S2	CBM-S2	0.2485	Confirmed LTF	0.2485
TILTON	TILTON	0.0139	Confirmed LTF	0.0139
G-007	G-007	1.9968	Confirmed LTF	1.9968
MADISON	MADISON	0.0141	Confirmed LTF	0.0141
GIBSON	GIBSON	0.0104	Confirmed LTF	0.0104
BLUEG	BLUEG	0.0330	Confirmed LTF	0.0330
TRIMBLE	TRIMBLE	0.0106	Confirmed LTF	0.0106

## 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
100302793	231001	EDGEMR 5	DP&L	213750	LINWOOD	PECO	1	DPL_P1_2_CKT 23015	single	804.0	109.95	110.43	DC	8.34

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231131	BLOOM ENRGY	0.6482	80/20	0.6482
231505	HR4	15.7543	80/20	15.7543
231708	CHRIST3	2.8110	80/20	2.8110
231900	EM5	38.2592	80/20	38.2592
231901	EM4	8.3808	80/20	8.3808
231902	DC CT7	1.5172	80/20	1.5172
231903	GEN4	1.4428	Adder	1.7
231904	DC1 NUG	4.3978	80/20	4.3978
231905	DC2 NUG	4.3978	80/20	4.3978
231906	DC3 NUG	1.9165	80/20	1.9165
231907	DC10	0.4738	80/20	0.4738
231908	HR1	6.0207	80/20	6.0207
231909	HR2	4.8227	80/20	4.8227
231910	HR3	6.0207	80/20	6.0207
231915	DC CT6	1.4640	80/20	1.4640
231916	EM3	3.3180	80/20	3.3180
231917	EM10	0.5517	80/20	0.5517
231918	WEST 1	0.6594	80/20	0.6594
231919	CHRIST1	1.0139	80/20	1.0139
231920	CHRIST2	1.0094	80/20	1.0094
232416	X2-083	0.1073	80/20	0.1073
232436	AB1-176 C	0.1879	Adder	0.22
232922	MR3 (Deactivation : 01/06/2021)	10.4638	Adder	12.31
919831	AA2-069 (Suspended)	46.2665	Adder	54.43
919901	AB1-000 1	-1.2927	Adder	-1.52
919911	AB1-000 2	-1.2927	Adder	-1.52
919921	AB1-000 3	-1.2927	Adder	-1.52
923282	AB1-137 C	0.4736	Adder	0.56
923322	AB1-141 C OP	1.6882	Adder	1.99
923332	AB1-142 C OP	1.6882	Adder	1.99
923921	AB2-032 C	1.7007	Adder	2.0
923951	AB2-036 C	4.3566	Adder	5.13
923961	AB2-037 C	9.7049	Adder	11.42
924681	AB2-120 C OP	4.3731	Adder	5.14
924781	AB2-130 C OP	3.6886	Adder	4.34
924801	AB2-133 C OP	3.0579	Adder	3.6
924821	AB2-135 C	3.6211	Adder	4.26
924831	AB2-136 C	2.9411	Adder	3.46
924971	AB2-153 C	0.9504	Adder	1.12
925151	AB2-172 C OP	2.2688	Adder	2.67
925251	AB2-179 C OP	4.8547	Adder	5.71

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925261	AB2-180 C	1.6241	Adder	1.91
925271	AB2-185 C OP	1.7431	Adder	2.05
926131	AC1-091 C	0.7551	Adder	0.89
926141	AC1-092 C	0.7551	Adder	0.89
926151	AC1-093 C	0.7148	Adder	0.84
926161	AC1-094 C	0.6041	Adder	0.71
927031	AC1-190 C	4.1745	Adder	4.91
927191	AC1-213 C	0.3694	Adder	0.43
930201	AB1-056 C	7.2416	Adder	8.52
930881	AB1-137 C	0.4736	Adder	0.56
932161	AC2-023 C	3.0846	Adder	3.63
933631	AC2-185 C	1.5304	Adder	1.8
933641	AC2-186 C	2.1076	Adder	2.48
936451	AD2-059 C	0.0490	80/20	0.0490
936611	AD2-076 C O1	2.3304	Adder	2.74
938651	AE1-087 C	1.9105	Adder	2.25
938811	AE1-107 C	4.7951	80/20	4.7951
938891	AE1-117 C O1	4.6799	Adder	5.51
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	4.6806	Adder	5.51
939151	AE1-145	2.3015	Adder	2.71
939621	AE1-192 C O1	5.4100	Adder	6.36
940271	AE2-010	-0.4280	Adder	-0.5
941021	AE2-093 C	2.4436	Adder	2.87
941181	AE2-112 C	0.8085	Adder	0.95
942441	AE2-257 C	3.7194	Adder	4.38
943361	AF1-007 C	0.2136	Adder	0.25
943441	AF1-015 C	0.7815	Adder	0.92
943651	AF1-036 C	1.0513	Adder	1.24
944921	AF1-157 C O1	1.7026	Adder	2.0
945661	AF1-231 C	0.8749	Adder	1.03
945781	AF1-243	0.5755	Adder	0.68
945791	AF1-244	0.9250	Adder	1.09
945931	AF1-258	0.3712	Adder	0.44
945941	AF1-259	0.0995	Adder	0.12
946041	AF1-269 (Withdrawn : 05/12/2020)	1.3008	Adder	1.53
957611	AF2-055 C	2.1352	Adder	4.74
957661	AF2-060	0.5489	Adder	1.22
957671	AF2-061 O1	2.4395	Adder	5.42
958151	AF2-109 C	0.6588	Adder	1.46
959021	AF2-193 C O1	7.0920	Adder	15.74
959031	AF2-194 C O1	7.0920	Adder	15.74
959051	AF2-196 C	0.5376	Adder	1.19
959161	AF2-207 C O1	1.2311	Adder	2.73
959571	AF2-248 C	0.2078	Adder	0.46
959581	AF2-249 C	0.0367	Adder	0.08
959591	AF2-250 C	0.0672	Adder	0.15
960221	AF2-313 C	0.8374	Adder	1.86
960341	AF2-325 C	0.2646	Adder	0.59
960671	AF2-358 C O1	3.7564	Adder	8.34
960871	AF2-378 C	0.0698	Adder	0.15

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>960881</b>	AF2-379 C	0.1006	Adder	0.22
<b>960941</b>	AF2-385 C O1	2.9311	Adder	6.51
<b>960961</b>	AF2-387 C O1	4.3961	Adder	9.76
<b>961181</b>	AF2-409 O1	6.2813	Adder	13.94
<b>WEC</b>	WEC	0.0079	Confirmed LTF	0.0079
<b>LGEE</b>	LGEE	0.0171	Confirmed LTF	0.0171
<b>CPL</b>	CPL	0.0721	Confirmed LTF	0.0721
<b>CBM-W2</b>	CBM-W2	0.3358	Confirmed LTF	0.3358
<b>NY</b>	NY	0.8162	Confirmed LTF	0.8162
<b>CBM-W1</b>	CBM-W1	0.2502	Confirmed LTF	0.2502
<b>TVA</b>	TVA	0.0728	Confirmed LTF	0.0728
<b>CBM-S2</b>	CBM-S2	0.5260	Confirmed LTF	0.5260
<b>CBM-S1</b>	CBM-S1	0.4090	Confirmed LTF	0.4090
<b>MADISON</b>	MADISON	0.0141	Confirmed LTF	0.0141
<b>MEC</b>	MEC	0.0493	Confirmed LTF	0.0493

11.6.12 Index 12

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 IMPACT
102000920	231124	GLASGOW	DP&L	231130	CECIL138	DP&L	1	PECO_P4_PEACH215/ * \$ CHESCO \$ PEACH215 \$ STBK	breaker	378.0	121.06	122.23	DC	9.81

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200062	SALEM G3	1.9750	Adder	2.32
231708	CHRIST3	0.9517	Adder	1.12
231902	DC CT7	1.0848	50/50	1.0848
231903	GEN4	1.0316	Adder	1.21
231904	DC1 NUG	3.1444	50/50	3.1444
231905	DC2 NUG	3.1444	50/50	3.1444
231906	DC3 NUG	1.3702	50/50	1.3702
231907	DC10	0.3388	50/50	0.3388
231915	DC CT6	1.0467	50/50	1.0467
232405	W1-003 E	0.3638	Adder	0.43
232407	W1-004 E	0.3638	Adder	0.43
232409	W1-005 E	0.3638	Adder	0.43
232411	W1-006 E	0.3638	Adder	0.43
232412	X1-032 E	0.3240	Adder	0.38
232416	X2-083	0.0546	50/50	0.0546
232418	X3-008 E	1.0574	Adder	1.24
232422	X3-066 FULL	0.0483	50/50	0.0483
232423	X3-066 E	0.4572	50/50	0.4572
232424	Y1-079 C	0.0757	50/50	0.0757
232425	Y1-079 E	0.7163	50/50	0.7163
232427	Y1-080 E	0.1755	Adder	0.21
232429	Y3-058 E	0.7590	Adder	0.89
232433	Z2-076 E	0.1606	Adder	0.19
232435	Z2-077 E	0.1606	Adder	0.19
232436	AB1-176 C	0.1856	50/50	0.1856
232922	MR3 (Deactivation : 01/06/2021)	7.5646	Adder	8.9
917082	Z2-012 E	1.0019	Adder	1.18
919831	AA2-069 (Suspended)	33.4473	Adder	39.35
923282	AB1-137 C	0.3347	Adder	0.39
923283	AB1-137 E	0.1434	Adder	0.17
923322	AB1-141 C OP	1.6670	50/50	1.6670
923323	AB1-141 E OP	0.7779	50/50	0.7779
923332	AB1-142 C OP	1.6670	50/50	1.6670
923603	AB1-176 E	0.3060	50/50	0.3060
923921	AB2-032 C	1.6793	50/50	1.6793
923922	AB2-032 E	0.7903	50/50	0.7903
923951	AB2-036 C	3.9842	50/50	3.9842
923952	AB2-036 E	6.5185	50/50	6.5185
923961	AB2-037 C	6.3826	Adder	7.51
923962	AB2-037 E	10.4268	Adder	12.27
924681	AB2-120 C OP	3.0698	Adder	3.61

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924682	AB2-120 E OP	5.0086	Adder	5.89
924781	AB2-130 C OP	2.6140	Adder	3.08
924782	AB2-130 E OP	4.2649	Adder	5.02
924801	AB2-133 C OP	3.2088	50/50	3.2088
924802	AB2-133 E OP	4.0697	50/50	4.0697
924821	AB2-135 C	3.6915	50/50	3.6915
924822	AB2-135 E	4.2100	50/50	4.2100
924831	AB2-136 C	2.0852	Adder	2.45
924832	AB2-136 E	2.2114	Adder	2.6
924971	AB2-153 C	0.9384	50/50	0.9384
924972	AB2-153 E	1.5312	50/50	1.5312
925151	AB2-172 C OP	1.6202	Adder	1.91
925152	AB2-172 E OP	2.6434	Adder	3.11
925251	AB2-179 C OP	6.1901	50/50	6.1901
925252	AB2-179 E OP	2.0414	50/50	2.0414
925261	AB2-180 C	1.1425	Adder	1.34
925262	AB2-180 E	0.4897	Adder	0.58
925271	AB2-185 C OP	1.6174	50/50	1.6174
925272	AB2-185 E OP	0.6932	50/50	0.6932
926131	AC1-091 C	0.5588	Adder	0.66
926132	AC1-091 E	0.9165	Adder	1.08
926141	AC1-092 C	0.5588	Adder	0.66
926142	AC1-092 E	0.9165	Adder	1.08
926151	AC1-093 C	0.5290	Adder	0.62
926152	AC1-093 E	0.8718	Adder	1.03
926161	AC1-094 C	0.4471	Adder	0.53
926162	AC1-094 E	0.7377	Adder	0.87
927031	AC1-190 C	2.9774	Adder	3.5
927032	AC1-190 E	1.2760	Adder	1.5
927191	AC1-213 C	0.2598	Adder	0.31
927192	AC1-213 E	0.1705	Adder	0.2
930201	AB1-056 C	5.1165	Adder	6.02
930202	AB1-056 E	14.5710	Adder	17.14
930881	AB1-137 C	0.3347	Adder	0.39
930882	AB1-137 E	0.1434	Adder	0.17
930932	AB1-142 E OP	0.7779	50/50	0.7779
932082	AC2-018 E1	1.6551	Adder	1.95
932092	AC2-018 E2	1.6551	Adder	1.95
932161	AC2-023 C	2.1703	Adder	2.55
932162	AC2-023 E	1.5806	Adder	1.86
933631	AC2-185 C	1.1326	Adder	1.33
933632	AC2-185 E	1.8479	Adder	2.17
933641	AC2-186 C	1.5533	Adder	1.83
933642	AC2-186 E	2.5343	Adder	2.98
936451	AD2-059 C	0.0324	50/50	0.0324
936452	AD2-059 E	0.1015	50/50	0.1015
936611	AD2-076 C O1	2.3355	50/50	2.3355
936612	AD2-076 E O1	3.8106	50/50	3.8106
938651	AE1-087 C	1.3644	Adder	1.61
938652	AE1-087 E	0.3411	Adder	0.4
938811	AE1-107 C	4.9535	50/50	4.9535
938812	AE1-107 E	3.5314	50/50	3.5314

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938891	AE1-117 C O1	3.3070	Adder	3.89
938892	AE1-117 E O1	8.8055	Adder	10.36
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	3.3074	Adder	3.89
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	8.8064	Adder	10.36
939151	AE1-145	1.6157	Adder	1.9
939621	AE1-192 C O1	3.7976	Adder	4.47
939622	AE1-192 E O1	1.8584	Adder	2.19
941021	AE2-093 C	1.7664	Adder	2.08
941022	AE2-093 E	2.8066	Adder	3.3
941181	AE2-112 C	0.8103	50/50	0.8103
941182	AE2-112 E	1.3220	50/50	1.3220
942441	AE2-257 C	2.6286	Adder	3.09
942442	AE2-257 E	6.9299	Adder	8.15
943361	AF1-007 C	0.1510	Adder	0.18
943362	AF1-007 E	0.4290	Adder	0.5
943441	AF1-015 C	0.5649	Adder	0.66
943442	AF1-015 E	0.7801	Adder	0.92
943651	AF1-036 C	1.0536	50/50	1.0536
943652	AF1-036 E	1.4550	50/50	1.4550
944921	AF1-157 C O1	1.2056	Adder	1.42
944922	AF1-157 E O1	0.8038	Adder	0.95
945661	AF1-231 C	0.6141	Adder	0.72
945662	AF1-231 E	0.9211	Adder	1.08
945781	AF1-243	0.4040	Adder	0.48
945791	AF1-244	0.6483	Adder	0.76
945931	AF1-258	0.2611	Adder	0.31
945941	AF1-259	0.0983	50/50	0.0983
946041	AF1-269 (Withdrawn : 05/12/2020)	0.9195	Adder	1.08
957611	AF2-055 C	1.4989	Adder	3.33
957612	AF2-055 E	0.6424	Adder	1.43
957661	AF2-060	0.3853	Adder	0.86
957671	AF2-061 O1	1.7126	Adder	3.8
958151	AF2-109 C	1.3044	50/50	1.3044
958152	AF2-109 E	1.3044	50/50	1.3044
959021	AF2-193 C O1	5.0109	Adder	11.12
959022	AF2-193 E O1	13.5167	Adder	30.0
959031	AF2-194 C O1	5.0109	Adder	11.12
959032	AF2-194 E O1	13.5167	Adder	30.0
959051	AF2-196 C	0.3799	Adder	0.84
959052	AF2-196 E	0.8865	Adder	1.97
959161	AF2-207 C O1	0.8668	Adder	1.92
959162	AF2-207 E O1	1.3002	Adder	2.89
959173	AF2-208 BAT	21.0864	50/50	21.0864
959571	AF2-248 C	0.1462	Adder	0.32
959572	AF2-248 E	0.1635	Adder	0.36
959581	AF2-249 C	0.0258	Adder	0.06
959582	AF2-249 E	0.1032	Adder	0.23
959591	AF2-250 C	0.0473	Adder	0.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959592	AF2-250 E	0.0366	Adder	0.08
960221	AF2-313 C	1.5608	50/50	1.5608
960222	AF2-313 E	0.8849	50/50	0.8849
960341	AF2-325 C	0.1881	Adder	0.42
960342	AF2-325 E	0.2598	Adder	0.58
960671	AF2-358 C O1	2.6522	Adder	5.89
960672	AF2-358 E O1	1.7681	Adder	3.92
960871	AF2-378 C	0.0496	Adder	0.11
960872	AF2-378 E	0.0688	Adder	0.15
960881	AF2-379 C	0.0705	Adder	0.16
960882	AF2-379 E	0.0972	Adder	0.22
960941	AF2-385 C O1	2.0638	Adder	4.58
960942	AF2-385 E O1	1.1609	Adder	2.58
960961	AF2-387 C O1	3.2920	Adder	7.31
960962	AF2-387 E O1	1.6509	Adder	3.66
961181	AF2-409 O1	4.3635	Adder	9.69
NEWTON	NEWTON	0.7006	Confirmed LTF	0.7006
FARMERCITY	FARMERCITY	0.0367	Confirmed LTF	0.0367
G-007A	G-007A	4.2124	Confirmed LTF	4.2124
VFT	VFT	9.6686	Confirmed LTF	9.6686
CALDERWOOD	CALDERWOOD	0.3390	Confirmed LTF	0.3390
PRAIRIE	PRAIRIE	1.6970	Confirmed LTF	1.6970
CHEOAH	CHEOAH	0.3418	Confirmed LTF	0.3418
EDWARDS	EDWARDS	0.2268	Confirmed LTF	0.2268
TILTON	TILTON	0.4082	Confirmed LTF	0.4082
GIBSON	GIBSON	0.3554	Confirmed LTF	0.3554
BLUEG	BLUEG	1.1301	Confirmed LTF	1.1301
TRIMBLE	TRIMBLE	0.3623	Confirmed LTF	0.3623
CATAWBA	CATAWBA	0.2478	Confirmed LTF	0.2478

### 11.6.13 Index 13

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
100302381	232001	COOLSPRS	DP&L	232004	MILF_230	DP&L	1	DPL_P4-2_DP15	breaker	678.0	156.9	158.57	DC	25.14

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231940	T-011	0.3872	50/50	0.3872
232405	W1-003 E	1.1070	Adder	1.3
232407	W1-004 E	1.1070	Adder	1.3
232409	W1-005 E	1.1070	Adder	1.3
232411	W1-006 E	1.1070	Adder	1.3
232412	X1-032 E	0.9717	Adder	1.14
232418	X3-008 E	2.1847	Adder	2.57
232427	Y1-080 E	0.4411	Adder	0.52
232428	Y3-058 C	0.3192	50/50	0.3192
232429	Y3-058 E	3.0192	50/50	3.0192
232432	Z2-076 C	0.3980	50/50	0.3980
232433	Z2-076 E	1.1625	50/50	1.1625
232434	Z2-077 C	0.3980	50/50	0.3980
232435	Z2-077 E	1.1625	50/50	1.1625
232851	DUP-SFR1	0.5447	50/50	0.5447
232904	IR4	48.3402	50/50	48.3402
232905	BAYVIEW1	0.6248	50/50	0.6248
232920	IR10	1.7530	50/50	1.7530
232921	TASLEY2G	1.0949	50/50	1.0949
293670	O-025 C	0.3561	50/50	0.3561
917081	Z2-012 C	0.3799	50/50	0.3799
917082	Z2-012 E	3.5930	50/50	3.5930
923282	AB1-137 C	2.5984	50/50	2.5984
923283	AB1-137 E	1.1136	50/50	1.1136
924681	AB2-120 C OP	11.0059	50/50	11.0059
924682	AB2-120 E OP	17.9571	50/50	17.9571
924781	AB2-130 C OP	11.9184	50/50	11.9184
924782	AB2-130 E OP	19.4458	50/50	19.4458
924831	AB2-136 C	4.9610	Adder	5.84
924832	AB2-136 E	5.2610	Adder	6.19
925151	AB2-172 C OP	3.3476	Adder	3.94
925152	AB2-172 E OP	5.4618	Adder	6.43
925261	AB2-180 C	4.5451	50/50	4.5451
925262	AB2-180 E	1.9479	50/50	1.9479
927031	AC1-190 C	6.3124	Adder	7.43
927032	AC1-190 E	2.7053	Adder	3.18
927191	AC1-213 C	1.1009	50/50	1.1009
927192	AC1-213 E	0.7225	50/50	0.7225
930201	AB1-056 C	43.6040	50/50	43.6040
930202	AB1-056 E	124.1765	50/50	124.1765
930881	AB1-137 C	2.5984	50/50	2.5984
930882	AB1-137 E	1.1136	50/50	1.1136

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
932161	AC2-023 C	8.2410	50/50	8.2410
932162	AC2-023 E	6.0019	50/50	6.0019
933641	AC2-186 C	2.0645	Adder	2.43
933642	AC2-186 E	3.3683	Adder	3.96
938651	AE1-087 C	2.8190	Adder	3.32
938652	AE1-087 E	0.7048	Adder	0.83
938891	AE1-117 C O1	25.7030	50/50	25.7030
938892	AE1-117 E O1	68.4382	50/50	68.4382
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	25.6184	50/50	25.6184
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	68.2128	50/50	68.2128
939151	AE1-145	5.8088	50/50	5.8088
939621	AE1-192 C O1	13.6187	50/50	13.6187
939622	AE1-192 E O1	6.6645	50/50	6.6645
942441	AE2-257 C	20.7738	50/50	20.7738
942442	AE2-257 E	54.7674	50/50	54.7674
943361	AF1-007 C	1.2865	50/50	1.2865
943362	AF1-007 E	3.6562	50/50	3.6562
944921	AF1-157 C O1	7.3694	50/50	7.3694
944922	AF1-157 E O1	4.9129	50/50	4.9129
945661	AF1-231 C	1.8695	Adder	2.2
945662	AF1-231 E	2.8043	Adder	3.3
945781	AF1-243	1.4488	50/50	1.4488
945791	AF1-244	1.9377	Adder	2.28
945931	AF1-258	1.0389	50/50	1.0389
946041	AF1-269 (Withdrawn : 05/12/2020)	2.3107	Adder	2.72
957611	AF2-055 C	10.1416	50/50	10.1416
957612	AF2-055 E	4.3464	50/50	4.3464
957661	AF2-060	2.6140	50/50	2.6140
957671	AF2-061 O1	11.6176	50/50	11.6176
959021	AF2-193 C O1	80.5725	50/50	80.5725
959022	AF2-193 E O1	217.3427	50/50	217.3427
959031	AF2-194 C O1	80.5725	50/50	80.5725
959032	AF2-194 E O1	217.3427	50/50	217.3427
959051	AF2-196 C	5.6656	50/50	5.6656
959052	AF2-196 E	13.2197	50/50	13.2197
959161	AF2-207 C O1	7.3513	50/50	7.3513
959162	AF2-207 E O1	11.0270	50/50	11.0270
959571	AF2-248 C	1.2138	50/50	1.2138
959572	AF2-248 E	1.3566	50/50	1.3566
959581	AF2-249 C	0.2142	50/50	0.2142
959582	AF2-249 E	0.8568	50/50	0.8568
959591	AF2-250 C	0.3927	50/50	0.3927
959592	AF2-250 E	0.3035	50/50	0.3035
960341	AF2-325 C	0.4266	Adder	0.95
960342	AF2-325 E	0.5891	Adder	1.31
960671	AF2-358 C O1	6.7964	Adder	15.09
960672	AF2-358 E O1	4.5309	Adder	10.06
960871	AF2-378 C	0.1154	Adder	0.26

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960872	AF2-378 E	0.1601	Adder	0.36
960881	AF2-379 C	0.4962	50/50	0.4962
960882	AF2-379 E	0.6838	50/50	0.6838
960941	AF2-385 C O1	17.5032	50/50	17.5032
960942	AF2-385 E O1	9.8456	50/50	9.8456
961181	AF2-409 O1	10.9688	Adder	24.35
NEWTON	NEWTON	0.2718	Confirmed LTF	0.2718
FARMERCITY	FARMERCITY	0.0142	Confirmed LTF	0.0142
CALDERWOOD	CALDERWOOD	0.1257	Confirmed LTF	0.1257
NY	NY	0.1493	Confirmed LTF	0.1493
PRAIRIE	PRAIRIE	0.6535	Confirmed LTF	0.6535
O-066	O-066	1.8346	Confirmed LTF	1.8346
CHEOAH	CHEOAH	0.1266	Confirmed LTF	0.1266
EDWARDS	EDWARDS	0.0885	Confirmed LTF	0.0885
TILTON	TILTON	0.1594	Confirmed LTF	0.1594
G-007	G-007	0.2891	Confirmed LTF	0.2891
GIBSON	GIBSON	0.1381	Confirmed LTF	0.1381
BLUEG	BLUEG	0.4392	Confirmed LTF	0.4392
TRIMBLE	TRIMBLE	0.1408	Confirmed LTF	0.1408
CATAWBA	CATAWBA	0.0885	Confirmed LTF	0.0885

## 11.6.14 Index 14

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
99647118	232003	CARTANZA	DP&L	232013	SILVER RUN	PJM	1	DPL_P4-2_DP24	breaker	804.0	152.63	154.3	DC	29.78

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231940	T-011	0.3090	50/50	0.3090
232003	CARTANZA	35.0801	50/50	35.0801
232405	W1-003 E	1.3046	Adder	1.53
232407	W1-004 E	1.3046	Adder	1.53
232409	W1-005 E	1.3046	Adder	1.53
232411	W1-006 E	1.3046	Adder	1.53
232412	X1-032 E	1.1410	Adder	1.34
232418	X3-008 E	2.9466	Adder	3.47
232423	X3-066 E	0.5928	Adder	0.7
232425	Y1-079 E	1.0454	Adder	1.23
232427	Y1-080 E	0.5284	Adder	0.62
232429	Y3-058 E	2.5845	Adder	3.04
232432	Z2-076 C	0.2520	50/50	0.2520
232433	Z2-076 E	0.7361	50/50	0.7361
232434	Z2-077 C	0.2520	50/50	0.2520
232435	Z2-077 E	0.7361	50/50	0.7361
232436	AB1-176 C	0.2406	Adder	0.28
232616	GEN FOOD	1.7245	50/50	1.7245
232851	DUP-SFR1	0.6094	50/50	0.6094
232901	NORTHST	5.2189	50/50	5.2189
232904	IR4	26.9780	50/50	26.9780
232920	IR10	1.0356	50/50	1.0356
232921	TASLEY2G	1.2895	50/50	1.2895
232922	MR3 (Deactivation : 01/06/2021)	67.0885	50/50	67.0885
917082	Z2-012 E	3.5969	Adder	4.23
919831	AA2-069 (Suspended)	296.6362	50/50	296.6362
923282	AB1-137 C	1.5610	50/50	1.5610
923283	AB1-137 E	0.6690	50/50	0.6690
923322	AB1-141 C OP	2.0896	Adder	2.46
923323	AB1-141 E OP	0.9751	Adder	1.15
923332	AB1-142 C OP	2.0896	Adder	2.46
923603	AB1-176 E	0.3968	Adder	0.47
923921	AB2-032 C	2.1051	Adder	2.48
923922	AB2-032 E	0.9906	Adder	1.17
923951	AB2-036 C	5.8419	Adder	6.87
923952	AB2-036 E	9.5580	Adder	11.24
923961	AB2-037 C	12.7658	Adder	15.02
923962	AB2-037 E	20.8547	Adder	24.53
924681	AB2-120 C OP	12.9827	50/50	12.9827
924682	AB2-120 E OP	21.1823	50/50	21.1823
924781	AB2-130 C OP	11.1022	50/50	11.1022

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924782	AB2-130 E OP	18.1140	50/50	18.1140
924801	AB2-133 C OP	3.6875	Adder	4.34
924802	AB2-133 E OP	4.6768	Adder	5.5
924821	AB2-135 C	5.2881	Adder	6.22
924822	AB2-135 E	6.0309	Adder	7.1
924831	AB2-136 C	6.1379	Adder	7.22
924832	AB2-136 E	6.5091	Adder	7.66
924971	AB2-153 C	1.1764	Adder	1.38
924972	AB2-153 E	1.9193	Adder	2.26
925151	AB2-172 C OP	4.5149	Adder	5.31
925152	AB2-172 E OP	7.3664	Adder	8.67
925261	AB2-180 C	3.8907	Adder	4.58
925262	AB2-180 E	1.6674	Adder	1.96
925271	AB2-185 C OP	2.3605	Adder	2.78
925272	AB2-185 E OP	1.0116	Adder	1.19
926131	AC1-091 C	2.1565	Adder	2.54
926132	AC1-091 E	3.5367	Adder	4.16
926141	AC1-092 C	2.1565	Adder	2.54
926142	AC1-092 E	3.5367	Adder	4.16
926151	AC1-093 C	2.0415	Adder	2.4
926152	AC1-093 E	3.3642	Adder	3.96
926161	AC1-094 C	1.7252	Adder	2.03
926162	AC1-094 E	2.8466	Adder	3.35
927031	AC1-190 C	8.3773	Adder	9.86
927032	AC1-190 E	3.5903	Adder	4.22
927191	AC1-213 C	0.9101	Adder	1.07
927192	AC1-213 E	0.5973	Adder	0.7
930201	AB1-056 C	24.3348	50/50	24.3348
930202	AB1-056 E	69.3014	50/50	69.3014
930881	AB1-137 C	1.5610	50/50	1.5610
930882	AB1-137 E	0.6690	50/50	0.6690
930932	AB1-142 E OP	0.9751	Adder	1.15
932161	AC2-023 C	7.2429	Adder	8.52
932162	AC2-023 E	5.2750	Adder	6.21
933631	AC2-185 C	4.3706	Adder	5.14
933632	AC2-185 E	7.1309	Adder	8.39
933641	AC2-186 C	6.6329	50/50	6.6329
933642	AC2-186 E	10.8221	50/50	10.8221
936611	AD2-076 C O1	2.8243	Adder	3.32
936612	AD2-076 E O1	4.6081	Adder	5.42
938651	AE1-087 C	3.8020	Adder	4.47
938652	AE1-087 E	0.9505	Adder	1.12
938891	AE1-117 C O1	15.4231	50/50	15.4231
938892	AE1-117 E O1	41.0662	50/50	41.0662
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	15.4123	50/50	15.4123
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	41.0375	50/50	41.0375
939151	AE1-145	6.8344	50/50	6.8344
939621	AE1-192 C O1	13.6333	Adder	16.04
939622	AE1-192 E O1	6.6716	Adder	7.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941021	AE2-093 C	3.6397	Adder	4.28
941022	AE2-093 E	5.7829	Adder	6.8
941181	AE2-112 C	0.9799	Adder	1.15
941182	AE2-112 E	1.5987	Adder	1.88
942441	AE2-257 C	12.2951	50/50	12.2951
942442	AE2-257 E	32.4145	50/50	32.4145
943361	AF1-007 C	0.7180	50/50	0.7180
943362	AF1-007 E	2.0405	50/50	2.0405
943441	AF1-015 C	1.1640	Adder	1.37
943442	AF1-015 E	1.6074	Adder	1.89
943651	AF1-036 C	1.2741	Adder	1.5
943652	AF1-036 E	1.7595	Adder	2.07
944921	AF1-157 C O1	5.3508	50/50	5.3508
944922	AF1-157 E O1	3.5672	50/50	3.5672
945661	AF1-231 C	2.2040	Adder	2.59
945662	AF1-231 E	3.3060	Adder	3.89
945781	AF1-243	1.4504	Adder	1.71
945791	AF1-244	2.2732	Adder	2.67
945931	AF1-258	0.8893	Adder	1.05
945941	AF1-259	0.1275	Adder	0.15
946041	AF1-269 (Withdrawn : 05/12/2020)	2.7681	Adder	3.26
957611	AF2-055 C	5.3808	Adder	11.94
957612	AF2-055 E	2.3061	Adder	5.12
957661	AF2-060	3.0755	50/50	3.0755
957671	AF2-061 O1	13.6688	50/50	13.6688
958151	AF2-109 C	0.7945	Adder	1.76
958152	AF2-109 E	0.7945	Adder	1.76
959021	AF2-193 C O1	44.9665	50/50	44.9665
959022	AF2-193 E O1	121.2963	50/50	121.2963
959031	AF2-194 C O1	44.9665	50/50	44.9665
959032	AF2-194 E O1	121.2963	50/50	121.2963
959051	AF2-196 C	3.3532	50/50	3.3532
959052	AF2-196 E	7.8242	50/50	7.8242
959161	AF2-207 C O1	3.0476	Adder	6.76
959162	AF2-207 E O1	4.5714	Adder	10.15
959571	AF2-248 C	0.5134	Adder	1.14
959572	AF2-248 E	0.5738	Adder	1.27
959581	AF2-249 C	0.0906	Adder	0.2
959582	AF2-249 E	0.3624	Adder	0.8
959591	AF2-250 C	0.1661	Adder	0.37
959592	AF2-250 E	0.1284	Adder	0.29
960221	AF2-313 C	1.0726	Adder	2.38
960222	AF2-313 E	0.6081	Adder	1.35
960341	AF2-325 C	0.5432	Adder	1.21
960342	AF2-325 E	0.7501	Adder	1.67
960671	AF2-358 C O1	8.0503	Adder	17.87
960672	AF2-358 E O1	5.3669	Adder	11.91
960871	AF2-378 C	0.1447	Adder	0.32
960872	AF2-378 E	0.2007	Adder	0.45
960881	AF2-379 C	0.2454	Adder	0.54
960882	AF2-379 E	0.3382	Adder	0.75
960941	AF2-385 C O1	7.2561	Adder	16.11

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>960942</b>	AF2-385 E O1	4.0816	Adder	9.06
<b>960961</b>	AF2-387 C O1	6.1759	Adder	13.71
<b>960962</b>	AF2-387 E O1	3.0972	Adder	6.88
<b>961181</b>	AF2-409 O1	13.3334	Adder	29.6
<b>NEWTON</b>	NEWTON	0.3804	Confirmed LTF	0.3804
<b>FARMERCITY</b>	FARMERCITY	0.0198	Confirmed LTF	0.0198
<b>CALDERWOOD</b>	CALDERWOOD	0.1754	Confirmed LTF	0.1754
<b>NY</b>	NY	0.2555	Confirmed LTF	0.2555
<b>PRAIRIE</b>	PRAIRIE	0.9144	Confirmed LTF	0.9144
<b>O-066</b>	O-066	3.3600	Confirmed LTF	3.3600
<b>CHEOAH</b>	CHEOAH	0.1767	Confirmed LTF	0.1767
<b>EDWARDS</b>	EDWARDS	0.1239	Confirmed LTF	0.1239
<b>TILTON</b>	TILTON	0.2230	Confirmed LTF	0.2230
<b>G-007</b>	G-007	0.5595	Confirmed LTF	0.5595
<b>MADISON</b>	MADISON	0.0020	Confirmed LTF	0.0020
<b>GIBSON</b>	GIBSON	0.1933	Confirmed LTF	0.1933
<b>BLUEG</b>	BLUEG	0.6145	Confirmed LTF	0.6145
<b>TRIMBLE</b>	TRIMBLE	0.1970	Confirmed LTF	0.1970
<b>CATAWBA</b>	CATAWBA	0.1228	Confirmed LTF	0.1228

11.6.15 Index 15

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
100302454	232006	INDRIV 4	DP&L	232004	MILF_230	DP&L	1	DPL_P4-2_DP36	breaker	805.0	136.39	138.03	DC	29.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	1.8279	Adder	2.15
232407	W1-004 E	1.8279	Adder	2.15
232409	W1-005 E	1.8279	Adder	2.15
232411	W1-006 E	1.8279	Adder	2.15
232412	X1-032 E	1.5486	Adder	1.82
232418	X3-008 E	2.5633	Adder	3.02
232427	Y1-080 E	0.5170	Adder	0.61
232429	Y3-058 E	3.1520	Adder	3.71
232432	Z2-076 C	0.3857	50/50	0.3857
232433	Z2-076 E	1.1263	50/50	1.1263
232434	Z2-077 C	0.3857	50/50	0.3857
232435	Z2-077 E	1.1263	50/50	1.1263
232904	IR4	45.7150	50/50	45.7150
232905	BAYVIEW1	1.0327	50/50	1.0327
232916	OH NUG5	2.6954	50/50	2.6954
232920	IR10	1.6005	50/50	1.6005
232921	TASLEY2G	1.8096	50/50	1.8096
917081	Z2-012 C	0.6279	50/50	0.6279
917082	Z2-012 E	5.9387	50/50	5.9387
923282	AB1-137 C	2.4535	50/50	2.4535
923283	AB1-137 E	1.0515	50/50	1.0515
924681	AB2-120 C OP	18.2666	50/50	18.2666
924682	AB2-120 E OP	29.8034	50/50	29.8034
924781	AB2-130 C OP	9.9371	Adder	11.69
924782	AB2-130 E OP	16.2131	Adder	19.07
924831	AB2-136 C	5.8158	Adder	6.84
924832	AB2-136 E	6.1675	Adder	7.26
925151	AB2-172 C OP	3.9277	Adder	4.62
925152	AB2-172 E OP	6.4083	Adder	7.54
925261	AB2-180 C	4.7449	Adder	5.58
925262	AB2-180 E	2.0335	Adder	2.39
927031	AC1-190 C	7.4051	Adder	8.71
927032	AC1-190 E	3.1736	Adder	3.73
927191	AC1-213 C	1.1621	Adder	1.37
927192	AC1-213 E	0.7626	Adder	0.9
930201	AB1-056 C	41.2360	50/50	41.2360
930202	AB1-056 E	117.4328	50/50	117.4328
930881	AB1-137 C	2.4535	50/50	2.4535
930882	AB1-137 E	1.0515	50/50	1.0515
932161	AC2-023 C	8.5289	Adder	10.03
932162	AC2-023 E	6.2116	Adder	7.31
938651	AE1-087 C	3.3075	Adder	3.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938652	AE1-087 E	0.8269	Adder	0.97
938891	AE1-117 C O1	24.1152	50/50	24.1152
938892	AE1-117 E O1	64.2104	50/50	64.2104
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	24.0883	50/50	24.0883
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	64.1386	50/50	64.1386
939151	AE1-145	9.6140	50/50	9.6140
939621	AE1-192 C O1	22.5097	50/50	22.5097
939622	AE1-192 E O1	11.0154	50/50	11.0154
942441	AE2-257 C	18.9776	50/50	18.9776
942442	AE2-257 E	50.0320	50/50	50.0320
943361	AF1-007 C	1.2166	50/50	1.2166
943362	AF1-007 E	3.4577	50/50	3.4577
944921	AF1-157 C O1	5.4205	Adder	6.38
944922	AF1-157 E O1	3.6137	Adder	4.25
945661	AF1-231 C	3.0927	Adder	3.64
945662	AF1-231 E	4.6390	Adder	5.46
945781	AF1-243	2.3946	50/50	2.3946
945791	AF1-244	3.0605	Adder	3.6
945931	AF1-258	1.0845	Adder	1.28
946041	AF1-269 (Withdrawn : 05/12/2020)	2.7079	Adder	3.19
957611	AF2-055 C	16.7625	50/50	16.7625
957612	AF2-055 E	7.1840	50/50	7.1840
957661	AF2-060	4.3263	50/50	4.3263
957671	AF2-061 O1	19.2280	50/50	19.2280
959021	AF2-193 C O1	76.1969	50/50	76.1969
959022	AF2-193 E O1	205.5395	50/50	205.5395
959031	AF2-194 C O1	76.1969	50/50	76.1969
959032	AF2-194 E O1	205.5395	50/50	205.5395
959051	AF2-196 C	5.1757	50/50	5.1757
959052	AF2-196 E	12.0767	50/50	12.0767
959161	AF2-207 C O1	3.6498	Adder	8.1
959162	AF2-207 E O1	5.4747	Adder	12.15
959571	AF2-248 C	0.6300	Adder	1.4
959572	AF2-248 E	0.7041	Adder	1.56
959581	AF2-249 C	0.1112	Adder	0.25
959582	AF2-249 E	0.4447	Adder	0.99
959591	AF2-250 C	0.2038	Adder	0.45
959592	AF2-250 E	0.1575	Adder	0.35
960341	AF2-325 C	0.5002	Adder	1.11
960342	AF2-325 E	0.6908	Adder	1.53
960671	AF2-358 C O1	7.9644	Adder	17.68
960672	AF2-358 E O1	5.3096	Adder	11.79
960871	AF2-378 C	0.1353	Adder	0.3
960872	AF2-378 E	0.1877	Adder	0.42
960881	AF2-379 C	0.3201	Adder	0.71
960882	AF2-379 E	0.4412	Adder	0.98
960941	AF2-385 C O1	8.6900	Adder	19.29
960942	AF2-385 E O1	4.8881	Adder	10.85

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>961181</b>	AF2-409 O1	13.4091	Adder	29.76
<b>NEWTON</b>	NEWTON	0.3181	Confirmed LTF	0.3181
<b>FARMERCITY</b>	FARMERCITY	0.0166	Confirmed LTF	0.0166
<b>CALDERWOOD</b>	CALDERWOOD	0.1471	Confirmed LTF	0.1471
<b>NY</b>	NY	0.1759	Confirmed LTF	0.1759
<b>PRAIRIE</b>	PRAIRIE	0.7646	Confirmed LTF	0.7646
<b>O-066</b>	O-066	2.1571	Confirmed LTF	2.1571
<b>CHEOAH</b>	CHEOAH	0.1481	Confirmed LTF	0.1481
<b>EDWARDS</b>	EDWARDS	0.1036	Confirmed LTF	0.1036
<b>TILTON</b>	TILTON	0.1865	Confirmed LTF	0.1865
<b>G-007</b>	G-007	0.3401	Confirmed LTF	0.3401
<b>GIBSON</b>	GIBSON	0.1616	Confirmed LTF	0.1616
<b>BLUEG</b>	BLUEG	0.5139	Confirmed LTF	0.5139
<b>TRIMBLE</b>	TRIMBLE	0.1647	Confirmed LTF	0.1647
<b>CATAWBA</b>	CATAWBA	0.1036	Confirmed LTF	0.1036

11.6.16 Index 16

ID	FROM BUS#	FROM BUS	FRO M BUS AREA	TO BUS#	TO BUS	TO BUS ARE A	CK T ID	CONT NAME	Type	Ratin g MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
10200201 2	23210 0	CHURC H	DP&L	23210 7	TOWNSEN D	DP& L	1	DPL_P7_1_DBL_1NCB_FS A-A	towe r	348.0	132.79	139.42	DC	23.3

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.5398	50/50	0.5398
232405	W1-003 E	0.9090	50/50	0.9090
232406	W1-004 FULL	0.5398	50/50	0.5398
232407	W1-004 E	0.9090	50/50	0.9090
232408	W1-005 C	0.5398	50/50	0.5398
232409	W1-005 E	0.9090	50/50	0.9090
232410	W1-006 C	0.5398	50/50	0.5398
232411	W1-006 E	0.9090	50/50	0.9090
232412	X1-032 E	0.8192	50/50	0.8192
232417	X3-008 C	0.3307	50/50	0.3307
232418	X3-008 E	3.1277	50/50	3.1277
232422	X3-066 FULL	0.1653	50/50	0.1653
232423	X3-066 E	1.5632	50/50	1.5632
232424	Y1-079 C	0.2436	50/50	0.2436
232425	Y1-079 E	2.3039	50/50	2.3039
232426	Y1-080 FULL	0.0519	50/50	0.0519
232427	Y1-080 E	0.4932	50/50	0.4932
232428	Y3-058 C	0.2078	50/50	0.2078
232429	Y3-058 E	1.9655	50/50	1.9655
232433	Z2-076 E	0.3208	Adder	0.38
232435	Z2-077 E	0.3208	Adder	0.38
232436	AB1-176 C	0.6345	50/50	0.6345
232813	VAUGHN	0.1155	50/50	0.1155
232902	EASTMUNI	3.7067	50/50	3.7067
232907	VN8	5.9640	50/50	5.9640
232910	NRG_G1	1.8200	50/50	1.8200
232911	NRG_G2	1.8200	50/50	1.8200
232919	VN10	0.4079	50/50	0.4079
232922	MR3 (Deactivation : 01/06/2021)	9.0862	Adder	10.69
232926	CRISFLD1	0.3545	50/50	0.3545
293670	O-025 C	0.2133	50/50	0.2133
917082	Z2-012 E	2.1263	Adder	2.5
918831	AA1-102	1.3293	50/50	1.3293
919831	AA2-069 (Suspended)	40.1751	Adder	47.26
923282	AB1-137 C	0.6591	Adder	0.78
923283	AB1-137 E	0.2825	Adder	0.33
923322	AB1-141 C OP	5.7565	50/50	5.7565
923323	AB1-141 E OP	2.6864	50/50	2.6864
923332	AB1-142 C OP	5.7565	50/50	5.7565
923603	AB1-176 E	1.0463	50/50	1.0463
923921	AB2-032 C	5.7992	50/50	5.7992

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923922	AB2-032 E	2.7290	50/50	2.7290
923951	AB2-036 C	12.6924	50/50	12.6924
923952	AB2-036 E	20.7661	50/50	20.7661
924681	AB2-120 C OP	6.5091	Adder	7.66
924682	AB2-120 E OP	10.6201	Adder	12.49
924781	AB2-130 C OP	5.4762	Adder	6.44
924782	AB2-130 E OP	8.9348	Adder	10.51
924801	AB2-133 C OP	11.5595	50/50	11.5595
924802	AB2-133 E OP	14.6609	50/50	14.6609
924821	AB2-135 C	12.3188	50/50	12.3188
924822	AB2-135 E	14.0492	50/50	14.0492
924831	AB2-136 C	5.9522	50/50	5.9522
924832	AB2-136 E	6.3123	50/50	6.3123
924971	AB2-153 C	3.2407	50/50	3.2407
924972	AB2-153 E	5.2875	50/50	5.2875
925151	AB2-172 C OP	4.7924	50/50	4.7924
925152	AB2-172 E OP	7.8191	50/50	7.8191
925251	AB2-179 C OP	-9.1300	Adder	-10.74
925261	AB2-180 C	2.9588	50/50	2.9588
925262	AB2-180 E	1.2680	50/50	1.2680
925271	AB2-185 C OP	5.2023	50/50	5.2023
925272	AB2-185 E OP	2.2295	50/50	2.2295
926131	AC1-091 C	0.6416	Adder	0.75
926132	AC1-091 E	1.0523	Adder	1.24
926141	AC1-092 C	0.6416	Adder	0.75
926142	AC1-092 E	1.0523	Adder	1.24
926151	AC1-093 C	0.6074	Adder	0.71
926152	AC1-093 E	1.0010	Adder	1.18
926161	AC1-094 C	0.5133	Adder	0.6
926162	AC1-094 E	0.8470	Adder	1.0
927031	AC1-190 C	8.7532	50/50	8.7532
927032	AC1-190 E	3.7514	50/50	3.7514
927191	AC1-213 C	0.6596	50/50	0.6596
927192	AC1-213 E	0.4328	50/50	0.4328
930201	AB1-056 C	9.9441	Adder	11.7
930202	AB1-056 E	28.3190	Adder	33.32
930881	AB1-137 C	0.6591	Adder	0.78
930882	AB1-137 E	0.2825	Adder	0.33
930932	AB1-142 E OP	2.6864	50/50	2.6864
932161	AC2-023 C	5.6983	50/50	5.6983
932162	AC2-023 E	4.1501	50/50	4.1501
933631	AC2-185 C	1.3004	Adder	1.53
933632	AC2-185 E	2.1217	Adder	2.5
933641	AC2-186 C	3.1357	Adder	3.69
933642	AC2-186 E	5.1161	Adder	6.02
936611	AD2-076 C O1	8.1874	50/50	8.1874
936612	AD2-076 E O1	13.3584	50/50	13.3584
938651	AE1-087 C	4.0357	50/50	4.0357
938652	AE1-087 E	1.0089	50/50	1.0089
938891	AE1-117 C O1	6.5135	Adder	7.66
938892	AE1-117 E O1	17.3433	Adder	20.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	6.5188	Adder	7.67
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	17.3573	Adder	20.42
939151	AE1-145	3.4253	Adder	4.03
939621	AE1-192 C O1	8.0595	Adder	9.48
939622	AE1-192 E O1	3.9440	Adder	4.64
941021	AE2-093 C	5.9738	50/50	5.9738
941022	AE2-093 E	9.4914	50/50	9.4914
941181	AE2-112 C	2.8405	50/50	2.8405
941182	AE2-112 E	4.6345	50/50	4.6345
942441	AE2-257 C	5.1662	Adder	6.08
942442	AE2-257 E	13.6201	Adder	16.02
943361	AF1-007 C	0.2934	Adder	0.35
943362	AF1-007 E	0.8338	Adder	0.98
943441	AF1-015 C	1.9104	50/50	1.9104
943442	AF1-015 E	2.6382	50/50	2.6382
943651	AF1-036 C	3.6936	50/50	3.6936
943652	AF1-036 E	5.1006	50/50	5.1006
944921	AF1-157 C O1	2.4567	Adder	2.89
944922	AF1-157 E O1	1.6378	Adder	1.93
945661	AF1-231 C	1.3034	Adder	1.53
945662	AF1-231 E	1.9552	Adder	2.3
945781	AF1-243	0.8574	Adder	1.01
945791	AF1-244	1.6440	50/50	1.6440
945931	AF1-258	0.6763	50/50	0.6763
945941	AF1-259	0.3362	50/50	0.3362
946041	AF1-269 (Withdrawn : 05/12/2020)	2.5836	50/50	2.5836
957611	AF2-055 C	3.1809	Adder	7.06
957612	AF2-055 E	1.3633	Adder	3.03
957661	AF2-060	0.8169	Adder	1.81
957671	AF2-061 O1	3.6308	Adder	8.06
958151	AF2-109 C	4.6990	50/50	4.6990
958152	AF2-109 E	4.6990	50/50	4.6990
959021	AF2-193 C O1	9.7387	Adder	21.62
959022	AF2-193 E O1	26.2699	Adder	58.31
959031	AF2-194 C O1	9.7387	Adder	21.62
959032	AF2-194 E O1	26.2699	Adder	58.31
959051	AF2-196 C	0.7468	Adder	1.66
959052	AF2-196 E	1.7424	Adder	3.87
959161	AF2-207 C O1	4.1274	50/50	4.1274
959162	AF2-207 E O1	6.1910	50/50	6.1910
959571	AF2-248 C	0.6978	50/50	0.6978
959572	AF2-248 E	0.7799	50/50	0.7799
959581	AF2-249 C	0.1231	50/50	0.1231
959582	AF2-249 E	0.4926	50/50	0.4926
959591	AF2-250 C	0.2258	50/50	0.2258
959592	AF2-250 E	0.1745	50/50	0.1745
960221	AF2-313 C	5.3367	50/50	5.3367
960222	AF2-313 E	3.0255	50/50	3.0255

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960341	AF2-325 C	1.0261	50/50	1.0261
960342	AF2-325 E	1.4170	50/50	1.4170
960671	AF2-358 C O1	13.9800	50/50	13.9800
960672	AF2-358 E O1	9.3200	50/50	9.3200
960871	AF2-378 C	0.2686	50/50	0.2686
960872	AF2-378 E	0.3727	50/50	0.3727
960881	AF2-379 C	0.3393	50/50	0.3393
960882	AF2-379 E	0.4676	50/50	0.4676
960941	AF2-385 C O1	9.8270	50/50	9.8270
960942	AF2-385 E O1	5.5277	50/50	5.5277
960961	AF2-387 C O1	22.1865	50/50	22.1865
960962	AF2-387 E O1	11.1265	50/50	11.1265
961181	AF2-409 O1	22.5980	50/50	22.5980
NEWTON	NEWTON	0.1870	Confirmed LTF	0.1870
FARMERCITY	FARMERCITY	0.0097	Confirmed LTF	0.0097
CALDERWOOD	CALDERWOOD	0.0870	Confirmed LTF	0.0870
NY	NY	0.0603	Confirmed LTF	0.0603
PRAIRIE	PRAIRIE	0.4494	Confirmed LTF	0.4494
O-066	O-066	0.5309	Confirmed LTF	0.5309
CHEOAH	CHEOAH	0.0876	Confirmed LTF	0.0876
EDWARDS	EDWARDS	0.0609	Confirmed LTF	0.0609
TILTON	TILTON	0.1096	Confirmed LTF	0.1096
G-007	G-007	0.0530	Confirmed LTF	0.0530
GIBSON	GIBSON	0.0950	Confirmed LTF	0.0950
BLUEG	BLUEG	0.3021	Confirmed LTF	0.3021
TRIMBLE	TRIMBLE	0.0968	Confirmed LTF	0.0968
CATAWBA	CATAWBA	0.0619	Confirmed LTF	0.0619

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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 IMPACT
102002018	232106	MIDLTNT P	DP&L	232104	MT PLSN T	DP&L	1	DPL_P7_1_DBL_1NCB_FSA -A	tower	348.0	128.68	135.31	DC	23.3

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.5398	50/50	0.5398
232405	W1-003 E	0.9090	50/50	0.9090
232406	W1-004 FULL	0.5398	50/50	0.5398
232407	W1-004 E	0.9090	50/50	0.9090
232408	W1-005 C	0.5398	50/50	0.5398
232409	W1-005 E	0.9090	50/50	0.9090
232410	W1-006 C	0.5398	50/50	0.5398
232411	W1-006 E	0.9090	50/50	0.9090
232412	X1-032 E	0.8192	50/50	0.8192
232417	X3-008 C	0.3307	50/50	0.3307
232418	X3-008 E	3.1277	50/50	3.1277
232422	X3-066 FULL	0.1653	50/50	0.1653
232423	X3-066 E	1.5632	50/50	1.5632
232424	Y1-079 C	0.2436	50/50	0.2436
232425	Y1-079 E	2.3039	50/50	2.3039
232426	Y1-080 FULL	0.0519	50/50	0.0519
232427	Y1-080 E	0.4932	50/50	0.4932
232428	Y3-058 C	0.2078	50/50	0.2078
232429	Y3-058 E	1.9655	50/50	1.9655
232433	Z2-076 E	0.3208	Adder	0.38
232435	Z2-077 E	0.3208	Adder	0.38
232436	AB1-176 C	0.6345	50/50	0.6345
232813	VAUGHN	0.1155	50/50	0.1155
232902	EASTMUNI	3.7067	50/50	3.7067
232907	VN8	5.9640	50/50	5.9640
232910	NRG_G1	1.8200	50/50	1.8200
232911	NRG_G2	1.8200	50/50	1.8200
232919	VN10	0.4079	50/50	0.4079
232922	MR3 (Deactivation : 01/06/2021)	9.0862	Adder	10.69
232926	CRISFLD1	0.3545	50/50	0.3545
293670	O-025 C	0.2133	50/50	0.2133
917082	Z2-012 E	2.1263	Adder	2.5
918831	AA1-102	1.3293	50/50	1.3293
919831	AA2-069 (Suspended)	40.1751	Adder	47.26
923282	AB1-137 C	0.6591	Adder	0.78
923283	AB1-137 E	0.2825	Adder	0.33
923322	AB1-141 C OP	5.7565	50/50	5.7565
923323	AB1-141 E OP	2.6864	50/50	2.6864
923332	AB1-142 C OP	5.7565	50/50	5.7565
923603	AB1-176 E	1.0463	50/50	1.0463
923921	AB2-032 C	5.7992	50/50	5.7992

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923922	AB2-032 E	2.7290	50/50	2.7290
923951	AB2-036 C	12.6924	50/50	12.6924
923952	AB2-036 E	20.7661	50/50	20.7661
924681	AB2-120 C OP	6.5091	Adder	7.66
924682	AB2-120 E OP	10.6201	Adder	12.49
924781	AB2-130 C OP	5.4762	Adder	6.44
924782	AB2-130 E OP	8.9348	Adder	10.51
924801	AB2-133 C OP	11.5595	50/50	11.5595
924802	AB2-133 E OP	14.6609	50/50	14.6609
924821	AB2-135 C	12.3188	50/50	12.3188
924822	AB2-135 E	14.0492	50/50	14.0492
924831	AB2-136 C	5.9522	50/50	5.9522
924832	AB2-136 E	6.3123	50/50	6.3123
924971	AB2-153 C	3.2407	50/50	3.2407
924972	AB2-153 E	5.2875	50/50	5.2875
925151	AB2-172 C OP	4.7924	50/50	4.7924
925152	AB2-172 E OP	7.8191	50/50	7.8191
925251	AB2-179 C OP	26.8588	50/50	26.8588
925252	AB2-179 E OP	8.8577	50/50	8.8577
925261	AB2-180 C	2.9588	50/50	2.9588
925262	AB2-180 E	1.2680	50/50	1.2680
925271	AB2-185 C OP	5.2023	50/50	5.2023
925272	AB2-185 E OP	2.2295	50/50	2.2295
927031	AC1-190 C	8.7532	50/50	8.7532
927032	AC1-190 E	3.7514	50/50	3.7514
927191	AC1-213 C	0.6596	50/50	0.6596
927192	AC1-213 E	0.4328	50/50	0.4328
930201	AB1-056 C	9.9441	Adder	11.7
930202	AB1-056 E	28.3190	Adder	33.32
930881	AB1-137 C	0.6591	Adder	0.78
930882	AB1-137 E	0.2825	Adder	0.33
930932	AB1-142 E OP	2.6864	50/50	2.6864
932161	AC2-023 C	5.6983	50/50	5.6983
932162	AC2-023 E	4.1501	50/50	4.1501
933641	AC2-186 C	3.1357	Adder	3.69
933642	AC2-186 E	5.1161	Adder	6.02
936611	AD2-076 C O1	8.1874	50/50	8.1874
936612	AD2-076 E O1	13.3584	50/50	13.3584
938651	AE1-087 C	4.0357	50/50	4.0357
938652	AE1-087 E	1.0089	50/50	1.0089
938891	AE1-117 C O1	6.5135	Adder	7.66
938892	AE1-117 E O1	17.3433	Adder	20.4
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	6.5188	Adder	7.67
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	17.3573	Adder	20.42
939151	AE1-145	3.4253	Adder	4.03
939621	AE1-192 C O1	8.0595	Adder	9.48
939622	AE1-192 E O1	3.9440	Adder	4.64
941021	AE2-093 C	5.9738	50/50	5.9738
941022	AE2-093 E	9.4914	50/50	9.4914

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941181	AE2-112 C	2.8405	50/50	2.8405
941182	AE2-112 E	4.6345	50/50	4.6345
942441	AE2-257 C	5.1662	Adder	6.08
942442	AE2-257 E	13.6201	Adder	16.02
943361	AF1-007 C	0.2934	Adder	0.35
943362	AF1-007 E	0.8338	Adder	0.98
943441	AF1-015 C	1.9104	50/50	1.9104
943442	AF1-015 E	2.6382	50/50	2.6382
943651	AF1-036 C	3.6936	50/50	3.6936
943652	AF1-036 E	5.1006	50/50	5.1006
944921	AF1-157 C O1	2.4567	Adder	2.89
944922	AF1-157 E O1	1.6378	Adder	1.93
945661	AF1-231 C	1.3034	Adder	1.53
945662	AF1-231 E	1.9552	Adder	2.3
945781	AF1-243	0.8574	Adder	1.01
945791	AF1-244	1.6440	50/50	1.6440
945931	AF1-258	0.6763	50/50	0.6763
945941	AF1-259	0.3362	50/50	0.3362
946041	AF1-269 (Withdrawn : 05/12/2020)	2.5836	50/50	2.5836
957611	AF2-055 C	3.1809	Adder	7.06
957612	AF2-055 E	1.3633	Adder	3.03
957661	AF2-060	0.8169	Adder	1.81
957671	AF2-061 O1	3.6308	Adder	8.06
958151	AF2-109 C	4.6990	50/50	4.6990
958152	AF2-109 E	4.6990	50/50	4.6990
959021	AF2-193 C O1	9.7387	Adder	21.62
959022	AF2-193 E O1	26.2699	Adder	58.31
959031	AF2-194 C O1	9.7387	Adder	21.62
959032	AF2-194 E O1	26.2699	Adder	58.31
959051	AF2-196 C	0.7468	Adder	1.66
959052	AF2-196 E	1.7424	Adder	3.87
959161	AF2-207 C O1	4.1274	50/50	4.1274
959162	AF2-207 E O1	6.1910	50/50	6.1910
959571	AF2-248 C	0.6978	50/50	0.6978
959572	AF2-248 E	0.7799	50/50	0.7799
959581	AF2-249 C	0.1231	50/50	0.1231
959582	AF2-249 E	0.4926	50/50	0.4926
959591	AF2-250 C	0.2258	50/50	0.2258
959592	AF2-250 E	0.1745	50/50	0.1745
960221	AF2-313 C	5.3367	50/50	5.3367
960222	AF2-313 E	3.0255	50/50	3.0255
960341	AF2-325 C	1.0261	50/50	1.0261
960342	AF2-325 E	1.4170	50/50	1.4170
960671	AF2-358 C O1	13.9800	50/50	13.9800
960672	AF2-358 E O1	9.3200	50/50	9.3200
960871	AF2-378 C	0.2686	50/50	0.2686
960872	AF2-378 E	0.3727	50/50	0.3727
960881	AF2-379 C	0.3393	50/50	0.3393
960882	AF2-379 E	0.4676	50/50	0.4676
960941	AF2-385 C O1	9.8270	50/50	9.8270
960942	AF2-385 E O1	5.5277	50/50	5.5277
960961	AF2-387 C O1	22.1865	50/50	22.1865

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>960962</b>	AF2-387 E O1	11.1265	50/50	11.1265
<b>961181</b>	AF2-409 O1	22.5980	50/50	22.5980
<b>NEWTON</b>	NEWTON	0.1870	Confirmed LTF	0.1870
<b>FARMERCITY</b>	FARMERCITY	0.0097	Confirmed LTF	0.0097
<b>CALDERWOOD</b>	CALDERWOOD	0.0870	Confirmed LTF	0.0870
<b>NY</b>	NY	0.0603	Confirmed LTF	0.0603
<b>PRAIRIE</b>	PRAIRIE	0.4494	Confirmed LTF	0.4494
<b>O-066</b>	O-066	0.5309	Confirmed LTF	0.5309
<b>CHEOAH</b>	CHEOAH	0.0876	Confirmed LTF	0.0876
<b>EDWARDS</b>	EDWARDS	0.0609	Confirmed LTF	0.0609
<b>TILTON</b>	TILTON	0.1096	Confirmed LTF	0.1096
<b>G-007</b>	G-007	0.0530	Confirmed LTF	0.0530
<b>GIBSON</b>	GIBSON	0.0950	Confirmed LTF	0.0950
<b>BLUEG</b>	BLUEG	0.3021	Confirmed LTF	0.3021
<b>TRIMBLE</b>	TRIMBLE	0.0968	Confirmed LTF	0.0968
<b>CATAWBA</b>	CATAWBA	0.0619	Confirmed LTF	0.0619

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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 IMPACT
102002002	232107	TOWNSEND	DP&L	232106	MIDLTP	DP&L	1	DPL_P7_1_DBL_1NCB_FS A-A	tower	348.0	137.99	144.62	DC	23.3

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.5398	50/50	0.5398
232405	W1-003 E	0.9090	50/50	0.9090
232406	W1-004 FULL	0.5398	50/50	0.5398
232407	W1-004 E	0.9090	50/50	0.9090
232408	W1-005 C	0.5398	50/50	0.5398
232409	W1-005 E	0.9090	50/50	0.9090
232410	W1-006 C	0.5398	50/50	0.5398
232411	W1-006 E	0.9090	50/50	0.9090
232412	X1-032 E	0.8192	50/50	0.8192
232417	X3-008 C	0.3307	50/50	0.3307
232418	X3-008 E	3.1277	50/50	3.1277
232422	X3-066 FULL	0.1653	50/50	0.1653
232423	X3-066 E	1.5632	50/50	1.5632
232424	Y1-079 C	0.2436	50/50	0.2436
232425	Y1-079 E	2.3039	50/50	2.3039
232426	Y1-080 FULL	0.0519	50/50	0.0519
232427	Y1-080 E	0.4932	50/50	0.4932
232428	Y3-058 C	0.2078	50/50	0.2078
232429	Y3-058 E	1.9655	50/50	1.9655
232433	Z2-076 E	0.3208	Adder	0.38
232435	Z2-077 E	0.3208	Adder	0.38
232436	AB1-176 C	0.6345	50/50	0.6345
232813	VAUGHN	0.1155	50/50	0.1155
232902	EASTMUNI	3.7067	50/50	3.7067
232907	VN8	5.9640	50/50	5.9640
232910	NRG_G1	1.8200	50/50	1.8200
232911	NRG_G2	1.8200	50/50	1.8200
232919	VN10	0.4079	50/50	0.4079
232922	MR3 (Deactivation : 01/06/2021)	9.0862	Adder	10.69
232926	CRISFLD1	0.3545	50/50	0.3545
293670	O-025 C	0.2133	50/50	0.2133
917082	Z2-012 E	2.1263	Adder	2.5
918831	AA1-102	1.3293	50/50	1.3293
919831	AA2-069 (Suspended)	40.1751	Adder	47.26
923282	AB1-137 C	0.6591	Adder	0.78
923283	AB1-137 E	0.2825	Adder	0.33
923322	AB1-141 C OP	5.7565	50/50	5.7565
923323	AB1-141 E OP	2.6864	50/50	2.6864
923332	AB1-142 C OP	5.7565	50/50	5.7565
923603	AB1-176 E	1.0463	50/50	1.0463
923921	AB2-032 C	5.7992	50/50	5.7992

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923922	AB2-032 E	2.7290	50/50	2.7290
923951	AB2-036 C	12.6924	50/50	12.6924
923952	AB2-036 E	20.7661	50/50	20.7661
924681	AB2-120 C OP	6.5091	Adder	7.66
924682	AB2-120 E OP	10.6201	Adder	12.49
924781	AB2-130 C OP	5.4762	Adder	6.44
924782	AB2-130 E OP	8.9348	Adder	10.51
924801	AB2-133 C OP	11.5595	50/50	11.5595
924802	AB2-133 E OP	14.6609	50/50	14.6609
924821	AB2-135 C	12.3188	50/50	12.3188
924822	AB2-135 E	14.0492	50/50	14.0492
924831	AB2-136 C	5.9522	50/50	5.9522
924832	AB2-136 E	6.3123	50/50	6.3123
924971	AB2-153 C	3.2407	50/50	3.2407
924972	AB2-153 E	5.2875	50/50	5.2875
925151	AB2-172 C OP	4.7924	50/50	4.7924
925152	AB2-172 E OP	7.8191	50/50	7.8191
925251	AB2-179 C OP	26.8588	50/50	26.8588
925252	AB2-179 E OP	8.8577	50/50	8.8577
925261	AB2-180 C	2.9588	50/50	2.9588
925262	AB2-180 E	1.2680	50/50	1.2680
925271	AB2-185 C OP	5.2023	50/50	5.2023
925272	AB2-185 E OP	2.2295	50/50	2.2295
927031	AC1-190 C	8.7532	50/50	8.7532
927032	AC1-190 E	3.7514	50/50	3.7514
927191	AC1-213 C	0.6596	50/50	0.6596
927192	AC1-213 E	0.4328	50/50	0.4328
930201	AB1-056 C	9.9441	Adder	11.7
930202	AB1-056 E	28.3190	Adder	33.32
930881	AB1-137 C	0.6591	Adder	0.78
930882	AB1-137 E	0.2825	Adder	0.33
930932	AB1-142 E OP	2.6864	50/50	2.6864
932161	AC2-023 C	5.6983	50/50	5.6983
932162	AC2-023 E	4.1501	50/50	4.1501
933641	AC2-186 C	3.1357	Adder	3.69
933642	AC2-186 E	5.1161	Adder	6.02
936611	AD2-076 C O1	8.1874	50/50	8.1874
936612	AD2-076 E O1	13.3584	50/50	13.3584
938651	AE1-087 C	4.0357	50/50	4.0357
938652	AE1-087 E	1.0089	50/50	1.0089
938891	AE1-117 C O1	6.5135	Adder	7.66
938892	AE1-117 E O1	17.3433	Adder	20.4
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	6.5188	Adder	7.67
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	17.3573	Adder	20.42
939151	AE1-145	3.4253	Adder	4.03
939621	AE1-192 C O1	8.0595	Adder	9.48
939622	AE1-192 E O1	3.9440	Adder	4.64
941021	AE2-093 C	5.9738	50/50	5.9738
941022	AE2-093 E	9.4914	50/50	9.4914

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941181	AE2-112 C	2.8405	50/50	2.8405
941182	AE2-112 E	4.6345	50/50	4.6345
942441	AE2-257 C	5.1662	Adder	6.08
942442	AE2-257 E	13.6201	Adder	16.02
943361	AF1-007 C	0.2934	Adder	0.35
943362	AF1-007 E	0.8338	Adder	0.98
943441	AF1-015 C	1.9104	50/50	1.9104
943442	AF1-015 E	2.6382	50/50	2.6382
943651	AF1-036 C	3.6936	50/50	3.6936
943652	AF1-036 E	5.1006	50/50	5.1006
944921	AF1-157 C O1	2.4567	Adder	2.89
944922	AF1-157 E O1	1.6378	Adder	1.93
945661	AF1-231 C	1.3034	Adder	1.53
945662	AF1-231 E	1.9552	Adder	2.3
945781	AF1-243	0.8574	Adder	1.01
945791	AF1-244	1.6440	50/50	1.6440
945931	AF1-258	0.6763	50/50	0.6763
945941	AF1-259	0.3362	50/50	0.3362
946041	AF1-269 (Withdrawn : 05/12/2020)	2.5836	50/50	2.5836
957611	AF2-055 C	3.1809	Adder	7.06
957612	AF2-055 E	1.3633	Adder	3.03
957661	AF2-060	0.8169	Adder	1.81
957671	AF2-061 O1	3.6308	Adder	8.06
958151	AF2-109 C	4.6990	50/50	4.6990
958152	AF2-109 E	4.6990	50/50	4.6990
959021	AF2-193 C O1	9.7387	Adder	21.62
959022	AF2-193 E O1	26.2699	Adder	58.31
959031	AF2-194 C O1	9.7387	Adder	21.62
959032	AF2-194 E O1	26.2699	Adder	58.31
959051	AF2-196 C	0.7468	Adder	1.66
959052	AF2-196 E	1.7424	Adder	3.87
959161	AF2-207 C O1	4.1274	50/50	4.1274
959162	AF2-207 E O1	6.1910	50/50	6.1910
959571	AF2-248 C	0.6978	50/50	0.6978
959572	AF2-248 E	0.7799	50/50	0.7799
959581	AF2-249 C	0.1231	50/50	0.1231
959582	AF2-249 E	0.4926	50/50	0.4926
959591	AF2-250 C	0.2258	50/50	0.2258
959592	AF2-250 E	0.1745	50/50	0.1745
960221	AF2-313 C	5.3367	50/50	5.3367
960222	AF2-313 E	3.0255	50/50	3.0255
960341	AF2-325 C	1.0261	50/50	1.0261
960342	AF2-325 E	1.4170	50/50	1.4170
960671	AF2-358 C O1	13.9800	50/50	13.9800
960672	AF2-358 E O1	9.3200	50/50	9.3200
960871	AF2-378 C	0.2686	50/50	0.2686
960872	AF2-378 E	0.3727	50/50	0.3727
960881	AF2-379 C	0.3393	50/50	0.3393
960882	AF2-379 E	0.4676	50/50	0.4676
960941	AF2-385 C O1	9.8270	50/50	9.8270
960942	AF2-385 E O1	5.5277	50/50	5.5277
960961	AF2-387 C O1	22.1865	50/50	22.1865

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>960962</b>	AF2-387 E O1	11.1265	50/50	11.1265
<b>961181</b>	AF2-409 O1	22.5980	50/50	22.5980
<b>NEWTON</b>	NEWTON	0.1870	Confirmed LTF	0.1870
<b>FARMERCITY</b>	FARMERCITY	0.0097	Confirmed LTF	0.0097
<b>CALDERWOOD</b>	CALDERWOOD	0.0870	Confirmed LTF	0.0870
<b>NY</b>	NY	0.0603	Confirmed LTF	0.0603
<b>PRAIRIE</b>	PRAIRIE	0.4494	Confirmed LTF	0.4494
<b>O-066</b>	O-066	0.5309	Confirmed LTF	0.5309
<b>CHEOAH</b>	CHEOAH	0.0876	Confirmed LTF	0.0876
<b>EDWARDS</b>	EDWARDS	0.0609	Confirmed LTF	0.0609
<b>TILTON</b>	TILTON	0.1096	Confirmed LTF	0.1096
<b>G-007</b>	G-007	0.0530	Confirmed LTF	0.0530
<b>GIBSON</b>	GIBSON	0.0950	Confirmed LTF	0.0950
<b>BLUEG</b>	BLUEG	0.3021	Confirmed LTF	0.3021
<b>TRIMBLE</b>	TRIMBLE	0.0968	Confirmed LTF	0.0968
<b>CATAWBA</b>	CATAWBA	0.0619	Confirmed LTF	0.0619

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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
102001000	232114	SHARNGTN	DP&L	232112	FELTON	DP&L	1	DPL_P4-2_DP6	breaker	242.0	104.09	105.8	DC	9.28

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231940	T-011	0.1307	50/50	0.1307
232405	W1-003 E	0.4563	Adder	0.54
232407	W1-004 E	0.4563	Adder	0.54
232409	W1-005 E	0.4563	Adder	0.54
232411	W1-006 E	0.4563	Adder	0.54
232412	X1-032 E	0.3929	Adder	0.46
232418	X3-008 E	0.8173	Adder	0.96
232427	Y1-080 E	0.1630	Adder	0.19
232429	Y3-058 E	0.9081	Adder	1.07
232432	Z2-076 C	0.0973	50/50	0.0973
232433	Z2-076 E	0.2842	50/50	0.2842
232434	Z2-077 C	0.0973	50/50	0.0973
232435	Z2-077 E	0.2842	50/50	0.2842
232851	DUP-SFR1	0.3180	50/50	0.3180
232904	IR4	10.1845	50/50	10.1845
232905	BAYVIEW1	0.2577	50/50	0.2577
232920	IR10	0.4036	50/50	0.4036
232921	TASLEY2G	0.4516	50/50	0.4516
293670	O-025 C	0.1248	50/50	0.1248
917081	Z2-012 C	0.1567	50/50	0.1567
917082	Z2-012 E	1.4819	50/50	1.4819
923282	AB1-137 C	0.6093	50/50	0.6093
923283	AB1-137 E	0.2611	50/50	0.2611
924681	AB2-120 C OP	4.5501	50/50	4.5501
924682	AB2-120 E OP	7.4239	50/50	7.4239
924781	AB2-130 C OP	4.8369	50/50	4.8369
924782	AB2-130 E OP	7.8918	50/50	7.8918
924831	AB2-136 C	1.8388	Adder	2.16
924832	AB2-136 E	1.9500	Adder	2.29
925151	AB2-172 C OP	1.2523	Adder	1.47
925152	AB2-172 E OP	2.0432	Adder	2.4
925261	AB2-180 C	1.3671	Adder	1.61
925262	AB2-180 E	0.5859	Adder	0.69
927031	AC1-190 C	2.3574	Adder	2.77
927032	AC1-190 E	1.0103	Adder	1.19
927191	AC1-213 C	0.3859	50/50	0.3859
927192	AC1-213 E	0.2532	50/50	0.2532
930201	AB1-056 C	9.1867	50/50	9.1867
930202	AB1-056 E	26.1620	50/50	26.1620
930881	AB1-137 C	0.6093	50/50	0.6093
930882	AB1-137 E	0.2611	50/50	0.2611
932161	AC2-023 C	2.4973	Adder	2.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
932162	AC2-023 E	1.8188	Adder	2.14
933641	AC2-186 C	3.1405	50/50	3.1405
933642	AC2-186 E	5.1240	50/50	5.1240
938651	AE1-087 C	1.0545	Adder	1.24
938652	AE1-087 E	0.2636	Adder	0.31
938891	AE1-117 C O1	6.0113	50/50	6.0113
938892	AE1-117 E O1	16.0059	50/50	16.0059
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	6.0055	50/50	6.0055
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	15.9905	50/50	15.9905
939151	AE1-145	2.3972	50/50	2.3972
939621	AE1-192 C O1	5.6170	50/50	5.6170
939622	AE1-192 E O1	2.7487	50/50	2.7487
942441	AE2-257 C	4.7807	50/50	4.7807
942442	AE2-257 E	12.6037	50/50	12.6037
943361	AF1-007 C	0.2710	50/50	0.2710
943362	AF1-007 E	0.7703	50/50	0.7703
944921	AF1-157 C O1	2.2149	50/50	2.2149
944922	AF1-157 E O1	1.4766	50/50	1.4766
945661	AF1-231 C	0.7715	Adder	0.91
945662	AF1-231 E	1.1572	Adder	1.36
945781	AF1-243	0.5976	50/50	0.5976
945791	AF1-244	0.7797	Adder	0.92
945931	AF1-258	0.3125	Adder	0.37
946041	AF1-269 (Withdrawn : 05/12/2020)	0.8537	Adder	1.0
957611	AF2-055 C	4.1829	50/50	4.1829
957612	AF2-055 E	1.7927	50/50	1.7927
957661	AF2-060	1.0787	50/50	1.0787
957671	AF2-061 O1	4.7944	50/50	4.7944
959021	AF2-193 C O1	16.9754	50/50	16.9754
959022	AF2-193 E O1	45.7906	50/50	45.7906
959031	AF2-194 C O1	16.9754	50/50	16.9754
959032	AF2-194 E O1	45.7906	50/50	45.7906
959051	AF2-196 C	1.3038	50/50	1.3038
959052	AF2-196 E	3.0423	50/50	3.0423
959161	AF2-207 C O1	2.5730	50/50	2.5730
959162	AF2-207 E O1	3.8595	50/50	3.8595
959571	AF2-248 C	0.4250	50/50	0.4250
959572	AF2-248 E	0.4750	50/50	0.4750
959581	AF2-249 C	0.0750	50/50	0.0750
959582	AF2-249 E	0.3000	50/50	0.3000
959591	AF2-250 C	0.1375	50/50	0.1375
959592	AF2-250 E	0.1063	50/50	0.1063
960341	AF2-325 C	0.1586	Adder	0.35
960342	AF2-325 E	0.2190	Adder	0.49
960671	AF2-358 C O1	2.5081	Adder	5.57
960672	AF2-358 E O1	1.6721	Adder	3.71
960871	AF2-378 C	0.0428	Adder	0.1
960872	AF2-378 E	0.0594	Adder	0.13

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960881	AF2-379 C	0.0850	Adder	0.19
960882	AF2-379 E	0.1171	Adder	0.26
960941	AF2-385 C O1	6.1262	50/50	6.1262
960942	AF2-385 E O1	3.4460	50/50	3.4460
961181	AF2-409 O1	3.8991	Adder	8.66
NEWTON	NEWTON	0.0580	Confirmed LTF	0.0580
FARMERCITY	FARMERCITY	0.0030	Confirmed LTF	0.0030
CALDERWOOD	CALDERWOOD	0.0268	Confirmed LTF	0.0268
NY	NY	0.0343	Confirmed LTF	0.0343
PRAIRIE	PRAIRIE	0.1395	Confirmed LTF	0.1395
O-066	O-066	0.4435	Confirmed LTF	0.4435
CHEOAH	CHEOAH	0.0270	Confirmed LTF	0.0270
EDWARDS	EDWARDS	0.0189	Confirmed LTF	0.0189
TILTON	TILTON	0.0340	Confirmed LTF	0.0340
G-007	G-007	0.0718	Confirmed LTF	0.0718
GIBSON	GIBSON	0.0295	Confirmed LTF	0.0295
BLUEG	BLUEG	0.0937	Confirmed LTF	0.0937
TRIMBLE	TRIMBLE	0.0301	Confirmed LTF	0.0301
CATAWBA	CATAWBA	0.0189	Confirmed LTF	0.0189

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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
102000748	232234	TODD	DP&L	232233	PRESTON	DP&L	1	DPL_P4-2_DP11	breaker	93.0	211.91	239.45	DC	25.74

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.3036	50/50	0.3036
232405	W1-003 E	0.5112	50/50	0.5112
232406	W1-004 FULL	0.3036	50/50	0.3036
232407	W1-004 E	0.5112	50/50	0.5112
232408	W1-005 C	0.3036	50/50	0.3036
232409	W1-005 E	0.5112	50/50	0.5112
232410	W1-006 C	0.3036	50/50	0.3036
232411	W1-006 E	0.5112	50/50	0.5112
232412	X1-032 E	0.4732	50/50	0.4732
232417	X3-008 C	0.5183	50/50	0.5183
232418	X3-008 E	4.9023	50/50	4.9023
232426	Y1-080 FULL	0.0598	50/50	0.0598
232427	Y1-080 E	0.5688	50/50	0.5688
232428	Y3-058 C	0.1521	50/50	0.1521
232429	Y3-058 E	1.4383	50/50	1.4383
232433	Z2-076 E	0.1512	Adder	0.18
232435	Z2-077 E	0.1512	Adder	0.18
232905	BAYVIEW1	0.2443	50/50	0.2443
232907	VN8	3.9453	50/50	3.9453
232919	VN10	0.3965	50/50	0.3965
232921	TASLEY2G	0.4282	50/50	0.4282
232926	CRISFLD1	0.2061	50/50	0.2061
293670	O-025 C	0.1383	50/50	0.1383
917081	Z2-012 C	0.1486	50/50	0.1486
917082	Z2-012 E	1.4052	50/50	1.4052
918831	AA1-102	0.7727	50/50	0.7727
923282	AB1-137 C	0.2879	Adder	0.34
923283	AB1-137 E	0.1234	Adder	0.15
924681	AB2-120 C OP	3.6460	Adder	4.29
924682	AB2-120 E OP	5.9488	Adder	7.0
924781	AB2-130 C OP	3.8511	50/50	3.8511
924782	AB2-130 E OP	6.2834	50/50	6.2834
924831	AB2-136 C	7.6302	50/50	7.6302
924832	AB2-136 E	8.0917	50/50	8.0917
925151	AB2-172 C OP	7.5117	50/50	7.5117
925152	AB2-172 E OP	12.2559	50/50	12.2559
925261	AB2-180 C	2.1652	50/50	2.1652
925262	AB2-180 E	0.9280	50/50	0.9280
927031	AC1-190 C	13.3011	50/50	13.3011
927032	AC1-190 E	5.7005	50/50	5.7005
927191	AC1-213 C	0.4276	50/50	0.4276
927192	AC1-213 E	0.2806	50/50	0.2806

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	4.1164	Adder	4.84
930202	AB1-056 E	11.7229	Adder	13.79
930881	AB1-137 C	0.2879	Adder	0.34
930882	AB1-137 E	0.1234	Adder	0.15
932161	AC2-023 C	4.4912	50/50	4.4912
932162	AC2-023 E	3.2710	50/50	3.2710
938651	AE1-087 C	6.3256	50/50	6.3256
938652	AE1-087 E	1.5814	50/50	1.5814
938891	AE1-117 C O1	2.8516	Adder	3.35
938892	AE1-117 E O1	7.5929	Adder	8.93
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.8640	Adder	3.37
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	7.6258	Adder	8.97
939151	AE1-145	1.9210	Adder	2.26
939621	AE1-192 C O1	5.3260	50/50	5.3260
939622	AE1-192 E O1	2.6064	50/50	2.6064
942441	AE2-257 C	2.2451	Adder	2.64
942442	AE2-257 E	5.9190	Adder	6.96
943361	AF1-007 C	0.1214	Adder	0.14
943362	AF1-007 E	0.3452	Adder	0.41
944921	AF1-157 C O1	1.3116	Adder	1.54
944922	AF1-157 E O1	0.8744	Adder	1.03
945661	AF1-231 C	0.7320	Adder	0.86
945662	AF1-231 E	1.0980	Adder	1.29
945781	AF1-243	0.5666	50/50	0.5666
945791	AF1-244	0.9557	50/50	0.9557
945931	AF1-258	0.4949	50/50	0.4949
946041	AF1-269 (Withdrawn : 05/12/2020)	2.9792	50/50	2.9792
957611	AF2-055 C	3.9662	50/50	3.9662
957612	AF2-055 E	1.6998	50/50	1.6998
957661	AF2-060	0.4582	Adder	1.02
957671	AF2-061 O1	2.0363	Adder	4.52
959021	AF2-193 C O1	4.0314	Adder	8.95
959022	AF2-193 E O1	10.8747	Adder	24.14
959031	AF2-194 C O1	4.0314	Adder	8.95
959032	AF2-194 E O1	10.8747	Adder	24.14
959051	AF2-196 C	0.3245	Adder	0.72
959052	AF2-196 E	0.7572	Adder	1.68
959161	AF2-207 C O1	2.5390	50/50	2.5390
959162	AF2-207 E O1	3.8084	50/50	3.8084
959571	AF2-248 C	0.4379	50/50	0.4379
959572	AF2-248 E	0.4894	50/50	0.4894
959581	AF2-249 C	0.0773	50/50	0.0773
959582	AF2-249 E	0.3091	50/50	0.3091
959591	AF2-250 C	0.1417	50/50	0.1417
959592	AF2-250 E	0.1095	50/50	0.1095
960341	AF2-325 C	1.4218	50/50	1.4218
960342	AF2-325 E	1.9635	50/50	1.9635
960671	AF2-358 C O1	15.4410	50/50	15.4410

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960672	AF2-358 E O1	10.2940	50/50	10.2940
960871	AF2-378 C	0.3573	50/50	0.3573
960872	AF2-378 E	0.4957	50/50	0.4957
960881	AF2-379 C	0.2067	50/50	0.2067
960882	AF2-379 E	0.2849	50/50	0.2849
960941	AF2-385 C O1	6.0451	50/50	6.0451
960942	AF2-385 E O1	3.4004	50/50	3.4004
961181	AF2-409 O1	14.9490	50/50	14.9490
NEWTON	NEWTON	0.0752	Confirmed LTF	0.0752
FARMERCITY	FARMERCITY	0.0039	Confirmed LTF	0.0039
CALDERWOOD	CALDERWOOD	0.0348	Confirmed LTF	0.0348
NY	NY	0.0288	Confirmed LTF	0.0288
PRAIRIE	PRAIRIE	0.1808	Confirmed LTF	0.1808
O-066	O-066	0.2890	Confirmed LTF	0.2890
CHEOAH	CHEOAH	0.0350	Confirmed LTF	0.0350
EDWARDS	EDWARDS	0.0245	Confirmed LTF	0.0245
TILTON	TILTON	0.0441	Confirmed LTF	0.0441
G-007	G-007	0.0374	Confirmed LTF	0.0374
GIBSON	GIBSON	0.0382	Confirmed LTF	0.0382
BLUEG	BLUEG	0.1215	Confirmed LTF	0.1215
TRIMBLE	TRIMBLE	0.0390	Confirmed LTF	0.0390
CATAWBA	CATAWBA	0.0245	Confirmed LTF	0.0245

## 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
102000889	232821	TANYARD	DP&L	232820	TALBOT	DP&L	1	DPL_P4-2_DP11	breaker	173.0	107.85	122.65	DC	25.74

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.3036	50/50	0.3036
232405	W1-003 E	0.5112	50/50	0.5112
232406	W1-004 FULL	0.3036	50/50	0.3036
232407	W1-004 E	0.5112	50/50	0.5112
232408	W1-005 C	0.3036	50/50	0.3036
232409	W1-005 E	0.5112	50/50	0.5112
232410	W1-006 C	0.3036	50/50	0.3036
232411	W1-006 E	0.5112	50/50	0.5112
232412	X1-032 E	0.4732	50/50	0.4732
232417	X3-008 C	0.5183	50/50	0.5183
232418	X3-008 E	4.9023	50/50	4.9023
232426	Y1-080 FULL	0.0598	50/50	0.0598
232427	Y1-080 E	0.5688	50/50	0.5688
232428	Y3-058 C	0.1521	50/50	0.1521
232429	Y3-058 E	1.4383	50/50	1.4383
232433	Z2-076 E	0.1512	Adder	0.18
232435	Z2-077 E	0.1512	Adder	0.18
232905	BAYVIEW1	0.2443	50/50	0.2443
232907	VN8	3.9453	50/50	3.9453
232919	VN10	0.3965	50/50	0.3965
232921	TASLEY2G	0.4282	50/50	0.4282
232926	CRISFLD1	0.2061	50/50	0.2061
293670	O-025 C	0.1383	50/50	0.1383
917081	Z2-012 C	0.1486	50/50	0.1486
917082	Z2-012 E	1.4052	50/50	1.4052
918831	AA1-102	0.7727	50/50	0.7727
923282	AB1-137 C	0.2879	Adder	0.34
923283	AB1-137 E	0.1234	Adder	0.15
924681	AB2-120 C OP	3.6460	Adder	4.29
924682	AB2-120 E OP	5.9488	Adder	7.0
924781	AB2-130 C OP	3.8511	50/50	3.8511
924782	AB2-130 E OP	6.2834	50/50	6.2834
924831	AB2-136 C	7.6302	50/50	7.6302
924832	AB2-136 E	8.0917	50/50	8.0917
925151	AB2-172 C OP	7.5117	50/50	7.5117
925152	AB2-172 E OP	12.2559	50/50	12.2559
925261	AB2-180 C	2.1652	50/50	2.1652
925262	AB2-180 E	0.9280	50/50	0.9280
927031	AC1-190 C	13.3011	50/50	13.3011
927032	AC1-190 E	5.7005	50/50	5.7005
927191	AC1-213 C	0.4276	50/50	0.4276
927192	AC1-213 E	0.2806	50/50	0.2806

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	4.1164	Adder	4.84
930202	AB1-056 E	11.7229	Adder	13.79
930881	AB1-137 C	0.2879	Adder	0.34
930882	AB1-137 E	0.1234	Adder	0.15
932161	AC2-023 C	4.4912	50/50	4.4912
932162	AC2-023 E	3.2710	50/50	3.2710
938651	AE1-087 C	6.3256	50/50	6.3256
938652	AE1-087 E	1.5814	50/50	1.5814
938891	AE1-117 C O1	2.8516	Adder	3.35
938892	AE1-117 E O1	7.5929	Adder	8.93
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.8640	Adder	3.37
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	7.6258	Adder	8.97
939151	AE1-145	1.9210	Adder	2.26
939621	AE1-192 C O1	5.3260	50/50	5.3260
939622	AE1-192 E O1	2.6064	50/50	2.6064
942441	AE2-257 C	2.2451	Adder	2.64
942442	AE2-257 E	5.9190	Adder	6.96
943361	AF1-007 C	0.1214	Adder	0.14
943362	AF1-007 E	0.3452	Adder	0.41
944921	AF1-157 C O1	1.3116	Adder	1.54
944922	AF1-157 E O1	0.8744	Adder	1.03
945661	AF1-231 C	0.7320	Adder	0.86
945662	AF1-231 E	1.0980	Adder	1.29
945781	AF1-243	0.5666	50/50	0.5666
945791	AF1-244	0.9557	50/50	0.9557
945931	AF1-258	0.4949	50/50	0.4949
946041	AF1-269 (Withdrawn : 05/12/2020)	2.9792	50/50	2.9792
957611	AF2-055 C	3.9662	50/50	3.9662
957612	AF2-055 E	1.6998	50/50	1.6998
957661	AF2-060	0.4582	Adder	1.02
957671	AF2-061 O1	2.0363	Adder	4.52
959021	AF2-193 C O1	4.0314	Adder	8.95
959022	AF2-193 E O1	10.8747	Adder	24.14
959031	AF2-194 C O1	4.0314	Adder	8.95
959032	AF2-194 E O1	10.8747	Adder	24.14
959051	AF2-196 C	0.3245	Adder	0.72
959052	AF2-196 E	0.7572	Adder	1.68
959161	AF2-207 C O1	2.5390	50/50	2.5390
959162	AF2-207 E O1	3.8084	50/50	3.8084
959571	AF2-248 C	0.4379	50/50	0.4379
959572	AF2-248 E	0.4894	50/50	0.4894
959581	AF2-249 C	0.0773	50/50	0.0773
959582	AF2-249 E	0.3091	50/50	0.3091
959591	AF2-250 C	0.1417	50/50	0.1417
959592	AF2-250 E	0.1095	50/50	0.1095
960341	AF2-325 C	1.4218	50/50	1.4218
960342	AF2-325 E	1.9635	50/50	1.9635
960671	AF2-358 C O1	15.4410	50/50	15.4410

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960672	AF2-358 E O1	10.2940	50/50	10.2940
960871	AF2-378 C	0.3573	50/50	0.3573
960872	AF2-378 E	0.4957	50/50	0.4957
960881	AF2-379 C	0.2067	50/50	0.2067
960882	AF2-379 E	0.2849	50/50	0.2849
960941	AF2-385 C O1	6.0451	50/50	6.0451
960942	AF2-385 E O1	3.4004	50/50	3.4004
961181	AF2-409 O1	14.9490	50/50	14.9490
<b>NEWTON</b>	NEWTON	0.0752	Confirmed LTF	0.0752
<b>FARMERCITY</b>	FARMERCITY	0.0039	Confirmed LTF	0.0039
<b>CALDERWOOD</b>	CALDERWOOD	0.0348	Confirmed LTF	0.0348
<b>NY</b>	NY	0.0288	Confirmed LTF	0.0288
<b>PRAIRIE</b>	PRAIRIE	0.1808	Confirmed LTF	0.1808
<b>O-066</b>	O-066	0.2890	Confirmed LTF	0.2890
<b>CHEOAH</b>	CHEOAH	0.0350	Confirmed LTF	0.0350
<b>EDWARDS</b>	EDWARDS	0.0245	Confirmed LTF	0.0245
<b>TILTON</b>	TILTON	0.0441	Confirmed LTF	0.0441
<b>G-007</b>	G-007	0.0374	Confirmed LTF	0.0374
<b>GIBSON</b>	GIBSON	0.0382	Confirmed LTF	0.0382
<b>BLUEG</b>	BLUEG	0.1215	Confirmed LTF	0.1215
<b>TRIMBLE</b>	TRIMBLE	0.0390	Confirmed LTF	0.0390
<b>CATAWBA</b>	CATAWBA	0.0245	Confirmed LTF	0.0245

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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
102000890	232838	MARDELA	DP&L	232270	HEBRON	DP&L	1	DPL_P4-2_DP56	breaker	64.0	102.68	130.36	DC	17.71

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232417	X3-008 C	0.1889	50/50	0.1889
232418	X3-008 E	1.7872	50/50	1.7872
232426	Y1-080 FULL	0.0384	50/50	0.0384
232427	Y1-080 E	0.3652	50/50	0.3652
232919	VN10	0.3322	50/50	0.3322
924831	AB2-136 C	4.0942	50/50	4.0942
924832	AB2-136 E	4.3419	50/50	4.3419
925151	AB2-172 C OP	2.7385	50/50	2.7385
925152	AB2-172 E OP	4.4680	50/50	4.4680
927031	AC1-190 C	5.1726	50/50	5.1726
927032	AC1-190 E	2.2169	50/50	2.2169
938651	AE1-087 C	2.3061	50/50	2.3061
938652	AE1-087 E	0.5765	50/50	0.5765
939152	AE1-145 BAT	1.9916	Merchant Transmission	1.9916
945663	AF1-231 BAT	1.9002	50/50	1.9002
945782	AF1-243 BAT	0.5014	50/50	0.5014
945792	AF1-244 BAT	0.9508	50/50	0.9508
946041	AF1-269 (Withdrawn : 05/12/2020)	1.9129	50/50	1.9129
957613	AF2-055 BAT	3.0081	50/50	3.0081
957662	AF2-060 BAT	0.4750	Merchant Transmission	0.4750
957672	AF2-061 BAT	2.1111	Merchant Transmission	2.1111
959163	AF2-207 BAT	2.2740	Merchant Transmission	2.2740
959583	AF2-249 BAT	0.3913	50/50	0.3913
960341	AF2-325 C	0.6624	50/50	0.6624
960342	AF2-325 E	0.9147	50/50	0.9147
960671	AF2-358 C O1	10.6278	50/50	10.6278
960672	AF2-358 E O1	7.0852	50/50	7.0852
960871	AF2-378 C	0.1795	50/50	0.1795
960872	AF2-378 E	0.2490	50/50	0.2490
961181	AF2-409 O1	2.3120	Adder	5.13
WEC	WEC	0.0095	Confirmed LTF	0.0095
LGEE	LGEE	0.0171	Confirmed LTF	0.0171
CPL	CPL	0.0198	Confirmed LTF	0.0198
G-007A	G-007A	0.0527	Confirmed LTF	0.0527
VFT	VFT	0.1548	Confirmed LTF	0.1548
CBM-W2	CBM-W2	0.2457	Confirmed LTF	0.2457
CBM-W1	CBM-W1	0.3753	Confirmed LTF	0.3753
TVA	TVA	0.0420	Confirmed LTF	0.0420
CBM-S2	CBM-S2	0.1734	Confirmed LTF	0.1734
CBM-S1	CBM-S1	0.2556	Confirmed LTF	0.2556
MEC	MEC	0.0477	Confirmed LTF	0.0477

## 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
AA1-102	Kings Creek-Loretto 138kV	Partially in Service - Under Construction
AA2-069	Cartanza 230kV	Suspended
AB1-000	N/A	N/A
AB1-001	Absecon 12 kV	Engineering and Procurement
AB1-056	Indian River 230kV I	Engineering and Procurement
AB1-116	Egg Harbor Road 12kV	In Service
AB1-119	Tansboro Road 12kV	In Service
AB1-137	Frankford 25kV	Engineering and Procurement
AB1-141	Church-Wye Mills 138 kV I	Engineering and Procurement
AB1-142	Church-Wye Mills 138 kV II	Engineering and Procurement
AB1-169A	Minotola 138 kV	Withdrawn
AB1-176	Price 25kV II	Active
AB2-032	Church-Wye Mills 138 kV	Engineering and Procurement
AB2-036	Church-Steele 138kV	Active
AB2-037	Keeney-Steele 230kV	Active
AB2-049	Gloucester Township 12kV	Active
AB2-102	Cumberland 230kV	Active
AB2-120	Piney Grove-New Church 138kV	Active
AB2-122	Egg Harbor 12kV	Engineering and Procurement
AB2-130	Laurel 69kV	Active
AB2-133	Chestertown-Church 69kV	Active
AB2-135	Church-Kent 69kV	Active
AB2-136	West Cambridge-Vienna 69kV	Active
AB2-153	Church-Wye Mills 138 kV	Engineering and Procurement
AB2-172	Todd 69kV	Active
AB2-179	Townsend 138kV	Engineering and Procurement
AB2-180	Rockawalkin 69kV	Active
AB2-185	Wye Mills 25kV	Active
AC1-091	Cedar Creek 138kV I	Active
AC1-092	Cedar Creek 138kV II	Active
AC1-093	Cedar Creek 138kV III	Active
AC1-094	Cedar Creek 138kV IV	Active
AC1-190	East New Market 69kV	Active
AC1-213	North Salisbury 25kV	Active
AC2-018	Rock Springs 500kV	In Service
AC2-023	Hebron 69kV	Active
AC2-050	Tabernacle 12kV	Active
AC2-185	Cedar Creek 138kV II	Active
AC2-186	Harrington 25kV	Active

Queue Number	Project Name	Status
AD1-019	Ontario 23 kV	Active
AD1-097	Linwood 230 kV II	Active
AD2-059	Chapel Street 138 kV	Active
AD2-064	Tansboro 12kV	Withdrawn
AD2-065	Berlin 12kV	Engineering and Procurement
AD2-076	Centreville 69 kV	Active
AD2-135	Williamstown 12kV	Active
AD2-167	Rock Springs 500kV	In Service
AE1-061	Minotola 12 kV	Active
AE1-062	Silver Lake 69 kV	Active
AE1-087	Todd 69 kV	Active
AE1-104	BL England 138 kV	Active
AE1-107	Mt. Pleasant-Lums Pond 138 kV	Active
AE1-115	Churchtown 69 kV	Active
AE1-117	Bethany 138 kV	Active
AE1-118	Bethany-138th Street 138 kV	Withdrawn
AE1-145	Wallops Island 69 kV	Active
AE1-161	Landis 138 kV	Active
AE1-179	South Millville-Newport 69 kV	Active
AE1-192	Belle Haven-Tasley 69 kV	Active
AE1-218	Glassboro 12 kV	Engineering and Procurement
AE1-219	Glassboro 12 kV II	Engineering and Procurement
AE1-229	Deepwater-Upper Pittsgrove 138 kV	Active
AE1-240	Carlls Corner-Sherman Avenue 69 kV	Active
AE2-010	Paper Tap 69 kV	Engineering and Procurement
AE2-020	Cardiff 230 kV I	Active
AE2-021	Cardiff 230 kV II	Active
AE2-022	Cardiff 230 kV III	Active
AE2-061	Rock Springs 500 kV	In Service
AE2-064	Beaverbrook 13 kV	Under Construction
AE2-093	Easton-Steele 138 kV	Active
AE2-112	Carville 138 kV	Active
AE2-222	Higbee 69 kV	Active
AE2-251	Cardiff 230 kV	Active
AE2-257	Cedar Neck 69 kV	Active
AE2-334	Clayton-Williamstown 69 kV	Active
AF1-007	Indian River 230 kV I	Active
AF1-015	Easton-Steele 138 kV	Active
AF1-036	Carville 138 kV	Active
AF1-041	Absecon 12.47 kV	In Service
AF1-157	Laurel-Sussex 69 kV	Active
AF1-160	Silver Lake 69 kV	Active
AF1-208	Quinton-Roadstown 69 kV	Active
AF1-231	New Church 138 kV	Active
AF1-238	Sherman Ave. 69 kV	Active
AF1-239	Sherman Ave-Vineland 69 kV	Active
AF1-243	Tasley 25 kV	Active
AF1-244	Kingston 25 kV	Active
AF1-258	Rockawalkin 69 kV	Active
AF1-259	Price 25 kV	Active
AF1-262	Upper Pittsgrove 12 kV	Active
AF1-269	Airey-Golden Hill 69 kV	Withdrawn

Queue Number	Project Name	Status
AF2-016	Lewis 138 kV	Active
AF2-019	Middle 69 kV	Active
AF2-020	Carll's Corner 69 kV	Active
AF2-022	Cumberland 138 kV	Active
AF2-023	Churchtown 69 kV	Active
AF2-024	Mickleton 69 kV	Active
AF2-025	Missouri Ave 69 kV	Active
AF2-026	Sherman Ave 138 kV	Active
AF2-038	Printz 230 kV	Active
AF2-055	Plantation 69 kV	Active
AF2-058	Fairton 12 kV	Active
AF2-060	Wattsville 12 kV	Active
AF2-061	Wattsville 69kV	Active
AF2-109	Church 69 kV	Active
AF2-169	BL England 138 kV	Withdrawn
AF2-172	Newport 12 kV	Active
AF2-174	Tabernacle 12 kV	Active
AF2-193	Indian River 230 kV I	Active
AF2-194	Indian River 230 kV II	Active
AF2-196	Cedar Neck 69 kV II	Active
AF2-202	Landis 12 V	Active
AF2-207	Nelson 69 kV	Active
AF2-208	Colora 230 kV	Active
AF2-248	Edgewood 12 kV I	Active
AF2-249	Edgewood 12 kV II	Active
AF2-250	Edgewood 12 kV III	Active
AF2-313	Price 69 kV	Active
AF2-325	Jacktown 12 kV	Active
AF2-358	Airey-Vienna 69 kV	Active
AF2-378	Cambridge 12 kV	Active
AF2-379	Princess Anne 25 kV	Active
AF2-385	Nelson 69 kV	Active
AF2-387	Hillsboro 138 kV	Active
AF2-409	Vienna 138 kV	Active
V2-035	Pittsgrove	In Service
V2-041	Clayville 12kV	In Service
V2-046	Pilesgrove Township 12kV	In Service
V4-054	Fairfield Township 12kV	In Service
V4-067	Cates Road Egg Harbor Township 12kV	In Service
W1-003	Oak Hall	In Service
W1-004	Oak Hall	In Service
W1-005	Oak Hall	In Service
W1-006	Oak Hall	In Service
W1-130	Vine Road 12kV	In Service
W2-030	Egg Harbor Township	In Service
X1-032	Costen 25kV	In Service
X2-083	Newark 12kV	In Service
X3-008	Todd 69kV	Under Construction
X3-066	Church Hill 69kV	In Service
X4-027	Linwood 230kV	In Service
Y1-065	Rock Springs 500kV	In Service
Y1-079	Wye Mills 69kV	In Service

<b>Queue Number</b>	<b>Project Name</b>	<b>Status</b>
<b>Y1-080</b>	Dorchester 12kV	In Service
<b>Y3-058</b>	Rockawalkin 69kV	In Service
<b>Z2-012</b>	Weirwood-Eastville 69kV	In Service
<b>Z2-076</b>	Worcester South 25kV	In Service
<b>Z2-077</b>	Worcester North 25kV	In Service

## 11.8 Contingency Descriptions - Primary POI

Contingency Name	Contingency Definition
PECO_P1-2_220-84	CONTINGENCY 'PECO_P1-2_220-84' /* \$ DELCO \$ 220-84 \$ LB TRIP BRANCH FROM BUS 213750 TO BUS 231000 CKT 1 /* LINWOOD 230.00 CLAY_230 230.00 \$ DELCO \$ 220-84 \$ L END
DPL_P4-2_DP6	CONTINGENCY 'DPL_P4-2_DP6' /*MILFORD BUS BREAKER TO STEELE DISCONNECT BRANCH FROM BUS 232000 TO BUS 232004 CKT 1 /*MILFORD STEELE 230 230 DISCONNECT BRANCH FROM BUS 232003 TO BUS 232004 CKT 1 /*CARTANZA MILFORD 230 230 END
DPL_P1_2_23085 &13710	CONTINGENCY 'DPL_P1_2_23085 &13710' DISCONNECT BUS 232005 /STEELE - VIENNA 230 & VIENNA AT20 DISCONNECT BUS 232116 /VIENNA XFMR - VIENNA 138 END
DPL_P4-2_DP25B	CONTINGENCY 'DPL_P4-2_DP25B' /*CEDAR CREEK 230 BUS BREAKER TO MILFORD DISCONNECT BRANCH FROM BUS 232002 TO BUS 232004 CKT 1 /*CEDAR CK MILFORD 230 230 DISCONNECT BRANCH FROM BUS 232002 TO BUS 232108 CKT 1 /*CEDAR CK CEDAR CK 230 138 AT20 END
PECO_P4_CHICH045/* \$ DELCO \$ CHICH045 \$ STBK	CONTINGENCY 'PECO_P4_CHICH045/* \$ DELCO \$ CHICH045 \$ STBK' DISCONNECT BUS 213489 /* CHICHST1 230.00 \$ DELCO \$ CHICH045 \$ STBK DISCONNECT BUS 213627 /* FOULK8 230.00 \$ DELCO \$ CHICH045 \$ STBK END
DPL_P4-2_DP56	CONTINGENCY 'DPL_P4-2_DP56' /*LORETTO BUS BREAKER DISCONNECT BRANCH FROM BUS 232127 TO BUS 232117 CKT 1 /*LORETTO VIENNA 138 1380 DISCONNECT BRANCH FROM BUS 232127 TO BUS 232128 CKT 1 /*LORETTO PINEY GROVE 138 138 END
DPL_P1_2_CKT 13707	CONTINGENCY 'DPL_P1_2_CKT 13707' OPEN LINE FROM BUS 232119 TO BUS 232117 CIRCUIT 1 /NELSON - VIENNA 138 END

Contingency Name	Contingency Definition
DPL_P7_1_DBL_1NCB_FSA-A	CONTINGENCY 'DPL_P7_1_DBL_1NCB_FSA-A' /* #1 & #2 KEENEY-STEELE 230 OPEN LINE FROM BUS 231003 TO BUS 232000 CKT 1 OPEN LINE FROM BUS 231003 TO BUS 923960 CKT 2 OPEN LINE FROM BUS 232000 TO BUS 923960 CKT 2 DISCONNECT BUS 923961 DISCONNECT BUS 923962 END
DPL_P4-2_DP12	CONTINGENCY 'DPL_P4-2_DP12' /*STEELE BUS BREAKER TO VIENNA DISCONNECT BRANCH FROM BUS 232000 TO BUS 232103 CKT 2 /*STEELE STEELE 230 138 AT21 DISCONNECT BRANCH FROM BUS 232000 TO BUS 232005 CKT 1 /*STEELE VIENNA 230 230 END
DPL_P4-2_DP11	CONTINGENCY 'DPL_P4-2_DP11' /*STEELE BUS BREAKER TO MILFORD DISCONNECT BRANCH FROM BUS 232004 TO BUS 232000 CKT 1 /*MILFORD STEELE 230 230 DISCONNECT BRANCH FROM BUS 232000 TO BUS 232005 CKT 1 /*STEELE VIENNA 230 230 END
DPL_P4-2_DP36	CONTINGENCY 'DPL_P4-2_DP36' /*COOL SPRINGS BUS BREAKER TO IR 2 DISCONNECT BRANCH FROM BUS 232001 TO BUS 232006 CKT 1 /*COOL SPRINGS INDRIV 4 230 230 DISCONNECT BRANCH FROM BUS 232001 TO BUS 232004 CKT 1 /*COOL SPRINGS MILFORD 230 230 END
DPL_P1_2_CKT 23069	CONTINGENCY 'DPL_P1_2_CKT 23069' OPEN LINE FROM BUS 232001 TO BUS 232004 CIRCUIT 1 /COOL SPRINGS - MILFORD 230 END
DPL_P4-2_DP15	CONTINGENCY 'DPL_P4-2_DP15' /*INDIAN RIVER BUS BREAKER TO PINEY GROVE DISCONNECT BRANCH FROM BUS 232007 TO BUS 232006 CKT 1 /*PINEY GR INDRIV 4 230 230 DISCONNECT BRANCH FROM BUS 232007 TO BUS 232128 CKT 1 /*PINEY GR PINEY GR 230 138 DISCONNECT BRANCH FROM BUS 232006 TO BUS 232004 CKT 1 /*MILFORD INDIAN RIVER 230 230 END
DPL_P1_2_CKT 6728	CONTINGENCY 'DPL_P1_2_CKT 6728' OPEN LINE FROM BUS 232272 TO BUS 232274 CIRCUIT 1 /MOUNT HERMON - PINEY GROVE 69 DISCONNECT BUS 230912 / PINEY GROVE 69 CAP END

Contingency Name	Contingency Definition
DPL_P1_2_CKT 6715	CONTINGENCY 'DPL_P1_2_CKT 6715' DISCONNECT BUS 232817 / TODD - EAST NEW MARKET REA - EAST NEW MARKET 69 END
PECO_P1-2_220-04/* \$ DELCO \$ 220-04 \$ L	CONTINGENCY 'PECO_P1-2_220-04/* \$ DELCO \$ 220-04 \$ L' DISCONNECT BUS 213627 /* CHICHST1 230.00 FOULK8 230.00 \$ DELCO \$ 220-04 \$ L END
DPL_P1_3_LORETO AT1&2	CONTINGENCY 'DPL_P1_3_LORETO AT1&2' OPEN LINE FROM BUS 232127 TO BUS 232275 CIRCUIT 1 /LORETTO AT1 138/69 OPEN LINE FROM BUS 232127 TO BUS 232275 CIRCUIT 2 /LORETTO AT2 138/69 END
PECO_P1-2_5012/* \$ CHESCO \$ 5012 \$ L	CONTINGENCY 'PECO_P1-2_5012/* \$ CHESCO \$ 5012 \$ L' TRIP BRANCH FROM BUS 200064 TO BUS 200004 CKT 1 /* PCHBTM1S 500.00 CNASTONE 500.00 \$ CHESCO \$ 5012 \$ L END
CKT 23030B	CONTINGENCY 'CKT 23030B' OPEN LINE FROM BUS 232002 TO BUS 232013 CIRCUIT 1 /CEDAR CREEK - SILVER RUN 230 END
CKT 23032A	CONTINGENCY 'CKT 23032A' OPEN LINE FROM BUS 231004 TO BUS 232013 CIRCUIT 2 /RED LION - SILVER RUN 230 END
CKT 23032B	CONTINGENCY 'CKT 23032B' OPEN LINE FROM BUS 232013 TO BUS 232003 CIRCUIT 1 /SILVER RUN - CARTANZA 230 END
PECO_P1-2_5038/* \$ CHESCO \$ 5038 \$ L	CONTINGENCY 'PECO_P1-2_5038/* \$ CHESCO \$ 5038 \$ L' TRIP BRANCH FROM BUS 200012 TO BUS 200028 CKT 1 /* NFREEDOM 500.00 WINDSOR 500.00 \$ CHESCO \$ 5038 \$ L END
PECO_P4_PEACH215/* \$ CHESCO \$ PEACH215 \$ STBK	CONTINGENCY 'PECO_P4_PEACH215/* \$ CHESCO \$ PEACH215 \$ STBK' TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 \$ CHESCO \$ PEACH215 \$ STBK REMOVE MACHINE 1 FROM BUS 200034 /* PCHBTM 2 22.00 \$ CHESCO \$ PEACH215 \$ STBK END

Contingency Name	Contingency Definition
DPL_P1_2_CKT 6708	CONTINGENCY 'DPL_P1_2_CKT 6708' DISCONNECT BUS 232270 / MARDELA - HEBRON 69 & HEBRON XFMR DISCONNECT BUS 232838 / VIENNA - MARDELA 69 DISCONNECT BUS 232644 / HEBRON 1 12 DISCONNECT BUS 232653 / HEBRON 2 12 DISCONNECT BUS 232291 / ROCKAWALKIN - NORTH SALISBURY 69 END
PECO_P2-2_CHI230B1/* \$ DELCO \$ CHI230B1 \$ B	CONTINGENCY 'PECO_P2-2_CHI230B1/* \$ DELCO \$ CHI230B1 \$ B' DISCONNECT BUS 213489 /* CHICHST1 230.00 \$ DELCO \$ CHI230B1 \$ B END
PJM500_PS_P2-3_NFRD5_910	CONTINGENCY 'PJM500_PS_P2-3_NFRD5_910' DISCONNECT BRANCH FROM BUS 200012 TO BUS 219100 CKT 4 /* 500/230 KV TX NEW FREED TRIP LINE FROM BUS 200012 TO BUS 200028 CKT 1 /* 5038 NEW FREEDOM TO WINSOR END
PECO_P1-2_5014/* \$ CHESCO \$ 5014 \$ L	CONTINGENCY 'PECO_P1-2_5014/* \$ CHESCO \$ 5014 \$ L' TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 \$ CHESCO \$ 5014 \$ L END
Base Case	
DPL_P1_2_CKT 6705	CONTINGENCY 'DPL_P1_2_CKT 6705' DISCONNECT BUS 232239 / LAUREL - SHARPTOWN - VIENNA 69 & SHARPTOWN XFMR DISCONNECT BUS 232607 / SHARPTOWN 12 END
DPL_P1_2_CKT 23015	CONTINGENCY 'DPL_P1_2_CKT 23015' OPEN LINE FROM BUS 231000 TO BUS 231001 CIRCUIT 1 /CLAYMONT - EDGE MOOR 230 END
DPL_P4-2_DP24	CONTINGENCY 'DPL_P4-2_DP24' /*CEDAR CREEK BUS BREAKER TO SILVER RUN DISCONNECT BRANCH FROM BUS 232013 TO BUS 232002 CKT 1 /*SILVER RUN CEDAR CK 230 230 DISCONNECT BRANCH FROM BUS 232002 TO BUS 232108 CKT 1 /*CEDAR CK CEDAR CK 230 138 AT20 END

Contingency Name	Contingency Definition
<b>PECO_P4_PEACH205/* \$ CHESCO \$ PEACH205 \$ STBK</b>	CONTINGENCY 'PECO_P4_PEACH205/* \$ CHESCO \$ PEACH205 \$ STBK' TRIP BRANCH FROM BUS 200065 TO BUS 200066 CKT 1 /* PCHBTM2S 500.00 PCHBTM1N 500.00 \$ CHESCO \$ PEACH205 \$ STBK TRIP BRANCH FROM BUS 200064 TO BUS 200065 CKT Z1 /* PCHBTM1S 500.00 PCHBTM2S 500.00 \$ CHESCO \$ PEACH205 \$ STBK TRIP BRANCH FROM BUS 200013 TO BUS 200066 CKT Z1 /* PCHBTM2N 500.00 PCHBTM1N 500.00 \$ CHESCO \$ PEACH205 \$ STBK TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 \$ CHESCO \$ PEACH205 \$ STBK END
<b>DPL_P4-2_DP23</b>	CONTINGENCY 'DPL_P4-2_DP23' /*CEDAR CREEK BUS BREAKER TO SILVER RUN DISCONNECT BRANCH FROM BUS 232002 TO BUS 232013 CKT 1 /*CEDAR CK SILVER RUN 230 230 DISCONNECT BRANCH FROM BUS 232002 TO BUS 232004 CKT 1 /*CEDAR CK MILFORD 230 230 END
<b>DPL_P1_2_CKT 23034</b>	CONTINGENCY 'DPL_P1_2_CKT 23034' OPEN LINE FROM BUS 232006 TO BUS 232004 CIRCUIT 1 /INDIAN RIVER - MILFORD 230 END
<b>PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK</b>	CONTINGENCY 'PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK' TRIP BRANCH FROM BUS 213750 TO BUS 231001 CKT 1 /* LINWOOD 230.00 EDGEMR5 230.00 \$ DELCO \$ LINWO225 \$ STBK DISCONNECT BUS 213892 /* PHLISL87 230.00 \$ DELCO \$ LINWO225 \$ STBK DISCONNECT BUS 213888 /* PHLISCT1 18.00 \$ DELCO \$ LINWO225 \$ STBK DISCONNECT BUS 213889 /* PHLISCT2 18.00 \$ DELCO \$ LINWO225 \$ STBK END
<b>PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC</b>	CONTINGENCY 'PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC' TRIP BRANCH FROM BUS 213750 TO BUS 231001 CKT 1 /* LINWOOD 230.00 EDGEMR5 230.00 \$ DELCO \$ 220-85 \$ L END
<b>PECO_P1-2_5007_S/* \$ CHESCO \$ 5007_S \$ L</b>	CONTINGENCY 'PECO_P1-2_5007_S/* \$ CHESCO \$ 5007_S \$ L' TRIP BRANCH FROM BUS 200066 TO BUS 270072 CKT 1 /* PCHBTM1N 500.00 FUR RUN_500 500.00 \$ CHESCO \$ 5007_S \$ L END

## 12 Short Circuit Analysis - Primary POI

Short circuit will be studied in the System Impact Study phase.

## 13 Secondary Point of Interconnection

AF2-358 will have a secondary point of interconnection with the DPL transmission system tapping the Jacktown – E. New Market 69 kV line.

## 14 Summer Peak - Load Flow Analysis - Secondary POI

The Queue Project AF2-358 was evaluated as a 100.0 MW (Capacity 60.0 MW) injection tapping the Jacktown to E. New Market 69 kV line in the DPL area. Project AF2-358 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-358 was studied with a commercial probability of 53.0 %. Potential network impacts were as follows:

### 14.1 Generation Deliverability

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC D C	MW IMPAC T
153548915	232235	JACKTOWN	69.0	DP&L	232237	CAMBRIDG	69.0	DP&L	1	DPL_P1_2_CKT6715	single	71.0	37.32	121.83	DC	60.0
102001245	232239	SHARPTWN	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	DPL_P1_2_CKT13707	single	42.0	85.99	105.57	DC	8.22
102001247	232239	SHARPTWN	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	DPL_P1_3_COOLS PG AT20	single	42.0	85.59	103.72	DC	7.62
102001200	232241	VIENN_69	69.0	DP&L	232239	SHARPTWN	69.0	DP&L	1	DPL_P1_3_COOLS PG AT20	single	42.0	97.73	115.87	DC	7.62
102001301	232241	VIENN_69	69.0	DP&L	232838	MARDELA	69.0	DP&L	1	DPL_P1_2_CKT6728	single	64.0	88.48	101.15	DC	8.11
153548877	924830	AB2-136 TAP	69.0	DP&L	232238	WCAMBR DG	69.0	DP&L	1	DPL_P1_2_CKT6715	single	72.0	38.89	122.22	DC	60.0

### 14.2 Multiple Facility Contingency

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

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 LOADIN G %	POST PROJE CT LOADIN G %	AC D C	MW IMPAC T
99647357	200012	NEWFRDM	500.0	PJM	200028	WINDSOR	500.0	PJM	1	PECO_P4_PEACH215/* \$ CHESCO \$ PEACH215 \$ STBK	breaker	3011.0	99.84	100.23	DC	25.24
99647358	200012	NEWFRDM	500.0	PJM	200028	WINDSOR	500.0	PJM	1	PECO_P4_PEACH205/* \$ CHESCO \$ PEACH205 \$ STBK	breaker	3011.0	99.77	100.16	DC	25.24
102000925	232230	TRAP ALT	69.0	DP&L	232232	TRAPPE TP	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	92.39	112.35	DC	34.7
102000926	232232	TRAPPET P	69.0	DP&L	232227	EASTN_69	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	90.87	111.54	DC	35.93
102000764	232233	PRESTON	69.0	DP&L	232821	TANYAR D	69.0	DP&L	1	DPL_P4-2_DP12	breaker	93.0	97.27	134.31	DC	34.44

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 D C	MW IMPACT
102000890	232838	MARDEL A	69.0	DP&L	232270	HEBRON	69.0	DP&L	1	DPL_P4-2_DP56	breaker	64.0	99.07	122.94	DC	15.28
102000891	232838	MARDEL A	69.0	DP&L	232270	HEBRON	69.0	DP&L	1	DPL_P4-2_DP55	breaker	64.0	95.11	119.13	DC	15.37

### 14.3 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 PROJECT LOADING %	POST PROJECT LOADING %	AC D C	MW IMPACT
99647179	200051	ROCKSPG S	500.0	PJM	200065	PCHBTM 2S	500.0	PJM	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	143.25	144.05	DC	50.67
100302272	213559	DELCOTA P	230.0	PECO	228401	MCKLTON	230.0	AE	1	PECO_P2-2_CHI230B1/* \$ DELCO \$ CHI230B1 \$ B	bus	725.0	108.31	108.82	DC	7.96
100302574	213559	DELCOTA P	230.0	PECO	228401	MCKLTON	230.0	AE	1	PECO_P4_CHICH045/* \$ DELCO \$ CHICH045 \$ STBK	breaker	725.0	108.31	108.82	DC	7.96
100302428	231000	CLAY_230	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	149.16	150.04	DC	15.44
100302775	231000	CLAY_230	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	single	804.0	111.32	111.85	DC	9.3
100302441	231001	EDGEMR 5	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	143.98	144.78	DC	13.98
100302792	231001	EDGEMR 5	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-84	single	804.0	110.13	110.64	DC	9.04
100302793	231001	EDGEMR 5	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	DPL_P1_2_CKT 23015	single	804.0	109.93	110.41	DC	8.41
100302801	231001	EDGEMR 5	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	single	804.0	110.49	110.97	DC	8.42
102000920	231124	GLASGO W	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P4_PEACH215/* \$ CHESCO \$ PEACH215 \$ STBK	breaker	378.0	121.1	122.29	DC	9.98
102000921	231124	GLASGO W	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P4_PEACH205/* \$ CHESCO \$ PEACH205 \$ STBK	breaker	378.0	119.09	120.28	DC	9.98
99647116	232003	CARTANZ A	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	DPL_P4-2_DP25B	breaker	804.0	155.14	156.73	DC	28.43
99647117	232003	CARTANZ A	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	DPL_P4-2_DP23	breaker	804.0	155.01	156.61	DC	28.43
99647118	232003	CARTANZ A	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	DPL_P4-2_DP24	breaker	804.0	155.0	156.6	DC	28.43
102002012	232100	CHURCH	138.0	DP&L	232107	TOWNSEND	138.0	DP&L	1	DPL_P7_1_DBL_INCB_FSA-A	tower	348.0	131.6	138.64	DC	24.72
102002018	232106	MIDLTNT P	138.0	DP&L	232104	MT PLSNT	138.0	DP&L	1	DPL_P7_1_DBL_INCB_FSA-A	tower	348.0	127.49	134.53	DC	24.72
102002002	232107	TOWNSEND	138.0	DP&L	232106	MIDLTNT P	138.0	DP&L	1	DPL_P7_1_DBL_INCB_FSA-A	tower	348.0	136.8	143.84	DC	24.72
102001000	232114	SHARNGT N	138.0	DP&L	232112	FELTON	138.0	DP&L	1	DPL_P4-2_DP6	breaker	242.0	102.71	104.22	DC	8.15
102000875	232241	VIENN_69	69.0	DP&L	232238	MARDEL A	69.0	DP&L	1	DPL_P4-2_DP56	breaker	64.0	109.38	133.25	DC	15.28
102000876	232241	VIENN_69	69.0	DP&L	232238	MARDEL A	69.0	DP&L	1	DPL_P4-2_DP55	breaker	64.0	105.43	129.44	DC	15.37

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/D C	MW IMPACT
102000889	232821	TANYARD	69.0	DP&L	232820	TALBOT	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	103.12	123.79	DC	35.93

#### 14.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/D C	MW IMPACT
99647901	200012	NEWFRDM	500.0	PJM	200028	WINDSOR	500.0	PJM	1	PECO_P1-2_5014/* \$ CHESCO \$ 5014 \$ L	operation	3011.0	99.77	100.16	DC	25.24
99647701	200051	ROCKSPGS	500.0	PJM	200065	PCHBTM2S	500.0	PJM	1	PECO_P1-2_5038/* \$ CHESCO \$ 5038 \$ L	operation	2905.0	141.8	142.6	DC	50.3
99647823	200064	PCHBTM1S	500.0	PJM	200004	CNASTONE	500.0	PJM	1	PECO_P1-2_5007_S/* \$ CHESCO \$ 5007_S \$ L	operation	3525.0	119.23	119.78	DC	41.78
99647839	200066	PCHBTM1N	500.0	PJM	270072	FUR RUN_500	500.0	PJM	1	PECO_P1-2_5012/* \$ CHESCO \$ 5012 \$ L	operation	3525.0	114.72	115.23	DC	38.28
100302964	213489	CHICHST1	230.0	PECO	213588	EDDYSTN4	230.0	PECO	1	PECO_P1-2_220-04/* \$ DELCO \$ 220-04 \$ L	operation	1078.0	108.5	108.98	DC	11.16
100302774	231000	CLAY_230	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	operation	804.0	139.98	140.87	DC	15.5
100302790	231001	EDGE MR 5	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-84	operation	804.0	138.0	138.86	DC	15.06
100302800	231001	EDGE MR 5	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	operation	804.0	135.54	136.34	DC	14.03
102001366	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P1-2_5014/* \$ CHESCO \$ 5014 \$ L	operation	378.0	119.06	120.25	DC	9.98
99647522	232002	CEDAR CK	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	CKT 23032B	operation	679.0	171.29	173.47	DC	32.92
99647523	232002	CEDAR CK	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	Base Case	operation	551.0	132.76	134.68	DC	23.76
99647621	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	CKT 23030B	operation	804.0	154.73	156.31	DC	28.49

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 LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
99647622	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	Base Case	operati on	650.0	141.47	142.72	DC	18.06
100302947	232004	MILF_230	230.0	DP&L	232002	CEDAR CK	230.0	DP&L	1	CKT 23032B	operati on	804.0	109.85	111.19	DC	23.81
99647830	232013	SILVER RUN	230.0	PJM	231004	RL_230	230.0	DP&L	1	CKT 23032A	operati on	679.0	115.54	116.79	DC	18.84
99647895	232013	SILVER RUN	230.0	PJM	231004	RL_230	230.0	DP&L	2	CKT 23030A	operati on	790.0	99.43	100.5	DC	18.85
102001397	232100	CHURCH	138.0	DP&L	232107	TOWNSEN D	138.0	DP&L	1	CKT 23032B	operati on	348.0	101.1	105.25	DC	14.58
102001412	232106	MIDLTNTP	138.0	DP&L	232104	MT PLSNT	138.0	DP&L	1	CKT 23032B	operati on	348.0	99.56	103.72	DC	14.58
102001360	232107	TOWNSEN D	138.0	DP&L	232106	MIDLTNTP	138.0	DP&L	1	CKT 23032B	operati on	348.0	108.9	113.06	DC	14.58
102001362	232107	TOWNSEN D	138.0	DP&L	232106	MIDLTNTP	138.0	DP&L	1	Base Case	operati on	273.0	104.96	109.7	DC	12.93
102001306	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	DPL_P1_2_23 085&13710	operati on	93.0	96.39	133.53	DC	34.54
102001308	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	Base Case	operati on	82.0	64.59	101.96	DC	30.65
102001287	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	DPL_P1_2_23 085&13710	operati on	93.0	101.44	138.59	DC	34.54
102001288	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	Base Case	operati on	82.0	70.32	107.69	DC	30.65
153548913	232235	JACKTOW N	69.0	DP&L	232237	CAMBRID G	69.0	DP&L	1	DPL_P1_2_CK T 6715	operati on	71.0	66.62	207.46	DC	100.0
153548914	232235	JACKTOW N	69.0	DP&L	232237	CAMBRID G	69.0	DP&L	1	Base Case	operati on	50.0	80.6	142.06	DC	30.73
153549385	232236	E NEWMKT	69.0	DP&L	232817	ENMKTRE A	69.0	DP&L	1	DPL_P1_2_CK T 6783_FSA	operati on	174.0	43.1	100.57	DC	100.0
153548968	232237	CAMBRID G	69.0	DP&L	232292	BAYLY	69.0	DP&L	1	DPL_P1_2_CK T 6715	operati on	71.0	33.8	174.65	DC	100.0
153549020	232238	WCAMBR DG	69.0	DP&L	232816	AIREY	69.0	DP&L	1	DPL_P1_2_CK T 6715	operati on	95.0	60.21	165.47	DC	100.0
102001244	232239	SHARPTW N	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	Base Case	operati on	42.0	95.43	126.27	DC	12.95
153549021	232239	SHARPTW N	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	DPL_P1_2_CK T 6716C	operati on	42.0	120.82	164.74	DC	18.45
102001192	232241	VIENN_69	69.0	DP&L	232239	SHARPTW N	69.0	DP&L	1	DPL_P1_2_CK T 6708	operati on	42.0	129.91	168.79	DC	16.33
102001197	232241	VIENN_69	69.0	DP&L	232239	SHARPTW N	69.0	DP&L	1	Base Case	operati on	42.0	107.57	138.41	DC	12.95
102001297	232241	VIENN_69	69.0	DP&L	232838	MARDELA	69.0	DP&L	1	DPL_P1_2_CK T 6728	operati on	64.0	109.45	130.57	DC	13.52
102001300	232241	VIENN_69	69.0	DP&L	232838	MARDELA	69.0	DP&L	1	Base Case	operati on	64.0	83.75	106.43	DC	14.51
102001233	232242	VIENNALC	69.0	DP&L	232241	VIENN_69	69.0	DP&L	1	DPL_P1_2_CK T 6715	operati on	95.0	61.08	166.34	DC	100.0
102001148	232291	ROCKAWL KN	69.0	DP&L	232271	NSALSBR Y	69.0	DP&L	1	DPL_P1_2_CK T 6728	operati on	58.0	187.08	210.38	DC	13.51
102001153	232291	ROCKAWL KN	69.0	DP&L	232271	NSALSBR Y	69.0	DP&L	1	Base Case	operati on	58.0	163.5	188.52	DC	14.51
153548981	232292	BAYLY	69.0	DP&L	924830	AB2-136 TAP	69.0	DP&L	1	DPL_P1_2_CK T 6715	operati on	72.0	33.33	172.22	DC	100.0
153549004	232816	AIREY	69.0	DP&L	232242	VIENNALC	69.0	DP&L	1	DPL_P1_2_CK T 6715	operati on	95.0	62.45	167.71	DC	100.0
102001343	232838	MARDELA	69.0	DP&L	232270	HEBRON	69.0	DP&L	1	Base Case	operati on	50.0	94.2	123.23	DC	14.51
153549218	232838	MARDELA	69.0	DP&L	232270	HEBRON	69.0	DP&L	1	DPL_P1_2_CK T 6716C	operati on	64.0	88.07	120.5	DC	20.76
102001449	924830	AB2-136 TAP	69.0	DP&L	232238	WCAMBR DG	69.0	DP&L	1	DPL_P1_2_CK T 6715	operati on	72.0	104.31	243.19	DC	100.0
112803262	924830	AB2-136 TAP	69.0	DP&L	232238	WCAMBR DG	69.0	DP&L	1	Base Case	operati on	51.0	88.99	149.24	DC	30.73
153549043	960670	AF2-358 TAP	69.0	DP&L	232235	JACKTOW N	69.0	DP&L	1	DPL_P1_2_CK T 6715	operati on	93.0	49.25	156.77	DC	100.0

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
153549044	960670	AF2-358 TAP	69.0	DP&L	232235	JACKTOWN	69.0	DP&L	1	Base Case	operation	74.0	60.45	101.97	DC	30.73
153549124	960670	AF2-358 TAP	69.0	DP&L	232236	E NEWMKT	69.0	DP&L	1	DPL_P1_2_CKT 6783_FSA	operation	93.0	31.51	139.03	DC	100.0
153549126	960670	AF2-358 TAP	69.0	DP&L	232236	E NEWMKT	69.0	DP&L	1	Base Case	operation	74.0	20.19	113.8	DC	69.27

## 14.5 Flow Gate Details - Secondary POI

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

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### 14.5.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
153548915	232235	JACKTOWN	DP&L	232237	CAMBRIDG	DP&L	1	DPL_P1_2_CKT 6715	single	71.0	37.32	121.83	DC	60.0

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
927031	AC1-190 C	35.0000	80/20	35.0000
960341	AF2-325 C	4.2000	80/20	4.2000
960671	AF2-358 C O2	60.0000	80/20	60.0000

## 14.5.2 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
102001245	232239	SHARPTWN	DP&L	232249	LAUREL	DP&L	1	DPL_P1_2_CKT 13707	single	42.0	85.99	105.57	DC	8.22

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232417	X3-008 C	0.1696	80/20	0.1696
232426	Y1-080 FULL	0.0344	80/20	0.0344
232907	VN8	1.5547	80/20	1.5547
232919	VN10	0.2976	80/20	0.2976
924831	AB2-136 C	3.6709	80/20	3.6709
925151	AB2-172 C OP	2.4584	80/20	2.4584
927031	AC1-190 C	4.6424	80/20	4.6424
932161	AC2-023 C	1.8399	80/20	1.8399
938651	AE1-087 C	2.0702	80/20	2.0702
946041	AF1-269 (Withdrawn : 05/12/2020)	1.7143	80/20	1.7143
960341	AF2-325 C	0.5941	80/20	0.5941
960671	AF2-358 C O2	8.2230	80/20	8.2230
960871	AF2-378 C	0.1609	80/20	0.1609
NEWTON	NEWTON	0.0032	Confirmed LTF	0.0032
FARMERCITY	FARMERCITY	0.0002	Confirmed LTF	0.0002
CALDERWOOD	CALDERWOOD	0.0015	Confirmed LTF	0.0015
NY	NY	0.0044	Confirmed LTF	0.0044
PRAIRIE	PRAIRIE	0.0077	Confirmed LTF	0.0077
CHEOAH	CHEOAH	0.0015	Confirmed LTF	0.0015
EDWARDS	EDWARDS	0.0010	Confirmed LTF	0.0010
TILTON	TILTON	0.0019	Confirmed LTF	0.0019
GIBSON	GIBSON	0.0016	Confirmed LTF	0.0016
BLUEG	BLUEG	0.0052	Confirmed LTF	0.0052
TRIMBLE	TRIMBLE	0.0017	Confirmed LTF	0.0017
CATAWBA	CATAWBA	0.0010	Confirmed LTF	0.0010

### 14.5.3 Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
102001200	232241	VIENN_69	DP&L	232239	SHARPTWN	DP&L	1	DPL_P1_3_COOLSPG AT20	single	42.0	97.73	115.87	DC	7.62

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232417	X3-008 C	0.1570	80/20	0.1570
232426	Y1-080 FULL	0.0319	80/20	0.0319
232919	VN10	0.2764	80/20	0.2764
924831	AB2-136 C	3.4040	80/20	3.4040
925151	AB2-172 C OP	2.2749	80/20	2.2749
927031	AC1-190 C	4.2977	80/20	4.2977
932161	AC2-023 C	1.7445	80/20	1.7445
938651	AE1-087 C	1.9157	80/20	1.9157
946041	AF1-269 (Withdrawn : 05/12/2020)	1.5908	80/20	1.5908
960341	AF2-325 C	0.5506	80/20	0.5506
960671	AF2-358 C O2	7.6164	80/20	7.6164
960871	AF2-378 C	0.1492	80/20	0.1492
NEWTON	NEWTON	0.0021	Confirmed LTF	0.0021
FARMERCITY	FARMERCITY	0.0001	Confirmed LTF	0.0001
CALDERWOOD	CALDERWOOD	0.0010	Confirmed LTF	0.0010
NY	NY	0.0028	Confirmed LTF	0.0028
PRAIRIE	PRAIRIE	0.0052	Confirmed LTF	0.0052
CHEOAH	CHEOAH	0.0010	Confirmed LTF	0.0010
EDWARDS	EDWARDS	0.0007	Confirmed LTF	0.0007
TILTON	TILTON	0.0013	Confirmed LTF	0.0013
GIBSON	GIBSON	0.0011	Confirmed LTF	0.0011
BLUEG	BLUEG	0.0035	Confirmed LTF	0.0035
TRIMBLE	TRIMBLE	0.0011	Confirmed LTF	0.0011
CATAWBA	CATAWBA	0.0007	Confirmed LTF	0.0007

#### 14.5.4 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
102000875	232241	VIENN_69	DP&L	232838	MARDELA	DP&L	1	DPL_P4-2_DP56	breaker	64.0	109.38	133.25	DC	15.28

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232417	X3-008 C	0.1889	50/50	0.1889
232418	X3-008 E	1.7872	50/50	1.7872
232426	Y1-080 FULL	0.0384	50/50	0.0384
232427	Y1-080 E	0.3652	50/50	0.3652
232919	VN10	0.3322	50/50	0.3322
924831	AB2-136 C	4.0942	50/50	4.0942
924832	AB2-136 E	4.3419	50/50	4.3419
925151	AB2-172 C OP	2.7385	50/50	2.7385
925152	AB2-172 E OP	4.4680	50/50	4.4680
927031	AC1-190 C	5.1726	50/50	5.1726
927032	AC1-190 E	2.2169	50/50	2.2169
938651	AE1-087 C	2.3061	50/50	2.3061
938652	AE1-087 E	0.5765	50/50	0.5765
939152	AE1-145 BAT	1.9916	Merchant Transmission	1.9916
945663	AF1-231 BAT	1.9002	50/50	1.9002
945782	AF1-243 BAT	0.5014	50/50	0.5014
945792	AF1-244 BAT	0.9508	50/50	0.9508
946041	AF1-269 (Withdrawn : 05/12/2020)	1.9129	50/50	1.9129
957613	AF2-055 BAT	3.0081	50/50	3.0081
957662	AF2-060 BAT	0.4750	Merchant Transmission	0.4750
957672	AF2-061 BAT	2.0721	Merchant Transmission	2.0721
959583	AF2-249 BAT	0.3913	50/50	0.3913
960341	AF2-325 C	0.6624	50/50	0.6624
960342	AF2-325 E	0.9147	50/50	0.9147
960671	AF2-358 C O2	9.1650	50/50	9.1650
960672	AF2-358 E O2	6.1100	50/50	6.1100
960871	AF2-378 C	0.1795	50/50	0.1795
960872	AF2-378 E	0.2490	50/50	0.2490
961181	AF2-409 O2	1.5015	Adder	3.33
WEC	WEC	0.0095	Confirmed LTF	0.0095
LGEE	LGEE	0.0171	Confirmed LTF	0.0171
CPLE	CPLE	0.0198	Confirmed LTF	0.0198
G-007A	G-007A	0.0527	Confirmed LTF	0.0527
VFT	VFT	0.1548	Confirmed LTF	0.1548
CBM-W2	CBM-W2	0.2457	Confirmed LTF	0.2457
CBM-W1	CBM-W1	0.3753	Confirmed LTF	0.3753
TVA	TVA	0.0420	Confirmed LTF	0.0420
CBM-S2	CBM-S2	0.1734	Confirmed LTF	0.1734
CBM-S1	CBM-S1	0.2556	Confirmed LTF	0.2556
MEC	MEC	0.0477	Confirmed LTF	0.0477

14.5.5 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
153548877	924830	AB2-136	DP&L	232238	WCAMBRDG	DP&L	1	DPL_P1_2_CKT 6715	single	72.0	38.89	122.22	DC	60.0

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924831	AB2-136 C	24.8000	80/20	24.8000
927031	AC1-190 C	35.0000	80/20	35.0000
960341	AF2-325 C	4.2000	80/20	4.2000
960671	AF2-358 C O2	60.0000	80/20	60.0000
960871	AF2-378 C	1.1100	80/20	1.1100

14.5.6 Index 6

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
99647358	200012	NEWFRDM	PJM	200028	WINDSOR	PJM	1	PECO_P4_PEACH205/ * \$ CHESCO \$ PEACH205 \$ STBK	breaker	3011.0	99.77	100.16	DC	25.24

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200036	SALEM-G1 (Deactivation : 01/10/2020)	60.1827	50/50	60.1827
200037	SALEM-G2 (Deactivation : 01/04/2020)	43.4484	50/50	43.4484
200039	HOPE CG1 (Deactivation : 01/10/2019)	44.5606	50/50	44.5606
200052	ROCKSP 1	5.6632	50/50	5.6632
200053	ROCKSP 2	5.6632	50/50	5.6632
200054	ROCKSP 3	5.7151	50/50	5.7151
200055	ROCKSP 4	5.7151	50/50	5.7151
200062	SALEM G3	11.6198	50/50	11.6198
219582	COXSCOSP1_E	0.0098	Adder	0.01
219614	COXSCOSP2_E	0.0098	Adder	0.01
219624	KINSLEYBEA E	0.3049	Adder	0.36
219664	THOROFSP1_E	0.0221	Adder	0.03
219666	THOROFSP2_E	0.0220	Adder	0.03
219684	THOSOLAR E	0.1223	Adder	0.14
219707	BEAVBRSP1_E	0.0213	Adder	0.03
219709	BEAVBRSP2_E	0.0214	Adder	0.03
227881	GRENWCHG	0.2621	Adder	0.31
227928	V4-067E	0.2552	Adder	0.3
228102	BLE#2 ST (Deactivation : 30/04/2019)	25.3519	Adder	29.83
228261	V4-054E	1.1056	Adder	1.3
228334	MANNMILG	1.4319	Adder	1.68
228343	QUINTN#1 (Deactivation : 26/04/2020)	0.2957	Adder	0.35
228357	V2-046E	2.1972	Adder	2.58
228712	V2-041E	0.4579	Adder	0.54
228721	V2-035E	0.2155	Adder	0.25
228733	AB1-119 E	0.1343	Adder	0.16
231708	CHRIST3	1.8983	Adder	2.23
231903	GEN4	2.2603	Adder	2.66
231904	DC1 NUG	5.8562	Adder	6.89
231905	DC2 NUG	5.8562	Adder	6.89
232003	CARTANZA	14.0660	50/50	14.0660
232405	W1-003 E	0.9786	Adder	1.15
232407	W1-004 E	0.9786	Adder	1.15
232409	W1-005 E	0.9786	Adder	1.15
232411	W1-006 E	0.9786	Adder	1.15
232412	X1-032 E	0.8686	Adder	1.02
232418	X3-008 E	2.6573	Adder	3.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232423	X3-066 E	0.7664	Adder	0.9
232425	Y1-079 E	1.2902	Adder	1.52
232427	Y1-080 E	0.4521	Adder	0.53
232429	Y3-058 E	2.0160	Adder	2.37
232433	Z2-076 E	0.4389	Adder	0.52
232435	Z2-077 E	0.4389	Adder	0.52
232436	AB1-176 C	0.3111	Adder	0.37
232922	MR3 (Deactivation : 01/06/2021)	22.8654	Adder	26.9
902092	W1-130E	0.9715	Adder	1.14
902432	W2-030 E	0.9580	Adder	1.13
913271	Y1-065 C	44.8879	50/50	44.8879
917082	Z2-012 E	2.6954	Adder	3.17
919831	AA2-069 (Suspended)	101.1009	Adder	118.94
923153	AB1-116 E	0.1407	Adder	0.17
923282	AB1-137 C	0.9181	Adder	1.08
923283	AB1-137 E	0.3935	Adder	0.46
923322	AB1-141 C OP	2.7759	Adder	3.27
923323	AB1-141 E OP	1.2954	Adder	1.52
923332	AB1-142 C OP	2.7759	Adder	3.27
923532	AB1-169AC	93.6776	Adder	110.21
923603	AB1-176 E	0.5130	Adder	0.6
923921	AB2-032 C	2.7965	Adder	3.29
923922	AB2-032 E	1.3160	Adder	1.55
923951	AB2-036 C	7.2721	Adder	8.56
923952	AB2-036 E	11.8979	Adder	14.0
923961	AB2-037 C	16.2909	Adder	19.17
923962	AB2-037 E	26.6135	Adder	31.31
924051	AB2-049 C	0.6981	Adder	0.82
924052	AB2-049 E	1.1391	Adder	1.34
924531	AB2-102 C	42.4977	Adder	50.0
924532	AB2-102 E	0.9444	Adder	1.11
924681	AB2-120 C OP	8.2607	Adder	9.72
924682	AB2-120 E OP	13.4780	Adder	15.86
924701	AB2-122 C	0.1103	Adder	0.13
924702	AB2-122 E	0.1891	Adder	0.22
924781	AB2-130 C OP	7.0304	Adder	8.27
924782	AB2-130 E OP	11.4707	Adder	13.49
924801	AB2-133 C OP	5.0161	Adder	5.9
924802	AB2-133 E OP	6.3619	Adder	7.48
924821	AB2-135 C	6.1913	Adder	7.28
924822	AB2-135 E	7.0610	Adder	8.31
924831	AB2-136 C	5.3320	Adder	6.27
924832	AB2-136 E	5.6545	Adder	6.65
924971	AB2-153 C	1.5627	Adder	1.84
924972	AB2-153 E	2.5497	Adder	3.0
925151	AB2-172 C OP	4.0717	Adder	4.79
925152	AB2-172 E OP	6.6434	Adder	7.82
925251	AB2-179 C OP	7.2335	Adder	8.51
925252	AB2-179 E OP	2.3855	Adder	2.81
925261	AB2-180 C	3.0349	Adder	3.57
925262	AB2-180 E	1.3007	Adder	1.53
925271	AB2-185 C OP	2.9134	Adder	3.43

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925272	AB2-185 E OP	1.2486	Adder	1.47
926131	AC1-091 C	1.9831	50/50	1.9831
926132	AC1-091 E	3.2522	50/50	3.2522
926141	AC1-092 C	1.9831	50/50	1.9831
926142	AC1-092 E	3.2522	50/50	3.2522
926151	AC1-093 C	1.8773	50/50	1.8773
926152	AC1-093 E	3.0936	50/50	3.0936
926161	AC1-094 C	1.5865	50/50	1.5865
926162	AC1-094 E	2.6177	50/50	2.6177
927031	AC1-190 C	7.5047	Adder	8.83
927032	AC1-190 E	3.2163	Adder	3.78
927191	AC1-213 C	0.6948	Adder	0.82
927192	AC1-213 E	0.4559	Adder	0.54
930001	AB1-001 C	0.1249	Adder	0.15
930002	AB1-001 E	0.2053	Adder	0.24
930201	AB1-056 C	14.0906	Adder	16.58
930202	AB1-056 E	40.1276	Adder	47.21
930881	AB1-137 C	0.9181	Adder	1.08
930882	AB1-137 E	0.3935	Adder	0.46
930932	AB1-142 E OP	1.2954	Adder	1.52
932081	AC2-018 C1	0.1910	50/50	0.1910
932082	AC2-018 E1	7.1978	50/50	7.1978
932091	AC2-018 C2	0.1910	50/50	0.1910
932092	AC2-018 E2	7.1978	50/50	7.1978
932161	AC2-023 C	5.7380	Adder	6.75
932162	AC2-023 E	4.1790	Adder	4.92
932361	AC2-050 C O1	0.5421	Adder	0.64
932362	AC2-050 E O1	0.8845	Adder	1.04
933631	AC2-185 C	4.0190	50/50	4.0190
933632	AC2-185 E	6.5574	50/50	6.5574
933641	AC2-186 C	4.1530	Adder	4.89
933642	AC2-186 E	6.7759	Adder	7.97
933962	AD1-019 E	1.1994	Adder	1.41
936451	AD2-059 C	0.0442	Adder	0.05
936452	AD2-059 E	0.1387	Adder	0.16
936491	AD2-064 C (Withdrawn : 06/16/2020)	0.0975	Adder	0.11
936492	AD2-064 E (Withdrawn : 06/16/2020)	0.1343	Adder	0.16
936501	AD2-065 C	0.1922	Adder	0.23
936502	AD2-065 E	0.2651	Adder	0.31
936611	AD2-076 C O1	3.8176	Adder	4.49
936612	AD2-076 E O1	6.2288	Adder	7.33
937011	AD2-135 C	0.1158	Adder	0.14
937012	AD2-135 E	0.1969	Adder	0.23
937281	AD2-167	2.4832	50/50	2.4832
938421	AE1-061 C	0.4687	Adder	0.55
938422	AE1-061 E	0.4687	Adder	0.55
938431	AE1-062 C	1.8093	Adder	2.13
938432	AE1-062 E	1.8093	Adder	2.13
938651	AE1-087 C	3.4288	Adder	4.03
938652	AE1-087 E	0.8572	Adder	1.01
938781	AE1-104 C O1	20.4636	Adder	24.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938782	AE1-104 E O1	52.3558	Adder	61.6
938811	AE1-107 C	5.9617	Adder	7.01
938812	AE1-107 E	4.2501	Adder	5.0
938871	AE1-115 C	1.7104	Adder	2.01
938872	AE1-115 E	1.7104	Adder	2.01
938891	AE1-117 C O1	9.0717	Adder	10.67
938892	AE1-117 E O1	24.1547	Adder	28.42
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	9.0713	Adder	10.67
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	24.1538	Adder	28.42
939151	AE1-145	4.3478	Adder	5.12
939301	AE1-161 C	3.4673	Adder	4.08
939302	AE1-161 E	5.2010	Adder	6.12
939501	AE1-179 C O1	6.3516	Adder	7.47
939502	AE1-179 E O1	4.4824	Adder	5.27
939621	AE1-192 C O1	10.2164	Adder	12.02
939622	AE1-192 E O1	4.9995	Adder	5.88
939821	AE1-218 C O1	0.1422	Adder	0.17
939822	AE1-218 E O1	0.2132	Adder	0.25
939831	AE1-219 C O1	0.3198	Adder	0.38
939832	AE1-219 E O1	0.4620	Adder	0.54
939931	AE1-229 C O1	15.5090	Adder	18.25
939932	AE1-229 E O1	10.5078	Adder	12.36
940001	AE1-240 C O1	5.2593	Adder	6.19
940002	AE1-240 E O1	3.7541	Adder	4.42
940361	AE2-020 C	16.4835	Adder	19.39
940362	AE2-020 E	77.1768	Adder	90.8
940371	AE2-021 C	16.4835	Adder	19.39
940372	AE2-021 E	77.1768	Adder	90.8
940381	AE2-022 C	9.6154	Adder	11.31
940382	AE2-022 E	45.0198	Adder	52.96
940741	AE2-061	0.3343	50/50	0.3343
940772	AE2-064 E	0.1486	Adder	0.17
941021	AE2-093 C	4.1593	Adder	4.89
941022	AE2-093 E	6.6084	Adder	7.77
941181	AE2-112 C	1.3245	Adder	1.56
941182	AE2-112 E	2.1610	Adder	2.54
942101	AE2-222 C O1	13.4381	Adder	15.81
942102	AE2-222 E O1	33.7573	Adder	39.71
942381	AE2-251 C	52.2193	Adder	61.43
942382	AE2-251 E	133.6145	Adder	157.19
942441	AE2-257 C	7.2147	Adder	8.49
942442	AE2-257 E	19.0207	Adder	22.38
943071	AE2-334 C	5.1317	Adder	6.04
943072	AE2-334 E	2.7357	Adder	3.22
943361	AF1-007 C	0.4157	Adder	0.49
943362	AF1-007 E	1.1815	Adder	1.39
943441	AF1-015 C	1.3301	Adder	1.56
943442	AF1-015 E	1.8368	Adder	2.16
943651	AF1-036 C	1.7222	Adder	2.03

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943652	AF1-036 E	2.3783	Adder	2.8
943732	AF1-041 E	0.3766	Adder	0.44
944921	AF1-157 C O1	3.2714	Adder	3.85
944922	AF1-157 E O1	2.1809	Adder	2.57
944951	AF1-160 C	1.8093	Adder	2.13
944952	AF1-160 E	1.8998	Adder	2.24
945431	AF1-208 C O1	4.7617	Adder	5.6
945432	AF1-208 E O1	3.1744	Adder	3.73
945661	AF1-231 C	1.6520	Adder	1.94
945662	AF1-231 E	2.4780	Adder	2.92
945731	AF1-238 C	9.3207	Adder	10.97
945732	AF1-238 E	13.9810	Adder	16.45
945741	AF1-239 C	2.1931	Adder	2.58
945742	AF1-239 E	3.2897	Adder	3.87
945781	AF1-243	1.0869	Adder	1.28
945791	AF1-244	1.7368	Adder	2.04
945931	AF1-258	0.6937	Adder	0.82
945941	AF1-259	0.1648	Adder	0.19
945971	AF1-262	0.1564	Adder	0.18
946041	AF1-269 (Withdrawn : 05/12/2020)	2.3682	Adder	2.79
957221	AF2-016 C	10.1422	Adder	22.51
957222	AF2-016 E	15.2133	Adder	33.77
957251	AF2-019 C	1.5009	Adder	3.33
957252	AF2-019 E	2.2514	Adder	5.0
957261	AF2-020 C	0.7557	Adder	1.68
957262	AF2-020 E	1.1336	Adder	2.52
957281	AF2-022 C	1.9682	Adder	4.37
957282	AF2-022 E	2.9524	Adder	6.55
957291	AF2-023 C O2	1.8515	Adder	4.11
957292	AF2-023 E O2	2.7772	Adder	6.16
957301	AF2-024 C	1.5901	Adder	3.53
957302	AF2-024 E	2.3851	Adder	5.29
957311	AF2-025 C	0.6712	Adder	1.49
957312	AF2-025 E	1.0068	Adder	2.23
957321	AF2-026 C	1.1718	Adder	2.6
957322	AF2-026 E	1.7577	Adder	3.9
957611	AF2-055 C	4.0322	Adder	8.95
957612	AF2-055 E	1.7281	Adder	3.84
957641	AF2-058	0.2363	Adder	0.52
957661	AF2-060	1.0369	Adder	2.3
957671	AF2-061 O2	4.6090	Adder	10.23
958151	AF2-109 C	1.0807	Adder	2.4
958152	AF2-109 E	1.0807	Adder	2.4
958781	AF2-169 C O2 (Withdrawn : 06/09/2020)	0.3776	Adder	0.84
958782	AF2-169 E O2 (Withdrawn : 06/09/2020)	44.9287	Adder	99.73
958811	AF2-172 C	0.3626	Adder	0.8
958812	AF2-172 E	0.5916	Adder	1.31
958831	AF2-174 C	0.3493	Adder	0.78
958832	AF2-174 E	0.4824	Adder	1.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959021	AF2-193 C O2	13.8463	Adder	30.74
959022	AF2-193 E O2	37.3500	Adder	82.91
959031	AF2-194 C O2	13.8463	Adder	30.74
959032	AF2-194 E O2	37.3500	Adder	82.91
959051	AF2-196 C	1.0429	Adder	2.31
959052	AF2-196 E	2.4333	Adder	5.4
959111	AF2-202 C	0.1077	Adder	0.24
959112	AF2-202 E	0.1474	Adder	0.33
959161	AF2-207 C O2	2.3175	Adder	5.14
959162	AF2-207 E O2	3.4762	Adder	7.72
959571	AF2-248 C	0.3914	Adder	0.87
959572	AF2-248 E	0.4374	Adder	0.97
959581	AF2-249 C	0.0691	Adder	0.15
959582	AF2-249 E	0.2763	Adder	0.61
959591	AF2-250 C	0.1266	Adder	0.28
959592	AF2-250 E	0.0978	Adder	0.22
960221	AF2-313 C	1.3867	Adder	3.08
960222	AF2-313 E	0.7862	Adder	1.75
960341	AF2-325 C	0.4780	Adder	1.06
960342	AF2-325 E	0.6601	Adder	1.47
960671	AF2-358 C O2	6.8237	Adder	15.15
960672	AF2-358 E O2	4.5491	Adder	10.1
960871	AF2-378 C	0.1264	Adder	0.28
960872	AF2-378 E	0.1754	Adder	0.39
960881	AF2-379 C	0.1886	Adder	0.42
960882	AF2-379 E	0.2599	Adder	0.58
960941	AF2-385 C O2	5.5032	Adder	12.22
960942	AF2-385 E O2	3.1315	Adder	6.95
960961	AF2-387 C O2	7.4117	Adder	16.45
960962	AF2-387 E O2	3.7170	Adder	8.25
961181	AF2-409 O2	11.3652	Adder	25.23
999905	MARINGEN 2	0.6327	Adder	0.74
999906	PVILLEG 2	0.2667	Adder	0.31
NEWTON	NEWTON	1.6805	Confirmed LTF	1.6805
FARMERCITY	FARMERCITY	0.0873	Confirmed LTF	0.0873
CALDERWOOD	CALDERWOOD	0.7535	Confirmed LTF	0.7535
NY	NY	3.2483	Confirmed LTF	3.2483
PRAIRIE	PRAIRIE	4.0191	Confirmed LTF	4.0191
O-066	O-066	49.8557	Confirmed LTF	49.8557
CHEOAH	CHEOAH	0.7578	Confirmed LTF	0.7578
EDWARDS	EDWARDS	0.5498	Confirmed LTF	0.5498
TILTON	TILTON	0.9897	Confirmed LTF	0.9897
G-007	G-007	7.1448	Confirmed LTF	7.1448
MADISON	MADISON	0.0242	Confirmed LTF	0.0242
GIBSON	GIBSON	0.8550	Confirmed LTF	0.8550
BLUEG	BLUEG	2.7186	Confirmed LTF	2.7186
TRIMBLE	TRIMBLE	0.8715	Confirmed LTF	0.8715
CATAWBA	CATAWBA	0.5159	Confirmed LTF	0.5159

## 14.5.7 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
102000925	232230	TRAP ALT	DP&L	232232	TRAPPETP	DP&L	1	DPL_P4-2_DP11	breaker	173.0	92.39	112.35	DC	34.7

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.2932	50/50	0.2932
232405	W1-003 E	0.4937	50/50	0.4937
232406	W1-004 FULL	0.2932	50/50	0.2932
232407	W1-004 E	0.4937	50/50	0.4937
232408	W1-005 C	0.2932	50/50	0.2932
232409	W1-005 E	0.4937	50/50	0.4937
232410	W1-006 C	0.2932	50/50	0.2932
232411	W1-006 E	0.4937	50/50	0.4937
232412	X1-032 E	0.4570	50/50	0.4570
232417	X3-008 C	0.5005	50/50	0.5005
232418	X3-008 E	4.7346	50/50	4.7346
232426	Y1-080 FULL	0.0578	50/50	0.0578
232427	Y1-080 E	0.5493	50/50	0.5493
232428	Y3-058 C	0.1469	50/50	0.1469
232429	Y3-058 E	1.3891	50/50	1.3891
232433	Z2-076 E	0.1460	Adder	0.17
232435	Z2-077 E	0.1460	Adder	0.17
232905	BAYVIEW1	0.2360	50/50	0.2360
232907	VN8	3.8101	50/50	3.8101
232919	VN10	0.3829	50/50	0.3829
232921	TASLEY2G	0.4135	50/50	0.4135
232926	CRISFLD1	0.1990	50/50	0.1990
293670	O-025 C	0.1336	50/50	0.1336
917081	Z2-012 C	0.1435	50/50	0.1435
917082	Z2-012 E	1.3571	50/50	1.3571
918831	AA1-102	0.7463	50/50	0.7463
923282	AB1-137 C	0.2780	Adder	0.33
923283	AB1-137 E	0.1192	Adder	0.14
924681	AB2-120 C OP	3.5213	Adder	4.14
924682	AB2-120 E OP	5.7454	Adder	6.76
924781	AB2-130 C OP	3.7193	50/50	3.7193
924782	AB2-130 E OP	6.0684	50/50	6.0684
924831	AB2-136 C	7.3691	50/50	7.3691
924832	AB2-136 E	7.8148	50/50	7.8148
925151	AB2-172 C OP	7.2546	50/50	7.2546
925152	AB2-172 E OP	11.8364	50/50	11.8364
925261	AB2-180 C	2.0912	50/50	2.0912
925262	AB2-180 E	0.8962	50/50	0.8962
927031	AC1-190 C	12.8460	50/50	12.8460
927032	AC1-190 E	5.5055	50/50	5.5055
927191	AC1-213 C	0.4130	50/50	0.4130
927192	AC1-213 E	0.2710	50/50	0.2710

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	3.9758	Adder	4.68
930202	AB1-056 E	11.3223	Adder	13.32
930881	AB1-137 C	0.2780	Adder	0.33
930882	AB1-137 E	0.1192	Adder	0.14
932161	AC2-023 C	4.3375	50/50	4.3375
932162	AC2-023 E	3.1590	50/50	3.1590
938651	AE1-087 C	6.1091	50/50	6.1091
938652	AE1-087 E	1.5273	50/50	1.5273
938891	AE1-117 C O1	2.7543	Adder	3.24
938892	AE1-117 E O1	7.3337	Adder	8.63
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.7659	Adder	3.25
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	7.3647	Adder	8.66
939151	AE1-145	1.8552	Adder	2.18
939621	AE1-192 C O1	5.1437	50/50	5.1437
939622	AE1-192 E O1	2.5171	50/50	2.5171
942441	AE2-257 C	2.1683	Adder	2.55
942442	AE2-257 E	5.7163	Adder	6.73
943361	AF1-007 C	0.1173	Adder	0.14
943362	AF1-007 E	0.3334	Adder	0.39
944921	AF1-157 C O1	1.2667	Adder	1.49
944922	AF1-157 E O1	0.8445	Adder	0.99
945661	AF1-231 C	0.7069	Adder	0.83
945662	AF1-231 E	1.0604	Adder	1.25
945781	AF1-243	0.5472	50/50	0.5472
945791	AF1-244	0.9230	50/50	0.9230
945931	AF1-258	0.4780	50/50	0.4780
946041	AF1-269 (Withdrawn : 05/12/2020)	2.8774	50/50	2.8774
957611	AF2-055 C	3.8304	50/50	3.8304
957612	AF2-055 E	1.6416	50/50	1.6416
957661	AF2-060	0.4425	Adder	0.98
957671	AF2-061 O2	1.9590	Adder	4.35
959021	AF2-193 C O2	2.8424	Adder	6.31
959022	AF2-193 E O2	7.6672	Adder	17.02
959031	AF2-194 C O2	2.8424	Adder	6.31
959032	AF2-194 E O2	7.6672	Adder	17.02
959051	AF2-196 C	0.3134	Adder	0.7
959052	AF2-196 E	0.7313	Adder	1.62
959161	AF2-207 C O2	2.3890	50/50	2.3890
959162	AF2-207 E O2	3.5834	50/50	3.5834
959571	AF2-248 C	0.4229	50/50	0.4229
959572	AF2-248 E	0.4727	50/50	0.4727
959581	AF2-249 C	0.0746	50/50	0.0746
959582	AF2-249 E	0.2985	50/50	0.2985
959591	AF2-250 C	0.1368	50/50	0.1368
959592	AF2-250 E	0.1057	50/50	0.1057
960341	AF2-325 C	1.3732	50/50	1.3732
960342	AF2-325 E	1.8963	50/50	1.8963
960671	AF2-358 C O2	20.8194	50/50	20.8194

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960672	AF2-358 E O2	13.8796	50/50	13.8796
960871	AF2-378 C	0.3451	50/50	0.3451
960872	AF2-378 E	0.4787	50/50	0.4787
960881	AF2-379 C	0.1997	50/50	0.1997
960882	AF2-379 E	0.2751	50/50	0.2751
960941	AF2-385 C O2	5.8082	50/50	5.8082
960942	AF2-385 E O2	3.3051	50/50	3.3051
961181	AF2-409 O2	14.4370	50/50	14.4370
NEWTON	NEWTON	0.0731	Confirmed LTF	0.0731
FARMERCITY	FARMERCITY	0.0038	Confirmed LTF	0.0038
CALDERWOOD	CALDERWOOD	0.0338	Confirmed LTF	0.0338
NY	NY	0.0271	Confirmed LTF	0.0271
PRAIRIE	PRAIRIE	0.1756	Confirmed LTF	0.1756
O-066	O-066	0.2822	Confirmed LTF	0.2822
CHEOAH	CHEOAH	0.0340	Confirmed LTF	0.0340
EDWARDS	EDWARDS	0.0238	Confirmed LTF	0.0238
TILTON	TILTON	0.0428	Confirmed LTF	0.0428
G-007	G-007	0.0364	Confirmed LTF	0.0364
GIBSON	GIBSON	0.0371	Confirmed LTF	0.0371
BLUEG	BLUEG	0.1180	Confirmed LTF	0.1180
TRIMBLE	TRIMBLE	0.0378	Confirmed LTF	0.0378
CATAWBA	CATAWBA	0.0238	Confirmed LTF	0.0238

## 14.5.8 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
102000926	232232	TRAPPETP	DP&L	232227	EASTN_69	DP&L	1	DPL_P4-2_DP11	breaker	173.0	90.87	111.54	DC	35.93

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.3036	50/50	0.3036
232405	W1-003 E	0.5112	50/50	0.5112
232406	W1-004 FULL	0.3036	50/50	0.3036
232407	W1-004 E	0.5112	50/50	0.5112
232408	W1-005 C	0.3036	50/50	0.3036
232409	W1-005 E	0.5112	50/50	0.5112
232410	W1-006 C	0.3036	50/50	0.3036
232411	W1-006 E	0.5112	50/50	0.5112
232412	X1-032 E	0.4732	50/50	0.4732
232417	X3-008 C	0.5183	50/50	0.5183
232418	X3-008 E	4.9023	50/50	4.9023
232426	Y1-080 FULL	0.0598	50/50	0.0598
232427	Y1-080 E	0.5688	50/50	0.5688
232428	Y3-058 C	0.1521	50/50	0.1521
232429	Y3-058 E	1.4383	50/50	1.4383
232433	Z2-076 E	0.1512	Adder	0.18
232435	Z2-077 E	0.1512	Adder	0.18
232905	BAYVIEW1	0.2443	50/50	0.2443
232907	VN8	3.9453	50/50	3.9453
232919	VN10	0.3965	50/50	0.3965
232921	TASLEY2G	0.4282	50/50	0.4282
232926	CRISFLD1	0.2061	50/50	0.2061
293670	O-025 C	0.1383	50/50	0.1383
917081	Z2-012 C	0.1486	50/50	0.1486
917082	Z2-012 E	1.4052	50/50	1.4052
918831	AA1-102	0.7727	50/50	0.7727
923282	AB1-137 C	0.2879	Adder	0.34
923283	AB1-137 E	0.1234	Adder	0.15
924681	AB2-120 C OP	3.6460	Adder	4.29
924682	AB2-120 E OP	5.9488	Adder	7.0
924781	AB2-130 C OP	3.8511	50/50	3.8511
924782	AB2-130 E OP	6.2834	50/50	6.2834
924831	AB2-136 C	7.6302	50/50	7.6302
924832	AB2-136 E	8.0917	50/50	8.0917
925151	AB2-172 C OP	7.5117	50/50	7.5117
925152	AB2-172 E OP	12.2559	50/50	12.2559
925261	AB2-180 C	2.1652	50/50	2.1652
925262	AB2-180 E	0.9280	50/50	0.9280
927031	AC1-190 C	13.3011	50/50	13.3011
927032	AC1-190 E	5.7005	50/50	5.7005
927191	AC1-213 C	0.4276	50/50	0.4276
927192	AC1-213 E	0.2806	50/50	0.2806

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	4.1164	Adder	4.84
930202	AB1-056 E	11.7229	Adder	13.79
930881	AB1-137 C	0.2879	Adder	0.34
930882	AB1-137 E	0.1234	Adder	0.15
932161	AC2-023 C	4.4912	50/50	4.4912
932162	AC2-023 E	3.2710	50/50	3.2710
938651	AE1-087 C	6.3256	50/50	6.3256
938652	AE1-087 E	1.5814	50/50	1.5814
938891	AE1-117 C O1	2.8516	Adder	3.35
938892	AE1-117 E O1	7.5929	Adder	8.93
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.8640	Adder	3.37
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	7.6258	Adder	8.97
939151	AE1-145	1.9210	Adder	2.26
939621	AE1-192 C O1	5.3260	50/50	5.3260
939622	AE1-192 E O1	2.6064	50/50	2.6064
942441	AE2-257 C	2.2451	Adder	2.64
942442	AE2-257 E	5.9190	Adder	6.96
943361	AF1-007 C	0.1214	Adder	0.14
943362	AF1-007 E	0.3452	Adder	0.41
944921	AF1-157 C O1	1.3116	Adder	1.54
944922	AF1-157 E O1	0.8744	Adder	1.03
945661	AF1-231 C	0.7320	Adder	0.86
945662	AF1-231 E	1.0980	Adder	1.29
945781	AF1-243	0.5666	50/50	0.5666
945791	AF1-244	0.9557	50/50	0.9557
945931	AF1-258	0.4949	50/50	0.4949
946041	AF1-269 (Withdrawn : 05/12/2020)	2.9792	50/50	2.9792
957611	AF2-055 C	3.9662	50/50	3.9662
957612	AF2-055 E	1.6998	50/50	1.6998
957661	AF2-060	0.4582	Adder	1.02
957671	AF2-061 O2	2.0283	Adder	4.5
959021	AF2-193 C O2	2.9432	Adder	6.53
959022	AF2-193 E O2	7.9391	Adder	17.62
959031	AF2-194 C O2	2.9432	Adder	6.53
959032	AF2-194 E O2	7.9391	Adder	17.62
959051	AF2-196 C	0.3245	Adder	0.72
959052	AF2-196 E	0.7572	Adder	1.68
959161	AF2-207 C O2	2.4736	50/50	2.4736
959162	AF2-207 E O2	3.7104	50/50	3.7104
959571	AF2-248 C	0.4379	50/50	0.4379
959572	AF2-248 E	0.4894	50/50	0.4894
959581	AF2-249 C	0.0773	50/50	0.0773
959582	AF2-249 E	0.3091	50/50	0.3091
959591	AF2-250 C	0.1417	50/50	0.1417
959592	AF2-250 E	0.1095	50/50	0.1095
960341	AF2-325 C	1.4218	50/50	1.4218
960342	AF2-325 E	1.9635	50/50	1.9635
960671	AF2-358 C O2	21.5568	50/50	21.5568

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960672	AF2-358 E O2	14.3712	50/50	14.3712
960871	AF2-378 C	0.3573	50/50	0.3573
960872	AF2-378 E	0.4957	50/50	0.4957
960881	AF2-379 C	0.2067	50/50	0.2067
960882	AF2-379 E	0.2849	50/50	0.2849
960941	AF2-385 C O2	6.0142	50/50	6.0142
960942	AF2-385 E O2	3.4223	50/50	3.4223
961181	AF2-409 O2	14.9490	50/50	14.9490
NEWTON	NEWTON	0.0752	Confirmed LTF	0.0752
FARMERCITY	FARMERCITY	0.0039	Confirmed LTF	0.0039
CALDERWOOD	CALDERWOOD	0.0348	Confirmed LTF	0.0348
NY	NY	0.0288	Confirmed LTF	0.0288
PRAIRIE	PRAIRIE	0.1808	Confirmed LTF	0.1808
O-066	O-066	0.2890	Confirmed LTF	0.2890
CHEOAH	CHEOAH	0.0350	Confirmed LTF	0.0350
EDWARDS	EDWARDS	0.0245	Confirmed LTF	0.0245
TILTON	TILTON	0.0441	Confirmed LTF	0.0441
G-007	G-007	0.0374	Confirmed LTF	0.0374
GIBSON	GIBSON	0.0382	Confirmed LTF	0.0382
BLUEG	BLUEG	0.1215	Confirmed LTF	0.1215
TRIMBLE	TRIMBLE	0.0390	Confirmed LTF	0.0390
CATAWBA	CATAWBA	0.0245	Confirmed LTF	0.0245

14.5.9 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
102000764	232233	PRESTON	DP&L	232821	TANYARD	DP&L	1	DPL_P4-2_DP12	breaker	93.0	97.27	134.31	DC	34.44

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	0.3209	Adder	0.38
232407	W1-004 E	0.3209	Adder	0.38
232409	W1-005 E	0.3209	Adder	0.38
232411	W1-006 E	0.3209	Adder	0.38
232412	X1-032 E	0.3024	Adder	0.36
232417	X3-008 C	0.5015	50/50	0.5015
232418	X3-008 E	4.7431	50/50	4.7431
232426	Y1-080 FULL	0.0554	50/50	0.0554
232427	Y1-080 E	0.5267	50/50	0.5267
232428	Y3-058 C	0.1256	50/50	0.1256
232429	Y3-058 E	1.1881	50/50	1.1881
232433	Z2-076 E	0.0980	Adder	0.12
232435	Z2-077 E	0.0980	Adder	0.12
232907	VN8	3.2237	50/50	3.2237
232919	VN10	0.3555	50/50	0.3555
293670	O-025 C	0.1092	50/50	0.1092
917082	Z2-012 E	0.8812	Adder	1.04
924681	AB2-120 C OP	2.6854	Adder	3.16
924682	AB2-120 E OP	4.3815	Adder	5.15
924781	AB2-130 C OP	2.5102	Adder	2.95
924782	AB2-130 E OP	4.0956	Adder	4.82
924831	AB2-136 C	7.1858	50/50	7.1858
924832	AB2-136 E	7.6204	50/50	7.6204
925151	AB2-172 C OP	7.2677	50/50	7.2677
925152	AB2-172 E OP	11.8578	50/50	11.8578
925261	AB2-180 C	1.7885	50/50	1.7885
925262	AB2-180 E	0.7665	50/50	0.7665
927031	AC1-190 C	12.8205	50/50	12.8205
927032	AC1-190 E	5.4945	50/50	5.4945
927191	AC1-213 C	0.3375	50/50	0.3375
927192	AC1-213 E	0.2215	50/50	0.2215
932161	AC2-023 C	3.8017	50/50	3.8017
932162	AC2-023 E	2.7688	50/50	2.7688
938651	AE1-087 C	6.1202	50/50	6.1202
938652	AE1-087 E	1.5300	50/50	1.5300
939151	AE1-145	1.4156	Adder	1.67
939621	AE1-192 C O1	3.3402	Adder	3.93
939622	AE1-192 E O1	1.6346	Adder	1.92
944921	AF1-157 C O1	0.9360	Adder	1.1
944922	AF1-157 E O1	0.6240	Adder	0.73
945661	AF1-231 C	0.5401	Adder	0.64
945662	AF1-231 E	0.8101	Adder	0.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
945781	AF1-243	0.3553	Adder	0.42
945791	AF1-244	0.6131	Adder	0.72
945931	AF1-258	0.4088	50/50	0.4088
946041	AF1-269 (Withdrawn : 05/12/2020)	2.7587	50/50	2.7587
957611	AF2-055 C	1.3183	Adder	2.93
957612	AF2-055 E	0.5650	Adder	1.25
957661	AF2-060	0.3376	Adder	0.75
957671	AF2-061 O2	1.4921	Adder	3.31
959161	AF2-207 C O2	0.8518	Adder	1.89
959162	AF2-207 E O2	1.2777	Adder	2.84
959571	AF2-248 C	0.3419	50/50	0.3419
959572	AF2-248 E	0.3821	50/50	0.3821
959581	AF2-249 C	0.0603	50/50	0.0603
959582	AF2-249 E	0.2413	50/50	0.2413
959591	AF2-250 C	0.1106	50/50	0.1106
959592	AF2-250 E	0.0855	50/50	0.0855
960341	AF2-325 C	1.3541	50/50	1.3541
960342	AF2-325 E	1.8700	50/50	1.8700
960671	AF2-358 C O2	20.6616	50/50	20.6616
960672	AF2-358 E O2	13.7744	50/50	13.7744
960871	AF2-378 C	0.3383	50/50	0.3383
960872	AF2-378 E	0.4694	50/50	0.4694
960881	AF2-379 C	0.0719	Adder	0.16
960882	AF2-379 E	0.0990	Adder	0.22
960941	AF2-385 C O2	2.1008	Adder	4.66
960942	AF2-385 E O2	1.1955	Adder	2.65
961181	AF2-409 O2	12.2150	50/50	12.2150
NEWTON	NEWTON	0.0484	Confirmed LTF	0.0484
FARMERCITY	FARMERCITY	0.0025	Confirmed LTF	0.0025
CALDERWOOD	CALDERWOOD	0.0224	Confirmed LTF	0.0224
NY	NY	0.0205	Confirmed LTF	0.0205
PRAIRIE	PRAIRIE	0.1162	Confirmed LTF	0.1162
O-066	O-066	0.2285	Confirmed LTF	0.2285
CHEOAH	CHEOAH	0.0225	Confirmed LTF	0.0225
EDWARDS	EDWARDS	0.0157	Confirmed LTF	0.0157
TILTON	TILTON	0.0283	Confirmed LTF	0.0283
G-007	G-007	0.0322	Confirmed LTF	0.0322
GIBSON	GIBSON	0.0246	Confirmed LTF	0.0246
BLUEG	BLUEG	0.0781	Confirmed LTF	0.0781
TRIMBLE	TRIMBLE	0.0250	Confirmed LTF	0.0250
CATAWBA	CATAWBA	0.0157	Confirmed LTF	0.0157

14.5.10 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
102000890	232838	MARDELA	DP&L	232270	HEBRON	DP&L	1	DPL_P4-2_DP56	breaker	64.0	99.07	122.94	DC	15.28

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232417	X3-008 C	0.1889	50/50	0.1889
232418	X3-008 E	1.7872	50/50	1.7872
232426	Y1-080 FULL	0.0384	50/50	0.0384
232427	Y1-080 E	0.3652	50/50	0.3652
232919	VN10	0.3322	50/50	0.3322
924831	AB2-136 C	4.0942	50/50	4.0942
924832	AB2-136 E	4.3419	50/50	4.3419
925151	AB2-172 C OP	2.7385	50/50	2.7385
925152	AB2-172 E OP	4.4680	50/50	4.4680
927031	AC1-190 C	5.1726	50/50	5.1726
927032	AC1-190 E	2.2169	50/50	2.2169
938651	AE1-087 C	2.3061	50/50	2.3061
938652	AE1-087 E	0.5765	50/50	0.5765
939152	AE1-145 BAT	1.9916	Merchant Transmission	1.9916
945663	AF1-231 BAT	1.9002	50/50	1.9002
945782	AF1-243 BAT	0.5014	50/50	0.5014
945792	AF1-244 BAT	0.9508	50/50	0.9508
946041	AF1-269 (Withdrawn : 05/12/2020)	1.9129	50/50	1.9129
957613	AF2-055 BAT	3.0081	50/50	3.0081
957662	AF2-060 BAT	0.4750	Merchant Transmission	0.4750
957672	AF2-061 BAT	2.0721	Merchant Transmission	2.0721
959583	AF2-249 BAT	0.3913	50/50	0.3913
960341	AF2-325 C	0.6624	50/50	0.6624
960342	AF2-325 E	0.9147	50/50	0.9147
960671	AF2-358 C O2	9.1650	50/50	9.1650
960672	AF2-358 E O2	6.1100	50/50	6.1100
960871	AF2-378 C	0.1795	50/50	0.1795
960872	AF2-378 E	0.2490	50/50	0.2490
961181	AF2-409 O2	1.5015	Adder	3.33
WEC	WEC	0.0095	Confirmed LTF	0.0095
LGEE	LGEE	0.0171	Confirmed LTF	0.0171
CPLE	CPLE	0.0198	Confirmed LTF	0.0198
G-007A	G-007A	0.0527	Confirmed LTF	0.0527
VFT	VFT	0.1548	Confirmed LTF	0.1548
CBM-W2	CBM-W2	0.2457	Confirmed LTF	0.2457
CBM-W1	CBM-W1	0.3753	Confirmed LTF	0.3753
TVA	TVA	0.0420	Confirmed LTF	0.0420
CBM-S2	CBM-S2	0.1734	Confirmed LTF	0.1734
CBM-S1	CBM-S1	0.2556	Confirmed LTF	0.2556
MEC	MEC	0.0477	Confirmed LTF	0.0477

## 14.5.11 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
99647179	200051	ROCKSPGS	PJM	200065	PCHBTM2S	PJM	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	143.25	144.05	DC	50.67

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200052	ROCKSP 1	16.6890	50/50	16.6890
200053	ROCKSP 2	16.6890	50/50	16.6890
200054	ROCKSP 3	16.8421	50/50	16.8421
200055	ROCKSP 4	16.8421	50/50	16.8421
200062	SALEM G3	16.2247	Adder	19.09
227928	V4-067E	0.4406	Adder	0.52
228102	BLE#2 ST (Deactivation : 30/04/2019)	42.5055	Adder	50.01
228261	V4-054E	1.7764	Adder	2.09
228334	MANNMILG	2.3111	Adder	2.72
228343	QUINTN#1 (Deactivation : 26/04/2020)	0.4777	Adder	0.56
228357	V2-046E	3.5420	Adder	4.17
228712	V2-041E	0.7384	Adder	0.87
228721	V2-035E	0.3430	Adder	0.4
228733	AB1-119 E	0.2013	Adder	0.24
231708	CHRIST3	3.9092	Adder	4.6
231903	GEN4	4.5764	Adder	5.38
231904	DC1 NUG	11.8569	Adder	13.95
231905	DC2 NUG	11.8569	Adder	13.95
231911	HR5	11.3695	50/50	11.3695
231912	HR6	11.3695	50/50	11.3695
231913	HR7	11.3695	50/50	11.3695
231914	HR8	17.2816	50/50	17.2816
232003	CARTANZA	27.4782	50/50	27.4782
232405	W1-003 E	1.9515	Adder	2.3
232407	W1-004 E	1.9515	Adder	2.3
232409	W1-005 E	1.9515	Adder	2.3
232411	W1-006 E	1.9515	Adder	2.3
232412	X1-032 E	1.7334	Adder	2.04
232418	X3-008 E	5.3366	Adder	6.28
232423	X3-066 E	1.5503	Adder	1.82
232425	Y1-079 E	2.6117	Adder	3.07
232427	Y1-080 E	0.9063	Adder	1.07
232429	Y3-058 E	4.0261	Adder	4.74
232433	Z2-076 E	0.8725	Adder	1.03
232435	Z2-077 E	0.8725	Adder	1.03
232436	AB1-176 C	0.6293	Adder	0.74
232922	MR3 (Deactivation : 01/06/2021)	44.6678	Adder	52.55
902092	W1-130E	1.5601	Adder	1.84
902432	W2-030 E	1.6428	Adder	1.93

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
913271	Y1-065 C	132.2819	50/50	132.2819
917082	Z2-012 E	5.3751	Adder	6.32
919831	AA2-069 (Suspended)	197.5019	Adder	232.36
923153	AB1-116 E	0.2133	Adder	0.25
923282	AB1-137 C	1.8237	Adder	2.15
923283	AB1-137 E	0.7816	Adder	0.92
923322	AB1-141 C OP	5.6214	Adder	6.61
923323	AB1-141 E OP	2.6233	Adder	3.09
923332	AB1-142 C OP	5.6214	Adder	6.61
923532	AB1-169AC	150.5350	Adder	177.1
923603	AB1-176 E	1.0377	Adder	1.22
923921	AB2-032 C	5.6630	Adder	6.66
923922	AB2-032 E	2.6649	Adder	3.14
923951	AB2-036 C	14.7305	Adder	17.33
923952	AB2-036 E	24.1005	Adder	28.35
923961	AB2-037 C	33.1367	Adder	38.98
923962	AB2-037 E	54.1333	Adder	63.69
924051	AB2-049 C	1.0480	Adder	1.23
924052	AB2-049 E	1.7099	Adder	2.01
924531	AB2-102 C	68.4675	Adder	80.55
924532	AB2-102 E	1.5215	Adder	1.79
924681	AB2-120 C OP	16.4727	Adder	19.38
924682	AB2-120 E OP	26.8765	Adder	31.62
924701	AB2-122 C	0.1904	Adder	0.22
924702	AB2-122 E	0.3264	Adder	0.38
924781	AB2-130 C OP	13.9977	Adder	16.47
924782	AB2-130 E OP	22.8383	Adder	26.87
924801	AB2-133 C OP	10.1386	Adder	11.93
924802	AB2-133 E OP	12.8588	Adder	15.13
924821	AB2-135 C	12.4478	Adder	14.64
924822	AB2-135 E	14.1963	Adder	16.7
924831	AB2-136 C	10.6939	Adder	12.58
924832	AB2-136 E	11.3407	Adder	13.34
924971	AB2-153 C	3.1646	Adder	3.72
924972	AB2-153 E	5.1633	Adder	6.07
925151	AB2-172 C OP	8.1771	Adder	9.62
925152	AB2-172 E OP	13.3415	Adder	15.7
925251	AB2-179 C OP	14.7173	Adder	17.31
925252	AB2-179 E OP	4.8536	Adder	5.71
925261	AB2-180 C	6.0608	Adder	7.13
925262	AB2-180 E	2.5975	Adder	3.06
925271	AB2-185 C OP	5.8973	Adder	6.94
925272	AB2-185 E OP	2.5274	Adder	2.97
926131	AC1-091 C	3.2822	Adder	3.86
926132	AC1-091 E	5.3828	Adder	6.33
926141	AC1-092 C	3.2822	Adder	3.86
926142	AC1-092 E	5.3828	Adder	6.33
926151	AC1-093 C	3.1071	Adder	3.66
926152	AC1-093 E	5.1202	Adder	6.02
926161	AC1-094 C	2.6257	Adder	3.09
926162	AC1-094 E	4.3325	Adder	5.1
927031	AC1-190 C	15.0684	Adder	17.73

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
927032	AC1-190 E	6.4579	Adder	7.6
927191	AC1-213 C	1.3862	Adder	1.63
927192	AC1-213 E	0.9097	Adder	1.07
930201	AB1-056 C	27.9738	Adder	32.91
930202	AB1-056 E	79.6645	Adder	93.72
930881	AB1-137 C	1.8237	Adder	2.15
930882	AB1-137 E	0.7816	Adder	0.92
930932	AB1-142 E OP	2.6233	Adder	3.09
932081	AC2-018 C1	0.5629	50/50	0.5629
932082	AC2-018 E1	21.2116	50/50	21.2116
932091	AC2-018 C2	0.5629	50/50	0.5629
932092	AC2-018 E2	21.2116	50/50	21.2116
932161	AC2-023 C	11.4670	Adder	13.49
932162	AC2-023 E	8.3515	Adder	9.83
933631	AC2-185 C	6.6519	Adder	7.83
933632	AC2-185 E	10.8530	Adder	12.77
933641	AC2-186 C	8.2210	Adder	9.67
933642	AC2-186 E	13.4132	Adder	15.78
933962	AD1-019 E	2.0666	Adder	2.43
936451	AD2-059 C	0.0915	Adder	0.11
936452	AD2-059 E	0.2872	Adder	0.34
936491	AD2-064 C (Withdrawn : 06/16/2020)	0.1461	Adder	0.17
936492	AD2-064 E (Withdrawn : 06/16/2020)	0.2013	Adder	0.24
936501	AD2-065 C	0.2923	Adder	0.34
936502	AD2-065 E	0.4032	Adder	0.47
936611	AD2-076 C O1	7.7313	Adder	9.1
936612	AD2-076 E O1	12.6143	Adder	14.84
937011	AD2-135 C	0.1697	Adder	0.2
937012	AD2-135 E	0.2885	Adder	0.34
937281	AD2-167	7.3177	50/50	7.3177
938421	AE1-061 C	0.7527	Adder	0.89
938422	AE1-061 E	0.7527	Adder	0.89
938431	AE1-062 C	2.7281	Adder	3.21
938432	AE1-062 E	2.7281	Adder	3.21
938651	AE1-087 C	6.8860	Adder	8.1
938652	AE1-087 E	1.7215	Adder	2.03
938781	AE1-104 C O1	34.3096	Adder	40.36
938782	AE1-104 E O1	87.7807	Adder	103.27
938811	AE1-107 C	12.1342	Adder	14.28
938812	AE1-107 E	8.6505	Adder	10.18
938871	AE1-115 C	2.7742	Adder	3.26
938872	AE1-115 E	2.7742	Adder	3.26
938891	AE1-117 C O1	18.0199	Adder	21.2
938892	AE1-117 E O1	47.9806	Adder	56.45
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	18.0195	Adder	21.2
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	47.9797	Adder	56.45
939151	AE1-145	8.6698	Adder	10.2

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939301	AE1-161 C	5.4777	Adder	6.44
939302	AE1-161 E	8.2166	Adder	9.67
939501	AE1-179 C O1	10.1819	Adder	11.98
939502	AE1-179 E O1	7.1855	Adder	8.45
939621	AE1-192 C O1	20.3733	Adder	23.97
939622	AE1-192 E O1	9.9699	Adder	11.73
939821	AE1-218 C O1	0.2175	Adder	0.26
939822	AE1-218 E O1	0.3262	Adder	0.38
939831	AE1-219 C O1	0.4893	Adder	0.58
939832	AE1-219 E O1	0.7068	Adder	0.83
939931	AE1-229 C O1	24.8457	Adder	29.23
939932	AE1-229 E O1	16.8337	Adder	19.8
940001	AE1-240 C O1	8.4379	Adder	9.93
940002	AE1-240 E O1	6.0229	Adder	7.09
940361	AE2-020 C	28.7011	Adder	33.77
940362	AE2-020 E	134.3805	Adder	158.09
940371	AE2-021 C	28.7011	Adder	33.77
940372	AE2-021 E	134.3805	Adder	158.09
940381	AE2-022 C	16.7423	Adder	19.7
940382	AE2-022 E	78.3886	Adder	92.22
940741	AE2-061	0.9851	50/50	0.9851
941021	AE2-093 C	8.4185	Adder	9.9
941022	AE2-093 E	13.3757	Adder	15.74
941181	AE2-112 C	2.6823	Adder	3.16
941182	AE2-112 E	4.3764	Adder	5.15
942101	AE2-222 C O1	23.1841	Adder	27.28
942102	AE2-222 E O1	58.2399	Adder	68.52
942381	AE2-251 C	90.9245	Adder	106.97
942382	AE2-251 E	232.6501	Adder	273.71
942441	AE2-257 C	14.3299	Adder	16.86
942442	AE2-257 E	37.7788	Adder	44.45
943071	AE2-334 C	7.8723	Adder	9.26
943072	AE2-334 E	4.1967	Adder	4.94
943361	AF1-007 C	0.8253	Adder	0.97
943362	AF1-007 E	2.3456	Adder	2.76
943441	AF1-015 C	2.6922	Adder	3.17
943442	AF1-015 E	3.7178	Adder	4.37
943651	AF1-036 C	3.4878	Adder	4.1
943652	AF1-036 E	4.8165	Adder	5.67
943732	AF1-041 E	0.6506	Adder	0.77
944921	AF1-157 C O1	6.5061	Adder	7.65
944922	AF1-157 E O1	4.3374	Adder	5.1
944951	AF1-160 C	2.7281	Adder	3.21
944952	AF1-160 E	2.8645	Adder	3.37
945431	AF1-208 C O1	7.6664	Adder	9.02
945432	AF1-208 E O1	5.1110	Adder	6.01
945661	AF1-231 C	3.2944	Adder	3.88
945662	AF1-231 E	4.9416	Adder	5.81
945731	AF1-238 C	14.9050	Adder	17.54
945732	AF1-238 E	22.3575	Adder	26.3
945741	AF1-239 C	3.5071	Adder	4.13
945742	AF1-239 E	5.2606	Adder	6.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
945781	AF1-243	2.1674	Adder	2.55
945791	AF1-244	3.4666	Adder	4.08
945931	AF1-258	1.3853	Adder	1.63
945941	AF1-259	0.3334	Adder	0.39
945971	AF1-262	0.2490	Adder	0.29
946041	AF1-269 (Withdrawn : 05/12/2020)	4.7471	Adder	5.58
957221	AF2-016 C	17.3652	Adder	38.55
957222	AF2-016 E	26.0477	Adder	57.82
957251	AF2-019 C	2.4710	Adder	5.49
957252	AF2-019 E	3.7066	Adder	8.23
957261	AF2-020 C	1.2145	Adder	2.7
957262	AF2-020 E	1.8218	Adder	4.04
957281	AF2-022 C	3.1768	Adder	7.05
957282	AF2-022 E	4.7653	Adder	10.58
957291	AF2-023 C O2	2.9847	Adder	6.63
957292	AF2-023 E O2	4.4770	Adder	9.94
957311	AF2-025 C	1.1550	Adder	2.56
957312	AF2-025 E	1.7325	Adder	3.85
957321	AF2-026 C	1.8860	Adder	4.19
957322	AF2-026 E	2.8291	Adder	6.28
957611	AF2-055 C	8.0410	Adder	17.85
957612	AF2-055 E	3.4461	Adder	7.65
957641	AF2-058	0.3796	Adder	0.84
957661	AF2-060	2.0678	Adder	4.59
957671	AF2-061 O2	9.1902	Adder	20.4
958151	AF2-109 C	2.1843	Adder	4.85
958152	AF2-109 E	2.1843	Adder	4.85
958781	AF2-169 C O2 (Withdrawn : 06/09/2020)	0.6574	Adder	1.46
958782	AF2-169 E O2 (Withdrawn : 06/09/2020)	78.2301	Adder	173.65
958811	AF2-172 C	0.5819	Adder	1.29
958812	AF2-172 E	0.9494	Adder	2.11
959021	AF2-193 C O2	27.4309	Adder	60.89
959022	AF2-193 E O2	73.9943	Adder	164.25
959031	AF2-194 C O2	27.4309	Adder	60.89
959032	AF2-194 E O2	73.9943	Adder	164.25
959051	AF2-196 C	2.0713	Adder	4.6
959052	AF2-196 E	4.8331	Adder	10.73
959111	AF2-202 C	0.1731	Adder	0.38
959112	AF2-202 E	0.2369	Adder	0.53
959161	AF2-207 C O2	4.6285	Adder	10.27
959162	AF2-207 E O2	6.9428	Adder	15.41
959571	AF2-248 C	0.7807	Adder	1.73
959572	AF2-248 E	0.8725	Adder	1.94
959581	AF2-249 C	0.1378	Adder	0.31
959582	AF2-249 E	0.5511	Adder	1.22
959591	AF2-250 C	0.2526	Adder	0.56
959592	AF2-250 E	0.1952	Adder	0.43
960221	AF2-313 C	2.8051	Adder	6.23
960222	AF2-313 E	1.5903	Adder	3.53

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960341	AF2-325 C	0.9592	Adder	2.13
960342	AF2-325 E	1.3246	Adder	2.94
960671	AF2-358 C O2	13.6969	Adder	30.4
960672	AF2-358 E O2	9.1313	Adder	20.27
960871	AF2-378 C	0.2536	Adder	0.56
960872	AF2-378 E	0.3518	Adder	0.78
960881	AF2-379 C	0.3766	Adder	0.84
960882	AF2-379 E	0.5189	Adder	1.15
960941	AF2-385 C O2	10.9758	Adder	24.36
960942	AF2-385 E O2	6.2457	Adder	13.86
960961	AF2-387 C O2	15.0109	Adder	33.32
960962	AF2-387 E O2	7.5280	Adder	16.71
961181	AF2-409 O2	22.8935	Adder	50.82
999905	MARINGEN 2	1.0891	Adder	1.28
999906	PVILLEG 2	0.4607	Adder	0.54
NEWTON	NEWTON	5.7851	Confirmed LTF	5.7851
FARMERCITY	FARMERCITY	0.3024	Confirmed LTF	0.3024
G-007A	G-007A	25.6916	Confirmed LTF	25.6916
VFT	VFT	55.8505	Confirmed LTF	55.8505
CALDERWOOD	CALDERWOOD	2.7509	Confirmed LTF	2.7509
PRAIRIE	PRAIRIE	13.9689	Confirmed LTF	13.9689
CHEOAH	CHEOAH	2.7728	Confirmed LTF	2.7728
EDWARDS	EDWARDS	1.8767	Confirmed LTF	1.8767
TILTON	TILTON	3.3793	Confirmed LTF	3.3793
GIBSON	GIBSON	2.9358	Confirmed LTF	2.9358
BLUEG	BLUEG	9.3362	Confirmed LTF	9.3362
TRIMBLE	TRIMBLE	2.9917	Confirmed LTF	2.9917
CATAWBA	CATAWBA	1.9831	Confirmed LTF	1.9831

14.5.12 Index 12

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
100302574	213559	DELCOTA P	PECO	228401	MCKLTO N	AE	1	PECO_P4_CHICH045/ * \$ DELCO \$ CHICH045 \$ STBK	breaker	725.0	108.31	108.82	DC	7.96

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
213400	COVANTA DELA	9.2810	50/50	9.2810
213888	PHLISCT1	10.7448	50/50	10.7448
213889	PHLISCT2	10.7448	50/50	10.7448
213890	PHLISCT3	10.7448	50/50	10.7448
213893	PHLISST1	14.8865	50/50	14.8865
227881	GRENWCHG	-0.1411	Adder	-0.17
228334	MANNMILG	-0.5475	Adder	-0.64
231505	HR4	9.2811	50/50	9.2811
231708	CHRIST3	1.6851	Adder	1.98
231900	EM5	22.5391	50/50	22.5391
231901	EM4	5.9917	50/50	5.9917
231903	GEN4	0.8905	Adder	1.05
231904	DC1 NUG	2.3072	Adder	2.71
231905	DC2 NUG	2.3072	Adder	2.71
231908	HR1	4.3044	50/50	4.3044
231909	HR2	4.2688	50/50	4.2688
231910	HR3	4.3044	50/50	4.3044
231916	EM3	2.9369	50/50	2.9369
232405	W1-003 E	0.2904	Adder	0.34
232407	W1-004 E	0.2904	Adder	0.34
232409	W1-005 E	0.2904	Adder	0.34
232411	W1-006 E	0.2904	Adder	0.34
232412	X1-032 E	0.2592	Adder	0.3
232418	X3-008 E	0.8424	Adder	0.99
232423	X3-066 E	0.2738	Adder	0.32
232425	Y1-079 E	0.4521	Adder	0.53
232427	Y1-080 E	0.1406	Adder	0.17
232429	Y3-058 E	0.6062	Adder	0.71
232436	AB1-176 C	0.1111	Adder	0.13
912161	X4-027 CT1	0.7192	50/50	0.7192
912162	X4-027 CT2	0.7254	50/50	0.7254
912163	X4-027 CT3	0.7254	50/50	0.7254
917082	Z2-012 E	0.7996	Adder	0.94
919901	AB1-000 1	2.1566	50/50	2.1566
919911	AB1-000 2	2.1566	50/50	2.1566
919921	AB1-000 3	2.1566	50/50	2.1566
923322	AB1-141 C OP	1.0003	Adder	1.18
923323	AB1-141 E OP	0.4668	Adder	0.55
923332	AB1-142 C OP	1.0003	Adder	1.18
923603	AB1-176 E	0.1833	Adder	0.22
923921	AB2-032 C	1.0077	Adder	1.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923922	AB2-032 E	0.4742	Adder	0.56
923951	AB2-036 C	2.5476	Adder	3.0
923952	AB2-036 E	4.1682	Adder	4.9
923961	AB2-037 C	5.5605	Adder	6.54
923962	AB2-037 E	9.0838	Adder	10.69
924681	AB2-120 C OP	2.4496	Adder	2.88
924682	AB2-120 E OP	3.9968	Adder	4.7
924801	AB2-133 C OP	1.8277	Adder	2.15
924802	AB2-133 E OP	2.3181	Adder	2.73
924821	AB2-135 C	2.1356	Adder	2.51
924822	AB2-135 E	2.4356	Adder	2.87
924831	AB2-136 C	1.6674	Adder	1.96
924832	AB2-136 E	1.7683	Adder	2.08
924971	AB2-153 C	0.5631	Adder	0.66
924972	AB2-153 E	0.9188	Adder	1.08
925151	AB2-172 C OP	1.2907	Adder	1.52
925152	AB2-172 E OP	2.1059	Adder	2.48
925251	AB2-179 C OP	3.0464	Adder	3.58
925252	AB2-179 E OP	1.0047	Adder	1.18
925261	AB2-180 C	0.9126	Adder	1.07
925262	AB2-180 E	0.3911	Adder	0.46
925271	AB2-185 C OP	1.0209	Adder	1.2
925272	AB2-185 E OP	0.4375	Adder	0.51
927031	AC1-190 C	2.3732	Adder	2.79
927032	AC1-190 E	1.0171	Adder	1.2
927191	AC1-213 C	0.2072	Adder	0.24
927192	AC1-213 E	0.1360	Adder	0.16
930932	AB1-142 E OP	0.4668	Adder	0.55
932161	AC2-023 C	1.7356	Adder	2.04
932162	AC2-023 E	1.2640	Adder	1.49
934661	AD1-097 1	3.4794	50/50	3.4794
934671	AD1-097 2	3.4794	50/50	3.4794
934681	AD1-097 3	3.4794	50/50	3.4794
934691	AD1-097 4	2.0596	50/50	2.0596
936451	AD2-059 C	0.0269	Adder	0.03
936452	AD2-059 E	0.0844	Adder	0.1
936611	AD2-076 C O1	1.3847	Adder	1.63
936612	AD2-076 E O1	2.2593	Adder	2.66
938651	AE1-087 C	1.0869	Adder	1.28
938652	AE1-087 E	0.2717	Adder	0.32
938811	AE1-107 C	2.5905	Adder	3.05
938812	AE1-107 E	1.8468	Adder	2.17
938873	AE1-115 BAT	1.5426	Merchant Transmission	1.5426
939151	AE1-145	1.2891	Adder	1.52
939621	AE1-192 C O1	3.0306	Adder	3.57
939622	AE1-192 E O1	1.4831	Adder	1.74
941021	AE2-093 C	1.4103	Adder	1.66
941022	AE2-093 E	2.2407	Adder	2.64
941181	AE2-112 C	0.4804	Adder	0.57
941182	AE2-112 E	0.7838	Adder	0.92
943441	AF1-015 C	0.4510	Adder	0.53
943442	AF1-015 E	0.6228	Adder	0.73

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943651	AF1-036 C	0.6247	Adder	0.73
943652	AF1-036 E	0.8627	Adder	1.01
945661	AF1-231 C	0.4901	Adder	0.58
945662	AF1-231 E	0.7352	Adder	0.86
945781	AF1-243	0.3224	Adder	0.38
945791	AF1-244	0.5189	Adder	0.61
945931	AF1-258	0.2086	Adder	0.25
945941	AF1-259	0.0589	Adder	0.07
946041	AF1-269 (Withdrawn : 05/12/2020)	0.7364	Adder	0.87
957303	AF2-024 BAT	2.7303	Merchant Transmission	2.7303
957611	AF2-055 C	1.1961	Adder	2.66
957612	AF2-055 E	0.5126	Adder	1.14
957661	AF2-060	0.3075	Adder	0.68
957671	AF2-061 O2	1.3663	Adder	3.03
958151	AF2-109 C	0.3938	Adder	0.87
958152	AF2-109 E	0.3938	Adder	0.87
959161	AF2-207 C O2	0.6961	Adder	1.55
959162	AF2-207 E O2	1.0442	Adder	2.32
959571	AF2-248 C	0.1165	Adder	0.26
959572	AF2-248 E	0.1302	Adder	0.29
959581	AF2-249 C	0.0206	Adder	0.05
959582	AF2-249 E	0.0822	Adder	0.18
959591	AF2-250 C	0.0377	Adder	0.08
959592	AF2-250 E	0.0291	Adder	0.06
960221	AF2-313 C	0.4954	Adder	1.1
960222	AF2-313 E	0.2809	Adder	0.62
960341	AF2-325 C	0.1502	Adder	0.33
960342	AF2-325 E	0.2074	Adder	0.46
960671	AF2-358 C O2	2.1510	Adder	4.77
960672	AF2-358 E O2	1.4340	Adder	3.18
960871	AF2-378 C	0.0396	Adder	0.09
960872	AF2-378 E	0.0550	Adder	0.12
960881	AF2-379 C	0.0565	Adder	0.13
960882	AF2-379 E	0.0778	Adder	0.17
960941	AF2-385 C O2	1.6364	Adder	3.63
960942	AF2-385 E O2	0.9312	Adder	2.07
960961	AF2-387 C O2	2.5506	Adder	5.66
960962	AF2-387 E O2	1.2791	Adder	2.84
961181	AF2-409 O2	3.6441	Adder	8.09
NEWTON	NEWTON	0.0967	Confirmed LTF	0.0967
FARMERCITY	FARMERCITY	0.0049	Confirmed LTF	0.0049
CALDERWOOD	CALDERWOOD	0.0323	Confirmed LTF	0.0323
NY	NY	0.8721	Confirmed LTF	0.8721
PRAIRIE	PRAIRIE	0.2221	Confirmed LTF	0.2221
O-066	O-066	14.2598	Confirmed LTF	14.2598
CHEOAH	CHEOAH	0.0325	Confirmed LTF	0.0325
EDWARDS	EDWARDS	0.0329	Confirmed LTF	0.0329
TILTON	TILTON	0.0586	Confirmed LTF	0.0586
G-007	G-007	2.5126	Confirmed LTF	2.5126
MADISON	MADISON	0.0141	Confirmed LTF	0.0141
GIBSON	GIBSON	0.0497	Confirmed LTF	0.0497
BLUEG	BLUEG	0.1580	Confirmed LTF	0.1580

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>TRIMBLE</b>	TRIMBLE	0.0506	Confirmed LTF	0.0506
<b>CATAWBA</b>	CATAWBA	0.0154	Confirmed LTF	0.0154

14.5.13 Index 13

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 LOADING %	POST PROJECT LOADING %	AC D C	MW IMPACT
100302428	231000	CLAY_230	DP&L	213750	LINWOOD	PECO	1	PECO_P4_LINWO225/ * \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	149.16	150.04	DC	15.44

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231505	HR4	15.8460	50/50	15.8460
231708	CHRIST3	2.9960	Adder	3.52
231900	EM5	38.4819	50/50	38.4819
231901	EM4	10.6021	50/50	10.6021
231903	GEN4	1.6776	Adder	1.97
231904	DC1 NUG	4.3464	Adder	5.11
231905	DC2 NUG	4.3464	Adder	5.11
231908	HR1	7.6165	50/50	7.6165
231909	HR2	7.6798	50/50	7.6798
231910	HR3	7.6165	50/50	7.6165
231916	EM3	5.2837	50/50	5.2837
231917	EM10	0.8786	50/50	0.8786
231919	CHRIST1	1.2713	50/50	1.2713
232405	W1-003 E	0.5706	Adder	0.67
232407	W1-004 E	0.5706	Adder	0.67
232409	W1-005 E	0.5706	Adder	0.67
232411	W1-006 E	0.5706	Adder	0.67
232412	X1-032 E	0.5087	Adder	0.6
232418	X3-008 E	1.6329	Adder	1.92
232423	X3-066 E	0.5173	Adder	0.61
232425	Y1-079 E	0.8584	Adder	1.01
232427	Y1-080 E	0.2736	Adder	0.32
232429	Y3-058 E	1.1880	Adder	1.4
232433	Z2-076 E	0.2504	Adder	0.29
232435	Z2-077 E	0.2504	Adder	0.29
232436	AB1-176 C	0.2100	Adder	0.25
232922	MR3 (Deactivation : 01/06/2021)	11.5259	Adder	13.56
917082	Z2-012 E	1.5712	Adder	1.85
919831	AA2-069 (Suspended)	50.9626	Adder	59.96
919921	AB1-000 3	-1.4309	Adder	-1.68
923282	AB1-137 C	0.5215	Adder	0.61
923283	AB1-137 E	0.2235	Adder	0.26
923322	AB1-141 C OP	1.8872	Adder	2.22
923323	AB1-141 E OP	0.8807	Adder	1.04
923332	AB1-142 C OP	1.8872	Adder	2.22
923603	AB1-176 E	0.3463	Adder	0.41
923921	AB2-032 C	1.9012	Adder	2.24
923922	AB2-032 E	0.8947	Adder	1.05
923951	AB2-036 C	4.8387	Adder	5.69
923952	AB2-036 E	7.9165	Adder	9.31
923961	AB2-037 C	10.6457	Adder	12.52

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923962	AB2-037 E	17.3912	Adder	20.46
924681	AB2-120 C OP	4.8140	Adder	5.66
924682	AB2-120 E OP	7.8544	Adder	9.24
924781	AB2-130 C OP	4.0628	Adder	4.78
924782	AB2-130 E OP	6.6288	Adder	7.8
924801	AB2-133 C OP	3.4368	Adder	4.04
924802	AB2-133 E OP	4.3588	Adder	5.13
924821	AB2-135 C	4.0578	Adder	4.77
924822	AB2-135 E	4.6277	Adder	5.44
924831	AB2-136 C	3.2413	Adder	3.81
924832	AB2-136 E	3.4373	Adder	4.04
924971	AB2-153 C	1.0624	Adder	1.25
924972	AB2-153 E	1.7334	Adder	2.04
925151	AB2-172 C OP	2.5020	Adder	2.94
925152	AB2-172 E OP	4.0821	Adder	4.8
925251	AB2-179 C OP	5.5665	Adder	6.55
925252	AB2-179 E OP	1.8358	Adder	2.16
925261	AB2-180 C	1.7883	Adder	2.1
925262	AB2-180 E	0.7664	Adder	0.9
925271	AB2-185 C OP	1.9383	Adder	2.28
925272	AB2-185 E OP	0.8307	Adder	0.98
926131	AC1-091 C	0.8330	Adder	0.98
926132	AC1-091 E	1.3662	Adder	1.61
926141	AC1-092 C	0.8330	Adder	0.98
926142	AC1-092 E	1.3662	Adder	1.61
926151	AC1-093 C	0.7886	Adder	0.93
926152	AC1-093 E	1.2995	Adder	1.53
926161	AC1-094 C	0.6664	Adder	0.78
926162	AC1-094 E	1.0996	Adder	1.29
927031	AC1-190 C	4.6026	Adder	5.41
927032	AC1-190 E	1.9726	Adder	2.32
927191	AC1-213 C	0.4067	Adder	0.48
927192	AC1-213 E	0.2669	Adder	0.31
930201	AB1-056 C	7.9734	Adder	9.38
930202	AB1-056 E	22.7069	Adder	26.71
930881	AB1-137 C	0.5215	Adder	0.61
930882	AB1-137 E	0.2235	Adder	0.26
930932	AB1-142 E OP	0.8807	Adder	1.04
932161	AC2-023 C	3.3968	Adder	4.0
932162	AC2-023 E	2.4739	Adder	2.91
933631	AC2-185 C	1.6883	Adder	1.99
933632	AC2-185 E	2.7545	Adder	3.24
933641	AC2-186 C	2.3275	Adder	2.74
933642	AC2-186 E	3.7976	Adder	4.47
936451	AD2-059 C	0.0482	Adder	0.06
936452	AD2-059 E	0.1511	Adder	0.18
936611	AD2-076 C O1	2.6084	Adder	3.07
936612	AD2-076 E O1	4.2559	Adder	5.01
938651	AE1-087 C	2.1069	Adder	2.48
938652	AE1-087 E	0.5267	Adder	0.62
938811	AE1-107 C	4.7343	Adder	5.57
938812	AE1-107 E	3.3751	Adder	3.97

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938891	AE1-117 C O1	5.1530	Adder	6.06
938892	AE1-117 E O1	13.7206	Adder	16.14
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	5.1537	Adder	6.06
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	13.7224	Adder	16.14
939151	AE1-145	2.5335	Adder	2.98
939621	AE1-192 C O1	5.9553	Adder	7.01
939622	AE1-192 E O1	2.9143	Adder	3.43
940271	AE2-010	-0.4740	Adder	-0.56
941021	AE2-093 C	2.6985	Adder	3.17
941022	AE2-093 E	4.2874	Adder	5.04
941181	AE2-112 C	0.9050	Adder	1.06
941182	AE2-112 E	1.4765	Adder	1.74
942441	AE2-257 C	4.0953	Adder	4.82
942442	AE2-257 E	10.7967	Adder	12.7
943361	AF1-007 C	0.2352	Adder	0.28
943362	AF1-007 E	0.6686	Adder	0.79
943441	AF1-015 C	0.8630	Adder	1.02
943442	AF1-015 E	1.1917	Adder	1.4
943651	AF1-036 C	1.1767	Adder	1.38
943652	AF1-036 E	1.6250	Adder	1.91
944921	AF1-157 C O1	1.8751	Adder	2.21
944922	AF1-157 E O1	1.2501	Adder	1.47
945661	AF1-231 C	0.9631	Adder	1.13
945662	AF1-231 E	1.4446	Adder	1.7
945781	AF1-243	0.6335	Adder	0.75
945791	AF1-244	1.0182	Adder	1.2
945931	AF1-258	0.4088	Adder	0.48
945941	AF1-259	0.1113	Adder	0.13
946041	AF1-269 (Withdrawn : 05/12/2020)	1.4332	Adder	1.69
957443	AF2-038 BAT	1.8778	Merchant Transmission	1.8778
957611	AF2-055 C	2.3505	Adder	5.22
957612	AF2-055 E	1.0073	Adder	2.24
957661	AF2-060	0.6042	Adder	1.34
957671	AF2-061 O2	2.6850	Adder	5.96
958151	AF2-109 C	0.7404	Adder	1.64
958152	AF2-109 E	0.7404	Adder	1.64
959021	AF2-193 C O2	7.7187	Adder	17.13
959022	AF2-193 E O2	20.8210	Adder	46.22
959031	AF2-194 C O2	7.7187	Adder	17.13
959032	AF2-194 E O2	20.8210	Adder	46.22
959051	AF2-196 C	0.5920	Adder	1.31
959052	AF2-196 E	1.3812	Adder	3.07
959161	AF2-207 C O2	1.3644	Adder	3.03
959162	AF2-207 E O2	2.0466	Adder	4.54
959571	AF2-248 C	0.2288	Adder	0.51
959572	AF2-248 E	0.2557	Adder	0.57
959581	AF2-249 C	0.0404	Adder	0.09
959582	AF2-249 E	0.1615	Adder	0.36

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959591	AF2-250 C	0.0740	Adder	0.16
959592	AF2-250 E	0.0572	Adder	0.13
960221	AF2-313 C	0.9361	Adder	2.08
960222	AF2-313 E	0.5307	Adder	1.18
960341	AF2-325 C	0.2917	Adder	0.65
960342	AF2-325 E	0.4028	Adder	0.89
960671	AF2-358 C O2	4.1745	Adder	9.27
960672	AF2-358 E O2	2.7830	Adder	6.18
960871	AF2-378 C	0.0770	Adder	0.17
960872	AF2-378 E	0.1068	Adder	0.24
960881	AF2-379 C	0.1107	Adder	0.25
960882	AF2-379 E	0.1526	Adder	0.34
960941	AF2-385 C O2	3.2135	Adder	7.13
960942	AF2-385 E O2	1.8286	Adder	4.06
960961	AF2-387 C O2	4.8647	Adder	10.8
960962	AF2-387 E O2	2.4397	Adder	5.42
961181	AF2-409 O2	7.0535	Adder	15.66
NEWTON	NEWTON	0.0322	Confirmed LTF	0.0322
CPL	CPL	0.0377	Confirmed LTF	0.0377
FARMERCITY	FARMERCITY	0.0015	Confirmed LTF	0.0015
NY	NY	0.9368	Confirmed LTF	0.9368
PRAIRIE	PRAIRIE	0.0646	Confirmed LTF	0.0646
O-066	O-066	14.6093	Confirmed LTF	14.6093
EDWARDS	EDWARDS	0.0122	Confirmed LTF	0.0122
CBM-S2	CBM-S2	0.2139	Confirmed LTF	0.2139
TILTON	TILTON	0.0214	Confirmed LTF	0.0214
G-007	G-007	2.2142	Confirmed LTF	2.2142
MADISON	MADISON	0.0181	Confirmed LTF	0.0181
GIBSON	GIBSON	0.0169	Confirmed LTF	0.0169
BLUEG	BLUEG	0.0538	Confirmed LTF	0.0538
TRIMBLE	TRIMBLE	0.0178	Confirmed LTF	0.0178

14.5.14 Index 14

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPACT
100302441	231001	EDGEM R 5	DP&L	231000	CLAY_230	DP&L	1	PECO_P4_LINWO225/ * \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	143.98	144.78	DC	13.98

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231505	HR4	15.8233	50/50	15.8233
231708	CHRIST3	2.7911	50/50	2.7911
231900	EM5	38.4268	50/50	38.4268
231901	EM4	8.3186	50/50	8.3186
231903	GEN4	1.4363	Adder	1.69
231904	DC1 NUG	3.7212	Adder	4.38
231905	DC2 NUG	3.7212	Adder	4.38
231908	HR1	5.9760	50/50	5.9760
231910	HR3	5.9760	50/50	5.9760
231918	WEST 1	0.6504	50/50	0.6504
231919	CHRIST1	1.0067	50/50	1.0067
231920	CHRIST2	1.0023	50/50	1.0023
232405	W1-003 E	0.5171	Adder	0.61
232407	W1-004 E	0.5171	Adder	0.61
232409	W1-005 E	0.5171	Adder	0.61
232411	W1-006 E	0.5171	Adder	0.61
232412	X1-032 E	0.4610	Adder	0.54
232416	X2-083	0.1070	50/50	0.1070
232418	X3-008 E	1.4773	Adder	1.74
232423	X3-066 E	0.4615	Adder	0.54
232425	Y1-079 E	0.7700	Adder	0.91
232427	Y1-080 E	0.2478	Adder	0.29
232429	Y3-058 E	1.0763	Adder	1.27
232433	Z2-076 E	0.2269	Adder	0.27
232435	Z2-077 E	0.2269	Adder	0.27
232436	AB1-176 C	0.1873	Adder	0.22
232922	MR3 (Deactivation : 01/06/2021)	10.4343	Adder	12.28
917082	Z2-012 E	1.4240	Adder	1.68
919831	AA2-069 (Suspended)	46.1362	Adder	54.28
919921	AB1-000 3	-1.2968	Adder	-1.53
923282	AB1-137 C	0.4725	Adder	0.56
923283	AB1-137 E	0.2025	Adder	0.24
923322	AB1-141 C OP	1.6835	Adder	1.98
923323	AB1-141 E OP	0.7856	Adder	0.92
923332	AB1-142 C OP	1.6835	Adder	1.98
923603	AB1-176 E	0.3089	Adder	0.36
923921	AB2-032 C	1.6960	Adder	2.0
923922	AB2-032 E	0.7981	Adder	0.94
923951	AB2-036 C	4.3456	Adder	5.11
923952	AB2-036 E	7.1099	Adder	8.36
923961	AB2-037 C	9.6867	Adder	11.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923962	AB2-037 E	15.8245	Adder	18.62
924681	AB2-120 C OP	4.3628	Adder	5.13
924682	AB2-120 E OP	7.1182	Adder	8.37
924781	AB2-130 C OP	3.6795	Adder	4.33
924782	AB2-130 E OP	6.0034	Adder	7.06
924801	AB2-133 C OP	3.0487	Adder	3.59
924802	AB2-133 E OP	3.8666	Adder	4.55
924821	AB2-135 C	3.6102	Adder	4.25
924822	AB2-135 E	4.1173	Adder	4.84
924831	AB2-136 C	2.9343	Adder	3.45
924832	AB2-136 E	3.1118	Adder	3.66
924971	AB2-153 C	0.9477	Adder	1.11
924972	AB2-153 E	1.5463	Adder	1.82
925151	AB2-172 C OP	2.2636	Adder	2.66
925152	AB2-172 E OP	3.6932	Adder	4.34
925251	AB2-179 C OP	4.8359	Adder	5.69
925252	AB2-179 E OP	1.5948	Adder	1.88
925261	AB2-180 C	1.6203	Adder	1.91
925262	AB2-180 E	0.6944	Adder	0.82
925271	AB2-185 C OP	1.7387	Adder	2.05
925272	AB2-185 E OP	0.7452	Adder	0.88
926131	AC1-091 C	0.7529	Adder	0.89
926132	AC1-091 E	1.2347	Adder	1.45
926141	AC1-092 C	0.7529	Adder	0.89
926142	AC1-092 E	1.2347	Adder	1.45
926151	AC1-093 C	0.7127	Adder	0.84
926152	AC1-093 E	1.1745	Adder	1.38
926161	AC1-094 C	0.6023	Adder	0.71
926162	AC1-094 E	0.9938	Adder	1.17
927031	AC1-190 C	4.1647	Adder	4.9
927032	AC1-190 E	1.7849	Adder	2.1
927191	AC1-213 C	0.3686	Adder	0.43
927192	AC1-213 E	0.2419	Adder	0.28
930201	AB1-056 C	7.2240	Adder	8.5
930202	AB1-056 E	20.5728	Adder	24.2
930881	AB1-137 C	0.4725	Adder	0.56
930882	AB1-137 E	0.2025	Adder	0.24
930932	AB1-142 E OP	0.7856	Adder	0.92
932161	AC2-023 C	3.0776	Adder	3.62
932162	AC2-023 E	2.2414	Adder	2.64
933631	AC2-185 C	1.5259	Adder	1.8
933632	AC2-185 E	2.4895	Adder	2.93
933641	AC2-186 C	2.1021	Adder	2.47
933642	AC2-186 E	3.4297	Adder	4.03
936451	AD2-059 C	0.0415	Adder	0.05
936452	AD2-059 E	0.1303	Adder	0.15
936611	AD2-076 C O1	2.3237	Adder	2.73
936612	AD2-076 E O1	3.7913	Adder	4.46
938651	AE1-087 C	1.9062	Adder	2.24
938652	AE1-087 E	0.4765	Adder	0.56
938811	AE1-107 C	4.0576	Adder	4.77
938812	AE1-107 E	2.8927	Adder	3.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938891	AE1-117 C O1	4.6686	Adder	5.49
938892	AE1-117 E O1	12.4310	Adder	14.62
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	4.6694	Adder	5.49
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	12.4329	Adder	14.63
939151	AE1-145	2.2960	Adder	2.7
939621	AE1-192 C O1	5.3972	Adder	6.35
939622	AE1-192 E O1	2.6412	Adder	3.11
940271	AE2-010	-0.4298	Adder	-0.51
941021	AE2-093 C	2.4382	Adder	2.87
941022	AE2-093 E	3.8740	Adder	4.56
941181	AE2-112 C	0.8062	Adder	0.95
941182	AE2-112 E	1.3154	Adder	1.55
942441	AE2-257 C	3.7105	Adder	4.37
942442	AE2-257 E	9.7821	Adder	11.51
943361	AF1-007 C	0.2131	Adder	0.25
943362	AF1-007 E	0.6057	Adder	0.71
943441	AF1-015 C	0.7797	Adder	0.92
943442	AF1-015 E	1.0768	Adder	1.27
943651	AF1-036 C	1.0483	Adder	1.23
943652	AF1-036 E	1.4476	Adder	1.7
944921	AF1-157 C O1	1.6986	Adder	2.0
944922	AF1-157 E O1	1.1324	Adder	1.33
945661	AF1-231 C	0.8728	Adder	1.03
945662	AF1-231 E	1.3092	Adder	1.54
945781	AF1-243	0.5742	Adder	0.68
945791	AF1-244	0.9228	Adder	1.09
945931	AF1-258	0.3704	Adder	0.44
945941	AF1-259	0.0993	Adder	0.12
946041	AF1-269 (Withdrawn : 05/12/2020)	1.2978	Adder	1.53
957443	AF2-038 BAT	1.7026	Merchant Transmission	1.7026
957611	AF2-055 C	2.1302	Adder	4.73
957612	AF2-055 E	0.9129	Adder	2.03
957661	AF2-060	0.5476	Adder	1.22
957671	AF2-061 O2	2.4334	Adder	5.4
958151	AF2-109 C	0.6568	Adder	1.46
958152	AF2-109 E	0.6568	Adder	1.46
959021	AF2-193 C O2	6.9939	Adder	15.52
959022	AF2-193 E O2	18.8659	Adder	41.88
959031	AF2-194 C O2	6.9939	Adder	15.52
959032	AF2-194 E O2	18.8659	Adder	41.88
959051	AF2-196 C	0.5363	Adder	1.19
959052	AF2-196 E	1.2514	Adder	2.78
959161	AF2-207 C O2	1.2367	Adder	2.75
959162	AF2-207 E O2	1.8551	Adder	4.12
959571	AF2-248 C	0.2073	Adder	0.46
959572	AF2-248 E	0.2317	Adder	0.51
959581	AF2-249 C	0.0366	Adder	0.08
959582	AF2-249 E	0.1463	Adder	0.32

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959591	AF2-250 C	0.0671	Adder	0.15
959592	AF2-250 E	0.0518	Adder	0.11
960221	AF2-313 C	0.8351	Adder	1.85
960222	AF2-313 E	0.4734	Adder	1.05
960341	AF2-325 C	0.2640	Adder	0.59
960342	AF2-325 E	0.3646	Adder	0.81
960671	AF2-358 C O2	3.7780	Adder	8.39
960672	AF2-358 E O2	2.5187	Adder	5.59
960871	AF2-378 C	0.0697	Adder	0.15
960872	AF2-378 E	0.0967	Adder	0.21
960881	AF2-379 C	0.1004	Adder	0.22
960882	AF2-379 E	0.1383	Adder	0.31
960941	AF2-385 C O2	2.9116	Adder	6.46
960942	AF2-385 E O2	1.6568	Adder	3.68
960961	AF2-387 C O2	4.3853	Adder	9.73
960962	AF2-387 E O2	2.1992	Adder	4.88
961181	AF2-409 O2	6.4003	Adder	14.21
NEWTON	NEWTON	0.0183	Confirmed LTF	0.0183
CPL	CPL	0.0404	Confirmed LTF	0.0404
FARMERCITY	FARMERCITY	0.0008	Confirmed LTF	0.0008
NY	NY	0.8433	Confirmed LTF	0.8433
TVA	TVA	0.0056	Confirmed LTF	0.0056
PRAIRIE	PRAIRIE	0.0336	Confirmed LTF	0.0336
O-066	O-066	13.1779	Confirmed LTF	13.1779
EDWARDS	EDWARDS	0.0077	Confirmed LTF	0.0077
CBM-S2	CBM-S2	0.2485	Confirmed LTF	0.2485
TILTON	TILTON	0.0139	Confirmed LTF	0.0139
G-007	G-007	1.9968	Confirmed LTF	1.9968
MADISON	MADISON	0.0141	Confirmed LTF	0.0141
GIBSON	GIBSON	0.0104	Confirmed LTF	0.0104
BLUEG	BLUEG	0.0330	Confirmed LTF	0.0330
TRIMBLE	TRIMBLE	0.0106	Confirmed LTF	0.0106

14.5.15 Index 15

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
100302793	231001	EDGEMR5	DP&L	213750	LINWOOD	PECO	1	DPL_P1_2_CKT 23015	single	804.0	109.93	110.41	DC	8.41

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231131	BLOOM ENRGY	0.6482	80/20	0.6482
231505	HR4	15.7543	80/20	15.7543
231708	CHRIST3	2.8110	80/20	2.8110
231900	EM5	38.2592	80/20	38.2592
231901	EM4	8.3808	80/20	8.3808
231902	DC CT7	1.5172	80/20	1.5172
231903	GEN4	1.4428	Adder	1.7
231904	DC1 NUG	4.3978	80/20	4.3978
231905	DC2 NUG	4.3978	80/20	4.3978
231906	DC3 NUG	1.9165	80/20	1.9165
231907	DC10	0.4738	80/20	0.4738
231908	HR1	6.0207	80/20	6.0207
231909	HR2	4.8227	80/20	4.8227
231910	HR3	6.0207	80/20	6.0207
231915	DC CT6	1.4640	80/20	1.4640
231916	EM3	3.3180	80/20	3.3180
231917	EM10	0.5517	80/20	0.5517
231918	WEST 1	0.6594	80/20	0.6594
231919	CHRIST1	1.0139	80/20	1.0139
231920	CHRIST2	1.0094	80/20	1.0094
232416	X2-083	0.1073	80/20	0.1073
232436	AB1-176 C	0.1879	Adder	0.22
232922	MR3 (Deactivation : 01/06/2021)	10.4638	Adder	12.31
919831	AA2-069 (Suspended)	46.2665	Adder	54.43
919901	AB1-000 1	-1.2927	Adder	-1.52
919911	AB1-000 2	-1.2927	Adder	-1.52
919921	AB1-000 3	-1.2927	Adder	-1.52
923282	AB1-137 C	0.4736	Adder	0.56
923322	AB1-141 C OP	1.6882	Adder	1.99
923332	AB1-142 C OP	1.6882	Adder	1.99
923921	AB2-032 C	1.7007	Adder	2.0
923951	AB2-036 C	4.3566	Adder	5.13
923961	AB2-037 C	9.7049	Adder	11.42
924681	AB2-120 C OP	4.3731	Adder	5.14
924781	AB2-130 C OP	3.6886	Adder	4.34
924801	AB2-133 C OP	3.0579	Adder	3.6
924821	AB2-135 C	3.6211	Adder	4.26
924831	AB2-136 C	2.9411	Adder	3.46
924971	AB2-153 C	0.9504	Adder	1.12
925151	AB2-172 C OP	2.2688	Adder	2.67
925251	AB2-179 C OP	4.8547	Adder	5.71

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
925261	AB2-180 C	1.6241	Adder	1.91
925271	AB2-185 C OP	1.7431	Adder	2.05
926131	AC1-091 C	0.7551	Adder	0.89
926141	AC1-092 C	0.7551	Adder	0.89
926151	AC1-093 C	0.7148	Adder	0.84
926161	AC1-094 C	0.6041	Adder	0.71
927031	AC1-190 C	4.1745	Adder	4.91
927191	AC1-213 C	0.3694	Adder	0.43
930201	AB1-056 C	7.2416	Adder	8.52
930881	AB1-137 C	0.4736	Adder	0.56
932161	AC2-023 C	3.0846	Adder	3.63
933631	AC2-185 C	1.5304	Adder	1.8
933641	AC2-186 C	2.1076	Adder	2.48
936451	AD2-059 C	0.0490	80/20	0.0490
936611	AD2-076 C O1	2.3304	Adder	2.74
938651	AE1-087 C	1.9105	Adder	2.25
938811	AE1-107 C	4.7951	80/20	4.7951
938891	AE1-117 C O1	4.6799	Adder	5.51
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	4.6806	Adder	5.51
939151	AE1-145	2.3015	Adder	2.71
939621	AE1-192 C O1	5.4100	Adder	6.36
940271	AE2-010	-0.4280	Adder	-0.5
941021	AE2-093 C	2.4436	Adder	2.87
941181	AE2-112 C	0.8085	Adder	0.95
942441	AE2-257 C	3.7194	Adder	4.38
943361	AF1-007 C	0.2136	Adder	0.25
943441	AF1-015 C	0.7815	Adder	0.92
943651	AF1-036 C	1.0513	Adder	1.24
944921	AF1-157 C O1	1.7026	Adder	2.0
945661	AF1-231 C	0.8749	Adder	1.03
945781	AF1-243	0.5755	Adder	0.68
945791	AF1-244	0.9250	Adder	1.09
945931	AF1-258	0.3712	Adder	0.44
945941	AF1-259	0.0995	Adder	0.12
946041	AF1-269 (Withdrawn : 05/12/2020)	1.3008	Adder	1.53
957611	AF2-055 C	2.1352	Adder	4.74
957661	AF2-060	0.5489	Adder	1.22
957671	AF2-061 O2	2.4390	Adder	5.41
958151	AF2-109 C	0.6588	Adder	1.46
959021	AF2-193 C O2	7.0111	Adder	15.56
959031	AF2-194 C O2	7.0111	Adder	15.56
959051	AF2-196 C	0.5376	Adder	1.19
959161	AF2-207 C O2	1.2395	Adder	2.75
959571	AF2-248 C	0.2078	Adder	0.46
959581	AF2-249 C	0.0367	Adder	0.08
959591	AF2-250 C	0.0672	Adder	0.15
960221	AF2-313 C	0.8374	Adder	1.86
960341	AF2-325 C	0.2646	Adder	0.59
960671	AF2-358 C O2	3.7866	Adder	8.41
960871	AF2-378 C	0.0698	Adder	0.15

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>960881</b>	AF2-379 C	0.1006	Adder	0.22
<b>960941</b>	AF2-385 C O2	2.9185	Adder	6.48
<b>960961</b>	AF2-387 C O2	4.3955	Adder	9.76
<b>961181</b>	AF2-409 O2	6.4138	Adder	14.24
<b>WEC</b>	WEC	0.0079	Confirmed LTF	0.0079
<b>LGEE</b>	LGEE	0.0171	Confirmed LTF	0.0171
<b>CPL</b>	CPL	0.0721	Confirmed LTF	0.0721
<b>CBM-W2</b>	CBM-W2	0.3358	Confirmed LTF	0.3358
<b>NY</b>	NY	0.8162	Confirmed LTF	0.8162
<b>CBM-W1</b>	CBM-W1	0.2502	Confirmed LTF	0.2502
<b>TVA</b>	TVA	0.0728	Confirmed LTF	0.0728
<b>CBM-S2</b>	CBM-S2	0.5260	Confirmed LTF	0.5260
<b>CBM-S1</b>	CBM-S1	0.4090	Confirmed LTF	0.4090
<b>MADISON</b>	MADISON	0.0141	Confirmed LTF	0.0141
<b>MEC</b>	MEC	0.0493	Confirmed LTF	0.0493

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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 IMPACT
102000920	231124	GLASGOW	DP&L	231130	CECIL138	DP&L	1	PECO_P4_PEACH215/ * \$ CHESCO \$ PEACH215 \$ STBK	breaker	378.0	121.1	122.29	DC	9.98

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
200062	SALEM G3	1.9750	Adder	2.32
231708	CHRIST3	0.9517	Adder	1.12
231902	DC CT7	1.0848	50/50	1.0848
231903	GEN4	1.0316	Adder	1.21
231904	DC1 NUG	3.1444	50/50	3.1444
231905	DC2 NUG	3.1444	50/50	3.1444
231906	DC3 NUG	1.3702	50/50	1.3702
231907	DC10	0.3388	50/50	0.3388
231915	DC CT6	1.0467	50/50	1.0467
232405	W1-003 E	0.3638	Adder	0.43
232407	W1-004 E	0.3638	Adder	0.43
232409	W1-005 E	0.3638	Adder	0.43
232411	W1-006 E	0.3638	Adder	0.43
232412	X1-032 E	0.3240	Adder	0.38
232416	X2-083	0.0546	50/50	0.0546
232418	X3-008 E	1.0574	Adder	1.24
232422	X3-066 FULL	0.0483	50/50	0.0483
232423	X3-066 E	0.4572	50/50	0.4572
232424	Y1-079 C	0.0757	50/50	0.0757
232425	Y1-079 E	0.7163	50/50	0.7163
232427	Y1-080 E	0.1755	Adder	0.21
232429	Y3-058 E	0.7590	Adder	0.89
232433	Z2-076 E	0.1606	Adder	0.19
232435	Z2-077 E	0.1606	Adder	0.19
232436	AB1-176 C	0.1856	50/50	0.1856
232922	MR3 (Deactivation : 01/06/2021)	7.5646	Adder	8.9
917082	Z2-012 E	1.0019	Adder	1.18
919831	AA2-069 (Suspended)	33.4473	Adder	39.35
923282	AB1-137 C	0.3347	Adder	0.39
923283	AB1-137 E	0.1434	Adder	0.17
923322	AB1-141 C OP	1.6670	50/50	1.6670
923323	AB1-141 E OP	0.7779	50/50	0.7779
923332	AB1-142 C OP	1.6670	50/50	1.6670
923603	AB1-176 E	0.3060	50/50	0.3060
923921	AB2-032 C	1.6793	50/50	1.6793
923922	AB2-032 E	0.7903	50/50	0.7903
923951	AB2-036 C	3.9842	50/50	3.9842
923952	AB2-036 E	6.5185	50/50	6.5185
923961	AB2-037 C	6.3826	Adder	7.51
923962	AB2-037 E	10.4268	Adder	12.27
924681	AB2-120 C OP	3.0698	Adder	3.61

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924682	AB2-120 E OP	5.0086	Adder	5.89
924781	AB2-130 C OP	2.6140	Adder	3.08
924782	AB2-130 E OP	4.2649	Adder	5.02
924801	AB2-133 C OP	3.2088	50/50	3.2088
924802	AB2-133 E OP	4.0697	50/50	4.0697
924821	AB2-135 C	3.6915	50/50	3.6915
924822	AB2-135 E	4.2100	50/50	4.2100
924831	AB2-136 C	2.0852	Adder	2.45
924832	AB2-136 E	2.2114	Adder	2.6
924971	AB2-153 C	0.9384	50/50	0.9384
924972	AB2-153 E	1.5312	50/50	1.5312
925151	AB2-172 C OP	1.6202	Adder	1.91
925152	AB2-172 E OP	2.6434	Adder	3.11
925251	AB2-179 C OP	6.1901	50/50	6.1901
925252	AB2-179 E OP	2.0414	50/50	2.0414
925261	AB2-180 C	1.1425	Adder	1.34
925262	AB2-180 E	0.4897	Adder	0.58
925271	AB2-185 C OP	1.6174	50/50	1.6174
925272	AB2-185 E OP	0.6932	50/50	0.6932
926131	AC1-091 C	0.5588	Adder	0.66
926132	AC1-091 E	0.9165	Adder	1.08
926141	AC1-092 C	0.5588	Adder	0.66
926142	AC1-092 E	0.9165	Adder	1.08
926151	AC1-093 C	0.5290	Adder	0.62
926152	AC1-093 E	0.8718	Adder	1.03
926161	AC1-094 C	0.4471	Adder	0.53
926162	AC1-094 E	0.7377	Adder	0.87
927031	AC1-190 C	2.9774	Adder	3.5
927032	AC1-190 E	1.2760	Adder	1.5
927191	AC1-213 C	0.2598	Adder	0.31
927192	AC1-213 E	0.1705	Adder	0.2
930201	AB1-056 C	5.1165	Adder	6.02
930202	AB1-056 E	14.5710	Adder	17.14
930881	AB1-137 C	0.3347	Adder	0.39
930882	AB1-137 E	0.1434	Adder	0.17
930932	AB1-142 E OP	0.7779	50/50	0.7779
932082	AC2-018 E1	1.6551	Adder	1.95
932092	AC2-018 E2	1.6551	Adder	1.95
932161	AC2-023 C	2.1703	Adder	2.55
932162	AC2-023 E	1.5806	Adder	1.86
933631	AC2-185 C	1.1326	Adder	1.33
933632	AC2-185 E	1.8479	Adder	2.17
933641	AC2-186 C	1.5533	Adder	1.83
933642	AC2-186 E	2.5343	Adder	2.98
936451	AD2-059 C	0.0324	50/50	0.0324
936452	AD2-059 E	0.1015	50/50	0.1015
936611	AD2-076 C O1	2.3355	50/50	2.3355
936612	AD2-076 E O1	3.8106	50/50	3.8106
938651	AE1-087 C	1.3644	Adder	1.61
938652	AE1-087 E	0.3411	Adder	0.4
938811	AE1-107 C	4.9535	50/50	4.9535
938812	AE1-107 E	3.5314	50/50	3.5314

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938891	AE1-117 C O1	3.3070	Adder	3.89
938892	AE1-117 E O1	8.8055	Adder	10.36
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	3.3074	Adder	3.89
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	8.8064	Adder	10.36
939151	AE1-145	1.6157	Adder	1.9
939621	AE1-192 C O1	3.7976	Adder	4.47
939622	AE1-192 E O1	1.8584	Adder	2.19
941021	AE2-093 C	1.7664	Adder	2.08
941022	AE2-093 E	2.8066	Adder	3.3
941181	AE2-112 C	0.8103	50/50	0.8103
941182	AE2-112 E	1.3220	50/50	1.3220
942441	AE2-257 C	2.6286	Adder	3.09
942442	AE2-257 E	6.9299	Adder	8.15
943361	AF1-007 C	0.1510	Adder	0.18
943362	AF1-007 E	0.4290	Adder	0.5
943441	AF1-015 C	0.5649	Adder	0.66
943442	AF1-015 E	0.7801	Adder	0.92
943651	AF1-036 C	1.0536	50/50	1.0536
943652	AF1-036 E	1.4550	50/50	1.4550
944921	AF1-157 C O1	1.2056	Adder	1.42
944922	AF1-157 E O1	0.8038	Adder	0.95
945661	AF1-231 C	0.6141	Adder	0.72
945662	AF1-231 E	0.9211	Adder	1.08
945781	AF1-243	0.4040	Adder	0.48
945791	AF1-244	0.6483	Adder	0.76
945931	AF1-258	0.2611	Adder	0.31
945941	AF1-259	0.0983	50/50	0.0983
946041	AF1-269 (Withdrawn : 05/12/2020)	0.9195	Adder	1.08
957611	AF2-055 C	1.4989	Adder	3.33
957612	AF2-055 E	0.6424	Adder	1.43
957661	AF2-060	0.3853	Adder	0.86
957671	AF2-061 O2	1.7123	Adder	3.8
958151	AF2-109 C	1.3044	50/50	1.3044
958152	AF2-109 E	1.3044	50/50	1.3044
959021	AF2-193 C O2	4.9600	Adder	11.01
959022	AF2-193 E O2	13.3794	Adder	29.7
959031	AF2-194 C O2	4.9600	Adder	11.01
959032	AF2-194 E O2	13.3794	Adder	29.7
959051	AF2-196 C	0.3799	Adder	0.84
959052	AF2-196 E	0.8865	Adder	1.97
959161	AF2-207 C O2	0.8681	Adder	1.93
959162	AF2-207 E O2	1.3021	Adder	2.89
959173	AF2-208 BAT	21.6196	50/50	21.6196
959571	AF2-248 C	0.1462	Adder	0.32
959572	AF2-248 E	0.1635	Adder	0.36
959581	AF2-249 C	0.0258	Adder	0.06
959582	AF2-249 E	0.1032	Adder	0.23
959591	AF2-250 C	0.0473	Adder	0.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959592	AF2-250 E	0.0366	Adder	0.08
960221	AF2-313 C	1.5608	50/50	1.5608
960222	AF2-313 E	0.8849	50/50	0.8849
960341	AF2-325 C	0.1881	Adder	0.42
960342	AF2-325 E	0.2598	Adder	0.58
960671	AF2-358 C O2	2.6962	Adder	5.98
960672	AF2-358 E O2	1.7975	Adder	3.99
960871	AF2-378 C	0.0496	Adder	0.11
960872	AF2-378 E	0.0688	Adder	0.15
960881	AF2-379 C	0.0705	Adder	0.16
960882	AF2-379 E	0.0972	Adder	0.22
960941	AF2-385 C O2	2.0552	Adder	4.56
960942	AF2-385 E O2	1.1695	Adder	2.6
960961	AF2-387 C O2	3.2680	Adder	7.25
960962	AF2-387 E O2	1.6389	Adder	3.64
961181	AF2-409 O2	4.4059	Adder	9.78
NEWTON	NEWTON	0.7006	Confirmed LTF	0.7006
FARMERCITY	FARMERCITY	0.0367	Confirmed LTF	0.0367
G-007A	G-007A	4.2124	Confirmed LTF	4.2124
VFT	VFT	9.6686	Confirmed LTF	9.6686
CALDERWOOD	CALDERWOOD	0.3390	Confirmed LTF	0.3390
PRAIRIE	PRAIRIE	1.6970	Confirmed LTF	1.6970
CHEOAH	CHEOAH	0.3418	Confirmed LTF	0.3418
EDWARDS	EDWARDS	0.2268	Confirmed LTF	0.2268
TILTON	TILTON	0.4082	Confirmed LTF	0.4082
GIBSON	GIBSON	0.3554	Confirmed LTF	0.3554
BLUEG	BLUEG	1.1301	Confirmed LTF	1.1301
TRIMBLE	TRIMBLE	0.3623	Confirmed LTF	0.3623
CATAWBA	CATAWBA	0.2478	Confirmed LTF	0.2478

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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
99647118	232003	CARTANZA	DP&L	232013	SILVER RUN	PJM	1	DPL_P4-2_DP24	breaker	804.0	155.0	156.6	DC	28.43

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231940	T-011	0.3090	50/50	0.3090
232003	CARTANZA	35.0801	50/50	35.0801
232405	W1-003 E	1.3046	Adder	1.53
232407	W1-004 E	1.3046	Adder	1.53
232409	W1-005 E	1.3046	Adder	1.53
232411	W1-006 E	1.3046	Adder	1.53
232412	X1-032 E	1.1410	Adder	1.34
232418	X3-008 E	2.9466	Adder	3.47
232423	X3-066 E	0.5928	Adder	0.7
232425	Y1-079 E	1.0454	Adder	1.23
232427	Y1-080 E	0.5284	Adder	0.62
232429	Y3-058 E	2.5845	Adder	3.04
232432	Z2-076 C	0.2520	50/50	0.2520
232433	Z2-076 E	0.7361	50/50	0.7361
232434	Z2-077 C	0.2520	50/50	0.2520
232435	Z2-077 E	0.7361	50/50	0.7361
232436	AB1-176 C	0.2406	Adder	0.28
232616	GEN FOOD	1.7245	50/50	1.7245
232851	DUP-SFR1	0.6094	50/50	0.6094
232901	NORTHST	5.2189	50/50	5.2189
232904	IR4	26.9780	50/50	26.9780
232920	IR10	1.0356	50/50	1.0356
232921	TASLEY2G	1.2895	50/50	1.2895
232922	MR3 (Deactivation : 01/06/2021)	67.0885	50/50	67.0885
917082	Z2-012 E	3.5969	Adder	4.23
919831	AA2-069 (Suspended)	296.6362	50/50	296.6362
923282	AB1-137 C	1.5610	50/50	1.5610
923283	AB1-137 E	0.6690	50/50	0.6690
923322	AB1-141 C OP	2.0896	Adder	2.46
923323	AB1-141 E OP	0.9751	Adder	1.15
923332	AB1-142 C OP	2.0896	Adder	2.46
923603	AB1-176 E	0.3968	Adder	0.47
923921	AB2-032 C	2.1051	Adder	2.48
923922	AB2-032 E	0.9906	Adder	1.17
923951	AB2-036 C	5.8419	Adder	6.87
923952	AB2-036 E	9.5580	Adder	11.24
923961	AB2-037 C	12.7658	Adder	15.02
923962	AB2-037 E	20.8547	Adder	24.53
924681	AB2-120 C OP	12.9827	50/50	12.9827
924682	AB2-120 E OP	21.1823	50/50	21.1823
924781	AB2-130 C OP	11.1022	50/50	11.1022

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
924782	AB2-130 E OP	18.1140	50/50	18.1140
924801	AB2-133 C OP	3.6875	Adder	4.34
924802	AB2-133 E OP	4.6768	Adder	5.5
924821	AB2-135 C	5.2881	Adder	6.22
924822	AB2-135 E	6.0309	Adder	7.1
924831	AB2-136 C	6.1379	Adder	7.22
924832	AB2-136 E	6.5091	Adder	7.66
924971	AB2-153 C	1.1764	Adder	1.38
924972	AB2-153 E	1.9193	Adder	2.26
925151	AB2-172 C OP	4.5149	Adder	5.31
925152	AB2-172 E OP	7.3664	Adder	8.67
925261	AB2-180 C	3.8907	Adder	4.58
925262	AB2-180 E	1.6674	Adder	1.96
925271	AB2-185 C OP	2.3605	Adder	2.78
925272	AB2-185 E OP	1.0116	Adder	1.19
926131	AC1-091 C	2.1565	Adder	2.54
926132	AC1-091 E	3.5367	Adder	4.16
926141	AC1-092 C	2.1565	Adder	2.54
926142	AC1-092 E	3.5367	Adder	4.16
926151	AC1-093 C	2.0415	Adder	2.4
926152	AC1-093 E	3.3642	Adder	3.96
926161	AC1-094 C	1.7252	Adder	2.03
926162	AC1-094 E	2.8466	Adder	3.35
927031	AC1-190 C	8.3773	Adder	9.86
927032	AC1-190 E	3.5903	Adder	4.22
927191	AC1-213 C	0.9101	Adder	1.07
927192	AC1-213 E	0.5973	Adder	0.7
930201	AB1-056 C	24.3348	50/50	24.3348
930202	AB1-056 E	69.3014	50/50	69.3014
930881	AB1-137 C	1.5610	50/50	1.5610
930882	AB1-137 E	0.6690	50/50	0.6690
930932	AB1-142 E OP	0.9751	Adder	1.15
932161	AC2-023 C	7.2429	Adder	8.52
932162	AC2-023 E	5.2750	Adder	6.21
933631	AC2-185 C	4.3706	Adder	5.14
933632	AC2-185 E	7.1309	Adder	8.39
933641	AC2-186 C	6.6329	50/50	6.6329
933642	AC2-186 E	10.8221	50/50	10.8221
936611	AD2-076 C O1	2.8243	Adder	3.32
936612	AD2-076 E O1	4.6081	Adder	5.42
938651	AE1-087 C	3.8020	Adder	4.47
938652	AE1-087 E	0.9505	Adder	1.12
938891	AE1-117 C O1	15.4231	50/50	15.4231
938892	AE1-117 E O1	41.0662	50/50	41.0662
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	15.4123	50/50	15.4123
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	41.0375	50/50	41.0375
939151	AE1-145	6.8344	50/50	6.8344
939621	AE1-192 C O1	13.6333	Adder	16.04
939622	AE1-192 E O1	6.6716	Adder	7.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941021	AE2-093 C	3.6397	Adder	4.28
941022	AE2-093 E	5.7829	Adder	6.8
941181	AE2-112 C	0.9799	Adder	1.15
941182	AE2-112 E	1.5987	Adder	1.88
942441	AE2-257 C	12.2951	50/50	12.2951
942442	AE2-257 E	32.4145	50/50	32.4145
943361	AF1-007 C	0.7180	50/50	0.7180
943362	AF1-007 E	2.0405	50/50	2.0405
943441	AF1-015 C	1.1640	Adder	1.37
943442	AF1-015 E	1.6074	Adder	1.89
943651	AF1-036 C	1.2741	Adder	1.5
943652	AF1-036 E	1.7595	Adder	2.07
944921	AF1-157 C O1	5.3508	50/50	5.3508
944922	AF1-157 E O1	3.5672	50/50	3.5672
945661	AF1-231 C	2.2040	Adder	2.59
945662	AF1-231 E	3.3060	Adder	3.89
945781	AF1-243	1.4504	Adder	1.71
945791	AF1-244	2.2732	Adder	2.67
945931	AF1-258	0.8893	Adder	1.05
945941	AF1-259	0.1275	Adder	0.15
946041	AF1-269 (Withdrawn : 05/12/2020)	2.7681	Adder	3.26
957611	AF2-055 C	5.3808	Adder	11.94
957612	AF2-055 E	2.3061	Adder	5.12
957661	AF2-060	3.0755	50/50	3.0755
957671	AF2-061 O2	13.6812	50/50	13.6812
958151	AF2-109 C	0.7945	Adder	1.76
958152	AF2-109 E	0.7945	Adder	1.76
959021	AF2-193 C O2	47.5619	50/50	47.5619
959022	AF2-193 E O2	128.2973	50/50	128.2973
959031	AF2-194 C O2	47.5619	50/50	47.5619
959032	AF2-194 E O2	128.2973	50/50	128.2973
959051	AF2-196 C	3.3532	50/50	3.3532
959052	AF2-196 E	7.8242	50/50	7.8242
959161	AF2-207 C O2	2.9803	Adder	6.62
959162	AF2-207 E O2	4.4704	Adder	9.92
959571	AF2-248 C	0.5134	Adder	1.14
959572	AF2-248 E	0.5738	Adder	1.27
959581	AF2-249 C	0.0906	Adder	0.2
959582	AF2-249 E	0.3624	Adder	0.8
959591	AF2-250 C	0.1661	Adder	0.37
959592	AF2-250 E	0.1284	Adder	0.29
960221	AF2-313 C	1.0726	Adder	2.38
960222	AF2-313 E	0.6081	Adder	1.35
960341	AF2-325 C	0.5432	Adder	1.21
960342	AF2-325 E	0.7501	Adder	1.67
960671	AF2-358 C O2	7.6854	Adder	17.06
960672	AF2-358 E O2	5.1236	Adder	11.37
960871	AF2-378 C	0.1447	Adder	0.32
960872	AF2-378 E	0.2007	Adder	0.45
960881	AF2-379 C	0.2454	Adder	0.54
960882	AF2-379 E	0.3382	Adder	0.75
960941	AF2-385 C O2	7.2289	Adder	16.05

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960942	AF2-385 E O2	4.1135	Adder	9.13
960961	AF2-387 C O2	6.2125	Adder	13.79
960962	AF2-387 E O2	3.1156	Adder	6.92
961181	AF2-409 O2	11.9067	Adder	26.43
NEWTON	NEWTON	0.3804	Confirmed LTF	0.3804
FARMERCITY	FARMERCITY	0.0198	Confirmed LTF	0.0198
CALDERWOOD	CALDERWOOD	0.1754	Confirmed LTF	0.1754
NY	NY	0.2555	Confirmed LTF	0.2555
PRAIRIE	PRAIRIE	0.9144	Confirmed LTF	0.9144
O-066	O-066	3.3600	Confirmed LTF	3.3600
CHEOAH	CHEOAH	0.1767	Confirmed LTF	0.1767
EDWARDS	EDWARDS	0.1239	Confirmed LTF	0.1239
TILTON	TILTON	0.2230	Confirmed LTF	0.2230
G-007	G-007	0.5595	Confirmed LTF	0.5595
MADISON	MADISON	0.0020	Confirmed LTF	0.0020
GIBSON	GIBSON	0.1933	Confirmed LTF	0.1933
BLUEG	BLUEG	0.6145	Confirmed LTF	0.6145
TRIMBLE	TRIMBLE	0.1970	Confirmed LTF	0.1970
CATAWBA	CATAWBA	0.1228	Confirmed LTF	0.1228

14.5.18 Index 18

ID	FROM BUS#	FROM BUS	FRO M BUS AREA	TO BUS#	TO BUS	TO BUS ARE A	CK T ID	CONT NAME	Type	Ratin g MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
10200201 2	23210 0	CHURC H	DP&L	23210 7	TOWNSEN D	DP& L	1	DPL_P7_1_DBL_1NCB_FS A-A	towe r	348.0	131.6	138.64	DC	24.72

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.5398	50/50	0.5398
232405	W1-003 E	0.9090	50/50	0.9090
232406	W1-004 FULL	0.5398	50/50	0.5398
232407	W1-004 E	0.9090	50/50	0.9090
232408	W1-005 C	0.5398	50/50	0.5398
232409	W1-005 E	0.9090	50/50	0.9090
232410	W1-006 C	0.5398	50/50	0.5398
232411	W1-006 E	0.9090	50/50	0.9090
232412	X1-032 E	0.8192	50/50	0.8192
232417	X3-008 C	0.3307	50/50	0.3307
232418	X3-008 E	3.1277	50/50	3.1277
232422	X3-066 FULL	0.1653	50/50	0.1653
232423	X3-066 E	1.5632	50/50	1.5632
232424	Y1-079 C	0.2436	50/50	0.2436
232425	Y1-079 E	2.3039	50/50	2.3039
232426	Y1-080 FULL	0.0519	50/50	0.0519
232427	Y1-080 E	0.4932	50/50	0.4932
232428	Y3-058 C	0.2078	50/50	0.2078
232429	Y3-058 E	1.9655	50/50	1.9655
232433	Z2-076 E	0.3208	Adder	0.38
232435	Z2-077 E	0.3208	Adder	0.38
232436	AB1-176 C	0.6345	50/50	0.6345
232813	VAUGHN	0.1155	50/50	0.1155
232902	EASTMUNI	3.7067	50/50	3.7067
232907	VN8	5.9640	50/50	5.9640
232910	NRG_G1	1.8200	50/50	1.8200
232911	NRG_G2	1.8200	50/50	1.8200
232919	VN10	0.4079	50/50	0.4079
232922	MR3 (Deactivation : 01/06/2021)	9.0862	Adder	10.69
232926	CRISFLD1	0.3545	50/50	0.3545
293670	O-025 C	0.2133	50/50	0.2133
917082	Z2-012 E	2.1263	Adder	2.5
918831	AA1-102	1.3293	50/50	1.3293
919831	AA2-069 (Suspended)	40.1751	Adder	47.26
923282	AB1-137 C	0.6591	Adder	0.78
923283	AB1-137 E	0.2825	Adder	0.33
923322	AB1-141 C OP	5.7565	50/50	5.7565
923323	AB1-141 E OP	2.6864	50/50	2.6864
923332	AB1-142 C OP	5.7565	50/50	5.7565
923603	AB1-176 E	1.0463	50/50	1.0463
923921	AB2-032 C	5.7992	50/50	5.7992

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923922	AB2-032 E	2.7290	50/50	2.7290
923951	AB2-036 C	12.6924	50/50	12.6924
923952	AB2-036 E	20.7661	50/50	20.7661
924681	AB2-120 C OP	6.5091	Adder	7.66
924682	AB2-120 E OP	10.6201	Adder	12.49
924781	AB2-130 C OP	5.4762	Adder	6.44
924782	AB2-130 E OP	8.9348	Adder	10.51
924801	AB2-133 C OP	11.5595	50/50	11.5595
924802	AB2-133 E OP	14.6609	50/50	14.6609
924821	AB2-135 C	12.3188	50/50	12.3188
924822	AB2-135 E	14.0492	50/50	14.0492
924831	AB2-136 C	5.9522	50/50	5.9522
924832	AB2-136 E	6.3123	50/50	6.3123
924971	AB2-153 C	3.2407	50/50	3.2407
924972	AB2-153 E	5.2875	50/50	5.2875
925151	AB2-172 C OP	4.7924	50/50	4.7924
925152	AB2-172 E OP	7.8191	50/50	7.8191
925251	AB2-179 C OP	-9.1300	Adder	-10.74
925261	AB2-180 C	2.9588	50/50	2.9588
925262	AB2-180 E	1.2680	50/50	1.2680
925271	AB2-185 C OP	5.2023	50/50	5.2023
925272	AB2-185 E OP	2.2295	50/50	2.2295
926131	AC1-091 C	0.6416	Adder	0.75
926132	AC1-091 E	1.0523	Adder	1.24
926141	AC1-092 C	0.6416	Adder	0.75
926142	AC1-092 E	1.0523	Adder	1.24
926151	AC1-093 C	0.6074	Adder	0.71
926152	AC1-093 E	1.0010	Adder	1.18
926161	AC1-094 C	0.5133	Adder	0.6
926162	AC1-094 E	0.8470	Adder	1.0
927031	AC1-190 C	8.7532	50/50	8.7532
927032	AC1-190 E	3.7514	50/50	3.7514
927191	AC1-213 C	0.6596	50/50	0.6596
927192	AC1-213 E	0.4328	50/50	0.4328
930201	AB1-056 C	9.9441	Adder	11.7
930202	AB1-056 E	28.3190	Adder	33.32
930881	AB1-137 C	0.6591	Adder	0.78
930882	AB1-137 E	0.2825	Adder	0.33
930932	AB1-142 E OP	2.6864	50/50	2.6864
932161	AC2-023 C	5.6983	50/50	5.6983
932162	AC2-023 E	4.1501	50/50	4.1501
933631	AC2-185 C	1.3004	Adder	1.53
933632	AC2-185 E	2.1217	Adder	2.5
933641	AC2-186 C	3.1357	Adder	3.69
933642	AC2-186 E	5.1161	Adder	6.02
936611	AD2-076 C O1	8.1874	50/50	8.1874
936612	AD2-076 E O1	13.3584	50/50	13.3584
938651	AE1-087 C	4.0357	50/50	4.0357
938652	AE1-087 E	1.0089	50/50	1.0089
938891	AE1-117 C O1	6.5135	Adder	7.66
938892	AE1-117 E O1	17.3433	Adder	20.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	6.5188	Adder	7.67
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	17.3573	Adder	20.42
939151	AE1-145	3.4253	Adder	4.03
939621	AE1-192 C O1	8.0595	Adder	9.48
939622	AE1-192 E O1	3.9440	Adder	4.64
941021	AE2-093 C	5.9738	50/50	5.9738
941022	AE2-093 E	9.4914	50/50	9.4914
941181	AE2-112 C	2.8405	50/50	2.8405
941182	AE2-112 E	4.6345	50/50	4.6345
942441	AE2-257 C	5.1662	Adder	6.08
942442	AE2-257 E	13.6201	Adder	16.02
943361	AF1-007 C	0.2934	Adder	0.35
943362	AF1-007 E	0.8338	Adder	0.98
943441	AF1-015 C	1.9104	50/50	1.9104
943442	AF1-015 E	2.6382	50/50	2.6382
943651	AF1-036 C	3.6936	50/50	3.6936
943652	AF1-036 E	5.1006	50/50	5.1006
944921	AF1-157 C O1	2.4567	Adder	2.89
944922	AF1-157 E O1	1.6378	Adder	1.93
945661	AF1-231 C	1.3034	Adder	1.53
945662	AF1-231 E	1.9552	Adder	2.3
945781	AF1-243	0.8574	Adder	1.01
945791	AF1-244	1.6440	50/50	1.6440
945931	AF1-258	0.6763	50/50	0.6763
945941	AF1-259	0.3362	50/50	0.3362
946041	AF1-269 (Withdrawn : 05/12/2020)	2.5836	50/50	2.5836
957611	AF2-055 C	3.1809	Adder	7.06
957612	AF2-055 E	1.3633	Adder	3.03
957661	AF2-060	0.8169	Adder	1.81
957671	AF2-061 O2	3.6278	Adder	8.05
958151	AF2-109 C	4.6990	50/50	4.6990
958152	AF2-109 E	4.6990	50/50	4.6990
959021	AF2-193 C O2	9.1506	Adder	20.31
959022	AF2-193 E O2	24.6836	Adder	54.79
959031	AF2-194 C O2	9.1506	Adder	20.31
959032	AF2-194 E O2	24.6836	Adder	54.79
959051	AF2-196 C	0.7468	Adder	1.66
959052	AF2-196 E	1.7424	Adder	3.87
959161	AF2-207 C O2	4.2028	50/50	4.2028
959162	AF2-207 E O2	6.3041	50/50	6.3041
959571	AF2-248 C	0.6978	50/50	0.6978
959572	AF2-248 E	0.7799	50/50	0.7799
959581	AF2-249 C	0.1231	50/50	0.1231
959582	AF2-249 E	0.4926	50/50	0.4926
959591	AF2-250 C	0.2258	50/50	0.2258
959592	AF2-250 E	0.1745	50/50	0.1745
960221	AF2-313 C	5.3367	50/50	5.3367
960222	AF2-313 E	3.0255	50/50	3.0255

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960341	AF2-325 C	1.0261	50/50	1.0261
960342	AF2-325 E	1.4170	50/50	1.4170
960671	AF2-358 C O2	14.8320	50/50	14.8320
960672	AF2-358 E O2	9.8880	50/50	9.8880
960871	AF2-378 C	0.2686	50/50	0.2686
960872	AF2-378 E	0.3727	50/50	0.3727
960881	AF2-379 C	0.3393	50/50	0.3393
960882	AF2-379 E	0.4676	50/50	0.4676
960941	AF2-385 C O2	9.7813	50/50	9.7813
960942	AF2-385 E O2	5.5659	50/50	5.5659
960961	AF2-387 C O2	21.8288	50/50	21.8288
960962	AF2-387 E O2	10.9472	50/50	10.9472
961181	AF2-409 O2	24.1230	50/50	24.1230
NEWTON	NEWTON	0.1870	Confirmed LTF	0.1870
FARMERCITY	FARMERCITY	0.0097	Confirmed LTF	0.0097
CALDERWOOD	CALDERWOOD	0.0870	Confirmed LTF	0.0870
NY	NY	0.0603	Confirmed LTF	0.0603
PRAIRIE	PRAIRIE	0.4494	Confirmed LTF	0.4494
O-066	O-066	0.5309	Confirmed LTF	0.5309
CHEOAH	CHEOAH	0.0876	Confirmed LTF	0.0876
EDWARDS	EDWARDS	0.0609	Confirmed LTF	0.0609
TILTON	TILTON	0.1096	Confirmed LTF	0.1096
G-007	G-007	0.0530	Confirmed LTF	0.0530
GIBSON	GIBSON	0.0950	Confirmed LTF	0.0950
BLUEG	BLUEG	0.3021	Confirmed LTF	0.3021
TRIMBLE	TRIMBLE	0.0968	Confirmed LTF	0.0968
CATAWBA	CATAWBA	0.0619	Confirmed LTF	0.0619

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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 IMPACT
102002018	232106	MIDLTNT P	DP&L	232104	MT PLSN T	DP&L	1	DPL_P7_1_DBL_1NCB_FSA -A	tower	348.0	127.49	134.53	DC	24.72

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.5398	50/50	0.5398
232405	W1-003 E	0.9090	50/50	0.9090
232406	W1-004 FULL	0.5398	50/50	0.5398
232407	W1-004 E	0.9090	50/50	0.9090
232408	W1-005 C	0.5398	50/50	0.5398
232409	W1-005 E	0.9090	50/50	0.9090
232410	W1-006 C	0.5398	50/50	0.5398
232411	W1-006 E	0.9090	50/50	0.9090
232412	X1-032 E	0.8192	50/50	0.8192
232417	X3-008 C	0.3307	50/50	0.3307
232418	X3-008 E	3.1277	50/50	3.1277
232422	X3-066 FULL	0.1653	50/50	0.1653
232423	X3-066 E	1.5632	50/50	1.5632
232424	Y1-079 C	0.2436	50/50	0.2436
232425	Y1-079 E	2.3039	50/50	2.3039
232426	Y1-080 FULL	0.0519	50/50	0.0519
232427	Y1-080 E	0.4932	50/50	0.4932
232428	Y3-058 C	0.2078	50/50	0.2078
232429	Y3-058 E	1.9655	50/50	1.9655
232433	Z2-076 E	0.3208	Adder	0.38
232435	Z2-077 E	0.3208	Adder	0.38
232436	AB1-176 C	0.6345	50/50	0.6345
232813	VAUGHN	0.1155	50/50	0.1155
232902	EASTMUNI	3.7067	50/50	3.7067
232907	VN8	5.9640	50/50	5.9640
232910	NRG_G1	1.8200	50/50	1.8200
232911	NRG_G2	1.8200	50/50	1.8200
232919	VN10	0.4079	50/50	0.4079
232922	MR3 (Deactivation : 01/06/2021)	9.0862	Adder	10.69
232926	CRISFLD1	0.3545	50/50	0.3545
293670	O-025 C	0.2133	50/50	0.2133
917082	Z2-012 E	2.1263	Adder	2.5
918831	AA1-102	1.3293	50/50	1.3293
919831	AA2-069 (Suspended)	40.1751	Adder	47.26
923282	AB1-137 C	0.6591	Adder	0.78
923283	AB1-137 E	0.2825	Adder	0.33
923322	AB1-141 C OP	5.7565	50/50	5.7565
923323	AB1-141 E OP	2.6864	50/50	2.6864
923332	AB1-142 C OP	5.7565	50/50	5.7565
923603	AB1-176 E	1.0463	50/50	1.0463
923921	AB2-032 C	5.7992	50/50	5.7992

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923922	AB2-032 E	2.7290	50/50	2.7290
923951	AB2-036 C	12.6924	50/50	12.6924
923952	AB2-036 E	20.7661	50/50	20.7661
924681	AB2-120 C OP	6.5091	Adder	7.66
924682	AB2-120 E OP	10.6201	Adder	12.49
924781	AB2-130 C OP	5.4762	Adder	6.44
924782	AB2-130 E OP	8.9348	Adder	10.51
924801	AB2-133 C OP	11.5595	50/50	11.5595
924802	AB2-133 E OP	14.6609	50/50	14.6609
924821	AB2-135 C	12.3188	50/50	12.3188
924822	AB2-135 E	14.0492	50/50	14.0492
924831	AB2-136 C	5.9522	50/50	5.9522
924832	AB2-136 E	6.3123	50/50	6.3123
924971	AB2-153 C	3.2407	50/50	3.2407
924972	AB2-153 E	5.2875	50/50	5.2875
925151	AB2-172 C OP	4.7924	50/50	4.7924
925152	AB2-172 E OP	7.8191	50/50	7.8191
925251	AB2-179 C OP	26.8588	50/50	26.8588
925252	AB2-179 E OP	8.8577	50/50	8.8577
925261	AB2-180 C	2.9588	50/50	2.9588
925262	AB2-180 E	1.2680	50/50	1.2680
925271	AB2-185 C OP	5.2023	50/50	5.2023
925272	AB2-185 E OP	2.2295	50/50	2.2295
927031	AC1-190 C	8.7532	50/50	8.7532
927032	AC1-190 E	3.7514	50/50	3.7514
927191	AC1-213 C	0.6596	50/50	0.6596
927192	AC1-213 E	0.4328	50/50	0.4328
930201	AB1-056 C	9.9441	Adder	11.7
930202	AB1-056 E	28.3190	Adder	33.32
930881	AB1-137 C	0.6591	Adder	0.78
930882	AB1-137 E	0.2825	Adder	0.33
930932	AB1-142 E OP	2.6864	50/50	2.6864
932161	AC2-023 C	5.6983	50/50	5.6983
932162	AC2-023 E	4.1501	50/50	4.1501
933641	AC2-186 C	3.1357	Adder	3.69
933642	AC2-186 E	5.1161	Adder	6.02
936611	AD2-076 C O1	8.1874	50/50	8.1874
936612	AD2-076 E O1	13.3584	50/50	13.3584
938651	AE1-087 C	4.0357	50/50	4.0357
938652	AE1-087 E	1.0089	50/50	1.0089
938891	AE1-117 C O1	6.5135	Adder	7.66
938892	AE1-117 E O1	17.3433	Adder	20.4
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	6.5188	Adder	7.67
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	17.3573	Adder	20.42
939151	AE1-145	3.4253	Adder	4.03
939621	AE1-192 C O1	8.0595	Adder	9.48
939622	AE1-192 E O1	3.9440	Adder	4.64
941021	AE2-093 C	5.9738	50/50	5.9738
941022	AE2-093 E	9.4914	50/50	9.4914

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941181	AE2-112 C	2.8405	50/50	2.8405
941182	AE2-112 E	4.6345	50/50	4.6345
942441	AE2-257 C	5.1662	Adder	6.08
942442	AE2-257 E	13.6201	Adder	16.02
943361	AF1-007 C	0.2934	Adder	0.35
943362	AF1-007 E	0.8338	Adder	0.98
943441	AF1-015 C	1.9104	50/50	1.9104
943442	AF1-015 E	2.6382	50/50	2.6382
943651	AF1-036 C	3.6936	50/50	3.6936
943652	AF1-036 E	5.1006	50/50	5.1006
944921	AF1-157 C O1	2.4567	Adder	2.89
944922	AF1-157 E O1	1.6378	Adder	1.93
945661	AF1-231 C	1.3034	Adder	1.53
945662	AF1-231 E	1.9552	Adder	2.3
945781	AF1-243	0.8574	Adder	1.01
945791	AF1-244	1.6440	50/50	1.6440
945931	AF1-258	0.6763	50/50	0.6763
945941	AF1-259	0.3362	50/50	0.3362
946041	AF1-269 (Withdrawn : 05/12/2020)	2.5836	50/50	2.5836
957611	AF2-055 C	3.1809	Adder	7.06
957612	AF2-055 E	1.3633	Adder	3.03
957661	AF2-060	0.8169	Adder	1.81
957671	AF2-061 O2	3.6278	Adder	8.05
958151	AF2-109 C	4.6990	50/50	4.6990
958152	AF2-109 E	4.6990	50/50	4.6990
959021	AF2-193 C O2	9.1506	Adder	20.31
959022	AF2-193 E O2	24.6836	Adder	54.79
959031	AF2-194 C O2	9.1506	Adder	20.31
959032	AF2-194 E O2	24.6836	Adder	54.79
959051	AF2-196 C	0.7468	Adder	1.66
959052	AF2-196 E	1.7424	Adder	3.87
959161	AF2-207 C O2	4.2028	50/50	4.2028
959162	AF2-207 E O2	6.3041	50/50	6.3041
959571	AF2-248 C	0.6978	50/50	0.6978
959572	AF2-248 E	0.7799	50/50	0.7799
959581	AF2-249 C	0.1231	50/50	0.1231
959582	AF2-249 E	0.4926	50/50	0.4926
959591	AF2-250 C	0.2258	50/50	0.2258
959592	AF2-250 E	0.1745	50/50	0.1745
960221	AF2-313 C	5.3367	50/50	5.3367
960222	AF2-313 E	3.0255	50/50	3.0255
960341	AF2-325 C	1.0261	50/50	1.0261
960342	AF2-325 E	1.4170	50/50	1.4170
960671	AF2-358 C O2	14.8320	50/50	14.8320
960672	AF2-358 E O2	9.8880	50/50	9.8880
960871	AF2-378 C	0.2686	50/50	0.2686
960872	AF2-378 E	0.3727	50/50	0.3727
960881	AF2-379 C	0.3393	50/50	0.3393
960882	AF2-379 E	0.4676	50/50	0.4676
960941	AF2-385 C O2	9.7813	50/50	9.7813
960942	AF2-385 E O2	5.5659	50/50	5.5659
960961	AF2-387 C O2	21.8288	50/50	21.8288

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>960962</b>	AF2-387 E O2	10.9472	50/50	10.9472
<b>961181</b>	AF2-409 O2	24.1230	50/50	24.1230
<b>NEWTON</b>	NEWTON	0.1870	Confirmed LTF	0.1870
<b>FARMERCITY</b>	FARMERCITY	0.0097	Confirmed LTF	0.0097
<b>CALDERWOOD</b>	CALDERWOOD	0.0870	Confirmed LTF	0.0870
<b>NY</b>	NY	0.0603	Confirmed LTF	0.0603
<b>PRAIRIE</b>	PRAIRIE	0.4494	Confirmed LTF	0.4494
<b>O-066</b>	O-066	0.5309	Confirmed LTF	0.5309
<b>CHEOAH</b>	CHEOAH	0.0876	Confirmed LTF	0.0876
<b>EDWARDS</b>	EDWARDS	0.0609	Confirmed LTF	0.0609
<b>TILTON</b>	TILTON	0.1096	Confirmed LTF	0.1096
<b>G-007</b>	G-007	0.0530	Confirmed LTF	0.0530
<b>GIBSON</b>	GIBSON	0.0950	Confirmed LTF	0.0950
<b>BLUEG</b>	BLUEG	0.3021	Confirmed LTF	0.3021
<b>TRIMBLE</b>	TRIMBLE	0.0968	Confirmed LTF	0.0968
<b>CATAWBA</b>	CATAWBA	0.0619	Confirmed LTF	0.0619

14.5.20 Index 20

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 IMPACT
10200200 2	23210 7	TOWNSEN D	DP&L	23210 6	MIDLNT P	DP&L	1	DPL_P7_1_DBL_1NCB_FS A-A	tower	348.0	136.8	143.84	DC	24.72

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.5398	50/50	0.5398
232405	W1-003 E	0.9090	50/50	0.9090
232406	W1-004 FULL	0.5398	50/50	0.5398
232407	W1-004 E	0.9090	50/50	0.9090
232408	W1-005 C	0.5398	50/50	0.5398
232409	W1-005 E	0.9090	50/50	0.9090
232410	W1-006 C	0.5398	50/50	0.5398
232411	W1-006 E	0.9090	50/50	0.9090
232412	X1-032 E	0.8192	50/50	0.8192
232417	X3-008 C	0.3307	50/50	0.3307
232418	X3-008 E	3.1277	50/50	3.1277
232422	X3-066 FULL	0.1653	50/50	0.1653
232423	X3-066 E	1.5632	50/50	1.5632
232424	Y1-079 C	0.2436	50/50	0.2436
232425	Y1-079 E	2.3039	50/50	2.3039
232426	Y1-080 FULL	0.0519	50/50	0.0519
232427	Y1-080 E	0.4932	50/50	0.4932
232428	Y3-058 C	0.2078	50/50	0.2078
232429	Y3-058 E	1.9655	50/50	1.9655
232433	Z2-076 E	0.3208	Adder	0.38
232435	Z2-077 E	0.3208	Adder	0.38
232436	AB1-176 C	0.6345	50/50	0.6345
232813	VAUGHN	0.1155	50/50	0.1155
232902	EASTMUNI	3.7067	50/50	3.7067
232907	VN8	5.9640	50/50	5.9640
232910	NRG_G1	1.8200	50/50	1.8200
232911	NRG_G2	1.8200	50/50	1.8200
232919	VN10	0.4079	50/50	0.4079
232922	MR3 (Deactivation : 01/06/2021)	9.0862	Adder	10.69
232926	CRISFLD1	0.3545	50/50	0.3545
293670	O-025 C	0.2133	50/50	0.2133
917082	Z2-012 E	2.1263	Adder	2.5
918831	AA1-102	1.3293	50/50	1.3293
919831	AA2-069 (Suspended)	40.1751	Adder	47.26
923282	AB1-137 C	0.6591	Adder	0.78
923283	AB1-137 E	0.2825	Adder	0.33
923322	AB1-141 C OP	5.7565	50/50	5.7565
923323	AB1-141 E OP	2.6864	50/50	2.6864
923332	AB1-142 C OP	5.7565	50/50	5.7565
923603	AB1-176 E	1.0463	50/50	1.0463
923921	AB2-032 C	5.7992	50/50	5.7992

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
923922	AB2-032 E	2.7290	50/50	2.7290
923951	AB2-036 C	12.6924	50/50	12.6924
923952	AB2-036 E	20.7661	50/50	20.7661
924681	AB2-120 C OP	6.5091	Adder	7.66
924682	AB2-120 E OP	10.6201	Adder	12.49
924781	AB2-130 C OP	5.4762	Adder	6.44
924782	AB2-130 E OP	8.9348	Adder	10.51
924801	AB2-133 C OP	11.5595	50/50	11.5595
924802	AB2-133 E OP	14.6609	50/50	14.6609
924821	AB2-135 C	12.3188	50/50	12.3188
924822	AB2-135 E	14.0492	50/50	14.0492
924831	AB2-136 C	5.9522	50/50	5.9522
924832	AB2-136 E	6.3123	50/50	6.3123
924971	AB2-153 C	3.2407	50/50	3.2407
924972	AB2-153 E	5.2875	50/50	5.2875
925151	AB2-172 C OP	4.7924	50/50	4.7924
925152	AB2-172 E OP	7.8191	50/50	7.8191
925251	AB2-179 C OP	26.8588	50/50	26.8588
925252	AB2-179 E OP	8.8577	50/50	8.8577
925261	AB2-180 C	2.9588	50/50	2.9588
925262	AB2-180 E	1.2680	50/50	1.2680
925271	AB2-185 C OP	5.2023	50/50	5.2023
925272	AB2-185 E OP	2.2295	50/50	2.2295
927031	AC1-190 C	8.7532	50/50	8.7532
927032	AC1-190 E	3.7514	50/50	3.7514
927191	AC1-213 C	0.6596	50/50	0.6596
927192	AC1-213 E	0.4328	50/50	0.4328
930201	AB1-056 C	9.9441	Adder	11.7
930202	AB1-056 E	28.3190	Adder	33.32
930881	AB1-137 C	0.6591	Adder	0.78
930882	AB1-137 E	0.2825	Adder	0.33
930932	AB1-142 E OP	2.6864	50/50	2.6864
932161	AC2-023 C	5.6983	50/50	5.6983
932162	AC2-023 E	4.1501	50/50	4.1501
933641	AC2-186 C	3.1357	Adder	3.69
933642	AC2-186 E	5.1161	Adder	6.02
936611	AD2-076 C O1	8.1874	50/50	8.1874
936612	AD2-076 E O1	13.3584	50/50	13.3584
938651	AE1-087 C	4.0357	50/50	4.0357
938652	AE1-087 E	1.0089	50/50	1.0089
938891	AE1-117 C O1	6.5135	Adder	7.66
938892	AE1-117 E O1	17.3433	Adder	20.4
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	6.5188	Adder	7.67
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	17.3573	Adder	20.42
939151	AE1-145	3.4253	Adder	4.03
939621	AE1-192 C O1	8.0595	Adder	9.48
939622	AE1-192 E O1	3.9440	Adder	4.64
941021	AE2-093 C	5.9738	50/50	5.9738
941022	AE2-093 E	9.4914	50/50	9.4914

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941181	AE2-112 C	2.8405	50/50	2.8405
941182	AE2-112 E	4.6345	50/50	4.6345
942441	AE2-257 C	5.1662	Adder	6.08
942442	AE2-257 E	13.6201	Adder	16.02
943361	AF1-007 C	0.2934	Adder	0.35
943362	AF1-007 E	0.8338	Adder	0.98
943441	AF1-015 C	1.9104	50/50	1.9104
943442	AF1-015 E	2.6382	50/50	2.6382
943651	AF1-036 C	3.6936	50/50	3.6936
943652	AF1-036 E	5.1006	50/50	5.1006
944921	AF1-157 C O1	2.4567	Adder	2.89
944922	AF1-157 E O1	1.6378	Adder	1.93
945661	AF1-231 C	1.3034	Adder	1.53
945662	AF1-231 E	1.9552	Adder	2.3
945781	AF1-243	0.8574	Adder	1.01
945791	AF1-244	1.6440	50/50	1.6440
945931	AF1-258	0.6763	50/50	0.6763
945941	AF1-259	0.3362	50/50	0.3362
946041	AF1-269 (Withdrawn : 05/12/2020)	2.5836	50/50	2.5836
957611	AF2-055 C	3.1809	Adder	7.06
957612	AF2-055 E	1.3633	Adder	3.03
957661	AF2-060	0.8169	Adder	1.81
957671	AF2-061 O2	3.6278	Adder	8.05
958151	AF2-109 C	4.6990	50/50	4.6990
958152	AF2-109 E	4.6990	50/50	4.6990
959021	AF2-193 C O2	9.1506	Adder	20.31
959022	AF2-193 E O2	24.6836	Adder	54.79
959031	AF2-194 C O2	9.1506	Adder	20.31
959032	AF2-194 E O2	24.6836	Adder	54.79
959051	AF2-196 C	0.7468	Adder	1.66
959052	AF2-196 E	1.7424	Adder	3.87
959161	AF2-207 C O2	4.2028	50/50	4.2028
959162	AF2-207 E O2	6.3041	50/50	6.3041
959571	AF2-248 C	0.6978	50/50	0.6978
959572	AF2-248 E	0.7799	50/50	0.7799
959581	AF2-249 C	0.1231	50/50	0.1231
959582	AF2-249 E	0.4926	50/50	0.4926
959591	AF2-250 C	0.2258	50/50	0.2258
959592	AF2-250 E	0.1745	50/50	0.1745
960221	AF2-313 C	5.3367	50/50	5.3367
960222	AF2-313 E	3.0255	50/50	3.0255
960341	AF2-325 C	1.0261	50/50	1.0261
960342	AF2-325 E	1.4170	50/50	1.4170
960671	AF2-358 C O2	14.8320	50/50	14.8320
960672	AF2-358 E O2	9.8880	50/50	9.8880
960871	AF2-378 C	0.2686	50/50	0.2686
960872	AF2-378 E	0.3727	50/50	0.3727
960881	AF2-379 C	0.3393	50/50	0.3393
960882	AF2-379 E	0.4676	50/50	0.4676
960941	AF2-385 C O2	9.7813	50/50	9.7813
960942	AF2-385 E O2	5.5659	50/50	5.5659
960961	AF2-387 C O2	21.8288	50/50	21.8288

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
<b>960962</b>	AF2-387 E O2	10.9472	50/50	10.9472
<b>961181</b>	AF2-409 O2	24.1230	50/50	24.1230
<b>NEWTON</b>	NEWTON	0.1870	Confirmed LTF	0.1870
<b>FARMERCITY</b>	FARMERCITY	0.0097	Confirmed LTF	0.0097
<b>CALDERWOOD</b>	CALDERWOOD	0.0870	Confirmed LTF	0.0870
<b>NY</b>	NY	0.0603	Confirmed LTF	0.0603
<b>PRAIRIE</b>	PRAIRIE	0.4494	Confirmed LTF	0.4494
<b>O-066</b>	O-066	0.5309	Confirmed LTF	0.5309
<b>CHEOAH</b>	CHEOAH	0.0876	Confirmed LTF	0.0876
<b>EDWARDS</b>	EDWARDS	0.0609	Confirmed LTF	0.0609
<b>TILTON</b>	TILTON	0.1096	Confirmed LTF	0.1096
<b>G-007</b>	G-007	0.0530	Confirmed LTF	0.0530
<b>GIBSON</b>	GIBSON	0.0950	Confirmed LTF	0.0950
<b>BLUEG</b>	BLUEG	0.3021	Confirmed LTF	0.3021
<b>TRIMBLE</b>	TRIMBLE	0.0968	Confirmed LTF	0.0968
<b>CATAWBA</b>	CATAWBA	0.0619	Confirmed LTF	0.0619

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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
102001000	232114	SHARNGTN	DP&L	232112	FELTON	DP&L	1	DPL_P4-2_DP6	breaker	242.0	102.71	104.22	DC	8.15

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
231940	T-011	0.1307	50/50	0.1307
232405	W1-003 E	0.4563	Adder	0.54
232407	W1-004 E	0.4563	Adder	0.54
232409	W1-005 E	0.4563	Adder	0.54
232411	W1-006 E	0.4563	Adder	0.54
232412	X1-032 E	0.3929	Adder	0.46
232418	X3-008 E	0.8173	Adder	0.96
232427	Y1-080 E	0.1630	Adder	0.19
232429	Y3-058 E	0.9081	Adder	1.07
232432	Z2-076 C	0.0973	50/50	0.0973
232433	Z2-076 E	0.2842	50/50	0.2842
232434	Z2-077 C	0.0973	50/50	0.0973
232435	Z2-077 E	0.2842	50/50	0.2842
232851	DUP-SFR1	0.3180	50/50	0.3180
232904	IR4	10.1845	50/50	10.1845
232905	BAYVIEW1	0.2577	50/50	0.2577
232916	OH NUG5	0.6724	50/50	0.6724
232920	IR10	0.4036	50/50	0.4036
232921	TASLEY2G	0.4516	50/50	0.4516
293670	O-025 C	0.1248	50/50	0.1248
917081	Z2-012 C	0.1567	50/50	0.1567
917082	Z2-012 E	1.4819	50/50	1.4819
923282	AB1-137 C	0.6093	50/50	0.6093
923283	AB1-137 E	0.2611	50/50	0.2611
924681	AB2-120 C OP	4.5501	50/50	4.5501
924682	AB2-120 E OP	7.4239	50/50	7.4239
924781	AB2-130 C OP	4.8369	50/50	4.8369
924782	AB2-130 E OP	7.8918	50/50	7.8918
924831	AB2-136 C	1.8388	Adder	2.16
924832	AB2-136 E	1.9500	Adder	2.29
925151	AB2-172 C OP	1.2523	Adder	1.47
925152	AB2-172 E OP	2.0432	Adder	2.4
925261	AB2-180 C	1.3671	Adder	1.61
925262	AB2-180 E	0.5859	Adder	0.69
927031	AC1-190 C	2.3574	Adder	2.77
927032	AC1-190 E	1.0103	Adder	1.19
927191	AC1-213 C	0.3859	50/50	0.3859
927192	AC1-213 E	0.2532	50/50	0.2532
930201	AB1-056 C	9.1867	50/50	9.1867
930202	AB1-056 E	26.1620	50/50	26.1620
930881	AB1-137 C	0.6093	50/50	0.6093
930882	AB1-137 E	0.2611	50/50	0.2611

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
932161	AC2-023 C	2.4973	Adder	2.94
932162	AC2-023 E	1.8188	Adder	2.14
933641	AC2-186 C	3.1405	50/50	3.1405
933642	AC2-186 E	5.1240	50/50	5.1240
938651	AE1-087 C	1.0545	Adder	1.24
938652	AE1-087 E	0.2636	Adder	0.31
938891	AE1-117 C O1	6.0113	50/50	6.0113
938892	AE1-117 E O1	16.0059	50/50	16.0059
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	6.0055	50/50	6.0055
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	15.9905	50/50	15.9905
939151	AE1-145	2.3972	50/50	2.3972
939621	AE1-192 C O1	5.6170	50/50	5.6170
939622	AE1-192 E O1	2.7487	50/50	2.7487
942441	AE2-257 C	4.7807	50/50	4.7807
942442	AE2-257 E	12.6037	50/50	12.6037
943361	AF1-007 C	0.2710	50/50	0.2710
943362	AF1-007 E	0.7703	50/50	0.7703
944921	AF1-157 C O1	2.2149	50/50	2.2149
944922	AF1-157 E O1	1.4766	50/50	1.4766
945661	AF1-231 C	0.7715	Adder	0.91
945662	AF1-231 E	1.1572	Adder	1.36
945781	AF1-243	0.5976	50/50	0.5976
945791	AF1-244	0.7797	Adder	0.92
945931	AF1-258	0.3125	Adder	0.37
946041	AF1-269 (Withdrawn : 05/12/2020)	0.8537	Adder	1.0
957611	AF2-055 C	4.1829	50/50	4.1829
957612	AF2-055 E	1.7927	50/50	1.7927
957661	AF2-060	1.0787	50/50	1.0787
957671	AF2-061 O2	4.8004	50/50	4.8004
959021	AF2-193 C O2	16.9670	50/50	16.9670
959022	AF2-193 E O2	45.7682	50/50	45.7682
959031	AF2-194 C O2	16.9670	50/50	16.9670
959032	AF2-194 E O2	45.7682	50/50	45.7682
959051	AF2-196 C	1.3038	50/50	1.3038
959052	AF2-196 E	3.0423	50/50	3.0423
959161	AF2-207 C O2	1.0315	Adder	2.29
959162	AF2-207 E O2	1.5473	Adder	3.43
959571	AF2-248 C	0.4250	50/50	0.4250
959572	AF2-248 E	0.4750	50/50	0.4750
959581	AF2-249 C	0.0750	50/50	0.0750
959582	AF2-249 E	0.3000	50/50	0.3000
959591	AF2-250 C	0.1375	50/50	0.1375
959592	AF2-250 E	0.1063	50/50	0.1063
960341	AF2-325 C	0.1586	Adder	0.35
960342	AF2-325 E	0.2190	Adder	0.49
960671	AF2-358 C O2	2.2038	Adder	4.89
960672	AF2-358 E O2	1.4692	Adder	3.26
960871	AF2-378 C	0.0428	Adder	0.1

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960872	AF2-378 E	0.0594	Adder	0.13
960881	AF2-379 C	0.0850	Adder	0.19
960882	AF2-379 E	0.1171	Adder	0.26
960941	AF2-385 C O2	6.1194	50/50	6.1194
960942	AF2-385 E O2	3.4821	50/50	3.4821
961181	AF2-409 O2	2.6949	Adder	5.98
NEWTON	NEWTON	0.0580	Confirmed LTF	0.0580
FARMERCITY	FARMERCITY	0.0030	Confirmed LTF	0.0030
CALDERWOOD	CALDERWOOD	0.0268	Confirmed LTF	0.0268
NY	NY	0.0343	Confirmed LTF	0.0343
PRAIRIE	PRAIRIE	0.1395	Confirmed LTF	0.1395
O-066	O-066	0.4435	Confirmed LTF	0.4435
CHEOAH	CHEOAH	0.0270	Confirmed LTF	0.0270
EDWARDS	EDWARDS	0.0189	Confirmed LTF	0.0189
TILTON	TILTON	0.0340	Confirmed LTF	0.0340
G-007	G-007	0.0718	Confirmed LTF	0.0718
GIBSON	GIBSON	0.0295	Confirmed LTF	0.0295
BLUEG	BLUEG	0.0937	Confirmed LTF	0.0937
TRIMBLE	TRIMBLE	0.0301	Confirmed LTF	0.0301
CATAWBA	CATAWBA	0.0189	Confirmed LTF	0.0189

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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
102000889	232821	TANYARD	DP&L	232820	TALBOT	DP&L	1	DPL_P4-2_DP11	breaker	173.0	103.12	123.79	DC	35.93

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.3036	50/50	0.3036
232405	W1-003 E	0.5112	50/50	0.5112
232406	W1-004 FULL	0.3036	50/50	0.3036
232407	W1-004 E	0.5112	50/50	0.5112
232408	W1-005 C	0.3036	50/50	0.3036
232409	W1-005 E	0.5112	50/50	0.5112
232410	W1-006 C	0.3036	50/50	0.3036
232411	W1-006 E	0.5112	50/50	0.5112
232412	X1-032 E	0.4732	50/50	0.4732
232417	X3-008 C	0.5183	50/50	0.5183
232418	X3-008 E	4.9023	50/50	4.9023
232426	Y1-080 FULL	0.0598	50/50	0.0598
232427	Y1-080 E	0.5688	50/50	0.5688
232428	Y3-058 C	0.1521	50/50	0.1521
232429	Y3-058 E	1.4383	50/50	1.4383
232433	Z2-076 E	0.1512	Adder	0.18
232435	Z2-077 E	0.1512	Adder	0.18
232905	BAYVIEW1	0.2443	50/50	0.2443
232907	VN8	3.9453	50/50	3.9453
232919	VN10	0.3965	50/50	0.3965
232921	TASLEY2G	0.4282	50/50	0.4282
232926	CRISFLD1	0.2061	50/50	0.2061
293670	O-025 C	0.1383	50/50	0.1383
917081	Z2-012 C	0.1486	50/50	0.1486
917082	Z2-012 E	1.4052	50/50	1.4052
918831	AA1-102	0.7727	50/50	0.7727
923282	AB1-137 C	0.2879	Adder	0.34
923283	AB1-137 E	0.1234	Adder	0.15
924681	AB2-120 C OP	3.6460	Adder	4.29
924682	AB2-120 E OP	5.9488	Adder	7.0
924781	AB2-130 C OP	3.8511	50/50	3.8511
924782	AB2-130 E OP	6.2834	50/50	6.2834
924831	AB2-136 C	7.6302	50/50	7.6302
924832	AB2-136 E	8.0917	50/50	8.0917
925151	AB2-172 C OP	7.5117	50/50	7.5117
925152	AB2-172 E OP	12.2559	50/50	12.2559
925261	AB2-180 C	2.1652	50/50	2.1652
925262	AB2-180 E	0.9280	50/50	0.9280
927031	AC1-190 C	13.3011	50/50	13.3011
927032	AC1-190 E	5.7005	50/50	5.7005
927191	AC1-213 C	0.4276	50/50	0.4276
927192	AC1-213 E	0.2806	50/50	0.2806

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930201	AB1-056 C	4.1164	Adder	4.84
930202	AB1-056 E	11.7229	Adder	13.79
930881	AB1-137 C	0.2879	Adder	0.34
930882	AB1-137 E	0.1234	Adder	0.15
932161	AC2-023 C	4.4912	50/50	4.4912
932162	AC2-023 E	3.2710	50/50	3.2710
938651	AE1-087 C	6.3256	50/50	6.3256
938652	AE1-087 E	1.5814	50/50	1.5814
938891	AE1-117 C O1	2.8516	Adder	3.35
938892	AE1-117 E O1	7.5929	Adder	8.93
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.8640	Adder	3.37
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	7.6258	Adder	8.97
939151	AE1-145	1.9210	Adder	2.26
939621	AE1-192 C O1	5.3260	50/50	5.3260
939622	AE1-192 E O1	2.6064	50/50	2.6064
942441	AE2-257 C	2.2451	Adder	2.64
942442	AE2-257 E	5.9190	Adder	6.96
943361	AF1-007 C	0.1214	Adder	0.14
943362	AF1-007 E	0.3452	Adder	0.41
944921	AF1-157 C O1	1.3116	Adder	1.54
944922	AF1-157 E O1	0.8744	Adder	1.03
945661	AF1-231 C	0.7320	Adder	0.86
945662	AF1-231 E	1.0980	Adder	1.29
945781	AF1-243	0.5666	50/50	0.5666
945791	AF1-244	0.9557	50/50	0.9557
945931	AF1-258	0.4949	50/50	0.4949
946041	AF1-269 (Withdrawn : 05/12/2020)	2.9792	50/50	2.9792
957611	AF2-055 C	3.9662	50/50	3.9662
957612	AF2-055 E	1.6998	50/50	1.6998
957661	AF2-060	0.4582	Adder	1.02
957671	AF2-061 O2	2.0283	Adder	4.5
959021	AF2-193 C O2	2.9432	Adder	6.53
959022	AF2-193 E O2	7.9391	Adder	17.62
959031	AF2-194 C O2	2.9432	Adder	6.53
959032	AF2-194 E O2	7.9391	Adder	17.62
959051	AF2-196 C	0.3245	Adder	0.72
959052	AF2-196 E	0.7572	Adder	1.68
959161	AF2-207 C O2	2.4736	50/50	2.4736
959162	AF2-207 E O2	3.7104	50/50	3.7104
959571	AF2-248 C	0.4379	50/50	0.4379
959572	AF2-248 E	0.4894	50/50	0.4894
959581	AF2-249 C	0.0773	50/50	0.0773
959582	AF2-249 E	0.3091	50/50	0.3091
959591	AF2-250 C	0.1417	50/50	0.1417
959592	AF2-250 E	0.1095	50/50	0.1095
960341	AF2-325 C	1.4218	50/50	1.4218
960342	AF2-325 E	1.9635	50/50	1.9635
960671	AF2-358 C O2	21.5568	50/50	21.5568

<b>Bus #</b>	<b>Bus</b>	<b>Gendeliv MW Impact</b>	<b>Type</b>	<b>Full MW Impact</b>
960672	AF2-358 E O2	14.3712	50/50	14.3712
960871	AF2-378 C	0.3573	50/50	0.3573
960872	AF2-378 E	0.4957	50/50	0.4957
960881	AF2-379 C	0.2067	50/50	0.2067
960882	AF2-379 E	0.2849	50/50	0.2849
960941	AF2-385 C O2	6.0142	50/50	6.0142
960942	AF2-385 E O2	3.4223	50/50	3.4223
961181	AF2-409 O2	14.9490	50/50	14.9490
NEWTON	NEWTON	0.0752	Confirmed LTF	0.0752
FARMERCITY	FARMERCITY	0.0039	Confirmed LTF	0.0039
CALDERWOOD	CALDERWOOD	0.0348	Confirmed LTF	0.0348
NY	NY	0.0288	Confirmed LTF	0.0288
PRAIRIE	PRAIRIE	0.1808	Confirmed LTF	0.1808
O-066	O-066	0.2890	Confirmed LTF	0.2890
CHEOAH	CHEOAH	0.0350	Confirmed LTF	0.0350
EDWARDS	EDWARDS	0.0245	Confirmed LTF	0.0245
TILTON	TILTON	0.0441	Confirmed LTF	0.0441
G-007	G-007	0.0374	Confirmed LTF	0.0374
GIBSON	GIBSON	0.0382	Confirmed LTF	0.0382
BLUEG	BLUEG	0.1215	Confirmed LTF	0.1215
TRIMBLE	TRIMBLE	0.0390	Confirmed LTF	0.0390
CATAWBA	CATAWBA	0.0245	Confirmed LTF	0.0245

## 14.6 Contingency Descriptions - Secondary POI

Contingency Name	Contingency Definition
PECO_P1-2_220-84	CONTINGENCY 'PECO_P1-2_220-84' /* \$ DELCO \$ 220-84 \$ LB TRIP BRANCH FROM BUS 213750 TO BUS 231000 CKT 1 /* LINWOOD 230.00 CLAY_230 230.00 \$ DELCO \$ 220-84 \$ L END
DPL_P4-2_DP6	CONTINGENCY 'DPL_P4-2_DP6' /*MILFORD BUS BREAKER TO STEELE DISCONNECT BRANCH FROM BUS 232000 TO BUS 232004 CKT 1 /*MILFORD STEELE 230 230 DISCONNECT BRANCH FROM BUS 232003 TO BUS 232004 CKT 1 /*CARTANZA MILFORD 230 230 END
DPL_P1_2_23085 &13710	CONTINGENCY 'DPL_P1_2_23085 &13710' DISCONNECT BUS 232005 /STEELE - VIENNA 230 & VIENNA AT20 DISCONNECT BUS 232116 /VIENNA XFMR - VIENNA 138 END
DPL_P4-2_DP25B	CONTINGENCY 'DPL_P4-2_DP25B' /*CEDAR CREEK 230 BUS BREAKER TO MILFORD DISCONNECT BRANCH FROM BUS 232002 TO BUS 232004 CKT 1 /*CEDAR CK MILFORD 230 230 DISCONNECT BRANCH FROM BUS 232002 TO BUS 232108 CKT 1 /*CEDAR CK CEDAR CK 230 138 AT20 END
PECO_P4_CHICH045/* \$ DELCO \$ CHICH045 \$ STBK	CONTINGENCY 'PECO_P4_CHICH045/* \$ DELCO \$ CHICH045 \$ STBK' DISCONNECT BUS 213489 /* CHICHST1 230.00 \$ DELCO \$ CHICH045 \$ STBK DISCONNECT BUS 213627 /* FOULK8 230.00 \$ DELCO \$ CHICH045 \$ STBK END
DPL_P4-2_DP56	CONTINGENCY 'DPL_P4-2_DP56' /*LORETTO BUS BREAKER DISCONNECT BRANCH FROM BUS 232127 TO BUS 232117 CKT 1 /*LORETTO VIENNA 138 1380 DISCONNECT BRANCH FROM BUS 232127 TO BUS 232128 CKT 1 /*LORETTO PINEY GROVE 138 138 END
DPL_P4-2_DP55	CONTINGENCY 'DPL_P4-2_DP55' /*LORETTO BUS BREAKER DISCONNECT BRANCH FROM BUS 232117 TO BUS 232127 CKT 1 /*VIENNA LORETTO 138 138 DISCONNECT BRANCH FROM BUS 232129 TO BUS 232127 CKT 1 /*LORETTO KINGS CREEK 138 138 END

Contingency Name	Contingency Definition
DPL_P1_3_COOLSPG AT20	CONTINGENCY 'DPL_P1_3_COOLSPG AT20' OPEN LINE FROM BUS 232001 TO BUS 232269 CIRCUIT 1 /COOL SPRINGS AT20 230/69 END
DPL_P1_2_CKT 6715	CONTINGENCY 'DPL_P1_2_CKT 6715' DISCONNECT BUS 232817 / TODD - EAST NEW MARKET REA - EAST NEW MARKET 69 END
DPL_P7_1_DBL_1NCB_FSA-A	CONTINGENCY 'DPL_P7_1_DBL_1NCB_FSA-A' /* #1 & #2 KEENEY-STEELE 230 OPEN LINE FROM BUS 231003 TO BUS 232000 CKT 1 OPEN LINE FROM BUS 231003 TO BUS 923960 CKT 2 OPEN LINE FROM BUS 232000 TO BUS 923960 CKT 2 DISCONNECT BUS 923961 DISCONNECT BUS 923962 END
DPL_P4-2_DP12	CONTINGENCY 'DPL_P4-2_DP12' /*STEELE BUS BREAKER TO VIENNA DISCONNECT BRANCH FROM BUS 232000 TO BUS 232103 CKT 2 /*STEELE STEELE 230 138 AT21 DISCONNECT BRANCH FROM BUS 232000 TO BUS 232005 CKT 1 /*STEELE VIENNA 230 230 END
DPL_P4-2_DP11	CONTINGENCY 'DPL_P4-2_DP11' /*STEELE BUS BREAKER TO MILFORD DISCONNECT BRANCH FROM BUS 232004 TO BUS 232000 CKT 1 /*MILFORD STEELE 230 230 DISCONNECT BRANCH FROM BUS 232000 TO BUS 232005 CKT 1 /*STEELE VIENNA 230 230 END
DPL_P1_2_CKT 6728	CONTINGENCY 'DPL_P1_2_CKT 6728' OPEN LINE FROM BUS 232272 TO BUS 232274 CIRCUIT 1 /MOUNT HERMON - PINEY GROVE 69 DISCONNECT BUS 230912 / PINEY GROVE 69 CAP END
DPL_P1_2_CKT 13707	CONTINGENCY 'DPL_P1_2_CKT 13707' OPEN LINE FROM BUS 232119 TO BUS 232117 CIRCUIT 1 /NELSON - VIENNA 138 END
PECO_P1-2_220-04/* \$ DELCO \$ 220-04 \$ L	CONTINGENCY 'PECO_P1-2_220-04/* \$ DELCO \$ 220-04 \$ L' DISCONNECT BUS 213627 /* CHICHST1 230.00 FOULK8 230.00 \$ DELCO \$ 220-04 \$ L END

Contingency Name	Contingency Definition
PECO_P1-2_5012/* \$ CHESCO \$ 5012 \$ L	CONTINGENCY 'PECO_P1-2_5012/* \$ CHESCO \$ 5012 \$ L' TRIP BRANCH FROM BUS 200064 TO BUS 200004 CKT 1 /* PCHBTM1S 500.00 CNASTONE 500.00 \$ CHESCO \$ 5012 \$ L END
CKT 23030B	CONTINGENCY 'CKT 23030B' OPEN LINE FROM BUS 232002 TO BUS 232013 CIRCUIT 1 /CEDAR CREEK - SILVER RUN 230 END
DPL_P1_2_CKT 6783_FSA	CONTINGENCY 'DPL_P1_2_CKT 6783_FSA' OPEN LINE FROM BUS 232238 TO BUS 924830 CKT 1 / AB2-136 - WEST CAMBRIDGE 69 END
CKT 23030A	CONTINGENCY 'CKT 23030A' OPEN LINE FROM BUS 231004 TO BUS 232013 CIRCUIT 1 /RED LION - SILVER RUN 230 END
CKT 23032A	CONTINGENCY 'CKT 23032A' OPEN LINE FROM BUS 231004 TO BUS 232013 CIRCUIT 2 /RED LION - SILVER RUN 230 END
CKT 23032B	CONTINGENCY 'CKT 23032B' OPEN LINE FROM BUS 232013 TO BUS 232003 CIRCUIT 1 /SILVER RUN - CARTANZA 230 END
PECO_P1-2_5038/* \$ CHESCO \$ 5038 \$ L	CONTINGENCY 'PECO_P1-2_5038/* \$ CHESCO \$ 5038 \$ L' TRIP BRANCH FROM BUS 200012 TO BUS 200028 CKT 1 /* NFREEDOM 500.00 WINDSOR 500.00 \$ CHESCO \$ 5038 \$ L END
PECO_P4_PEACH215/* \$ CHESCO \$ PEACH215 \$ STBK	CONTINGENCY 'PECO_P4_PEACH215/* \$ CHESCO \$ PEACH215 \$ STBK' TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 \$ CHESCO \$ PEACH215 \$ STBK REMOVE MACHINE 1 FROM BUS 200034 /* PCHBTM 2 22.00 \$ CHESCO \$ PEACH215 \$ STBK END
DPL_P1_2_CKT 6708	CONTINGENCY 'DPL_P1_2_CKT 6708' DISCONNECT BUS 232270 / MARDELA - HEBRON 69 & HEBRON XFMR DISCONNECT BUS 232838 / VIENNA - MARDELA 69 DISCONNECT BUS 232644 / HEBRON 1 12 DISCONNECT BUS 232653 / HEBRON 2 12 DISCONNECT BUS 232291 / ROCKAWALKIN - NORTH SALISBURY 69 END

Contingency Name	Contingency Definition
<b>PECO_P2-2_CHI230B1/* \$ DELCO \$ CHI230B1 \$ B</b>	CONTINGENCY 'PECO_P2-2_CHI230B1/* \$ DELCO \$ CHI230B1 \$ B' DISCONNECT BUS 213489 /* CHICHST1 230.00 \$ DELCO \$ CHI230B1 \$ B END
<b>PJM500_PS_P2-3_NFRD5_910</b>	CONTINGENCY 'PJM500_PS_P2-3_NFRD5_910' DISCONNECT BRANCH FROM BUS 200012 TO BUS 219100 CKT 4 /* 500/230 KV TX NEW FREED TRIP LINE FROM BUS 200012 TO BUS 200028 CKT 1 /* 5038 NEW FREEDOM TO WINSOR END
<b>PECO_P1-2_5014/* \$ CHESCO \$ 5014 \$ L</b>	CONTINGENCY 'PECO_P1-2_5014/* \$ CHESCO \$ 5014 \$ L' TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 \$ CHESCO \$ 5014 \$ L END
<b>Base Case</b>	
<b>DPL_P1_2_CKT 23015</b>	CONTINGENCY 'DPL_P1_2_CKT 23015' OPEN LINE FROM BUS 231000 TO BUS 231001 CIRCUIT 1 /CLAYMONT - EDGE MOOR 230 END
<b>DPL_P4-2_DP24</b>	CONTINGENCY 'DPL_P4-2_DP24' /*CEDAR CREEK BUS BREAKER TO SILVER RUN DISCONNECT BRANCH FROM BUS 232013 TO BUS 232002 CKT 1 /*SILVER RUN CEDAR CK 230 230 DISCONNECT BRANCH FROM BUS 232002 TO BUS 232108 CKT 1 /*CEDAR CK CEDAR CK 230 138 AT20 END
<b>PECO_P4_PEACH205/* \$ CHESCO \$ PEACH205 \$ STBK</b>	CONTINGENCY 'PECO_P4_PEACH205/* \$ CHESCO \$ PEACH205 \$ STBK' TRIP BRANCH FROM BUS 200065 TO BUS 200066 CKT 1 /* PCHBTM2S 500.00 PCHBTM1N 500.00 \$ CHESCO \$ PEACH205 \$ STBK TRIP BRANCH FROM BUS 200064 TO BUS 200065 CKT Z1 /* PCHBTM1S 500.00 PCHBTM2S 500.00 \$ CHESCO \$ PEACH205 \$ STBK TRIP BRANCH FROM BUS 200013 TO BUS 200066 CKT Z1 /* PCHBTM2N 500.00 PCHBTM1N 500.00 \$ CHESCO \$ PEACH205 \$ STBK TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 \$ CHESCO \$ PEACH205 \$ STBK END

Contingency Name	Contingency Definition
<b>DPL_P4-2_DP23</b>	CONTINGENCY 'DPL_P4-2_DP23' /*CEDAR CREEK BUS BREAKER TO SILVER RUN DISCONNECT BRANCH FROM BUS 232002 TO BUS 232013 CKT 1 /*CEDAR CK SILVER RUN 230 230 DISCONNECT BRANCH FROM BUS 232002 TO BUS 232004 CKT 1 /*CEDAR CK MILFORD 230 230 END
<b>PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK</b>	CONTINGENCY 'PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK' TRIP BRANCH FROM BUS 213750 TO BUS 231001 CKT 1 /* LINWOOD 230.00 EDGEMR5 230.00 \$ DELCO \$ LINWO225 \$ STBK DISCONNECT BUS 213892 /* PHLISL87 230.00 \$ DELCO \$ LINWO225 \$ STBK DISCONNECT BUS 213888 /* PHLISCT1 18.00 \$ DELCO \$ LINWO225 \$ STBK DISCONNECT BUS 213889 /* PHLISCT2 18.00 \$ DELCO \$ LINWO225 \$ STBK END
<b>PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC</b>	CONTINGENCY 'PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC' TRIP BRANCH FROM BUS 213750 TO BUS 231001 CKT 1 /* LINWOOD 230.00 EDGEMR5 230.00 \$ DELCO \$ 220-85 \$ L END
<b>DPL_P1_2_CKT 6716C</b>	CONTINGENCY 'DPL_P1_2_CKT 6716C' DISCONNECT BUS 232233 / TODD - PRESTON - 69 DISCONNECT BUS 232606 END
<b>PECO_P1-2_5007_S/* \$ CHESCO \$ 5007_S \$ L</b>	CONTINGENCY 'PECO_P1-2_5007_S/* \$ CHESCO \$ 5007_S \$ L' TRIP BRANCH FROM BUS 200066 TO BUS 270072 CKT 1 /* PCHBTM1N 500.00 FUR RUN_500 500.00 \$ CHESCO \$ 5007_S \$ L END

## 15 Affected Systems

None