



Generation Interconnection

Feasibility Study Report

For

Queue Project AF2-385

NELSON 69 KV

47.8 MW Capacity / 75 MW Energy

July 2020

Table of Contents

1	Introduction.....	5
2	Preface.....	5
3	General	6
4	Primary Point of Interconnection	6
5	Cost Summary	6
5.1	DPL Costs.....	7
6	Transmission Owner Scope of Work	7
7	Schedule.....	7
8	Transmission Owner Analysis.....	7
9	Interconnection Customer Requirements.....	8
9.1	Required Relaying and Communications.....	8
9.2	Interconnection Customer Scope of Direct Connection Work	8
9.3	DPL Interconnection Customer Scope of Direct Connection Work Requirements.....	8
9.4	Special Operating Requirements.....	8
10	Revenue Metering and SCADA Requirements	9
10.1	PJM Requirements	9
10.2	Interconnected Transmission Owner Requirements.....	9
11	Summer Peak - Load Flow Analysis - Primary POI	10
11.1	Generation Deliverability	10
11.2	Multiple Facility Contingency	10
11.3	Contribution to Previously Identified Overloads.....	10
11.4	Potential Congestion due to Local Energy Deliverability.....	11
11.5	System Reinforcements - Summer Peak Load Flow - Primary POI.....	13
11.6	Flow Gate Details - Primary POI	21
11.6.1	Index 1	22
11.6.2	Index 2	25
11.6.3	Index 3	31
11.6.4	Index 4	35
11.6.5	Index 5	39
11.6.6	Index 6	43
11.6.7	Index 7	46

11.6.8	Index 8	50
11.6.9	Index 9	53
11.6.10	Index 10.....	57
11.6.11	Index 11.....	61
11.6.12	Index 12.....	65
11.6.13	Index 13.....	68
11.6.14	Index 14.....	71
11.6.15	Index 15.....	74
11.6.16	Index 16.....	77
11.6.17	Index 17.....	80
11.6.18	Index 18.....	83
11.6.19	Index 19.....	85
11.6.20	Index 20.....	88
11.7	Queue Dependencies	91
11.8	Contingency Descriptions - Primary POI.....	94
12	Short Circuit Analysis - Primary POI.....	97
13	Secondary Point of Interconnection.....	98
14	Summer Peak - Load Flow Analysis - Secondary POI	98
14.1	Generation Deliverability	98
14.2	Multiple Facility Contingency	98
14.3	Contribution to Previously Identified Overloads.....	98
14.4	Potential Congestion due to Local Energy Deliverability.....	99
14.5	Flow Gate Details - Secondary POI.....	101
14.5.1	Index 1	102
14.5.2	Index 2	104
14.5.3	Index 3	110
14.5.4	Index 4	114
14.5.5	Index 5	118
14.5.6	Index 6	122
14.5.7	Index 7	126
14.5.8	Index 8	130
14.5.9	Index 9	134
14.5.10	Index 10.....	138

14.5.11	Index 11.....	141
14.5.12	Index 12.....	144
14.5.13	Index 13.....	147
14.5.14	Index 14.....	150
14.5.15	Index 15.....	152
14.5.16	Index 16.....	155
14.6	Contingency Descriptions - Secondary POI.....	158
15	Affected Systems	161

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.

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 Sussex County, Delaware. The installed facilities will have a total capability of 75 MW with 47.8 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is October 31, 2022. This study does not imply a TO commitment to this in-service date.

Queue Number	AF2-385
Project Name	NELSON 69 KV
State	Delaware
County	Sussex
Transmission Owner	DPL
MFO	75
MWE	75
MWC	47.8
Fuel	Solar
Basecase Study Year	2023

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

4 Primary Point of Interconnection

AF2-385 will have a primary point of interconnection with the DPL transmission system at the Nelson 69 kV substation by installing an additional terminal position at the substation.

5 Cost Summary

The AF2-385 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$ 1,950,000
Total System Network Upgrade Costs	\$503,685,000
Total Costs	\$505,635,000

This cost excludes a Federal Income Tax Gross Up charges. This tax may or may not be charged based on whether this project meets the eligibility requirements of IRS Notice 88-129. If at a future date it is determined that the Federal Income Tax Gross charge is required, the Transmission Owner shall be reimbursed by the Interconnection Customer for such taxes.

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

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 AF2-385 project. DPL reserves the right to reassess issues presented in this document and, upon appropriate justification, submit additional costs related to the AF2-385 project.

6 Transmission Owner Scope of Work

Add a new 69 kV bus position to the existing Nelson 69 kV substation

Major Equipment:

- One (1) 2000A 69 kV circuit breakers
- Two (2) 2000A 69 kV breaker disconnect switches
- One (1) 3000A 69 kV line disconnect switches
- Two (2) new relay panel
- Associated Bus work and relaying

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

Description	Total Cost
New bus position at Nelson 69 kV	\$1,950,000
Total Physical Interconnection Costs	\$1,950,000

Estimate Assumptions:

- Any additional land required for the substation expansion will be provided by the IC and is not included in the cost estimate
- Site prep to be performed by IC if additional land required
- Existing control house can accommodate necessary relaying

7 Schedule

DPL would take approximately 18-24 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 terminal.

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.

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

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 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 120V power to the meter cabinet. 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 AF2-385 was evaluated as a 75.0 MW (Capacity 48.0 MW) injection at the Nelson 69 kV substation in the DPL area. Project AF2-385 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-385 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)

None

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
102038441	232112	FELTON	138.0	DP&L	232110	CHESWOLD	138.0	DP&L	1	DPL_P4-2_DP6	breaker	242.0	96.75	100.68	DC	9.57

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
99696354	200051	ROCKSPGS	500.0	PJM	200065	PCHBTM2S	500.0	PJM	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	144.23	144.83	DC	38.23
100338578	231000	CLAY_230	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	150.17	150.81	DC	11.19
100338591	231001	EDGEMRS	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	144.9	145.47	DC	10.14
102038295	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P4_PEACH215/* \$ CHESCO \$ PEACH215 \$ STBK	breaker	378.0	122.3	123.15	DC	7.16
102038296	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P4_PEACH205/* \$ CHESCO \$ PEACH205 \$ STBK	breaker	378.0	120.29	121.14	DC	7.16
100338531	232001	COOLSPRS	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	DPL_P4-2_DP15	breaker	678.0	158.78	162.8	DC	27.35
99696291	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	DPL_P4-2_DP25B	breaker	804.0	154.55	155.97	DC	25.17
99696292	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	DPL_P4-2_DP23	breaker	804.0	154.43	155.84	DC	25.17
99696293	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	DPL_P4-2_DP24	breaker	804.0	154.42	155.83	DC	25.17
100338604	232006	INDRIV4	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	DPL_P4-2_DP36	breaker	805.0	138.17	139.85	DC	30.14
102039387	232100	CHURCH	138.0	DP&L	232107	TOWNSEND	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_FSA-A	tower	348.0	139.84	144.21	DC	15.35
102039393	232106	MIDLTNTP	138.0	DP&L	232104	MT PLSNT	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_FSA-A	tower	348.0	135.72	140.1	DC	15.35

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
102039377	232107	TOWNSEND	138.0	DP&L	232106	MIDLTNT P	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_FSA-A	tower	348.0	145.03	149.41	DC	15.35
102038375	232114	SHARNGTN	138.0	DP&L	232112	FELTON	138.0	DP&L	1	DPL_P4-2_DP6	breaker	242.0	105.93	109.85	DC	9.57
102038281	232215	KENT	69.0	DP&L	232812	NMERED TH	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	128.13	130.21	DC	4.27
102038300	232230	TRAP ALT	69.0	DP&L	232232	TRAPPET P	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	112.0	117.25	DC	9.12
102038301	232232	TRAPPET P	69.0	DP&L	232227	EASTN_69	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	111.17	116.6	DC	9.45
102038138	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	235.94	246.05	DC	9.45
102038139	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	DPL_P4-2_DP12	breaker	93.0	123.87	127.42	DC	7.33
102038123	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	240.89	251.0	DC	9.45
102038124	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	DPL_P4-2_DP12	breaker	93.0	128.92	132.47	DC	7.33
102038309	232241	VIENN_69	69.0	DP&L	232234	TODD	69.0	DP&L	1	DPL_P4-2_DP11	breaker	143.0	109.64	114.89	DC	7.51
102038387	232812	NMERED TH	69.0	DP&L	924820	AB2-135 TAP	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	105.88	107.95	DC	4.27
102038264	232821	TANYARD	69.0	DP&L	232820	TALBOT	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	123.43	128.86	DC	9.45

11.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
99696876	200051	ROCKSPGS	500.0	PJM	200065	PCHBTM2S	500.0	PJM	1	PECO_P1-2_5038/* \$ CHESCO \$ 5038 \$ L	operation	2905.0	142.77	143.37	DC	37.94
100338924	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	141.0	141.64	DC	11.23
100338940	231001	EDGE MR5	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-84	operation	804.0	138.98	139.61	DC	10.92
100338950	231001	EDGE MR5	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	operation	804.0	136.46	137.04	DC	10.18

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
102038741	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P1-2_5014/* \$ CHESCO \$ 5014 \$ L	operation	378.0	120.26	121.12	DC	7.16
100338871	232001	COOLSPRS	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	DPL_P1_2_CKT 23034	operation	678.0	159.45	161.52	DC	31.2
100338873	232001	COOLSPRS	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	Base Case	operation	550.0	109.02	110.55	DC	18.84
99696697	232002	CEDAR CK	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	CKT 23032B	operation	679.0	171.7	173.65	DC	29.24
99696698	232002	CEDAR CK	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	Base Case	operation	551.0	135.27	139.06	DC	21.14
99696796	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	CKT 23030B	operation	804.0	154.24	155.63	DC	25.22
99696797	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	Base Case	operation	650.0	140.47	141.57	DC	15.94
100338865	232004	MILF_230	230.0	DP&L	232000	STEELE	230.0	DP&L	1	CKT 23032B	operation	550.0	170.49	171.77	DC	15.59
100338870	232004	MILF_230	230.0	DP&L	232000	STEELE	230.0	DP&L	1	Base Case	operation	550.0	110.97	111.74	DC	9.38
100339097	232004	MILF_230	230.0	DP&L	232002	CEDAR CK	230.0	DP&L	1	CKT 23032B	operation	804.0	108.36	109.54	DC	20.96
100338937	232006	INDRIV 4	230.0	DP&L	232001	COOLSPRS	230.0	DP&L	1	DPL_P1_2_CKT 23034	operation	800.0	139.68	141.03	DC	24.12
100338938	232006	INDRIV 4	230.0	DP&L	232001	COOLSPRS	230.0	DP&L	1	Base Case	operation	650.0	101.08	101.94	DC	12.48
100338946	232006	INDRIV 4	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	DPL_P1_2_CKT 23069	operation	805.0	136.23	137.94	DC	30.63
100338948	232006	INDRIV 4	230.0	DP&L	232004	MILF_230	230.0	DP&L	1	Base Case	operation	650.0	103.87	105.07	DC	17.35
99697005	232013	SILVER RUN	230.0	PJM	231004	RL_230	230.0	DP&L	1	CKT 23032A	operation	679.0	115.03	116.2	DC	17.64
99697070	232013	SILVER RUN	230.0	PJM	231004	RL_230	230.0	DP&L	2	CKT 23030A	operation	790.0	98.99	100.0	DC	17.65
102038772	232100	CHURCH	138.0	DP&L	232107	TOWNSE ND	138.0	DP&L	1	CKT 23032B	operation	348.0	105.66	108.19	DC	8.89
102038787	232106	MIDLTNT P	138.0	DP&L	232104	MT PLSNT	138.0	DP&L	1	CKT 23032B	operation	348.0	104.13	106.66	DC	8.89
102038735	232107	TOWNSE ND	138.0	DP&L	232106	MIDLTNT P	138.0	DP&L	1	CKT 23032B	operation	348.0	113.47	116.0	DC	8.89
102038737	232107	TOWNSE ND	138.0	DP&L	232106	MIDLTNT P	138.0	DP&L	1	Base Case	operation	273.0	110.3	111.53	DC	7.43
102038681	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	DPL_P1_2_230 85 & 13710	operation	93.0	123.05	126.61	DC	7.34
102038662	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	DPL_P1_2_230 85 & 13710	operation	93.0	128.11	131.66	DC	7.34
102038792	232249	LAUREL	69.0	DP&L	232247	DUP-SFRD	69.0	DP&L	1	DPL_P1_2_230 85 & 13710	operation	93.0	89.83	104.7	DC	13.82
102038756	232250	NELSN_69	69.0	DP&L	232828	SHORT 1	69.0	DP&L	1	DPL_P1_2_CKT 23002	operation	93.0	93.65	118.2	DC	23.27
102038684	232828	SHORT 1	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	Base Case	operation	41.0	85.53	139.37	DC	22.07
102038685	232828	SHORT 1	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	DPL_P1_2_CKT 6743	operation	57.0	79.99	139.0	DC	33.64

11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
102038264	20	TANYARD 69.0 kV - TALBOT 69.0 kV Ckt 1	<u>DP&L</u> dt6716r0003 (1047) : To mitigate the (DP&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 <u>DP&L</u> ds6716r0003 (1048) : To mitigate the (DP&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	\$7,699,000
99696292,99696293,99696291	7	CARTANZA 230.0 kV - SILVER RUN 230.0 kV Ckt 1	<u>DP&L</u> dt23032r0002 (1024) : Rebuild Cartanza - Silver Run 230 kV line Project Type : FAC Cost : \$67,000,000 Time Estimate : 48-60 Months <u>DP&L</u> ds23032r0001 (1025) : Replace 3000A CBs at Cartanza with 4000A CBs Project Type : FAC Cost : \$1,000,000 Time Estimate : 12-18 Months	\$68,000,000
102038139,102038138	16	PRESTON 69.0 kV - TANYARD 69.0 kV Ckt 1	<u>DP&L</u> b2946 (1019) : PJM baseline upgrade b2946 conversion of Preston station to a Ring Bus Project Type : CON Cost : \$0 Time Estimate : 30-36 Months <u>DP&L</u> dt6716r0001 (1044) : To mitigate the (DP&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 <u>DP&L</u> ds6716r0002 (1045) : To mitigate the (DP&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	\$11,100,000

ID	Idx	Facility	Upgrade Description	Cost
102039393	10	MIDLTNTP 138.0 kV - MT PLSNT 138.0 kV Ckt 1	<u>DP&L</u> dt13808r0002 (1016) : Partial reconductor of 13808 line between Mt. Pleasant and Middletown Tap Project Type : FAC Cost : \$110,000 Time Estimate : 9-12 Months <u>DP&L</u> ds13808r0002 (1018) : Upgrade disconnect switch at Middletown Tap Project Type : FAC Cost : \$100,000 Time Estimate : 12.0 Months <u>DP&L</u> dt13808r0003 (1059): To mitigate the (DPL) Mt. Pleasant - Middletown Tap 138 kV line (from bus 232104 to 232106) overload is will require increasing the emergency rating of the line by rebuilding the line with new poles, conductor, foundations, insulators and OPGW. In addition, terminal upgrades will be required at Mt. Pleasant Project Type : FAC Cost : \$7,500,000 Time Estimate : 36-48 Months	\$7,710,000
102038441	1	FELTON 138.0 kV - CHESWOLD 138.0 kV Ckt 1	<u>DP&L</u> dt13704r0001 (1065) : To mitigate the (DPL) Cheswold - Felton 138 kV line (from bus 232110 to 232112) overload, it will require increasing the emergency rating of the line by rebuilding it with new poles, conductor, foundations, insulators and OPGW Project Type : FAC Cost : \$23,000,000 Time Estimate : 36-48 Months	\$23,000,000
99696354	2	ROCKSPGS 500.0 kV - PCHBTM2S 500.0 kV Ckt 1	<u>PECO</u> pe027 (1916): 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

ID	Idx	Facility	Upgrade Description	Cost
102039377	11	TOWNSEND 138.0 kV - MIDLTNTP 138.0 kV Ckt 1	<u>DP&L</u> ds13808r0001 (1017) : Upgrade disconnect switch at Middletown Tap Project Type : FAC Cost : \$100,000 Time Estimate : 12.0 Months <u>DP&L</u> dt13808r0001 (1041) : 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 <u>DP&L</u> dt13808r0004 (1075) : 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
102038301	15	TRAPPETP 69.0 kV - EASTN_69 69.0 kV Ckt 1	<u>DP&L</u> dt6716r0006 (1076): 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
102039387	9	CHURCH 138.0 kV - TOWNSEND 138.0 kV Ckt 1	<u>DP&L</u> ds13833r0001 (1037): To mitigate the (DP&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 <u>DP&L</u> ds13833r0002 (1038): To mitigate the (DP&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 <u>DP&L</u> ds13833r0003 (1039): To mitigate the (DP&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 <u>DP&L</u> dt13833r0001 (1040) : To mitigate the (DP&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	\$26,800,000

ID	Idx	Facility	Upgrade Description	Cost
102038123,102038124	17	TODD 69.0 kV - PRESTON 69.0 kV Ckt 1	<u>DP&L</u> b2946 (1019) : PJM baseline upgrade b2946 conversion of Preston station to a Ring Bus Project Type : CON Cost : \$0 Time Estimate : 30-36 Months <u>DP&L</u> ds6716r0001 (1031): Previously identified in AB2-172, To mitigate the (DP&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 Project Type : FAC Cost : \$100,000 Time Estimate : 12.0 Months <u>DP&L</u> ds6716r0002 (1045) : To mitigate the (DP&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 <u>DP&L</u> dt6716r0005 (1062) : To mitigate the (DP&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. Project Type : FAC Cost : \$9,000,000 Time Estimate : 36-48 Months <u>DP&L</u> ds6716r0004 (1063) : To mitigate the (DP&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 Project Type : FAC Cost : \$100,000 Time Estimate : 9-12 Months	\$9,300,000

ID	Idx	Facility	Upgrade Description	Cost
100338578	3	CLAY_230 230.0 kV - LINWOOD 230.0 kV Ckt 1	<u>DP&L</u> b2985 (1030): 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 <u>DP&L</u> dt22084r0001 (1053) : 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 <u>PECO</u> pe025 (1693) : 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 <u>PECO</u> pe026 (1694) : Replace 1 line trap at Linwood station Project Type : FAC Cost : \$900,000 Time Estimate : 3.0 Months	\$12,500,000
100338591	4	EDGE MR 5 230.0 kV - CLAY_230 230.0 kV Ckt 1	<u>DP&L</u> dt23015r0001 (1043) : To mitigate the (DP&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	\$23,000,000
102038375	12	SHARNGTN 138.0 kV - FELTON 138.0 kV Ckt 1	<u>DP&L</u> dt13709r0001 (1049) : To mitigate the (DP&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	\$17,000,000

ID	Idx	Facility	Upgrade Description	Cost
102038295,102038296	5	GLASGOW 138.0 kV - CECIL138 138.0 kV Ckt 1	<u>DP&L</u> dt13810r0001 (1034) : 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. Project Type : FAC Cost : \$5,000,000 Time Estimate : 36-60 Months <u>DP&L</u> ds13810r0001 (1061) : 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 Glsagow Project Type : FAC Cost : \$100,000 Time Estimate : 9-12 Months	\$5,100,000
100338604	8	INDRIV 4 230.0 kV - MILF_230 230.0 kV Ckt 1	<u>DP&L</u> dt23034r0001 (1057) : 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 <u>DP&L</u> ds23034r0001 (1058) : 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	\$60,250,000
102038309	18	VIENN_69 69.0 kV - TODD 69.0 kV Ckt 1	<u>DP&L</u> ds6702r0001 (1066) : To mitigate the (DPL) Vienna - Todd 69 kV line (from bus 232241 to 232234) it will require increasing the emergency rating of the line by upgrading the relays at both Todd and Vienna Project Type : FAC Cost : \$450,000 Time Estimate : 12-18 Months	\$450,000
102038281	13	KENT 69.0 kV - NMEREDTH 69.0 kV Ckt 1	<u>DP&L</u> dt6704r0001 (1020): Rebuild 6704-2 Line from Kent to N. Meredith Tap. Upgrade disconnect switch @ N Meredith Project Type : FAC Cost : \$7,600,000 Time Estimate : 36-48 Months	\$7,600,000

ID	Idx	Facility	Upgrade Description	Cost
102038300	14	TRAP ALT 69.0 kV - TRAPPETP 69.0 kV Ckt 1	<u>DP&L</u> dt6716r0004 (1060) : 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	\$475,000
102038387	19	NMEREDTH 69.0 kV - AB2-135 TAP 69.0 kV Ckt 1	<u>DP&L</u> dt6704r0002 (1056) : To mitigate the (DPL) New Meredith to AB2-135 Tap 69 kV line (from bus 232812 to 924820_ overload it will require increasing the emergency rating of the New Meredith to AB2-135 Tap 69 kV line by rebuilding the line with new poles foundations insulators and OPGW. Terminal equipment at New Meredith Tap will also need to be replaced Project Type : FAC Cost : \$11,000,000 Time Estimate : 36-48 Months	\$11,000,000
100338531	6	COOLSPRS 230.0 kV - MILF_230 230.0 kV Ckt 1	<u>DP&L</u> dt23069r0001 (1070) : 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 <u>DP&L</u> ds23069r0001 (1071) : Upgrade terminal equipment at Milford and Cool Spring Project Type : FAC Cost : \$400,000 Time Estimate : 12-18 Months <u>DP&L</u> ds23069r0002 (1072) : Upgrade terminal equipment at Milford and Cool Spring Project Type : FAC Cost : \$200,000 Time Estimate : 9-12 Months	\$52,600,000
			TOTAL COST	\$503,685,000

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".

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
102038441	232112	FELTON	DP&L	232110	CHESWOLD	DP&L	1	DPL_P4-2_DP6	breaker	242.0	96.75	100.68	DC	9.57

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

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
99696354	200051	ROCKSPGS	PJM	200065	PCHBTM2S	PJM	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	144.23	144.83	DC	38.23

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

11.6.3 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 IMPACT
100338578	231000	CLAY_230	DP&L	213750	LINWOOD	PECO	1	PECO_P4_LINWO225/ * \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	150.17	150.81	DC	11.19

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

11.6.4 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 LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPAC T
100338591	231001	EDGEM R 5	DP&L	23100 0	CLAY_23 0	DP&L	1	PECO_P4_LINWO225/ * \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	144.9	145.47	DC	10.14

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

11.6.5 Index 5

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
102038295	231124	GLASGOW	DP&L	231130	CECIL138	DP&L	1	PECO_P4_PEACH215/ * \$ CHESCO \$ PEACH215 \$ STBK	breaker	378.0	122.3	123.15	DC	7.16

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

11.6.6 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
100338531	232001	COOLSPRS	DP&L	232004	MILF_230	DP&L	1	DPL_P4-2_DP15	breaker	678.0	158.78	162.8	DC	27.35

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

11.6.7 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
99696293	232003	CARTANZA	DP&L	232013	SILVER RUN	PJM	1	DPL_P4-2_DP24	breaker	804.0	154.42	155.83	DC	25.17

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960942	AF2-385 E O1	4.0816	Adder	9.06
960961	AF2-387 C O1	6.1759	Adder	13.71
960962	AF2-387 E O1	3.0972	Adder	6.88
961181	AF2-409 O1	13.3334	Adder	29.6
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

11.6.8 Index 8

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
100338604	232006	INDRIV 4	DP&L	232004	MILF_230	DP&L	1	DPL_P4-2_DP36	breaker	805.0	138.17	139.85	DC	30.14

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

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

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 LOADIN G %	POST PROJECT LOADIN G %	ACID C	MW IMPACT
102039387	232100	CHURCH	DP&L	232107	TOWNSEND	DP&L	1	DPL_P7_1_DBL_1NCB_FS A-A	tower	348.0	139.84	144.21	DC	15.35

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

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 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

11.6.10 Index 10

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 %	ACID C	MW IMPACT
102039393	232106	MIDLTNT P	DP&L	232104	MT PLSN T	DP&L	1	DPL_P7_1_DBL_1NCB_FSA-A	tower	348.0	135.72	140.1	DC	15.35

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

11.6.11 Index 11

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 %	ACID C	MW IMPACT
102039377	232107	TOWNSEND	DP&L	232106	MIDLTNT P	DP&L	1	DPL_P7_1_DBL_1NCB_FS A-A	tower	348.0	145.03	149.41	DC	15.35

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

11.6.12 Index 12

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
102038375	232114	SHARNGTN	DP&L	232112	FELTON	DP&L	1	DPL_P4-2_DP6	breaker	242.0	105.93	109.85	DC	9.57

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

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
102038281	232215	KENT	DP&L	232812	NMEREDTH	DP&L	1	DPL_P4-2_DP11	breaker	93.0	128.13	130.21	DC	4.27

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	0.2068	Adder	0.24
232407	W1-004 E	0.2068	Adder	0.24
232409	W1-005 E	0.2068	Adder	0.24
232411	W1-006 E	0.2068	Adder	0.24
232412	X1-032 E	0.1823	Adder	0.21
232429	Y3-058 E	0.4017	Adder	0.47
232433	Z2-076 E	0.0983	Adder	0.12
232435	Z2-077 E	0.0983	Adder	0.12
232813	VAUGHN	0.1279	50/50	0.1279
232899	W1-062	0.9333	50/50	0.9333
232900	DEMECSMY	0.9333	50/50	0.9333
232910	NRG_G1	2.3092	50/50	2.3092
232911	NRG_G2	2.3092	50/50	2.3092
917082	Z2-012 E	0.5697	Adder	0.67
923282	AB1-137 C	0.2078	Adder	0.24
923283	AB1-137 E	0.0891	Adder	0.1
923322	AB1-141 C OP	-1.0388	Adder	-1.22
923332	AB1-142 C OP	-1.0388	Adder	-1.22
923921	AB2-032 C	-1.0465	Adder	-1.23
924681	AB2-120 C OP	1.7468	Adder	2.06
924682	AB2-120 E OP	2.8500	Adder	3.35
924781	AB2-130 C OP	1.7505	Adder	2.06
924782	AB2-130 E OP	2.8561	Adder	3.36
924971	AB2-153 C	-0.5848	Adder	-0.69
925251	AB2-179 C OP	-2.0557	Adder	-2.42
925261	AB2-180 C	0.6048	Adder	0.71
925262	AB2-180 E	0.2592	Adder	0.3
926131	AC1-091 C	0.4457	Adder	0.52
926132	AC1-091 E	0.7309	Adder	0.86
926141	AC1-092 C	0.4457	Adder	0.52
926142	AC1-092 E	0.7309	Adder	0.86
926151	AC1-093 C	0.4219	Adder	0.5
926152	AC1-093 E	0.6953	Adder	0.82
926161	AC1-094 C	0.3565	Adder	0.42
926162	AC1-094 E	0.5883	Adder	0.69
927191	AC1-213 C	0.1456	Adder	0.17
927192	AC1-213 E	0.0956	Adder	0.11
930201	AB1-056 C	3.1070	Adder	3.66
930202	AB1-056 E	8.8483	Adder	10.41
930881	AB1-137 C	0.2078	Adder	0.24
930882	AB1-137 E	0.0891	Adder	0.1
933631	AC2-185 C	0.9032	Adder	1.06

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933632	AC2-185 E	1.4737	Adder	1.73
933641	AC2-186 C	2.7814	50/50	2.7814
933642	AC2-186 E	4.5381	50/50	4.5381
938891	AE1-117 C O1	2.0516	Adder	2.41
938892	AE1-117 E O1	5.4627	Adder	6.43
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.0509	Adder	2.41
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	5.4608	Adder	6.42
939151	AE1-145	0.9194	Adder	1.08
939621	AE1-192 C O1	2.1593	Adder	2.54
939622	AE1-192 E O1	1.0567	Adder	1.24
942441	AE2-257 C	1.6289	Adder	1.92
942442	AE2-257 E	4.2943	Adder	5.05
943361	AF1-007 C	0.0917	Adder	0.11
943362	AF1-007 E	0.2605	Adder	0.31
944921	AF1-157 C O1	0.7817	Adder	0.92
944922	AF1-157 E O1	0.5211	Adder	0.61
945661	AF1-231 C	0.3491	Adder	0.41
945662	AF1-231 E	0.5236	Adder	0.62
945781	AF1-243	0.2297	Adder	0.27
945791	AF1-244	0.3641	Adder	0.43
945931	AF1-258	0.1382	Adder	0.16
957611	AF2-055 C	0.8522	Adder	1.89
957612	AF2-055 E	0.3652	Adder	0.81
957661	AF2-060	0.2193	Adder	0.49
957671	AF2-061 O1	0.9745	Adder	2.16
958153	AF2-109 BAT	3.2376	50/50	3.2376
959021	AF2-193 C O1	3.0429	Adder	6.75
959022	AF2-193 E O1	8.2081	Adder	18.22
959031	AF2-194 C O1	3.0429	Adder	6.75
959032	AF2-194 E O1	8.2081	Adder	18.22
959051	AF2-196 C	0.2354	Adder	0.52
959052	AF2-196 E	0.5494	Adder	1.22
959161	AF2-207 C O1	0.5175	Adder	1.15
959162	AF2-207 E O1	0.7762	Adder	1.72
959571	AF2-248 C	0.0853	Adder	0.19
959572	AF2-248 E	0.0954	Adder	0.21
959581	AF2-249 C	0.0151	Adder	0.03
959582	AF2-249 E	0.0602	Adder	0.13
959591	AF2-250 C	0.0276	Adder	0.06
959592	AF2-250 E	0.0213	Adder	0.05
960881	AF2-379 C	0.0394	Adder	0.09
960882	AF2-379 E	0.0543	Adder	0.12
960941	AF2-385 C O1	1.2321	Adder	2.73
960942	AF2-385 E O1	0.6931	Adder	1.54
961181	AF2-409 O1	2.2845	Adder	5.07
NEWTON	NEWTON	0.0666	Confirmed LTF	0.0666
FARMERCITY	FARMERCITY	0.0035	Confirmed LTF	0.0035
CALDERWOOD	CALDERWOOD	0.0308	Confirmed LTF	0.0308
NY	NY	0.0188	Confirmed LTF	0.0188

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
PRAIRIE	PRAIRIE	0.1601	Confirmed LTF	0.1601
O-066	O-066	0.1411	Confirmed LTF	0.1411
CHEOAH	CHEOAH	0.0310	Confirmed LTF	0.0310
EDWARDS	EDWARDS	0.0217	Confirmed LTF	0.0217
TILTON	TILTON	0.0391	Confirmed LTF	0.0391
G-007	G-007	0.0104	Confirmed LTF	0.0104
GIBSON	GIBSON	0.0339	Confirmed LTF	0.0339
BLUEG	BLUEG	0.1076	Confirmed LTF	0.1076
TRIMBLE	TRIMBLE	0.0345	Confirmed LTF	0.0345
CATAWBA	CATAWBA	0.0221	Confirmed LTF	0.0221

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
102038300	232230	TRAP ALT	DP&L	232232	TRAPPETP	DP&L	1	DPL_P4-2_DP11	breaker	173.0	112.0	117.25	DC	9.12

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

11.6.15 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
102038301	232232	TRAPPETP	DP&L	232227	EASTN_69	DP&L	1	DPL_P4-2_DP11	breaker	173.0	111.17	116.6	DC	9.45

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

11.6.16 Index 16

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
102038138	232233	PRESTON	DP&L	232821	TANYARD	DP&L	1	DPL_P4-2_DP11	breaker	93.0	235.94	246.05	DC	9.45

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

11.6.17 Index 17

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
102038123	232234	TODD	DP&L	232233	PRESTON	DP&L	1	DPL_P4-2_DP11	breaker	93.0	240.89	251.0	DC	9.45

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

11.6.18 Index 18

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
102038309	232241	VIENN_69	DP&L	232234	TODD	DP&L	1	DPL_P4-2_DP11	breaker	143.0	109.64	114.89	DC	7.51

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	0.3455	Adder	0.41
232407	W1-004 E	0.3455	Adder	0.41
232409	W1-005 E	0.3455	Adder	0.41
232411	W1-006 E	0.3455	Adder	0.41
232412	X1-032 E	0.3198	Adder	0.38
232428	Y3-058 C	0.1209	50/50	0.1209
232429	Y3-058 E	1.1436	50/50	1.1436
232433	Z2-076 E	0.1202	Adder	0.14
232435	Z2-077 E	0.1202	Adder	0.14
232907	VN8	3.1366	50/50	3.1366
232919	VN10	0.3152	50/50	0.3152
293670	O-025 C	0.1100	50/50	0.1100
917082	Z2-012 E	0.9497	Adder	1.12
923282	AB1-137 C	0.2289	Adder	0.27
923283	AB1-137 E	0.0981	Adder	0.12
924681	AB2-120 C OP	2.8992	Adder	3.41
924682	AB2-120 E OP	4.7304	Adder	5.57
924781	AB2-130 C OP	2.6027	Adder	3.06
924782	AB2-130 E OP	4.2466	Adder	5.0
925261	AB2-180 C	1.7216	50/50	1.7216
925262	AB2-180 E	0.7378	50/50	0.7378
927191	AC1-213 C	0.3400	50/50	0.3400
927192	AC1-213 E	0.2231	50/50	0.2231
930201	AB1-056 C	3.2735	Adder	3.85
930202	AB1-056 E	9.3222	Adder	10.97
930881	AB1-137 C	0.2289	Adder	0.27
930882	AB1-137 E	0.0981	Adder	0.12
932161	AC2-023 C	3.5706	50/50	3.5706
932162	AC2-023 E	2.6005	50/50	2.6005
938653	AE1-087 BAT	9.6116	50/50	9.6116
938891	AE1-117 C O1	2.2678	Adder	2.67
938892	AE1-117 E O1	6.0384	Adder	7.1
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.2777	Adder	2.68
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	6.0647	Adder	7.13
939151	AE1-145	1.5275	Adder	1.8
939621	AE1-192 C O1	3.5995	Adder	4.23
939622	AE1-192 E O1	1.7615	Adder	2.07
942441	AE2-257 C	1.7854	Adder	2.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942442	AE2-257 E	4.7069	Adder	5.54
943361	AF1-007 C	0.0966	Adder	0.11
943362	AF1-007 E	0.2745	Adder	0.32
944921	AF1-157 C O1	1.0430	Adder	1.23
944922	AF1-157 E O1	0.6953	Adder	0.82
945661	AF1-231 C	0.5820	Adder	0.68
945662	AF1-231 E	0.8731	Adder	1.03
945781	AF1-243	0.3829	Adder	0.45
945791	AF1-244	0.6459	Adder	0.76
945931	AF1-258	0.3935	50/50	0.3935
957611	AF2-055 C	1.4207	Adder	3.15
957612	AF2-055 E	0.6089	Adder	1.35
957661	AF2-060	0.3643	Adder	0.81
957671	AF2-061 O1	1.6191	Adder	3.59
959021	AF2-193 C O1	3.2058	Adder	7.12
959022	AF2-193 E O1	8.6477	Adder	19.2
959031	AF2-194 C O1	3.2058	Adder	7.12
959032	AF2-194 E O1	8.6477	Adder	19.2
959051	AF2-196 C	0.2581	Adder	0.57
959052	AF2-196 E	0.6022	Adder	1.34
959161	AF2-207 C O1	2.0188	50/50	2.0188
959162	AF2-207 E O1	3.0282	50/50	3.0282
959571	AF2-248 C	0.3482	50/50	0.3482
959572	AF2-248 E	0.3892	50/50	0.3892
959581	AF2-249 C	0.0614	50/50	0.0614
959582	AF2-249 E	0.2458	50/50	0.2458
959591	AF2-250 C	0.1127	50/50	0.1127
959592	AF2-250 E	0.0870	50/50	0.0870
960881	AF2-379 C	0.1644	50/50	0.1644
960882	AF2-379 E	0.2265	50/50	0.2265
960941	AF2-385 C O1	4.8067	50/50	4.8067
960942	AF2-385 E O1	2.7038	50/50	2.7038
961181	AF2-409 O1	11.8850	50/50	11.8850
NEWTON	NEWTON	0.0559	Confirmed LTF	0.0559
FARMERCITY	FARMERCITY	0.0029	Confirmed LTF	0.0029
CALDERWOOD	CALDERWOOD	0.0258	Confirmed LTF	0.0258
NY	NY	0.0210	Confirmed LTF	0.0210
PRAIRIE	PRAIRIE	0.1343	Confirmed LTF	0.1343
O-066	O-066	0.2016	Confirmed LTF	0.2016
CHEOAH	CHEOAH	0.0260	Confirmed LTF	0.0260
EDWARDS	EDWARDS	0.0182	Confirmed LTF	0.0182
TILTON	TILTON	0.0328	Confirmed LTF	0.0328
G-007	G-007	0.0260	Confirmed LTF	0.0260
GIBSON	GIBSON	0.0284	Confirmed LTF	0.0284
BLUEG	BLUEG	0.0903	Confirmed LTF	0.0903
TRIMBLE	TRIMBLE	0.0289	Confirmed LTF	0.0289
CATAWBA	CATAWBA	0.0182	Confirmed LTF	0.0182

11.6.19 Index 19

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
102038387	232812	NMEREDTH	DP&L	924820	AB2-135 TAP	DP&L	1	DPL_P4-2_DP11	breaker	93.0	105.88	107.95	DC	4.27

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	0.2068	Adder	0.24
232407	W1-004 E	0.2068	Adder	0.24
232409	W1-005 E	0.2068	Adder	0.24
232411	W1-006 E	0.2068	Adder	0.24
232412	X1-032 E	0.1823	Adder	0.21
232429	Y3-058 E	0.4017	Adder	0.47
232433	Z2-076 E	0.0983	Adder	0.12
232435	Z2-077 E	0.0983	Adder	0.12
232813	VAUGHN	0.1279	50/50	0.1279
232899	W1-062	0.9333	50/50	0.9333
232900	DEMECSMY	0.9333	50/50	0.9333
232910	NRG_G1	2.3092	50/50	2.3092
232911	NRG_G2	2.3092	50/50	2.3092
917082	Z2-012 E	0.5697	Adder	0.67
923282	AB1-137 C	0.2078	Adder	0.24
923283	AB1-137 E	0.0891	Adder	0.1
923322	AB1-141 C OP	-1.0388	Adder	-1.22
923332	AB1-142 C OP	-1.0388	Adder	-1.22
923921	AB2-032 C	-1.0465	Adder	-1.23
924681	AB2-120 C OP	1.7468	Adder	2.06
924682	AB2-120 E OP	2.8500	Adder	3.35
924781	AB2-130 C OP	1.7505	Adder	2.06
924782	AB2-130 E OP	2.8561	Adder	3.36
924971	AB2-153 C	-0.5848	Adder	-0.69
925251	AB2-179 C OP	-2.0557	Adder	-2.42
925261	AB2-180 C	0.6048	Adder	0.71
925262	AB2-180 E	0.2592	Adder	0.3
926131	AC1-091 C	0.4457	Adder	0.52
926132	AC1-091 E	0.7309	Adder	0.86
926141	AC1-092 C	0.4457	Adder	0.52
926142	AC1-092 E	0.7309	Adder	0.86
926151	AC1-093 C	0.4219	Adder	0.5
926152	AC1-093 E	0.6953	Adder	0.82
926161	AC1-094 C	0.3565	Adder	0.42
926162	AC1-094 E	0.5883	Adder	0.69
927191	AC1-213 C	0.1456	Adder	0.17
927192	AC1-213 E	0.0956	Adder	0.11
930201	AB1-056 C	3.1070	Adder	3.66
930202	AB1-056 E	8.8483	Adder	10.41
930881	AB1-137 C	0.2078	Adder	0.24
930882	AB1-137 E	0.0891	Adder	0.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933631	AC2-185 C	0.9032	Adder	1.06
933632	AC2-185 E	1.4737	Adder	1.73
933641	AC2-186 C	2.7814	50/50	2.7814
933642	AC2-186 E	4.5381	50/50	4.5381
938891	AE1-117 C O1	2.0516	Adder	2.41
938892	AE1-117 E O1	5.4627	Adder	6.43
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.0509	Adder	2.41
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	5.4608	Adder	6.42
939151	AE1-145	0.9194	Adder	1.08
939621	AE1-192 C O1	2.1593	Adder	2.54
939622	AE1-192 E O1	1.0567	Adder	1.24
942441	AE2-257 C	1.6289	Adder	1.92
942442	AE2-257 E	4.2943	Adder	5.05
943361	AF1-007 C	0.0917	Adder	0.11
943362	AF1-007 E	0.2605	Adder	0.31
944921	AF1-157 C O1	0.7817	Adder	0.92
944922	AF1-157 E O1	0.5211	Adder	0.61
945661	AF1-231 C	0.3491	Adder	0.41
945662	AF1-231 E	0.5236	Adder	0.62
945781	AF1-243	0.2297	Adder	0.27
945791	AF1-244	0.3641	Adder	0.43
945931	AF1-258	0.1382	Adder	0.16
957611	AF2-055 C	0.8522	Adder	1.89
957612	AF2-055 E	0.3652	Adder	0.81
957661	AF2-060	0.2193	Adder	0.49
957671	AF2-061 O1	0.9745	Adder	2.16
958153	AF2-109 BAT	3.2376	50/50	3.2376
959021	AF2-193 C O1	3.0429	Adder	6.75
959022	AF2-193 E O1	8.2081	Adder	18.22
959031	AF2-194 C O1	3.0429	Adder	6.75
959032	AF2-194 E O1	8.2081	Adder	18.22
959051	AF2-196 C	0.2354	Adder	0.52
959052	AF2-196 E	0.5494	Adder	1.22
959161	AF2-207 C O1	0.5175	Adder	1.15
959162	AF2-207 E O1	0.7762	Adder	1.72
959571	AF2-248 C	0.0853	Adder	0.19
959572	AF2-248 E	0.0954	Adder	0.21
959581	AF2-249 C	0.0151	Adder	0.03
959582	AF2-249 E	0.0602	Adder	0.13
959591	AF2-250 C	0.0276	Adder	0.06
959592	AF2-250 E	0.0213	Adder	0.05
960881	AF2-379 C	0.0394	Adder	0.09
960882	AF2-379 E	0.0543	Adder	0.12
960941	AF2-385 C O1	1.2321	Adder	2.73
960942	AF2-385 E O1	0.6931	Adder	1.54
961181	AF2-409 O1	2.2845	Adder	5.07
NEWTON	NEWTON	0.0666	Confirmed LTF	0.0666
FARMERCITY	FARMERCITY	0.0035	Confirmed LTF	0.0035
CALDERWOOD	CALDERWOOD	0.0308	Confirmed LTF	0.0308

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
NY	NY	0.0188	Confirmed LTF	0.0188
PRAIRIE	PRAIRIE	0.1601	Confirmed LTF	0.1601
O-066	O-066	0.1411	Confirmed LTF	0.1411
CHEOAH	CHEOAH	0.0310	Confirmed LTF	0.0310
EDWARDS	EDWARDS	0.0217	Confirmed LTF	0.0217
TILTON	TILTON	0.0391	Confirmed LTF	0.0391
G-007	G-007	0.0104	Confirmed LTF	0.0104
GIBSON	GIBSON	0.0339	Confirmed LTF	0.0339
BLUEG	BLUEG	0.1076	Confirmed LTF	0.1076
TRIMBLE	TRIMBLE	0.0345	Confirmed LTF	0.0345
CATAWBA	CATAWBA	0.0221	Confirmed LTF	0.0221

11.6.20 Index 20

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
102038264	232821	TANYARD	DP&L	232820	TALBOT	DP&L	1	DPL_P4-2_DP11	breaker	173.0	123.43	128.86	DC	9.45

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

11.7 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
AB1-056	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
AC2-185	Cedar Creek 138kV II	Active
AC2-186	Harrington 25kV	Active
AD1-019	Ontario 23 kV	Active
AD2-059	Chapel Street 138 kV	Active

Queue Number	Project Name	Status
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
AE2-093	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
AF2-016	Lewis 138 kV	Active
AF2-019	Rio Grande 69 kV	Active
AF2-020	Carll's Corner 69 kV	Active
AF2-022	Cumberland 138 kV	Active

Queue Number	Project Name	Status
AF2-023	Churchtown 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	Whibco 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
W1-062	Clayton 138kV	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
Y1-065	Rock Springs 500kV	In Service
Y1-079	Wye Mills 69kV	In Service
Y1-080	Dorchester 12kV	In Service
Y3-058	Rockawalkin 69kV	In Service
Z2-012	Weirwood-Eastville 69kV	In Service
Z2-076	Worcester South 25kV	In Service
Z2-077	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
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 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

Contingency Name	Contingency Definition
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_P1_2_CKT 6743	CONTINGENCY 'DPL_P1_2_CKT 6743' DISCONNECT BUS 232836 / NELSON - EDGEWOOD - NORTH SALISBURY 69 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 23002	CONTINGENCY 'DPL_P1_2_CKT 23002' DISCONNECT BUS 232007 /INDIAN RIVER - PINEY GROVE 230 & PNY GRV AT-20 XFMR END
CKT 23030B	CONTINGENCY 'CKT 23030B' OPEN LINE FROM BUS 232002 TO BUS 232013 CIRCUIT 1 /CEDAR CREEK - SILVER RUN 230 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

Contingency Name	Contingency Definition
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
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_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
PECO_P4_PEACH205/* \$ CHESCO \$ PEACH205 \$ STBK	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
DPL_P4-2_DP23	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
DPL_P1_2_CKT 23034	CONTINGENCY 'DPL_P1_2_CKT 23034' OPEN LINE FROM BUS 232006 TO BUS 232004 CIRCUIT 1 /* INDIAN RIVER - MILFORD 230 END
PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK	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
PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	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

12 Short Circuit Analysis - Primary POI

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

13 Secondary Point of Interconnection

AF2-385 will have a secondary point of interconnection with the DPL transmission system by tapping the Laurel – Nelson 69 kV line.

14 Summer Peak - Load Flow Analysis - Secondary POI

The Queue Project AF2-385 was evaluated as a 75.0 MW (Capacity 47.8 MW) injection tapping the Short to Nelson 69kV line in the DPL area. Project AF2-385 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-385 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	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/D C	MW IMPACT
15356711 1	23282 8	SHORT 1	69.0	DP&L	23224 9	LAUREL	69.0	DP&L	1	DPL_P1_2_CKT 23002	single	57.0	87.87	114.49	DC	15.17
15356711 3	23282 8	SHORT 1	69.0	DP&L	23224 9	LAUREL	69.0	DP&L	1	DPL_P1_2_CKT 6705	single	57.0	86.94	110.11	DC	13.21

14.2 Multiple Facility Contingency

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

None

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
9969635 4	2000 51	ROCKSPGS	500.0	PJM	2000 65	PCHBTM 2S	500.0	PJM	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	144.11	144.71	DC	38.23
1003385 78	2310 00	CLAY_230	230.0	DP&L	2137 50	LINWOOD	230.0	PECO	1	PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	150.09	150.73	DC	11.19
1003385 91	2310 01	EDGEMRS	230.0	DP&L	2310 00	CLAY_230	230.0	DP&L	1	PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	144.83	145.41	DC	10.14
1020382 95	2311 24	GLASGOW	138.0	DP&L	2311 30	CECIL138	138.0	DP&L	1	PECO_P4_PEACH215/* \$ CHESCO \$ PEACH215 \$ STBK	breaker	378.0	122.36	123.22	DC	7.16
1020382 96	2311 24	GLASGOW	138.0	DP&L	2311 30	CECIL138	138.0	DP&L	1	PECO_P4_PEACH205/* \$ CHESCO \$ PEACH205 \$ STBK	breaker	378.0	120.35	121.2	DC	7.16
9969629 1	2320 03	CARTANZA	230.0	DP&L	2320 13	SILVER RUN	230.0	PJM	1	DPL_P4-2_DP25B	breaker	804.0	156.85	158.26	DC	25.18
9969629 2	2320 03	CARTANZA	230.0	DP&L	2320 13	SILVER RUN	230.0	PJM	1	DPL_P4-2_DP23	breaker	804.0	156.72	158.14	DC	25.18

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
99696293	232003	CARTANZA	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	DPL_P4-2_DP24	breaker	804.0	156.71	158.12	DC	25.18
102039387	232100	CHURCH	138.0	DP&L	232107	TOWNSEND	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_FSA-A	tower	348.0	139.05	143.42	DC	15.35
102039393	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	134.94	139.31	DC	15.35
102039377	232107	TOWNSEND	138.0	DP&L	232106	MIDLTNT P	138.0	DP&L	1	DPL_P7_1_DBL_1NCB_FSA-A	tower	348.0	144.25	148.62	DC	15.35
102038375	232114	SHARNGT N	138.0	DP&L	232112	FELTON	138.0	DP&L	1	DPL_P4-2_DP6	breaker	242.0	104.34	108.3	DC	9.6
102038281	232215	KENT	69.0	DP&L	232812	NMERED TH	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	126.93	129.01	DC	4.28
102038300	232230	TRAP ALT	69.0	DP&L	232232	TRAPPET P	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	113.1	118.34	DC	9.11
102038301	232232	TRAPPET P	69.0	DP&L	232227	EASTN_69	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	112.31	117.74	DC	9.44
102038139	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	DPL_P4-2_DP12	breaker	93.0	135.36	138.91	DC	7.32
102038387	232812	NMERED TH	69.0	DP&L	924820	AB2-135 TAP	69.0	DP&L	1	DPL_P4-2_DP11	breaker	93.0	104.67	106.76	DC	4.28
102038264	232821	TANYARD	69.0	DP&L	232820	TALBOT	69.0	DP&L	1	DPL_P4-2_DP11	breaker	173.0	124.57	129.99	DC	9.44

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	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/D C	MW IMPACT
99696876	200051	ROCKSPGS	500.0	PJM	200065	PCHBTM2S	500.0	PJM	1	PECO_P1-2_5038/* \$ CHESCO \$ 5038 \$ L	operation	2905.0	142.65	143.26	DC	37.94
100338924	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	140.92	141.57	DC	11.23
100338940	231001	EDGE MR5	230.0	DP&L	213750	LINWOOD	230.0	PECO	1	PECO_P1-2_220-84	operation	804.0	138.91	139.54	DC	10.92
100338950	231001	EDGE MR5	230.0	DP&L	231000	CLAY_230	230.0	DP&L	1	PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	operation	804.0	136.39	136.97	DC	10.18
102038741	231124	GLASGOW	138.0	DP&L	231130	CECIL138	138.0	DP&L	1	PECO_P1-2_5014/* \$ CHESCO \$ 5014 \$ L	operation	378.0	120.33	121.18	DC	7.16

ID	FROM BUS#	FROM BUS	kV	FROM BUS ARE A	TO BUS#	TO BUS	kV	TO BUS ARE A	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
99696697	232002	CEDAR CK	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	CKT 23032B	operati on	679.0	173.63	175.57	DC	29.26
99696698	232002	CEDAR CK	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	Base Case	operati on	551.0	134.82	138.62	DC	21.17
99696796	232003	CARTANZ A	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	CKT 23030B	operati on	804.0	156.42	157.82	DC	25.24
99696797	232003	CARTANZ A	230.0	DP&L	232013	SILVER RUN	230.0	PJM	1	Base Case	operati on	650.0	142.81	143.92	DC	15.94
100338865	232004	MILF_230	230.0	DP&L	232000	STEELE	230.0	DP&L	1	CKT 23032B	operati on	550.0	181.73	183.01	DC	15.63
100338870	232004	MILF_230	230.0	DP&L	232000	STEELE	230.0	DP&L	1	Base Case	operati on	550.0	121.83	122.59	DC	9.42
100339097	232004	MILF_230	230.0	DP&L	232002	CEDAR CK	230.0	DP&L	1	CKT 23032B	operati on	804.0	111.29	112.46	DC	20.96
99697005	232013	SILVER RUN	230.0	PJM	231004	RL_230	230.0	DP&L	1	CKT 23032A	operati on	679.0	116.88	118.06	DC	17.66
99697070	232013	SILVER RUN	230.0	PJM	231004	RL_230	230.0	DP&L	2	CKT 23030A	operati on	790.0	100.59	101.59	DC	17.67
102038772	232110	CHURCH	138.0	DP&L	2321107	TOWNSE ND	138.0	DP&L	1	CKT 23032B	operati on	348.0	105.49	108.02	DC	8.89
102038787	2321106	MIDLTNT P	138.0	DP&L	2321104	MT PLSNT	138.0	DP&L	1	CKT 23032B	operati on	348.0	103.95	106.49	DC	8.89
102038735	2321107	TOWNSE ND	138.0	DP&L	2321106	MIDLTNT P	138.0	DP&L	1	CKT 23032B	operati on	348.0	113.29	115.83	DC	8.89
102038737	2321107	TOWNSE ND	138.0	DP&L	2321106	MIDLTNT P	138.0	DP&L	1	Base Case	operati on	273.0	109.88	111.11	DC	7.43
102038681	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	DPL_P1_2_23085 &13710	operati on	93.0	134.59	138.14	DC	7.33
102038683	232233	PRESTON	69.0	DP&L	232821	TANYARD	69.0	DP&L	1	Base Case	operati on	82.0	102.93	105.32	DC	4.35
102038662	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	DPL_P1_2_23085 &13710	operati on	93.0	139.64	143.19	DC	7.33
102038663	232234	TODD	69.0	DP&L	232233	PRESTON	69.0	DP&L	1	Base Case	operati on	82.0	108.66	111.05	DC	4.35
102038684	232828	SHORT 1	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	Base Case	operati on	41.0	53.87	109.03	DC	22.62
153567107	232828	SHORT 1	69.0	DP&L	232249	LAUREL	69.0	DP&L	1	DPL_P1_2_CK T 23002	operati on	57.0	113.97	155.18	DC	23.81
153567420	960940	AF2-385 TAP	69.0	DP&L	232828	SHORT 1	69.0	DP&L	1	DPL_P1_2_CK T 23002	operati on	93.0	79.42	104.68	DC	23.81

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".

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
153567111	232828	SHORT 1	DP&L	232249	LAUREL	DP&L	1	DPL_P1_2_CKT 23002	single	57.0	87.87	114.49	DC	15.17

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232404	W1-003 C	0.2711	80/20	0.2711
232406	W1-004 FULL	0.2711	80/20	0.2711
232408	W1-005 C	0.2711	80/20	0.2711
232410	W1-006 C	0.2711	80/20	0.2711
232428	Y3-058 C	0.1208	80/20	0.1208
232905	BAYVIEW1	0.2197	80/20	0.2197
232907	VN8	1.4447	80/20	1.4447
232912	OH NUG1	0.5716	80/20	0.5716
232913	OH NUG2	0.5640	80/20	0.5640
232914	OH NUG3	0.5716	80/20	0.5716
232915	OH NUG4	0.5716	80/20	0.5716
232916	OH NUG5	0.5716	80/20	0.5716
232917	OH NUG6	0.5690	80/20	0.5690
232918	OH NUG7	0.5678	80/20	0.5678
232921	TASLEY2G	0.3850	80/20	0.3850
232926	CRISFLD1	0.1673	80/20	0.1673
293670	O-025 C	0.1627	80/20	0.1627
917081	Z2-012 C	0.1336	80/20	0.1336
918831	AA1-102	0.6274	80/20	0.6274
924681	AB2-120 C OP	3.8669	80/20	3.8669
925261	AB2-180 C	1.7195	80/20	1.7195
927191	AC1-213 C	0.5030	80/20	0.5030
932161	AC2-023 C	2.6126	80/20	2.6126
939151	AE1-145	2.0516	80/20	2.0516
939621	AE1-192 C O1	4.7888	80/20	4.7888
945661	AF1-231 C	0.7716	80/20	0.7716
945781	AF1-243	0.5094	80/20	0.5094
945791	AF1-244	0.7760	80/20	0.7760
945931	AF1-258	0.3930	80/20	0.3930
957611	AF2-055 C	3.5661	80/20	3.5661
957661	AF2-060	0.9232	80/20	0.9232
957671	AF2-061 O2	4.0840	80/20	4.0840
959161	AF2-207 C O2	1.8404	80/20	1.8404
959571	AF2-248 C	0.8620	80/20	0.8620
959581	AF2-249 C	0.1521	80/20	0.1521
959591	AF2-250 C	0.2789	80/20	0.2789
960881	AF2-379 C	0.1885	80/20	0.1885
960941	AF2-385 C O2	15.1736	80/20	15.1736
NEWTON	NEWTON	0.0290	Confirmed LTF	0.0290
FARMERCITY	FARMERCITY	0.0015	Confirmed LTF	0.0015
CALDERWOOD	CALDERWOOD	0.0134	Confirmed LTF	0.0134
NY	NY	0.0166	Confirmed LTF	0.0166

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
PRAIRIE	PRAIRIE	0.0697	Confirmed LTF	0.0697
CHEOAH	CHEOAH	0.0135	Confirmed LTF	0.0135
EDWARDS	EDWARDS	0.0094	Confirmed LTF	0.0094
TILTON	TILTON	0.0170	Confirmed LTF	0.0170
GIBSON	GIBSON	0.0147	Confirmed LTF	0.0147
BLUEG	BLUEG	0.0469	Confirmed LTF	0.0469
TRIMBLE	TRIMBLE	0.0150	Confirmed LTF	0.0150
CATAWBA	CATAWBA	0.0094	Confirmed LTF	0.0094

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
99696354	200051	ROCKSPGS	PJM	200065	PCHBTM2S	PJM	1	PJM500_PS_P2-3_NFRD5_910	breaker	2905.0	144.11	144.71	DC	38.23

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

14.5.3 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 IMPACT
100338578	231000	CLAY_230	DP&L	213750	LINWOOD	PECO	1	PECO_P4_LINWO225/ * \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	150.09	150.73	DC	11.19

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

14.5.4 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 LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPAC T
100338591	231001	EDGEM R 5	DP&L	231000	CLAY_230	DP&L	1	PECO_P4_LINWO225/ * \$ DELCO \$ LINWO225 \$ STBK	breaker	804.0	144.83	145.41	DC	10.14

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

14.5.5 Index 5

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
102038295	231124	GLASGOW	DP&L	231130	CECIL138	DP&L	1	PECO_P4_PEACH215/ * \$ CHESCO \$ PEACH215 \$ STBK	breaker	378.0	122.36	123.22	DC	7.16

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

14.5.6 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
99696293	232003	CARTANZA	DP&L	232013	SILVER RUN	PJM	1	DPL_P4-2_DP24	breaker	804.0	156.71	158.12	DC	25.18

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

14.5.7 Index 7

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 %	ACID C	MW IMPACT
102039387	232100	CHURCH	DP&L	232107	TOWNSEND	DP&L	1	DPL_P7_1_DBL_1NCB_FS A-A	tower	348.0	139.05	143.42	DC	15.35

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

14.5.8 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 %	ACID C	MW IMPACT
102039393	232106	MIDLTNT P	DP&L	232104	MT PLSN T	DP&L	1	DPL_P7_1_DBL_1NCB_FSA-A	tower	348.0	134.94	139.31	DC	15.35

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

14.5.9 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 LOADIN G %	POST PROJECT LOADIN G %	ACID C	MW IMPACT
102039377	232107	TOWNSEND	DP&L	232106	MIDLTNT P	DP&L	1	DPL_P7_1_DBL_1NCB_FS A-A	tower	348.0	144.25	148.62	DC	15.35

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

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
102038375	232114	SHARNGTN	DP&L	232112	FELTON	DP&L	1	DPL_P4-2_DP6	breaker	242.0	104.34	108.3	DC	9.6

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

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
102038281	232215	KENT	DP&L	232812	NMEREDTH	DP&L	1	DPL_P4-2_DP11	breaker	93.0	126.93	129.01	DC	4.28

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	0.2068	Adder	0.24
232407	W1-004 E	0.2068	Adder	0.24
232409	W1-005 E	0.2068	Adder	0.24
232411	W1-006 E	0.2068	Adder	0.24
232412	X1-032 E	0.1823	Adder	0.21
232429	Y3-058 E	0.4017	Adder	0.47
232433	Z2-076 E	0.0983	Adder	0.12
232435	Z2-077 E	0.0983	Adder	0.12
232813	VAUGHN	0.1279	50/50	0.1279
232899	W1-062	0.9333	50/50	0.9333
232900	DEMECSMY	0.9333	50/50	0.9333
232910	NRG_G1	2.3092	50/50	2.3092
232911	NRG_G2	2.3092	50/50	2.3092
917082	Z2-012 E	0.5697	Adder	0.67
923282	AB1-137 C	0.2078	Adder	0.24
923283	AB1-137 E	0.0891	Adder	0.1
923322	AB1-141 C OP	-1.0388	Adder	-1.22
923332	AB1-142 C OP	-1.0388	Adder	-1.22
923921	AB2-032 C	-1.0465	Adder	-1.23
924681	AB2-120 C OP	1.7468	Adder	2.06
924682	AB2-120 E OP	2.8500	Adder	3.35
924781	AB2-130 C OP	1.7505	Adder	2.06
924782	AB2-130 E OP	2.8561	Adder	3.36
924971	AB2-153 C	-0.5848	Adder	-0.69
925251	AB2-179 C OP	-2.0557	Adder	-2.42
925261	AB2-180 C	0.6048	Adder	0.71
925262	AB2-180 E	0.2592	Adder	0.3
926131	AC1-091 C	0.4457	Adder	0.52
926132	AC1-091 E	0.7309	Adder	0.86
926141	AC1-092 C	0.4457	Adder	0.52
926142	AC1-092 E	0.7309	Adder	0.86
926151	AC1-093 C	0.4219	Adder	0.5
926152	AC1-093 E	0.6953	Adder	0.82
926161	AC1-094 C	0.3565	Adder	0.42
926162	AC1-094 E	0.5883	Adder	0.69
927191	AC1-213 C	0.1456	Adder	0.17
927192	AC1-213 E	0.0956	Adder	0.11
930201	AB1-056 C	3.1070	Adder	3.66
930202	AB1-056 E	8.8483	Adder	10.41
930881	AB1-137 C	0.2078	Adder	0.24
930882	AB1-137 E	0.0891	Adder	0.1
933631	AC2-185 C	0.9032	Adder	1.06

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933632	AC2-185 E	1.4737	Adder	1.73
933641	AC2-186 C	2.7814	50/50	2.7814
933642	AC2-186 E	4.5381	50/50	4.5381
938891	AE1-117 C O1	2.0516	Adder	2.41
938892	AE1-117 E O1	5.4627	Adder	6.43
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.0509	Adder	2.41
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	5.4608	Adder	6.42
939151	AE1-145	0.9194	Adder	1.08
939621	AE1-192 C O1	2.1593	Adder	2.54
939622	AE1-192 E O1	1.0567	Adder	1.24
942441	AE2-257 C	1.6289	Adder	1.92
942442	AE2-257 E	4.2943	Adder	5.05
943361	AF1-007 C	0.0917	Adder	0.11
943362	AF1-007 E	0.2605	Adder	0.31
944921	AF1-157 C O1	0.7817	Adder	0.92
944922	AF1-157 E O1	0.5211	Adder	0.61
945661	AF1-231 C	0.3491	Adder	0.41
945662	AF1-231 E	0.5236	Adder	0.62
945781	AF1-243	0.2297	Adder	0.27
945791	AF1-244	0.3641	Adder	0.43
945931	AF1-258	0.1382	Adder	0.16
957611	AF2-055 C	0.8522	Adder	1.89
957612	AF2-055 E	0.3652	Adder	0.81
957661	AF2-060	0.2193	Adder	0.49
957671	AF2-061 O2	0.9751	Adder	2.16
958153	AF2-109 BAT	3.2376	50/50	3.2376
959021	AF2-193 C O2	2.8997	Adder	6.44
959022	AF2-193 E O2	7.8220	Adder	17.36
959031	AF2-194 C O2	2.8997	Adder	6.44
959032	AF2-194 E O2	7.8220	Adder	17.36
959051	AF2-196 C	0.2354	Adder	0.52
959052	AF2-196 E	0.5494	Adder	1.22
959161	AF2-207 C O2	0.4941	Adder	1.1
959162	AF2-207 E O2	0.7411	Adder	1.65
959571	AF2-248 C	0.0853	Adder	0.19
959572	AF2-248 E	0.0954	Adder	0.21
959581	AF2-249 C	0.0151	Adder	0.03
959582	AF2-249 E	0.0602	Adder	0.13
959591	AF2-250 C	0.0276	Adder	0.06
959592	AF2-250 E	0.0213	Adder	0.05
960881	AF2-379 C	0.0394	Adder	0.09
960882	AF2-379 E	0.0543	Adder	0.12
960941	AF2-385 C O2	1.2296	Adder	2.73
960942	AF2-385 E O2	0.6997	Adder	1.55
961181	AF2-409 O2	2.2845	Adder	5.07
NEWTON	NEWTON	0.0666	Confirmed LTF	0.0666
FARMERCITY	FARMERCITY	0.0035	Confirmed LTF	0.0035
CALDERWOOD	CALDERWOOD	0.0308	Confirmed LTF	0.0308
NY	NY	0.0188	Confirmed LTF	0.0188

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
PRAIRIE	PRAIRIE	0.1601	Confirmed LTF	0.1601
O-066	O-066	0.1411	Confirmed LTF	0.1411
CHEOAH	CHEOAH	0.0310	Confirmed LTF	0.0310
EDWARDS	EDWARDS	0.0217	Confirmed LTF	0.0217
TILTON	TILTON	0.0391	Confirmed LTF	0.0391
G-007	G-007	0.0104	Confirmed LTF	0.0104
GIBSON	GIBSON	0.0339	Confirmed LTF	0.0339
BLUEG	BLUEG	0.1076	Confirmed LTF	0.1076
TRIMBLE	TRIMBLE	0.0345	Confirmed LTF	0.0345
CATAWBA	CATAWBA	0.0221	Confirmed LTF	0.0221

14.5.12 Index 12

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
102038300	232230	TRAP ALT	DP&L	232232	TRAPPETP	DP&L	1	DPL_P4-2_DP11	breaker	173.0	113.1	118.34	DC	9.11

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

14.5.13 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
102038301	232232	TRAPPETP	DP&L	232227	EASTN_69	DP&L	1	DPL_P4-2_DP11	breaker	173.0	112.31	117.74	DC	9.44

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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

14.5.14 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
102038139	232233	PRESTON	DP&L	232821	TANYARD	DP&L	1	DPL_P4-2_DP12	breaker	93.0	135.36	138.91	DC	7.32

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

14.5.15 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
102038387	232812	NMEREDTH	DP&L	924820	AB2-135 TAP	DP&L	1	DPL_P4-2_DP11	breaker	93.0	104.67	106.76	DC	4.28

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
232405	W1-003 E	0.2068	Adder	0.24
232407	W1-004 E	0.2068	Adder	0.24
232409	W1-005 E	0.2068	Adder	0.24
232411	W1-006 E	0.2068	Adder	0.24
232412	X1-032 E	0.1823	Adder	0.21
232429	Y3-058 E	0.4017	Adder	0.47
232433	Z2-076 E	0.0983	Adder	0.12
232435	Z2-077 E	0.0983	Adder	0.12
232813	VAUGHN	0.1279	50/50	0.1279
232899	W1-062	0.9333	50/50	0.9333
232900	DEMECSMY	0.9333	50/50	0.9333
232910	NRG_G1	2.3092	50/50	2.3092
232911	NRG_G2	2.3092	50/50	2.3092
917082	Z2-012 E	0.5697	Adder	0.67
923282	AB1-137 C	0.2078	Adder	0.24
923283	AB1-137 E	0.0891	Adder	0.1
923322	AB1-141 C OP	-1.0388	Adder	-1.22
923332	AB1-142 C OP	-1.0388	Adder	-1.22
923921	AB2-032 C	-1.0465	Adder	-1.23
924681	AB2-120 C OP	1.7468	Adder	2.06
924682	AB2-120 E OP	2.8500	Adder	3.35
924781	AB2-130 C OP	1.7505	Adder	2.06
924782	AB2-130 E OP	2.8561	Adder	3.36
924971	AB2-153 C	-0.5848	Adder	-0.69
925251	AB2-179 C OP	-2.0557	Adder	-2.42
925261	AB2-180 C	0.6048	Adder	0.71
925262	AB2-180 E	0.2592	Adder	0.3
926131	AC1-091 C	0.4457	Adder	0.52
926132	AC1-091 E	0.7309	Adder	0.86
926141	AC1-092 C	0.4457	Adder	0.52
926142	AC1-092 E	0.7309	Adder	0.86
926151	AC1-093 C	0.4219	Adder	0.5
926152	AC1-093 E	0.6953	Adder	0.82
926161	AC1-094 C	0.3565	Adder	0.42
926162	AC1-094 E	0.5883	Adder	0.69
927191	AC1-213 C	0.1456	Adder	0.17
927192	AC1-213 E	0.0956	Adder	0.11
930201	AB1-056 C	3.1070	Adder	3.66
930202	AB1-056 E	8.8483	Adder	10.41
930881	AB1-137 C	0.2078	Adder	0.24
930882	AB1-137 E	0.0891	Adder	0.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933631	AC2-185 C	0.9032	Adder	1.06
933632	AC2-185 E	1.4737	Adder	1.73
933641	AC2-186 C	2.7814	50/50	2.7814
933642	AC2-186 E	4.5381	50/50	4.5381
938891	AE1-117 C O1	2.0516	Adder	2.41
938892	AE1-117 E O1	5.4627	Adder	6.43
938901	AE1-118 C O1 (Withdrawn : 07/10/2020)	2.0509	Adder	2.41
938902	AE1-118 E O1 (Withdrawn : 07/10/2020)	5.4608	Adder	6.42
939151	AE1-145	0.9194	Adder	1.08
939621	AE1-192 C O1	2.1593	Adder	2.54
939622	AE1-192 E O1	1.0567	Adder	1.24
942441	AE2-257 C	1.6289	Adder	1.92
942442	AE2-257 E	4.2943	Adder	5.05
943361	AF1-007 C	0.0917	Adder	0.11
943362	AF1-007 E	0.2605	Adder	0.31
944921	AF1-157 C O1	0.7817	Adder	0.92
944922	AF1-157 E O1	0.5211	Adder	0.61
945661	AF1-231 C	0.3491	Adder	0.41
945662	AF1-231 E	0.5236	Adder	0.62
945781	AF1-243	0.2297	Adder	0.27
945791	AF1-244	0.3641	Adder	0.43
945931	AF1-258	0.1382	Adder	0.16
957611	AF2-055 C	0.8522	Adder	1.89
957612	AF2-055 E	0.3652	Adder	0.81
957661	AF2-060	0.2193	Adder	0.49
957671	AF2-061 O2	0.9751	Adder	2.16
958153	AF2-109 BAT	3.2376	50/50	3.2376
959021	AF2-193 C O2	2.8997	Adder	6.44
959022	AF2-193 E O2	7.8220	Adder	17.36
959031	AF2-194 C O2	2.8997	Adder	6.44
959032	AF2-194 E O2	7.8220	Adder	17.36
959051	AF2-196 C	0.2354	Adder	0.52
959052	AF2-196 E	0.5494	Adder	1.22
959161	AF2-207 C O2	0.4941	Adder	1.1
959162	AF2-207 E O2	0.7411	Adder	1.65
959571	AF2-248 C	0.0853	Adder	0.19
959572	AF2-248 E	0.0954	Adder	0.21
959581	AF2-249 C	0.0151	Adder	0.03
959582	AF2-249 E	0.0602	Adder	0.13
959591	AF2-250 C	0.0276	Adder	0.06
959592	AF2-250 E	0.0213	Adder	0.05
960881	AF2-379 C	0.0394	Adder	0.09
960882	AF2-379 E	0.0543	Adder	0.12
960941	AF2-385 C O2	1.2296	Adder	2.73
960942	AF2-385 E O2	0.6997	Adder	1.55
961181	AF2-409 O2	2.2845	Adder	5.07
NEWTON	NEWTON	0.0666	Confirmed LTF	0.0666
FARMERCITY	FARMERCITY	0.0035	Confirmed LTF	0.0035
CALDERWOOD	CALDERWOOD	0.0308	Confirmed LTF	0.0308

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
NY	NY	0.0188	Confirmed LTF	0.0188
PRAIRIE	PRAIRIE	0.1601	Confirmed LTF	0.1601
O-066	O-066	0.1411	Confirmed LTF	0.1411
CHEOAH	CHEOAH	0.0310	Confirmed LTF	0.0310
EDWARDS	EDWARDS	0.0217	Confirmed LTF	0.0217
TILTON	TILTON	0.0391	Confirmed LTF	0.0391
G-007	G-007	0.0104	Confirmed LTF	0.0104
GIBSON	GIBSON	0.0339	Confirmed LTF	0.0339
BLUEG	BLUEG	0.1076	Confirmed LTF	0.1076
TRIMBLE	TRIMBLE	0.0345	Confirmed LTF	0.0345
CATAWBA	CATAWBA	0.0221	Confirmed LTF	0.0221

14.5.16 Index 16

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
102038264	232821	TANYARD	DP&L	232820	TALBOT	DP&L	1	DPL_P4-2_DP11	breaker	173.0	124.57	129.99	DC	9.44

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

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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
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

Contingency Name	Contingency Definition
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 DISCONNECT BRANCH FROM BUS 232000 TO BUS 232005 CKT 1 /*STEELE VIENNA 230 230 END
DPL_P1_2_CKT 23002	CONTINGENCY 'DPL_P1_2_CKT 23002' DISCONNECT BUS 232007 /INDIAN RIVER - PINEY GROVE 230 & PNY GRV AT-20 XFMR END
CKT 23030B	CONTINGENCY 'CKT 23030B' OPEN LINE FROM BUS 232002 TO BUS 232013 CIRCUIT 1 /CEDAR CREEK - SILVER RUN 230 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

Contingency Name	Contingency Definition
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_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
PECO_P4_PEACH205/* \$ CHESCO \$ PEACH205 \$ STBK	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
DPL_P4-2_DP23	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

Contingency Name	Contingency Definition
PECO_P4_LINWO225/* \$ DELCO \$ LINWO225 \$ STBK	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
PECO_P1-2_220-85/* \$ DELCO \$ 220-85 \$ LC	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

15 Affected Systems

None