



**Generation Interconnection
Feasibility Study Report
for
Queue Project AG1-118
SUGAR GROVE 138 KV
180 MW Capacity / 300 MW Energy**

January 2021

Table of Contents

1	Introduction.....	5
2	Preface.....	5
3	General	5
4	Point of Interconnection.....	6
4.1	Primary.....	6
4.2	Secondary.....	6
5	Cost Summary	6
6	Transmission Owner Scope of Work.....	7
6.1	Attachment Facilities.....	7
6.2	Direct Connection Network Upgrades	7
6.3	Non-Direct Connection Network Upgrades	8
6.4	Notes on Cost Estimate:.....	8
7	Schedule.....	9
8	Transmission Owner Analysis.....	9
9	Interconnection Customer Requirements.....	9
10	Revenue Metering and SCADA Requirements	9
10.1	PJM Requirements	9
10.2	Meteorological Data Reporting Requirements	9
10.3	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	17
11.6.1	Index 1	18
11.6.2	Index 2	21
11.6.3	Index 3	25
11.6.4	Index 4	28
11.6.5	Index 5	31

11.6.6	Index 6	34
11.6.7	Index 7	38
11.6.8	Index 8	41
11.7	Queue Dependencies	44
11.8	Contingency Descriptions - Primary POI.....	47
12	Short Circuit Analysis - Primary POI.....	50
13	Summer Peak - Load Flow Analysis - Secondary POI	50
13.1	Generation Deliverability	51
13.2	Multiple Facility Contingency	51
13.3	Contribution to Previously Identified Overloads.....	51
13.4	Potential Congestion due to Local Energy Deliverability.....	52
13.5	Flow Gate Details - Secondary POI.....	54
13.5.1	Index 1	55
13.5.2	Index 2	58
13.5.3	Index 3	60
13.5.4	Index 4	62
13.5.5	Index 5	64
13.5.6	Index 6	68
13.5.7	Index 7	72
13.5.8	Index 8	76
13.5.9	Index 9	79
13.5.10	Index 10.....	83
13.5.11	Index 11.....	88
13.5.12	Index 12.....	92
13.5.13	Index 13.....	95
13.5.14	Index 14.....	99
13.5.15	Index 15.....	103
13.5.16	Index 16.....	107
13.5.17	Index 17.....	111
13.5.18	Index 18.....	115
13.5.19	Index 19.....	119
13.5.20	Index 20.....	123
13.6	Contingency Descriptions - Secondary POI.....	126

14 Affected Systems 131

 14.1 MISO 131

Attachment 1: One Line Diagram..... 132

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 ComEd.

2 Preface

The intent of the feasibility study is to determine a plan, with ballpark cost and construction time estimates, to connect the subject generation to the PJM network at a location specified by the Interconnection Customer. The Interconnection Customer may request the interconnection of generation as a capacity resource or as an energy-only resource. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: (1) Direct Connections, which are new facilities and/or facilities upgrades needed to connect the generator to the PJM network, and (2) Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system.

In some instances a generator interconnection may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection, may also contribute to the need for the same network reinforcement. Cost allocation rules for network upgrades can be found in PJM Manual 14A, Attachment B. The possibility of sharing the reinforcement costs with other projects may be identified in the feasibility study, but the actual allocation will be deferred until the impact study is performed.

The Interconnection Customer seeking to interconnect a wind or solar generation facility shall maintain meteorological data facilities as well as provide that meteorological data which is required per Schedule H to the Interconnection Service Agreement and Section 8 of Manual 14D.

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

The Feasibility Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

3 General

The Interconnection Customer (IC), has proposed a Solar generating facility located in DeKalb County, Illinois. The installed facilities will have a total capability of 300 MW with 180 MW of this output being recognized by

PJM as Capacity. The proposed in-service date for this project is December 29, 2023. This study does not imply a TO commitment to this in-service date.

Queue Number	AG1-118
Project Name	SUGAR GROVE 138 KV
State	Illinois
County	DeKalb
Transmission Owner	ComEd
MFO	300
MWE	300
MWC	180
Fuel	Solar
Basecase Study Year	2024

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

4 Point of Interconnection

4.1 Primary

AG1-118 proposes a primary Point of Interconnection with the ComEd transmission system by tying into the 138kV bus at the TDC 569 Sugar Grove substation. The existing TDC 569 Sugar Grove substation is not presently configured to accommodate a generator termination. For this reason, TDC 569 needs to be expanded to tie a generator lead.

4.2 Secondary

AG1-118 proposes a secondary Point of Interconnection with the ComEd transmission system by tapping the Sugar Grove – Waterman 138kV line 0623.

5 Cost Summary

The AG1-118 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$ 32,000,000
Total System Network Upgrade Costs	\$ 89,925,000
Total Costs	\$ 121,925,000

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 2016-36, 2016-25 I.R.B. (6/20/2016). If at a future date it is determined that the Federal Income Tax Gross charge is required, the Transmission Owner shall be reimbursed by the Interconnection Customer for such taxes.

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

6 Transmission Owner Scope of Work

6.1 Attachment Facilities

The AG1-118 generator lead would connect to the 138kV bus at the TDC 569 Sugar Grove Substation. The required Attachment Facilities are one 138kV motor-operated disconnect, a dead-end structure and revenue metering as shown in the one-line diagram.

Scope of Work	Cost Estimate
Installation of one 138kV line MOD, one dead-end structure and one set of revenue metering (see notes below on cost estimate)	\$1,000,000

6.2 Direct Connection Network Upgrades

To accommodate interconnection of AG1-118 the 138kV switchgear at the TDC 569 Sugar Grove Substation would be expanded.

The scope of work includes the installation of seven 138kV circuit breakers in a breaker and a half configuration, splitting 138kV line 11106 and replacing the single tap with two new line terminations in and out of the substation, and splitting 138kV line 11104 and creating two new line terminations in and out of the substation. This work is shown in the single-line diagram below.

The Interconnection Customer ("IC") is responsible for constructing all of the facilities on the IC side of the Point of Interconnection ("POI") outside of the substation. It is assumed that the developer would purchase additional land adjacent to the existing TDC 569 to accommodate the proposed expansion.

The estimated cost for the Direct Connection Network upgrade is given below.

Scope of Work	Cost Estimate
Expansion of the 138kV TDC 569 as described above	\$24,000,000
Splitting and termination of existing lines 11104 and 11106.	\$4,000,000
Total Cost Estimate (see notes below on cost estimate)	\$28,000,000

ComEd would take approximately 24-months to construct the substation and transmission line work after the ISA / ICSA are signed.

6.3 Non-Direct Connection Network Upgrades

The integration of the expanded 138kV TDC 569 substation would require relay/communications/SCADA upgrades at the TSS 111 Electric Junction and TSS 113 Waterman substations. The ComEd cost is given below:

Scope of Work	Cost Estimate
Relay/communications/SCADA upgrades at the TSS 111 Electric Junction substation	\$2,000,000
Relay/communications/SCADA upgrades at the TSS 113 Waterman Substation	\$1,000,000
Total Cost Estimate (see notes below on cost estimate)	\$3,000,000

6.4 Notes on Cost Estimate:

- 1) These estimates are Order-of-Magnitude estimates of the costs that ComEd would bill to the customer for this interconnection. These estimates are based on a one-line electrical diagram of the project and the information provided by the IC.
- 2) There were no site visits performed for these estimates. There may be costs related to specific site related issues that are not identified in these estimates. The site reviews will be performed during the Facilities Study or during detailed engineering.
- 3) These estimates are not a guarantee of the maximum amount payable by the IC and the actual costs of ComEd's work may differ significantly from these estimates. The IC will be responsible for paying actual costs of ComEd's work in accordance with Sections 212.1 and 217 of the PJM Open Access Transmission Tariff.
- 4) The IC is responsible for all engineering, procurement, testing and construction of all equipment on the IC's side of the POI.
- 5) These cost estimates do not include cost of acquiring right-of-way for the transmission line and purchasing any additional land, if needed, for the line terminations. The need and cost of acquiring property and associated legal costs will be investigated during Facilities Study for this project.

7 Schedule

See Sections 6 and 11.

8 Transmission Owner Analysis

See Sections 6 and 11.

9 Interconnection Customer Requirements

The Interconnection Customer is responsible for all design and construction related activities on the Interconnection Customer's side of the Point of Interconnection.

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 Meteorological Data Reporting Requirements

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

- Back Panel temperature (Fahrenheit) - (Required for plants with Maximum Facility Output of 3 MW or higher)
- Irradiance (Watts/meter²) - (Required for plants with Maximum Facility Output of 3 MW or higher)
- Ambient air temperature (Fahrenheit) - (Accepted, not required)
- Wind speed (meters/second) - (Accepted, not required)
- Wind direction (decimal degrees from true north) - (Accepted, not required)

10.3 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:

ComEd interconnection requirements can be found at <https://www.pjm.com/planning/design-engineering/to-tech-standards/private-comed.aspx>

11 Summer Peak - Load Flow Analysis - Primary POI

The Queue Project AG1-118 was evaluated as a 300.0 MW (Capacity 180.0 MW) injection at the Sugar Grove 138 kV substation in the ComEd area. Project AG1-118 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-118 was studied with a commercial probability of 53%. Potential network impacts were as follows:

11.1 Generation Deliverability

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

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 LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPAC T
162039938	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P7-1_345-L13821_R-R+_345-L18502AB-N	tower	1768.0	99.89	100.48	DC	24.38

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 LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPAC T
161481264	243206	05DUMONT	765.0	AEP	246999	05SORENS	765.0	AEP	1	AEP_P7-1_#11046	tower	4142.0	104.72	104.77	DC	64.51
167293222	243206	05DUMONT	765.0	AEP	246999	05SORENS	765.0	AEP	1	AEP_P4_#6189_05HANG	breaker	4142.0	104.74	104.77	DC	65.54
168351933	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	COMED_P1-2_765-L11215__S	single	1409.0	177.47	177.49	DC	26.98
168351934	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	AEP_P1-2_#695_1681	single	1409.0	177.47	177.49	DC	26.98
168352182	270728	E FRANKFO; B	345.0	CE	274750	CRETE EC ;BP	345.0	CE	1	COMED_P1-2_765-L11215__S	single	1399.0	106.3	106.32	DC	24.01
168352183	270728	E FRANKFO; B	345.0	CE	274750	CRETE EC ;BP	345.0	CE	1	AEP_P1-2_#695_1681	single	1399.0	106.3	106.32	DC	24.01
162039625	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P2-2_111_EJ-345R_3	bus	1479.0	109.27	111.37	DC	30.86
162039626	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	103.32	103.93	DC	21.33
168352123	270771	GREENACRE; T	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P1-2_#695_1681	single	971.0	102.14	102.29	DC	15.39
168352124	270771	GREENACRE; T	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P1-2_765-L11215__S	single	971.0	102.14	102.29	DC	15.39
162039580	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	COMED_P2-2_116_GG-345R_2	bus	1399.0	139.77	139.81	DC	25.8

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADING %	POST PROJE CT LOADING %	AC/DC	MW IMPACT
162039581	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	AEP_P2-2_#672_05EUGENE345_1	bus	1399.0	137.54	137.57	DC	24.8
162039846	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	COMED_P7-1_345-L2002_B-S+_345-L2004_R-S-B	tower	1399.0	152.29	152.33	DC	26.07
167293023	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	AEP_P4_#363_05JEF RSO	breaker	1399.0	139.39	139.42	DC	25.07
167293024	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	AEP_P4_#3002_05ROCKPT	breaker	1399.0	139.39	139.42	DC	25.07
168352023	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P1-2_765-L11215__S	single	971.0	130.4	130.55	DC	18.85
168352024	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	AEP_P1-2_#695_1681	single	971.0	130.4	130.55	DC	18.85
169877257	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P1-2_765-L11215__S	single	971.0	126.22	126.81	DC	18.85
169877258	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P1-2_#695_1681	single	971.0	126.22	126.81	DC	18.85

11.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS #	FROM BUS	kV	FROM BUS AREA	TO BUS #	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADING %	POST PROJE CT LOADING %	AC/DC	MW IMPACT
168104778	243206	05DUMONT	765.0	AEP	246999	05SORENS	765.0	AEP	1	AEP_P1-2_#709_546	operation	4142.0	103.79	103.82	DC	65.66
168352222	255104	17GREEN_ACRE	345.0	NIPS	270771	GREENACRE; T	345.0	CE	1	AEP_P1-2_#695_1681	operation	1091.0	109.53	109.61	DC	25.65
168352223	255104	17GREEN_ACRE	345.0	NIPS	270771	GREENACRE; T	345.0	CE	1	COMED_P1-2_765-L11215__S	operation	1091.0	109.53	109.61	DC	25.65
168352115	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	EXT_P13:345138:NIPS:SJ345X:17STJOHN:2	operation	1091.0	123.75	123.78	DC	17.28
168352116	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	Base Case	operation	1091.0	104.21	104.24	DC	17.4
168351931	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	COMED_P1-2_765-L11215__S	operation	1409.0	162.77	162.94	DC	44.96
168351932	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	AEP_P1-2_#695_1681	operation	1409.0	162.77	162.94	DC	44.96
168351935	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	Base Case	operation	1409.0	103.85	104.0	DC	24.26
168352226	270644	WILTON ;	765.0	CE	243206	05DUMONT	765.0	AEP	1	Base Case	operation	3555.0	107.17	107.19	DC	89.22
168352228	270644	WILTON ;	765.0	CE	243206	05DUMONT	765.0	AEP	1	AEP_P1-2_#701	operation	4105.0	101.21	101.26	DC	95.47
168352277	270677	BURNHAM ;OR	345.0	CE	255109	17MUNSTER	345.0	NIPS	1	AEP_P1-2_#695_1681	operation	1441.0	100.07	100.11	DC	37.31

ID	FROM BUS #	FROM BUS	kV	FROM BUS AREA	TO BUS #	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADING %	POST PROJE CT LOADING %	AC DC	MW IMPACT
168352 278	2706 77	BURNHAM ;OR	345 .0	CE	2551 09	17MUNSTER	345 .0	NIP S	1	COMED_P1-2_765-L11215__S	operation	144 1.0	100.0 7	100.1 1	DC	37.31
168352 242	2706 97	COLLINS ;R	345 .0	CE	2751 68	COLLINS ;2M	345 .0	CE	1	COMED_P1-2_765-L2315__S	operation	137 9.0	104.3 8	104.3 3	DC	31.81
168352 180	2707 28	E FRANKFO; B	345 .0	CE	2747 50	CRETE EC ;BP	345 .0	CE	1	AEP_P1-2_#695_1681	operation	139 9.0	115.6 5	115.6 9	DC	40.02
168352 181	2707 28	E FRANKFO; B	345 .0	CE	2747 50	CRETE EC ;BP	345 .0	CE	1	COMED_P1-2_765-L11215__S	operation	139 9.0	115.6 5	115.6 9	DC	40.02
168352 069	2707 30	ELECT JCT; B	345 .0	CE	2708 12	LOMBARD ;B	345 .0	CE	1	Base Case	operation	120 1.0	114.2 6	115.0 1	DC	19.98
168352 070	2707 30	ELECT JCT; B	345 .0	CE	2708 12	LOMBARD ;B	345 .0	CE	1	COMED_P2-1_111-L11120__	operation	147 9.0	109.2 8	110.1 8	DC	29.46
168352 103	2707 70	GOODING S;4B	345 .0	CE	2707 66	GOODING S;3B	345 .0	CE	1	COMED_P2-1_076-L11613A__	operation	180 2.0	120.2 9	120.5 2	DC	24.34
168352 105	2707 70	GOODING S;4B	345 .0	CE	2707 66	GOODING S;3B	345 .0	CE	1	Base Case	operation	156 0.0	114.6 9	114.8 7	DC	21.34
168352 121	2707 71	GREENACR E; T	345 .0	CE	2432 29	05OLIVE	345 .0	AEP	1	COMED_P1-2_765-L11215__S	operation	971. 0	123.0 3	123.1 2	DC	25.65
168352 122	2707 71	GREENACR E; T	345 .0	CE	2432 29	05OLIVE	345 .0	AEP	1	AEP_P1-2_#695_1681	operation	971. 0	123.0 3	123.1 2	DC	25.65
168352 143	2708 46	PLANO ;B	345 .0	CE	2752 07	PLANO ;3M	345 .0	CE	1	COMED_P1-3_TR94_PLANO_R-S	operation	137 9.0	111.6 7	112.5 4	DC	37.17
168352 129	2708 47	PLANO ;R	345 .0	CE	2752 08	PLANO ;4M	345 .0	CE	1	COMED_P1-3_TR93_PLANO_B-S	operation	137 9.0	114.3 9	115.2 8	DC	38.1
168352 118	2708 86	ST JOHN ;T	345 .0	CE	2551 04	17GREEN_ ACRE	345 .0	NIP S	1	EXT_P13:345138:NIPS:SJ345X :17STJOHN:2	operation	109 1.0	123.7 5	123.7 8	DC	17.28
168352 119	2708 86	ST JOHN ;T	345 .0	CE	2551 04	17GREEN_ ACRE	345 .0	NIP S	1	Base Case	operation	109 1.0	104.2 1	104.2 4	DC	17.4
168352 263	2709 27	WILTON ;R	345 .0	CE	2752 33	WILTON ;4M	345 .0	CE	1	COMED_P1-2_765-L11216__S	operation	137 9.0	101.1 1	101.1 5	DC	30.7
162574 070	2725 23	SUGAR GRV; R	138 .0	CE	2721 15	N AURORA ; R	138 .0	CE	1	Base Case	operation	269. 0	-8.48	103.0 5	DC	300.0
168351 895	2747 50	CRETE EC ;BP	345 .0	CE	2551 12	17STJOHN	345 .0	NIP S	1	Base Case	operation	109 1.0	174.8 6	174.9	DC	24.86
168352 021	2748 04	UNIV PK N;RP	345 .0	CE	9606 80	AF2-359 TAP	345 .0	CE	1	COMED_P1-2_765-L11215__S	operation	971. 0	136.8 1	137.1 1	DC	31.41
168352 022	2748 04	UNIV PK N;RP	345 .0	CE	9606 80	AF2-359 TAP	345 .0	CE	1	AEP_P1-2_#695_1681	operation	971. 0	136.8 1	137.1 1	DC	31.41
168352 245	2751 68	COLLINS ;2M	345 .0	CE	2706 07	COLLINS ;	765 .0	CE	1	COMED_P1-2_765-L2315__S	operation	137 9.0	104.3 8	104.3 3	DC	31.81
168352 147	2752 07	PLANO ;3M	345 .0	CE	2706 30	PLANO ;	765 .0	CE	1	COMED_P1-3_TR94_PLANO_R-S	operation	137 9.0	111.6 7	112.5 4	DC	37.17
168352 125	2752 08	PLANO ;4M	345 .0	CE	2706 30	PLANO ;	765 .0	CE	1	COMED_P1-3_TR93_PLANO_B-S	operation	137 9.0	114.3 9	115.2 8	DC	38.1
168352 261	2752 33	WILTON ;4M	345 .0	CE	2706 44	WILTON ;	765 .0	CE	1	COMED_P1-2_765-L11216__S	operation	137 9.0	101.1 1	101.1 5	DC	30.7
169877 255	9606 80	AF2-359 TAP	345 .0	CE	2432 29	05OLIVE	345 .0	AEP	1	AEP_P1-2_#695_1681	operation	971. 0	146.5 5	147.4 7	DC	31.41
169877 256	9606 80	AF2-359 TAP	345 .0	CE	2432 29	05OLIVE	345 .0	AEP	1	COMED_P1-2_765-L11215__S	operation	971. 0	146.5 5	147.4 7	DC	31.41

11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
168352183,168352182	4	E FRANKFO; B 345.0 kV - CRETE EC ;BP 345.0 kV Ckt 1	<u>ComEd</u> ce-014 (1361) : L6607 SSTE rating is 1483 MVA. The post contingency flow for this event exceeds the rating therefore an upgrade is required. The upgrade will be to reconductor the line. A preliminary estimate is \$10.3 M with an estimated construction timeline of 30 months. Upon completion of the upgrades the rating swill be 1334/1726/1837/2084 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$10,300,000 Time Estimate : 30.0 Months	\$10,300,000
168352024,168352023	7	UNIV PK N;RP 345.0 kV - AF2-359 TAP 345.0 kV Ckt 1	Not a violation for ComEd portion (1461) : Not a violation for ComEd portion Project Type : FAC Cost : \$0 Time Estimate : 0.0 Months	\$0
167293024,162039846,162039581,162039580,167293023	6	CRETE EC ;BP 345.0 kV - 17STJOHN 345.0 kV Ckt 1	<u>NIPS</u> NonPJMArea (33) : The external (i.e. Non-PJM) Transmission Owner, NIPS, will not evaluate this violation until the impact study phase. Project Type : FAC Cost : \$0 Time Estimate : 0.0 Months <u>ComEd</u> N5253 (1330) : L94507 SSTE rating is 1483 MVA. The post contingency flow for this event exceeds the rating therefore an upgrade is required. The upgrade will be to reconductor the line, upgrade station conductor and upgrade a relay package. A preliminary cost estimate is \$14.9 M with an estimated construction timeline of 30 months. Upon completion of this upgrade the new ratings will be 1754/2246/2297/2488 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$14,900,000 Time Estimate : 30.0 Months	\$14,900,000
168352123,168352124	5	GREENACRE; T 345.0 kV - 05OLIVE 345.0 kV Ckt 1	<u>AEP</u> AEPI0042a (7) : A Sag Study will be required on the 40.64 miles of conductor to mitigate the overload. The new ratings after sag study will be: S/N: 971 MVA, S/E: 1419 MVA, Depending on the sag study results, the cost for this upgrade is expected to be between \$162,560 (no remediation required, just sag study) and \$81.28 million (complete line Reconductor/rebuild). Time Estimate: a) Sag Study: 6-12 months b) Rebuild: The standard time required for construction differs from state to state. An approximate construction time would be 24 to 36 months after signing an interconnection agreement. Project Type : FAC Cost : \$162,560 Time Estimate : 6-12 Months Facility owned by NEXTERA (1462) : Facility owned by NEXTERA. NEXTERA will not evaluate this violation until the impact study phase. Project Type : FAC	\$162,560

ID	Idx	Facility	Upgrade Description	Cost
161481264,167 293222	2	05DUMONT 765.0 kV - 05SORENS 765.0 kV Ckt 1	<u>AEP</u> AEPI0048a (398) : Replace the 2 3000A 765kV CB's at Dumont station Project Type : FAC Cost : \$6,000,000 Time Estimate : 12-18 months Months <u>AEP</u> AEPI0064a (425) : Replace the Dumont 765 kV Dumont 3000 A circuit breaker. Project Type : FAC Cost : \$3,000,000 Time Estimate : 18-24 months Months	\$9,000,000

ID	Idx	Facility	Upgrade Description	Cost
168351934,168351933	3	17STILLWELL 345.0 kV - 05DUMONT 345.0 kV Ckt 1	<u>AEP</u> n4790 (374) : PJM Network Upgrade n4790. Replace Dumont substation 2500A wavetrap. The network project had a projected in-service date of 06/01/2019 and an estimated cost of \$200,000. Project Type : FAC Cost : \$200,000 Time Estimate : N/A Months n5769.1 (377) : PJM Network Upgrade n5769.1. Perform engineering study for CT limits , and relay compliance trip limits at Dumont substation. The network project had an projected in-service date of 06/01/2021 and an estimated cost of \$25,000. Project Type : FAC Cost : \$0 Time Estimate : N/A Months n5769.2 (378) : PJM Network Upgrade n5769.2. Replace two Dumont 3000A Non-Oil breakers. The network project had a projected in-service date of 06/01/2021 and an estimated cost of \$2,000,000. Project Type : FAC Cost : \$0 Time Estimate : N/A Months n5769.3 (379) : PJM Network Upgrade n5769.3. Replace 11 jumpers/risers at Dumont substation. The network project had a projected in-service date of 06/01/2021 and an estimated cost of \$275,000. Project Type : FAC Cost : \$0 Time Estimate : N/A Months This Queue Project presently does not receive cost allocation for the Upgrades n4790, n5769.1, n5769.2, n5769.3 listed above. Note 1: as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc., this Queue Project could receive cost allocation. Note 2: Although this Queue Project may not have cost responsibility for this upgrade, the project may need this upgrade in-service to be deliverable to the PJM system. If this project comes into service prior to completion of the upgrade, this project will need an interim study. <u>AEP</u> AEPI0066a (442) : Rebuild/Reconductor 8.6 miles of ACSR ` 954 ` 45/7 ` RAIL conductor to mitigate the overload Project Type : FAC Cost : \$17,200,000 Time Estimate : 24 – Months <u>AEP</u> AEPI0066b (443) : Replace 4 Switches (3000A) at Dumont Project Type : FAC Cost : \$2,000,000 Time Estimate : 12-18 Months	\$19,200,000

ID	Idx	Facility	Upgrade Description	Cost
162039938,162039625,162039626	1	ELECT JCT; B 345.0 kV - LOMBARD ; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L11124 (1312) : ComEd 345kV L11124 SSTE rating is 1568 MVA. The upgrade will be to reconductor the line. A preliminary estimate is \$14.6M with a estimated construction timeline of 30 months. Upon completion of the upgrade the ratings will be 1334/1726/1837/2084 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$14,600,000 Time Estimate : 30.0 Months <u>ComEd</u> CE_NUN_L11124_1 (1372) : ComEd 345kV L11124 SSTE rating is 1568 MVA. The upgrade will be to reconductor the line and station conductor. A preliminary estimate is \$15.3M with a estimated construction timeline of 30 months. Upon completion of the upgrade the ratings will be 1364/1726/1846/2221 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$14,600,000 Time Estimate : 30.0 Months <u>ComEd</u> CE_NUN_L11124_2 (1414) : In addition to CE_NUN_11124_1, the upgrade will be to replace 2-345kV Circuit Breakers and station conductor. A preliminary estimate is \$7M with a estimated construction timeline of 30 months. Upon completion of the upgrade the ratings will be 1461/1656/1909/1912 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$7,000,000 Time Estimate : 30.0 Months	\$36,200,000
169877257,169877258	8	AF2-359 TAP 345.0 kV - 05OLIVE 345.0 kV Ckt 1	<u>AEP</u> n4057 (371) : A Sag Study will be required on the 40.64 miles of ACSR/PE 1414 62/19 conductor to mitigate the overload. The new ratings after sag study will be: S/N: 971 MVA, S/E: 1419 MVA, Depending on the sag study results, the cost for this upgrade is expected to be between \$162,560 (no remediation required, just sag study) and \$81.28 million (complete line Reconductor/rebuild). Time Estimate: a) Sag Study: 6-12 months b) Rebuild: The standard time required for construction differs from state to state. An approximate construction time would be 24 to 36 months after signing an interconnection agreement. Project Type : FAC Cost : \$162,440 Time Estimate : 6-12 Months Not a violation for ComEd portion (1461) : Not a violation for ComEd portion Project Type : FAC	\$162,440
			TOTAL COST	\$89,925,000

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
162039625	270730	ELECT JCT; B	CE	270812	LOMBARD ; B	CE	1	COMED_P2-2_111_EJ-345R__3	bus	1479.0	109.27	111.37	DC	30.86

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.7991	Adder	2.12
274738	AURORA EC;3P	4.0530	50/50	4.0530
274740	AURORA EC;4P	4.0530	50/50	4.0530
274859	EASYR;U1 E	5.9233	Adder	6.97
274860	EASYR;U2 E	5.9233	Adder	6.97
274872	LEE DEKAL;1U	0.6412	50/50	0.6412
276167	Z1-106 E2	1.1169	50/50	1.1169
276168	Z1-106 E1	1.1234	50/50	1.1234
276591	L-013 2	3.2390	50/50	3.2390
290051	GSG-6; E	7.0990	Adder	8.35
290108	LEEDK;1U E	20.3200	50/50	20.3200
293516	O-009 E1	4.5550	Adder	5.36
293517	O-009 E2	2.3136	Adder	2.72
293518	O-009 E3	2.5479	Adder	3.0
293715	O-029 E	4.8698	Adder	5.73
293716	O-029 E	2.6701	Adder	3.14
293717	O-029 E	2.4541	Adder	2.89
294763	P-046 E	3.8882	Adder	4.57
295109	WESTBROOK E	3.8007	Adder	4.47
295111	SUBLETTE E	1.4504	Adder	1.71
916221	Z1-073 E	3.6873	Adder	4.34
919581	AA2-030 C	10.7721	Adder	12.67
926331	AC1-110 1	2.5352	50/50	2.5352
926341	AC1-110 2	2.5352	50/50	2.5352
930482	AB1-089 CT	17.1057	Adder	20.12
930483	AB1-089 ST	13.5997	Adder	16.0
933431	AC2-156 C O1	0.8044	50/50	0.8044
933432	AC2-156 E O1	1.3124	50/50	1.3124
933911	AD1-013 C	1.2638	Adder	1.49
933912	AD1-013 E	2.0189	Adder	2.38
934432	AD1-067 E	0.3748	Adder	0.44
934701	AD1-098 C O1	4.6290	Adder	5.45
934702	AD1-098 E O1	3.3797	Adder	3.98
937001	AD2-134 C	1.8558	Adder	2.18
937002	AD2-134 E	7.6663	Adder	9.02
937311	AD2-172 C	1.0207	Adder	1.2
937312	AD2-172 E	1.4095	Adder	1.66
937531	AD2-214 C	2.2448	Adder	2.64
937532	AD2-214 E	1.4966	Adder	1.76
938861	AE1-114 C O1	1.8661	Adder	2.2
938862	AE1-114 E O1	6.3666	Adder	7.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939051	AE1-134 1	0.8371	Adder	0.98
939061	AE1-134 2	0.8371	Adder	0.98
940501	AE2-035 C	1.0207	Adder	1.2
940502	AE2-035 E	1.4095	Adder	1.66
941131	AE2-107 C	5.4864	50/50	5.4864
941132	AE2-107 E	3.6576	50/50	3.6576
943121	AE2-341 C	10.6646	50/50	10.6646
943122	AE2-341 E	5.2369	50/50	5.2369
943411	AF1-012 C	10.8801	50/50	10.8801
943412	AF1-012 E	7.2534	50/50	7.2534
943591	AF1-030 C O1	7.0921	50/50	7.0921
943592	AF1-030 E O1	3.5089	50/50	3.5089
943921	AF1-060	0.5026	Adder	0.59
944041	AF1-072	0.9098	Adder	1.07
945351	AF1-200 FTIR	175.0914	Merchant Transmission	175.0914
946151	AF1-280 C O1	8.7442	Adder	10.29
946152	AF1-280 E O1	4.0211	Adder	4.73
946161	AF1-281 C O1	0.1915	Adder	0.23
946162	AF1-281 E O1	1.0851	Adder	1.28
946321	AF1-296 C O1	1.8445	Adder	2.17
946322	AF1-296 E O1	8.6355	Adder	10.16
946501	AF1-314 C	1.8135	Adder	2.13
946502	AF1-314 E	8.4904	Adder	9.99
946671	AF1-331	1.6414	Adder	1.93
955971	J1084	7.9065	PJM External (MISO)	7.9065
957333	AF2-027 BAT	3.0640	Merchant Transmission	3.0640
957471	AF2-041 C	26.6022	50/50	26.6022
957472	AF2-041 E	13.3011	50/50	13.3011
958911	AF2-182 C	11.4888	Adder	13.52
958912	AF2-182 E	7.6592	Adder	9.01
958921	AF2-183 C	2.0424	Adder	2.4
958922	AF2-183 E	3.0637	Adder	3.6
959081	AF2-199 C	8.8674	50/50	8.8674
959082	AF2-199 E	4.4337	50/50	4.4337
959091	AF2-200 C O1	17.7348	50/50	17.7348
959092	AF2-200 E O1	8.8674	50/50	8.8674
959101	AF2-201 C O1	2.4982	Adder	2.94
959102	AF2-201 E O1	7.1738	Adder	8.44
960381	AF2-329	5.5337	50/50	5.5337
960551	AF2-346 C	4.6629	50/50	4.6629
960552	AF2-346 E	3.1086	50/50	3.1086
960721	AF2-363 C O1	3.4519	Adder	4.06
960722	AF2-363 E O1	2.3013	Adder	2.71
960731	AF2-364 C O1	3.5125	Adder	4.13
960732	AF2-364 E O1	2.3417	Adder	2.75
960751	AF2-366 C	5.8608	50/50	5.8608
960752	AF2-366 E	3.9072	50/50	3.9072
961011	AF2-392 C O1	2.2688	Adder	2.67
961012	AF2-392 E O1	10.6223	Adder	12.5
961021	AF2-393 O1	3.8673	Adder	4.55
961031	AF2-394 O1	2.5782	Adder	3.03
962012	AG1-044 E	0.0184	Adder	0.04

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962691	AG1-118 C O1	18.5184	50/50	18.5184
962692	AG1-118 E O1	12.3456	50/50	12.3456
962701	AG1-119 C	6.0201	Adder	13.36
962702	AG1-119 E	4.0134	Adder	8.91
962711	AG1-120 C O1	2.6835	Adder	5.96
962712	AG1-120 E O1	1.7890	Adder	3.97
962781	AG1-127 C	6.4693	50/50	6.4693
962782	AG1-127 E	4.3129	50/50	4.3129
962791	AG1-128 C O1	2.2248	Adder	4.94
962792	AG1-128 E O1	10.4112	Adder	23.11
963681	AG1-220 C O1	9.2511	50/50	9.2511
963682	AG1-220 E O1	6.1674	50/50	6.1674
964461	AG1-309 FTIR	122.4256	Merchant Transmission	122.4256
965061	AG1-371	4.4337	50/50	4.4337
965071	AG1-372	2.9558	50/50	2.9558
965081	AG1-373	1.4779	50/50	1.4779
965551	AG1-423 C O1	4.9557	Adder	11.0
965552	AG1-423 E O1	3.3038	Adder	7.33
965661	AG1-434 C O1	4.6137	50/50	4.6137
965662	AG1-434 E O1	21.6003	50/50	21.6003
965931	AG1-462 C O1	4.6448	Adder	10.31
965932	AG1-462 E O1	3.0966	Adder	6.87
966441	AG1-513 C	0.1760	Adder	0.39
966442	AG1-513 E	0.2640	Adder	0.59
966521	AG1-521 C O1	2.8392	Adder	6.3
966522	AG1-521 E O1	0.7098	Adder	1.58
966821	AG1-553 C O1	6.8124	Adder	15.12
966822	AG1-553 E O1	1.7031	Adder	3.78
CBM-W2	CBM-W2	4.1216	Confirmed LTF	4.1216
NY	NY	0.1029	Confirmed LTF	0.1029
TVA	TVA	0.4312	Confirmed LTF	0.4312
O-066	O-066	1.2114	Confirmed LTF	1.2114
SIGE	SIGE	0.0161	Confirmed LTF	0.0161
CBM-S2	CBM-S2	0.2192	Confirmed LTF	0.2192
CBM-S1	CBM-S1	0.0882	Confirmed LTF	0.0882
G-007	G-007	0.1880	Confirmed LTF	0.1880
HAMLET	HAMLET	0.0035	Confirmed LTF	0.0035
MEC	MEC	3.7929	Confirmed LTF	3.7929
GIBSON	GIBSON	0.0311	Confirmed LTF	0.0311
BLUEG	BLUEG	0.2066	Confirmed LTF	0.2066
TRIMBLE	TRIMBLE	0.0712	Confirmed LTF	0.0712
LAGN	LAGN	1.0027	Confirmed LTF	1.0027
CBM-W1	CBM-W1	3.2526	Confirmed LTF	3.2526

11.6.2 Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
16729322 2	24320 6	05DUMON T	AEP	24699 9	05SOREN S	AEP	1	AEP_P4_#6189_05HAN G	break r	4142. 0	104.74	104.77	DC	65.54

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
243441	05CKG2	52.1768	50/50	52.1768
274658	DRESDEN ;2U	166.5045	Adder	195.89
274659	DRESDEN ;3U	163.8505	Adder	192.77
274771	LINCOLN ;2U	2.8389	50/50	2.8389
274772	LINCOLN ;3U	2.8389	50/50	2.8389
274773	LINCOLN ;4U	2.8389	50/50	2.8389
274774	LINCOLN ;5U	2.8389	50/50	2.8389
274775	LINCOLN ;6U	2.8389	50/50	2.8389
274776	LINCOLN ;7U	2.8389	50/50	2.8389
274777	LINCOLN ;8U	2.8389	50/50	2.8389
274788	SE CHICAG;5U (Deactivation : 01/06/2020)	7.0290	Adder	8.27
274789	SE CHICAG;6U (Deactivation : 01/06/2020)	7.0475	Adder	8.29
274790	SE CHICAG;7U (Deactivation : 01/06/2020)	7.1403	Adder	8.4
274791	SE CHICAG;8U (Deactivation : 01/06/2020)	7.1403	Adder	8.4
274792	SE CHICAG;9U (Deactivation : 01/06/2020)	7.1308	Adder	8.39
274793	SE CHICAG;0U (Deactivation : 01/06/2020)	7.1308	Adder	8.39
274794	SE CHICAG;1U (Deactivation : 01/06/2020)	7.1308	Adder	8.39
274795	SE CHICAG;2U (Deactivation : 01/06/2020)	7.1308	Adder	8.39
275149	KELLYCK ;1E	26.1479	Adder	30.76
276167	Z1-106 E2	1.8454	Adder	2.17
276168	Z1-106 E1	1.8454	Adder	2.17
276169	Z1-107 E	3.7075	Adder	4.36
276170	Z1-108 E	3.6363	Adder	4.28
276591	L-013 2	5.3518	Adder	6.3
293061	N-015 E	22.4053	Adder	26.36
293644	O22 E1	14.8708	Adder	17.5
293645	O22 E2	28.8668	Adder	33.96

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
293799	PILOT HIL;1E	26.1479	Adder	30.76
294392	P-010 E	28.4548	Adder	33.48
910542	X3-005 E	1.0455	Adder	1.23
915011	Y3-013 1	5.4386	Adder	6.4
915021	Y3-013 2	5.4386	Adder	6.4
915031	Y3-013 3	5.4386	Adder	6.4
918052	AA1-018 E OP	23.8123	Adder	28.01
926331	AC1-110 1	2.7747	Adder	3.26
926341	AC1-110 2	2.7747	Adder	3.26
927451	AC1-142A 1	5.9511	Adder	7.0
927461	AC1-142A 2	5.9508	Adder	7.0
930501	AB1-091 CT	57.2968	Adder	67.41
930502	AB1-091 ST	45.5532	Adder	53.59
930771	AB1-122 CT2	106.0050	Adder	124.71
933281	AC2-140 C	1.7273	50/50	1.7273
933282	AC2-140 E	0.5762	50/50	0.5762
933411	AC2-154 C	3.5486	Adder	4.17
933412	AC2-154 E	5.7899	Adder	6.81
933431	AC2-156 C O1	1.4090	Adder	1.66
933432	AC2-156 E O1	2.2989	Adder	2.7
934111	AD1-039 2	10.3885	Adder	12.22
934721	AD1-100 C	28.1265	Adder	33.09
934722	AD1-100 E	131.2570	Adder	154.42
934871	AD1-116 C	1.3868	Adder	1.63
934872	AD1-116 E	2.2626	Adder	2.66
936371	AD2-047 C O1	6.3502	Adder	7.47
936372	AD2-047 E O1	31.0039	Adder	36.48
936461	AD2-060	3.7354	Adder	4.39
937401	AD2-194 1	11.0849	Adder	13.04
937411	AD2-194 2	11.0854	Adder	13.04
938511	AE1-070 1	13.0253	Adder	15.32
938521	AE1-070 2	11.9162	Adder	14.02
939321	AE1-163 C O1	8.4230	Adder	9.91
939322	AE1-163 E O1	51.7412	Adder	60.87
939351	AE1-166 C O1	7.7517	Adder	17.21
939352	AE1-166 E O1	7.1554	Adder	15.88
939631	AE1-193 C	11.7920	Adder	13.87
939632	AE1-193 E	78.9157	Adder	92.84
939641	AE1-194 C	11.7920	Adder	13.87
939642	AE1-194 E	78.9157	Adder	92.84
939651	AE1-195 C	11.7920	Adder	13.87
939652	AE1-195 E	78.9157	Adder	92.84
939681	AE1-198 C	35.0132	Adder	41.19
939682	AE1-198 E	29.7521	Adder	35.0
940752	AE2-062 E	0.0985	Adder	0.22
941551	AE2-152 C O1	8.9442	Adder	19.85
941552	AE2-152 E O1	5.9628	Adder	13.24
941561	AE2-153 C O1	6.5977	Adder	7.76
941562	AE2-153 E O1	30.8890	Adder	36.34
942651	AE2-281 C O1	1.2663	Adder	1.49
942652	AE2-281 E O1	7.7786	Adder	9.15
943121	AE2-341 C	18.7865	Adder	22.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943122	AE2-341 E	9.2252	Adder	10.85
943591	AF1-030 C O1	12.4932	Adder	14.7
943592	AF1-030 E O1	6.1813	Adder	7.27
944041	AF1-072	3.1470	Adder	3.7
944911	AF1-156 C	16.8690	Adder	19.85
944912	AF1-156 E	11.2460	Adder	13.23
945351	AF1-200 FTIR	464.4887	Merchant Transmission	464.4887
957331	AF2-027 C	3.6258	Adder	4.27
957332	AF2-027 E	5.4386	Adder	6.4
957371	AF2-031 C O1	1.4845	Adder	1.75
957372	AF2-031 E O1	2.2268	Adder	2.62
957401	AF2-034 C	1.9967	Adder	2.35
957402	AF2-034 E	1.7008	Adder	2.0
958011	AF2-095 C O1	25.4008	Adder	29.88
958012	AF2-095 E O1	11.9533	Adder	14.06
958021	AF2-096 C	47.7825	Adder	56.21
958022	AF2-096 E	22.4859	Adder	26.45
958481	AF2-142 C	16.4223	Adder	19.32
958482	AF2-142 E	10.9482	Adder	12.88
958491	AF2-143 C	16.2807	Adder	19.15
958492	AF2-143 E	10.8538	Adder	12.77
959351	AF2-226 C	3.6448	Adder	4.29
959352	AF2-226 E	5.4672	Adder	6.43
960281	AF2-319 C	3.6448	Adder	4.29
960282	AF2-319 E	5.4672	Adder	6.43
960381	AF2-329	9.7481	Adder	11.47
960591	AF2-350 C O1	11.2062	Adder	13.18
960592	AF2-350 E O1	7.4708	Adder	8.79
960601	AF2-351 C O1	1.4942	Adder	1.76
960602	AF2-351 E O1	2.2412	Adder	2.64
960681	AF2-359 C	13.8497	Adder	16.29
960682	AF2-359 E	9.2331	Adder	10.86
960731	AF2-364 C O1	8.9770	Adder	10.56
960732	AF2-364 E O1	5.9847	Adder	7.04
960751	AF2-366 C	10.3153	Adder	12.14
960752	AF2-366 E	6.8769	Adder	8.09
961501	AF2-441 C O1	14.9008	Adder	17.53
961502	AF2-441 E O1	22.3513	Adder	26.3
962691	AG1-118 C O1	17.7165	Adder	39.33
962692	AG1-118 E O1	11.8110	Adder	26.22
962781	AG1-127 C	6.0530	Adder	13.44
962782	AG1-127 E	4.0353	Adder	8.96
963851	AG1-238 C	21.5586	50/50	21.5586
963852	AG1-238 E	14.3724	50/50	14.3724
964361	AG1-298 O1	49.4018	Adder	109.66
965551	AG1-423 C O1	11.6845	Adder	25.94
965552	AG1-423 E O1	7.7897	Adder	17.29
965681	AG1-436 C	7.3403	Adder	16.29
965682	AG1-436 E	4.8936	Adder	10.86
965791	AG1-447	5.3829	Adder	11.95
965801	AG1-448	5.3829	Adder	11.95
966081	AG1-477 C	1.5415	Adder	3.42

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966082	AG1-477 E	0.3878	Adder	0.86
966091	AG1-478 C	1.5593	Adder	3.46
966092	AG1-478 E	0.3923	Adder	0.87
966101	AG1-479 C (Withdrawn : 12/03/2020)	1.5415	Adder	3.42
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.3878	Adder	0.86
966431	AG1-512 C	1.5814	Adder	3.51
966432	AG1-512 E	2.3722	Adder	5.27
966441	AG1-513 C	0.3935	Adder	0.87
966442	AG1-513 E	0.5903	Adder	1.31
966651	AG1-535 O1	8.3527	Adder	18.54
WEC	WEC	6.5029	Confirmed LTF	6.5029
LGEE	LGEE	3.3865	Confirmed LTF	3.3865
CBM-W2	CBM-W2	76.5722	Confirmed LTF	76.5722
NY	NY	2.8126	Confirmed LTF	2.8126
TVA	TVA	6.5310	Confirmed LTF	6.5310
O-066	O-066	34.2826	Confirmed LTF	34.2826
SIGE	SIGE	1.3357	Confirmed LTF	1.3357
CBM-S1	CBM-S1	1.8229	Confirmed LTF	1.8229
G-007	G-007	5.3466	Confirmed LTF	5.3466
HAMLET	HAMLET	1.0291	Confirmed LTF	1.0291
MEC	MEC	25.9770	Confirmed LTF	25.9770
LAGN	LAGN	11.7863	Confirmed LTF	11.7863
CATAWBA	CATAWBA	0.4613	Confirmed LTF	0.4613
CBM-W1	CBM-W1	207.8745	Confirmed LTF	207.8745

11.6.3 Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168351934	255113	17STILLWELL	NIPS	243219	05DUMONT	AEP	1	AEP_P1-2_#695_1681	single	1409.0	177.47	177.49	DC	26.98

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.6636	Adder	3.13
274658	DRESDEN ;2U	117.0249	Adder	137.68
274659	DRESDEN ;3U	110.7281	Adder	130.27
274723	RIVER EC ;12	5.1187	80/20	5.1187
274724	RIVER EC ;11	5.0836	80/20	5.0836
274788	SE CHICAG;5U (Deactivation : 01/06/2020)	7.5917	80/20	7.5917
274789	SE CHICAG;6U (Deactivation : 01/06/2020)	7.6118	80/20	7.6118
274790	SE CHICAG;7U (Deactivation : 01/06/2020)	7.7119	80/20	7.7119
274791	SE CHICAG;8U (Deactivation : 01/06/2020)	7.7119	80/20	7.7119
274792	SE CHICAG;9U (Deactivation : 01/06/2020)	7.6619	80/20	7.6619
274793	SE CHICAG;0U (Deactivation : 01/06/2020)	7.6619	80/20	7.6619
274794	SE CHICAG;1U (Deactivation : 01/06/2020)	7.6619	80/20	7.6619
274795	SE CHICAG;2U (Deactivation : 01/06/2020)	7.6619	80/20	7.6619
274798	UNIV PARK;1U	1.4270	80/20	1.4270
274801	UNIV PARK;4U	1.4164	80/20	1.4164
274826	FISK ;BP	2.6660	80/20	2.6660
274827	FISK ;RP	1.8894	80/20	1.8894
276164	X3-005 C	0.0989	80/20	0.0989
276592	O-012 C	0.5653	80/20	0.5653
915011	Y3-013 1	3.7511	Adder	4.41
915021	Y3-013 2	3.7511	Adder	4.41
915031	Y3-013 3	3.7511	Adder	4.41
924472	AB2-096 CT1	19.0987	Adder	22.47
924473	AB2-096 CT2	19.0987	Adder	22.47
924474	AB2-096 CT3	19.0987	Adder	22.47
926331	AC1-110 1	1.9055	Adder	2.24
926341	AC1-110 2	1.9055	Adder	2.24

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
927451	AC1-142A 1	4.2296	Adder	4.98
927461	AC1-142A 2	4.2299	Adder	4.98
930482	AB1-089 CT	36.7090	Adder	43.19
930483	AB1-089 ST	29.1851	Adder	34.34
930501	AB1-091 CT	43.0585	Adder	50.66
930502	AB1-091 ST	34.2332	Adder	40.27
930761	AB1-122 CT1	69.1239	Adder	81.32
930771	AB1-122 CT2	74.4513	Adder	87.59
933411	AC2-154 C	2.6515	Adder	3.12
933431	AC2-156 C O1	0.9584	Adder	1.13
933911	AD1-013 C	1.8666	Adder	2.2
933931	AD1-016 C	0.9291	Adder	1.09
934101	AD1-039 1	6.7741	Adder	7.97
934111	AD1-039 2	7.2962	Adder	8.58
934701	AD1-098 C O1	6.9602	Adder	8.19
934721	AD1-100 C	19.6248	Adder	23.09
934871	AD1-116 C	0.9691	Adder	1.14
934971	AD1-129 C	0.9053	Adder	1.07
936291	AD2-038 C O1	2.4422	Adder	2.87
936371	AD2-047 C O1	4.7448	Adder	5.58
936461	AD2-060	2.7911	Adder	3.28
936511	AD2-066 C O1	8.4936	Adder	9.99
937001	AD2-134 C	2.7648	Adder	3.25
937401	AD2-194 1	7.8061	Adder	9.18
937411	AD2-194 2	7.8091	Adder	9.19
938511	AE1-070 1	9.1757	Adder	10.79
938521	AE1-070 2	8.3915	Adder	9.87
938851	AE1-113 C O1	8.1962	Adder	9.64
939321	AE1-163 C O1	6.1367	Adder	7.22
939351	AE1-166 C O1	5.4715	Adder	12.15
939631	AE1-193 C	9.0820	Adder	10.68
939641	AE1-194 C	9.0820	Adder	10.68
939651	AE1-195 C	9.0820	Adder	10.68
939681	AE1-198 C	26.9665	Adder	31.73
941131	AE2-107 C	6.6027	Adder	7.77
941551	AE2-152 C O1	6.3133	Adder	14.01
941561	AE2-153 C O1	4.7585	Adder	5.6
942421	AE2-255 C O1	3.1046	Adder	3.65
942651	AE2-281 C O1	0.8767	Adder	1.03
942991	AE2-321 C	8.1974	Adder	9.64
943121	AE2-341 C	12.7897	Adder	15.05
943591	AF1-030 C O1	8.5053	Adder	10.01
943801	AF1-048 C	3.8320	Adder	4.51
944041	AF1-072	2.1578	Adder	2.54
944911	AF1-156 C	12.1666	Adder	14.31
945351	AF1-200 FTIR	309.5845	Merchant Transmission	309.5845
946661	AF1-330 C	2.0074	Adder	2.36
946671	AF1-331	2.4242	Adder	2.85
957331	AF2-027 C	2.5007	Adder	2.94
957371	AF2-031 C O1	1.5912	80/20	1.5912
957401	AF2-034 C	1.4134	Adder	1.66
957471	AF2-041 C	21.5057	Adder	25.3

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958011	AF2-095 C O1	18.9804	Adder	22.33
958021	AF2-096 C	33.8845	Adder	39.86
958481	AF2-142 C	11.4758	Adder	13.5
958491	AF2-143 C	11.2715	Adder	13.26
959081	AF2-199 C	7.1686	Adder	8.43
959091	AF2-200 C O1	14.3371	Adder	16.87
959351	AF2-226 C	2.5981	Adder	3.06
960281	AF2-319 C	2.5981	Adder	3.06
960381	AF2-329	6.6364	Adder	7.81
960581	AF2-349 C	21.8132	Adder	25.66
960591	AF2-350 C O1	8.3737	Adder	9.85
960601	AF2-351 C O1	1.1165	Adder	1.31
960721	AF2-363 C O1	5.9311	Adder	6.98
960731	AF2-364 C O1	6.1532	Adder	7.24
960751	AF2-366 C	6.9970	Adder	8.23
961501	AF2-441 C O1	15.1784	80/20	15.1784
962691	AG1-118 C O1	12.1538	Adder	26.98
962701	AG1-119 C	11.6113	Adder	25.77
962711	AG1-120 C O1	4.5813	Adder	10.17
962781	AG1-127 C	4.1056	Adder	9.11
962791	AG1-128 C O1	3.3146	Adder	7.36
963681	AG1-220 C O1	5.8462	Adder	12.98
964361	AG1-298 O1	94.1500	80/20	94.1500
964461	AG1-309 FTIR	266.0962	Merchant Transmission	266.0962
965061	AG1-371	1.8997	Adder	4.22
965071	AG1-372	1.2664	Adder	2.81
965081	AG1-373	0.6332	Adder	1.41
965141	AG1-379 C	9.0302	Adder	20.04
965551	AG1-423 C O1	8.0047	Adder	17.77
966081	AG1-477 C	1.0615	Adder	2.36
966091	AG1-478 C	1.1215	Adder	2.49
966101	AG1-479 C (Withdrawn : 12/03/2020)	1.0615	Adder	2.36
966441	AG1-513 C	0.2700	Adder	0.6
966651	AG1-535 O1	16.7271	80/20	16.7271
WEC	WEC	4.4191	Confirmed LTF	4.4191
CBM-W2	CBM-W2	27.8029	Confirmed LTF	27.8029
NY	NY	1.2636	Confirmed LTF	1.2636
TVA	TVA	2.1686	Confirmed LTF	2.1686
SIGE	SIGE	0.2780	Confirmed LTF	0.2780
CBM-S1	CBM-S1	0.4245	Confirmed LTF	0.4245
HAMLET	HAMLET	0.5088	Confirmed LTF	0.5088
MEC	MEC	15.8026	Confirmed LTF	15.8026
BLUEG	BLUEG	1.5659	Confirmed LTF	1.5659
TRIMBLE	TRIMBLE	0.5543	Confirmed LTF	0.5543
LAGN	LAGN	5.1870	Confirmed LTF	5.1870
CATAWBA	CATAWBA	0.2489	Confirmed LTF	0.2489
CBM-W1	CBM-W1	102.7245	Confirmed LTF	102.7245

11.6.4 Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168352183	270728	E FRANKFO; B	CE	274750	CRETE EC ;BP	CE	1	AEP_P1- 2_#695_1681	single	1399.0	106.3	106.32	DC	24.01

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.3713	Adder	2.79
274654	BRAIDWOOD;1U	27.6957	80/20	27.6957
274655	BRAIDWOOD;2U	26.9457	80/20	26.9457
274658	DRESDEN ;2U	126.0792	80/20	126.0792
274659	DRESDEN ;3U	98.2981	Adder	115.64
274660	LASCO STA;1U	25.4354	80/20	25.4354
274661	LASCO STA;2U	25.5410	80/20	25.5410
274675	JOLIET 29;7U	11.5894	80/20	11.5894
274676	JOLIET 29;8U	11.5967	80/20	11.5967
274687	WILL CNTY;4U	11.6284	80/20	11.6284
274704	KENDALL ;1C	4.1206	80/20	4.1206
274705	KENDALL ;1S	2.7554	80/20	2.7554
274706	KENDALL ;2C	4.1206	80/20	4.1206
274707	KENDALL ;2S	2.7554	80/20	2.7554
274728	ELWOOD EC;5P	3.3226	80/20	3.3226
274729	ELWOOD EC;1P	3.3167	80/20	3.3167
274730	ELWOOD EC;6P	3.3226	80/20	3.3226
274731	ELWOOD EC;2P	3.3167	80/20	3.3167
274732	ELWOOD EC;7P	3.3226	80/20	3.3226
274733	ELWOOD EC;3P	3.3167	80/20	3.3167
274734	ELWOOD EC;8P	3.3226	80/20	3.3226
274735	ELWOOD EC;4P	3.3167	80/20	3.3167
274736	ELWOOD EC;9P	3.3226	80/20	3.3226
274847	GR RIDGE ;BU	0.5956	80/20	0.5956
274861	TOP CROP ;1U	0.4448	80/20	0.4448
274862	TOP CROP ;2U	0.8484	80/20	0.8484
274871	GR RIDGE ;2U	0.2217	80/20	0.2217
276159	W4-082	0.1226	80/20	0.1226
915011	Y3-013 1	3.3663	Adder	3.96
915021	Y3-013 2	3.3663	Adder	3.96
915031	Y3-013 3	3.3663	Adder	3.96
924472	AB2-096 CT1	17.0692	Adder	20.08
924473	AB2-096 CT2	17.0692	Adder	20.08
924474	AB2-096 CT3	17.0692	Adder	20.08
926331	AC1-110 1	1.7012	Adder	2.0
926341	AC1-110 2	1.7012	Adder	2.0
927091	AC1-204 GEN1	12.3370	80/20	12.3370
927093	AC1-204 GEN2	12.3590	80/20	12.3590
927451	AC1-142A 1	4.5379	80/20	4.5379
927461	AC1-142A 2	4.5408	80/20	4.5408
930482	AB1-089 CT	32.7790	Adder	38.56

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930483	AB1-089 ST	26.0606	Adder	30.66
930761	AB1-122 CT1	61.5581	Adder	72.42
930771	AB1-122 CT2	80.1895	80/20	80.1895
933431	AC2-156 C O1	0.8510	Adder	1.0
933911	AD1-013 C	1.6619	Adder	1.96
933931	AD1-016 C	0.8308	Adder	0.98
934101	AD1-039 1	6.0327	Adder	7.1
934111	AD1-039 2	7.8586	80/20	7.8586
934701	AD1-098 C O1	6.1963	Adder	7.29
934721	AD1-100 C	20.0310	80/20	20.0310
934871	AD1-116 C	0.8176	Adder	0.96
934971	AD1-129 C	0.8087	Adder	0.95
936291	AD2-038 C O1	2.1004	Adder	2.47
936511	AD2-066 C O1	7.4891	Adder	8.81
937001	AD2-134 C	2.4613	Adder	2.9
937401	AD2-194 1	8.4090	80/20	8.4090
937411	AD2-194 2	8.4240	80/20	8.4240
938511	AE1-070 1	9.8982	80/20	9.8982
938521	AE1-070 2	9.0397	80/20	9.0397
938851	AE1-113 C O1	7.4445	Adder	8.76
939321	AE1-163 C O1	5.2779	Adder	6.21
939351	AE1-166 C O1	10.7110	80/20	10.7110
941131	AE2-107 C	5.8775	Adder	6.91
941551	AE2-152 C O1	12.3588	80/20	12.3588
941561	AE2-153 C O1	4.9132	80/20	4.9132
942421	AE2-255 C O1	2.8199	Adder	3.32
942651	AE2-281 C O1	0.7540	Adder	0.89
942991	AE2-321 C	7.3289	Adder	8.62
943121	AE2-341 C	11.3463	Adder	13.35
943591	AF1-030 C O1	7.5454	Adder	8.88
943801	AF1-048 C	3.4260	Adder	4.03
944041	AF1-072	1.9309	Adder	2.27
944911	AF1-156 C	12.5622	80/20	12.5622
945351	AF1-200 FTIR	275.5390	80/20	275.5390
946661	AF1-330 C	1.7948	Adder	2.11
946671	AF1-331	2.1583	Adder	2.54
957331	AF2-027 C	2.2442	Adder	2.64
957401	AF2-034 C	1.5473	80/20	1.5473
957471	AF2-041 C	19.2107	Adder	22.6
958021	AF2-096 C	40.8485	80/20	40.8485
958481	AF2-142 C	9.6826	Adder	11.39
958491	AF2-143 C	9.6941	Adder	11.4
959081	AF2-199 C	6.4036	Adder	7.53
959091	AF2-200 C O1	12.8071	Adder	15.07
959351	AF2-226 C	3.0642	80/20	3.0642
960281	AF2-319 C	3.0642	80/20	3.0642
960381	AF2-329	5.8875	Adder	6.93
960581	AF2-349 C	19.4953	Adder	22.94
960721	AF2-363 C O1	5.2864	Adder	6.22
960731	AF2-364 C O1	5.5014	Adder	6.47
960751	AF2-366 C	6.2294	Adder	7.33
962691	AG1-118 C O1	10.8182	Adder	24.01

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962701	AG1-119 C	10.3755	Adder	23.03
962711	AG1-120 C O1	4.0832	Adder	9.06
962781	AG1-127 C	3.6553	Adder	8.11
962791	AG1-128 C O1	2.9508	Adder	6.55
963681	AG1-220 C O1	5.2040	Adder	11.55
964461	AG1-309 FTIR	189.4338	Merchant Transmission	189.4338
965061	AG1-371	1.6969	Adder	3.77
965071	AG1-372	1.1313	Adder	2.51
965081	AG1-373	0.5656	Adder	1.26
965141	AG1-379 C	8.2020	Adder	18.21
965551	AG1-423 C O1	7.1629	Adder	15.9
966081	AG1-477 C	0.9406	Adder	2.09
966091	AG1-478 C	0.9330	Adder	2.07
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.9406	Adder	2.09
966441	AG1-513 C	0.2403	Adder	0.53
WEC	WEC	3.9545	Confirmed LTF	3.9545
CBM-W2	CBM-W2	21.2352	Confirmed LTF	21.2352
NY	NY	1.0319	Confirmed LTF	1.0319
TVA	TVA	1.6394	Confirmed LTF	1.6394
SIGE	SIGE	0.1717	Confirmed LTF	0.1717
CBM-S1	CBM-S1	0.2941	Confirmed LTF	0.2941
HAMLET	HAMLET	0.4377	Confirmed LTF	0.4377
MEC	MEC	13.8307	Confirmed LTF	13.8307
GIBSON	GIBSON	0.1201	Confirmed LTF	0.1201
BLUEG	BLUEG	1.8801	Confirmed LTF	1.8801
TRIMBLE	TRIMBLE	0.6411	Confirmed LTF	0.6411
LAGN	LAGN	4.2332	Confirmed LTF	4.2332
CATAWBA	CATAWBA	0.2188	Confirmed LTF	0.2188
CBM-W1	CBM-W1	65.6276	Confirmed LTF	65.6276

11.6.5 Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168352124	270771	GREENACRE; T	CE	243229	05OLIVE	AEP	1	COMED_P1-2_765-L11215__-S	single	971.0	102.14	102.29	DC	15.39

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.5177	Adder	1.79
274658	DRESDEN ;2U	67.3996	Adder	79.29
274659	DRESDEN ;3U	63.0101	Adder	74.13
274723	RIVER EC ;12	2.4999	80/20	2.4999
274724	RIVER EC ;11	2.4311	80/20	2.4311
274751	CRETE EC ;1U	2.0076	80/20	2.0076
274752	CRETE EC ;2U	2.0076	80/20	2.0076
274753	CRETE EC ;3U	2.0076	80/20	2.0076
274754	CRETE EC ;4U	2.0076	80/20	2.0076
274788	SE CHICAG;5U (Deactivation : 01/06/2020)	3.6119	80/20	3.6119
274789	SE CHICAG;6U (Deactivation : 01/06/2020)	3.6214	80/20	3.6214
274790	SE CHICAG;7U (Deactivation : 01/06/2020)	3.6690	80/20	3.6690
274791	SE CHICAG;8U (Deactivation : 01/06/2020)	3.6690	80/20	3.6690
274792	SE CHICAG;9U (Deactivation : 01/06/2020)	3.7272	80/20	3.7272
274793	SE CHICAG;0U (Deactivation : 01/06/2020)	3.7272	80/20	3.7272
274794	SE CHICAG;1U (Deactivation : 01/06/2020)	3.7272	80/20	3.7272
274795	SE CHICAG;2U (Deactivation : 01/06/2020)	3.7272	80/20	3.7272
274826	FSK ;BP	1.4626	80/20	1.4626
274827	FSK ;RP	1.0366	80/20	1.0366
276164	X3-005 C	0.0505	80/20	0.0505
915011	Y3-013 1	2.1446	Adder	2.52
915021	Y3-013 2	2.1446	Adder	2.52
915031	Y3-013 3	2.1446	Adder	2.52
924472	AB2-096 CT1	10.8963	Adder	12.82
924473	AB2-096 CT2	10.8963	Adder	12.82
924474	AB2-096 CT3	10.8963	Adder	12.82
926331	AC1-110 1	1.0881	Adder	1.28

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
926341	AC1-110 2	1.0881	Adder	1.28
927451	AC1-142A 1	2.4325	Adder	2.86
927461	AC1-142A 2	2.4330	Adder	2.86
930482	AB1-089 CT	20.9316	Adder	24.63
930483	AB1-089 ST	16.6414	Adder	19.58
930501	AB1-091 CT	23.5933	Adder	27.76
930502	AB1-091 ST	18.7576	Adder	22.07
930761	AB1-122 CT1	39.3395	Adder	46.28
930771	AB1-122 CT2	42.8731	Adder	50.44
933411	AC2-154 C	1.4499	Adder	1.71
933431	AC2-156 C O1	0.5463	Adder	0.64
933911	AD1-013 C	1.0636	Adder	1.25
933931	AD1-016 C	0.5303	Adder	0.62
934101	AD1-039 1	3.8553	Adder	4.54
934111	AD1-039 2	4.2016	Adder	4.94
934701	AD1-098 C O1	3.9648	Adder	4.66
934721	AD1-100 C	11.1333	Adder	13.1
934871	AD1-116 C	0.5410	Adder	0.64
934971	AD1-129 C	0.5163	Adder	0.61
936291	AD2-038 C O1	1.3722	Adder	1.61
936371	AD2-047 C O1	2.5946	Adder	3.05
936461	AD2-060	1.5263	Adder	1.8
936511	AD2-066 C O1	4.8180	Adder	5.67
937001	AD2-134 C	1.5753	Adder	1.85
937401	AD2-194 1	4.4931	Adder	5.29
937411	AD2-194 2	4.4967	Adder	5.29
938511	AE1-070 1	5.2836	Adder	6.22
938521	AE1-070 2	4.8301	Adder	5.68
938851	AE1-113 C O1	4.7001	Adder	5.53
939321	AE1-163 C O1	3.4482	Adder	4.06
939351	AE1-166 C O1	3.1189	Adder	6.92
939631	AE1-193 C	10.9987	80/20	10.9987
939641	AE1-194 C	10.9987	80/20	10.9987
939651	AE1-195 C	10.9987	80/20	10.9987
939681	AE1-198 C	32.6575	80/20	32.6575
941131	AE2-107 C	3.7629	Adder	4.43
941551	AE2-152 C O1	3.5988	Adder	7.99
941561	AE2-153 C O1	2.7108	Adder	3.19
942421	AE2-255 C O1	1.7803	Adder	2.09
942651	AE2-281 C O1	0.4926	Adder	0.58
942991	AE2-321 C	4.6784	Adder	5.5
943121	AE2-341 C	7.2897	Adder	8.58
943591	AF1-030 C O1	4.8477	Adder	5.7
943801	AF1-048 C	2.1870	Adder	2.57
944041	AF1-072	1.2326	Adder	1.45
944911	AF1-156 C	6.9309	Adder	8.15
945351	AF1-200 FTIR	176.7398	Merchant Transmission	176.7398
946661	AF1-330 C	1.1456	Adder	1.35
946671	AF1-331	1.3812	Adder	1.62
957331	AF2-027 C	1.4297	Adder	1.68
957371	AF2-031 C O1	0.7610	80/20	0.7610
957401	AF2-034 C	0.8189	Adder	0.96

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957471	AF2-041 C	12.2630	Adder	14.43
958011	AF2-095 C O1	10.3786	Adder	12.21
958021	AF2-096 C	23.8298	80/20	23.8298
958481	AF2-142 C	6.4061	Adder	7.54
958491	AF2-143 C	6.3334	Adder	7.45
959081	AF2-199 C	4.0877	Adder	4.81
959091	AF2-200 C O1	8.1753	Adder	9.62
959351	AF2-226 C	1.5467	Adder	1.82
960281	AF2-319 C	1.5467	Adder	1.82
960381	AF2-329	3.7825	Adder	4.45
960581	AF2-349 C	12.4450	Adder	14.64
960591	AF2-350 C O1	4.5788	Adder	5.39
960601	AF2-351 C O1	0.6105	Adder	0.72
960721	AF2-363 C O1	3.3809	Adder	3.98
960731	AF2-364 C O1	3.5142	Adder	4.13
960751	AF2-366 C	3.9886	Adder	4.69
961501	AF2-441 C O1	7.5088	80/20	7.5088
962691	AG1-118 C O1	6.9332	Adder	15.39
962701	AG1-119 C	6.6251	Adder	14.71
962711	AG1-120 C O1	2.6117	Adder	5.8
962781	AG1-127 C	2.3403	Adder	5.19
962791	AG1-128 C O1	1.8886	Adder	4.19
963681	AG1-220 C O1	3.3320	Adder	7.4
964361	AG1-298 O1	46.7900	80/20	46.7900
964461	AG1-309 FTIR	140.8860	Merchant Transmission	140.8860
965061	AG1-371	1.0832	Adder	2.4
965071	AG1-372	0.7222	Adder	1.6
965081	AG1-373	0.3611	Adder	0.8
965141	AG1-379 C	5.1783	Adder	11.49
965551	AG1-423 C O1	4.5729	Adder	10.15
966081	AG1-477 C	0.6036	Adder	1.34
966091	AG1-478 C	0.6284	Adder	1.39
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.6036	Adder	1.34
966441	AG1-513 C	0.1540	Adder	0.34
966651	AG1-535 O1	8.1932	80/20	8.1932
WEC	WEC	2.5213	Confirmed LTF	2.5213
CBM-W2	CBM-W2	14.1568	Confirmed LTF	14.1568
NY	NY	0.6890	Confirmed LTF	0.6890
TVA	TVA	1.0934	Confirmed LTF	1.0934
SIGE	SIGE	0.1256	Confirmed LTF	0.1256
CBM-S1	CBM-S1	0.2018	Confirmed LTF	0.2018
HAMLET	HAMLET	0.2876	Confirmed LTF	0.2876
MEC	MEC	8.8730	Confirmed LTF	8.8730
GIBSON	GIBSON	0.0109	Confirmed LTF	0.0109
BLUEG	BLUEG	1.1093	Confirmed LTF	1.1093
TRIMBLE	TRIMBLE	0.3818	Confirmed LTF	0.3818
LAGN	LAGN	2.7633	Confirmed LTF	2.7633
CATAWBA	CATAWBA	0.1431	Confirmed LTF	0.1431
CBM-W1	CBM-W1	50.2617	Confirmed LTF	50.2617

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
162039846	274750	CRETE EC ;BP	CE	255112	17STJOHN	NIPS	1	COMED_P7-1_345-L2002__B-S+_345-L2004__R-S-B	tower	1399.0	152.29	152.33	DC	26.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.5441	Adder	1.82
274654	BRAIDWOOD;1U	32.6566	50/50	32.6566
274658	DRESDEN ;2U	72.3936	Adder	85.17
274660	LASCO STA;1U	20.6185	50/50	20.6185
274661	LASCO STA;2U	20.6522	50/50	20.6522
274687	WILL CNTY;4U	8.0816	50/50	8.0816
274751	CRETE EC ;1U	5.7020	50/50	5.7020
274752	CRETE EC ;2U	5.7020	50/50	5.7020
274753	CRETE EC ;3U	5.7020	50/50	5.7020
274754	CRETE EC ;4U	5.7020	50/50	5.7020
274847	GR RIDGE ;BU	0.4611	50/50	0.4611
274861	TOP CROP ;1U	0.3236	50/50	0.3236
274862	TOP CROP ;2U	0.6173	50/50	0.6173
274871	GR RIDGE ;2U	0.1716	50/50	0.1716
276167	Z1-106 E2	0.7399	Adder	0.87
276168	Z1-106 E1	0.7399	Adder	0.87
276170	Z1-108 E	1.4690	Adder	1.73
276591	L-013 2	2.1458	Adder	2.52
290021	O50 E	11.9734	Adder	14.09
290051	GSG-6; E	6.1303	Adder	7.21
290108	LEEDK;1U E	14.1746	Adder	16.68
293061	N-015 E	12.7992	50/50	12.7992
293644	O22 E1	9.0968	50/50	9.0968
293645	O22 E2	17.6584	50/50	17.6584
294392	P-010 E	16.2550	50/50	16.2550
295109	WESTBROOK E	3.2821	Adder	3.86
915011	Y3-013 1	2.2330	Adder	2.63
915021	Y3-013 2	2.2330	Adder	2.63
915031	Y3-013 3	2.2330	Adder	2.63
916221	Z1-073 E	3.1841	Adder	3.75
920272	AA2-123 E	1.4368	Adder	1.69
924472	AB2-096 CT1	11.1950	Adder	13.17
924473	AB2-096 CT2	11.1950	Adder	13.17
924474	AB2-096 CT3	11.1950	Adder	13.17
926331	AC1-110 1	1.1149	Adder	1.31
926341	AC1-110 2	1.1149	Adder	1.31
927451	AC1-142A 1	2.6338	Adder	3.1
927461	AC1-142A 2	2.6368	Adder	3.1
930482	AB1-089 CT	21.4368	Adder	25.22

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930483	AB1-089 ST	17.0431	Adder	20.05
930771	AB1-122 CT2	46.0158	Adder	54.14
933431	AC2-156 C O1	0.5517	Adder	0.65
933432	AC2-156 E O1	0.9002	Adder	1.06
933911	AD1-013 C	1.0822	Adder	1.27
933912	AD1-013 E	1.7286	Adder	2.03
933931	AD1-016 C	0.5453	Adder	0.64
933932	AD1-016 E	0.8897	Adder	1.05
934111	AD1-039 2	4.5095	Adder	5.31
934432	AD1-067 E	0.3237	Adder	0.38
934701	AD1-098 C O1	4.0336	Adder	4.75
934702	AD1-098 E O1	2.9449	Adder	3.46
934971	AD1-129 C	0.5299	Adder	0.62
934972	AD1-129 E	0.3533	Adder	0.42
936511	AD2-066 C O1	4.8908	Adder	5.75
936512	AD2-066 E O1	3.2605	Adder	3.84
937001	AD2-134 C	1.6026	Adder	1.89
937002	AD2-134 E	6.6202	Adder	7.79
937401	AD2-194 1	4.8312	Adder	5.68
937411	AD2-194 2	4.8460	Adder	5.7
938511	AE1-070 1	5.6941	Adder	6.7
938521	AE1-070 2	5.1936	Adder	6.11
938851	AE1-113 C O1	4.9390	Adder	5.81
938852	AE1-113 E O1	17.5112	Adder	20.6
939631	AE1-193 C	31.2390	50/50	31.2390
939632	AE1-193 E	209.0610	50/50	209.0610
939641	AE1-194 C	31.2390	50/50	31.2390
939642	AE1-194 E	209.0610	50/50	209.0610
939651	AE1-195 C	31.2390	50/50	31.2390
939652	AE1-195 E	209.0610	50/50	209.0610
939681	AE1-198 C	92.7558	50/50	92.7558
939682	AE1-198 E	78.8184	50/50	78.8184
940752	AE2-062 E	0.0394	Adder	0.09
941131	AE2-107 C	3.8271	Adder	4.5
941132	AE2-107 E	2.5514	Adder	3.0
941561	AE2-153 C O1	2.8936	Adder	3.4
941562	AE2-153 E O1	13.5471	Adder	15.94
942421	AE2-255 C O1	1.8709	Adder	2.2
942422	AE2-255 E O1	5.6126	Adder	6.6
942651	AE2-281 C O1	0.2671	Adder	0.31
942652	AE2-281 E O1	1.6408	Adder	1.93
942991	AE2-321 C	4.8106	Adder	5.66
942992	AE2-321 E	2.3694	Adder	2.79
943121	AE2-341 C	7.3453	Adder	8.64
943122	AE2-341 E	3.6069	Adder	4.24
943591	AF1-030 C O1	4.8847	Adder	5.75
943592	AF1-030 E O1	2.4168	Adder	2.84
943801	AF1-048 C	2.2488	Adder	2.65
943802	AF1-048 E	1.4992	Adder	1.76
944041	AF1-072	1.2689	Adder	1.49
944911	AF1-156 C	7.3983	Adder	8.7
944912	AF1-156 E	4.9322	Adder	5.8

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
945351	AF1-200 FTIR	175.2949	Merchant Transmission	175.2949
946661	AF1-330 C	1.1782	Adder	1.39
946662	AF1-330 E	0.2586	Adder	0.3
946671	AF1-331	1.4054	Adder	1.65
957331	AF2-027 C	1.4887	Adder	1.75
957332	AF2-027 E	2.2330	Adder	2.63
957401	AF2-034 C	0.9051	Adder	1.06
957402	AF2-034 E	0.7711	Adder	0.91
957471	AF2-041 C	12.5506	Adder	14.77
957472	AF2-041 E	6.2753	Adder	7.38
958021	AF2-096 C	46.5095	50/50	46.5095
958022	AF2-096 E	21.8868	50/50	21.8868
958491	AF2-143 C	6.2615	Adder	7.37
958492	AF2-143 E	4.1744	Adder	4.91
959081	AF2-199 C	4.1835	Adder	4.92
959082	AF2-199 E	2.0918	Adder	2.46
959091	AF2-200 C O1	8.3671	Adder	9.84
959092	AF2-200 E O1	4.1835	Adder	4.92
959351	AF2-226 C	2.2296	50/50	2.2296
959352	AF2-226 E	3.3444	50/50	3.3444
960281	AF2-319 C	2.2296	50/50	2.2296
960282	AF2-319 E	3.3444	50/50	3.3444
960381	AF2-329	3.8114	Adder	4.48
960581	AF2-349 C	12.7862	Adder	15.04
960582	AF2-349 E	8.5241	Adder	10.03
960721	AF2-363 C O1	3.4494	Adder	4.06
960722	AF2-363 E O1	2.2996	Adder	2.71
960731	AF2-364 C O1	3.6067	Adder	4.24
960732	AF2-364 E O1	2.4045	Adder	2.83
960751	AF2-366 C	4.0583	Adder	4.77
960752	AF2-366 E	2.7055	Adder	3.18
962691	AG1-118 C O1	7.0467	Adder	15.64
962692	AG1-118 E O1	4.6978	Adder	10.43
962701	AG1-119 C	6.7921	Adder	15.08
962702	AG1-119 E	4.5281	Adder	10.05
962711	AG1-120 C O1	2.6643	Adder	5.91
962712	AG1-120 E O1	1.7762	Adder	3.94
962781	AG1-127 C	2.3815	Adder	5.29
962782	AG1-127 E	1.5877	Adder	3.52
962791	AG1-128 C O1	1.9212	Adder	4.26
962792	AG1-128 E O1	8.9905	Adder	19.96
963681	AG1-220 C O1	3.3888	Adder	7.52
963682	AG1-220 E O1	2.2592	Adder	5.01
965061	AG1-371	1.1086	Adder	2.46
965071	AG1-372	0.7391	Adder	1.64
965081	AG1-373	0.3695	Adder	0.82
965141	AG1-379 C	5.4416	Adder	12.08
965142	AG1-379 E	2.4908	Adder	5.53
965551	AG1-423 C O1	4.6978	Adder	10.43
965552	AG1-423 E O1	3.1319	Adder	6.95
966081	AG1-477 C	0.6389	Adder	1.42
966082	AG1-477 E	0.1607	Adder	0.36

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.6389	Adder	1.42
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.1607	Adder	0.36
966441	AG1-513 C	0.1566	Adder	0.35
966442	AG1-513 E	0.2349	Adder	0.52
WEC	WEC	2.6069	Confirmed LTF	2.6069
CALDERWOOD	CALDERWOOD	0.1064	Confirmed LTF	0.1064
CBM-W2	CBM-W2	10.4832	Confirmed LTF	10.4832
NY	NY	0.7864	Confirmed LTF	0.7864
TVA	TVA	0.6370	Confirmed LTF	0.6370
O-066	O-066	9.3883	Confirmed LTF	9.3883
SIGE	SIGE	0.0923	Confirmed LTF	0.0923
CHEOAH	CHEOAH	0.1131	Confirmed LTF	0.1131
CBM-S1	CBM-S1	0.0752	Confirmed LTF	0.0752
G-007	G-007	1.4637	Confirmed LTF	1.4637
HAMLET	HAMLET	0.4204	Confirmed LTF	0.4204
MEC	MEC	8.7173	Confirmed LTF	8.7173
GIBSON	GIBSON	0.3090	Confirmed LTF	0.3090
BLUEG	BLUEG	1.7377	Confirmed LTF	1.7377
TRIMBLE	TRIMBLE	0.5788	Confirmed LTF	0.5788
LAGN	LAGN	2.2208	Confirmed LTF	2.2208
CATAWBA	CATAWBA	0.2261	Confirmed LTF	0.2261
CBM-W1	CBM-W1	36.8726	Confirmed LTF	36.8726

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
168352024	274804	UNIV PK N;RP	CE	960680	AF2-359 TAP	CE	1	AEP_P1-2_#695_1681	single	971.0	130.4	130.55	DC	18.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.8535	Adder	2.18
274654	BRAIDWOOD;1U	21.0569	80/20	21.0569
274655	BRAIDWOOD;2U	20.5935	80/20	20.5935
274658	DRESDEN ;2U	81.3459	Adder	95.7
274659	DRESDEN ;3U	77.2821	Adder	90.92
274660	LASCO STA;1U	19.6084	80/20	19.6084
274661	LASCO STA;2U	19.6916	80/20	19.6916
274675	JOLIET 29;7U	8.9537	80/20	8.9537
274676	JOLIET 29;8U	8.9497	80/20	8.9497
274802	UNIV PARK;5U	1.2023	80/20	1.2023
274803	UNIV PARK;6U	1.2023	80/20	1.2023
274805	UNIV PK N;1U	1.4335	80/20	1.4335
274806	UNIV PK N;2U	1.4190	80/20	1.4190
274807	UNIV PK N;3U	1.4423	80/20	1.4423
274808	UNIV PK N;4U	1.4364	80/20	1.4364
274809	UNIV PK N;5U	1.4219	80/20	1.4219
274810	UNIV PK N;6U	1.4364	80/20	1.4364
274811	UNIV PK N;7U	1.4423	80/20	1.4423
274812	UNIV PK N;8U	1.4306	80/20	1.4306
274813	UNIV PK N;9U	1.4306	80/20	1.4306
274814	UNIV PK N;0U	1.4248	80/20	1.4248
274815	UNIV PK N;XU	1.4335	80/20	1.4335
274816	UNIV PK N;YU	1.4423	80/20	1.4423
274891	OTTER CRK;1U	0.3473	80/20	0.3473
904201	W3-134	0.1846	80/20	0.1846
915011	Y3-013 1	2.6199	Adder	3.08
915021	Y3-013 2	2.6199	Adder	3.08
915031	Y3-013 3	2.6199	Adder	3.08
924472	AB2-096 CT1	13.3049	Adder	15.65
924473	AB2-096 CT2	13.3049	Adder	15.65
924474	AB2-096 CT3	13.3049	Adder	15.65
926331	AC1-110 1	1.3291	Adder	1.56
926341	AC1-110 2	1.3291	Adder	1.56
927451	AC1-142A 1	3.5059	80/20	3.5059
927461	AC1-142A 2	3.5043	80/20	3.5043
930482	AB1-089 CT	25.5466	Adder	30.05
930483	AB1-089 ST	20.3105	Adder	23.89
930501	AB1-091 CT	27.5572	Adder	32.42
930502	AB1-091 ST	21.9090	Adder	25.78
930761	AB1-122 CT1	48.1272	Adder	56.62
930771	AB1-122 CT2	51.7537	Adder	60.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933411	AC2-154 C	1.7460	Adder	2.05
933431	AC2-156 C O1	0.6683	Adder	0.79
933911	AD1-013 C	1.2991	Adder	1.53
933931	AD1-016 C	0.6476	Adder	0.76
934101	AD1-039 1	4.7165	Adder	5.55
934111	AD1-039 2	5.0719	Adder	5.97
934701	AD1-098 C O1	4.8418	Adder	5.7
934721	AD1-100 C	13.4627	Adder	15.84
934871	AD1-116 C	0.8580	80/20	0.8580
934971	AD1-129 C	0.6304	Adder	0.74
936291	AD2-038 C O1	1.7986	Adder	2.12
936371	AD2-047 C O1	3.1244	Adder	3.68
936461	AD2-060	1.8379	Adder	2.16
936511	AD2-066 C O1	5.9456	Adder	6.99
937001	AD2-134 C	1.9237	Adder	2.26
937401	AD2-194 1	5.4830	Adder	6.45
937411	AD2-194 2	5.4800	Adder	6.45
938511	AE1-070 1	6.4389	Adder	7.58
938521	AE1-070 2	5.8942	Adder	6.93
938851	AE1-113 C O1	5.6998	Adder	6.71
939321	AE1-163 C O1	4.5194	Adder	5.32
939351	AE1-166 C O1	3.7940	Adder	8.42
941131	AE2-107 C	4.5969	Adder	5.41
941551	AE2-152 C O1	4.3776	Adder	9.72
941561	AE2-153 C O1	3.8942	80/20	3.8942
942421	AE2-255 C O1	2.1590	Adder	2.54
942651	AE2-281 C O1	0.6456	Adder	0.76
942991	AE2-321 C	5.7132	Adder	6.72
943121	AE2-341 C	8.9213	Adder	10.5
943591	AF1-030 C O1	5.9327	Adder	6.98
943801	AF1-048 C	2.6707	Adder	3.14
944041	AF1-072	1.5057	Adder	1.77
944911	AF1-156 C	9.9567	80/20	9.9567
945351	AF1-200 FTIR	215.8321	Merchant Transmission	215.8321
946661	AF1-330 C	1.3992	Adder	1.65
946671	AF1-331	1.6871	Adder	1.98
957331	AF2-027 C	1.7466	Adder	2.05
957401	AF2-034 C	0.9732	Adder	1.14
957471	AF2-041 C	14.9466	Adder	17.58
958011	AF2-095 C O1	12.4952	Adder	14.7
958021	AF2-096 C	28.2565	80/20	28.2565
958481	AF2-142 C	10.1601	80/20	10.1601
958491	AF2-143 C	8.3010	Adder	9.77
959081	AF2-199 C	4.9822	Adder	5.86
959091	AF2-200 C O1	9.9644	Adder	11.72
959351	AF2-226 C	1.7017	Adder	2.0
960281	AF2-319 C	1.7017	Adder	2.0
960381	AF2-329	4.6291	Adder	5.45
960581	AF2-349 C	15.1960	Adder	17.88
960591	AF2-350 C O1	5.5131	Adder	6.49
960601	AF2-351 C O1	0.7351	Adder	0.86
960721	AF2-363 C O1	4.1294	Adder	4.86

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960731	AF2-364 C O1	4.2946	Adder	5.05
960751	AF2-366 C	4.8728	Adder	5.73
962691	AG1-118 C O1	8.4901	Adder	18.85
962701	AG1-119 C	8.0879	Adder	17.95
962711	AG1-120 C O1	3.1897	Adder	7.08
962781	AG1-127 C	2.8593	Adder	6.35
962791	AG1-128 C O1	2.3063	Adder	5.12
963681	AG1-220 C O1	4.0707	Adder	9.04
964461	AG1-309 FTIR	180.1143	Merchant Transmission	180.1143
965061	AG1-371	1.3203	Adder	2.93
965071	AG1-372	0.8802	Adder	1.95
965081	AG1-373	0.4401	Adder	0.98
965141	AG1-379 C	6.2798	Adder	13.94
965551	AG1-423 C O1	5.5860	Adder	12.4
966081	AG1-477 C	0.7475	Adder	1.66
966091	AG1-478 C	0.7712	Adder	1.71
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.7475	Adder	1.66
966431	AG1-512 C	3.6634	80/20	3.6634
966441	AG1-513 C	0.1886	Adder	0.42
WEC	WEC	3.0779	Confirmed LTF	3.0779
CBM-W2	CBM-W2	16.3699	Confirmed LTF	16.3699
NY	NY	0.8699	Confirmed LTF	0.8699
TVA	TVA	1.2096	Confirmed LTF	1.2096
SIGE	SIGE	0.1444	Confirmed LTF	0.1444
CHEOAH	CHEOAH	0.0075	Confirmed LTF	0.0075
CBM-S1	CBM-S1	0.2109	Confirmed LTF	0.2109
HAMLET	HAMLET	0.3921	Confirmed LTF	0.3921
MEC	MEC	10.7655	Confirmed LTF	10.7655
GIBSON	GIBSON	0.0966	Confirmed LTF	0.0966
BLUEG	BLUEG	1.5537	Confirmed LTF	1.5537
TRIMBLE	TRIMBLE	0.5292	Confirmed LTF	0.5292
LAGN	LAGN	3.2287	Confirmed LTF	3.2287
CATAWBA	CATAWBA	0.2002	Confirmed LTF	0.2002
CBM-W1	CBM-W1	55.3089	Confirmed LTF	55.3089

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
169877258	960680	AF2-359 TAP	CE	243229	05OLIVE	AEP	1	AEP_P1-2_#695_1681	single	971.0	126.22	126.81	DC	18.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.8535	Adder	2.18
274654	BRAIDWOOD;1U	21.0569	80/20	21.0569
274655	BRAIDWOOD;2U	20.5935	80/20	20.5935
274658	DRESDEN ;2U	81.3459	Adder	95.7
274659	DRESDEN ;3U	77.2821	Adder	90.92
274660	LASCO STA;1U	19.6084	80/20	19.6084
274661	LASCO STA;2U	19.6916	80/20	19.6916
274675	JOLIET 29;7U	8.9537	80/20	8.9537
274802	UNIV PARK;5U	1.2023	80/20	1.2023
274803	UNIV PARK;6U	1.2023	80/20	1.2023
274805	UNIV PK N;1U	1.4335	80/20	1.4335
274806	UNIV PK N;2U	1.4190	80/20	1.4190
274807	UNIV PK N;3U	1.4423	80/20	1.4423
274808	UNIV PK N;4U	1.4364	80/20	1.4364
274809	UNIV PK N;5U	1.4219	80/20	1.4219
274810	UNIV PK N;6U	1.4364	80/20	1.4364
274811	UNIV PK N;7U	1.4423	80/20	1.4423
274812	UNIV PK N;8U	1.4306	80/20	1.4306
274813	UNIV PK N;9U	1.4306	80/20	1.4306
274814	UNIV PK N;0U	1.4248	80/20	1.4248
274815	UNIV PK N;XU	1.4335	80/20	1.4335
274816	UNIV PK N;YU	1.4423	80/20	1.4423
274891	OTTER CRK;1U	0.3473	80/20	0.3473
904201	W3-134	0.1846	80/20	0.1846
915011	Y3-013 1	2.6199	Adder	3.08
915021	Y3-013 2	2.6199	Adder	3.08
915031	Y3-013 3	2.6199	Adder	3.08
924472	AB2-096 CT1	13.3049	Adder	15.65
924473	AB2-096 CT2	13.3049	Adder	15.65
924474	AB2-096 CT3	13.3049	Adder	15.65
926331	AC1-110 1	1.3291	Adder	1.56
926341	AC1-110 2	1.3291	Adder	1.56
927451	AC1-142A 1	3.5059	80/20	3.5059
927461	AC1-142A 2	2.9787	Adder	3.5
930482	AB1-089 CT	25.5466	Adder	30.05
930483	AB1-089 ST	20.3105	Adder	23.89
930501	AB1-091 CT	27.5572	Adder	32.42
930502	AB1-091 ST	21.9090	Adder	25.78
930761	AB1-122 CT1	48.1272	Adder	56.62
930771	AB1-122 CT2	51.7537	Adder	60.89
933411	AC2-154 C	1.7460	Adder	2.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933431	AC2-156 C O1	0.6683	Adder	0.79
933911	AD1-013 C	1.2991	Adder	1.53
933931	AD1-016 C	0.6476	Adder	0.76
934101	AD1-039 1	4.7165	Adder	5.55
934111	AD1-039 2	5.0719	Adder	5.97
934701	AD1-098 C O1	4.8418	Adder	5.7
934721	AD1-100 C	13.4627	Adder	15.84
934871	AD1-116 C	0.8580	80/20	0.8580
934971	AD1-129 C	0.6304	Adder	0.74
936291	AD2-038 C O1	1.7986	Adder	2.12
936371	AD2-047 C O1	3.1244	Adder	3.68
936461	AD2-060	1.8379	Adder	2.16
936511	AD2-066 C O1	5.9456	Adder	6.99
937001	AD2-134 C	1.9237	Adder	2.26
937401	AD2-194 1	5.4830	Adder	6.45
937411	AD2-194 2	5.4800	Adder	6.45
938511	AE1-070 1	6.4389	Adder	7.58
938521	AE1-070 2	5.8942	Adder	6.93
938851	AE1-113 C O1	5.6998	Adder	6.71
939321	AE1-163 C O1	4.5194	Adder	5.32
939351	AE1-166 C O1	3.7940	Adder	8.42
941131	AE2-107 C	4.5969	Adder	5.41
941551	AE2-152 C O1	4.3776	Adder	9.72
941561	AE2-153 C O1	3.8942	80/20	3.8942
942421	AE2-255 C O1	2.1590	Adder	2.54
942651	AE2-281 C O1	0.6456	Adder	0.76
942991	AE2-321 C	5.7132	Adder	6.72
943121	AE2-341 C	8.9213	Adder	10.5
943591	AF1-030 C O1	5.9327	Adder	6.98
943801	AF1-048 C	2.6707	Adder	3.14
944041	AF1-072	1.5057	Adder	1.77
944911	AF1-156 C	9.9567	80/20	9.9567
945351	AF1-200 FTIR	215.8321	Merchant Transmission	215.8321
946661	AF1-330 C	1.3992	Adder	1.65
946671	AF1-331	1.6871	Adder	1.98
957331	AF2-027 C	1.7466	Adder	2.05
957401	AF2-034 C	0.9732	Adder	1.14
957471	AF2-041 C	14.9466	Adder	17.58
958011	AF2-095 C O1	12.4952	Adder	14.7
958021	AF2-096 C	28.2565	80/20	28.2565
958481	AF2-142 C	10.1601	80/20	10.1601
958491	AF2-143 C	8.3010	Adder	9.77
959081	AF2-199 C	4.9822	Adder	5.86
959091	AF2-200 C O1	9.9644	Adder	11.72
959351	AF2-226 C	1.7017	Adder	2.0
960281	AF2-319 C	1.7017	Adder	2.0
960381	AF2-329	4.6291	Adder	5.45
960581	AF2-349 C	15.1960	Adder	17.88
960591	AF2-350 C O1	5.5131	Adder	6.49
960601	AF2-351 C O1	0.7351	Adder	0.86
960681	AF2-359 C	64.1422	80/20	64.1422
960721	AF2-363 C O1	4.1294	Adder	4.86

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960731	AF2-364 C O1	4.2946	Adder	5.05
960751	AF2-366 C	4.8728	Adder	5.73
962691	AG1-118 C O1	8.4901	Adder	18.85
962701	AG1-119 C	8.0879	Adder	17.95
962711	AG1-120 C O1	3.1897	Adder	7.08
962781	AG1-127 C	2.8593	Adder	6.35
962791	AG1-128 C O1	2.3063	Adder	5.12
963681	AG1-220 C O1	4.0707	Adder	9.04
964461	AG1-309 FTIR	166.5727	Merchant Transmission	166.5727
965061	AG1-371	1.3203	Adder	2.93
965071	AG1-372	0.8802	Adder	1.95
965081	AG1-373	0.4401	Adder	0.98
965141	AG1-379 C	6.2798	Adder	13.94
965551	AG1-423 C O1	5.5860	Adder	12.4
965681	AG1-436 C	64.1422	80/20	64.1422
965791	AG1-447	47.0376	80/20	47.0376
965801	AG1-448	47.0376	80/20	47.0376
966081	AG1-477 C	0.7475	Adder	1.66
966091	AG1-478 C	0.7712	Adder	1.71
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.7475	Adder	1.66
966431	AG1-512 C	3.6634	80/20	3.6634
966441	AG1-513 C	0.1886	Adder	0.42
WEC	WEC	3.0779	Confirmed LTF	3.0779
CBM-W2	CBM-W2	16.3699	Confirmed LTF	16.3699
NY	NY	0.8699	Confirmed LTF	0.8699
TVA	TVA	1.2096	Confirmed LTF	1.2096
SIGE	SIGE	0.1444	Confirmed LTF	0.1444
CHEOAH	CHEOAH	0.0075	Confirmed LTF	0.0075
CBM-S1	CBM-S1	0.2109	Confirmed LTF	0.2109
HAMLET	HAMLET	0.3921	Confirmed LTF	0.3921
MEC	MEC	10.7655	Confirmed LTF	10.7655
GIBSON	GIBSON	0.0966	Confirmed LTF	0.0966
BLUEG	BLUEG	1.5537	Confirmed LTF	1.5537
TRIMBLE	TRIMBLE	0.5292	Confirmed LTF	0.5292
LAGN	LAGN	3.2287	Confirmed LTF	3.2287
CATAWBA	CATAWBA	0.2002	Confirmed LTF	0.2002
CBM-W1	CBM-W1	55.3089	Confirmed LTF	55.3089

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
AA1-018	Powerton-Goodings Grove	In Service
AA2-030	Nelson	Active
AA2-123	Marengo 34kV	In Service
AB1-089	Byron-Wayne 345kV #1	Active
AB1-091	Davis Creek 345kV	Active
AB1-122	Kendall-Tazewell & Dresden-Mole Creek	Engineering and Procurement
AB2-096	Silver Lake-Cherry Valley	Active
AC1-110	Aurora 138kV	Active
AC1-142A	Joliet	In Service
AC1-204	Elwood	Under Construction
AC2-140	DC Cook Unit 2	In Service
AC2-154	Davis Creek 138kV	Active
AC2-156	Sandwich 34.5kV	Active
AD1-013	Twombly Road 138kV	Active
AD1-016	Marengo	Active
AD1-039	Kendall-Tazewell & Dresden-Mole Creek	Active
AD1-067	Mendota Hills	In Service
AD1-098	Dixon-McGirr	Active
AD1-100	Loretto-Wilton & Braidwood-Davis Creek	Active
AD1-116	Nevada 345 kV	Active
AD1-129	Belvidere 34 kV	Active
AD2-038	Powerton	Active
AD2-047	Davis Creek 138 kV	Active
AD2-060	Davis Creek 138kV	Active
AD2-066	Mazon-Crescent Ridge	Active
AD2-134	Shady Oaks	Active
AD2-172	Lena 138kV	Active
AD2-194	Elwood	Active
AD2-214	Rock Falls-Garden Plains	Active
AE1-070	Elwood 345 kV	Active
AE1-113	Mole Creek 345 kV	Active
AE1-114	Maryland-Lancaster 138 kV	Active
AE1-134	Nelson 345 kV	Active
AE1-163	Powerton-Nevada 345 kV	Active
AE1-166	Loretto-Wilton & Braidwood-Davis Creek	Active
AE1-193	Crete 345 kV	Active
AE1-194	Crete 345 kV	Active
AE1-195	Crete 345 kV	Active
AE1-198	Crete 345 kV	Active

Queue Number	Project Name	Status
AE2-035	Lena 138 kV	Active
AE2-062	Romeoville 12 kV	Engineering and Procurement
AE2-107	Haumesser Road 138 kV	
AE2-152	Loretto-Wilton & Braidwood-Davis Creek	Active
AE2-153	Braidwood-Davis Creek	Active
AE2-255	Molecreek 345 kV	Active
AE2-281	Powerton-Nevada 345 kV	Active
AE2-321	Belvidere-Marengo 138 kV	Active
AE2-341	Sandwich-Plano	Active
AF1-012	Electric Junc-Nelson	Active
AF1-030	Plano-R 138 kV	Active
AF1-048	Belvidere-Marengo	Active
AF1-060	Lena 138 kV	Active
AF1-072	Rocky Road	Active
AF1-156	Braidwood-Davis Creek	Active
AF1-200	Plano 345 kV	Active
AF1-280	Nelson-Lee County	Active
AF1-281	Nelson-Lee County	Active
AF1-296	Garden Plain 138 kV	Active
AF1-314	Lena 138 kV	Active
AF1-330	Marengo	Active
AF1-331	Twombly Road	Active
AF2-027	Zion Energy Center 345 kV	Active
AF2-031	River E.C.	Active
AF2-034	Kendall	Active
AF2-041	Nelson-Electric Junction 345 kV	Active
AF2-095	Wilmington-Davis Creek	Active
AF2-096	Braidwood-East Frankfort 345 kV	Active
AF2-142	Nevada 345 kV	Active
AF2-143	Powerton-Nevada 345 kV	Active
AF2-182	Nelson-Lee County 345 kV II	Active
AF2-183	Nelson-Lee County 345 kV	Active
AF2-199	Nelson-Electric Junction 345 kV	Active
AF2-200	Nelson-Electric Junction 345 kV	Active
AF2-201	Lena-Ecogrove 138 kV	Active
AF2-226	Katydid Road 345 kV	Active
AF2-319	Katydid Road 345 kV	Active
AF2-329	Sandwich-Plano 138 kV	Active
AF2-346	Electric Junction-Nelson 345 kV	Active
AF2-349	Garden Prairie-Silver Lake 345 kV	Active
AF2-350	Kensington 138 kV	Active
AF2-351	Kensington 138 kV	Active
AF2-359	Olive-University Park 345 kV	Active
AF2-363	Glidden 138 kV	Active
AF2-364	Wayne Red 138 kV	Active
AF2-366	Glidden-Waterman 138 kV	Active
AF2-392	Nelson-Dixon 138 kV	Active
AF2-393	Nelson-Dixon 138 kV	Active
AF2-394	Nelson-Dixon 138 kV	Active
AF2-441	Burnham 138kV	Active
AG1-044	Whiteside County	Active
AG1-118	Sugar Grove 138 kV	Active

Queue Number	Project Name	Status
AG1-119	Wayne-Byron 345 kV	Active
AG1-120	Glidden-Cherry Valley 138 kV	Active
AG1-127	Glidden-Waterman 138 kV	Active
AG1-128	Shady Oaks 138 kV	Active
AG1-220	West Dekalb 138 kV	Active
AG1-238	Dumont 345 kV	Active
AG1-298	Calumet-Burnham 345 kV	Active
AG1-309	Byron 345 kV	Active
AG1-371	Nelson-Electric Junction 345 kV	Active
AG1-372	Nelson-Electric Junction 345 kV	Active
AG1-373	Nelson-Electric Junction 345 kV	Active
AG1-379	Minonk 345 kV	Active
AG1-423	Wayne 345 kV	Active
AG1-434	Electric Junction-Nelson 345 kV	Active
AG1-436	Olive-University Park 345 kV	Active
AG1-447	Olive-University Park 345 kV	Active
AG1-448	Olive-University Park 345 kV	Active
AG1-462	Quad Cities-Sterling Steel 345 kV	Active
AG1-477	Grundy County 34.5 kV	Active
AG1-478	Will County 34.5 kV	Active
AG1-479	Grundy County 34.5 kV II	Withdrawn
AG1-512	University Park North 345 kV	Active
AG1-513	Aurora 138 kV	Active
AG1-521	Dixon-McGirr Road 138 kV	Active
AG1-535	Franklin Park 138 kV	Active
AG1-553	Cordova 345 kV	Active
W3-134	South Joliet 34.5kV	Under Construction
W4-082	Libertyville 12kV	In Service
X3-005	Wildwood 12kV	In Service
Y3-013	Zion Energy Center	In Service
Z1-073	Mendota Hills	In Service
Z1-106	West Chicago 34kV	In Service
Z1-107	Joliet 34kV	In Service
Z1-108	McHenry 34kV	In Service
J1084	MISO	MISO

11.8 Contingency Descriptions - Primary POI

Contingency Name	Contingency Definition
COMED_P1-2_765-L2315___-S	CONTINGENCY 'COMED_P1-2_765-L2315___-S' / CONTINGENCY # 452 TRIP BRANCH FROM BUS 270607 TO BUS 270630 CKT 1 / COLLINS ; 765 PLANO ; 765 END
AEP_P2-2_#672_05EUGENE 345_1	CONTINGENCY 'AEP_P2-2_#672_05EUGENE 345_1' OPEN BRANCH FROM BUS 963740 TO BUS 243221 CKT 1 / 243217 AG1-226 TAP 345 243221 05EUGENE 345 1 END
COMED_P7-1_345-L13821_R-R+_345-L18502AB-N	CONTINGENCY 'COMED_P7-1_345-L13821_R-R+_345-L18502AB-N' / CONTINGENCY # 127 TRIP BRANCH FROM BUS 270883 TO BUS 270807 CKT 1 / SILVER LK; R 345 LIBERTYVI; R 345 TRIP BRANCH FROM BUS 270900 TO BUS 270806 CKT 1 / TOLLWAY ; B 345 LIBERTYVI; B 345 END
AEP_P4_#3002_05ROCKPT	CONTINGENCY '"AEP_P4_#3002_05ROCKPT' 765_C2" / 1508 OPEN BRANCH FROM BUS 243208 TO BUS 243209 CKT 1 / 243208 05JEFRSO 765 243209 05ROCKPT 765 1 OPEN BRANCH FROM BUS 243209 TO BUS 247135 CKT Z8 / 243209 05ROCKPT 765 247135 05ROCKP WRK2 765 Z8 OPEN BRANCH FROM BUS 247135 TO BUS 243240 CKT 8 / 247135 05ROCKP WRK2 765 243240 05ROCKP WRK2 138 8 OPEN BRANCH FROM BUS 243240 TO BUS 243785 CKT 1 / 243240 05ROCKP WRK2 138 243785 05AKSTL 138 1 END
AEP_P1-2_#709_546	CONTINGENCY 'AEP_P1-2_#709_546' OPEN BRANCH FROM BUS 242924 TO BUS 243208 CKT 1 / 242924 05HANG R 765 243208 05JEFRSO 765 1 END
AEP_P1-2_#695_1681	CONTINGENCY 'AEP_P1-2_#695_1681' OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 END

Contingency Name	Contingency Definition
AEP_P4_#6189_05HANG	CONTINGENCY "'AEP_P4_#6189_05HANG' OPEN BRANCH FROM BUS 242921 TO BUS 242924 CKT 1 R 765_D1" / 1717 242924 05HANG R 765 1 / 242921 05CORN 765 OPEN BRANCH FROM BUS 242924 TO BUS 243208 CKT 1 / 242924 05HANG R 765 243208 05JEFRSO 765 1 OPEN BRANCH FROM BUS 242921 TO BUS 242934 CKT 1 / 242921 05CORN 765 242934 05CORN 345 1 REMOVE MACHINE 1A FROM BUS 247245 /* 247245 05HRKG1A 18.0 DEFAULT DISPATCH REMOVE MACHINE 1B FROM BUS 247246 /* 247246 05HRKG1B 18.0 DEFAULT DISPATCH REMOVE MACHINE 1S FROM BUS 247247 /* 247247 05HRKG1S 18.0 DEFAULT DISPATCH REMOVE MACHINE 2A FROM BUS 247248 /* 247248 05HRKG2A 18.0 DEFAULT DISPATCH REMOVE MACHINE 2B FROM BUS 247249 /* 247249 05HRKG2B 18.0 DEFAULT DISPATCH REMOVE MACHINE 2S FROM BUS 247250 /* 247250 05HRKG2S 18.0 DEFAULT DISPATCH END
COMED_P2-1_111-L11120__	CONTINGENCY 'COMED_P2-1_111-L11120__' TRIP BRANCH FROM BUS 270733 TO BUS 270747 CKT 1 / CONTINGENCY # 134 W407K;OT 345 / ELECT JCT;3R 345 ESS END
COMED_P1-3_TR93_PLANO_B-S	CONTINGENCY 'COMED_P1-3_TR93_PLANO_B-S' TRIP BRANCH FROM BUS 275207 TO BUS 270630 CKT 1 / CONTINGENCY # 646 765 / PLANO ;3M 345 PLANO ; TRIP BRANCH FROM BUS 275207 TO BUS 270846 CKT 1 / PLANO ;3M 345 PLANO ; B 345 / PLANO ;3M 345 PLANO ;3C TRIP BRANCH FROM BUS 275207 TO BUS 275307 CKT 1 33 END
AEP_P7-1_#11046	CONTINGENCY 'AEP_P7-1_#11046' OPEN BRANCH FROM BUS 243219 TO BUS 246955 CKT 1 / 243219 05DUMONT 345 246955 05OLIVE_BP 345 1 OPEN BRANCH FROM BUS 243228 TO BUS 243234 CKT 1 / 243228 05MERIDN 345 243234 05TWIN B 345 1 OPEN BRANCH FROM BUS 243232 TO BUS 246955 CKT 1 / 243232 05SORENS 345 246955 05OLIVE_BP 345 1 END
AEP_P4_#363_05JEFRSO	CONTINGENCY "'AEP_P4_#363_05JEFRSO' OPEN BRANCH FROM BUS 243208 TO BUS 243209 CKT 1 765_B1" / 1404 243209 05ROCKPT 765 1 / 243208 05JEFRSO 765 END

Contingency Name	Contingency Definition
EXT_P13:345138:NIPS:SJ345X:17STJOHN:2	CONTINGENCY 'EXT_P13:345138:NIPS:SJ345X:17STJOHN:2' / 3355 OPEN BRANCH FROM BUS 255112 TO BUS 255179 CKT 2 / 255112 17STJOHN 345 255179 17STJOHN 138 2 END
COMED_P2-2_111_EJ-345R__3	CONTINGENCY 'COMED_P2-2_111_EJ-345R__3' / CONTINGENCY # 103 DISCONNECT BUS 270733 / ELECT JCT;3R 345 DISCONNECT BUS 275183 / ELECT JCT;3M 138 END
AEP_P1-2_#701	CONTINGENCY 'AEP_P1-2_#701' OPEN BRANCH FROM BUS 243219 TO BUS 255113 CKT 1 / 243219 05DUMONT 345 255113 17STILLWELL 345 1 END
COMED_P1-2_765-L11215__S	CONTINGENCY 'COMED_P1-2_765-L11215__S' / CONTINGENCY # 199 TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTON ; 765 05DUMONT 765 REMOVE SHUNT 1 FROM BUS 270644 / WILTON ; 765 END
COMED_P2-2_116_GG-345R__2	CONTINGENCY 'COMED_P2-2_116_GG-345R__2' / CONTINGENCY # 118 DISCONNECT BUS 270769 / GOODINGS ;2R 345 END
COMED_P1-3_TR94_PLANO_R-S	CONTINGENCY 'COMED_P1-3_TR94_PLANO_R-S' / CONTINGENCY # 648 TRIP BRANCH FROM BUS 275208 TO BUS 270630 CKT 1 / PLANO ;4M 345 PLANO ; 765 TRIP BRANCH FROM BUS 275208 TO BUS 270847 CKT 1 / PLANO ;4M 345 PLANO ; R 345 TRIP BRANCH FROM BUS 275208 TO BUS 275308 CKT 1 / PLANO ;4M 345 PLANO ;4C 33 END
Base Case	
COMED_P1-2_765-L11216__S	CONTINGENCY 'COMED_P1-2_765-L11216__S' / CONTINGENCY # 200 TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 / WILTON ; 765 COLLINS ; 765 END

Contingency Name	Contingency Definition
COMED_P7-1_345-L2002__B-S+_345-L2004__R-S-B	CONTINGENCY 'COMED_P7-1_345-L2002__B-S+_345-L2004__R-S-B' / MODIFY TRIP BRANCH FROM BUS 270670 TO BUS 270671 CKT 1 / BRAID; B 345 BRAID; R 345 TRIP BRANCH FROM BUS 270670 TO BUS 934730 CKT 1 / BRAID; B 345 AD1-100 TAP 345 TRIP BRANCH FROM BUS 941560 TO BUS 270711 CKT 1 / AE2-153 TAP 345 DAVIS; R 345 END
COMED_P2-1_076-L11613A_	CONTINGENCY 'COMED_P2-1_076-L11613A_' / CONTINGENCY # 85 TRIP BRANCH FROM BUS 270666 TO BUS 270664 CKT 1 / BLUE ISL ;BT 345 BLUE ISL ; B 345 TRIP BRANCH FROM BUS 275181 TO BUS 270664 CKT 1 / BLUE ISL ;4M 138 BLUE ISL ; B 345 TRIP BRANCH FROM BUS 275181 TO BUS 271100 CKT 1 / BLUE ISL ;4M 138 BLUE ISL ; B 138 TRIP BRANCH FROM BUS 275181 TO BUS 275281 CKT 1 / BLUE ISL ;4M 138 BLUE ISLA;4C 34.5 END
COMED_P2-2_111_EJ-345B__2	CONTINGENCY 'COMED_P2-2_111_EJ-345B__2' / CONTINGENCY # 102 TRIP BRANCH FROM BUS 270730 TO BUS 270846 CKT 1 / ELECT JCT; B 345 PLANO ; B 345 TRIP BRANCH FROM BUS 270730 TO BUS 270916 CKT 1 / ELECT JCT; B 345 WAYNE ; B 345 TRIP BRANCH FROM BUS 270730 TO BUS 270928 CKT 1 / ELECT JCT; B 345 WOLFS ; B 345 TRIP BRANCH FROM BUS 270928 TO BUS 272794 TO BUS 275334 CKT 1 / WOLFS ; B 345 WOLFS ; B 138 WOLFS ;1C 34.5 DISCONNECT BUS 275239 / ELECT JCT;2M 138 END

12 Short Circuit Analysis - Primary POI

No breakers were identified as over-dutied as part of this analysis.

13 Summer Peak - Load Flow Analysis - Secondary POI

The Queue Project AG1-118 was evaluated as a 300.0 MW (Capacity 180.0 MW) injection tapping the Sugar Grove to Waterman 138 kV line in the ComEd area. Project AG1-118 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-118 was studied with a commercial probability of 53%. Potential network impacts were as follows:

13.1 Generation Deliverability

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

None

13.2 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 PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC DC	MW IMPACT
162039938	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P7-1_345-L13821_R-R+_345-L18502AB-N	tower	1768.0	99.83	101.78	DC	36.23
162421632	272027	MONTGOMER ;RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P4_167-38-L14302_	breaker	275.0	91.77	115.21	DC	64.44
162421681	272522	SUGAR GRV; B	138.0	CE	272114	N AURORA ; B	138.0	CE	1	COMED_P4_167-38-L14609_	breaker	498.0	82.98	111.66	DC	142.81
177639940	962690	AG1-118 TAP	138.0	CE	272522	SUGAR GRV; B	138.0	CE	1	COMED_P4_167-38-L14609_	breaker	538.0	86.61	113.15	DC	142.81

13.3 Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC DC	MW IMPACT
161481264	243206	05DUMONT	765.0	AEP	246999	05SORENS	765.0	AEP	1	AEP_P7-1_#11046	tower	4142.0	104.72	104.77	DC	63.11
161481265	243206	05DUMONT	765.0	AEP	246999	05SORENS	765.0	AEP	1	AEP_P7-1_#11001	tower	4142.0	102.13	102.17	DC	63.11
174525860	255104	17GREEN_AC RE	345.0	NIPS	270771	GREENACRE; T	345.0	CE	1	COMED_P4_112-65-BT3-4_	breaker	1091.0	109.49	109.55	DC	24.87
174525861	255104	17GREEN_AC RE	345.0	NIPS	270771	GREENACRE; T	345.0	CE	1	COMED_P4_112-65-BT4-5_	breaker	1091.0	109.49	109.54	DC	24.87
174181172	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P4_112-65-BT4-5_	breaker	1091.0	144.8	144.83	DC	27.48
175399437	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P1-2_765-L11215_-S	single	1091.0	114.64	114.66	DC	16.48
168351933	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	COMED_P1-2_765-L11215_-S	single	1409.0	177.46	177.48	DC	26.2
175810564	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	AEP_P1-2_#8810	single	1409.0	132.62	132.63	DC	15.05
174525843	270728	E FRANKFO; B	345.0	CE	274750	CRETE EC ;BP	345.0	CE	1	COMED_P4_112-65-BT4-5_	breaker	1399.0	115.75	115.78	DC	38.92
174525844	270728	E FRANKFO; B	345.0	CE	274750	CRETE EC ;BP	345.0	CE	1	COMED_P4_112-65-BT3-4_	breaker	1399.0	115.73	115.77	DC	38.92
162039625	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P2-2_111_EJ-345R_3	bus	1479.0	109.21	111.52	DC	34.06

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
162039627	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P2-2_120_LO-345R_2	bus	1479.0	108.47	110.8	DC	34.27
168352071	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	Base Case	single	1201.0	101.46	103.01	DC	18.69
174181248	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P4_111-45-L11120_	breaker	1479.0	108.95	111.26	DC	34.06
174525823	270730	ELECT JCT; B	345.0	CE	270846	PLANO ; B	345.0	CE	1	COMED_P4_111-45-L16703_	breaker	1341.0	100.56	101.51	DC	35.51
175810745	270770	GOODINGS ;4B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	COMED_P1-2_765-L11215_-S	single	1802.0	103.72	104.09	DC	18.44
168352124	270771	GREENACRE; T	345.0	CE	243229	OSOLIVE	345.0	AEP	1	COMED_P1-2_765-L11215_-S	single	971.0	102.13	102.27	DC	14.94
174181173	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_A CRE	345.0	NIPS	1	COMED_P4_112-65-BT4-5_	breaker	1091.0	144.8	144.83	DC	27.48
175399434	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_A CRE	345.0	NIPS	1	COMED_P1-2_765-L11215_-S	single	1091.0	114.64	114.66	DC	16.48
174384743	270926	WILTON ; B	345.0	CE	275232	WILTON ;3M	345.0	CE	1	COMED_P4_112-65-BT5-6_	breaker	1379.0	153.48	153.54	DC	45.25
174384736	270927	WILTON ; R	345.0	CE	275233	WILTON ;4M	345.0	CE	1	COMED_P4_112-65-BT2-3_	breaker	1379.0	156.72	156.78	DC	46.21
162316037	272027	MONTGOMER; RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P2-2_167_PL-138B_2	bus	275.0	101.44	123.7	DC	61.21
162421631	272027	MONTGOMER; RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P4_167-38-TR81_	breaker	264.0	105.55	128.75	DC	61.25
162039580	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	COMED_P2-2_116_GG-345R_2	bus	1399.0	139.76	139.8	DC	24.99
162039581	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	AEP_P2-2_#672_05EUGENE 345_1	bus	1399.0	137.53	137.56	DC	24.07
162039846	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	COMED_P7-1_345-L2002_-B-S_+ 345-L2004_-R-S-B	tower	1399.0	152.29	152.32	DC	25.33
168352023	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P1-2_765-L11215_-S	single	971.0	130.39	130.53	DC	18.25
174384792	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P4_112-65-BT4-5_	breaker	971.0	136.83	137.1	DC	30.43
174384793	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P4_112-65-BT3-4_	breaker	971.0	136.83	137.1	DC	30.43
174384742	275232	WILTON ;3M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_112-65-BT5-6_	breaker	1379.0	153.48	153.54	DC	45.25
174384737	275233	WILTON ;4M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_112-65-BT2-3_	breaker	1379.0	156.72	156.78	DC	46.21
169877257	960680	AF2-359 TAP	345.0	CE	243229	OSOLIVE	345.0	AEP	1	COMED_P1-2_765-L11215_-S	single	971.0	123.19	123.82	DC	18.25

13.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADI NG %	POST PROJE CT LOADI NG %	AC DC	MW IMPA CT
168352 116	2551 12	17STJOHN	345 .0	NIPS	2708 86	ST JOHN ; T	345 .0	CE	1	Base Case	operati on	1091 .0	104.21	104.24	DC	16.87
175399 436	2551 12	17STJOHN	345 .0	NIPS	2708 86	ST JOHN ; T	345 .0	CE	1	COMED_P1-2_765-L11215__S	operati on	1091 .0	144.78	144.81	DC	27.47
168351 931	2551 13	17STILLW ELL	345 .0	NIPS	2432 19	05DUMON T	345 .0	AEP	1	COMED_P1-2_765-L11215__S	operati on	1409 .0	162.76	162.89	DC	43.66
168351 935	2551 13	17STILLW ELL	345 .0	NIPS	2432 19	05DUMON T	345 .0	AEP	1	Base Case	operati on	1409 .0	103.85	103.97	DC	23.51
168352 242	2706 97	COLLINS ; R	345 .0	CE	2751 68	COLLINS ; 2M	345 .0	CE	1	COMED_P1-2_765-L2315__S	operati on	1379 .0	104.29	104.33	DC	29.84
168352 069	2707 30	ELECT JCT; B	345 .0	CE	2708 12	LOMBARD ; B	345 .0	CE	1	Base Case	operati on	1201 .0	114.19	116.79	DC	31.15
175810 742	2707 70	GOODING S; 4B	345 .0	CE	2707 66	GOODINGS ; 3B	345 .0	CE	1	COMED_P1-2_765-L11215__S	operati on	1802 .0	122.18	122.29	DC	30.74
168352 121	2707 71	GREENAC RE; T	345 .0	CE	2432 29	05OLIVE	345 .0	AEP	1	COMED_P1-2_765-L11215__S	operati on	971. 0	123.02	123.08	DC	24.89
168352 009	2708 66	QUAD 6- 7	345 .0	CE	6366 10	SUB 91 3	345 .0	ME C	1	EXT_P12:345:MEC:CORD OVA:SUB 39	operati on	1471 .0	113.31	113.92	DC	19.64
168352 119	2708 86	ST JOHN ; T	345 .0	CE	2551 04	17GREEN_ ACRE	345 .0	NIP S	1	Base Case	operati on	1091 .0	104.21	104.24	DC	16.87
175399 433	2708 86	ST JOHN ; T	345 .0	CE	2551 04	17GREEN_ ACRE	345 .0	NIP S	1	COMED_P1-2_765-L11215__S	operati on	1091 .0	144.78	144.81	DC	27.47
177262 615	2724 44	SANDWICH; B	138 .0	CE	9431 20	AE2-341 TAP	138 .0	CE	1	COMED_P1-2_138-L11106_B-R-AA	operati on	449. 0	75.44	104.02	DC	128.3 4
177262 594	2724 45	SANDWICH; R	138 .0	CE	2724 44	SANDWICH ; B	138 .0	CE	1	COMED_P1-2_138-L11106_B-R-AA	operati on	449. 0	83.21	111.79	DC	128.3 1
162573 922	2725 22	SUGAR GRV; B	138 .0	CE	2721 14	N AURORA ; B	138 .0	CE	1	COMED_P1-2_138-L14609_R-R-A	operati on	374. 0	110.39	148.58	DC	142.8 2
162573 853	2727 28	WATERM AN; B	138 .0	CE	2724 45	SANDWICH ; R	138 .0	CE	1	Base Case	operati on	238. 0	110.83	144.96	DC	81.21
177262 475	2727 28	WATERM AN; B	138 .0	CE	2724 45	SANDWICH ; R	138 .0	CE	1	COMED_P1-2_138-L11106_B-R-AA	operati on	309. 0	127.1	168.63	DC	128.3 4
162573 918	2728 03	W PLANO ; R	138 .0	CE	2722 51	PLANO; R	138 .0	CE	1	Base Case	operati on	351. 0	120.33	143.47	DC	81.21
177262 531	2728 03	W PLANO ; R	138 .0	CE	2722 51	PLANO; R	138 .0	CE	1	COMED_P1-2_138-L11106_B-R-AA	operati on	449. 0	120.84	149.42	DC	128.3 4
168351 895	2747 50	CRETE EC ;BP	345 .0	CE	2551 12	17STJOHN	345 .0	NIP S	1	Base Case	operati on	1091 .0	174.86	174.9	DC	24.11
168352 021	2748 04	UNIV PK N;RP	345 .0	CE	9606 80	AF2-359 TAP	345 .0	CE	1	COMED_P1-2_765-L11215__S	operati on	971. 0	136.8	137.07	DC	30.42
168352 245	2751 68	COLLINS ; 2M	345 .0	CE	2706 07	COLLINS ;	765 .0	CE	1	COMED_P1-2_765-L2315__S	operati on	1379 .0	104.29	104.33	DC	29.84
162573 895	9431 20	AE2-341 TAP	138 .0	CE	2728 03	W PLANO ; R	138 .0	CE	1	Base Case	operati on	351. 0	130.31	153.44	DC	81.21
177262 518	9431 20	AE2-341 TAP	138 .0	CE	2728 03	W PLANO ; R	138 .0	CE	1	COMED_P1-2_138-L11106_B-R-AA	operati on	449. 0	128.65	157.24	DC	128.3 4
169877 256	9606 80	AF2-359 TAP	345 .0	CE	2432 29	05OLIVE	345 .0	AEP	1	COMED_P1-2_765-L11215__S	operati on	971. 0	146.54	147.42	DC	30.42
177262 580	9626 90	AG1-118 TAP	138 .0	CE	2725 22	SUGAR GRV; B	138 .0	CE	1	COMED_P1-2_138-L14609_R-R-A	operati on	483. 0	96.39	125.96	DC	142.8 2
177262 584	9626 90	AG1-118 TAP	138 .0	CE	2725 22	SUGAR GRV; B	138 .0	CE	1	Base Case	operati on	376. 0	72.16	100.84	DC	107.8 4

13.5 Flow Gate Details - Secondary POI

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

13.5.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174181248	270730	ELECT JCT; B	CE	270812	LOMBARD ; B	CE	1	COMED_P4_111-45-L11120_	breaker	1479.0	108.95	111.26	DC	34.06

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.7804	Adder	2.09
274738	AURORA EC;3P	4.0573	50/50	4.0573
274740	AURORA EC;4P	4.0573	50/50	4.0573
274859	EASYR;U1 E	5.9095	Adder	6.95
274860	EASYR;U2 E	5.9095	Adder	6.95
274872	LEE DEKAL;1U	0.6447	50/50	0.6447
276167	Z1-106 E2	1.1176	50/50	1.1176
276168	Z1-106 E1	1.1241	50/50	1.1241
276591	L-013 2	3.2410	50/50	3.2410
290051	GSG-6; E	7.0588	Adder	8.3
290108	LEEDK;1U E	20.4320	50/50	20.4320
293516	O-009 E1	4.5446	Adder	5.35
293517	O-009 E2	2.3083	Adder	2.72
293518	O-009 E3	2.5421	Adder	2.99
293715	O-029 E	4.8587	Adder	5.72
293716	O-029 E	2.6639	Adder	3.13
293717	O-029 E	2.4484	Adder	2.88
294763	P-046 E	3.8678	Adder	4.55
295109	WESTBROOK E	3.7792	Adder	4.45
295111	SUBLETTE E	1.4457	Adder	1.7
916221	Z1-073 E	3.6664	Adder	4.31
919581	AA2-030 C	10.7534	Adder	12.65
926331	AC1-110 1	2.5379	50/50	2.5379
926341	AC1-110 2	2.5379	50/50	2.5379
930482	AB1-089 CT	17.0562	Adder	20.07
930483	AB1-089 ST	13.5604	Adder	15.95
933431	AC2-156 C O1	0.8095	50/50	0.8095
933432	AC2-156 E O1	1.3207	50/50	1.3207
933911	AD1-013 C	1.2479	Adder	1.47
933912	AD1-013 E	1.9934	Adder	2.35
934432	AD1-067 E	0.3727	Adder	0.44
934701	AD1-098 C O1	4.6030	Adder	5.42
934702	AD1-098 E O1	3.3607	Adder	3.95
937001	AD2-134 C	1.8453	Adder	2.17
937002	AD2-134 E	7.6229	Adder	8.97
937311	AD2-172 C	1.0153	Adder	1.19
937312	AD2-172 E	1.4021	Adder	1.65
937531	AD2-214 C	2.2400	Adder	2.64
937532	AD2-214 E	1.4933	Adder	1.76
938861	AE1-114 C O1	1.8583	Adder	2.19
938862	AE1-114 E O1	6.3400	Adder	7.46
939051	AE1-134 1	0.8356	Adder	0.98

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939061	AE1-134 2	0.8356	Adder	0.98
940501	AE2-035 C	1.0153	Adder	1.19
940502	AE2-035 E	1.4021	Adder	1.65
941131	AE2-107 C	5.5166	50/50	5.5166
941132	AE2-107 E	3.6778	50/50	3.6778
943121	AE2-341 C	10.7089	50/50	10.7089
943122	AE2-341 E	5.2586	50/50	5.2586
943411	AF1-012 C	10.8685	50/50	10.8685
943412	AF1-012 E	7.2457	50/50	7.2457
943591	AF1-030 C O1	7.1215	50/50	7.1215
943592	AF1-030 E O1	3.5235	50/50	3.5235
943921	AF1-060	0.4999	Adder	0.59
944041	AF1-072	0.9092	Adder	1.07
945351	AF1-200 FTIR	175.1931	Merchant Transmission	175.1931
946151	AF1-280 C O1	8.7256	Adder	10.27
946152	AF1-280 E O1	4.0125	Adder	4.72
946161	AF1-281 C O1	0.1911	Adder	0.22
946162	AF1-281 E O1	1.0827	Adder	1.27
946321	AF1-296 C O1	1.8404	Adder	2.17
946322	AF1-296 E O1	8.6162	Adder	10.14
946501	AF1-314 C	1.8040	Adder	2.12
946502	AF1-314 E	8.4458	Adder	9.94
946671	AF1-331	1.6206	Adder	1.91
955971	J1084	7.8960	PJM External (MISO)	7.8960
957333	AF2-027 BAT	3.0665	Merchant Transmission	3.0665
957471	AF2-041 C	26.5914	50/50	26.5914
957472	AF2-041 E	13.2957	50/50	13.2957
958911	AF2-182 C	11.4643	Adder	13.49
958912	AF2-182 E	7.6429	Adder	8.99
958921	AF2-183 C	2.0381	Adder	2.4
958922	AF2-183 E	3.0571	Adder	3.6
959081	AF2-199 C	8.8638	50/50	8.8638
959082	AF2-199 E	4.4319	50/50	4.4319
959091	AF2-200 C O1	17.7276	50/50	17.7276
959092	AF2-200 E O1	8.8638	50/50	8.8638
959101	AF2-201 C O1	2.4851	Adder	2.92
959102	AF2-201 E O1	7.1362	Adder	8.4
960381	AF2-329	5.5567	50/50	5.5567
960551	AF2-346 C	4.6579	50/50	4.6579
960552	AF2-346 E	3.1053	50/50	3.1053
960721	AF2-363 C O1	3.3381	Adder	3.93
960722	AF2-363 E O1	2.2254	Adder	2.62
960731	AF2-364 C O1	3.5125	Adder	4.13
960732	AF2-364 E O1	2.3417	Adder	2.75
960751	AF2-366 C	5.7766	50/50	5.7766
960752	AF2-366 E	3.8510	50/50	3.8510
961011	AF2-392 C O1	2.2631	Adder	2.66
961012	AF2-392 E O1	10.5957	Adder	12.47
961021	AF2-393 O1	3.8576	Adder	4.54
961031	AF2-394 O1	2.5718	Adder	3.03
962012	AG1-044 E	0.0184	Adder	0.04
962691	AG1-118 C O2	20.4336	50/50	20.4336

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962692	AG1-118 E O2	13.6224	50/50	13.6224
962701	AG1-119 C O2	7.4327	Adder	16.5
962702	AG1-119 E O2	4.9551	Adder	11.0
962711	AG1-120 C O2	2.9384	Adder	6.52
962712	AG1-120 E O2	1.9589	Adder	4.35
962781	AG1-127 C O2	6.3974	50/50	6.3974
962782	AG1-127 E O2	4.2650	50/50	4.2650
962791	AG1-128 C O2	2.2122	Adder	4.91
962792	AG1-128 E O2	10.3523	Adder	22.98
963681	AG1-220 C O2	2.6306	Adder	5.84
963682	AG1-220 E O2	1.7537	Adder	3.89
964461	AG1-309 FTIR	121.9779	Merchant Transmission	121.9779
965061	AG1-371	4.4319	50/50	4.4319
965071	AG1-372	2.9546	50/50	2.9546
965081	AG1-373	1.4773	50/50	1.4773
965551	AG1-423 C O2	4.0064	Adder	8.89
965552	AG1-423 E O2	2.6709	Adder	5.93
965661	AG1-434 C O2	1.5033	Adder	3.34
965662	AG1-434 E O2	7.0382	Adder	15.62
965931	AG1-462 C O2	4.7949	Adder	10.64
965932	AG1-462 E O2	3.1966	Adder	7.1
966441	AG1-513 C	0.1761	Adder	0.39
966442	AG1-513 E	0.2642	Adder	0.59
966521	AG1-521 C O2	2.6407	Adder	5.86
966522	AG1-521 E O2	0.6602	Adder	1.47
966651	AG1-535 O2	11.1410	50/50	11.1410
966821	AG1-553 C O2	6.8338	Adder	15.17
966822	AG1-553 E O2	1.7085	Adder	3.79
CBM-W2	CBM-W2	4.1126	Confirmed LTF	4.1126
NY	NY	0.1029	Confirmed LTF	0.1029
TVA	TVA	0.4298	Confirmed LTF	0.4298
O-066	O-066	1.2047	Confirmed LTF	1.2047
SIGE	SIGE	0.0160	Confirmed LTF	0.0160
CBM-S2	CBM-S2	0.2192	Confirmed LTF	0.2192
CBM-S1	CBM-S1	0.0882	Confirmed LTF	0.0882
G-007	G-007	0.1880	Confirmed LTF	0.1880
HAMLET	HAMLET	0.0035	Confirmed LTF	0.0035
MEC	MEC	3.7802	Confirmed LTF	3.7802
GIBSON	GIBSON	0.0311	Confirmed LTF	0.0311
BLUEG	BLUEG	0.2066	Confirmed LTF	0.2066
TRIMBLE	TRIMBLE	0.0707	Confirmed LTF	0.0707
LAGN	LAGN	0.9993	Confirmed LTF	0.9993
CBM-W1	CBM-W1	3.1825	Confirmed LTF	3.1825

13.5.2 Index 2

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
162421631	272027	MONTGOMER;R T	CE	272203	OSWEG O ;R	CE	1	COMED_P4_167-38-TR81	breaker	264.0	105.55	128.75	DC	61.25

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	3.7037	50/50	3.7037
274850	MENDOTA H;RU	0.3440	50/50	0.3440
274855	GSG-6 ;RU	0.5665	50/50	0.5665
274872	LEE DEKAL;1U	1.2875	50/50	1.2875
290051	GSG-6; E	14.3620	50/50	14.3620
290108	LEEDK;1U E	40.8040	50/50	40.8040
295108	WESTBROOK C	0.1837	50/50	0.1837
295109	WESTBROOK E	7.6893	50/50	7.6893
916221	Z1-073 E	7.4597	50/50	7.4597
933431	AC2-156 C O1	3.8524	50/50	3.8524
933432	AC2-156 E O1	6.2854	50/50	6.2854
933911	AD1-013 C	2.6182	50/50	2.6182
933912	AD1-013 E	4.1822	50/50	4.1822
934431	AD1-067 C	0.0285	50/50	0.0285
934432	AD1-067 E	0.7583	50/50	0.7583
934701	AD1-098 C O1	9.0821	50/50	9.0821
934702	AD1-098 E O1	6.6309	50/50	6.6309
937001	AD2-134 C	3.7545	50/50	3.7545
937002	AD2-134 E	15.5097	50/50	15.5097
941131	AE2-107 C	11.0171	50/50	11.0171
941132	AE2-107 E	7.3447	50/50	7.3447
943121	AE2-341 C	60.8197	50/50	60.8197
943122	AE2-341 E	29.8658	50/50	29.8658
943591	AF1-030 C O1	40.4457	50/50	40.4457
943592	AF1-030 E O1	20.0113	50/50	20.0113
946671	AF1-331	3.4002	50/50	3.4002
960381	AF2-329	31.5586	50/50	31.5586
960721	AF2-363 C O1	6.1343	50/50	6.1343
960722	AF2-363 E O1	4.0895	50/50	4.0895
960751	AF2-366 C	11.7661	50/50	11.7661
960752	AF2-366 E	7.8441	50/50	7.8441
962691	AG1-118 C O2	36.7470	50/50	36.7470
962692	AG1-118 E O2	24.4980	50/50	24.4980
962781	AG1-127 C O2	13.0307	50/50	13.0307
962782	AG1-127 E O2	8.6871	50/50	8.6871
962791	AG1-128 C O2	8.4926	50/50	8.4926
962792	AG1-128 E O2	39.7415	50/50	39.7415
963681	AG1-220 C O2	2.7453	Adder	6.09
963682	AG1-220 E O2	1.8302	Adder	4.06
965661	AG1-434 C O2	5.7710	50/50	5.7710
965662	AG1-434 E O2	27.0190	50/50	27.0190
WEC	WEC	0.1625	Confirmed LTF	0.1625

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-W2	CBM-W2	1.1558	Confirmed LTF	1.1558
NY	NY	0.0277	Confirmed LTF	0.0277
TVA	TVA	0.1218	Confirmed LTF	0.1218
O-066	O-066	0.3298	Confirmed LTF	0.3298
SIGE	SIGE	0.0044	Confirmed LTF	0.0044
CBM-S2	CBM-S2	0.0731	Confirmed LTF	0.0731
CBM-S1	CBM-S1	0.0251	Confirmed LTF	0.0251
G-007	G-007	0.0515	Confirmed LTF	0.0515
HAMLET	HAMLET	0.0006	Confirmed LTF	0.0006
MEC	MEC	1.1250	Confirmed LTF	1.1250
GIBSON	GIBSON	0.0087	Confirmed LTF	0.0087
BLUEG	BLUEG	0.0573	Confirmed LTF	0.0573
TRIMBLE	TRIMBLE	0.0200	Confirmed LTF	0.0200
LAGN	LAGN	0.2957	Confirmed LTF	0.2957
CBM-W1	CBM-W1	5.5940	Confirmed LTF	5.5940

13.5.3 Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162421681	272522	SUGAR GRV; B	CE	272114	N AURORA ; B	CE	1	COMED_P4_167-38-L14609_	breaker	498.0	82.98	111.66	DC	142.81

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	6.7652	50/50	6.7652
274850	MENDOTA H;RU	0.6282	50/50	0.6282
274855	GSG-6 ;RU	1.0345	50/50	1.0345
274872	LEE DEKAL;1U	2.3560	50/50	2.3560
290051	GSG-6; E	26.2274	50/50	26.2274
290108	LEEDK;1U E	74.6660	50/50	74.6660
295108	WESTBROOK C	0.3354	50/50	0.3354
295109	WESTBROOK E	14.0419	50/50	14.0419
295111	SUBLETTE E	1.3682	Adder	1.61
916221	Z1-073 E	13.6227	50/50	13.6227
933431	AC2-156 C O1	3.1776	50/50	3.1776
933432	AC2-156 E O1	5.1846	50/50	5.1846
933911	AD1-013 C	4.7829	50/50	4.7829
933912	AD1-013 E	7.6403	50/50	7.6403
934431	AD1-067 C	0.0520	50/50	0.0520
934432	AD1-067 E	1.3847	50/50	1.3847
934701	AD1-098 C O1	16.5782	50/50	16.5782
934702	AD1-098 E O1	12.1038	50/50	12.1038
937001	AD2-134 C	6.8563	50/50	6.8563
937002	AD2-134 E	28.3232	50/50	28.3232
941131	AE2-107 C	20.1598	50/50	20.1598
941132	AE2-107 E	13.4399	50/50	13.4399
943121	AE2-341 C	42.0599	50/50	42.0599
943122	AE2-341 E	20.6536	50/50	20.6536
943591	AF1-030 C O1	27.9702	50/50	27.9702
943592	AF1-030 E O1	13.8388	50/50	13.8388
946671	AF1-331	6.2116	50/50	6.2116
960381	AF2-329	21.8243	50/50	21.8243
960721	AF2-363 C O1	11.1619	50/50	11.1619
960722	AF2-363 E O1	7.4413	50/50	7.4413
960751	AF2-366 C	21.5324	50/50	21.5324
960752	AF2-366 E	14.3550	50/50	14.3550
962691	AG1-118 C O2	85.6836	50/50	85.6836
962692	AG1-118 E O2	57.1224	50/50	57.1224
962781	AG1-127 C O2	23.8468	50/50	23.8468
962782	AG1-127 E O2	15.8978	50/50	15.8978
962791	AG1-128 C O2	15.5089	50/50	15.5089
962792	AG1-128 E O2	72.5746	50/50	72.5746
963681	AG1-220 C O2	10.9503	50/50	10.9503
963682	AG1-220 E O2	7.3002	50/50	7.3002
965661	AG1-434 C O2	10.5389	50/50	10.5389

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965662	AG1-434 E O2	49.3411	50/50	49.3411
966521	AG1-521 C O2	2.4932	Adder	5.53
966522	AG1-521 E O2	0.6233	Adder	1.38
WEC	WEC	0.2287	Confirmed LTF	0.2287
CBM-W2	CBM-W2	1.9533	Confirmed LTF	1.9533
NY	NY	0.0431	Confirmed LTF	0.0431
TVA	TVA	0.2086	Confirmed LTF	0.2086
O-066	O-066	0.5048	Confirmed LTF	0.5048
SIGE	SIGE	0.0073	Confirmed LTF	0.0073
CBM-S2	CBM-S2	0.1670	Confirmed LTF	0.1670
CBM-S1	CBM-S1	0.0437	Confirmed LTF	0.0437
G-007	G-007	0.0788	Confirmed LTF	0.0788
MEC	MEC	1.8385	Confirmed LTF	1.8385
GIBSON	GIBSON	0.0098	Confirmed LTF	0.0098
BLUEG	BLUEG	0.0851	Confirmed LTF	0.0851
TRIMBLE	TRIMBLE	0.0295	Confirmed LTF	0.0295
LAGN	LAGN	0.4935	Confirmed LTF	0.4935
CBM-W1	CBM-W1	8.8887	Confirmed LTF	8.8887

13.5.4 Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
177639940	962690	AG1-118 TAP	CE	272522	SUGAR GRV; B	CE	1	COMED_P4_167-38-L14609_	breaker	538.0	86.61	113.15	DC	142.81

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	6.7652	50/50	6.7652
274850	MENDOTA H;RU	0.6282	50/50	0.6282
274855	GSG-6 ;RU	1.0345	50/50	1.0345
274872	LEE DEKAL;1U	2.3560	50/50	2.3560
290051	GSG-6; E	26.2274	50/50	26.2274
290108	LEEDK;1U E	74.6660	50/50	74.6660
295108	WESTBROOK C	0.3354	50/50	0.3354
295109	WESTBROOK E	14.0419	50/50	14.0419
295111	SUBLETTE E	1.3682	Adder	1.61
916221	Z1-073 E	13.6227	50/50	13.6227
933431	AC2-156 C O1	3.1776	50/50	3.1776
933432	AC2-156 E O1	5.1846	50/50	5.1846
933911	AD1-013 C	4.7829	50/50	4.7829
933912	AD1-013 E	7.6403	50/50	7.6403
934431	AD1-067 C	0.0520	50/50	0.0520
934432	AD1-067 E	1.3847	50/50	1.3847
934701	AD1-098 C O1	16.5782	50/50	16.5782
934702	AD1-098 E O1	12.1038	50/50	12.1038
937001	AD2-134 C	6.8563	50/50	6.8563
937002	AD2-134 E	28.3232	50/50	28.3232
941131	AE2-107 C	20.1598	50/50	20.1598
941132	AE2-107 E	13.4399	50/50	13.4399
943121	AE2-341 C	42.0599	50/50	42.0599
943122	AE2-341 E	20.6536	50/50	20.6536
943591	AF1-030 C O1	27.9702	50/50	27.9702
943592	AF1-030 E O1	13.8388	50/50	13.8388
946671	AF1-331	6.2116	50/50	6.2116
960381	AF2-329	21.8243	50/50	21.8243
960721	AF2-363 C O1	11.1619	50/50	11.1619
960722	AF2-363 E O1	7.4413	50/50	7.4413
960751	AF2-366 C	21.5324	50/50	21.5324
960752	AF2-366 E	14.3550	50/50	14.3550
962691	AG1-118 C O2	85.6836	50/50	85.6836
962692	AG1-118 E O2	57.1224	50/50	57.1224
962781	AG1-127 C O2	23.8468	50/50	23.8468
962782	AG1-127 E O2	15.8978	50/50	15.8978
962791	AG1-128 C O2	15.5089	50/50	15.5089
962792	AG1-128 E O2	72.5746	50/50	72.5746
963681	AG1-220 C O2	10.9503	50/50	10.9503
963682	AG1-220 E O2	7.3002	50/50	7.3002
965661	AG1-434 C O2	10.5389	50/50	10.5389

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965662	AG1-434 E O2	49.3411	50/50	49.3411
966521	AG1-521 C O2	2.4932	Adder	5.53
966522	AG1-521 E O2	0.6233	Adder	1.38
WEC	WEC	0.2287	Confirmed LTF	0.2287
CBM-W2	CBM-W2	1.9533	Confirmed LTF	1.9533
NY	NY	0.0431	Confirmed LTF	0.0431
TVA	TVA	0.2086	Confirmed LTF	0.2086
O-066	O-066	0.5048	Confirmed LTF	0.5048
SIGE	SIGE	0.0073	Confirmed LTF	0.0073
CBM-S2	CBM-S2	0.1670	Confirmed LTF	0.1670
CBM-S1	CBM-S1	0.0437	Confirmed LTF	0.0437
G-007	G-007	0.0788	Confirmed LTF	0.0788
MEC	MEC	1.8385	Confirmed LTF	1.8385
GIBSON	GIBSON	0.0098	Confirmed LTF	0.0098
BLUEG	BLUEG	0.0851	Confirmed LTF	0.0851
TRIMBLE	TRIMBLE	0.0295	Confirmed LTF	0.0295
LAGN	LAGN	0.4935	Confirmed LTF	0.4935
CBM-W1	CBM-W1	8.8887	Confirmed LTF	8.8887

13.5.5 Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
161481264	243206	05DUMONT	AEP	246999	05SORENS	AEP	1	AEP_P7-1_#11046	tower	4142.0	104.72	104.77	DC	63.11

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
243441	05CKG2	52.1732	50/50	52.1732
244415	05OLIV SLR C	0.4494	Adder	0.53
247967	05OLIV SLR E	0.4494	Adder	0.53
274658	DRESDEN ;2U	164.0190	Adder	192.96
274659	DRESDEN ;3U	160.7297	Adder	189.09
274771	LINCOLN ;2U	2.8045	50/50	2.8045
274772	LINCOLN ;3U	2.8045	50/50	2.8045
274773	LINCOLN ;4U	2.8045	50/50	2.8045
274774	LINCOLN ;5U	2.8045	50/50	2.8045
274775	LINCOLN ;6U	2.8045	50/50	2.8045
274776	LINCOLN ;7U	2.8045	50/50	2.8045
274777	LINCOLN ;8U	2.8045	50/50	2.8045
274788	SE CHICAG;5U (Deactivation : 01/06/2020)	7.0039	Adder	8.24
274789	SE CHICAG;6U (Deactivation : 01/06/2020)	7.0223	Adder	8.26
274790	SE CHICAG;7U (Deactivation : 01/06/2020)	7.1147	Adder	8.37
274791	SE CHICAG;8U (Deactivation : 01/06/2020)	7.1147	Adder	8.37
274792	SE CHICAG;9U (Deactivation : 01/06/2020)	7.1056	Adder	8.36
274793	SE CHICAG;0U (Deactivation : 01/06/2020)	7.1056	Adder	8.36
274794	SE CHICAG;1U (Deactivation : 01/06/2020)	7.1056	Adder	8.36
274795	SE CHICAG;2U (Deactivation : 01/06/2020)	7.1056	Adder	8.36
275149	KELLYCK ;1E	25.8539	Adder	30.42
276167	Z1-106 E2	1.8156	Adder	2.14
276168	Z1-106 E1	1.8155	Adder	2.14
276169	Z1-107 E	3.6575	Adder	4.3
276170	Z1-108 E	3.5734	Adder	4.2
276591	L-013 2	5.2652	Adder	6.19
293061	N-015 E	22.0575	Adder	25.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
293644	O22 E1	14.6384	Adder	17.22
293645	O22 E2	28.4158	Adder	33.43
293799	PILOT HIL;1E	25.8539	Adder	30.42
294392	P-010 E	28.0130	Adder	32.96
910542	X3-005 E	1.0383	Adder	1.22
915011	Y3-013 1	5.3461	Adder	6.29
915021	Y3-013 2	5.3461	Adder	6.29
915031	Y3-013 3	5.3461	Adder	6.29
918052	AA1-018 E OP	23.4418	Adder	27.58
926331	AC1-110 1	2.7307	Adder	3.21
926341	AC1-110 2	2.7307	Adder	3.21
927451	AC1-142A 1	5.8730	Adder	6.91
927461	AC1-142A 2	5.8728	Adder	6.91
930501	AB1-091 CT	56.6561	Adder	66.65
930502	AB1-091 ST	45.0438	Adder	52.99
930771	AB1-122 CT2	104.4068	Adder	122.83
933281	AC2-140 C	1.7272	50/50	1.7272
933282	AC2-140 E	0.5761	50/50	0.5761
933411	AC2-154 C	3.5087	Adder	4.13
933412	AC2-154 E	5.7248	Adder	6.74
933431	AC2-156 C O1	1.3865	Adder	1.63
933432	AC2-156 E O1	2.2622	Adder	2.66
934111	AD1-039 2	10.2319	Adder	12.04
934721	AD1-100 C	27.7007	Adder	32.59
934722	AD1-100 E	129.2697	Adder	152.08
934871	AD1-116 C	1.3652	Adder	1.61
934872	AD1-116 E	2.2274	Adder	2.62
936371	AD2-047 C O1	6.2788	Adder	7.39
936372	AD2-047 E O1	30.6554	Adder	36.07
936461	AD2-060	3.6934	Adder	4.35
937401	AD2-194 1	10.9222	Adder	12.85
937411	AD2-194 2	10.9227	Adder	12.85
938511	AE1-070 1	12.8341	Adder	15.1
938521	AE1-070 2	11.7413	Adder	13.81
939321	AE1-163 C O1	5.1162	Adder	6.02
939322	AE1-163 E O1	31.4282	Adder	36.97
939351	AE1-166 C O1	7.6434	Adder	16.97
939352	AE1-166 E O1	7.0555	Adder	15.66
939631	AE1-193 C	11.7296	Adder	13.8
939632	AE1-193 E	78.4979	Adder	92.35
939641	AE1-194 C	11.7296	Adder	13.8
939642	AE1-194 E	78.4979	Adder	92.35
939651	AE1-195 C	11.7296	Adder	13.8
939652	AE1-195 E	78.4979	Adder	92.35
939681	AE1-198 C	34.8278	Adder	40.97
939682	AE1-198 E	29.5946	Adder	34.82
940752	AE2-062 E	0.0972	Adder	0.22
941551	AE2-152 C O1	8.8193	Adder	19.58
941552	AE2-152 E O1	5.8796	Adder	13.05
941561	AE2-153 C O1	6.5178	Adder	7.67
941562	AE2-153 E O1	30.5150	Adder	35.9
942651	AE2-281 C O1	1.2443	Adder	1.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942652	AE2-281 E O1	7.6433	Adder	8.99
943121	AE2-341 C	18.4950	Adder	21.76
943122	AE2-341 E	9.0820	Adder	10.68
943591	AF1-030 C O1	12.2993	Adder	14.47
943592	AF1-030 E O1	6.0853	Adder	7.16
944041	AF1-072	3.0940	Adder	3.64
944911	AF1-156 C	16.6648	Adder	19.61
944912	AF1-156 E	11.1098	Adder	13.07
944931	AF1-158 C O1	16.0466	Adder	18.88
944932	AF1-158 E O1	10.6978	Adder	12.59
945351	AF1-200 FTIR	457.9157	Merchant Transmission	457.9157
957331	AF2-027 C	3.5640	Adder	4.19
957332	AF2-027 E	5.3461	Adder	6.29
957371	AF2-031 C O1	1.4787	Adder	1.74
957372	AF2-031 E O1	2.2181	Adder	2.61
957401	AF2-034 C	1.9682	Adder	2.32
957402	AF2-034 E	1.6766	Adder	1.97
958011	AF2-095 C O1	25.1153	Adder	29.55
958012	AF2-095 E O1	11.8189	Adder	13.9
958021	AF2-096 C	47.1930	Adder	55.52
958022	AF2-096 E	22.2085	Adder	26.13
958481	AF2-142 C	16.1667	Adder	19.02
958482	AF2-142 E	10.7778	Adder	12.68
958491	AF2-143 C	15.9977	Adder	18.82
958492	AF2-143 E	10.6651	Adder	12.55
959001	AF2-191 C O1	11.7945	Adder	13.88
959002	AF2-191 E O1	7.8630	Adder	9.25
959351	AF2-226 C	3.5879	Adder	4.22
959352	AF2-226 E	5.3818	Adder	6.33
960281	AF2-319 C	3.5879	Adder	4.22
960282	AF2-319 E	5.3818	Adder	6.33
960381	AF2-329	9.5968	Adder	11.29
960591	AF2-350 C O1	11.0803	Adder	13.04
960592	AF2-350 E O1	7.3868	Adder	8.69
960601	AF2-351 C O1	1.4774	Adder	1.74
960602	AF2-351 E O1	2.2161	Adder	2.61
960681	AF2-359 C	14.2570	Adder	16.77
960682	AF2-359 E	9.5047	Adder	11.18
960731	AF2-364 C O1	8.8284	Adder	10.39
960732	AF2-364 E O1	5.8856	Adder	6.92
961501	AF2-441 C O1	14.8131	Adder	17.43
961502	AF2-441 E O1	22.2197	Adder	26.14
962691	AG1-118 C O2	17.0581	Adder	37.86
962692	AG1-118 E O2	11.3721	Adder	25.24
962701	AG1-119 C O2	17.2357	Adder	38.26
962702	AG1-119 E O2	11.4905	Adder	25.51
962711	AG1-120 C O2	6.8138	Adder	15.12
962712	AG1-120 E O2	4.5426	Adder	10.08
963851	AG1-238 C	23.1534	50/50	23.1534
963852	AG1-238 E	15.4356	50/50	15.4356
964361	AG1-298 O2	49.0527	Adder	108.89
965681	AG1-436 C	7.5562	Adder	16.77

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965682	AG1-436 E	5.0375	Adder	11.18
965791	AG1-447	5.5412	Adder	12.3
965801	AG1-448	5.5412	Adder	12.3
966081	AG1-477 C	1.5147	Adder	3.36
966082	AG1-477 E	0.3811	Adder	0.85
966091	AG1-478 C	1.5379	Adder	3.41
966092	AG1-478 E	0.3869	Adder	0.86
966101	AG1-479 C (Withdrawn : 12/03/2020)	1.5147	Adder	3.36
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.3811	Adder	0.85
966431	AG1-512 C	1.5730	Adder	3.49
966432	AG1-512 E	2.3595	Adder	5.24
966441	AG1-513 C	0.3873	Adder	0.86
966442	AG1-513 E	0.5810	Adder	1.29
966651	AG1-535 O2	8.1732	Adder	18.14
WEC	WEC	6.3718	Confirmed LTF	6.3718
LGEE	LGEE	1.8196	Confirmed LTF	1.8196
CBM-W2	CBM-W2	66.2413	Confirmed LTF	66.2413
NY	NY	2.6511	Confirmed LTF	2.6511
TVA	TVA	5.6784	Confirmed LTF	5.6784
O-066	O-066	32.1223	Confirmed LTF	32.1223
SIGE	SIGE	1.0604	Confirmed LTF	1.0604
CBM-S1	CBM-S1	1.4615	Confirmed LTF	1.4615
G-007	G-007	5.0085	Confirmed LTF	5.0085
HAMLET	HAMLET	0.8149	Confirmed LTF	0.8149
MEC	MEC	24.8456	Confirmed LTF	24.8456
LAGN	LAGN	10.6610	Confirmed LTF	10.6610
CATAWBA	CATAWBA	0.3402	Confirmed LTF	0.3402
CBM-W1	CBM-W1	201.5375	Confirmed LTF	201.5375

13.5.6 Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	ACID C	MW IMPACT
17452586 1	25510 4	17GREEN_ACR E	NIPS	27077 1	GREENACRE ; T	CE	1	COMED_P4_112 -65-BT4-5__	breaker	1091. 0	109.49	109.54	DC	24.87

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274658	DRESDEN ;2U	67.3766	Adder	79.27
274659	DRESDEN ;3U	48.9410	Adder	57.58
274751	CRETE EC ;1U	2.0078	50/50	2.0078
274752	CRETE EC ;2U	2.0078	50/50	2.0078
274753	CRETE EC ;3U	2.0078	50/50	2.0078
274754	CRETE EC ;4U	2.0078	50/50	2.0078
274788	SE CHICAG;5U (Deactivation : 01/06/2020)	3.0714	Adder	3.61
274789	SE CHICAG;6U (Deactivation : 01/06/2020)	3.0795	Adder	3.62
274790	SE CHICAG;7U (Deactivation : 01/06/2020)	3.1200	Adder	3.67
274791	SE CHICAG;8U (Deactivation : 01/06/2020)	3.1200	Adder	3.67
274792	SE CHICAG;9U (Deactivation : 01/06/2020)	3.1691	Adder	3.73
274793	SE CHICAG;0U (Deactivation : 01/06/2020)	3.1691	Adder	3.73
274794	SE CHICAG;1U (Deactivation : 01/06/2020)	3.1691	Adder	3.73
274795	SE CHICAG;2U (Deactivation : 01/06/2020)	3.1691	Adder	3.73
275149	KELLYCK ;1E	10.6862	Adder	12.57
276167	Z1-106 E2	0.7222	Adder	0.85
276168	Z1-106 E1	0.7222	Adder	0.85
276169	Z1-107 E	1.4737	Adder	1.73
276170	Z1-108 E	1.4226	Adder	1.67
276591	L-013 2	2.0943	Adder	2.46
290021	O50 E	11.3900	Adder	13.4
293061	N-015 E	8.8240	Adder	10.38
293644	O22 E1	6.3097	Adder	7.42
293645	O22 E2	12.2482	Adder	14.41
293799	PILOT HIL;1E	10.6862	Adder	12.57
294392	P-010 E	11.2065	Adder	13.18
910542	X3-005 E	0.4480	Adder	0.53

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
915011	Y3-013 1	2.1430	Adder	2.52
915021	Y3-013 2	2.1430	Adder	2.52
915031	Y3-013 3	2.1430	Adder	2.52
918052	AA1-018 E OP	9.2866	Adder	10.93
926331	AC1-110 1	1.0873	Adder	1.28
926341	AC1-110 2	1.0873	Adder	1.28
927451	AC1-142A 1	2.4317	Adder	2.86
927461	AC1-142A 2	2.4325	Adder	2.86
930501	AB1-091 CT	23.6011	Adder	27.77
930502	AB1-091 ST	18.7638	Adder	22.08
930771	AB1-122 CT2	42.8585	Adder	50.42
933411	AC2-154 C	1.4503	Adder	1.71
933412	AC2-154 E	2.3662	Adder	2.78
933431	AC2-156 C O1	0.5460	Adder	0.64
933432	AC2-156 E O1	0.8908	Adder	1.05
934111	AD1-039 2	4.2001	Adder	4.94
934721	AD1-100 C	11.1409	Adder	13.11
934722	AD1-100 E	51.9911	Adder	61.17
934871	AD1-116 C	0.5408	Adder	0.64
934872	AD1-116 E	0.8824	Adder	1.04
936291	AD2-038 C O1	1.3719	Adder	1.61
936292	AD2-038 E O1	9.1813	Adder	10.8
936371	AD2-047 C O1	2.5952	Adder	3.05
936372	AD2-047 E O1	12.6708	Adder	14.91
936461	AD2-060	1.5266	Adder	1.8
937401	AD2-194 1	4.4916	Adder	5.28
937411	AD2-194 2	4.4957	Adder	5.29
938511	AE1-070 1	5.2824	Adder	6.21
938521	AE1-070 2	4.8284	Adder	5.68
938851	AE1-113 C O1	4.6984	Adder	5.53
938852	AE1-113 E O1	16.6579	Adder	19.6
939321	AE1-163 C O1	3.4474	Adder	4.06
939322	AE1-163 E O1	21.1767	Adder	24.91
939351	AE1-166 C O1	3.1203	Adder	6.93
939352	AE1-166 E O1	2.8803	Adder	6.39
939631	AE1-193 C	10.9999	50/50	10.9999
939632	AE1-193 E	73.6150	50/50	73.6150
939641	AE1-194 C	10.9999	50/50	10.9999
939642	AE1-194 E	73.6150	50/50	73.6150
939651	AE1-195 C	10.9999	50/50	10.9999
939652	AE1-195 E	73.6150	50/50	73.6150
939681	AE1-198 C	32.6614	50/50	32.6614
939682	AE1-198 E	27.7537	50/50	27.7537
940752	AE2-062 E	0.0395	Adder	0.09
941551	AE2-152 C O1	3.6004	Adder	7.99
941552	AE2-152 E O1	2.4003	Adder	5.33
941561	AE2-153 C O1	2.7111	Adder	3.19
941562	AE2-153 E O1	12.6926	Adder	14.93
942421	AE2-255 C O1	1.7797	Adder	2.09
942422	AE2-255 E O1	5.3391	Adder	6.28
942651	AE2-281 C O1	0.4925	Adder	0.58
942652	AE2-281 E O1	3.0252	Adder	3.56

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943121	AE2-341 C	7.2837	Adder	8.57
943122	AE2-341 E	3.5767	Adder	4.21
943591	AF1-030 C O1	4.8438	Adder	5.7
943592	AF1-030 E O1	2.3965	Adder	2.82
944041	AF1-072	1.2316	Adder	1.45
944911	AF1-156 C	6.9317	Adder	8.15
944912	AF1-156 E	4.6211	Adder	5.44
945351	AF1-200 FTIR	176.4345	Merchant Transmission	176.4345
957331	AF2-027 C	1.4287	Adder	1.68
957332	AF2-027 E	2.1430	Adder	2.52
957371	AF2-031 C O1	0.6470	Adder	0.76
957372	AF2-031 E O1	0.9705	Adder	1.14
957401	AF2-034 C	0.8188	Adder	0.96
957402	AF2-034 E	0.6975	Adder	0.82
958011	AF2-095 C O1	10.3809	Adder	12.21
958012	AF2-095 E O1	4.8851	Adder	5.75
958021	AF2-096 C	20.2575	Adder	23.83
958022	AF2-096 E	9.5329	Adder	11.22
958481	AF2-142 C	6.4046	Adder	7.53
958482	AF2-142 E	4.2697	Adder	5.02
958491	AF2-143 C	6.3319	Adder	7.45
958492	AF2-143 E	4.2213	Adder	4.97
959351	AF2-226 C	1.5465	Adder	1.82
959352	AF2-226 E	2.3197	Adder	2.73
960281	AF2-319 C	1.5465	Adder	1.82
960282	AF2-319 E	2.3197	Adder	2.73
960381	AF2-329	3.7794	Adder	4.45
960591	AF2-350 C O1	4.5798	Adder	5.39
960592	AF2-350 E O1	3.0532	Adder	3.59
960601	AF2-351 C O1	0.6106	Adder	0.72
960602	AF2-351 E O1	0.9160	Adder	1.08
960731	AF2-364 C O1	3.5113	Adder	4.13
960732	AF2-364 E O1	2.3408	Adder	2.75
961501	AF2-441 C O1	6.3845	Adder	7.51
961502	AF2-441 E O1	9.5768	Adder	11.27
962691	AG1-118 C O2	6.7232	Adder	14.92
962692	AG1-118 E O2	4.4821	Adder	9.95
962701	AG1-119 C O2	6.8537	Adder	15.21
962702	AG1-119 E O2	4.5692	Adder	10.14
962711	AG1-120 C O2	2.7095	Adder	6.01
962712	AG1-120 E O2	1.8063	Adder	4.01
964361	AG1-298 O2	21.0654	Adder	46.76
965141	AG1-379 C	5.1765	Adder	11.49
965142	AG1-379 E	2.3694	Adder	5.26
966081	AG1-477 C	0.6033	Adder	1.34
966082	AG1-477 E	0.1518	Adder	0.34
966091	AG1-478 C	0.6283	Adder	1.39
966092	AG1-478 E	0.1581	Adder	0.35
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.6033	Adder	1.34
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.1518	Adder	0.34
966441	AG1-513 C	0.1539	Adder	0.34

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966442	AG1-513 E	0.2308	Adder	0.51
966651	AG1-535 O2	3.2529	Adder	7.22
WEC	WEC	2.5197	Confirmed LTF	2.5197
CBM-W2	CBM-W2	14.1568	Confirmed LTF	14.1568
NY	NY	0.6885	Confirmed LTF	0.6885
TVA	TVA	1.0934	Confirmed LTF	1.0934
O-066	O-066	8.1971	Confirmed LTF	8.1971
SIGE	SIGE	0.1256	Confirmed LTF	0.1256
CBM-S1	CBM-S1	0.2018	Confirmed LTF	0.2018
G-007	G-007	1.2768	Confirmed LTF	1.2768
HAMLET	HAMLET	0.2876	Confirmed LTF	0.2876
MEC	MEC	8.8682	Confirmed LTF	8.8682
GIBSON	GIBSON	0.0104	Confirmed LTF	0.0104
BLUEG	BLUEG	1.1076	Confirmed LTF	1.1076
TRIMBLE	TRIMBLE	0.3812	Confirmed LTF	0.3812
LAGN	LAGN	2.7633	Confirmed LTF	2.7633
CATAWBA	CATAWBA	0.1428	Confirmed LTF	0.1428
CBM-W1	CBM-W1	50.2337	Confirmed LTF	50.2337

13.5.7 Index 7

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174181172	255112	17STJOHN	NIPS	270886	ST JOHN ; T	CE	1	COMED_P4_112-65-BT4-5__	breaker	1091.0	144.8	144.83	DC	27.48

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	19.2483	50/50	19.2483
274655	BRAIDWOOD;2U	18.7382	50/50	18.7382
274658	DRESDEN ;2U	75.2473	Adder	88.53
274659	DRESDEN ;3U	69.4953	Adder	81.76
274687	WILL CNTY;4U	8.1886	50/50	8.1886
274704	KENDALL ;1C	2.8828	50/50	2.8828
274705	KENDALL ;1S	1.9276	50/50	1.9276
274706	KENDALL ;2C	2.8828	50/50	2.8828
274707	KENDALL ;2S	1.9276	50/50	1.9276
274751	CRETE EC ;1U	3.4609	50/50	3.4609
274752	CRETE EC ;2U	3.4609	50/50	3.4609
274753	CRETE EC ;3U	3.4609	50/50	3.4609
274754	CRETE EC ;4U	3.4609	50/50	3.4609
274861	TOP CROP ;1U	0.3057	50/50	0.3057
274862	TOP CROP ;2U	0.5832	50/50	0.5832
275149	KELLYCK ;1E	10.8837	Adder	12.8
276167	Z1-106 E2	0.7986	Adder	0.94
276168	Z1-106 E1	0.7986	Adder	0.94
276169	Z1-107 E	1.5715	Adder	1.85
276170	Z1-108 E	1.5749	Adder	1.85
276591	L-013 2	2.3159	Adder	2.72
290021	O50 E	12.6861	Adder	14.92
293061	N-015 E	9.8654	Adder	11.61
293644	O22 E1	8.5941	50/50	8.5941
293645	O22 E2	16.6827	50/50	16.6827
293799	PILOT HIL;1E	10.8837	Adder	12.8
294392	P-010 E	12.5291	Adder	14.74
915011	Y3-013 1	2.3746	Adder	2.79
915021	Y3-013 2	2.3746	Adder	2.79
915031	Y3-013 3	2.3746	Adder	2.79
918052	AA1-018 E OP	1.3780	Adder	1.62
920272	AA2-123 E	1.5446	Adder	1.82
926331	AC1-110 1	1.2022	Adder	1.41
926341	AC1-110 2	1.2022	Adder	1.41
927451	AC1-142A 1	2.7116	Adder	3.19
927461	AC1-142A 2	2.7129	Adder	3.19
930501	AB1-091 CT	23.9527	Adder	28.18
930502	AB1-091 ST	19.0433	Adder	22.4
930771	AB1-122 CT2	47.8633	Adder	56.31
933411	AC2-154 C	1.4771	Adder	1.74
933412	AC2-154 E	2.4100	Adder	2.84

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933431	AC2-156 C O1	0.6024	Adder	0.71
933432	AC2-156 E O1	0.9829	Adder	1.16
933931	AD1-016 C	0.5862	Adder	0.69
933932	AD1-016 E	0.9565	Adder	1.13
934111	AD1-039 2	4.6906	Adder	5.52
934721	AD1-100 C	12.1278	Adder	14.27
934722	AD1-100 E	56.5964	Adder	66.58
934871	AD1-116 C	0.5853	Adder	0.69
934872	AD1-116 E	0.9549	Adder	1.12
936371	AD2-047 C O1	2.6432	Adder	3.11
936372	AD2-047 E O1	12.9050	Adder	15.18
936461	AD2-060	1.5548	Adder	1.83
937401	AD2-194 1	5.0179	Adder	5.9
937411	AD2-194 2	5.0255	Adder	5.91
938511	AE1-070 1	5.9050	Adder	6.95
938521	AE1-070 2	5.3942	Adder	6.35
938851	AE1-113 C O1	5.2330	Adder	6.16
938852	AE1-113 E O1	18.5534	Adder	21.83
939351	AE1-166 C O1	3.4229	Adder	7.6
939352	AE1-166 E O1	3.1596	Adder	7.01
939631	AE1-193 C	18.9611	50/50	18.9611
939632	AE1-193 E	126.8938	50/50	126.8938
939641	AE1-194 C	18.9611	50/50	18.9611
939642	AE1-194 E	126.8938	50/50	126.8938
939651	AE1-195 C	18.9611	50/50	18.9611
939652	AE1-195 E	126.8938	50/50	126.8938
939681	AE1-198 C	56.3000	50/50	56.3000
939682	AE1-198 E	47.8404	50/50	47.8404
940752	AE2-062 E	0.0429	Adder	0.1
941551	AE2-152 C O1	3.9495	Adder	8.77
941552	AE2-152 E O1	2.6330	Adder	5.84
941561	AE2-153 C O1	2.9681	Adder	3.49
941562	AE2-153 E O1	13.8959	Adder	16.35
942421	AE2-255 C O1	1.9822	Adder	2.33
942422	AE2-255 E O1	5.9466	Adder	7.0
942991	AE2-321 C	5.1722	Adder	6.08
942992	AE2-321 E	2.5475	Adder	3.0
943121	AE2-341 C	8.0337	Adder	9.45
943122	AE2-341 E	3.9450	Adder	4.64
943591	AF1-030 C O1	5.3425	Adder	6.29
943592	AF1-030 E O1	2.6433	Adder	3.11
943801	AF1-048 C	2.4178	Adder	2.84
943802	AF1-048 E	1.6119	Adder	1.9
944041	AF1-072	1.3632	Adder	1.6
944911	AF1-156 C	7.5888	Adder	8.93
944912	AF1-156 E	5.0592	Adder	5.95
945351	AF1-200 FTIR	195.0344	Merchant Transmission	195.0344
946661	AF1-330 C	1.2666	Adder	1.49
946662	AF1-330 E	0.2780	Adder	0.33
957331	AF2-027 C	1.5830	Adder	1.86
957332	AF2-027 E	2.3746	Adder	2.79
957401	AF2-034 C	0.9201	Adder	1.08

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957402	AF2-034 E	0.7838	Adder	0.92
958011	AF2-095 C O1	10.5728	Adder	12.44
958012	AF2-095 E O1	4.9754	Adder	5.85
958021	AF2-096 C	27.9225	50/50	27.9225
958022	AF2-096 E	13.1400	50/50	13.1400
958481	AF2-142 C	6.9309	Adder	8.15
958482	AF2-142 E	4.6206	Adder	5.44
959351	AF2-226 C	2.1064	50/50	2.1064
959352	AF2-226 E	3.1596	50/50	3.1596
960281	AF2-319 C	2.1064	50/50	2.1064
960282	AF2-319 E	3.1596	50/50	3.1596
960381	AF2-329	4.1686	Adder	4.9
960591	AF2-350 C O1	4.6645	Adder	5.49
960592	AF2-350 E O1	3.1096	Adder	3.66
960601	AF2-351 C O1	0.6219	Adder	0.73
960602	AF2-351 E O1	0.9329	Adder	1.1
960731	AF2-364 C O1	3.8853	Adder	4.57
960732	AF2-364 E O1	2.5902	Adder	3.05
960751	AF2-366 C	4.3980	Adder	5.17
960752	AF2-366 E	2.9320	Adder	3.45
962691	AG1-118 C O2	7.4270	Adder	16.49
962692	AG1-118 E O2	4.9514	Adder	10.99
962701	AG1-119 C O2	7.5860	Adder	16.84
962702	AG1-119 E O2	5.0573	Adder	11.23
962711	AG1-120 C O2	2.9990	Adder	6.66
962712	AG1-120 E O2	1.9993	Adder	4.44
962781	AG1-127 C O2	2.5815	Adder	5.73
962782	AG1-127 E O2	1.7210	Adder	3.82
965141	AG1-379 C	5.7655	Adder	12.8
965142	AG1-379 E	2.6390	Adder	5.86
966081	AG1-477 C	0.6653	Adder	1.48
966082	AG1-477 E	0.1674	Adder	0.37
966091	AG1-478 C	0.6723	Adder	1.49
966092	AG1-478 E	0.1691	Adder	0.38
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.6653	Adder	1.48
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.1674	Adder	0.37
966441	AG1-513 C	0.1699	Adder	0.38
966442	AG1-513 E	0.2549	Adder	0.57
966651	AG1-535 O2	3.5980	Adder	7.99
WEC	WEC	2.7890	Confirmed LTF	2.7890
CALDERWOOD	CALDERWOOD	0.0025	Confirmed LTF	0.0025
CBM-W2	CBM-W2	14.6944	Confirmed LTF	14.6944
NY	NY	0.7864	Confirmed LTF	0.7864
TVA	TVA	1.0822	Confirmed LTF	1.0822
O-066	O-066	9.3749	Confirmed LTF	9.3749
SIGE	SIGE	0.1284	Confirmed LTF	0.1284
CHEOAH	CHEOAH	0.0100	Confirmed LTF	0.0100
CBM-S1	CBM-S1	0.1873	Confirmed LTF	0.1873
G-007	G-007	1.4616	Confirmed LTF	1.4616
HAMLET	HAMLET	0.3563	Confirmed LTF	0.3563
MEC	MEC	9.7406	Confirmed LTF	9.7406

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
GIBSON	GIBSON	0.0994	Confirmed LTF	0.0994
BLUEG	BLUEG	1.4287	Confirmed LTF	1.4287
TRIMBLE	TRIMBLE	0.4858	Confirmed LTF	0.4858
LAGN	LAGN	2.9085	Confirmed LTF	2.9085
CATAWBA	CATAWBA	0.1824	Confirmed LTF	0.1824
CBM-W1	CBM-W1	48.9438	Confirmed LTF	48.9438

13.5.8 Index 8

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168351933	255113	17STILLWELL	NIPS	243219	05DUMONT	AEP	1	COMED_P1-2_765-L11215__-S	single	1409.0	177.46	177.48	DC	26.2

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.6616	Adder	3.13
274658	DRESDEN ;2U	117.0249	Adder	137.68
274659	DRESDEN ;3U	110.7281	Adder	130.27
274723	RIVER EC ;12	5.1187	80/20	5.1187
274724	RIVER EC ;11	5.0836	80/20	5.0836
274788	SE CHICAG;5U (Deactivation : 01/06/2020)	7.5917	80/20	7.5917
274789	SE CHICAG;6U (Deactivation : 01/06/2020)	7.6118	80/20	7.6118
274790	SE CHICAG;7U (Deactivation : 01/06/2020)	7.7119	80/20	7.7119
274791	SE CHICAG;8U (Deactivation : 01/06/2020)	7.7119	80/20	7.7119
274792	SE CHICAG;9U (Deactivation : 01/06/2020)	7.6619	80/20	7.6619
274793	SE CHICAG;0U (Deactivation : 01/06/2020)	7.6619	80/20	7.6619
274794	SE CHICAG;1U (Deactivation : 01/06/2020)	7.6619	80/20	7.6619
274795	SE CHICAG;2U (Deactivation : 01/06/2020)	7.6619	80/20	7.6619
274798	UNIV PARK;1U	1.4271	80/20	1.4271
274800	UNIV PARK;3U	1.4165	80/20	1.4165
274801	UNIV PARK;4U	1.4165	80/20	1.4165
274826	FSK ;BP	2.6662	80/20	2.6662
274827	FSK ;RP	1.8895	80/20	1.8895
276164	X3-005 C	0.0989	80/20	0.0989
276592	O-012 C	0.5653	80/20	0.5653
915011	Y3-013 1	3.7511	Adder	4.41
915021	Y3-013 2	3.7511	Adder	4.41
915031	Y3-013 3	3.7511	Adder	4.41
924472	AB2-096 CT1	19.0960	Adder	22.47
924473	AB2-096 CT2	19.0960	Adder	22.47
924474	AB2-096 CT3	19.0960	Adder	22.47
926331	AC1-110 1	1.9057	Adder	2.24

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
926341	AC1-110 2	1.9057	Adder	2.24
927451	AC1-142A 1	4.2296	Adder	4.98
927461	AC1-142A 2	4.2299	Adder	4.98
930482	AB1-089 CT	36.7038	Adder	43.18
930483	AB1-089 ST	29.1810	Adder	34.33
930501	AB1-091 CT	43.0585	Adder	50.66
930502	AB1-091 ST	34.2332	Adder	40.27
930761	AB1-122 CT1	69.1288	Adder	81.33
930771	AB1-122 CT2	74.4513	Adder	87.59
933411	AC2-154 C	2.6517	Adder	3.12
933431	AC2-156 C O1	0.9589	Adder	1.13
933911	AD1-013 C	1.8649	Adder	2.19
933931	AD1-016 C	0.9290	Adder	1.09
934101	AD1-039 1	6.7746	Adder	7.97
934111	AD1-039 2	7.2962	Adder	8.58
934701	AD1-098 C O1	6.9573	Adder	8.19
934721	AD1-100 C	19.6248	Adder	23.09
934871	AD1-116 C	0.9691	Adder	1.14
934971	AD1-129 C	0.9050	Adder	1.06
936291	AD2-038 C O1	2.4422	Adder	2.87
936371	AD2-047 C O1	4.7451	Adder	5.58
936461	AD2-060	2.7912	Adder	3.28
936511	AD2-066 C O1	8.4936	Adder	9.99
937001	AD2-134 C	2.7638	Adder	3.25
937401	AD2-194 1	7.8061	Adder	9.18
937411	AD2-194 2	7.8091	Adder	9.19
938511	AE1-070 1	9.1757	Adder	10.79
938521	AE1-070 2	8.3915	Adder	9.87
938851	AE1-113 C O1	8.1962	Adder	9.64
939321	AE1-163 C O1	6.1367	Adder	7.22
939351	AE1-166 C O1	5.4715	Adder	12.15
939631	AE1-193 C	9.0820	Adder	10.68
939641	AE1-194 C	9.0820	Adder	10.68
939651	AE1-195 C	9.0820	Adder	10.68
939681	AE1-198 C	26.9665	Adder	31.73
941131	AE2-107 C	6.6055	Adder	7.77
941551	AE2-152 C O1	6.3133	Adder	14.01
941561	AE2-153 C O1	4.7588	Adder	5.6
942421	AE2-255 C O1	3.1046	Adder	3.65
942651	AE2-281 C O1	0.8767	Adder	1.03
942991	AE2-321 C	8.1957	Adder	9.64
943121	AE2-341 C	12.7940	Adder	15.05
943591	AF1-030 C O1	8.5081	Adder	10.01
943801	AF1-048 C	3.8312	Adder	4.51
944041	AF1-072	2.1576	Adder	2.54
944911	AF1-156 C	12.1673	Adder	14.31
945351	AF1-200 FTIR	309.5845	Merchant Transmission	309.5845
946661	AF1-330 C	2.0071	Adder	2.36
946671	AF1-331	2.4220	Adder	2.85
957331	AF2-027 C	2.5007	Adder	2.94
957371	AF2-031 C O1	1.5912	80/20	1.5912
957401	AF2-034 C	1.4134	Adder	1.66

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957471	AF2-041 C	21.5057	Adder	25.3
958011	AF2-095 C O1	18.9815	Adder	22.33
958021	AF2-096 C	33.8845	Adder	39.86
958481	AF2-142 C	11.4758	Adder	13.5
958491	AF2-143 C	11.2715	Adder	13.26
959081	AF2-199 C	7.1686	Adder	8.43
959091	AF2-200 C O1	14.3371	Adder	16.87
959351	AF2-226 C	2.5981	Adder	3.06
960281	AF2-319 C	2.5981	Adder	3.06
960381	AF2-329	6.6386	Adder	7.81
960581	AF2-349 C	21.8102	Adder	25.66
960591	AF2-350 C O1	8.3737	Adder	9.85
960601	AF2-351 C O1	1.1165	Adder	1.31
960721	AF2-363 C O1	5.9187	Adder	6.96
960731	AF2-364 C O1	6.1532	Adder	7.24
960751	AF2-366 C	6.9903	Adder	8.22
961501	AF2-441 C O1	15.1784	80/20	15.1784
962691	AG1-118 C O2	11.8018	Adder	26.2
962701	AG1-119 C O2	12.0070	Adder	26.65
962711	AG1-120 C O2	4.7468	Adder	10.54
962781	AG1-127 C O2	4.1030	Adder	9.11
962791	AG1-128 C O2	3.3135	Adder	7.36
963681	AG1-220 C O2	5.7339	Adder	12.73
964361	AG1-298 O2	92.8000	80/20	92.8000
964461	AG1-309 FTIR	268.7046	Merchant Transmission	268.7046
965061	AG1-371	1.8997	Adder	4.22
965071	AG1-372	1.2664	Adder	2.81
965081	AG1-373	0.6332	Adder	1.41
965141	AG1-379 C	9.0302	Adder	20.04
965551	AG1-423 C O2	7.7403	Adder	17.18
965661	AG1-434 C O2	2.2516	Adder	5.0
966081	AG1-477 C	1.0615	Adder	2.36
966091	AG1-478 C	1.1216	Adder	2.49
966101	AG1-479 C (Withdrawn : 12/03/2020)	1.0615	Adder	2.36
966441	AG1-513 C	0.2700	Adder	0.6
966651	AG1-535 O2	5.7010	Adder	12.65
WEC	WEC	4.4191	Confirmed LTF	4.4191
CBM-W2	CBM-W2	27.8029	Confirmed LTF	27.8029
NY	NY	1.2636	Confirmed LTF	1.2636
TVA	TVA	2.1686	Confirmed LTF	2.1686
SIGE	SIGE	0.2780	Confirmed LTF	0.2780
CBM-S1	CBM-S1	0.4245	Confirmed LTF	0.4245
HAMLET	HAMLET	0.5088	Confirmed LTF	0.5088
MEC	MEC	15.8010	Confirmed LTF	15.8010
BLUEG	BLUEG	1.5641	Confirmed LTF	1.5641
TRIMBLE	TRIMBLE	0.5543	Confirmed LTF	0.5543
LAGN	LAGN	5.1870	Confirmed LTF	5.1870
CATAWBA	CATAWBA	0.2489	Confirmed LTF	0.2489
CBM-W1	CBM-W1	102.7245	Confirmed LTF	102.7245

13.5.9 Index 9

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174525844	270728	E FRANKFO; B	CE	274750	CRETE EC;BP	CE	1	COMED_P4_112-65-BT3-4__	breaker	1399.0	115.73	115.77	DC	38.92

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.3719	Adder	2.79
274654	BRAIDWOOD;1U	27.6920	50/50	27.6920
274655	BRAIDWOOD;2U	26.9439	50/50	26.9439
274658	DRESDEN ;2U	107.2211	Adder	126.14
274659	DRESDEN ;3U	98.3895	Adder	115.75
274660	LASCO STA;1U	25.4532	50/50	25.4532
274661	LASCO STA;2U	25.5590	50/50	25.5590
274675	JOLIET 29;7U	11.5934	50/50	11.5934
274676	JOLIET 29;8U	11.6008	50/50	11.6008
274687	WILL CNTY;4U	11.6308	50/50	11.6308
274704	KENDALL ;1C	4.1224	50/50	4.1224
274705	KENDALL ;1S	2.7565	50/50	2.7565
274706	KENDALL ;2C	4.1224	50/50	4.1224
274707	KENDALL ;2S	2.7565	50/50	2.7565
274861	TOP CROP ;1U	0.4448	50/50	0.4448
274862	TOP CROP ;2U	0.8485	50/50	0.8485
276167	Z1-106 E2	1.1314	Adder	1.33
276168	Z1-106 E1	1.1314	Adder	1.33
276169	Z1-107 E	2.1780	Adder	2.56
276170	Z1-108 E	2.2333	Adder	2.63
276591	L-013 2	3.2812	Adder	3.86
290021	O50 E	18.0567	Adder	21.24
290051	GSG-6; E	1.0390	Adder	1.22
290108	LEEDK;1U E	21.8008	Adder	25.65
293061	N-015 E	14.0627	Adder	16.54
293644	O22 E1	12.5036	50/50	12.5036
293645	O22 E2	24.2716	50/50	24.2716
294392	P-010 E	17.8597	Adder	21.01
295109	WESTBROOK E	5.0441	Adder	5.93
915011	Y3-013 1	3.3686	Adder	3.96
915021	Y3-013 2	3.3686	Adder	3.96
915031	Y3-013 3	3.3686	Adder	3.96
916221	Z1-073 E	4.8935	Adder	5.76
918052	AA1-018 E OP	14.0420	Adder	16.52
920272	AA2-123 E	2.1904	Adder	2.58
924472	AB2-096 CT1	17.0812	Adder	20.1
924473	AB2-096 CT2	17.0812	Adder	20.1
924474	AB2-096 CT3	17.0812	Adder	20.1
926331	AC1-110 1	1.7031	Adder	2.0
926341	AC1-110 2	1.7031	Adder	2.0
927093	AC1-204 GEN2	12.3634	50/50	12.3634

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
927451	AC1-142A 1	4.5395	50/50	4.5395
927461	AC1-142A 2	4.5424	50/50	4.5424
930771	AB1-122 CT2	68.1953	Adder	80.23
933431	AC2-156 C O1	0.8525	Adder	1.0
933432	AC2-156 E O1	1.3909	Adder	1.64
933911	AD1-013 C	1.6620	Adder	1.96
933912	AD1-013 E	2.6549	Adder	3.12
933931	AD1-016 C	0.8313	Adder	0.98
933932	AD1-016 E	1.3564	Adder	1.6
934111	AD1-039 2	6.6831	Adder	7.86
934432	AD1-067 E	0.4974	Adder	0.59
934721	AD1-100 C	17.0136	Adder	20.02
934722	AD1-100 E	79.3968	Adder	93.41
934871	AD1-116 C	0.8178	Adder	0.96
934872	AD1-116 E	1.3343	Adder	1.57
934971	AD1-129 C	0.8092	Adder	0.95
934972	AD1-129 E	0.5395	Adder	0.63
936291	AD2-038 C O1	2.1010	Adder	2.47
936292	AD2-038 E O1	14.0609	Adder	16.54
936511	AD2-066 C O1	7.4926	Adder	8.81
936512	AD2-066 E O1	4.9951	Adder	5.88
937001	AD2-134 C	2.4629	Adder	2.9
937002	AD2-134 E	10.1743	Adder	11.97
937401	AD2-194 1	7.1502	Adder	8.41
937411	AD2-194 2	7.1630	Adder	8.43
938511	AE1-070 1	8.4165	Adder	9.9
938521	AE1-070 2	7.6865	Adder	9.04
938851	AE1-113 C O1	7.4484	Adder	8.76
938852	AE1-113 E O1	26.4080	Adder	31.07
939321	AE1-163 C O1	5.2796	Adder	6.21
939322	AE1-163 E O1	32.4315	Adder	38.15
939351	AE1-166 C O1	4.8228	Adder	10.71
939352	AE1-166 E O1	4.4518	Adder	9.88
939683	AE1-198 BAT	44.4377	50/50	44.4377
940752	AE2-062 E	0.0601	Adder	0.13
941131	AE2-107 C	5.8862	Adder	6.92
941132	AE2-107 E	3.9241	Adder	4.62
941551	AE2-152 C O1	5.5648	Adder	12.35
941552	AE2-152 E O1	3.7099	Adder	8.24
941561	AE2-153 C O1	4.1756	Adder	4.91
941562	AE2-153 E O1	19.5496	Adder	23.0
942421	AE2-255 C O1	2.8214	Adder	3.32
942422	AE2-255 E O1	8.4641	Adder	9.96
942651	AE2-281 C O1	0.7542	Adder	0.89
942652	AE2-281 E O1	4.6331	Adder	5.45
942991	AE2-321 C	7.3340	Adder	8.63
942992	AE2-321 E	3.6123	Adder	4.25
943121	AE2-341 C	11.3643	Adder	13.37
943122	AE2-341 E	5.5805	Adder	6.57
943591	AF1-030 C O1	7.5574	Adder	8.89
943592	AF1-030 E O1	3.7391	Adder	4.4
943801	AF1-048 C	3.4284	Adder	4.03

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943802	AF1-048 E	2.2856	Adder	2.69
944041	AF1-072	1.9326	Adder	2.27
944911	AF1-156 C	10.6763	Adder	12.56
944912	AF1-156 E	7.1176	Adder	8.37
945351	AF1-200 FTIR	276.1292	Merchant Transmission	276.1292
946661	AF1-330 C	1.7962	Adder	2.11
946662	AF1-330 E	0.3943	Adder	0.46
946671	AF1-331	2.1585	Adder	2.54
957331	AF2-027 C	2.2457	Adder	2.64
957332	AF2-027 E	3.3686	Adder	3.96
957401	AF2-034 C	1.5480	50/50	1.5480
957402	AF2-034 E	1.3186	50/50	1.3186
958021	AF2-096 C	40.8459	50/50	40.8459
958022	AF2-096 E	19.2216	50/50	19.2216
958481	AF2-142 C	9.6841	Adder	11.39
958482	AF2-142 E	6.4561	Adder	7.6
958491	AF2-143 C	9.6971	Adder	11.41
958492	AF2-143 E	6.4648	Adder	7.61
959351	AF2-226 C	3.0646	50/50	3.0646
959352	AF2-226 E	4.5969	50/50	4.5969
960281	AF2-319 C	3.0646	50/50	3.0646
960282	AF2-319 E	4.5969	50/50	4.5969
960381	AF2-329	5.8968	Adder	6.94
960581	AF2-349 C	19.5090	Adder	22.95
960582	AF2-349 E	13.0060	Adder	15.3
960721	AF2-363 C O1	5.2806	Adder	6.21
960722	AF2-363 E O1	3.5204	Adder	4.14
960731	AF2-364 C O1	5.5068	Adder	6.48
960732	AF2-364 E O1	3.6712	Adder	4.32
960751	AF2-366 C	6.2299	Adder	7.33
960752	AF2-366 E	4.1533	Adder	4.89
962691	AG1-118 C O2	10.5198	Adder	23.35
962692	AG1-118 E O2	7.0132	Adder	15.57
962701	AG1-119 C O2	10.7550	Adder	23.87
962702	AG1-119 E O2	7.1700	Adder	15.92
962711	AG1-120 C O2	4.2518	Adder	9.44
962712	AG1-120 E O2	2.8345	Adder	6.29
962781	AG1-127 C O2	3.6567	Adder	8.12
962782	AG1-127 E O2	2.4378	Adder	5.41
962791	AG1-128 C O2	2.9527	Adder	6.55
962792	AG1-128 E O2	13.8172	Adder	30.67
965141	AG1-379 C	8.2063	Adder	18.22
965142	AG1-379 E	3.7562	Adder	8.34
965551	AG1-423 C O2	6.9224	Adder	15.37
965552	AG1-423 E O2	4.6149	Adder	10.24
965661	AG1-434 C O2	2.0065	Adder	4.45
965662	AG1-434 E O2	9.3939	Adder	20.85
966081	AG1-477 C	0.9411	Adder	2.09
966082	AG1-477 E	0.2368	Adder	0.53
966091	AG1-478 C	0.9331	Adder	2.07
966092	AG1-478 E	0.2347	Adder	0.52
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.9411	Adder	2.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.2368	Adder	0.53
966441	AG1-513 C	0.2406	Adder	0.53
966442	AG1-513 E	0.3609	Adder	0.8
966651	AG1-535 O2	5.0986	Adder	11.32
WEC	WEC	3.9573	Confirmed LTF	3.9573
CBM-W2	CBM-W2	21.2442	Confirmed LTF	21.2442
NY	NY	1.0325	Confirmed LTF	1.0325
TVA	TVA	1.6408	Confirmed LTF	1.6408
O-066	O-066	12.3024	Confirmed LTF	12.3024
SIGE	SIGE	0.1717	Confirmed LTF	0.1717
CBM-S1	CBM-S1	0.2945	Confirmed LTF	0.2945
G-007	G-007	1.9173	Confirmed LTF	1.9173
HAMLET	HAMLET	0.4377	Confirmed LTF	0.4377
MEC	MEC	13.8402	Confirmed LTF	13.8402
GIBSON	GIBSON	0.1201	Confirmed LTF	0.1201
BLUEG	BLUEG	1.8801	Confirmed LTF	1.8801
TRIMBLE	TRIMBLE	0.6411	Confirmed LTF	0.6411
LAGN	LAGN	4.2350	Confirmed LTF	4.2350
CATAWBA	CATAWBA	0.2188	Confirmed LTF	0.2188
CBM-W1	CBM-W1	65.6837	Confirmed LTF	65.6837

13.5.10 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
174525823	270730	ELECT JCT; B	CE	270846	PLANO ; B	CE	1	COMED_P4_111-45-L16703_	breaker	1341.0	100.56	101.51	DC	35.51

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.1954	Adder	2.58
274658	DRESDEN ;2U	65.3207	Adder	76.85
274737	AURORA EC;1P	4.3885	50/50	4.3885
274738	AURORA EC;3P	4.6734	50/50	4.6734
274739	AURORA EC;2P	4.3885	50/50	4.3885
274740	AURORA EC;4P	4.6734	50/50	4.6734
274820	ELGIN EC ;2P	3.3870	50/50	3.3870
274859	EASYR;U1 E	11.7382	Adder	13.81
274860	EASYR;U2 E	11.7382	Adder	13.81
276167	Z1-106 E2	1.4469	Adder	1.7
276168	Z1-106 E1	1.4513	Adder	1.71
276170	Z1-108 E	2.6875	Adder	3.16
276591	L-013 2	4.1959	Adder	4.94
290051	GSG-6; E	8.7602	Adder	10.31
290108	LEEDK;1U E	19.1522	Adder	22.53
293516	O-009 E1	8.1324	Adder	9.57
293517	O-009 E2	4.1306	Adder	4.86
293518	O-009 E3	4.5489	Adder	5.35
293715	O-029 E	8.6944	Adder	10.23
293716	O-029 E	4.7670	Adder	5.61
293717	O-029 E	4.3814	Adder	5.15
294763	P-046 E	9.6132	Adder	11.31
295109	WESTBROOK E	4.6901	Adder	5.52
295111	SUBLETTE E	2.5430	Adder	2.99
915011	Y3-013 1	3.3775	Adder	3.97
915021	Y3-013 2	3.3775	Adder	3.97
915031	Y3-013 3	3.3775	Adder	3.97
916221	Z1-073 E	4.5501	Adder	5.35
919581	AA2-030 C	18.6963	Adder	22.0
920272	AA2-123 E	2.6168	Adder	3.08
924472	AB2-096 CT1	20.2615	Adder	23.84
924473	AB2-096 CT2	20.2615	Adder	23.84
924474	AB2-096 CT3	20.2615	Adder	23.84
926311	AC1-109 1	0.4331	50/50	0.4331
926321	AC1-109 2	0.4331	50/50	0.4331
926331	AC1-110 1	2.9232	50/50	2.9232
926341	AC1-110 2	2.9232	50/50	2.9232
930482	AB1-089 CT	40.5167	Adder	47.67
930483	AB1-089 ST	32.2123	Adder	37.9
930771	AB1-122 CT2	41.2212	Adder	48.5
933911	AD1-013 C	1.5357	Adder	1.81
933912	AD1-013 E	2.4532	Adder	2.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933931	AD1-016 C	0.9937	Adder	1.17
933932	AD1-016 E	1.6213	Adder	1.91
934111	AD1-039 2	4.0397	Adder	4.75
934432	AD1-067 E	0.4625	Adder	0.54
934701	AD1-098 C O1	5.8170	Adder	6.84
934702	AD1-098 E O1	4.2470	Adder	5.0
934971	AD1-129 C	0.9542	Adder	1.12
934972	AD1-129 E	0.6361	Adder	0.75
936791	AD2-102 C	14.6074	Adder	17.19
936792	AD2-102 E	9.7383	Adder	11.46
937001	AD2-134 C	2.2901	Adder	2.69
937002	AD2-134 E	9.4602	Adder	11.13
937311	AD2-172 C	2.5235	Adder	2.97
937312	AD2-172 E	3.4848	Adder	4.1
937531	AD2-214 C	4.2521	Adder	5.0
937532	AD2-214 E	2.8347	Adder	3.33
938861	AE1-114 C O1	3.9732	Adder	4.67
938862	AE1-114 E O1	13.5555	Adder	15.95
939051	AE1-134 1	1.4528	Adder	1.71
939061	AE1-134 2	1.4528	Adder	1.71
940501	AE2-035 C	2.5235	Adder	2.97
940502	AE2-035 E	3.4848	Adder	4.1
940752	AE2-062 E	0.0326	Adder	0.07
941131	AE2-107 C	5.1711	Adder	6.08
941132	AE2-107 E	3.4474	Adder	4.06
942991	AE2-321 C	8.7424	Adder	10.29
942992	AE2-321 E	4.3060	Adder	5.07
943411	AF1-012 C	13.9168	Adder	16.37
943412	AF1-012 E	9.2778	Adder	10.92
943801	AF1-048 C	4.0867	Adder	4.81
943802	AF1-048 E	2.7245	Adder	3.21
943921	AF1-060	1.2425	Adder	1.46
944041	AF1-072	2.4766	Adder	2.91
945352	AF1-200 NFTW	574.2450	50/50	574.2450
946151	AF1-280 C O1	16.6174	Adder	19.55
946152	AF1-280 E O1	7.6416	Adder	8.99
946161	AF1-281 C O1	0.3639	Adder	0.43
946162	AF1-281 E O1	2.0620	Adder	2.43
946321	AF1-296 C O1	3.7061	Adder	4.36
946322	AF1-296 E O1	17.3512	Adder	20.41
946501	AF1-314 C	4.4836	Adder	5.27
946502	AF1-314 E	20.9913	Adder	24.7
946661	AF1-330 C	2.1458	Adder	2.52
946662	AF1-330 E	0.4710	Adder	0.55
946671	AF1-331	1.9944	Adder	2.35
952381	J703	9.8086	PJM External (MISO)	9.8086
952391	J704	4.1949	PJM External (MISO)	4.1949
952431	J760	2.8383	PJM External (MISO)	2.8383
953151	J831	3.3608	PJM External (MISO)	3.3608
953331	J801	4.2809	PJM External (MISO)	4.2809
953491	J947	17.2860	PJM External (MISO)	17.2860
953681	J818	12.8214	PJM External (MISO)	12.8214

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
953891	J849	9.5813	PJM External (MISO)	9.5813
953901	J850	22.5225	PJM External (MISO)	22.5225
953921	J855 C	1.1213	PJM External (MISO)	1.1213
953922	J855 E	6.0667	PJM External (MISO)	6.0667
954001	J864	3.7475	PJM External (MISO)	3.7475
954061	J870	14.8260	PJM External (MISO)	14.8260
954071	J871	7.4130	PJM External (MISO)	7.4130
954141	J878	17.6340	PJM External (MISO)	17.6340
954191	J886	11.8380	PJM External (MISO)	11.8380
954511	J926 C	0.9137	PJM External (MISO)	0.9137
954512	J926 E	4.9433	PJM External (MISO)	4.9433
954691	J732	34.0381	PJM External (MISO)	34.0381
954741	J928 C	0.9564	PJM External (MISO)	0.9564
954742	J928 E	5.1744	PJM External (MISO)	5.1744
954861	J959 C	0.3764	PJM External (MISO)	0.3764
954862	J959 E	2.0367	PJM External (MISO)	2.0367
955091	J986	10.7078	PJM External (MISO)	10.7078
955221	J1000	3.4515	PJM External (MISO)	3.4515
955241	J1002	7.5814	PJM External (MISO)	7.5814
955251	J1003	4.0990	PJM External (MISO)	4.0990
955582	J1042 E	16.0776	PJM External (MISO)	16.0776
955971	J1084	10.6920	PJM External (MISO)	10.6920
956051	J1092	5.6370	PJM External (MISO)	5.6370
956141	J1101	1.5784	PJM External (MISO)	1.5784
956411	J1131	5.7540	PJM External (MISO)	5.7540
956571	J1153	12.4365	PJM External (MISO)	12.4365
956581	J1154	6.4537	PJM External (MISO)	6.4537
956731	J1171	8.1870	PJM External (MISO)	8.1870
956852	J1183 E	0.1035	PJM External (MISO)	0.1035
956901	J1188	4.3570	PJM External (MISO)	4.3570
957331	AF2-027 C	2.2516	Adder	2.65
957332	AF2-027 E	3.3775	Adder	3.97
957401	AF2-034 C	0.7380	Adder	0.87
957402	AF2-034 E	0.6286	Adder	0.74
957471	AF2-041 C	33.5646	50/50	33.5646
957472	AF2-041 E	16.7823	50/50	16.7823
958911	AF2-182 C	21.8331	Adder	25.69
958912	AF2-182 E	14.5554	Adder	17.12
958921	AF2-183 C	3.8814	Adder	4.57
958922	AF2-183 E	5.8222	Adder	6.85
959081	AF2-199 C	11.1882	50/50	11.1882
959082	AF2-199 E	5.5941	50/50	5.5941
959091	AF2-200 C O1	22.3764	50/50	22.3764
959092	AF2-200 E O1	11.1882	50/50	11.1882
959101	AF2-201 C O1	6.1765	Adder	7.27
959102	AF2-201 E O1	17.7363	Adder	20.87
960551	AF2-346 C	5.9643	Adder	7.02
960552	AF2-346 E	3.9762	Adder	4.68
960581	AF2-349 C	23.1413	Adder	27.23
960582	AF2-349 E	15.4275	Adder	18.15
960721	AF2-363 C O1	5.3038	Adder	6.24
960722	AF2-363 E O1	3.5359	Adder	4.16

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960731	AF2-364 C O1	7.1454	Adder	8.41
960732	AF2-364 E O1	4.7636	Adder	5.6
960751	AF2-366 C	5.4788	Adder	6.45
960752	AF2-366 E	3.6525	Adder	4.3
961011	AF2-392 C O1	3.9844	Adder	4.69
961012	AF2-392 E O1	18.6545	Adder	21.95
961021	AF2-393 O1	6.7917	Adder	7.99
961031	AF2-394 O1	4.5278	Adder	5.33
962012	AG1-044 E	0.0326	Adder	0.07
962691	AG1-118 C O2	9.5970	Adder	21.3
962692	AG1-118 E O2	6.3980	Adder	14.2
962701	AG1-119 C O2	33.2694	50/50	33.2694
962702	AG1-119 E O2	22.1796	50/50	22.1796
962711	AG1-120 C O2	13.1525	50/50	13.1525
962712	AG1-120 E O2	8.7683	50/50	8.7683
962781	AG1-127 C O2	3.2158	Adder	7.14
962782	AG1-127 E O2	2.1439	Adder	4.76
962791	AG1-128 C O2	2.7455	Adder	6.09
962792	AG1-128 E O2	12.8475	Adder	28.52
963681	AG1-220 C O2	5.6167	Adder	12.47
963682	AG1-220 E O2	3.7445	Adder	8.31
964461	AG1-309 FTIR	304.3546	Merchant Transmission	304.3546
965061	AG1-371	5.5941	50/50	5.5941
965071	AG1-372	3.7294	50/50	3.7294
965081	AG1-373	1.8647	50/50	1.8647
965551	AG1-423 C O2	8.9167	Adder	19.79
965552	AG1-423 E O2	5.9444	Adder	13.2
965661	AG1-434 C O2	1.8656	Adder	4.14
965662	AG1-434 E O2	8.7346	Adder	19.39
965931	AG1-462 C O2	9.5338	Adder	21.16
965932	AG1-462 E O2	6.3558	Adder	14.11
966441	AG1-513 C	0.2430	Adder	0.54
966442	AG1-513 E	0.3645	Adder	0.81
966521	AG1-521 C O2	4.7638	Adder	10.57
966522	AG1-521 E O2	1.1909	Adder	2.64
966651	AG1-535 O2	15.7616	50/50	15.7616
966821	AG1-553 C O2	13.7533	Adder	30.53
966822	AG1-553 E O2	3.4383	Adder	7.63
WEC	WEC	4.0279	Confirmed LTF	4.0279
CBM-W2	CBM-W2	14.0582	Confirmed LTF	14.0582
NY	NY	0.4723	Confirmed LTF	0.4723
TVA	TVA	1.3426	Confirmed LTF	1.3426
O-066	O-066	5.6195	Confirmed LTF	5.6195
SIGE	SIGE	0.0754	Confirmed LTF	0.0754
CBM-S1	CBM-S1	0.2645	Confirmed LTF	0.2645
G-007	G-007	0.8757	Confirmed LTF	0.8757
HAMLET	HAMLET	0.1190	Confirmed LTF	0.1190
MEC	MEC	12.5038	Confirmed LTF	12.5038
GIBSON	GIBSON	0.1016	Confirmed LTF	0.1016
BLUEG	BLUEG	0.9374	Confirmed LTF	0.9374
TRIMBLE	TRIMBLE	0.3205	Confirmed LTF	0.3205
LAGN	LAGN	3.3845	Confirmed LTF	3.3845

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.0448	Confirmed LTF	0.0448
CBM-W1	CBM-W1	78.4840	Confirmed LTF	78.4840

13.5.11 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
175810745	270770	GOODINGS ;4B	CE	270766	GOODINGS ;3B	CE	1	COMED_P1-2_765-L11215__S	single	1802.0	103.72	104.09	DC	18.44

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.9106	Adder	2.25
274658	DRESDEN ;2U	151.7734	80/20	151.7734
274659	DRESDEN ;3U	93.5332	Adder	110.04
274675	JOLIET 29;7U	12.7449	80/20	12.7449
274676	JOLIET 29;8U	12.8128	80/20	12.8128
274677	POWERTON ;5U	17.4489	80/20	17.4489
274704	KENDALL ;1C	5.4468	80/20	5.4468
274705	KENDALL ;1S	3.6422	80/20	3.6422
274706	KENDALL ;2C	5.4468	80/20	5.4468
274707	KENDALL ;2S	3.6422	80/20	3.6422
274728	ELWOOD EC;5P	4.2259	80/20	4.2259
274729	ELWOOD EC;1P	4.1788	80/20	4.1788
274730	ELWOOD EC;6P	4.2259	80/20	4.2259
274731	ELWOOD EC;2P	4.1788	80/20	4.1788
274732	ELWOOD EC;7P	4.2259	80/20	4.2259
274733	ELWOOD EC;3P	4.1788	80/20	4.1788
274734	ELWOOD EC;8P	4.2259	80/20	4.2259
274735	ELWOOD EC;4P	4.1788	80/20	4.1788
274736	ELWOOD EC;9P	4.2259	80/20	4.2259
274861	TOP CROP ;1U	0.9211	80/20	0.9211
274862	TOP CROP ;2U	1.7571	80/20	1.7571
274879	MINONK ;1U	0.9750	80/20	0.9750
915011	Y3-013 1	2.9407	Adder	3.46
915021	Y3-013 2	2.9407	Adder	3.46
915031	Y3-013 3	2.9407	Adder	3.46
919581	AA2-030 C	13.6012	Adder	16.0
924472	AB2-096 CT1	14.4931	Adder	17.05
924473	AB2-096 CT2	14.4931	Adder	17.05
924474	AB2-096 CT3	14.4931	Adder	17.05
925581	AC1-033 C	1.0880	Adder	1.28
926331	AC1-110 1	1.3855	Adder	1.63
926341	AC1-110 2	1.3855	Adder	1.63
926821	AC1-168 C O1	0.7242	Adder	0.85
926841	AC1-171 C O1	0.8869	Adder	1.04
927091	AC1-204 GEN1	15.5439	80/20	15.5439
927093	AC1-204 GEN2	15.7190	80/20	15.7190
927451	AC1-142A 1	4.9904	80/20	4.9904
927461	AC1-142A 2	5.0170	80/20	5.0170
930482	AB1-089 CT	27.7577	Adder	32.66
930483	AB1-089 ST	22.0685	Adder	25.96
930761	AB1-122 CT1	61.2453	Adder	72.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930771	AB1-122 CT2	96.4333	80/20	96.4333
933431	AC2-156 C O1	0.6226	Adder	0.73
933911	AD1-013 C	1.3378	Adder	1.57
933931	AD1-016 C	0.7040	Adder	0.83
934051	AD1-031 C O1	2.2090	Adder	2.6
934101	AD1-039 1	6.0020	Adder	7.06
934111	AD1-039 2	9.4505	80/20	9.4505
934701	AD1-098 C O1	5.0162	Adder	5.9
934971	AD1-129 C	0.6852	Adder	0.81
935001	AD1-133 C O1	14.4631	Adder	17.02
936291	AD2-038 C O1	1.4914	Adder	1.75
936511	AD2-066 C O1	6.3703	Adder	7.49
936791	AD2-102 C	10.7457	Adder	12.64
937001	AD2-134 C	1.9874	Adder	2.34
937311	AD2-172 C	1.8710	Adder	2.2
937401	AD2-194 1	10.5948	80/20	10.5948
937411	AD2-194 2	10.7142	80/20	10.7142
937531	AD2-214 C	3.4385	Adder	4.05
938511	AE1-070 1	12.5892	80/20	12.5892
938521	AE1-070 2	11.3894	80/20	11.3894
938851	AE1-113 C O1	10.1970	80/20	10.1970
938861	AE1-114 C O1	2.9961	Adder	3.52
939051	AE1-134 1	1.0569	Adder	1.24
939061	AE1-134 2	1.0569	Adder	1.24
939321	AE1-163 C O1	3.7477	Adder	4.41
940501	AE2-035 C	1.8710	Adder	2.2
941131	AE2-107 C	4.6777	Adder	5.5
942421	AE2-255 C O1	3.8625	80/20	3.8625
942651	AE2-281 C O1	0.5354	Adder	0.63
942991	AE2-321 C	6.2053	Adder	7.3
943121	AE2-341 C	8.0790	Adder	9.5
943411	AF1-012 C	9.2472	Adder	10.88
943591	AF1-030 C O1	5.3726	Adder	6.32
943801	AF1-048 C	2.9007	Adder	3.41
943921	AF1-060	0.9213	Adder	1.08
944041	AF1-072	1.6193	Adder	1.91
945351	AF1-200 FTIR	115.4107	Merchant Transmission	115.4107
946151	AF1-280 C O1	11.9932	Adder	14.11
946161	AF1-281 C O1	0.2626	Adder	0.31
946321	AF1-296 C O1	3.0956	Adder	3.64
946501	AF1-314 C	3.3244	Adder	3.91
946541	AF1-318 C O1	4.1088	Adder	4.83
946661	AF1-330 C	1.5203	Adder	1.79
946671	AF1-331	1.7374	Adder	2.04
957331	AF2-027 C	1.9604	Adder	2.31
957401	AF2-034 C	2.0453	80/20	2.0453
957471	AF2-041 C	16.3496	Adder	19.23
957751	AF2-069 C	0.1779	Adder	0.21
957761	AF2-070 C	0.2507	Adder	0.29
958341	AF2-128 C O1	1.0801	Adder	1.27
958491	AF2-143 C	6.8835	Adder	8.1
958911	AF2-182 C	15.7575	Adder	18.54

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958921	AF2-183 C	2.8013	Adder	3.3
959081	AF2-199 C	5.4499	Adder	6.41
959091	AF2-200 C O1	10.8997	Adder	12.82
959101	AF2-201 C O1	4.5796	Adder	5.39
959351	AF2-226 C	6.3460	80/20	6.3460
960281	AF2-319 C	6.3460	80/20	6.3460
960381	AF2-329	4.1921	Adder	4.93
960551	AF2-346 C	3.9631	Adder	4.66
960581	AF2-349 C	16.5531	Adder	19.47
960721	AF2-363 C O1	4.3150	Adder	5.08
960731	AF2-364 C O1	4.5491	Adder	5.35
960751	AF2-366 C	4.9444	Adder	5.82
961011	AF2-392 C O1	3.0477	Adder	3.59
961021	AF2-393 O1	5.1949	Adder	6.11
961031	AF2-394 O1	3.4632	Adder	4.07
961651	AG1-005 C O1	6.1696	Adder	13.7
962691	AG1-118 C O2	8.3093	Adder	18.44
962701	AG1-119 C O2	8.9418	Adder	19.85
962711	AG1-120 C O2	3.5350	Adder	7.85
962721	AG1-121 C O2	2.2247	Adder	4.94
962781	AG1-127 C O2	2.9022	Adder	6.44
962791	AG1-128 C O2	2.3826	Adder	5.29
963681	AG1-220 C O2	4.2702	Adder	9.48
964461	AG1-309 FTIR	215.3437	Merchant Transmission	215.3437
965061	AG1-371	1.4442	Adder	3.21
965071	AG1-372	0.9628	Adder	2.14
965081	AG1-373	0.4814	Adder	1.07
965141	AG1-379 C	21.1974	80/20	21.1974
965551	AG1-423 C O2	5.8260	Adder	12.93
965661	AG1-434 C O2	1.6191	Adder	3.59
965671	AG1-435 C O2	1.5089	Adder	3.35
965931	AG1-462 C O2	7.9063	Adder	17.55
966081	AG1-477 C	0.6448	Adder	1.43
966091	AG1-478 C	0.6192	Adder	1.37
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.6448	Adder	1.43
966441	AG1-513 C	0.1892	Adder	0.42
966521	AG1-521 C O2	3.6898	Adder	8.19
966651	AG1-535 O2	4.1808	Adder	9.28
966821	AG1-553 C O2	11.5602	Adder	25.66
WEC	WEC	3.4489	Confirmed LTF	3.4489
CBM-W2	CBM-W2	19.1475	Confirmed LTF	19.1475
NY	NY	0.7056	Confirmed LTF	0.7056
TVA	TVA	1.6506	Confirmed LTF	1.6506
SIGE	SIGE	0.1305	Confirmed LTF	0.1305
CBM-S1	CBM-S1	0.3234	Confirmed LTF	0.3234
HAMLET	HAMLET	0.2206	Confirmed LTF	0.2206
MEC	MEC	12.1733	Confirmed LTF	12.1733
GIBSON	GIBSON	0.0235	Confirmed LTF	0.0235
BLUEG	BLUEG	1.1909	Confirmed LTF	1.1909
TRIMBLE	TRIMBLE	0.4113	Confirmed LTF	0.4113
LAGN	LAGN	3.9077	Confirmed LTF	3.9077
CATAWBA	CATAWBA	0.0962	Confirmed LTF	0.0962

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-W1	CBM-W1	60.5944	Confirmed LTF	60.5944

13.5.12 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
168352124	270771	GREENACRE; T	CE	243229	05OLIVE	AEP	1	COMED_P1-2_765-L11215__-S	single	971.0	102.13	102.27	DC	14.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.5166	Adder	1.78
274658	DRESDEN ;2U	67.3996	Adder	79.29
274659	DRESDEN ;3U	63.0101	Adder	74.13
274723	RIVER EC ;12	2.5002	80/20	2.5002
274724	RIVER EC ;11	2.4311	80/20	2.4311
274751	CRETE EC ;1U	2.0076	80/20	2.0076
274752	CRETE EC ;2U	2.0076	80/20	2.0076
274753	CRETE EC ;3U	2.0076	80/20	2.0076
274754	CRETE EC ;4U	2.0076	80/20	2.0076
274788	SE CHICAG;5U (Deactivation : 01/06/2020)	3.6119	80/20	3.6119
274789	SE CHICAG;6U (Deactivation : 01/06/2020)	3.6214	80/20	3.6214
274790	SE CHICAG;7U (Deactivation : 01/06/2020)	3.6690	80/20	3.6690
274791	SE CHICAG;8U (Deactivation : 01/06/2020)	3.6690	80/20	3.6690
274792	SE CHICAG;9U (Deactivation : 01/06/2020)	3.7272	80/20	3.7272
274793	SE CHICAG;0U (Deactivation : 01/06/2020)	3.7272	80/20	3.7272
274794	SE CHICAG;1U (Deactivation : 01/06/2020)	3.7272	80/20	3.7272
274795	SE CHICAG;2U (Deactivation : 01/06/2020)	3.7272	80/20	3.7272
274826	FSK ;BP	1.4628	80/20	1.4628
274827	FSK ;RP	1.0367	80/20	1.0367
276164	X3-005 C	0.0505	80/20	0.0505
915011	Y3-013 1	2.1443	Adder	2.52
915021	Y3-013 2	2.1443	Adder	2.52
915031	Y3-013 3	2.1443	Adder	2.52
924472	AB2-096 CT1	10.8936	Adder	12.82
924473	AB2-096 CT2	10.8936	Adder	12.82
924474	AB2-096 CT3	10.8936	Adder	12.82
926331	AC1-110 1	1.0882	Adder	1.28

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
926341	AC1-110 2	1.0882	Adder	1.28
927451	AC1-142A 1	2.4325	Adder	2.86
927461	AC1-142A 2	2.4333	Adder	2.86
930482	AB1-089 CT	20.9264	Adder	24.62
930483	AB1-089 ST	16.6373	Adder	19.57
930501	AB1-091 CT	23.5933	Adder	27.76
930502	AB1-091 ST	18.7576	Adder	22.07
930761	AB1-122 CT1	39.3395	Adder	46.28
930771	AB1-122 CT2	42.8731	Adder	50.44
933411	AC2-154 C	1.4499	Adder	1.71
933431	AC2-156 C O1	0.5465	Adder	0.64
933911	AD1-013 C	1.0626	Adder	1.25
933931	AD1-016 C	0.5302	Adder	0.62
934101	AD1-039 1	3.8553	Adder	4.54
934111	AD1-039 2	4.2016	Adder	4.94
934701	AD1-098 C O1	3.9633	Adder	4.66
934721	AD1-100 C	11.1333	Adder	13.1
934871	AD1-116 C	0.5410	Adder	0.64
934971	AD1-129 C	0.5162	Adder	0.61
936291	AD2-038 C O1	1.3722	Adder	1.61
936371	AD2-047 C O1	2.5946	Adder	3.05
936461	AD2-060	1.5263	Adder	1.8
936511	AD2-066 C O1	4.8180	Adder	5.67
937001	AD2-134 C	1.5745	Adder	1.85
937401	AD2-194 1	4.4931	Adder	5.29
937411	AD2-194 2	4.4972	Adder	5.29
938511	AE1-070 1	5.2842	Adder	6.22
938521	AE1-070 2	4.8301	Adder	5.68
938851	AE1-113 C O1	4.7001	Adder	5.53
939321	AE1-163 C O1	3.4482	Adder	4.06
939351	AE1-166 C O1	3.1189	Adder	6.92
939631	AE1-193 C	10.9987	80/20	10.9987
939641	AE1-194 C	10.9987	80/20	10.9987
939651	AE1-195 C	10.9987	80/20	10.9987
939681	AE1-198 C	32.6575	80/20	32.6575
941131	AE2-107 C	3.7647	Adder	4.43
941551	AE2-152 C O1	3.5988	Adder	7.99
941561	AE2-153 C O1	2.7108	Adder	3.19
942421	AE2-255 C O1	1.7803	Adder	2.09
942651	AE2-281 C O1	0.4926	Adder	0.58
942991	AE2-321 C	4.6773	Adder	5.5
943121	AE2-341 C	7.2914	Adder	8.58
943591	AF1-030 C O1	4.8489	Adder	5.7
943801	AF1-048 C	2.1865	Adder	2.57
944041	AF1-072	1.2325	Adder	1.45
944911	AF1-156 C	6.9309	Adder	8.15
945351	AF1-200 FTIR	176.7398	Merchant Transmission	176.7398
946661	AF1-330 C	1.1454	Adder	1.35
946671	AF1-331	1.3801	Adder	1.62
957331	AF2-027 C	1.4295	Adder	1.68
957371	AF2-031 C O1	0.7610	80/20	0.7610
957401	AF2-034 C	0.8189	Adder	0.96

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957471	AF2-041 C	12.2630	Adder	14.43
958011	AF2-095 C O1	10.3786	Adder	12.21
958021	AF2-096 C	23.8298	80/20	23.8298
958481	AF2-142 C	6.4061	Adder	7.54
958491	AF2-143 C	6.3334	Adder	7.45
959081	AF2-199 C	4.0877	Adder	4.81
959091	AF2-200 C O1	8.1753	Adder	9.62
959351	AF2-226 C	1.5467	Adder	1.82
960281	AF2-319 C	1.5467	Adder	1.82
960381	AF2-329	3.7834	Adder	4.45
960581	AF2-349 C	12.4420	Adder	14.64
960591	AF2-350 C O1	4.5788	Adder	5.39
960601	AF2-351 C O1	0.6105	Adder	0.72
960721	AF2-363 C O1	3.3738	Adder	3.97
960731	AF2-364 C O1	3.5142	Adder	4.13
960751	AF2-366 C	3.9847	Adder	4.69
961501	AF2-441 C O1	7.5088	80/20	7.5088
962691	AG1-118 C O2	6.7288	Adder	14.94
962701	AG1-119 C O2	6.8594	Adder	15.23
962711	AG1-120 C O2	2.7118	Adder	6.02
962781	AG1-127 C O2	2.3389	Adder	5.19
962791	AG1-128 C O2	1.8876	Adder	4.19
963681	AG1-220 C O2	3.2687	Adder	7.26
964361	AG1-298 O2	46.7450	80/20	46.7450
964461	AG1-309 FTIR	143.3208	Merchant Transmission	143.3208
965061	AG1-371	1.0832	Adder	2.4
965071	AG1-372	0.7222	Adder	1.6
965081	AG1-373	0.3611	Adder	0.8
965141	AG1-379 C	5.1783	Adder	11.49
965551	AG1-423 C O2	4.4162	Adder	9.8
965661	AG1-434 C O2	1.2827	Adder	2.85
966081	AG1-477 C	0.6036	Adder	1.34
966091	AG1-478 C	0.6284	Adder	1.39
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.6036	Adder	1.34
966441	AG1-513 C	0.1540	Adder	0.34
966651	AG1-535 O2	3.2556	Adder	7.23
WEC	WEC	2.5213	Confirmed LTF	2.5213
CBM-W2	CBM-W2	14.1568	Confirmed LTF	14.1568
NY	NY	0.6890	Confirmed LTF	0.6890
TVA	TVA	1.0934	Confirmed LTF	1.0934
SIGE	SIGE	0.1257	Confirmed LTF	0.1257
CBM-S1	CBM-S1	0.2018	Confirmed LTF	0.2018
HAMLET	HAMLET	0.2876	Confirmed LTF	0.2876
MEC	MEC	8.8730	Confirmed LTF	8.8730
GIBSON	GIBSON	0.0109	Confirmed LTF	0.0109
BLUEG	BLUEG	1.1093	Confirmed LTF	1.1093
TRIMBLE	TRIMBLE	0.3818	Confirmed LTF	0.3818
LAGN	LAGN	2.7633	Confirmed LTF	2.7633
CATAWBA	CATAWBA	0.1431	Confirmed LTF	0.1431
CBM-W1	CBM-W1	50.2617	Confirmed LTF	50.2617

13.5.13 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
174181173	270886	ST JOHN ; T	CE	255104	17GREEN_ACRE	NIPS	1	COMED_P4_112-65-BT4-5__	breaker	1091.0	144.8	144.83	DC	27.48

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	19.2483	50/50	19.2483
274655	BRAIDWOOD;2U	18.7382	50/50	18.7382
274658	DRESDEN ;2U	75.2473	Adder	88.53
274659	DRESDEN ;3U	69.4953	Adder	81.76
274687	WILL CNTY;4U	8.1886	50/50	8.1886
274704	KENDALL ;1C	2.8828	50/50	2.8828
274705	KENDALL ;1S	1.9276	50/50	1.9276
274706	KENDALL ;2C	2.8828	50/50	2.8828
274707	KENDALL ;2S	1.9276	50/50	1.9276
274751	CRETE EC ;1U	3.4609	50/50	3.4609
274752	CRETE EC ;2U	3.4609	50/50	3.4609
274753	CRETE EC ;3U	3.4609	50/50	3.4609
274754	CRETE EC ;4U	3.4609	50/50	3.4609
274861	TOP CROP ;1U	0.3057	50/50	0.3057
274862	TOP CROP ;2U	0.5832	50/50	0.5832
275149	KELLYCK ;1E	10.8837	Adder	12.8
276167	Z1-106 E2	0.7986	Adder	0.94
276168	Z1-106 E1	0.7986	Adder	0.94
276169	Z1-107 E	1.5715	Adder	1.85
276170	Z1-108 E	1.5749	Adder	1.85
276591	L-013 2	2.3159	Adder	2.72
290021	O50 E	12.6861	Adder	14.92
293061	N-015 E	9.8654	Adder	11.61
293644	O22 E1	8.5941	50/50	8.5941
293645	O22 E2	16.6827	50/50	16.6827
293799	PILOT HIL;1E	10.8837	Adder	12.8
294392	P-010 E	12.5291	Adder	14.74
915011	Y3-013 1	2.3746	Adder	2.79
915021	Y3-013 2	2.3746	Adder	2.79
915031	Y3-013 3	2.3746	Adder	2.79
918052	AA1-018 E OP	1.3780	Adder	1.62
920272	AA2-123 E	1.5446	Adder	1.82
926331	AC1-110 1	1.2022	Adder	1.41
926341	AC1-110 2	1.2022	Adder	1.41
927451	AC1-142A 1	2.7116	Adder	3.19
927461	AC1-142A 2	2.7129	Adder	3.19
930501	AB1-091 CT	23.9527	Adder	28.18
930502	AB1-091 ST	19.0433	Adder	22.4
930771	AB1-122 CT2	47.8633	Adder	56.31
933411	AC2-154 C	1.4771	Adder	1.74
933412	AC2-154 E	2.4100	Adder	2.84

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933431	AC2-156 C O1	0.6024	Adder	0.71
933432	AC2-156 E O1	0.9829	Adder	1.16
933931	AD1-016 C	0.5862	Adder	0.69
933932	AD1-016 E	0.9565	Adder	1.13
934111	AD1-039 2	4.6906	Adder	5.52
934721	AD1-100 C	12.1278	Adder	14.27
934722	AD1-100 E	56.5964	Adder	66.58
934871	AD1-116 C	0.5853	Adder	0.69
934872	AD1-116 E	0.9549	Adder	1.12
936371	AD2-047 C O1	2.6432	Adder	3.11
936372	AD2-047 E O1	12.9050	Adder	15.18
936461	AD2-060	1.5548	Adder	1.83
937401	AD2-194 1	5.0179	Adder	5.9
937411	AD2-194 2	5.0255	Adder	5.91
938511	AE1-070 1	5.9050	Adder	6.95
938521	AE1-070 2	5.3942	Adder	6.35
938851	AE1-113 C O1	5.2330	Adder	6.16
938852	AE1-113 E O1	18.5534	Adder	21.83
939351	AE1-166 C O1	3.4229	Adder	7.6
939352	AE1-166 E O1	3.1596	Adder	7.01
939631	AE1-193 C	18.9611	50/50	18.9611
939632	AE1-193 E	126.8938	50/50	126.8938
939641	AE1-194 C	18.9611	50/50	18.9611
939642	AE1-194 E	126.8938	50/50	126.8938
939651	AE1-195 C	18.9611	50/50	18.9611
939652	AE1-195 E	126.8938	50/50	126.8938
939681	AE1-198 C	56.3000	50/50	56.3000
939682	AE1-198 E	47.8404	50/50	47.8404
940752	AE2-062 E	0.0429	Adder	0.1
941551	AE2-152 C O1	3.9495	Adder	8.77
941552	AE2-152 E O1	2.6330	Adder	5.84
941561	AE2-153 C O1	2.9681	Adder	3.49
941562	AE2-153 E O1	13.8959	Adder	16.35
942421	AE2-255 C O1	1.9822	Adder	2.33
942422	AE2-255 E O1	5.9466	Adder	7.0
942991	AE2-321 C	5.1722	Adder	6.08
942992	AE2-321 E	2.5475	Adder	3.0
943121	AE2-341 C	8.0337	Adder	9.45
943122	AE2-341 E	3.9450	Adder	4.64
943591	AF1-030 C O1	5.3425	Adder	6.29
943592	AF1-030 E O1	2.6433	Adder	3.11
943801	AF1-048 C	2.4178	Adder	2.84
943802	AF1-048 E	1.6119	Adder	1.9
944041	AF1-072	1.3632	Adder	1.6
944911	AF1-156 C	7.5888	Adder	8.93
944912	AF1-156 E	5.0592	Adder	5.95
945351	AF1-200 FTIR	195.0344	Merchant Transmission	195.0344
946661	AF1-330 C	1.2666	Adder	1.49
946662	AF1-330 E	0.2780	Adder	0.33
957331	AF2-027 C	1.5830	Adder	1.86
957332	AF2-027 E	2.3746	Adder	2.79
957401	AF2-034 C	0.9201	Adder	1.08

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957402	AF2-034 E	0.7838	Adder	0.92
958011	AF2-095 C O1	10.5728	Adder	12.44
958012	AF2-095 E O1	4.9754	Adder	5.85
958021	AF2-096 C	27.9225	50/50	27.9225
958022	AF2-096 E	13.1400	50/50	13.1400
958481	AF2-142 C	6.9309	Adder	8.15
958482	AF2-142 E	4.6206	Adder	5.44
959351	AF2-226 C	2.1064	50/50	2.1064
959352	AF2-226 E	3.1596	50/50	3.1596
960281	AF2-319 C	2.1064	50/50	2.1064
960282	AF2-319 E	3.1596	50/50	3.1596
960381	AF2-329	4.1686	Adder	4.9
960591	AF2-350 C O1	4.6645	Adder	5.49
960592	AF2-350 E O1	3.1096	Adder	3.66
960601	AF2-351 C O1	0.6219	Adder	0.73
960602	AF2-351 E O1	0.9329	Adder	1.1
960731	AF2-364 C O1	3.8853	Adder	4.57
960732	AF2-364 E O1	2.5902	Adder	3.05
960751	AF2-366 C	4.3980	Adder	5.17
960752	AF2-366 E	2.9320	Adder	3.45
962691	AG1-118 C O2	7.4270	Adder	16.49
962692	AG1-118 E O2	4.9514	Adder	10.99
962701	AG1-119 C O2	7.5860	Adder	16.84
962702	AG1-119 E O2	5.0573	Adder	11.23
962711	AG1-120 C O2	2.9990	Adder	6.66
962712	AG1-120 E O2	1.9993	Adder	4.44
962781	AG1-127 C O2	2.5815	Adder	5.73
962782	AG1-127 E O2	1.7210	Adder	3.82
965141	AG1-379 C	5.7655	Adder	12.8
965142	AG1-379 E	2.6390	Adder	5.86
966081	AG1-477 C	0.6653	Adder	1.48
966082	AG1-477 E	0.1674	Adder	0.37
966091	AG1-478 C	0.6723	Adder	1.49
966092	AG1-478 E	0.1691	Adder	0.38
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.6653	Adder	1.48
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.1674	Adder	0.37
966441	AG1-513 C	0.1699	Adder	0.38
966442	AG1-513 E	0.2549	Adder	0.57
966651	AG1-535 O2	3.5980	Adder	7.99
WEC	WEC	2.7890	Confirmed LTF	2.7890
CALDERWOOD	CALDERWOOD	0.0025	Confirmed LTF	0.0025
CBM-W2	CBM-W2	14.6944	Confirmed LTF	14.6944
NY	NY	0.7864	Confirmed LTF	0.7864
TVA	TVA	1.0822	Confirmed LTF	1.0822
O-066	O-066	9.3749	Confirmed LTF	9.3749
SIGE	SIGE	0.1284	Confirmed LTF	0.1284
CHEOAH	CHEOAH	0.0100	Confirmed LTF	0.0100
CBM-S1	CBM-S1	0.1873	Confirmed LTF	0.1873
G-007	G-007	1.4616	Confirmed LTF	1.4616
HAMLET	HAMLET	0.3563	Confirmed LTF	0.3563
MEC	MEC	9.7406	Confirmed LTF	9.7406

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
GIBSON	GIBSON	0.0994	Confirmed LTF	0.0994
BLUEG	BLUEG	1.4287	Confirmed LTF	1.4287
TRIMBLE	TRIMBLE	0.4858	Confirmed LTF	0.4858
LAGN	LAGN	2.9085	Confirmed LTF	2.9085
CATAWBA	CATAWBA	0.1824	Confirmed LTF	0.1824
CBM-W1	CBM-W1	48.9438	Confirmed LTF	48.9438

13.5.14 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
174384743	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	153.48	153.54	DC	45.25

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274658	DRESDEN ;2U	120.6764	Adder	141.97
274659	DRESDEN ;3U	116.6196	Adder	137.2
274771	LINCOLN ;2U	3.4563	50/50	3.4563
274772	LINCOLN ;3U	3.4563	50/50	3.4563
274773	LINCOLN ;4U	3.4563	50/50	3.4563
274774	LINCOLN ;5U	3.4563	50/50	3.4563
274775	LINCOLN ;6U	3.4563	50/50	3.4563
274776	LINCOLN ;7U	3.4563	50/50	3.4563
274777	LINCOLN ;8U	3.4563	50/50	3.4563
275149	KELLYCK ;1E	20.0491	Adder	23.59
276167	Z1-106 E2	1.3104	Adder	1.54
276168	Z1-106 E1	1.3104	Adder	1.54
276169	Z1-107 E	2.6814	Adder	3.15
276170	Z1-108 E	2.5779	Adder	3.03
276591	L-013 2	3.8000	Adder	4.47
290021	O50 E	20.6394	Adder	24.28
290108	LEEDK;1U E	25.3691	Adder	29.85
293061	N-015 E	16.5373	Adder	19.46
293644	O22 E1	10.8389	Adder	12.75
293645	O22 E2	21.0402	Adder	24.75
293777	CAYUG;1U E	17.1901	Adder	20.22
293778	CAYUG;2U E	17.1901	Adder	20.22
293799	PILOT HIL;1E	20.0491	Adder	23.59
294392	P-010 E	21.0023	Adder	24.71
910542	X3-005 E	0.7602	Adder	0.89
915011	Y3-013 1	3.8706	Adder	4.55
915021	Y3-013 2	3.8706	Adder	4.55
915031	Y3-013 3	3.8706	Adder	4.55
918052	AA1-018 E OP	17.3764	Adder	20.44
920272	AA2-123 E	2.5338	Adder	2.98
926331	AC1-110 1	1.9713	Adder	2.32
926341	AC1-110 2	1.9713	Adder	2.32
927451	AC1-142A 1	4.3411	Adder	5.11
927461	AC1-142A 2	4.3411	Adder	5.11
930501	AB1-091 CT	44.4493	Adder	52.29
930502	AB1-091 ST	35.3389	Adder	41.58
930761	AB1-122 CT1	47.2136	Adder	55.55
930771	AB1-122 CT2	76.7924	Adder	90.34
933411	AC2-154 C	2.7210	Adder	3.2
933412	AC2-154 E	4.4394	Adder	5.22
933431	AC2-156 C O1	0.9941	Adder	1.17
933432	AC2-156 E O1	1.6219	Adder	1.91

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933931	AD1-016 C	0.9618	Adder	1.13
933932	AD1-016 E	1.5693	Adder	1.85
934101	AD1-039 1	7.1243	Adder	8.38
934111	AD1-039 2	7.5257	Adder	8.85
934721	AD1-100 C	24.9926	Adder	29.4
934722	AD1-100 E	116.6319	Adder	137.21
934871	AD1-116 C	1.0120	Adder	1.19
934872	AD1-116 E	1.6511	Adder	1.94
935001	AD1-133 C O1	23.0709	Adder	27.14
935002	AD1-133 E O1	15.3806	Adder	18.09
936291	AD2-038 C O1	2.5509	Adder	3.0
936292	AD2-038 E O1	17.0714	Adder	20.08
936371	AD2-047 C O1	4.8691	Adder	5.73
936372	AD2-047 E O1	23.7725	Adder	27.97
936461	AD2-060	2.8642	Adder	3.37
936511	AD2-066 C O1	8.8657	Adder	10.43
936512	AD2-066 E O1	5.9105	Adder	6.95
937401	AD2-194 1	8.0820	Adder	9.51
937411	AD2-194 2	8.0830	Adder	9.51
938511	AE1-070 1	9.4975	Adder	11.17
938521	AE1-070 2	8.6881	Adder	10.22
938851	AE1-113 C O1	8.5137	Adder	10.02
938852	AE1-113 E O1	30.1851	Adder	35.51
939321	AE1-163 C O1	6.4099	Adder	7.54
939322	AE1-163 E O1	39.3753	Adder	46.32
939351	AE1-166 C O1	6.5352	Adder	14.51
939352	AE1-166 E O1	6.0324	Adder	13.39
939401	AE1-172 C O1	6.8559	Adder	8.07
939402	AE1-172 E O1	32.1677	Adder	37.84
940101	AE1-252 C O1	13.7731	Adder	16.2
940102	AE1-252 E O1	9.1820	Adder	10.8
940752	AE2-062 E	0.0716	Adder	0.16
941131	AE2-107 C	6.8497	Adder	8.06
941132	AE2-107 E	4.5664	Adder	5.37
941551	AE2-152 C O1	7.5406	Adder	16.74
941552	AE2-152 E O1	5.0270	Adder	11.16
941561	AE2-153 C O1	5.1525	Adder	6.06
941562	AE2-153 E O1	24.1232	Adder	28.38
942421	AE2-255 C O1	3.2249	Adder	3.79
942422	AE2-255 E O1	9.6747	Adder	11.38
942651	AE2-281 C O1	0.9157	Adder	1.08
942652	AE2-281 E O1	5.6250	Adder	6.62
942991	AE2-321 C	8.4850	Adder	9.98
942992	AE2-321 E	4.1792	Adder	4.92
943121	AE2-341 C	13.2635	Adder	15.6
943122	AE2-341 E	6.5131	Adder	7.66
943591	AF1-030 C O1	8.8203	Adder	10.38
943592	AF1-030 E O1	4.3640	Adder	5.13
943801	AF1-048 C	3.9664	Adder	4.67
943802	AF1-048 E	2.6443	Adder	3.11
944041	AF1-072	2.2326	Adder	2.63
944911	AF1-156 C	13.1741	Adder	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944912	AF1-156 E	8.7827	Adder	10.33
945351	AF1-200 FTIR	323.5650	Merchant Transmission	323.5650
946661	AF1-330 C	2.0778	Adder	2.44
946662	AF1-330 E	0.4561	Adder	0.54
957331	AF2-027 C	2.5804	Adder	3.04
957332	AF2-027 E	3.8706	Adder	4.55
957401	AF2-034 C	1.4518	Adder	1.71
957402	AF2-034 E	1.2367	Adder	1.45
958011	AF2-095 C O1	19.4774	Adder	22.91
958012	AF2-095 E O1	9.1659	Adder	10.78
958021	AF2-096 C	37.0643	Adder	43.61
958022	AF2-096 E	17.4420	Adder	20.52
958481	AF2-142 C	11.9837	Adder	14.1
958482	AF2-142 E	7.9892	Adder	9.4
958491	AF2-143 C	11.7733	Adder	13.85
958492	AF2-143 E	7.8489	Adder	9.23
959351	AF2-226 C	2.6566	Adder	3.13
959352	AF2-226 E	3.9849	Adder	4.69
960281	AF2-319 C	2.6566	Adder	3.13
960282	AF2-319 E	3.9849	Adder	4.69
960381	AF2-329	6.8822	Adder	8.1
960591	AF2-350 C O1	8.5925	Adder	10.11
960592	AF2-350 E O1	5.7283	Adder	6.74
960601	AF2-351 C O1	1.1457	Adder	1.35
960602	AF2-351 E O1	1.7185	Adder	2.02
960731	AF2-364 C O1	6.3699	Adder	7.49
960732	AF2-364 E O1	4.2466	Adder	5.0
960751	AF2-366 C	7.2468	Adder	8.53
960752	AF2-366 E	4.8312	Adder	5.68
961501	AF2-441 C O1	10.4156	Adder	12.25
961502	AF2-441 E O1	15.6233	Adder	18.38
962691	AG1-118 C O2	12.2316	Adder	27.15
962692	AG1-118 E O2	8.1544	Adder	18.1
962701	AG1-119 C O2	12.4327	Adder	27.6
962702	AG1-119 E O2	8.2885	Adder	18.4
962711	AG1-120 C O2	4.9151	Adder	10.91
962712	AG1-120 E O2	3.2767	Adder	7.27
962781	AG1-127 C O2	4.2536	Adder	9.44
962782	AG1-127 E O2	2.8357	Adder	6.29
964361	AG1-298 O2	35.1525	Adder	78.03
964581	AG1-321 C O2	9.2100	Adder	20.44
964582	AG1-321 E O2	5.3628	Adder	11.9
965141	AG1-379 C	9.3801	Adder	20.82
965142	AG1-379 E	4.2935	Adder	9.53
966081	AG1-477 C	1.1136	Adder	2.47
966082	AG1-477 E	0.2802	Adder	0.62
966091	AG1-478 C	1.1541	Adder	2.56
966092	AG1-478 E	0.2903	Adder	0.64
966101	AG1-479 C (Withdrawn : 12/03/2020)	1.1136	Adder	2.47
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.2802	Adder	0.62
966441	AG1-513 C	0.2796	Adder	0.62

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966442	AG1-513 E	0.4194	Adder	0.93
966651	AG1-535 O2	5.8990	Adder	13.09
WEC	WEC	4.5675	Confirmed LTF	4.5675
CBM-W2	CBM-W2	27.9642	Confirmed LTF	27.9642
NY	NY	1.3466	Confirmed LTF	1.3466
TVA	TVA	2.0930	Confirmed LTF	2.0930
O-066	O-066	16.1251	Confirmed LTF	16.1251
SIGE	SIGE	0.2641	Confirmed LTF	0.2641
CBM-S1	CBM-S1	0.3861	Confirmed LTF	0.3861
G-007	G-007	2.5137	Confirmed LTF	2.5137
HAMLET	HAMLET	0.5989	Confirmed LTF	0.5989
MEC	MEC	16.4700	Confirmed LTF	16.4700
BLUEG	BLUEG	2.1457	Confirmed LTF	2.1457
TRIMBLE	TRIMBLE	0.7440	Confirmed LTF	0.7440
LAGN	LAGN	5.2552	Confirmed LTF	5.2552
CATAWBA	CATAWBA	0.3024	Confirmed LTF	0.3024
CBM-W1	CBM-W1	91.1580	Confirmed LTF	91.1580

13.5.15 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
174384736	270927	WILTON ; R	CE	275233	WILTON ;4M	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	156.72	156.78	DC	46.21

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274658	DRESDEN ;2U	123.2540	Adder	145.0
274659	DRESDEN ;3U	119.0934	Adder	140.11
274771	LINCOLN ;2U	3.5496	50/50	3.5496
274772	LINCOLN ;3U	3.5496	50/50	3.5496
274773	LINCOLN ;4U	3.5496	50/50	3.5496
274774	LINCOLN ;5U	3.5496	50/50	3.5496
274775	LINCOLN ;6U	3.5496	50/50	3.5496
274776	LINCOLN ;7U	3.5496	50/50	3.5496
274777	LINCOLN ;8U	3.5496	50/50	3.5496
275149	KELLYCK ;1E	20.4680	Adder	24.08
276167	Z1-106 E2	1.3383	Adder	1.57
276168	Z1-106 E1	1.3382	Adder	1.57
276169	Z1-107 E	2.7385	Adder	3.22
276170	Z1-108 E	2.6328	Adder	3.1
276591	L-013 2	3.8811	Adder	4.57
290021	O50 E	21.0800	Adder	24.8
290108	LEEDK;1U E	25.9080	Adder	30.48
293061	N-015 E	16.8820	Adder	19.86
293644	O22 E1	11.0678	Adder	13.02
293645	O22 E2	21.4845	Adder	25.28
293777	CAYUG;1U E	17.5328	Adder	20.63
293778	CAYUG;2U E	17.5328	Adder	20.63
293799	PILOT HIL;1E	20.4680	Adder	24.08
294392	P-010 E	21.4402	Adder	25.22
910542	X3-005 E	0.7767	Adder	0.91
915011	Y3-013 1	3.9533	Adder	4.65
915021	Y3-013 2	3.9533	Adder	4.65
915031	Y3-013 3	3.9533	Adder	4.65
918052	AA1-018 E OP	17.7547	Adder	20.89
920272	AA2-123 E	2.5879	Adder	3.04
926331	AC1-110 1	2.0132	Adder	2.37
926341	AC1-110 2	2.0132	Adder	2.37
927451	AC1-142A 1	4.4344	Adder	5.22
927461	AC1-142A 2	4.4344	Adder	5.22
930501	AB1-091 CT	45.3739	Adder	53.38
930502	AB1-091 ST	36.0740	Adder	42.44
930761	AB1-122 CT1	48.2135	Adder	56.72
930771	AB1-122 CT2	78.4346	Adder	92.28
933411	AC2-154 C	2.7778	Adder	3.27
933412	AC2-154 E	4.5322	Adder	5.33
933431	AC2-156 C O1	1.0152	Adder	1.19
933432	AC2-156 E O1	1.6564	Adder	1.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933931	AD1-016 C	0.9823	Adder	1.16
933932	AD1-016 E	1.6027	Adder	1.89
934101	AD1-039 1	7.2752	Adder	8.56
934111	AD1-039 2	7.6866	Adder	9.04
934721	AD1-100 C	25.4885	Adder	29.99
934722	AD1-100 E	118.9464	Adder	139.94
934871	AD1-116 C	1.0340	Adder	1.22
934872	AD1-116 E	1.6870	Adder	1.98
935001	AD1-133 C O1	23.5513	Adder	27.71
935002	AD1-133 E O1	15.7009	Adder	18.47
936291	AD2-038 C O1	2.6061	Adder	3.07
936292	AD2-038 E O1	17.4407	Adder	20.52
936371	AD2-047 C O1	4.9708	Adder	5.85
936372	AD2-047 E O1	24.2692	Adder	28.55
936461	AD2-060	2.9240	Adder	3.44
936511	AD2-066 C O1	9.0533	Adder	10.65
936512	AD2-066 E O1	6.0355	Adder	7.1
937401	AD2-194 1	8.2554	Adder	9.71
937411	AD2-194 2	8.2564	Adder	9.71
938511	AE1-070 1	9.7013	Adder	11.41
938521	AE1-070 2	8.8745	Adder	10.44
938851	AE1-113 C O1	8.6955	Adder	10.23
938852	AE1-113 E O1	30.8295	Adder	36.27
939321	AE1-163 C O1	6.5486	Adder	7.7
939322	AE1-163 E O1	40.2273	Adder	47.33
939351	AE1-166 C O1	6.6669	Adder	14.8
939352	AE1-166 E O1	6.1541	Adder	13.66
939401	AE1-172 C O1	6.9919	Adder	8.23
939402	AE1-172 E O1	32.8056	Adder	38.59
940101	AE1-252 C O1	14.0462	Adder	16.52
940102	AE1-252 E O1	9.3641	Adder	11.02
940752	AE2-062 E	0.0732	Adder	0.16
941131	AE2-107 C	6.9952	Adder	8.23
941132	AE2-107 E	4.6634	Adder	5.49
941551	AE2-152 C O1	7.6926	Adder	17.08
941552	AE2-152 E O1	5.1284	Adder	11.38
941561	AE2-153 C O1	5.2587	Adder	6.19
941562	AE2-153 E O1	24.6205	Adder	28.97
942421	AE2-255 C O1	3.2938	Adder	3.88
942422	AE2-255 E O1	9.8813	Adder	11.63
942651	AE2-281 C O1	0.9355	Adder	1.1
942652	AE2-281 E O1	5.7468	Adder	6.76
942991	AE2-321 C	8.6655	Adder	10.19
942992	AE2-321 E	4.2681	Adder	5.02
943121	AE2-341 C	13.5456	Adder	15.94
943122	AE2-341 E	6.6516	Adder	7.83
943591	AF1-030 C O1	9.0080	Adder	10.6
943592	AF1-030 E O1	4.4569	Adder	5.24
943801	AF1-048 C	4.0508	Adder	4.77
943802	AF1-048 E	2.7005	Adder	3.18
944041	AF1-072	2.2801	Adder	2.68
944911	AF1-156 C	13.4456	Adder	15.82

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944912	AF1-156 E	8.9638	Adder	10.55
945351	AF1-200 FTIR	330.4026	Merchant Transmission	330.4026
946661	AF1-330 C	2.1221	Adder	2.5
946662	AF1-330 E	0.4658	Adder	0.55
957331	AF2-027 C	2.6355	Adder	3.1
957332	AF2-027 E	3.9533	Adder	4.65
957401	AF2-034 C	1.4828	Adder	1.74
957402	AF2-034 E	1.2631	Adder	1.49
958011	AF2-095 C O1	19.8832	Adder	23.39
958012	AF2-095 E O1	9.3568	Adder	11.01
958021	AF2-096 C	37.8272	Adder	44.5
958022	AF2-096 E	17.8010	Adder	20.94
958481	AF2-142 C	12.2446	Adder	14.41
958482	AF2-142 E	8.1631	Adder	9.6
958491	AF2-143 C	12.0281	Adder	14.15
958492	AF2-143 E	8.0187	Adder	9.43
959351	AF2-226 C	2.7127	Adder	3.19
959352	AF2-226 E	4.0690	Adder	4.79
960281	AF2-319 C	2.7127	Adder	3.19
960282	AF2-319 E	4.0690	Adder	4.79
960381	AF2-329	7.0287	Adder	8.27
960591	AF2-350 C O1	8.7720	Adder	10.32
960592	AF2-350 E O1	5.8480	Adder	6.88
960601	AF2-351 C O1	1.1696	Adder	1.38
960602	AF2-351 E O1	1.7544	Adder	2.06
960731	AF2-364 C O1	6.5057	Adder	7.65
960732	AF2-364 E O1	4.3371	Adder	5.1
960751	AF2-366 C	7.4012	Adder	8.71
960752	AF2-366 E	4.9341	Adder	5.8
961501	AF2-441 C O1	10.6359	Adder	12.51
961502	AF2-441 E O1	15.9538	Adder	18.77
962691	AG1-118 C O2	12.4919	Adder	27.73
962692	AG1-118 E O2	8.3279	Adder	18.49
962701	AG1-119 C O2	12.6979	Adder	28.19
962702	AG1-119 E O2	8.4653	Adder	18.79
962711	AG1-120 C O2	5.0199	Adder	11.14
962712	AG1-120 E O2	3.3466	Adder	7.43
962781	AG1-127 C O2	4.3442	Adder	9.64
962782	AG1-127 E O2	2.8962	Adder	6.43
964361	AG1-298 O2	35.8958	Adder	79.68
964581	AG1-321 C O2	9.3945	Adder	20.85
964582	AG1-321 E O2	5.4702	Adder	12.14
965141	AG1-379 C	9.5803	Adder	21.27
965142	AG1-379 E	4.3852	Adder	9.73
966081	AG1-477 C	1.1371	Adder	2.52
966082	AG1-477 E	0.2861	Adder	0.64
966091	AG1-478 C	1.1785	Adder	2.62
966092	AG1-478 E	0.2965	Adder	0.66
966101	AG1-479 C (Withdrawn : 12/03/2020)	1.1371	Adder	2.52
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.2861	Adder	0.64
966441	AG1-513 C	0.2856	Adder	0.63

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966442	AG1-513 E	0.4284	Adder	0.95
966651	AG1-535 O2	6.0246	Adder	13.37
WEC	WEC	4.6648	Confirmed LTF	4.6648
CBM-W2	CBM-W2	28.5376	Confirmed LTF	28.5376
NY	NY	1.3759	Confirmed LTF	1.3759
TVA	TVA	2.1350	Confirmed LTF	2.1350
O-066	O-066	16.4750	Confirmed LTF	16.4750
SIGE	SIGE	0.2695	Confirmed LTF	0.2695
CBM-S1	CBM-S1	0.3933	Confirmed LTF	0.3933
G-007	G-007	2.5683	Confirmed LTF	2.5683
HAMLET	HAMLET	0.6121	Confirmed LTF	0.6121
MEC	MEC	16.8164	Confirmed LTF	16.8164
BLUEG	BLUEG	2.1943	Confirmed LTF	2.1943
TRIMBLE	TRIMBLE	0.7607	Confirmed LTF	0.7607
LAGN	LAGN	5.3637	Confirmed LTF	5.3637
CATAWBA	CATAWBA	0.3094	Confirmed LTF	0.3094
CBM-W1	CBM-W1	93.0788	Confirmed LTF	93.0788

13.5.16 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
162039846	274750	CRETE EC ;BP	CE	255112	17STJOHN	NIPS	1	COMED_P7-1_345-L2002__B-S+_345-L2004__R-S-B	tower	1399.0	152.29	152.32	DC	25.33

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.5429	Adder	1.82
274654	BRAIDWOOD;1U	32.6566	50/50	32.6566
274658	DRESDEN ;2U	72.3936	Adder	85.17
274660	LASCO STA;1U	20.6185	50/50	20.6185
274661	LASCO STA;2U	20.6540	50/50	20.6540
274687	WILL CNTY;4U	8.0816	50/50	8.0816
274751	CRETE EC ;1U	5.7020	50/50	5.7020
274752	CRETE EC ;2U	5.7020	50/50	5.7020
274753	CRETE EC ;3U	5.7020	50/50	5.7020
274754	CRETE EC ;4U	5.7020	50/50	5.7020
274847	GR RIDGE ;BU	0.4611	50/50	0.4611
274861	TOP CROP ;1U	0.3236	50/50	0.3236
274862	TOP CROP ;2U	0.6173	50/50	0.6173
274871	GR RIDGE ;2U	0.1716	50/50	0.1716
276167	Z1-106 E2	0.7399	Adder	0.87
276168	Z1-106 E1	0.7399	Adder	0.87
276170	Z1-108 E	1.4688	Adder	1.73
276591	L-013 2	2.1458	Adder	2.52
290021	O50 E	11.9734	Adder	14.09
290051	GSG-6; E	6.1273	Adder	7.21
290108	LEEDK;1U E	14.1814	Adder	16.68
293061	N-015 E	12.7992	50/50	12.7992
293644	O22 E1	9.0968	50/50	9.0968
293645	O22 E2	17.6584	50/50	17.6584
294392	P-010 E	16.2550	50/50	16.2550
295109	WESTBROOK E	3.2805	Adder	3.86
915011	Y3-013 1	2.2330	Adder	2.63
915021	Y3-013 2	2.2330	Adder	2.63
915031	Y3-013 3	2.2330	Adder	2.63
916221	Z1-073 E	3.1826	Adder	3.74
920272	AA2-123 E	1.4367	Adder	1.69
924472	AB2-096 CT1	11.1924	Adder	13.17
924473	AB2-096 CT2	11.1924	Adder	13.17
924474	AB2-096 CT3	11.1924	Adder	13.17
926331	AC1-110 1	1.1150	Adder	1.31
926341	AC1-110 2	1.1150	Adder	1.31
927451	AC1-142A 1	2.6340	Adder	3.1
927461	AC1-142A 2	2.6368	Adder	3.1
930482	AB1-089 CT	21.4342	Adder	25.22

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930483	AB1-089 ST	17.0410	Adder	20.05
930771	AB1-122 CT2	46.0158	Adder	54.14
933431	AC2-156 C O1	0.5520	Adder	0.65
933432	AC2-156 E O1	0.9006	Adder	1.06
933911	AD1-013 C	1.0812	Adder	1.27
933912	AD1-013 E	1.7272	Adder	2.03
933931	AD1-016 C	0.5452	Adder	0.64
933932	AD1-016 E	0.8896	Adder	1.05
934111	AD1-039 2	4.5095	Adder	5.31
934432	AD1-067 E	0.3235	Adder	0.38
934701	AD1-098 C O1	4.0321	Adder	4.74
934702	AD1-098 E O1	2.9439	Adder	3.46
934971	AD1-129 C	0.5298	Adder	0.62
934972	AD1-129 E	0.3532	Adder	0.42
936511	AD2-066 C O1	4.8908	Adder	5.75
936512	AD2-066 E O1	3.2605	Adder	3.84
937001	AD2-134 C	1.6018	Adder	1.88
937002	AD2-134 E	6.6169	Adder	7.78
937401	AD2-194 1	4.8312	Adder	5.68
937411	AD2-194 2	4.8460	Adder	5.7
938511	AE1-070 1	5.6941	Adder	6.7
938521	AE1-070 2	5.1936	Adder	6.11
938851	AE1-113 C O1	4.9390	Adder	5.81
938852	AE1-113 E O1	17.5112	Adder	20.6
939631	AE1-193 C	31.2390	50/50	31.2390
939632	AE1-193 E	209.0610	50/50	209.0610
939641	AE1-194 C	31.2390	50/50	31.2390
939642	AE1-194 E	209.0610	50/50	209.0610
939651	AE1-195 C	31.2390	50/50	31.2390
939652	AE1-195 E	209.0610	50/50	209.0610
939681	AE1-198 C	92.7558	50/50	92.7558
939682	AE1-198 E	78.8184	50/50	78.8184
940752	AE2-062 E	0.0394	Adder	0.09
941131	AE2-107 C	3.8290	Adder	4.5
941132	AE2-107 E	2.5527	Adder	3.0
941561	AE2-153 C O1	2.8939	Adder	3.4
941562	AE2-153 E O1	13.5485	Adder	15.94
942421	AE2-255 C O1	1.8709	Adder	2.2
942422	AE2-255 E O1	5.6126	Adder	6.6
942991	AE2-321 C	4.8100	Adder	5.66
942992	AE2-321 E	2.3691	Adder	2.79
943121	AE2-341 C	7.3479	Adder	8.64
943122	AE2-341 E	3.6082	Adder	4.24
943591	AF1-030 C O1	4.8864	Adder	5.75
943592	AF1-030 E O1	2.4176	Adder	2.84
943801	AF1-048 C	2.2485	Adder	2.65
943802	AF1-048 E	1.4990	Adder	1.76
944041	AF1-072	1.2687	Adder	1.49
944911	AF1-156 C	7.3991	Adder	8.7
944912	AF1-156 E	4.9327	Adder	5.8
945351	AF1-200 FTIR	175.3152	Merchant Transmission	175.3152
946661	AF1-330 C	1.1781	Adder	1.39

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
946662	AF1-330 E	0.2586	Adder	0.3
946671	AF1-331	1.4042	Adder	1.65
957331	AF2-027 C	1.4887	Adder	1.75
957332	AF2-027 E	2.2330	Adder	2.63
957401	AF2-034 C	0.9051	Adder	1.06
957402	AF2-034 E	0.7711	Adder	0.91
957471	AF2-041 C	12.5506	Adder	14.77
957472	AF2-041 E	6.2753	Adder	7.38
958021	AF2-096 C	46.5095	50/50	46.5095
958022	AF2-096 E	21.8868	50/50	21.8868
958491	AF2-143 C	1.1009	Adder	1.3
958492	AF2-143 E	0.7339	Adder	0.86
959081	AF2-199 C	4.1835	Adder	4.92
959082	AF2-199 E	2.0918	Adder	2.46
959091	AF2-200 C O1	8.3671	Adder	9.84
959092	AF2-200 E O1	4.1835	Adder	4.92
959351	AF2-226 C	2.2296	50/50	2.2296
959352	AF2-226 E	3.3444	50/50	3.3444
960281	AF2-319 C	2.2296	50/50	2.2296
960282	AF2-319 E	3.3444	50/50	3.3444
960381	AF2-329	3.8127	Adder	4.49
960581	AF2-349 C	12.7831	Adder	15.04
960582	AF2-349 E	8.5221	Adder	10.03
960721	AF2-363 C O1	3.4428	Adder	4.05
960722	AF2-363 E O1	2.2952	Adder	2.7
960731	AF2-364 C O1	3.6067	Adder	4.24
960732	AF2-364 E O1	2.4045	Adder	2.83
960751	AF2-366 C	4.0539	Adder	4.77
960752	AF2-366 E	2.7026	Adder	3.18
962691	AG1-118 C O2	6.8472	Adder	15.2
962692	AG1-118 E O2	4.5648	Adder	10.13
962701	AG1-119 C O2	7.0467	Adder	15.64
962702	AG1-119 E O2	4.6978	Adder	10.43
962711	AG1-120 C O2	2.7858	Adder	6.18
962712	AG1-120 E O2	1.8572	Adder	4.12
962781	AG1-127 C O2	2.3795	Adder	5.28
962782	AG1-127 E O2	1.5863	Adder	3.52
962791	AG1-128 C O2	1.9203	Adder	4.26
962792	AG1-128 E O2	8.9862	Adder	19.95
963681	AG1-220 C O2	3.3429	Adder	7.42
963682	AG1-220 E O2	2.2286	Adder	4.95
965061	AG1-371	1.1086	Adder	2.46
965071	AG1-372	0.7391	Adder	1.64
965081	AG1-373	0.3695	Adder	0.82
965141	AG1-379 C	5.4416	Adder	12.08
965142	AG1-379 E	2.4908	Adder	5.53
965551	AG1-423 C O2	4.5275	Adder	10.05
965552	AG1-423 E O2	3.0183	Adder	6.7
965661	AG1-434 C O2	1.3049	Adder	2.9
965662	AG1-434 E O2	6.1094	Adder	13.56
966081	AG1-477 C	0.6389	Adder	1.42
966082	AG1-477 E	0.1607	Adder	0.36

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.6389	Adder	1.42
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.1607	Adder	0.36
966441	AG1-513 C	0.1566	Adder	0.35
966442	AG1-513 E	0.2349	Adder	0.52
966651	AG1-535 O2	3.3391	Adder	7.41
WEC	WEC	2.6069	Confirmed LTF	2.6069
CALDERWOOD	CALDERWOOD	0.1064	Confirmed LTF	0.1064
CBM-W2	CBM-W2	10.4832	Confirmed LTF	10.4832
NY	NY	0.7864	Confirmed LTF	0.7864
TVA	TVA	0.6370	Confirmed LTF	0.6370
O-066	O-066	9.3883	Confirmed LTF	9.3883
SIGE	SIGE	0.0923	Confirmed LTF	0.0923
CHEOAH	CHEOAH	0.1131	Confirmed LTF	0.1131
CBM-S1	CBM-S1	0.0752	Confirmed LTF	0.0752
G-007	G-007	1.4637	Confirmed LTF	1.4637
HAMLET	HAMLET	0.4204	Confirmed LTF	0.4204
MEC	MEC	8.7157	Confirmed LTF	8.7157
GIBSON	GIBSON	0.3085	Confirmed LTF	0.3085
BLUEG	BLUEG	1.7377	Confirmed LTF	1.7377
TRIMBLE	TRIMBLE	0.5788	Confirmed LTF	0.5788
LAGN	LAGN	2.2208	Confirmed LTF	2.2208
CATAWBA	CATAWBA	0.2261	Confirmed LTF	0.2261
CBM-W1	CBM-W1	36.8726	Confirmed LTF	36.8726

13.5.17 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
174384793	274804	UNIV PK N;RP	CE	960680	AF2-359 TAP	CE	1	COMED_P4_112-65-BT3-4__	breaker	971.0	136.83	137.1	DC	30.43

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.8526	Adder	2.18
274658	DRESDEN ;2U	81.3613	Adder	95.72
274659	DRESDEN ;3U	77.3049	Adder	90.95
274805	UNIV PK N;1U	1.4335	50/50	1.4335
274807	UNIV PK N;3U	1.4422	50/50	1.4422
274808	UNIV PK N;4U	1.4364	50/50	1.4364
274810	UNIV PK N;6U	1.4364	50/50	1.4364
274811	UNIV PK N;7U	1.4422	50/50	1.4422
274815	UNIV PK N;XU	1.4335	50/50	1.4335
274816	UNIV PK N;YU	1.4422	50/50	1.4422
275149	KELLYCK ;1E	12.8639	Adder	15.13
276167	Z1-106 E2	0.8838	Adder	1.04
276168	Z1-106 E1	0.8838	Adder	1.04
276169	Z1-107 E	1.8763	Adder	2.21
276170	Z1-108 E	1.7398	Adder	2.05
276591	L-013 2	2.5631	Adder	3.02
290021	O50 E	13.8203	Adder	16.26
290051	GSG-6; E	7.3581	Adder	8.66
290108	LEEDK;1U E	17.0391	Adder	20.05
293061	N-015 E	10.9191	Adder	12.85
293644	O22 E1	6.9436	Adder	8.17
293645	O22 E2	13.4788	Adder	15.86
293799	PILOT HIL;1E	12.8639	Adder	15.13
294392	P-010 E	13.8673	Adder	16.31
295109	WESTBROOK E	3.9395	Adder	4.63
915011	Y3-013 1	2.6204	Adder	3.08
915021	Y3-013 2	2.6204	Adder	3.08
915031	Y3-013 3	2.6204	Adder	3.08
916221	Z1-073 E	3.8219	Adder	4.5
918052	AA1-018 E OP	12.5234	Adder	14.73
920272	AA2-123 E	1.7065	Adder	2.01
924472	AB2-096 CT1	13.3062	Adder	15.65
924473	AB2-096 CT2	13.3062	Adder	15.65
924474	AB2-096 CT3	13.3062	Adder	15.65
926331	AC1-110 1	1.3296	Adder	1.56
926341	AC1-110 2	1.3296	Adder	1.56
927451	AC1-142A 1	2.9803	Adder	3.51
927461	AC1-142A 2	2.9792	Adder	3.5
930501	AB1-091 CT	27.5546	Adder	32.42
930502	AB1-091 ST	21.9069	Adder	25.77
930761	AB1-122 CT1	24.0143	Adder	28.25

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930771	AB1-122 CT2	51.7635	Adder	60.9
933411	AC2-154 C	1.7460	Adder	2.05
933412	AC2-154 E	2.8487	Adder	3.35
933431	AC2-156 C O1	0.6689	Adder	0.79
933432	AC2-156 E O1	1.0913	Adder	1.28
933911	AD1-013 C	1.2983	Adder	1.53
933912	AD1-013 E	2.0739	Adder	2.44
933931	AD1-016 C	0.6477	Adder	0.76
933932	AD1-016 E	1.0567	Adder	1.24
934101	AD1-039 1	4.7174	Adder	5.55
934111	AD1-039 2	5.0728	Adder	5.97
934432	AD1-067 E	0.3885	Adder	0.46
934701	AD1-098 C O1	4.8413	Adder	5.7
934702	AD1-098 E O1	3.5346	Adder	4.16
934721	AD1-100 C	13.4602	Adder	15.84
934722	AD1-100 E	62.8142	Adder	73.9
934871	AD1-116 C	0.7293	Adder	0.86
934872	AD1-116 E	1.1900	Adder	1.4
934971	AD1-129 C	0.6304	Adder	0.74
934972	AD1-129 E	0.4202	Adder	0.49
936291	AD2-038 C O1	1.7987	Adder	2.12
936292	AD2-038 E O1	12.0376	Adder	14.16
936371	AD2-047 C O1	3.1244	Adder	3.68
936372	AD2-047 E O1	15.2543	Adder	17.95
936461	AD2-060	1.8379	Adder	2.16
936511	AD2-066 C O1	5.9462	Adder	7.0
936512	AD2-066 E O1	3.9641	Adder	4.66
937001	AD2-134 C	1.9235	Adder	2.26
937002	AD2-134 E	7.9461	Adder	9.35
937401	AD2-194 1	5.4840	Adder	6.45
937411	AD2-194 2	5.4805	Adder	6.45
938511	AE1-070 1	6.4395	Adder	7.58
938521	AE1-070 2	5.8953	Adder	6.94
938851	AE1-113 C O1	5.7009	Adder	6.71
938852	AE1-113 E O1	20.2122	Adder	23.78
939321	AE1-163 C O1	4.5199	Adder	5.32
939322	AE1-163 E O1	27.7648	Adder	32.66
939351	AE1-166 C O1	3.7933	Adder	8.42
939352	AE1-166 E O1	3.5015	Adder	7.77
940752	AE2-062 E	0.0501	Adder	0.11
941131	AE2-107 C	4.6006	Adder	5.41
941132	AE2-107 E	3.0670	Adder	3.61
941551	AE2-152 C O1	4.3768	Adder	9.72
941552	AE2-152 E O1	2.9179	Adder	6.48
941561	AE2-153 C O1	3.3100	Adder	3.89
941562	AE2-153 E O1	15.4971	Adder	18.23
942421	AE2-255 C O1	2.1594	Adder	2.54
942422	AE2-255 E O1	6.4783	Adder	7.62
942651	AE2-281 C O1	0.6457	Adder	0.76
942652	AE2-281 E O1	3.9664	Adder	4.67
942991	AE2-321 C	5.7138	Adder	6.72
942992	AE2-321 E	2.8143	Adder	3.31

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943121	AE2-341 C	8.9272	Adder	10.5
943122	AE2-341 E	4.3838	Adder	5.16
943591	AF1-030 C O1	5.9367	Adder	6.98
943592	AF1-030 E O1	2.9373	Adder	3.46
943801	AF1-048 C	2.6710	Adder	3.14
943802	AF1-048 E	1.7807	Adder	2.09
944041	AF1-072	1.5062	Adder	1.77
944911	AF1-156 C	8.4632	Adder	9.96
944912	AF1-156 E	5.6421	Adder	6.64
945351	AF1-200 FTIR	215.9745	Merchant Transmission	215.9745
946661	AF1-330 C	1.3993	Adder	1.65
946662	AF1-330 E	0.3072	Adder	0.36
946671	AF1-331	1.6861	Adder	1.98
957331	AF2-027 C	1.7469	Adder	2.06
957332	AF2-027 E	2.6204	Adder	3.08
957401	AF2-034 C	0.9734	Adder	1.15
957402	AF2-034 E	0.8292	Adder	0.98
958011	AF2-095 C O1	12.4952	Adder	14.7
958012	AF2-095 E O1	5.8801	Adder	6.92
958021	AF2-096 C	24.0181	Adder	28.26
958022	AF2-096 E	11.3026	Adder	13.3
958481	AF2-142 C	8.6368	Adder	10.16
958482	AF2-142 E	5.7579	Adder	6.77
958491	AF2-143 C	8.3018	Adder	9.77
958492	AF2-143 E	5.5345	Adder	6.51
959351	AF2-226 C	1.7019	Adder	2.0
959352	AF2-226 E	2.5528	Adder	3.0
960281	AF2-319 C	1.7019	Adder	2.0
960282	AF2-319 E	2.5528	Adder	3.0
960381	AF2-329	4.6322	Adder	5.45
960581	AF2-349 C	15.1975	Adder	17.88
960582	AF2-349 E	10.1317	Adder	11.92
960591	AF2-350 C O1	5.5131	Adder	6.49
960592	AF2-350 E O1	3.6754	Adder	4.32
960601	AF2-351 C O1	0.7351	Adder	0.86
960602	AF2-351 E O1	1.1026	Adder	1.3
960721	AF2-363 C O1	4.1215	Adder	4.85
960722	AF2-363 E O1	2.7477	Adder	3.23
960731	AF2-364 C O1	4.2959	Adder	5.05
960732	AF2-364 E O1	2.8639	Adder	3.37
960751	AF2-366 C	4.8699	Adder	5.73
960752	AF2-366 E	3.2466	Adder	3.82
962691	AG1-118 C O2	8.2241	Adder	18.26
962692	AG1-118 E O2	5.4828	Adder	12.17
962701	AG1-119 C O2	8.3815	Adder	18.6
962702	AG1-119 E O2	5.5876	Adder	12.4
962711	AG1-120 C O2	3.3135	Adder	7.36
962712	AG1-120 E O2	2.2090	Adder	4.9
962781	AG1-127 C O2	2.8585	Adder	6.35
962782	AG1-127 E O2	1.9056	Adder	4.23
962791	AG1-128 C O2	2.3061	Adder	5.12
962792	AG1-128 E O2	10.7913	Adder	23.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965141	AG1-379 C	6.2810	Adder	13.94
965142	AG1-379 E	2.8750	Adder	6.38
965551	AG1-423 C O2	5.3930	Adder	11.97
965552	AG1-423 E O2	3.5954	Adder	7.98
965661	AG1-434 C O2	1.5670	Adder	3.48
965662	AG1-434 E O2	7.3366	Adder	16.29
965792	AG1-447 BAT	4.2203	Merchant Transmission	4.2203
965802	AG1-448 BAT	4.2203	Merchant Transmission	4.2203
966081	AG1-477 C	0.7477	Adder	1.66
966082	AG1-477 E	0.1881	Adder	0.42
966091	AG1-478 C	0.7712	Adder	1.71
966092	AG1-478 E	0.1940	Adder	0.43
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.7477	Adder	1.66
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.1881	Adder	0.42
966431	AG1-512 C	1.6503	Adder	3.66
966432	AG1-512 E	2.4754	Adder	5.49
966441	AG1-513 C	0.1887	Adder	0.42
966442	AG1-513 E	0.2830	Adder	0.63
966651	AG1-535 O2	3.9786	Adder	8.83
WEC	WEC	3.0785	Confirmed LTF	3.0785
CBM-W2	CBM-W2	16.3699	Confirmed LTF	16.3699
NY	NY	0.8699	Confirmed LTF	0.8699
TVA	TVA	1.2096	Confirmed LTF	1.2096
O-066	O-066	10.3777	Confirmed LTF	10.3777
SIGE	SIGE	0.1444	Confirmed LTF	0.1444
CHEOAH	CHEOAH	0.0075	Confirmed LTF	0.0075
CBM-S1	CBM-S1	0.2109	Confirmed LTF	0.2109
G-007	G-007	1.6170	Confirmed LTF	1.6170
HAMLET	HAMLET	0.3921	Confirmed LTF	0.3921
MEC	MEC	10.7671	Confirmed LTF	10.7671
GIBSON	GIBSON	0.0966	Confirmed LTF	0.0966
BLUEG	BLUEG	1.5537	Confirmed LTF	1.5537
TRIMBLE	TRIMBLE	0.5292	Confirmed LTF	0.5292
LAGN	LAGN	3.2305	Confirmed LTF	3.2305
CATAWBA	CATAWBA	0.2002	Confirmed LTF	0.2002
CBM-W1	CBM-W1	55.3229	Confirmed LTF	55.3229

13.5.18 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
174384742	275232	WILTON ;3M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	153.48	153.54	DC	45.25

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274658	DRESDEN ;2U	120.6764	Adder	141.97
274659	DRESDEN ;3U	116.6196	Adder	137.2
274771	LINCOLN ;2U	3.4563	50/50	3.4563
274772	LINCOLN ;3U	3.4563	50/50	3.4563
274773	LINCOLN ;4U	3.4563	50/50	3.4563
274774	LINCOLN ;5U	3.4563	50/50	3.4563
274775	LINCOLN ;6U	3.4563	50/50	3.4563
274776	LINCOLN ;7U	3.4563	50/50	3.4563
274777	LINCOLN ;8U	3.4563	50/50	3.4563
275149	KELLYCK ;1E	20.0491	Adder	23.59
276167	Z1-106 E2	1.3104	Adder	1.54
276168	Z1-106 E1	1.3104	Adder	1.54
276169	Z1-107 E	2.6814	Adder	3.15
276170	Z1-108 E	2.5779	Adder	3.03
276591	L-013 2	3.8000	Adder	4.47
290021	O50 E	20.6394	Adder	24.28
290108	LEEDK;1U E	25.3691	Adder	29.85
293061	N-015 E	16.5373	Adder	19.46
293644	O22 E1	10.8389	Adder	12.75
293645	O22 E2	21.0402	Adder	24.75
293777	CAYUG;1U E	17.1901	Adder	20.22
293778	CAYUG;2U E	17.1901	Adder	20.22
293799	PILOT HIL;1E	20.0491	Adder	23.59
294392	P-010 E	21.0023	Adder	24.71
910542	X3-005 E	0.7602	Adder	0.89
915011	Y3-013 1	3.8706	Adder	4.55
915021	Y3-013 2	3.8706	Adder	4.55
915031	Y3-013 3	3.8706	Adder	4.55
918052	AA1-018 E OP	17.3764	Adder	20.44
920272	AA2-123 E	2.5338	Adder	2.98
926331	AC1-110 1	1.9713	Adder	2.32
926341	AC1-110 2	1.9713	Adder	2.32
927451	AC1-142A 1	4.3411	Adder	5.11
927461	AC1-142A 2	4.3411	Adder	5.11
930501	AB1-091 CT	44.4493	Adder	52.29
930502	AB1-091 ST	35.3389	Adder	41.58
930761	AB1-122 CT1	47.2136	Adder	55.55
930771	AB1-122 CT2	76.7924	Adder	90.34
933411	AC2-154 C	2.7210	Adder	3.2
933412	AC2-154 E	4.4394	Adder	5.22
933431	AC2-156 C O1	0.9941	Adder	1.17
933432	AC2-156 E O1	1.6219	Adder	1.91

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933931	AD1-016 C	0.9618	Adder	1.13
933932	AD1-016 E	1.5693	Adder	1.85
934101	AD1-039 1	7.1243	Adder	8.38
934111	AD1-039 2	7.5257	Adder	8.85
934721	AD1-100 C	24.9926	Adder	29.4
934722	AD1-100 E	116.6319	Adder	137.21
934871	AD1-116 C	1.0120	Adder	1.19
934872	AD1-116 E	1.6511	Adder	1.94
935001	AD1-133 C O1	23.0709	Adder	27.14
935002	AD1-133 E O1	15.3806	Adder	18.09
936291	AD2-038 C O1	2.5509	Adder	3.0
936292	AD2-038 E O1	17.0714	Adder	20.08
936371	AD2-047 C O1	4.8691	Adder	5.73
936372	AD2-047 E O1	23.7725	Adder	27.97
936461	AD2-060	2.8642	Adder	3.37
936511	AD2-066 C O1	8.8657	Adder	10.43
936512	AD2-066 E O1	5.9105	Adder	6.95
937401	AD2-194 1	8.0820	Adder	9.51
937411	AD2-194 2	8.0830	Adder	9.51
938511	AE1-070 1	9.4975	Adder	11.17
938521	AE1-070 2	8.6881	Adder	10.22
938851	AE1-113 C O1	8.5137	Adder	10.02
938852	AE1-113 E O1	30.1851	Adder	35.51
939321	AE1-163 C O1	6.4099	Adder	7.54
939322	AE1-163 E O1	39.3753	Adder	46.32
939351	AE1-166 C O1	6.5352	Adder	14.51
939352	AE1-166 E O1	6.0324	Adder	13.39
939401	AE1-172 C O1	6.8559	Adder	8.07
939402	AE1-172 E O1	32.1677	Adder	37.84
940101	AE1-252 C O1	13.7731	Adder	16.2
940102	AE1-252 E O1	9.1820	Adder	10.8
940752	AE2-062 E	0.0716	Adder	0.16
941131	AE2-107 C	6.8497	Adder	8.06
941132	AE2-107 E	4.5664	Adder	5.37
941551	AE2-152 C O1	7.5406	Adder	16.74
941552	AE2-152 E O1	5.0270	Adder	11.16
941561	AE2-153 C O1	5.1525	Adder	6.06
941562	AE2-153 E O1	24.1232	Adder	28.38
942421	AE2-255 C O1	3.2249	Adder	3.79
942422	AE2-255 E O1	9.6747	Adder	11.38
942651	AE2-281 C O1	0.9157	Adder	1.08
942652	AE2-281 E O1	5.6250	Adder	6.62
942991	AE2-321 C	8.4850	Adder	9.98
942992	AE2-321 E	4.1792	Adder	4.92
943121	AE2-341 C	13.2635	Adder	15.6
943122	AE2-341 E	6.5131	Adder	7.66
943591	AF1-030 C O1	8.8203	Adder	10.38
943592	AF1-030 E O1	4.3640	Adder	5.13
943801	AF1-048 C	3.9664	Adder	4.67
943802	AF1-048 E	2.6443	Adder	3.11
944041	AF1-072	2.2326	Adder	2.63
944911	AF1-156 C	13.1741	Adder	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944912	AF1-156 E	8.7827	Adder	10.33
945351	AF1-200 FTIR	323.5650	Merchant Transmission	323.5650
946661	AF1-330 C	2.0778	Adder	2.44
946662	AF1-330 E	0.4561	Adder	0.54
957331	AF2-027 C	2.5804	Adder	3.04
957332	AF2-027 E	3.8706	Adder	4.55
957401	AF2-034 C	1.4518	Adder	1.71
957402	AF2-034 E	1.2367	Adder	1.45
958011	AF2-095 C O1	19.4774	Adder	22.91
958012	AF2-095 E O1	9.1659	Adder	10.78
958021	AF2-096 C	37.0643	Adder	43.61
958022	AF2-096 E	17.4420	Adder	20.52
958481	AF2-142 C	11.9837	Adder	14.1
958482	AF2-142 E	7.9892	Adder	9.4
958491	AF2-143 C	11.7733	Adder	13.85
958492	AF2-143 E	7.8489	Adder	9.23
959351	AF2-226 C	2.6566	Adder	3.13
959352	AF2-226 E	3.9849	Adder	4.69
960281	AF2-319 C	2.6566	Adder	3.13
960282	AF2-319 E	3.9849	Adder	4.69
960381	AF2-329	6.8822	Adder	8.1
960591	AF2-350 C O1	8.5925	Adder	10.11
960592	AF2-350 E O1	5.7283	Adder	6.74
960601	AF2-351 C O1	1.1457	Adder	1.35
960602	AF2-351 E O1	1.7185	Adder	2.02
960731	AF2-364 C O1	6.3699	Adder	7.49
960732	AF2-364 E O1	4.2466	Adder	5.0
960751	AF2-366 C	7.2468	Adder	8.53
960752	AF2-366 E	4.8312	Adder	5.68
961501	AF2-441 C O1	10.4156	Adder	12.25
961502	AF2-441 E O1	15.6233	Adder	18.38
962691	AG1-118 C O2	12.2316	Adder	27.15
962692	AG1-118 E O2	8.1544	Adder	18.1
962701	AG1-119 C O2	12.4327	Adder	27.6
962702	AG1-119 E O2	8.2885	Adder	18.4
962711	AG1-120 C O2	4.9151	Adder	10.91
962712	AG1-120 E O2	3.2767	Adder	7.27
962781	AG1-127 C O2	4.2536	Adder	9.44
962782	AG1-127 E O2	2.8357	Adder	6.29
964361	AG1-298 O2	35.1525	Adder	78.03
964581	AG1-321 C O2	9.2100	Adder	20.44
964582	AG1-321 E O2	5.3628	Adder	11.9
965141	AG1-379 C	9.3801	Adder	20.82
965142	AG1-379 E	4.2935	Adder	9.53
966081	AG1-477 C	1.1136	Adder	2.47
966082	AG1-477 E	0.2802	Adder	0.62
966091	AG1-478 C	1.1541	Adder	2.56
966092	AG1-478 E	0.2903	Adder	0.64
966101	AG1-479 C (Withdrawn : 12/03/2020)	1.1136	Adder	2.47
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.2802	Adder	0.62
966441	AG1-513 C	0.2796	Adder	0.62

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966442	AG1-513 E	0.4194	Adder	0.93
966651	AG1-535 O2	5.8990	Adder	13.09
WEC	WEC	4.5675	Confirmed LTF	4.5675
CBM-W2	CBM-W2	27.9642	Confirmed LTF	27.9642
NY	NY	1.3466	Confirmed LTF	1.3466
TVA	TVA	2.0930	Confirmed LTF	2.0930
O-066	O-066	16.1251	Confirmed LTF	16.1251
SIGE	SIGE	0.2641	Confirmed LTF	0.2641
CBM-S1	CBM-S1	0.3861	Confirmed LTF	0.3861
G-007	G-007	2.5137	Confirmed LTF	2.5137
HAMLET	HAMLET	0.5989	Confirmed LTF	0.5989
MEC	MEC	16.4700	Confirmed LTF	16.4700
BLUEG	BLUEG	2.1457	Confirmed LTF	2.1457
TRIMBLE	TRIMBLE	0.7440	Confirmed LTF	0.7440
LAGN	LAGN	5.2552	Confirmed LTF	5.2552
CATAWBA	CATAWBA	0.3024	Confirmed LTF	0.3024
CBM-W1	CBM-W1	91.1580	Confirmed LTF	91.1580

13.5.19 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
174384737	275233	WILTON ;4M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	156.72	156.78	DC	46.21

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274658	DRESDEN ;2U	123.2540	Adder	145.0
274659	DRESDEN ;3U	119.0934	Adder	140.11
274771	LINCOLN ;2U	3.5496	50/50	3.5496
274772	LINCOLN ;3U	3.5496	50/50	3.5496
274773	LINCOLN ;4U	3.5496	50/50	3.5496
274774	LINCOLN ;5U	3.5496	50/50	3.5496
274775	LINCOLN ;6U	3.5496	50/50	3.5496
274776	LINCOLN ;7U	3.5496	50/50	3.5496
274777	LINCOLN ;8U	3.5496	50/50	3.5496
275149	KELLYCK ;1E	20.4680	Adder	24.08
276167	Z1-106 E2	1.3383	Adder	1.57
276168	Z1-106 E1	1.3382	Adder	1.57
276169	Z1-107 E	2.7385	Adder	3.22
276170	Z1-108 E	2.6328	Adder	3.1
276591	L-013 2	3.8811	Adder	4.57
290021	O50 E	21.0800	Adder	24.8
290108	LEEDK;1U E	25.9080	Adder	30.48
293061	N-015 E	16.8820	Adder	19.86
293644	O22 E1	11.0678	Adder	13.02
293645	O22 E2	21.4845	Adder	25.28
293777	CAYUG;1U E	17.5328	Adder	20.63
293778	CAYUG;2U E	17.5328	Adder	20.63
293799	PILOT HIL;1E	20.4680	Adder	24.08
294392	P-010 E	21.4402	Adder	25.22
910542	X3-005 E	0.7767	Adder	0.91
915011	Y3-013 1	3.9533	Adder	4.65
915021	Y3-013 2	3.9533	Adder	4.65
915031	Y3-013 3	3.9533	Adder	4.65
918052	AA1-018 E OP	17.7547	Adder	20.89
920272	AA2-123 E	2.5879	Adder	3.04
926331	AC1-110 1	2.0132	Adder	2.37
926341	AC1-110 2	2.0132	Adder	2.37
927451	AC1-142A 1	4.4344	Adder	5.22
927461	AC1-142A 2	4.4344	Adder	5.22
930501	AB1-091 CT	45.3739	Adder	53.38
930502	AB1-091 ST	36.0740	Adder	42.44
930761	AB1-122 CT1	48.2135	Adder	56.72
930771	AB1-122 CT2	78.4346	Adder	92.28
933411	AC2-154 C	2.7778	Adder	3.27
933412	AC2-154 E	4.5322	Adder	5.33
933431	AC2-156 C O1	1.0152	Adder	1.19
933432	AC2-156 E O1	1.6564	Adder	1.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933931	AD1-016 C	0.9823	Adder	1.16
933932	AD1-016 E	1.6027	Adder	1.89
934101	AD1-039 1	7.2752	Adder	8.56
934111	AD1-039 2	7.6866	Adder	9.04
934721	AD1-100 C	25.4885	Adder	29.99
934722	AD1-100 E	118.9464	Adder	139.94
934871	AD1-116 C	1.0340	Adder	1.22
934872	AD1-116 E	1.6870	Adder	1.98
935001	AD1-133 C O1	23.5513	Adder	27.71
935002	AD1-133 E O1	15.7009	Adder	18.47
936291	AD2-038 C O1	2.6061	Adder	3.07
936292	AD2-038 E O1	17.4407	Adder	20.52
936371	AD2-047 C O1	4.9708	Adder	5.85
936372	AD2-047 E O1	24.2692	Adder	28.55
936461	AD2-060	2.9240	Adder	3.44
936511	AD2-066 C O1	9.0533	Adder	10.65
936512	AD2-066 E O1	6.0355	Adder	7.1
937401	AD2-194 1	8.2554	Adder	9.71
937411	AD2-194 2	8.2564	Adder	9.71
938511	AE1-070 1	9.7013	Adder	11.41
938521	AE1-070 2	8.8745	Adder	10.44
938851	AE1-113 C O1	8.6955	Adder	10.23
938852	AE1-113 E O1	30.8295	Adder	36.27
939321	AE1-163 C O1	6.5486	Adder	7.7
939322	AE1-163 E O1	40.2273	Adder	47.33
939351	AE1-166 C O1	6.6669	Adder	14.8
939352	AE1-166 E O1	6.1541	Adder	13.66
939401	AE1-172 C O1	6.9919	Adder	8.23
939402	AE1-172 E O1	32.8056	Adder	38.59
940101	AE1-252 C O1	14.0462	Adder	16.52
940102	AE1-252 E O1	9.3641	Adder	11.02
940752	AE2-062 E	0.0732	Adder	0.16
941131	AE2-107 C	6.9952	Adder	8.23
941132	AE2-107 E	4.6634	Adder	5.49
941551	AE2-152 C O1	7.6926	Adder	17.08
941552	AE2-152 E O1	5.1284	Adder	11.38
941561	AE2-153 C O1	5.2587	Adder	6.19
941562	AE2-153 E O1	24.6205	Adder	28.97
942421	AE2-255 C O1	3.2938	Adder	3.88
942422	AE2-255 E O1	9.8813	Adder	11.63
942651	AE2-281 C O1	0.9355	Adder	1.1
942652	AE2-281 E O1	5.7468	Adder	6.76
942991	AE2-321 C	8.6655	Adder	10.19
942992	AE2-321 E	4.2681	Adder	5.02
943121	AE2-341 C	13.5456	Adder	15.94
943122	AE2-341 E	6.6516	Adder	7.83
943591	AF1-030 C O1	9.0080	Adder	10.6
943592	AF1-030 E O1	4.4569	Adder	5.24
943801	AF1-048 C	4.0508	Adder	4.77
943802	AF1-048 E	2.7005	Adder	3.18
944041	AF1-072	2.2801	Adder	2.68
944911	AF1-156 C	13.4456	Adder	15.82

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944912	AF1-156 E	8.9638	Adder	10.55
945351	AF1-200 FTIR	330.4026	Merchant Transmission	330.4026
946661	AF1-330 C	2.1221	Adder	2.5
946662	AF1-330 E	0.4658	Adder	0.55
957331	AF2-027 C	2.6355	Adder	3.1
957332	AF2-027 E	3.9533	Adder	4.65
957401	AF2-034 C	1.4828	Adder	1.74
957402	AF2-034 E	1.2631	Adder	1.49
958011	AF2-095 C O1	19.8832	Adder	23.39
958012	AF2-095 E O1	9.3568	Adder	11.01
958021	AF2-096 C	37.8272	Adder	44.5
958022	AF2-096 E	17.8010	Adder	20.94
958481	AF2-142 C	12.2446	Adder	14.41
958482	AF2-142 E	8.1631	Adder	9.6
958491	AF2-143 C	12.0281	Adder	14.15
958492	AF2-143 E	8.0187	Adder	9.43
959351	AF2-226 C	2.7127	Adder	3.19
959352	AF2-226 E	4.0690	Adder	4.79
960281	AF2-319 C	2.7127	Adder	3.19
960282	AF2-319 E	4.0690	Adder	4.79
960381	AF2-329	7.0287	Adder	8.27
960591	AF2-350 C O1	8.7720	Adder	10.32
960592	AF2-350 E O1	5.8480	Adder	6.88
960601	AF2-351 C O1	1.1696	Adder	1.38
960602	AF2-351 E O1	1.7544	Adder	2.06
960731	AF2-364 C O1	6.5057	Adder	7.65
960732	AF2-364 E O1	4.3371	Adder	5.1
960751	AF2-366 C	7.4012	Adder	8.71
960752	AF2-366 E	4.9341	Adder	5.8
961501	AF2-441 C O1	10.6359	Adder	12.51
961502	AF2-441 E O1	15.9538	Adder	18.77
962691	AG1-118 C O2	12.4919	Adder	27.73
962692	AG1-118 E O2	8.3279	Adder	18.49
962701	AG1-119 C O2	12.6979	Adder	28.19
962702	AG1-119 E O2	8.4653	Adder	18.79
962711	AG1-120 C O2	5.0199	Adder	11.14
962712	AG1-120 E O2	3.3466	Adder	7.43
962781	AG1-127 C O2	4.3442	Adder	9.64
962782	AG1-127 E O2	2.8962	Adder	6.43
964361	AG1-298 O2	35.8958	Adder	79.68
964581	AG1-321 C O2	9.3945	Adder	20.85
964582	AG1-321 E O2	5.4702	Adder	12.14
965141	AG1-379 C	9.5803	Adder	21.27
965142	AG1-379 E	4.3852	Adder	9.73
966081	AG1-477 C	1.1371	Adder	2.52
966082	AG1-477 E	0.2861	Adder	0.64
966091	AG1-478 C	1.1785	Adder	2.62
966092	AG1-478 E	0.2965	Adder	0.66
966101	AG1-479 C (Withdrawn : 12/03/2020)	1.1371	Adder	2.52
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.2861	Adder	0.64
966441	AG1-513 C	0.2856	Adder	0.63

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966442	AG1-513 E	0.4284	Adder	0.95
966651	AG1-535 O2	6.0246	Adder	13.37
WEC	WEC	4.6648	Confirmed LTF	4.6648
CBM-W2	CBM-W2	28.5376	Confirmed LTF	28.5376
NY	NY	1.3759	Confirmed LTF	1.3759
TVA	TVA	2.1350	Confirmed LTF	2.1350
O-066	O-066	16.4750	Confirmed LTF	16.4750
SIGE	SIGE	0.2695	Confirmed LTF	0.2695
CBM-S1	CBM-S1	0.3933	Confirmed LTF	0.3933
G-007	G-007	2.5683	Confirmed LTF	2.5683
HAMLET	HAMLET	0.6121	Confirmed LTF	0.6121
MEC	MEC	16.8164	Confirmed LTF	16.8164
BLUEG	BLUEG	2.1943	Confirmed LTF	2.1943
TRIMBLE	TRIMBLE	0.7607	Confirmed LTF	0.7607
LAGN	LAGN	5.3637	Confirmed LTF	5.3637
CATAWBA	CATAWBA	0.3094	Confirmed LTF	0.3094
CBM-W1	CBM-W1	93.0788	Confirmed LTF	93.0788

13.5.20 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
169877257	960680	AF2-359 TAP	CE	243229	05OLIVE	AEP	1	COMED_P1-2_765-L11215__S	single	971.0	123.19	123.82	DC	18.25

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.8520	Adder	2.18
274654	BRAIDWOOD;1U	21.0587	80/20	21.0587
274655	BRAIDWOOD;2U	20.5935	80/20	20.5935
274658	DRESDEN ;2U	81.3536	Adder	95.71
274659	DRESDEN ;3U	77.2821	Adder	90.92
274660	LASCO STA;1U	19.6084	80/20	19.6084
274661	LASCO STA;2U	19.6916	80/20	19.6916
274675	JOLIET 29;7U	8.9537	80/20	8.9537
274802	UNIV PARK;5U	1.2023	80/20	1.2023
274803	UNIV PARK;6U	1.2023	80/20	1.2023
274805	UNIV PK N;1U	1.4335	80/20	1.4335
274806	UNIV PK N;2U	1.4190	80/20	1.4190
274807	UNIV PK N;3U	1.4423	80/20	1.4423
274808	UNIV PK N;4U	1.4364	80/20	1.4364
274809	UNIV PK N;5U	1.4219	80/20	1.4219
274810	UNIV PK N;6U	1.4364	80/20	1.4364
274811	UNIV PK N;7U	1.4423	80/20	1.4423
274812	UNIV PK N;8U	1.4306	80/20	1.4306
274813	UNIV PK N;9U	1.4306	80/20	1.4306
274814	UNIV PK N;0U	1.4248	80/20	1.4248
274815	UNIV PK N;XU	1.4335	80/20	1.4335
274816	UNIV PK N;YU	1.4423	80/20	1.4423
274891	OTTER CRK;1U	0.3473	80/20	0.3473
904201	W3-134	0.1846	80/20	0.1846
915011	Y3-013 1	2.6196	Adder	3.08
915021	Y3-013 2	2.6196	Adder	3.08
915031	Y3-013 3	2.6196	Adder	3.08
924472	AB2-096 CT1	13.3022	Adder	15.65
924473	AB2-096 CT2	13.3022	Adder	15.65
924474	AB2-096 CT3	13.3022	Adder	15.65
926331	AC1-110 1	1.3292	Adder	1.56
926341	AC1-110 2	1.3292	Adder	1.56
927451	AC1-142A 1	3.5059	80/20	3.5059
927461	AC1-142A 2	2.9789	Adder	3.5
930482	AB1-089 CT	25.5440	Adder	30.05
930483	AB1-089 ST	20.3084	Adder	23.89
930501	AB1-091 CT	27.5598	Adder	32.42
930502	AB1-091 ST	21.9111	Adder	25.78
930761	AB1-122 CT1	48.1272	Adder	56.62
930771	AB1-122 CT2	51.7537	Adder	60.89
933411	AC2-154 C	1.7460	Adder	2.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933431	AC2-156 C O1	0.6686	Adder	0.79
933911	AD1-013 C	1.2979	Adder	1.53
933931	AD1-016 C	0.6475	Adder	0.76
934101	AD1-039 1	4.7165	Adder	5.55
934111	AD1-039 2	5.0719	Adder	5.97
934701	AD1-098 C O1	4.8398	Adder	5.69
934721	AD1-100 C	13.4640	Adder	15.84
934871	AD1-116 C	0.8580	80/20	0.8580
934971	AD1-129 C	0.6302	Adder	0.74
936291	AD2-038 C O1	1.7986	Adder	2.12
936371	AD2-047 C O1	3.1244	Adder	3.68
936461	AD2-060	1.8379	Adder	2.16
936511	AD2-066 C O1	5.9456	Adder	6.99
937001	AD2-134 C	1.9229	Adder	2.26
937401	AD2-194 1	5.4830	Adder	6.45
937411	AD2-194 2	5.4800	Adder	6.45
938511	AE1-070 1	6.4389	Adder	7.58
938521	AE1-070 2	5.8942	Adder	6.93
938851	AE1-113 C O1	5.6998	Adder	6.71
939321	AE1-163 C O1	4.5194	Adder	5.32
939351	AE1-166 C O1	3.7940	Adder	8.42
941131	AE2-107 C	4.5992	Adder	5.41
941551	AE2-152 C O1	4.3776	Adder	9.72
941561	AE2-153 C O1	3.8942	80/20	3.8942
942421	AE2-255 C O1	2.1590	Adder	2.54
942651	AE2-281 C O1	0.6456	Adder	0.76
942991	AE2-321 C	5.7121	Adder	6.72
943121	AE2-341 C	8.9238	Adder	10.5
943591	AF1-030 C O1	5.9344	Adder	6.98
943801	AF1-048 C	2.6702	Adder	3.14
944041	AF1-072	1.5057	Adder	1.77
944911	AF1-156 C	9.9567	80/20	9.9567
945351	AF1-200 FTIR	215.8321	Merchant Transmission	215.8321
946661	AF1-330 C	1.3989	Adder	1.65
946671	AF1-331	1.6856	Adder	1.98
957331	AF2-027 C	1.7464	Adder	2.05
957401	AF2-034 C	0.9732	Adder	1.14
957471	AF2-041 C	14.9466	Adder	17.58
958011	AF2-095 C O1	12.4952	Adder	14.7
958021	AF2-096 C	28.2565	80/20	28.2565
958481	AF2-142 C	10.1601	80/20	10.1601
958491	AF2-143 C	8.3010	Adder	9.77
959081	AF2-199 C	4.9822	Adder	5.86
959091	AF2-200 C O1	9.9644	Adder	11.72
959351	AF2-226 C	1.7019	Adder	2.0
960281	AF2-319 C	1.7019	Adder	2.0
960381	AF2-329	4.6305	Adder	5.45
960581	AF2-349 C	15.1929	Adder	17.87
960591	AF2-350 C O1	5.5131	Adder	6.49
960601	AF2-351 C O1	0.7351	Adder	0.86
960681	AF2-359 C	64.1422	80/20	64.1422
960721	AF2-363 C O1	4.1203	Adder	4.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960731	AF2-364 C O1	4.2946	Adder	5.05
960751	AF2-366 C	4.8680	Adder	5.73
962691	AG1-118 C O2	8.2217	Adder	18.25
962701	AG1-119 C O2	8.3790	Adder	18.6
962711	AG1-120 C O2	3.3125	Adder	7.35
962781	AG1-127 C O2	2.8573	Adder	6.34
962791	AG1-128 C O2	2.3054	Adder	5.12
963681	AG1-220 C O2	3.9904	Adder	8.86
964461	AG1-309 FTIR	161.2848	Merchant Transmission	161.2848
965061	AG1-371	1.3203	Adder	2.93
965071	AG1-372	0.8802	Adder	1.95
965081	AG1-373	0.4401	Adder	0.98
965141	AG1-379 C	6.2798	Adder	13.94
965551	AG1-423 C O2	5.3914	Adder	11.97
965661	AG1-434 C O2	1.5666	Adder	3.48
965681	AG1-436 C	64.1422	80/20	64.1422
965791	AG1-447	47.0376	80/20	47.0376
965801	AG1-448	47.0376	80/20	47.0376
966081	AG1-477 C	0.7476	Adder	1.66
966091	AG1-478 C	0.7712	Adder	1.71
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.7476	Adder	1.66
966431	AG1-512 C	3.6634	80/20	3.6634
966441	AG1-513 C	0.1886	Adder	0.42
966651	AG1-535 O2	3.9774	Adder	8.83
WEC	WEC	3.0779	Confirmed LTF	3.0779
CBM-W2	CBM-W2	16.3699	Confirmed LTF	16.3699
NY	NY	0.8699	Confirmed LTF	0.8699
TVA	TVA	1.2096	Confirmed LTF	1.2096
SIGE	SIGE	0.1443	Confirmed LTF	0.1443
CHEOAH	CHEOAH	0.0075	Confirmed LTF	0.0075
CBM-S1	CBM-S1	0.2109	Confirmed LTF	0.2109
HAMLET	HAMLET	0.3921	Confirmed LTF	0.3921
MEC	MEC	10.7639	Confirmed LTF	10.7639
GIBSON	GIBSON	0.0966	Confirmed LTF	0.0966
BLUEG	BLUEG	1.5537	Confirmed LTF	1.5537
TRIMBLE	TRIMBLE	0.5292	Confirmed LTF	0.5292
LAGN	LAGN	3.2287	Confirmed LTF	3.2287
CATAWBA	CATAWBA	0.2002	Confirmed LTF	0.2002
CBM-W1	CBM-W1	55.3089	Confirmed LTF	55.3089

13.6 Contingency Descriptions - Secondary POI

Contingency Name	Contingency Definition
COMED_P4_167-38-TR81__	CONTINGENCY 'COMED_P4_167-38-TR81__' / CONTINGENCY # 676 TRIP BRANCH FROM BUS 270846 TO BUS 270730 CKT 1 / PLANO ; B 345 ELECT JCT; B 345 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 2 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 1 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 270846 TO BUS 272278 TO BUS 275354 CKT 1 / PLANO ; B 345 PLANO;1I 138 PLANO;1C 34.5 DISCONNECT BUS 272250 / PLANO ; B 138 END
COMED_P2-2_120_LO-345R__2	CONTINGENCY 'COMED_P2-2_120_LO-345R__2' / CONTINGENCY # 130 TRIP BRANCH FROM BUS 270813 TO BUS 270753 CKT 1 / LOMBARD ; R 345 ESS W407M;OT 345 TRIP BRANCH FROM BUS 270813 TO BUS 270781 CKT 1 / LOMBARD ; R 345 ITASCA ; R 345 TRIP BRANCH FROM BUS 270813 TO BUS 270809 CKT 1 / LOMBARD ; R 345 LISLE ; R 345 DISCONNECT BUS 275198 / LOMBARD ;2M 138 END
COMED_P1-2_765-L2315__S	CONTINGENCY 'COMED_P1-2_765-L2315__S' / 2979 OPEN BRANCH FROM BUS 270607 TO BUS 270630 CKT 1 / 270607 COLLINS ; 765 270630 PLANO ; 765 1 END
COMED_P1-2_138-L14609_R-R-A	CONTINGENCY 'COMED_P1-2_138-L14609_R-R-A' / CONTINGENCY # 316 TRIP BRANCH FROM BUS 272251 TO BUS 272803 CKT 1 / PLANO; R 138 W PLANO ; R 138 TRIP BRANCH FROM BUS 272803 TO BUS 943120 CKT 1 / W PLANO ; R 138 AE2-341 TAP 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271116 / W PLANO ; R 138 BRISTOL ; B 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271117 / W PLANO ; R 138 BRISTOL ; R 138 MOVE 50 PERCENT LOAD FROM BUS 272803 TO BUS 272445 / W PLANO ; R 138 SANDWICH ; R 138 END
AEP_P2-2_#672_05EUGENE 345_1	CONTINGENCY 'AEP_P2-2_#672_05EUGENE 345_1' OPEN BRANCH FROM BUS 963840 TO BUS 243221 CKT 1 / 963840 AG1-237 TAP 345 243221 05EUGENE 345 1 END

Contingency Name	Contingency Definition
COMED_P7-1_345-L13821_R-R+_345-L18502AB-N	CONTINGENCY 'COMED_P7-1_345-L13821_R-R+_345-L18502AB-N' / CONTINGENCY # 127 TRIP BRANCH FROM BUS 270883 TO BUS 270807 CKT 1 / SILVER LK; R 345 LIBERTYVI; R 345 TRIP BRANCH FROM BUS 270900 TO BUS 270806 CKT 1 / TOLLWAY ; B 345 LIBERTYVI; B 345 END
COMED_P4_112-65-BT3-4__	CONTINGENCY 'COMED_P4_112-65-BT3-4__' / 3130 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 OPEN BRANCH FROM BUS 270644 TO BUS 275232 CKT 1 / 270644 WILTON ; 765 275232 WILTON ;3M 345 1 OPEN BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / 275232 WILTON ;3M 345 270926 WILTON ; B 345 1 OPEN BRANCH FROM BUS 275332 TO BUS 275232 CKT 1 / 275332 WILTON ;3C 33.0 275232 WILTON ;3M 345 1 OPEN SHUNT FROM BUS 270644 CKT 1 /* 270644 WILTON ; 765 END
AEP_P1-2_#8810	CONTINGENCY 'AEP_P1-2_#8810' / 1330 OPEN BRANCH FROM BUS 243219 TO BUS 243918 CKT 1 / 243219 05DUMONT 345 243918 05ELDERBERRY 345 1 END
AEP_P7-1_#11001	CONTINGENCY 'AEP_P7-1_#11001' OPEN BRANCH FROM BUS 243219 TO BUS 246955 CKT 1 / 243219 05DUMONT 345 246955 05OLIVE_BP 345 1 OPEN BRANCH FROM BUS 243228 TO BUS 243232 CKT 1 / 243228 05MERIDN 345 243232 05SORENS 345 1 OPEN BRANCH FROM BUS 243232 TO BUS 246955 CKT 1 / 243232 05SORENS 345 246955 05OLIVE_BP 345 1 END
COMED_P2-2_116_GG-345R__2	CONTINGENCY 'COMED_P2-2_116_GG-345R__2' / CONTINGENCY # 118 DISCONNECT BUS 270769 / GOODINGS ;2R 345 END
AEP_P7-1_#11046	CONTINGENCY 'AEP_P7-1_#11046' OPEN BRANCH FROM BUS 243219 TO BUS 246955 CKT 1 / 243219 05DUMONT 345 246955 05OLIVE_BP 345 1 OPEN BRANCH FROM BUS 243228 TO BUS 243234 CKT 1 / 243228 05MERIDN 345 243234 05TWIN B 345 1 OPEN BRANCH FROM BUS 243232 TO BUS 246955 CKT 1 / 243232 05SORENS 345 246955 05OLIVE_BP 345 1 END

Contingency Name	Contingency Definition
COMED_P4_112-65-BT4-5__	CONTINGENCY 'COMED_P4_112-65-BT4-5__' / 2515 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 OPEN BRANCH FROM BUS 270644 TO BUS 275233 CKT 1 / 270644 WILTON ; 765 275233 WILTON ;4M 345 1 OPEN BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / 275233 WILTON ;4M 345 270927 WILTON ; R 345 1 OPEN BRANCH FROM BUS 275333 TO BUS 275233 CKT 1 / 275333 WILTON ;4C 33.0 275233 WILTON ;4M 345 1 OPEN SHUNT FROM BUS 270644 CKT 1 /* 270644 WILTON ; 765 END
COMED_P4_111-45-L16703__	CONTINGENCY 'COMED_P4_111-45-L16703__' / 3238 OPEN BRANCH FROM BUS 270846 TO BUS 270847 CKT 1 / 270846 PLANO ; B 345 270847 PLANO ; R 345 1 OPEN BRANCH FROM BUS 270733 TO BUS 270847 CKT 1 / 270733 ELECT JCT;3R 345 270847 PLANO ; R 345 1 OPEN BRANCH FROM BUS 270717 TO BUS 270731 CKT 1 / 270717 DRESDEN ; R 345 270731 ELECT JCT;4R 345 1 OPEN BRANCH FROM BUS 270731 TO BUS 270733 CKT 1 / 270731 ELECT JCT;4R 345 270733 ELECT JCT;3R 345 1 OPEN BRANCH FROM BUS 270731 TO BUS 274749 CKT 1 / 270731 ELECT JCT;4R 345 274749 AURORA EC;RP 345 1 OPEN BRANCH FROM BUS 270731 TO BUS 275184 CKT 1 / 270731 ELECT JCT;4R 345 275184 ELECT JCT;4M 138 1 OPEN BRANCH FROM BUS 275184 TO BUS 271393 CKT 1 / 275184 ELECT JCT;4M 138 271393 ELECT JCT;4R 138 1 OPEN BRANCH FROM BUS 275284 TO BUS 275184 CKT 1 / 275284 ELECT JCT;4C 34.5 275184 ELECT JCT;4M 138 1 END
COMED_P2-2_111_EJ-345R__3	CONTINGENCY 'COMED_P2-2_111_EJ-345R__3' / CONTINGENCY # 103 DISCONNECT BUS 270733 / ELECT JCT;3R 345 DISCONNECT BUS 275183 / ELECT JCT;3M 138 END
COMED_P1-2_765-L11215__-S	CONTINGENCY 'COMED_P1-2_765-L11215__-S' / 2294 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 OPEN SHUNT FROM BUS 270644 CKT 1 /* 270644 WILTON ; 765 END

Contingency Name	Contingency Definition
COMED_P1-2_138-L11106_B-R-AA	CONTINGENCY 'COMED_P1-2_138-L11106_B-R-AA' / CONTINGENCY # 190 TRIP BRANCH FROM BUS 271390 TO BUS 271586 CKT 1 / ELECT JCT; B 138 ESS W541 ; B 138 TRIP BRANCH FROM BUS 271586 TO BUS 272114 CKT 1 / ESS W541 ; B 138 N AURORA ; B 138 TRIP BRANCH FROM BUS 272114 TO BUS 272522 CKT 1 / N AURORA ; B 138 SUGAR GRV; B 138 TRIP BRANCH FROM BUS 962690 TO BUS 272522 CKT 1 / AG1-118 TAP 138 SUGAR GRV; B 138 MOVE 100 PERCENT LOAD FROM BUS 271586 TO BUS 271587 / ESS W541 ; B 138 ESS W541 ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272522 TO BUS 272523 / SUGAR GRV; B 138 SUGAR GRV; R 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 / N AURORA ; B 138 N AURORA ; R 138 END
COMED_P2-2_167_PL-138B__2	CONTINGENCY 'COMED_P2-2_167_PL-138B__2' / CONTINGENCY # 169 DISCONNECT BUS 272250 / PLANO ; B 138 END
COMED_P4_167-38-L14302_	CONTINGENCY 'COMED_P4_167-38-L14302_' / CONTINGENCY # 673 TRIP BRANCH FROM BUS 271116 TO BUS 272250 CKT 1 / BRISTOL ; B 138 PLANO ; B 138 TRIP BRANCH FROM BUS 272024 TO BUS 271182 CKT 1 / MONTGOMER; B 138 ESS W507 ; B 138 TRIP BRANCH FROM BUS 272026 TO BUS 271116 CKT 1 / MONTGOMER;BT 138 BRISTOL ; B 138 TRIP BRANCH FROM BUS 272026 TO BUS 272024 CKT 1 / MONTGOMER;BT 138 MONTGOMER; B 138 TRIP BRANCH FROM BUS 272202 TO BUS 272026 CKT 1 / OSWEGO ; B 138 MONTGOMER;BT 138 TRIP BRANCH FROM BUS 272794 TO BUS 272202 CKT 1 / WOLFS ; B 138 OSWEGO ; B 138 MOVE 100 PERCENT LOAD FROM BUS 271116 TO BUS 271117 / BRISTOL ; B 138 BRISTOL ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272202 TO BUS 272203 / OSWEGO ; B 138 OSWEGO ; R 138 CLOSE LINE FROM BUS 271182 TO BUS 271183 CKT 1 / ESS W507 ; B 138 ESS W507 ; R 138 CLOSE LINE FROM BUS 272024 TO BUS 272025 CKT 1 / MONTGOMER; B 138 MONTGOMER; R 138 DISCONNECT BUS 272250 / PLANO ; B 138 END
Base Case	

Contingency Name	Contingency Definition
COMED_P4_167-38-L14609_	CONTINGENCY 'COMED_P4_167-38-L14609_' / CONTINGENCY # 675 TRIP BRANCH FROM BUS 272251 TO BUS 272803 CKT 1 / PLANO; R 138 W PLANO ; R 138 TRIP BRANCH FROM BUS 272803 TO BUS 943120 CKT 1 / W PLANO ; R 138 AE2-341 TAP 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271116 / W PLANO ; R 138 BRISTOL ; B 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271117 / W PLANO ; R 138 BRISTOL ; R 138 MOVE 50 PERCENT LOAD FROM BUS 272803 TO BUS 272444 / W PLANO ; R 138 SANDWICH ; B 138 DISCONNECT BUS 272251 / PLANO; R 138 END
COMED_P7-1_345-L2002__B-S+_345-L2004__R-S-B	CONTINGENCY 'COMED_P7-1_345-L2002__B-S+_345-L2004__R-S-B' / MODIFY TRIP BRANCH FROM BUS 270670 TO BUS 270671 CKT 1 / BRAID; B 345 BRAID; R 345 TRIP BRANCH FROM BUS 270670 TO BUS 934730 CKT 1 / BRAID; B 345 AD1-100 TAP 345 TRIP BRANCH FROM BUS 941560 TO BUS 270711 CKT 1 / AE2-153 TAP 345 DAVIS; R 345 END
COMED_P4_111-45-L11120_	CONTINGENCY 'COMED_P4_111-45-L11120_' / 1799 OPEN BRANCH FROM BUS 270733 TO BUS 270747 CKT 1 / 270733 ELECT JCT;3R 345 270747 ESS W407K;OT 345 1 OPEN BRANCH FROM BUS 270747 TO BUS 270753 CKT 1 / 270747 ESS W407K;OT 345 270753 ESS W407M;OT 345 1 OPEN BRANCH FROM BUS 270749 TO BUS 270753 CKT 1 / 270749 ESS W407M; R 345 270753 ESS W407M;OT 345 1 OPEN BRANCH FROM BUS 270753 TO BUS 270813 CKT 1 / 270753 ESS W407M;OT 345 270813 LOMBARD ; R 345 1 OPEN BRANCH FROM BUS 270731 TO BUS 270733 CKT 1 / 270731 ELECT JCT;4R 345 270733 ELECT JCT;3R 345 1 OPEN BRANCH FROM BUS 270733 TO BUS 270847 CKT 1 / 270733 ELECT JCT;3R 345 270847 PLANO ; R 345 1 OPEN BRANCH FROM BUS 270733 TO BUS 275183 CKT 1 / 270733 ELECT JCT;3R 345 275183 ELECT JCT;3M 138 1 OPEN BRANCH FROM BUS 275183 TO BUS 271391 CKT 1 / 275183 ELECT JCT;3M 138 271391 ELECT JCT;3R 138 1 OPEN BRANCH FROM BUS 275283 TO BUS 275183 CKT 1 / 275283 ELECT JCT;3C 34.5 275183 ELECT JCT;3M 138 1 MOVE 100.00 PERCENT LOAD FROM BUS 270749 TO BUS 270751 / FROM 270749 ESS W407M; R 345 TO 270751 ESS W407M;9T 345 . LOAD=18.00 END
EXT_P12:345:MEC:CORDOVA:SUB 39	CONTINGENCY 'EXT_P12:345:MEC:CORDOVA:SUB 39' / 1561 OPEN BRANCH FROM BUS 636600 TO BUS 636605 CKT 1 / 636600 SB 39 3 345 636605 MECCORD3 345 1 END

Contingency Name	Contingency Definition
COMED_P4_112-65-BT2-3__	CONTINGENCY 'COMED_P4_112-65-BT2-3__' / 2653 OPEN BRANCH FROM BUS 270607 TO BUS 270644 CKT 1 / 270607 COLLINS ; 765 270644 WILTON ; 765 1 OPEN BRANCH FROM BUS 270644 TO BUS 275232 CKT 1 / 270644 WILTON ; 765 275232 WILTON ;3M 345 1 OPEN BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / 275232 WILTON ;3M 345 270926 WILTON ; B 345 1 OPEN BRANCH FROM BUS 275332 TO BUS 275232 CKT 1 / 275332 WILTON ;3C 33.0 275232 WILTON ;3M 345 1 END
COMED_P4_112-65-BT5-6__	CONTINGENCY 'COMED_P4_112-65-BT5-6__' / 2675 OPEN BRANCH FROM BUS 270607 TO BUS 270644 CKT 1 / 270607 COLLINS ; 765 270644 WILTON ; 765 1 OPEN BRANCH FROM BUS 270644 TO BUS 275233 CKT 1 / 270644 WILTON ; 765 275233 WILTON ;4M 345 1 OPEN BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / 275233 WILTON ;4M 345 270927 WILTON ; R 345 1 OPEN BRANCH FROM BUS 275333 TO BUS 275233 CKT 1 / 275333 WILTON ;4C 33.0 275233 WILTON ;4M 345 1 END

14 Affected Systems

14.1 MISO

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

Attachment 1: One Line Diagram