



**Generation Interconnection
Feasibility Study Report
for
Queue Project AF2-096
“BRAIDWOOD-EAST FRANKFORT 345 KV”**

July 2020

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 combined solar/storage generating facility to be located in Will County, Illinois. The installed facilities will have a total capability of 375 MW with 255 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is March 31, 2022. This study does not imply a TO commitment to this in-service date.

Queue Number	AF2-096
Project Name	BRAIDWOOD-EAST FRANKFORT 345 KV
State	Illinois
County	Will
Transmission Owner	ComEd
MFO	375
MWE	375
MWC	254.6
Fuel	Solar; Storage
Basecase Study Year	2023

A new service customer with a generating facility that could be commercially operable prior to June 1st of the basecase study year is required to request an interim deliverability analysis from PJM.

4 Point of Interconnection

Queue Position AF2-096, a facility consisting of 306 MW solar and 69 MW battery storage, proposes to interconnect with the ComEd transmission system by tying into the 345kV bus at the Sta. 20 Braidwood Substation.

5 Cost Summary

The AF2-096 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$9,000,000
Total System Network Upgrade Costs	\$105,593,440
Total Costs	\$114,593,440

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

6 Transmission Owner Scope of Work

Attachment Facilities

The AF2-096 generator lead would interconnect to the 345kV bus at the Sta. 20 Braidwood Substation. The required Attachment Facilities are one 345kV circuit breaker, a dead-end structure and revenue metering as shown in the one-line diagram.

Scope of Work	Cost Estimate
Installation of one 345kV line circuit breaker, one dead-end structure and one set of revenue metering (see notes below on cost estimate)	\$5,000,000
Total Cost Estimate (see notes below on cost estimate)	\$5,000,000

Direct and Non-Direct Connection Network Upgrades

To accommodate interconnection of AF2-096, the 345kV ring bus switchgear at Sta. 20 Braidwood substation would be expanded to create a line position for the IC's generator lead.

The scope of work includes the installation of one 345 kV circuit breaker at this Interconnection Substation to create a line position for the IC's generator lead, as shown in the one-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.

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

Scope of Work	Cost Estimate
Installation of one 345kV circuit breaker at Sta. 20 Braidwood and relay/protection work	\$4,000,000
Total Cost Estimate (see notes below on cost estimate)	\$4,000,000

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

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 11.5.

8 Transmission Owner Analysis

See Section 6.

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 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>

To the extent that these Applicable Technical Requirements and Standards may conflict with the terms and conditions of the Tariff, the Tariff shall control.

11 Summer Peak - Load Flow Analysis - Primary POI

The Queue Project AF2-096 was evaluated as a 375.0 MW (Capacity 254.6 MW) injection at the Braidwood 345 kV substation in the ComEd area. Project AF2-096 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-096 was studied with a commercial probability of 53.0 %. Potential network impacts were as follows:

11.1 Generation Deliverability

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

None

11.2 Multiple Facility Contingency

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

None

11.3 Contribution to Previously Identified Overloads

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADI NG %	POST PROJE CT LOADI NG %	AC DC	MW IMPA CT
961823 35	2551 12	17STJOHN	345 .0	NIPS	2708 86	ST JOHN ; T	345 .0	CE	1	AEP_P4_#2978_05DUMONT_ FSA	break er	1091 .0	121.56	121.85	DC	38.13
961823 36	2551 12	17STJOHN	345 .0	NIPS	2708 86	ST JOHN ; T	345 .0	CE	1	AEP_P4_#2978_05DUMONT_ NON_FSA	break er	1091 .0	121.56	121.85	DC	38.13
961823 37	2551 12	17STJOHN	345 .0	NIPS	2708 86	ST JOHN ; T	345 .0	CE	1	COMED_P4_023-65-BT2-3_	break er	1091 .0	121.51	121.8	DC	38.46
961823 38	2551 12	17STJOHN	345 .0	NIPS	2708 86	ST JOHN ; T	345 .0	CE	1	COMED_P4_112-65-BT4-5_	break er	1091 .0	121.36	121.64	DC	38.42
104836 988	2551 12	17STJOHN	345 .0	NIPS	2708 86	ST JOHN ; T	345 .0	CE	1	COMED_P4_112-65-BT3-4_	break er	1091 .0	121.36	121.64	DC	38.42
952505 79	2551 13	17STILLW ELL	345 .0	NIPS	2432 19	05DUMON T	345 .0	AEP	1	COMED_P1-2_695_B2	single	1409 .0	101.25	102.52	DC	39.47
986808 86	2646 12	19MON12	345 .0	ITCT	2419 01	02LALLEND ORF	345 .0	ATS I	1	ATSI-P1-2-TE-345-605T	single	1244 .0	141.38	141.39	DC	14.66
961823 32	2706 70	BRAIDWO OD; B	345 .0	CE	2706 71	BRAIDWOO D; R	345 .0	CE	1	ADD AD1-100 5	break er	1726 .0	109.54	120.18	DC	183.6
961836 75	2707 28	E FRANKFO; B	345 .0	CE	2707 66	GOODINGS ;3B	345 .0	CE	1	COMED_P7_345-L94507_B-S_+_345-L97008_R-S-B	towe r	2084 .0	116.49	119.09	DC	54.45
961836 76	2707 28	E FRANKFO; B	345 .0	CE	2707 66	GOODINGS ;3B	345 .0	CE	1	COMED_P7_345-L94507_B-S_+_345-L97008_R-S-A	towe r	2084 .0	116.49	119.09	DC	54.45
961823 63	2708 02	LASCO STA; B	345 .0	CE	2708 46	PLANO ; B	345 .0	CE	1	COMED_P4_167-45-BT2-5_	break er	1528 .0	115.64	118.75	DC	46.89
961823 11	2708 46	PLANO ; B	345 .0	CE	2707 30	ELECT JCT; B	345 .0	CE	1	COMED_P4_167-45-BT5-6_	break er	1341 .0	124.01	124.78	DC	22.8

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
96182340	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIP S	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1091.0	121.56	121.84	DC	38.13
96182341	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIP S	1	AEP_P4_#2978_05DUMONT_FSA	breaker	1091.0	121.56	121.85	DC	38.13
96182342	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIP S	1	COMED_P4_023-65-BT2-3__	breaker	1091.0	121.5	121.79	DC	38.46
96182343	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIP S	1	COMED_P4_112-65-BT4-5__	breaker	1091.0	121.35	121.64	DC	38.42
96182344	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIP S	1	COMED_P4_023-65-BT4-5__	breaker	1091.0	121.35	121.63	DC	38.44
96182334	270926	WILTON ; B	345.0	CE	275232	WILTON ;3M	345.0	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.67	121.8	DC	64.6
96182322	270927	WILTON ; R	345.0	CE	275233	WILTON ;4M	345.0	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.21	124.35	DC	65.93
96182212	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	AEP_P4_#2978_05DUMONT_FSA	breaker	1399.0	154.83	155.07	DC	54.42
96182213	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1399.0	154.82	155.06	DC	54.42
96182710	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	COMED_P1-2_695_B2	single	1399.0	101.29	103.95	DC	37.13
96182333	275232	WILTON ;3M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.67	121.8	DC	64.6
96182321	275233	WILTON ;4M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.21	124.35	DC	65.93
96183668	934720	AD1-100 TAP	345.0	CE	270926	WILTON ; B	345.0	CE	1	COMED_P7_345-L2001__B-S+_345-L2003__R-S	tower	2221.0	115.73	118.74	DC	86.57
95250247	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	971.0	108.02	108.92	DC	41.75
95250248	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P4_#2978_05DUMONT_FSA	breaker	971.0	108.02	108.92	DC	41.75
95250249	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P4_023-65-BT2-3__	breaker	971.0	107.69	108.6	DC	42.13

11.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADING %	POST PROJE CT LOADING %	AC DC	MW IMPACT
96182849	255112	17STJOHN	345.0	NIP S	270886	ST JOHN ; T	345.0	CE	1	COMED_P1-2_695_B2	operation	1091.0	121.34	121.62	DC	38.42
96182724	270670	BRAIDWOOD ; B	345.0	CE	934730	AD1-100 TAP	345.0	CE	1	COMED_P1-2_345-L2004_AR-S-B	operation	1341.0	132.34	143.18	DC	145.55
96182733	270670	BRAIDWOOD ; B	345.0	CE	934730	AD1-100 TAP	345.0	CE	1	Base Case	operation	1245.0	98.76	108.34	DC	119.6

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
96182735	270728	E FRANKFO; B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	COMED_P1-2_345-L94507_B-S	operation	1726.0	140.5	143.6	DC	53.77
96182736	270728	E FRANKFO; B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	Base Case	operation	1334.0	130.94	131.85	DC	26.91
96182937	270802	LASCO STA; B	345.0	CE	270846	PLANO ; B	345.0	CE	1	COMED_P1-2_345-L0102_R-S	operation	1528.0	111.37	114.61	DC	49.1
96182936	270803	LASCO STA; R	345.0	CE	270847	PLANO ; R	345.0	CE	1	COMED_P1-2_345-L0101_B-S	operation	1528.0	111.57	114.82	DC	49.12
96182846	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_AC RE	345.0	NIPS	1	COMED_P1-2_695_B2	operation	1091.0	121.33	121.61	DC	38.42
96182707	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	COMED_P1-2_695_B2	operation	1399.0	154.64	154.89	DC	54.69
96182708	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	Base Case	operation	1091.0	153.25	153.42	DC	37.36
96182964	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P1-2_695_B2	operation	971.0	106.05	106.2	DC	42.11
96182673	934720	AD1-100 TAP	345.0	CE	270926	WILTON ; B	345.0	CE	1	Base Case	operation	1364.0	138.99	143.05	DC	55.31
96182827	934730	AD1-100 TAP	345.0	CE	270670	BRAIDWOOD; B	345.0	CE	1	COMED_P1-2_345-L11212_B-S-A	operation	1341.0	118.65	119.93	DC	17.26
96182990	934730	AD1-100 TAP	345.0	CE	270710	DAVIS CRK; B	345.0	CE	1	COMED_P1-2_345-L2004_AR-S-B	operation	1341.0	100.71	103.96	DC	43.55
96182979	941560	AE2-153 TAP	345.0	CE	270711	DAVIS CRK; R	345.0	CE	1	270670 BRAIDWOOD; B 345 934730 AD1-100 TAP 345 1	operation	1341.0	98.75	105.39	DC	89.11
95250534	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P1-2_695_B2	operation	971.0	107.57	108.47	DC	42.11

11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
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ID	Idx	Facility	Upgrade Description	Cost
96183668	14	AD1-100 TAP 345.0 kV - WILTON ; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_Sta. 12 Dresden (831) : ComEd 345kV L11212 SSTE rating is 1846 MVA. The upgrade will be to install a new 345kV bus tie circuit breaker at Station 12 Dresden. The new 345kV breaker will be installed as BT CB 12-13. Initial review of this proposal is that the existing contingency will be reduced and potentially reducing the post contingency flow. PJM to confirm this proposal in study. Assuming this proposal is acceptable in solution, a preliminary estimate is \$4M with a 24 month estimated construction contingent upon outage scheduling with Station 12 Dresden. The ratings for L11212 will not change rather the contingency as stated above will be revised. Project Type : CON Cost : \$4,000,000 Time Estimate : 24.0 Months ce-019 (894) : L11212 SLD & ALDR ratings are 2221 MVA & 2554MVA respectively. The post contingency flow for this event exceeds the rating therefore an upgrade is required. The upgrade will be to re-conductor the line, upgrade station conductor at both terminals, upgrade 2-345kV circuit breakers at Wilton Center. A preliminary estimate for the upgrades is \$ 43.2 M with an estimated construction timeline of 36 months. Upon completion of the upgrades the rating will be 1912/1912/1912/2390/2749 MVA (SN/SLTE/SSTE/SLD/ALDR). Project Type : FAC Cost : \$43,200,000 Time Estimate : 36.0 Months	\$47,200,000
96182333	12	WILTON ;3M 345.0 kV - WILTON ; 765.0 kV Ckt 1	<u>ComEd</u> n5145 (884) : PJM Network Upgrade (n5145): Reconfigure Wilton 765kV bus thereby allowing for 765kV L11216 (currently on Bus 6) to be relocated to Bus 8. Along with this line relocation, installation of 2-765kV BT CBs (6-8 & 8-2). Project Type : CON Cost : \$11,000,000 Time Estimate : 36-40 Months	\$11,000,000
96182322	10	WILTON ; R 345.0 kV - WILTON ;4M 345.0 kV Ckt 1		
96182321	13	WILTON ;4M 345.0 kV - WILTON ; 765.0 kV Ckt 1		
96182334	9	WILTON ; B 345.0 kV - WILTON ;3M 345.0 kV Ckt 1		
96182311	7	PLANO ; B 345.0 kV - ELECT JCT; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L16704 (926) : ComEd 345kV L16704 SSTE rating is 1603 MVA. The upgrade will be to replace 1-345kV circuit breaker. A preliminary estimate is \$3M. A preliminary construction timeline is 24 months. Upon completion of the upgrade the ratings will be 1334/1726/1837/2084 MVA (SNSLTE/SSTE/SLD) MVA. Project Type : FAC Cost : \$3,000,000 Time Estimate : 24.0 Months	\$3,000,000

ID	Idx	Facility	Upgrade Description	Cost
96182710,96182213,96182212	11	CRETE EC ;BP 345.0 kV - 17STJOHN 345.0 kV Ckt 1	<u>ComEd</u> N5253 (860) : 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 re-conductor 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 <u>NIPS</u> NonPJMArea (1659) : 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 : N/A Months	\$14,900,000
98680886	3	19MON12 345.0 kV - 02LALLENDORF 345.0 kV Ckt 1	<u>ATSI</u> TE-014A (813) : Reconductor the Lallendorf-Monroe 345 kV line and the line drop at Lallendorf with 1272 ACSS 45/7 bundled (2 conductor per phase) with OPGW. Replace the wave trap with a new 4500 Amp unit. ITC would need to replace their section of limiting conductor and provide estimates for their replacement. Project Type : FAC Cost : \$17,631,000 Time Estimate : 30.0 Months <u>ITCT</u> NonPJMArea (1524) : The external (i.e. Non-PJM) Transmission Owner, ITCT, will not evaluate this violation until the impact study phase. Project Type : FAC Cost : \$0 Time Estimate : N/A Months	\$17,631,000
96183675,96183676	5	E FRANKFO; B 345.0 kV - GOODINGS ;3B 345.0 kV Ckt 1	<u>ComEd</u> ce-029 (900) : ComEd 345kV L11601 SSTE rating is 1837 MVA. The post contingency flow for this event exceeds the rating therefore an upgrade is required. The upgrade will be to replace the station conductor at both line terminals. A preliminary estimate for this upgrade is \$1.1M with an estimated construction timeline of 24 months. Upon completion of the upgrade the new ratings will be 1754/2246/2297/2488/2861 MVA (SN/SLTE/SSTE/SLD/ALDR) Project Type : FAC Cost : \$1,100,000 Time Estimate : 24.0 Months	\$1,100,000

ID	Idx	Facility	Upgrade Description	Cost
95250579	2	17STILLWELL 345.0 kV - 05DUMONT 345.0 kV Ckt 1	<u>AEP</u> n4790 (510) : PJM Network Upgrade n4790. Replace Dumont substation 2500A wavetrap. The network project had an projected in-service date of 06/01/2019 and an estimated cost of \$200,000. Project Type : FAC Cost : \$0 Time Estimate : N/A Months <u>NIPS</u> NonPJMArea (1659) : 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 : N/A Months	\$0
96182363	6	LASCO STA; B 345.0 kV - PLANO ; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L0101 (864) : ComEd 345kV L0101 SSTE rating is 1702 MVA. The upgrade will be to upgrade the line relaying scheme at both line terminals. A preliminary estimate for this upgrade is \$2.1M with an estimated construction timeline of 30 months based on outage scheduling at LaSalle Station. Upon completion of the upgrade the rating limits will be 1334/1726/1837/2084 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$2,100,000 Time Estimate : 30.0 Months	\$2,100,000
104836988,961 82338,9618233 6,96182337,961 82335	1	17STJOHN 345.0 kV - ST JOHN ; T 345.0 kV Ckt 1	<u>ComEd</u> N5833 (861) : L6617 SSTE is 1134 MVA. The post contingency flow for this event exceeds the rating therefore an upgrade is required. The upgrade is sag mitigation of the line. A preliminary estimate is \$3.1 M with an estimated construction timeline of 30 months. Upon completion of this upgrade the new ratings will be 1091/1399/1483/1674 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$3,100,000 Time Estimate : 30.0 Months <u>NIPS</u> NonPJMArea (1659) : 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 : N/A Months	\$3,100,000

ID	Idx	Facility	Upgrade Description	Cost
96182343,96182342,96182341,96182340,96182344	8	ST JOHN ; T 345.0 kV - 17GREEN_ACRE 345.0 kV Ckt 1	<u>ComEd</u> N5834 (862) : L6617 SSTE is 1134 MVA. The post contingency flow for this event exceeds the rating therefore an upgrade is required. The upgrade is sag mitigation of the line. A preliminary estimate is \$3.1 M with an estimated construction timeline of 30 months. Upon completion of this upgrade the new ratings will be 1091/1399/1483/1674 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$3,100,000 Time Estimate : 30.0 Months <u>NIPS</u> NonPJMArea (1659) : 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 : N/A Months	\$3,100,000
96182332	4	BRAIDWOOD; B 345.0 kV - BRAIDWOOD; R 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_BRAIDWOOD BT (920) : Post contingency flow exceeds the SSTE rating for the 345kV Braidwood BT CB. The upgrade will be to replace the station conductor. A preliminary estimate for the upgrade is \$600,000 with an estimated construction timeline of 30 months contingent upon outage coordination at Station 20 Braidwood. Upon completion of the upgrade the new ratings will be 1872/2182/2500/2973 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$600,000 Time Estimate : 30.0 Months	\$600,000
95250249,95250248,95250247	15	AF2-359 TAP 345.0 kV - 05OLIVE 345.0 kV Ckt 1	<u>AEP</u> n4057 (502) : 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 Re-conductor/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 <u>ComEd</u> CE_NUN_L97008 (912) : Sag mitigation on a portion of the line. A preliminary estimate for this work is \$M with an estimated construction timeline of 30 months. Upon completion of the upgrade the rating swill be 1334/1334/1391/1523 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$4,800,000 Time Estimate : 30.0 Months	\$4,962,440
			Total System Network Upgrade Costs	\$105,593,440

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

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
104836988	255112	17STJOHN	NIPS	270886	ST JOHN ; T	CE	1	COMED_P4_112-65-BT3-4__	breaker	1091.0	121.36	121.64	DC	38.42

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	20.9080	50/50	20.9080
274655	BRAIDWOOD;2U	20.3516	50/50	20.3516
274687	WILL CNTY;4U	8.9335	50/50	8.9335
274751	CRETE EC ;1U	3.7813	50/50	3.7813
274752	CRETE EC ;2U	3.7813	50/50	3.7813
274753	CRETE EC ;3U	3.7813	50/50	3.7813
274754	CRETE EC ;4U	3.7813	50/50	3.7813
274861	TOP CROP ;1U	0.3653	50/50	0.3653
274862	TOP CROP ;2U	0.7091	50/50	0.7091
274881	PILOT HIL;1E	10.7969	Adder	12.7
275149	KELLYCK ;1E	10.7969	Adder	12.7
276167	Z1-106 E2	0.7947	Adder	0.93
276168	Z1-106 E1	0.7947	Adder	0.93
276169	Z1-107 E	1.5628	Adder	1.84
276170	Z1-108 E	1.5681	Adder	1.84
290021	O50 E	12.3189	Adder	14.49
290108	LEEDK;1U E	15.2575	Adder	17.95
293061	N-015 E	9.7910	Adder	11.52

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
293644	O22 E1	8.4709	50/50	8.4709
293645	O22 E2	16.4435	50/50	16.4435
294392	P-010 E	12.4345	Adder	14.63
915011	Y3-013 1	2.3674	Adder	2.79
915021	Y3-013 2	2.3674	Adder	2.79
915031	Y3-013 3	2.3674	Adder	2.79
920272	AA2-123 E	1.5380	Adder	1.81
926311	AC1-109 1	1.1986	Adder	1.41
926321	AC1-109 2	1.1986	Adder	1.41
926331	AC1-110 1	1.1953	Adder	1.41
926341	AC1-110 2	1.1953	Adder	1.41
926351	AC1-111 1	0.4788	Adder	0.56
926361	AC1-111 2	0.4788	Adder	0.56
926371	AC1-111 3	0.4788	Adder	0.56
926381	AC1-111 4	0.4788	Adder	0.56
926391	AC1-111 5	0.4788	Adder	0.56
926401	AC1-111 6	0.4788	Adder	0.56
927451	AC1-142A 1	2.6999	Adder	3.18
927461	AC1-142A 2	2.7015	Adder	3.18
930501	AB1-091 O1	42.6594	Adder	50.19
930741	AB1-122 1O1	44.7157	Adder	52.61
930751	AB1-122 2O1	47.4136	Adder	55.78
933411	AC2-154 C	1.4653	Adder	1.72
933412	AC2-154 E	2.3907	Adder	2.81
933431	AC2-156 C O1	0.5983	Adder	0.7
933432	AC2-156 E O1	0.9762	Adder	1.15
933931	AD1-016 C	0.5844	Adder	0.69
933932	AD1-016 E	0.9536	Adder	1.12
934101	AD1-039 1	4.3821	Adder	5.16
934111	AD1-039 2	4.6465	Adder	5.47
934721	AD1-100 C	12.0322	Adder	14.16
934722	AD1-100 E	56.1502	Adder	66.06
936371	AD2-047 C O1	2.6221	Adder	3.08
936372	AD2-047 E O1	12.8020	Adder	15.06
936461	AD2-060	1.5424	Adder	1.81
937401	AD2-194 1	5.0067	Adder	5.89
937411	AD2-194 2	4.9990	Adder	5.88
938511	AE1-070 1	5.8828	Adder	6.92
938521	AE1-070 2	5.3739	Adder	6.32
938851	AE1-113 C	5.0815	Adder	5.98
938852	AE1-113 E	18.0164	Adder	21.2
939351	AE1-166 C O1	6.4099	Adder	7.54
939352	AE1-166 E O1	5.9168	Adder	6.96
939631	AE1-193 C	18.9481	50/50	18.9481
939632	AE1-193 E	126.8068	50/50	126.8068
939641	AE1-194 C	18.9481	50/50	18.9481
939642	AE1-194 E	126.8068	50/50	126.8068
939651	AE1-195 C	18.9481	50/50	18.9481
939652	AE1-195 E	126.8068	50/50	126.8068
939681	AE1-198 C	56.2614	50/50	56.2614
939682	AE1-198 E	47.8076	50/50	47.8076
940752	AE2-062 E	0.1005	50/50	0.1005

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941131	AE2-107 C	4.5890	Adder	5.4
941132	AE2-107 E	3.0593	Adder	3.6
941551	AE2-152 C O1	7.3960	Adder	8.7
941552	AE2-152 E O1	4.9307	Adder	5.8
941561	AE2-153 C O1	2.9474	Adder	3.47
941562	AE2-153 E O1	13.7993	Adder	16.23
942421	AE2-255 C O1	1.9248	Adder	2.26
942422	AE2-255 E O1	5.7745	Adder	6.79
942991	AE2-321 C	5.1443	Adder	6.05
942992	AE2-321 E	2.5338	Adder	2.98
943121	AE2-341 C	7.9832	Adder	9.39
943122	AE2-341 E	3.9202	Adder	4.61
943591	AF1-030 C O1	5.3089	Adder	6.25
943592	AF1-030 E O1	2.6267	Adder	3.09
943801	AF1-048 C	2.4048	Adder	2.83
943802	AF1-048 E	1.6032	Adder	1.89
944041	AF1-072	1.3570	Adder	1.6
944911	AF1-156 C	7.5360	Adder	8.87
944912	AF1-156 E	5.0240	Adder	5.91
945351	AF1-200 FTIR	193.9965	Merchant Transmission	193.9965
946661	AF1-330 C	1.2612	Adder	1.48
946662	AF1-330 E	0.2768	Adder	0.33
957021	AF2-003 C O1	2.3563	Adder	5.23
957022	AF2-003 E O1	11.0318	Adder	24.49
957331	AF2-027 C	0.8365	Adder	1.86
957332	AF2-027 E	1.2547	Adder	2.79
958011	AF2-095 C O1	5.5588	Adder	12.34
958012	AF2-095 E O1	2.6159	Adder	5.81
958021	AF2-096 C O1	26.0863	50/50	26.0863
958022	AF2-096 E O1	12.3362	50/50	12.3362
959351	AF2-226 C	2.0762	50/50	2.0762
959352	AF2-226 E	3.1143	50/50	3.1143
960281	AF2-319 C	2.0762	50/50	2.0762
960282	AF2-319 E	3.1143	50/50	3.1143
960381	AF2-329	2.1955	Adder	4.87
960581	AF2-349 C	2.3143	Adder	5.14
960582	AF2-349 E	1.5429	Adder	3.42
960591	AF2-350 C O1	2.4524	Adder	5.44
960592	AF2-350 E O1	1.6350	Adder	3.63
960601	AF2-351 C O1	0.3270	Adder	0.73
960602	AF2-351 E O1	0.4905	Adder	1.09
960721	AF2-363 C O1	1.9818	Adder	4.4
960722	AF2-363 E O1	1.3212	Adder	2.93
960731	AF2-364 C O1	2.0497	Adder	4.55
960732	AF2-364 E O1	1.3665	Adder	3.03
960751	AF2-366 C O1	2.3158	Adder	5.14
960752	AF2-366 E O1	1.5439	Adder	3.43
WEC	WEC	2.7824	Confirmed LTF	2.7824
CALDERWOOD	CALDERWOOD	0.0656	Confirmed LTF	0.0656
CBM-W2	CBM-W2	13.0630	Confirmed LTF	13.0630
NY	NY	0.8350	Confirmed LTF	0.8350
CBM-W1	CBM-W1	41.6708	Confirmed LTF	41.6708

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
TVA	TVA	0.8050	Confirmed LTF	0.8050
O-066	O-066	9.8582	Confirmed LTF	9.8582
CHEOAH	CHEOAH	0.0731	Confirmed LTF	0.0731
CBM-S1	CBM-S1	2.6582	Confirmed LTF	2.6582
G-007	G-007	1.5246	Confirmed LTF	1.5246
MADISON	MADISON	14.3660	Confirmed LTF	14.3660
MEC	MEC	9.4482	Confirmed LTF	9.4482
GIBSON	GIBSON	0.1332	Confirmed LTF	0.1332
BLUEG	BLUEG	1.5294	Confirmed LTF	1.5294
TRIMBLE	TRIMBLE	0.5187	Confirmed LTF	0.5187
CATAWBA	CATAWBA	0.2177	Confirmed LTF	0.2177

11.6.2 Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
95250579	255113	17STILLWELL	NIPS	243219	05DUMONT	AEP	1	COMED_P1-2_695_B2	single	1409.0	101.25	102.52	DC	39.47

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274723	RIVER EC ;12	5.5486	80/20	5.5486
274724	RIVER EC ;11	5.5078	80/20	5.5078
274788	SE CHICAG;5U (Deactivation : 01/06/2020)	7.5182	80/20	7.5182
274789	SE CHICAG;6U (Deactivation : 01/06/2020)	7.5381	80/20	7.5381
274790	SE CHICAG;7U (Deactivation : 01/06/2020)	7.6372	80/20	7.6372
274791	SE CHICAG;8U (Deactivation : 01/06/2020)	7.6372	80/20	7.6372
274792	SE CHICAG;9U (Deactivation : 01/06/2020)	7.5475	80/20	7.5475
274793	SE CHICAG;0U (Deactivation : 01/06/2020)	7.5475	80/20	7.5475
274794	SE CHICAG;1U (Deactivation : 01/06/2020)	7.5475	80/20	7.5475
274795	SE CHICAG;2U (Deactivation : 01/06/2020)	7.5475	80/20	7.5475
274798	UNIV PARK;1U	1.5551	80/20	1.5551
274801	UNIV PARK;4U	1.5435	80/20	1.5435
274826	FSK ;BP	2.9034	80/20	2.9034

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274827	FISK ;RP	2.0577	80/20	2.0577
274830	U3-021 1	6.0871	Adder	7.16
274831	U3-021 2	6.0871	Adder	7.16
276164	X3-005 C	0.1075	80/20	0.1075
293540	O-012 C	0.6150	80/20	0.6150
915011	Y3-013 1	3.7444	Adder	4.41
915021	Y3-013 2	3.7444	Adder	4.41
915031	Y3-013 3	3.7444	Adder	4.41
919581	AA2-030	17.5313	Adder	20.63
924041	AB2-047 C O1	3.3636	Adder	3.96
924471	AB2-096	42.2718	Adder	49.73
925581	AC1-033 C	1.4016	Adder	1.65
926311	AC1-109 1	1.9040	Adder	2.24
926321	AC1-109 2	1.9040	Adder	2.24
926331	AC1-110 1	1.8980	Adder	2.23
926341	AC1-110 2	1.8980	Adder	2.23
926351	AC1-111 1	0.7620	Adder	0.9
926361	AC1-111 2	0.7620	Adder	0.9
926371	AC1-111 3	0.7620	Adder	0.9
926381	AC1-111 4	0.7620	Adder	0.9
926391	AC1-111 5	0.7620	Adder	0.9
926401	AC1-111 6	0.7620	Adder	0.9
926431	AC1-114	2.3739	Adder	2.79
926821	AC1-168 C O1	1.1406	Adder	1.34
926841	AC1-171 C O1	1.0368	Adder	1.22
927201	AC1-214 C O1	2.0483	Adder	2.41
927451	AC1-142A 1	4.2157	Adder	4.96
927461	AC1-142A 2	4.2160	Adder	4.96
927511	AC1-113 1	1.1869	Adder	1.4
927521	AC1-113 2	1.1869	Adder	1.4
930481	AB1-089	65.6043	Adder	77.18
930501	AB1-091 O1	76.9692	Adder	90.55
930741	AB1-122 1O1	71.4553	Adder	84.07
930751	AB1-122 2O1	73.8990	Adder	86.94
932881	AC2-115 1	2.3739	Adder	2.79
932891	AC2-115 2	2.3739	Adder	2.79
932921	AC2-116	0.8309	Adder	0.98
932931	AC2-117	5.1330	Adder	6.04
933411	AC2-154 C	2.6404	Adder	3.11
933431	AC2-156 C O1	0.9541	Adder	1.12
933911	AD1-013 C	1.8539	Adder	2.18
933931	AD1-016 C	0.9273	Adder	1.09
934051	AD1-031 C O1	2.8459	Adder	3.35
934101	AD1-039 1	7.0026	Adder	8.24
934111	AD1-039 2	7.2421	Adder	8.52
934431	AD1-067 C	0.1318	Adder	0.16
934651	AD1-096 C	0.8893	Adder	1.05
934701	AD1-098 C O1	6.9062	Adder	8.12
934721	AD1-100 C	19.5139	Adder	22.96
934871	AD1-116 C	0.9472	Adder	1.11
934971	AD1-129 C	0.9021	Adder	1.06
935001	AD1-133 C O1	20.6718	Adder	24.32

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936291	AD2-038 C O1	2.3283	Adder	2.74
936371	AD2-047 C O1	4.7249	Adder	5.56
936461	AD2-060	2.7793	Adder	3.27
936511	AD2-066 C O1	8.3972	Adder	9.88
936791	AD2-102 C	14.1066	Adder	16.6
937001	AD2-134 C	2.7442	Adder	3.23
937311	AD2-172 C	2.4544	Adder	2.89
937401	AD2-194 1	7.7948	Adder	9.17
937411	AD2-194 2	7.7923	Adder	9.17
937531	AD2-214 C	4.3946	Adder	5.17
938511	AE1-070 1	9.1589	Adder	10.78
938521	AE1-070 2	8.3767	Adder	9.85
938851	AE1-113 C	7.9623	Adder	9.37
938861	AE1-114 C O1	3.9206	Adder	4.61
939051	AE1-134 1	1.3623	Adder	1.6
939061	AE1-134 2	1.3623	Adder	1.6
939321	AE1-163 C O1	5.8506	Adder	6.88
939351	AE1-166 C O1	10.2692	Adder	12.08
939401	AE1-172 C O1	5.2573	Adder	6.19
939631	AE1-193 C	9.0290	Adder	10.62
939641	AE1-194 C	9.0290	Adder	10.62
939651	AE1-195 C	9.0290	Adder	10.62
939681	AE1-198 C	26.8091	Adder	31.54
939741	AE1-205 C O1	8.6937	Adder	10.23
940101	AE1-252 C O1	10.5616	Adder	12.43
940501	AE2-035 C	2.4544	Adder	2.89
941131	AE2-107 C	7.3063	Adder	8.6
941551	AE2-152 C O1	11.8491	Adder	13.94
941561	AE2-153 C O1	4.7360	Adder	5.57
941731	AE2-173 O1	5.1748	Adder	6.09
942111	AE2-223 C	2.0182	Adder	2.37
942421	AE2-255 C O1	3.0160	Adder	3.55
942651	AE2-281 C O1	0.8358	Adder	0.98
942991	AE2-321 C	8.1632	Adder	9.6
943121	AE2-341 C	12.7367	Adder	14.98
943381	AF1-009 C	0.5974	Adder	0.7
943401	AF1-011 C	1.2399	Adder	1.46
943411	AF1-012 C	11.9631	Adder	14.07
943591	AF1-030 C O1	8.4700	Adder	9.96
943801	AF1-048 C	3.8160	Adder	4.49
943921	AF1-060	1.2085	Adder	1.42
944041	AF1-072	2.1512	Adder	2.53
944911	AF1-156 C	12.1092	Adder	14.25
945351	AF1-200 FTIR	308.5264	Merchant Transmission	308.5264
946151	AF1-280 C O1	15.5391	Adder	18.28
946161	AF1-281 C	0.3403	Adder	0.4
946321	AF1-296 C O1	3.9241	Adder	4.62
946501	AF1-314 C	4.3608	Adder	5.13
946531	AF1-317 C O1	2.2787	Adder	2.68
946541	AF1-318 C O1	5.7512	Adder	6.77
946661	AF1-330 C	2.0011	Adder	2.35
946671	AF1-331	2.4077	Adder	2.83

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
951721	J643	27.1460	PJM External (MISO)	27.1460
953871	J847	13.8150	PJM External (MISO)	13.8150
954751	J351	446.6739	PJM External (MISO)	446.6739
955741	J1058	38.3400	PJM External (MISO)	38.3400
957021	AF2-003 C O1	3.4823	Adder	7.73
957331	AF2-027 C	1.3230	Adder	2.94
957371	AF2-031 C O1	1.5768	80/20	1.5768
957471	AF2-041 C	11.2861	Adder	25.05
957751	AF2-069 C	0.1257	Adder	0.28
957761	AF2-070 C	0.1771	Adder	0.39
958011	AF2-095 C O1	10.0173	Adder	22.24
958021	AF2-096 C O1	17.7815	Adder	39.47
958341	AF2-128 C O1	0.8096	Adder	1.8
958481	AF2-142 C	5.9447	Adder	13.2
958491	AF2-143 C	5.6954	Adder	12.64
958911	AF2-182	10.8206	Adder	24.02
958921	AF2-183 C	1.9237	Adder	4.27
959081	AF2-199 C	3.7620	Adder	8.35
959091	AF2-200 C	7.5241	Adder	16.7
959101	AF2-201 C O1	3.1839	Adder	7.07
959341	AF2-225 C	3.4557	Adder	7.67
959351	AF2-226 C	1.3489	Adder	2.99
959611	AF2-252 C	0.9462	Adder	2.1
959761	AF2-267 C O1	2.2994	Adder	5.1
960281	AF2-319 C	1.3489	Adder	2.99
960381	AF2-329	3.5027	Adder	7.78
960551	AF2-346 C	2.7173	Adder	6.03
960581	AF2-349 C	11.5496	Adder	25.64
960591	AF2-350 C O1	4.4191	Adder	9.81
960601	AF2-351 C O1	0.5892	Adder	1.31
960611	AF2-352 C	0.9462	Adder	2.1
960721	AF2-363 C O1	3.1543	Adder	7.0
960731	AF2-364 C O1	3.2513	Adder	7.22
960751	AF2-366 C O1	3.6866	Adder	8.18
961011	AF2-392 C O1	2.0976	Adder	4.66
961021	AF2-393 O1	3.5755	Adder	7.94
961031	AF2-394 O1	2.3837	Adder	5.29
961501	AF2-441 C O1	15.1056	80/20	15.1056
WEC	WEC	4.4132	Confirmed LTF	4.4132
CBM-W2	CBM-W2	24.9631	Confirmed LTF	24.9631
NY	NY	1.3416	Confirmed LTF	1.3416
CBM-W1	CBM-W1	79.8013	Confirmed LTF	79.8013
TVA	TVA	1.7262	Confirmed LTF	1.7262
CHEOAH	CHEOAH	0.0065	Confirmed LTF	0.0065
CBM-S1	CBM-S1	7.0972	Confirmed LTF	7.0972
MADISON	MADISON	22.9824	Confirmed LTF	22.9824
MEC	MEC	15.3656	Confirmed LTF	15.3656
BLUEG	BLUEG	1.7030	Confirmed LTF	1.7030
TRIMBLE	TRIMBLE	0.5994	Confirmed LTF	0.5994
CATAWBA	CATAWBA	0.3045	Confirmed LTF	0.3045

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
98680886	264612	19MON12	ITCT	241901	02LALLENDORF	ATSI	1	ATSI-P1-2-TE-345-605T	single	1244.0	141.38	141.39	DC	14.66

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
243071	05BERRINSP G	0.0914	80/20	0.0914
243440	05CKG1	15.1055	80/20	15.1055
243441	05CKG2	13.2913	80/20	13.2913
244130	05ST.JOE CTR	8.1410	80/20	8.1410
244412	05WTRV SLR C	0.0376	80/20	0.0376
244415	05OLIV SLR C	0.0316	80/20	0.0316
246397	05ELKHART HY	0.0337	80/20	0.0337
246416	05TWIN BRCH1	0.0546	80/20	0.0546
246422	05MAYFLWER	0.0661	80/20	0.0661
246431	05BUCHANAN	0.0124	80/20	0.0124
246536	05MOTTVILL	0.0221	80/20	0.0221
247528	05COVRT1	4.7532	80/20	4.7532
247529	05COVRT2	4.7532	80/20	4.7532
247530	05COVRT3	4.7532	80/20	4.7532
247531	05COVRT4	2.8528	80/20	2.8528
247532	05COVRT5	2.8528	80/20	2.8528
247533	05COVRT6	2.8528	80/20	2.8528
247604	X1-042	0.0504	80/20	0.0504
247620	Y3-023	0.0604	80/20	0.0604
247643	Z2-116 C	0.0169	80/20	0.0169
247651	AA2-116	13.9585	80/20	13.9585
274723	RIVER EC ;12	1.7026	80/20	1.7026
274751	CRETE EC ;1U	0.7844	80/20	0.7844
274752	CRETE EC ;2U	0.7844	80/20	0.7844
274753	CRETE EC ;3U	0.7844	80/20	0.7844
274754	CRETE EC ;4U	0.7844	80/20	0.7844
274788	SE CHICAG;5U (Deactivation : 01/06/2020)	1.9258	Adder	2.27
274789	SE CHICAG;6U (Deactivation : 01/06/2020)	1.9309	Adder	2.27
274790	SE CHICAG;7U (Deactivation : 01/06/2020)	1.9563	Adder	2.3
274791	SE CHICAG;8U (Deactivation : 01/06/2020)	2.3015	80/20	2.3015
274792	SE CHICAG;9U (Deactivation : 01/06/2020)	2.3065	80/20	2.3065

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274793	SE CHICAG;0U (Deactivation : 01/06/2020)	2.3065	80/20	2.3065
274794	SE CHICAG;1U (Deactivation : 01/06/2020)	2.3065	80/20	2.3065
274795	SE CHICAG;2U (Deactivation : 01/06/2020)	2.3065	80/20	2.3065
922912	AB1-080	0.4824	80/20	0.4824
925961	AC1-072	0.4409	80/20	0.4409
926581	AC1-141	1.2779	80/20	1.2779
927451	AC1-142A 1	1.5561	Adder	1.83
927461	AC1-142A 2	1.5561	Adder	1.83
930501	AB1-091 O1	27.0729	Adder	31.85
931951	AB1-107 1	-34.4746	Adder	-40.56
931961	AB1-107 2	-112.3235	Adder	-132.15
932601	AC2-080 C O1	1.2637	Adder	1.49
932931	AC2-117	2.3241	Adder	2.73
933281	AC2-140 C	2.5506	80/20	2.5506
933411	AC2-154 C	0.9346	Adder	1.1
934721	AD1-100 C	7.2624	Adder	8.54
936141	AD2-020 C O1	5.3921	80/20	5.3921
936371	AD2-047 C O1	1.6724	Adder	1.97
936461	AD2-060	0.9838	Adder	1.16
936601	AD2-075	18.5325	80/20	18.5325
936631	AD2-079 C O1	0.9048	80/20	0.9048
937041	AD2-138 C	1.7108	Adder	2.01
937401	AD2-194 1	2.9029	Adder	3.42
937411	AD2-194 2	2.9029	Adder	3.42
938261	AE1-039	0.0779	80/20	0.0779
938511	AE1-070 1	3.4109	Adder	4.01
938521	AE1-070 2	3.1206	Adder	3.67
939351	AE1-166 C O1	3.7963	Adder	4.47
939391	AE1-170 C O1	5.2196	80/20	5.2196
939631	AE1-193 C	3.9305	80/20	3.9305
939641	AE1-194 C	3.9305	80/20	3.9305
939651	AE1-195 C	3.9305	80/20	3.9305
939681	AE1-198 C	11.6707	80/20	11.6707
940581	AE2-045 C O1	5.7352	Adder	6.75
941551	AE2-152 C O1	4.3804	Adder	5.15
941561	AE2-153 C O1	1.7261	Adder	2.03
943001	AE2-323 C	4.1864	80/20	4.1864
943021	AE2-325 C	2.7309	80/20	2.7309
943781	AF1-046 C	1.9541	80/20	1.9541
944161	AF1-084 C	4.8750	80/20	4.8750
944911	AF1-156 C	4.4133	Adder	5.19
944931	AF1-158 C O1	6.6276	80/20	6.6276
944961	AF1-161 C	2.1777	80/20	2.1777
945111	AF1-176 C O1	12.6957	80/20	12.6957
945351	AF1-200 FTIR	115.7304	Merchant Transmission	115.7304
945501	AF1-215 C O1	11.1636	80/20	11.1636
950351	J466	6.4410	PJM External (MISO)	6.4410

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
950791	J201 C	0.7628	PJM External (MISO)	0.7628
951941	J602 C	5.6160	PJM External (MISO)	5.6160
952401	J752 C	3.2738	PJM External (MISO)	3.2738
952971	J793	321.0741	PJM External (MISO)	321.0741
953271	J701 C	1.5931	PJM External (MISO)	1.5931
953291	J796	42.4010	PJM External (MISO)	42.4010
953321	J799	48.3424	PJM External (MISO)	48.3424
953781	J833	24.9220	PJM External (MISO)	24.9220
953811	J839	23.5040	PJM External (MISO)	23.5040
954111	J875	29.9235	PJM External (MISO)	29.9235
955121	J989	15.8048	PJM External (MISO)	15.8048
955181	J996	17.2944	PJM External (MISO)	17.2944
955261	J1005	35.6320	PJM External (MISO)	35.6320
956021	J1089	11.4294	PJM External (MISO)	11.4294
956161	J1103	4.1682	PJM External (MISO)	4.1682
956741	J1172	9.6605	PJM External (MISO)	9.6605
956751	J1173	16.5016	PJM External (MISO)	16.5016
957371	AF2-031 C O1	0.2152	Adder	0.48
957891	AF2-083 C O1	9.9012	80/20	9.9012
958011	AF2-095 C O1	3.5456	Adder	7.87
958021	AF2-096 C O1	6.6031	Adder	14.66
958381	AF2-132 C	10.7946	80/20	10.7946
958391	AF2-133 C	4.7770	Adder	10.6
958401	AF2-134 C	3.7212	80/20	3.7212
958991	AF2-190 C	4.1942	Adder	9.31
959001	AF2-191 C	4.8332	80/20	4.8332
959141	AF2-205 C	3.1436	Adder	6.98
960591	AF2-350 C O1	1.5642	Adder	3.47
960601	AF2-351 C O1	0.2086	Adder	0.46
960681	AF2-359 C	5.1975	80/20	5.1975
960981	AF2-389 C	2.4483	80/20	2.4483
961051	AF2-396 O1	17.0060	80/20	17.0060
961501	AF2-441 C O1	2.1325	Adder	4.73
WEC	WEC	1.7101	Confirmed LTF	1.7101
LGEE	LGEE	1.3378	Confirmed LTF	1.3378
CPL	CPL	0.2547	Confirmed LTF	0.2547
CBM-W2	CBM-W2	25.1843	Confirmed LTF	25.1843
NY	NY	0.9589	Confirmed LTF	0.9589
CBM-W1	CBM-W1	167.6340	Confirmed LTF	167.6340
TVA	TVA	2.9526	Confirmed LTF	2.9526
CBM-S2	CBM-S2	4.1269	Confirmed LTF	4.1269
CBM-S1	CBM-S1	18.3436	Confirmed LTF	18.3436
MADISON	MADISON	6.0702	Confirmed LTF	6.0702
MEC	MEC	7.1950	Confirmed LTF	7.1950

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
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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
96182332	270670	BRAIDWOOD; B	CE	270671	BRAIDWOOD; R	CE	1	ADD AD1-100 5	breaker	1726.0	109.54	120.18	DC	183.6

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	99.9077	50/50	99.9077
274853	TWINGROVE;U1	0.8797	50/50	0.8797
274854	TWINGROVE;U2	0.8797	50/50	0.8797
274863	CAYUGA RI;1U	1.2549	50/50	1.2549
274864	CAYUGA RI;2U	1.2549	50/50	1.2549
274880	GENERATOR;	0.8066	50/50	0.8066
274882	W4-005 E	31.3157	50/50	31.3157
274890	CAYUG;1U E	29.1012	50/50	29.1012
274891	CAYUG;2U E	29.1012	50/50	29.1012
276153	W2-048 E	4.9109	Adder	5.78
290261	S-027 E	20.4003	50/50	20.4003
290265	S-028 E	20.4003	50/50	20.4003
909052	X2-022 E	14.7719	Adder	17.38
917501	Z2-087 C	0.7343	50/50	0.7343
917502	Z2-087 E	28.4890	50/50	28.4890
924041	AB2-047 C O1	5.3212	50/50	5.3212
924042	AB2-047 E O1	35.6113	50/50	35.6113
924261	AB2-070 C O1	2.1638	Adder	2.55
924262	AB2-070 E O1	13.7152	Adder	16.14
925771	AC1-053 C	2.1251	Adder	2.5
925772	AC1-053 E	14.2221	Adder	16.73
932931	AC2-117	-5.6996	Adder	-6.71
934721	AD1-100 C	61.9740	50/50	61.9740
934722	AD1-100 E	289.2120	50/50	289.2120
935001	AD1-133 C O1	12.4680	Adder	14.67
935002	AD1-133 E O1	8.3120	Adder	9.78
935141	AD1-148	3.8501	Adder	4.53
936771	AD2-100 C	7.1864	Adder	8.45
936772	AD2-100 E	4.7909	Adder	5.64
936971	AD2-131 C	0.4734	Adder	0.56
936972	AD2-131 E	2.3784	Adder	2.8
937211	AD2-159 C	3.3841	50/50	3.3841
937212	AD2-159 E	15.8440	50/50	15.8440
939351	AE1-166 C O1	34.3894	50/50	34.3894
939352	AE1-166 E O1	31.7441	50/50	31.7441
939401	AE1-172 C O1	12.8285	50/50	12.8285
939402	AE1-172 E O1	60.1908	50/50	60.1908
939741	AE1-205 C O1	13.7533	50/50	13.7533
939742	AE1-205 E O1	18.9927	50/50	18.9927
940101	AE1-252 C O1	25.7715	50/50	25.7715
940102	AE1-252 E O1	17.1810	50/50	17.1810
941551	AE2-152 C O1	39.6801	50/50	39.6801
941552	AE2-152 E O1	26.4534	50/50	26.4534
941731	AE2-173 O1	8.1865	50/50	8.1865
942111	AE2-223 C	3.1927	50/50	3.1927

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942112	AE2-223 E	21.3668	50/50	21.3668
942481	AE2-261 C	10.5782	Adder	12.44
942482	AE2-261 E	7.0522	Adder	8.3
951741	J474 C	1.7693	PJM External (MISO)	1.7693
951742	J474 E	9.5722	PJM External (MISO)	9.5722
956281	J1115 C	2.5965	PJM External (MISO)	2.5965
956282	J1115 E	14.0475	PJM External (MISO)	14.0475
957381	AF2-032 C	0.4302	Adder	0.95
957382	AF2-032 E	0.2024	Adder	0.45
958013	AF2-095 BAT	9.2992	50/50	9.2992
958021	AF2-096 C O1	124.6522	50/50	124.6522
958022	AF2-096 E O1	58.9478	50/50	58.9478
959341	AF2-225 C	10.3150	50/50	10.3150
959342	AF2-225 E	14.2445	50/50	14.2445
959611	AF2-252 C	2.5758	50/50	2.5758
959612	AF2-252 E	3.8637	50/50	3.8637
960141	AF2-305	0.4058	Adder	0.9
960261	AF2-317	0.6530	Adder	1.45
960603	AF2-351 BAT	4.6498	50/50	4.6498
960611	AF2-352 C	2.5758	50/50	2.5758
960612	AF2-352 E	3.8637	50/50	3.8637
LGEE	LGEE	0.4712	Confirmed LTF	0.4712
CPLE	CPLE	0.3685	Confirmed LTF	0.3685
G-007A	G-007A	0.4339	Confirmed LTF	0.4339
VFT	VFT	1.1675	Confirmed LTF	1.1675
CBM-W2	CBM-W2	16.3964	Confirmed LTF	16.3964
TVA	TVA	1.8270	Confirmed LTF	1.8270
CBM-S2	CBM-S2	3.8379	Confirmed LTF	3.8379
CBM-S1	CBM-S1	10.3603	Confirmed LTF	10.3603
MADISON	MADISON	1.7459	Confirmed LTF	1.7459
MEC	MEC	1.7574	Confirmed LTF	1.7574

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
96183676	270728	E FRANKFO; B	CE	270766	GOODINGS ;3B	CE	1	COMED_P7_345-L94507_B-S+_345-L97008_R-S-A	tower	2084.0	116.49	119.09	DC	54.45

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	29.6295	50/50	29.6295
274655	BRAIDWOOD;2U	28.5866	50/50	28.5866
274751	CRETE EC ;1U	9.2556	50/50	9.2556
274752	CRETE EC ;2U	9.2556	50/50	9.2556
274753	CRETE EC ;3U	9.2556	50/50	9.2556
274754	CRETE EC ;4U	9.2556	50/50	9.2556

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934721	AD1-100 C	10.7623	Adder	12.66
934722	AD1-100 E	50.2239	Adder	59.09
939351	AE1-166 C O1	8.0371	50/50	8.0371
939352	AE1-166 E O1	7.4189	50/50	7.4189
939631	AE1-193 C	46.3795	50/50	46.3795
939632	AE1-193 E	310.3856	50/50	310.3856
939641	AE1-194 C	46.3795	50/50	46.3795
939642	AE1-194 E	310.3856	50/50	310.3856
939651	AE1-195 C	46.3795	50/50	46.3795
939652	AE1-195 E	310.3856	50/50	310.3856
939681	AE1-198 C	137.7113	50/50	137.7113
939682	AE1-198 E	117.0189	50/50	117.0189
941551	AE2-152 C O1	9.2736	50/50	9.2736
941552	AE2-152 E O1	6.1824	50/50	6.1824
941561	AE2-153 C O1	4.2117	50/50	4.2117
941562	AE2-153 E O1	19.7183	50/50	19.7183
944911	AF1-156 C	10.7685	50/50	10.7685
944912	AF1-156 E	7.1790	50/50	7.1790
958021	AF2-096 C O1	36.9679	50/50	36.9679
958022	AF2-096 E O1	17.4821	50/50	17.4821
959353	AF2-226 BAT	1.9997	Merchant Transmission	1.9997
960283	AF2-319 BAT	1.9997	Merchant Transmission	1.9997
NEWTON	NEWTON	0.0860	Confirmed LTF	0.0860
FARMERCITY	FARMERCITY	0.0551	Confirmed LTF	0.0551
CALDERWOOD	CALDERWOOD	0.1188	Confirmed LTF	0.1188
NY	NY	0.0973	Confirmed LTF	0.0973
PRAIRIE	PRAIRIE	0.8111	Confirmed LTF	0.8111
O-066	O-066	1.1760	Confirmed LTF	1.1760
CHEOAH	CHEOAH	0.1191	Confirmed LTF	0.1191
EDWARDS	EDWARDS	0.6262	Confirmed LTF	0.6262
G-007	G-007	0.1820	Confirmed LTF	0.1820
GIBSON	GIBSON	0.0595	Confirmed LTF	0.0595
BLUEG	BLUEG	0.2465	Confirmed LTF	0.2465
TRIMBLE	TRIMBLE	0.0790	Confirmed LTF	0.0790
CATAWBA	CATAWBA	0.0756	Confirmed LTF	0.0756

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
96182363	270802	LASCO STA; B	CE	270846	PLANO ; B	CE	1	COMED_P4_167-45-BT2-5_	breaker	1528.0	115.64	118.75	DC	46.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	25.5136	50/50	25.5136
274655	BRAIDWOOD;2U	24.9439	50/50	24.9439
274660	LASCO STA;1U	53.7210	50/50	53.7210
274661	LASCO STA;2U	53.6927	50/50	53.6927
274847	GR RIDGE ;BU	1.0908	50/50	1.0908

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274871	GR RIDGE ;2U	1.3854	50/50	1.3854
274881	PILOT HIL;1E	7.7053	Adder	9.07
275149	KELLYCK ;1E	7.7053	Adder	9.07
276165	Z1-106 BAT2	0.7257	Merchant Transmission	0.7257
276166	Z1-106 BAT1	0.7257	Merchant Transmission	0.7257
276172	Z1-108 BAT	1.2034	Merchant Transmission	1.2034
276173	Z2-081	0.3044	50/50	0.3044
293061	N-015 E	25.2960	50/50	25.2960
294392	P-010 E	32.1259	50/50	32.1259
920273	AA2-123 BAT	1.1788	Merchant Transmission	1.1788
926821	AC1-168 C O1	0.4461	Adder	0.52
926822	AC1-168 E O1	2.9935	Adder	3.52
930501	AB1-091 O1	34.9176	Adder	41.08
933411	AC2-154 C	1.0457	Adder	1.23
933412	AC2-154 E	1.7062	Adder	2.01
934721	AD1-100 C	9.8545	Adder	11.59
934722	AD1-100 E	45.9875	Adder	54.1
936371	AD2-047 C O1	1.8713	Adder	2.2
936372	AD2-047 E O1	9.1362	Adder	10.75
936461	AD2-060	1.1008	Adder	1.3
939351	AE1-166 C O1	6.1374	Adder	7.22
939352	AE1-166 E O1	5.6653	Adder	6.67
941551	AE2-152 C O1	7.0816	Adder	8.33
941552	AE2-152 E O1	4.7211	Adder	5.55
941561	AE2-153 C O1	3.8051	50/50	3.8051
941562	AE2-153 E O1	17.8149	50/50	17.8149
943383	AF1-009 BAT	1.6720	Merchant Transmission	1.6720
943803	AF1-048 BAT	3.0709	Merchant Transmission	3.0709
943922	AF1-060 BAT	0.5506	Merchant Transmission	0.5506
944911	AF1-156 C	9.7290	50/50	9.7290
944912	AF1-156 E	6.4860	50/50	6.4860
945352	AF1-200 NFW	406.0980	50/50	406.0980
946533	AF1-317 BAT	2.6190	Merchant Transmission	2.6190
958011	AF2-095 C O1	3.9665	Adder	8.8
958012	AF2-095 E O1	1.8666	Adder	4.14
958021	AF2-096 C O1	31.8326	50/50	31.8326
958022	AF2-096 E O1	15.0536	50/50	15.0536
960382	AF2-329 BAT	5.4356	50/50	5.4356
960591	AF2-350 C O1	1.7502	Adder	3.89
960592	AF2-350 E O1	1.1668	Adder	2.59
960601	AF2-351 C O1	0.2334	Adder	0.52
960602	AF2-351 E O1	0.3500	Adder	0.78
NEWTON	NEWTON	0.1440	Confirmed LTF	0.1440
FARMERCITY	FARMERCITY	0.1155	Confirmed LTF	0.1155
CALDERWOOD	CALDERWOOD	0.1948	Confirmed LTF	0.1948
NY	NY	0.1300	Confirmed LTF	0.1300
PRAIRIE	PRAIRIE	1.4594	Confirmed LTF	1.4594
O-066	O-066	1.5926	Confirmed LTF	1.5926
CHEOAH	CHEOAH	0.1952	Confirmed LTF	0.1952
EDWARDS	EDWARDS	0.1915	Confirmed LTF	0.1915
G-007	G-007	0.2465	Confirmed LTF	0.2465
GIBSON	GIBSON	0.0699	Confirmed LTF	0.0699

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
BLUEG	BLUEG	0.3281	Confirmed LTF	0.3281
TRIMBLE	TRIMBLE	0.1041	Confirmed LTF	0.1041
CATAWBA	CATAWBA	0.1190	Confirmed LTF	0.1190

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
96182311	270846	PLANO ; B	CE	270730	ELECT JCT; B	CE	1	COMED_P4_167-45-BT5-6__	breaker	1341.0	124.01	124.78	DC	22.8

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274660	LASCO STA;1U	30.0251	50/50	30.0251
274661	LASCO STA;2U	30.1541	50/50	30.1541
274847	GR RIDGE ;BU	0.5629	50/50	0.5629
274871	GR RIDGE ;2U	0.7149	50/50	0.7149
276165	Z1-106 BAT2	1.3766	50/50	1.3766
276166	Z1-106 BAT1	1.3813	50/50	1.3813
276172	Z1-108 BAT	2.4996	50/50	2.4996
293061	N-015 E	13.0536	50/50	13.0536
294392	P-010 E	16.5781	50/50	16.5781
920273	AA2-123 BAT	2.4446	50/50	2.4446
943383	AF1-009 BAT	2.2690	Merchant Transmission	2.2690
943403	AF1-011 BAT	2.8854	Merchant Transmission	2.8854
943803	AF1-048 BAT	6.3611	50/50	6.3611
943922	AF1-060 BAT	1.1813	50/50	1.1813
945351	AF1-200 FTIR	652.4210	50/50	652.4210
946163	AF1-281 BAT	2.3452	50/50	2.3452
946533	AF1-317 BAT	6.5465	50/50	6.5465
957333	AF2-027 BAT	5.4295	50/50	5.4295
958021	AF2-096 C O1	6.9724	Adder	15.48
958022	AF2-096 E O1	3.2973	Adder	7.32
958923	AF2-183 BAT	9.3808	50/50	9.3808
961022	AF2-393 BAT	6.5610	50/50	6.5610
961032	AF2-394 BAT	4.3740	50/50	4.3740
LGEE	LGEE	0.1974	Confirmed LTF	0.1974
NEWTON	NEWTON	0.8467	Confirmed LTF	0.8467
CPL	CPL	0.1224	Confirmed LTF	0.1224
FARMERCITY	FARMERCITY	0.3021	Confirmed LTF	0.3021
G-007A	G-007A	1.5296	Confirmed LTF	1.5296
VFT	VFT	4.1151	Confirmed LTF	4.1151
CALDERWOOD	CALDERWOOD	0.1357	Confirmed LTF	0.1357
PRAIRIE	PRAIRIE	5.0110	Confirmed LTF	5.0110
CHEOAH	CHEOAH	0.1316	Confirmed LTF	0.1316
EDWARDS	EDWARDS	1.5257	Confirmed LTF	1.5257
CBM-S2	CBM-S2	0.2601	Confirmed LTF	0.2601
TILTON	TILTON	0.1348	Confirmed LTF	0.1348

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
96182344	270886	ST JOHN ;T	CE	255104	17GREEN_ACRE	NIPS	1	COMED_P4_023-65-BT4-5__	breaker	1091.0	121.35	121.63	DC	38.44

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	20.9182	50/50	20.9182
274655	BRAIDWOOD;2U	20.3636	50/50	20.3636
274687	WILL CNTY;4U	8.9326	50/50	8.9326
274751	CRETE EC ;1U	3.7815	50/50	3.7815
274752	CRETE EC ;2U	3.7815	50/50	3.7815
274753	CRETE EC ;3U	3.7815	50/50	3.7815
274754	CRETE EC ;4U	3.7815	50/50	3.7815
274861	TOP CROP ;1U	0.3652	50/50	0.3652
274862	TOP CROP ;2U	0.7090	50/50	0.7090
274881	PILOT HIL;1E	10.8028	Adder	12.71
275149	KELLYCK ;1E	10.8028	Adder	12.71
276167	Z1-106 E2	0.7945	Adder	0.93
276168	Z1-106 E1	0.7945	Adder	0.93
276169	Z1-107 E	1.5621	Adder	1.84
276170	Z1-108 E	1.5676	Adder	1.84
290021	O50 E	12.3121	Adder	14.48
290108	LEEDK;1U E	15.2558	Adder	17.95
293061	N-015 E	9.7930	Adder	11.52
293644	O22 E1	8.4693	50/50	8.4693
293645	O22 E2	16.4403	50/50	16.4403
294392	P-010 E	12.4371	Adder	14.63
915011	Y3-013 1	2.3664	Adder	2.78
915021	Y3-013 2	2.3664	Adder	2.78
915031	Y3-013 3	2.3664	Adder	2.78
920272	AA2-123 E	1.5375	Adder	1.81
926311	AC1-109 1	1.1981	Adder	1.41
926321	AC1-109 2	1.1981	Adder	1.41
926331	AC1-110 1	1.1952	Adder	1.41
926341	AC1-110 2	1.1952	Adder	1.41
926351	AC1-111 1	0.4787	Adder	0.56
926361	AC1-111 2	0.4787	Adder	0.56
926371	AC1-111 3	0.4787	Adder	0.56
926381	AC1-111 4	0.4787	Adder	0.56
926391	AC1-111 5	0.4787	Adder	0.56
926401	AC1-111 6	0.4787	Adder	0.56
927451	AC1-142A 1	2.6985	Adder	3.17
927461	AC1-142A 2	2.6999	Adder	3.18
930501	AB1-091 O1	42.6874	Adder	50.22
930741	AB1-122 1O1	44.6180	Adder	52.49
930751	AB1-122 2O1	47.3892	Adder	55.75
933411	AC2-154 C	1.4661	Adder	1.72

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933412	AC2-154 E	2.3921	Adder	2.81
933431	AC2-156 C O1	0.5983	Adder	0.7
933432	AC2-156 E O1	0.9762	Adder	1.15
933931	AD1-016 C	0.5842	Adder	0.69
933932	AD1-016 E	0.9532	Adder	1.12
934101	AD1-039 1	4.3726	Adder	5.14
934111	AD1-039 2	4.6441	Adder	5.46
934721	AD1-100 C	12.0437	Adder	14.17
934722	AD1-100 E	56.2037	Adder	66.12
936371	AD2-047 C O1	2.6235	Adder	3.09
936372	AD2-047 E O1	12.8091	Adder	15.07
936461	AD2-060	1.5433	Adder	1.82
937401	AD2-194 1	5.0026	Adder	5.89
937411	AD2-194 2	4.9955	Adder	5.88
938511	AE1-070 1	5.8780	Adder	6.92
938521	AE1-070 2	5.3701	Adder	6.32
938851	AE1-113 C	5.0787	Adder	5.97
938852	AE1-113 E	18.0064	Adder	21.18
939351	AE1-166 C O1	6.4152	Adder	7.55
939352	AE1-166 E O1	5.9217	Adder	6.97
939631	AE1-193 C	18.9488	50/50	18.9488
939632	AE1-193 E	126.8112	50/50	126.8112
939641	AE1-194 C	18.9488	50/50	18.9488
939642	AE1-194 E	126.8112	50/50	126.8112
939651	AE1-195 C	18.9488	50/50	18.9488
939652	AE1-195 E	126.8112	50/50	126.8112
939681	AE1-198 C	56.2634	50/50	56.2634
939682	AE1-198 E	47.8093	50/50	47.8093
940752	AE2-062 E	0.1005	50/50	0.1005
941131	AE2-107 C	4.5880	Adder	5.4
941132	AE2-107 E	3.0586	Adder	3.6
941551	AE2-152 C O1	7.4021	Adder	8.71
941552	AE2-152 E O1	4.9348	Adder	5.81
941561	AE2-153 C O1	2.9489	Adder	3.47
941562	AE2-153 E O1	13.8063	Adder	16.24
942421	AE2-255 C O1	1.9238	Adder	2.26
942422	AE2-255 E O1	5.7713	Adder	6.79
942991	AE2-321 C	5.1426	Adder	6.05
942992	AE2-321 E	2.5329	Adder	2.98
943121	AE2-341 C	7.9841	Adder	9.39
943122	AE2-341 E	3.9206	Adder	4.61
943591	AF1-030 C O1	5.3095	Adder	6.25
943592	AF1-030 E O1	2.6270	Adder	3.09
943801	AF1-048 C	2.4040	Adder	2.83
943802	AF1-048 E	1.6026	Adder	1.89
944041	AF1-072	1.3566	Adder	1.6
944911	AF1-156 C	7.5398	Adder	8.87
944912	AF1-156 E	5.0266	Adder	5.91
945351	AF1-200 FTIR	194.1186	Merchant Transmission	194.1186
946661	AF1-330 C	1.2607	Adder	1.48
946662	AF1-330 E	0.2767	Adder	0.33
957021	AF2-003 C O1	2.3556	Adder	5.23

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957022	AF2-003 E O1	11.0284	Adder	24.48
957331	AF2-027 C	0.8361	Adder	1.86
957332	AF2-027 E	1.2542	Adder	2.78
958011	AF2-095 C O1	5.5619	Adder	12.35
958012	AF2-095 E O1	2.6174	Adder	5.81
958021	AF2-096 C O1	26.0990	50/50	26.0990
958022	AF2-096 E O1	12.3422	50/50	12.3422
959351	AF2-226 C	2.0758	50/50	2.0758
959352	AF2-226 E	3.1137	50/50	3.1137
960281	AF2-319 C	2.0758	50/50	2.0758
960282	AF2-319 E	3.1137	50/50	3.1137
960381	AF2-329	2.1957	Adder	4.87
960581	AF2-349 C	2.3138	Adder	5.14
960582	AF2-349 E	1.5425	Adder	3.42
960591	AF2-350 C O1	2.4538	Adder	5.45
960592	AF2-350 E O1	1.6359	Adder	3.63
960601	AF2-351 C O1	0.3272	Adder	0.73
960602	AF2-351 E O1	0.4908	Adder	1.09
960721	AF2-363 C O1	1.9813	Adder	4.4
960722	AF2-363 E O1	1.3209	Adder	2.93
960731	AF2-364 C O1	2.0491	Adder	4.55
960732	AF2-364 E O1	1.3661	Adder	3.03
960751	AF2-366 C O1	2.3156	Adder	5.14
960752	AF2-366 E O1	1.5437	Adder	3.43
WEC	WEC	2.7811	Confirmed LTF	2.7811
CALDERWOOD	CALDERWOOD	0.0656	Confirmed LTF	0.0656
CBM-W2	CBM-W2	13.0549	Confirmed LTF	13.0549
NY	NY	0.8345	Confirmed LTF	0.8345
CBM-W1	CBM-W1	41.6458	Confirmed LTF	41.6458
TVA	TVA	0.8036	Confirmed LTF	0.8036
O-066	O-066	9.8582	Confirmed LTF	9.8582
CHEOAH	CHEOAH	0.0736	Confirmed LTF	0.0736
CBM-S1	CBM-S1	2.6582	Confirmed LTF	2.6582
G-007	G-007	1.5246	Confirmed LTF	1.5246
MADISON	MADISON	14.3620	Confirmed LTF	14.3620
MEC	MEC	9.4450	Confirmed LTF	9.4450
GIBSON	GIBSON	0.1338	Confirmed LTF	0.1338
BLUEG	BLUEG	1.5294	Confirmed LTF	1.5294
TRIMBLE	TRIMBLE	0.5187	Confirmed LTF	0.5187
CATAWBA	CATAWBA	0.2180	Confirmed LTF	0.2180

11.6.9 Index 9

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
96182334	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.67	121.8	DC	64.6

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274771	LINCOLN ;2U	3.7664	50/50	3.7664
274772	LINCOLN ;3U	3.7664	50/50	3.7664
274773	LINCOLN ;4U	3.7664	50/50	3.7664
274774	LINCOLN ;5U	3.7664	50/50	3.7664
274775	LINCOLN ;6U	3.7664	50/50	3.7664
274776	LINCOLN ;7U	3.7664	50/50	3.7664
274777	LINCOLN ;8U	3.7664	50/50	3.7664
274830	U3-021 1	6.3035	Adder	7.42
274831	U3-021 2	6.3035	Adder	7.42
274881	PILOT HIL;1E	19.9396	Adder	23.46
274890	CAYUG;1U E	17.0054	Adder	20.01
274891	CAYUG;2U E	17.0054	Adder	20.01
275149	KELLYCK ;1E	19.9396	Adder	23.46
276167	Z1-106 E2	1.3063	Adder	1.54
276168	Z1-106 E1	1.3062	Adder	1.54
276169	Z1-107 E	2.6738	Adder	3.15
276170	Z1-108 E	2.5704	Adder	3.02
290021	O50 E	20.0260	Adder	23.56
290051	GSG-6; E	10.8913	Adder	12.81
290108	LEEDK;1U E	25.1940	Adder	29.64
293061	N-015 E	16.4434	Adder	19.35
293644	O22 E1	10.5913	Adder	12.46
293645	O22 E2	20.5595	Adder	24.19
294392	P-010 E	20.8831	Adder	24.57
910542	X3-005 E	0.7562	Adder	0.89
915011	Y3-013 1	3.8635	Adder	4.55
915021	Y3-013 2	3.8635	Adder	4.55
915031	Y3-013 3	3.8635	Adder	4.55
918052	AA1-018 E OP	16.9837	Adder	19.98
920272	AA2-123 E	2.5262	Adder	2.97
924471	AB2-096	43.7741	Adder	51.5
926311	AC1-109 1	1.9765	Adder	2.33
926321	AC1-109 2	1.9765	Adder	2.33
926331	AC1-110 1	1.9634	Adder	2.31
926341	AC1-110 2	1.9634	Adder	2.31
926351	AC1-111 1	0.7894	Adder	0.93
926361	AC1-111 2	0.7894	Adder	0.93
926371	AC1-111 3	0.7894	Adder	0.93
926381	AC1-111 4	0.7894	Adder	0.93
926391	AC1-111 5	0.7894	Adder	0.93
926401	AC1-111 6	0.7894	Adder	0.93
927451	AC1-142A 1	4.3256	Adder	5.09
927461	AC1-142A 2	4.3256	Adder	5.09
930501	AB1-091 O1	79.3394	Adder	93.34
930741	AB1-122 1O1	75.3017	Adder	88.59
930751	AB1-122 2O1	76.2303	Adder	89.68
933411	AC2-154 C	2.7061	Adder	3.18
933412	AC2-154 E	4.4152	Adder	5.19
933431	AC2-156 C O1	0.9893	Adder	1.16
933432	AC2-156 E O1	1.6142	Adder	1.9
933911	AD1-013 C	1.9232	Adder	2.26
933912	AD1-013 E	3.0721	Adder	3.61

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933931	AD1-016 C	0.9600	Adder	1.13
933932	AD1-016 E	1.5662	Adder	1.84
934101	AD1-039 1	7.3796	Adder	8.68
934111	AD1-039 2	7.4706	Adder	8.79
934431	AD1-067 C	0.1368	Adder	0.16
934432	AD1-067 E	0.5750	Adder	0.68
934701	AD1-098 C O1	7.1661	Adder	8.43
934702	AD1-098 E O1	5.2320	Adder	6.16
934721	AD1-100 C	24.8523	Adder	29.24
934722	AD1-100 E	115.9774	Adder	136.44
934871	AD1-116 C	0.9891	Adder	1.16
934872	AD1-116 E	1.6138	Adder	1.9
934971	AD1-129 C	0.9344	Adder	1.1
934972	AD1-129 E	0.6230	Adder	0.73
935001	AD1-133 C O1	23.0234	Adder	27.09
935002	AD1-133 E O1	15.3490	Adder	18.06
936291	AD2-038 C O1	2.4301	Adder	2.86
936292	AD2-038 E O1	16.2627	Adder	19.13
936371	AD2-047 C O1	4.8425	Adder	5.7
936372	AD2-047 E O1	23.6427	Adder	27.81
936461	AD2-060	2.8485	Adder	3.35
936511	AD2-066 C O1	8.7640	Adder	10.31
936512	AD2-066 E O1	5.8426	Adder	6.87
937001	AD2-134 C	2.8471	Adder	3.35
937002	AD2-134 E	11.7616	Adder	13.84
937401	AD2-194 1	8.0697	Adder	9.49
937411	AD2-194 2	8.0692	Adder	9.49
938511	AE1-070 1	9.4819	Adder	11.16
938521	AE1-070 2	8.6744	Adder	10.21
938851	AE1-113 C	8.2607	Adder	9.72
938852	AE1-113 E	29.2880	Adder	34.46
939321	AE1-163 C O1	6.1063	Adder	7.18
939322	AE1-163 E O1	37.5102	Adder	44.13
939351	AE1-166 C O1	12.2622	Adder	14.43
939352	AE1-166 E O1	11.3189	Adder	13.32
939401	AE1-172 C O1	6.7946	Adder	7.99
939402	AE1-172 E O1	31.8801	Adder	37.51
940101	AE1-252 C O1	13.6499	Adder	16.06
940102	AE1-252 E O1	9.0999	Adder	10.71
940752	AE2-062 E	0.1351	Adder	0.16
941131	AE2-107 C	7.5761	Adder	8.91
941132	AE2-107 E	5.0507	Adder	5.94
941551	AE2-152 C O1	14.1487	Adder	16.65
941552	AE2-152 E O1	9.4325	Adder	11.1
941561	AE2-153 C O1	5.1247	Adder	6.03
941562	AE2-153 E O1	23.9929	Adder	28.23
941731	AE2-173 O1	3.2665	Adder	3.84
942111	AE2-223 C	2.4140	Adder	2.84
942112	AE2-223 E	16.1551	Adder	19.01
942421	AE2-255 C O1	3.1291	Adder	3.68
942422	AE2-255 E O1	9.3872	Adder	11.04
942651	AE2-281 C O1	0.8723	Adder	1.03

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942652	AE2-281 E O1	5.3586	Adder	6.3
942991	AE2-321 C	8.4508	Adder	9.94
942992	AE2-321 E	4.1623	Adder	4.9
943121	AE2-341 C	13.2079	Adder	15.54
943122	AE2-341 E	6.4858	Adder	7.63
943381	AF1-009 C	0.6199	Adder	0.73
943382	AF1-009 E	2.4796	Adder	2.92
943591	AF1-030 C O1	8.7834	Adder	10.33
943592	AF1-030 E O1	4.3457	Adder	5.11
943801	AF1-048 C	3.9504	Adder	4.65
943802	AF1-048 E	2.6336	Adder	3.1
944041	AF1-072	2.2259	Adder	2.62
944911	AF1-156 C	13.1029	Adder	15.42
944912	AF1-156 E	8.7353	Adder	10.28
945351	AF1-200 FTIR	322.6289	Merchant Transmission	322.6289
946661	AF1-330 C	2.0715	Adder	2.44
946662	AF1-330 E	0.4547	Adder	0.53
946671	AF1-331	2.4976	Adder	2.94
957021	AF2-003 C O1	3.5751	Adder	7.94
957022	AF2-003 E O1	16.7377	Adder	37.15
957331	AF2-027 C	1.3651	Adder	3.03
957332	AF2-027 E	2.0477	Adder	4.55
958011	AF2-095 C O1	10.2661	Adder	22.79
958012	AF2-095 E O1	4.8311	Adder	10.72
958021	AF2-096 C O1	19.7578	Adder	43.86
958022	AF2-096 E O1	9.3434	Adder	20.74
958481	AF2-142 C	6.2078	Adder	13.78
958482	AF2-142 E	4.1386	Adder	9.19
958491	AF2-143 C	5.9443	Adder	13.19
958492	AF2-143 E	3.9629	Adder	8.8
959341	AF2-225 C	4.1335	Adder	9.18
959342	AF2-225 E	5.7081	Adder	12.67
959351	AF2-226 C	1.3758	Adder	3.05
959352	AF2-226 E	2.0637	Adder	4.58
960281	AF2-319 C	1.3758	Adder	3.05
960282	AF2-319 E	2.0637	Adder	4.58
960381	AF2-329	3.6323	Adder	8.06
960581	AF2-349 C	11.9583	Adder	26.54
960582	AF2-349 E	7.9722	Adder	17.7
960591	AF2-350 C O1	4.5291	Adder	10.05
960592	AF2-350 E O1	3.0194	Adder	6.7
960601	AF2-351 C O1	0.6039	Adder	1.34
960602	AF2-351 E O1	0.9058	Adder	2.01
960721	AF2-363 C O1	3.2702	Adder	7.26
960722	AF2-363 E O1	2.1801	Adder	4.84
960731	AF2-364 C O1	3.3662	Adder	7.47
960732	AF2-364 E O1	2.2441	Adder	4.98
960751	AF2-366 C O1	3.8221	Adder	8.48
960752	AF2-366 E O1	2.5480	Adder	5.66
961501	AF2-441 C O1	5.4914	Adder	12.19
961502	AF2-441 E O1	8.2371	Adder	18.28
WEC	WEC	4.5603	Confirmed LTF	4.5603

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CALDERWOOD	CALDERWOOD	0.0631	Confirmed LTF	0.0631
CBM-W2	CBM-W2	25.0942	Confirmed LTF	25.0942
NY	NY	1.4306	Confirmed LTF	1.4306
CBM-W1	CBM-W1	78.1875	Confirmed LTF	78.1875
TVA	TVA	1.6184	Confirmed LTF	1.6184
O-066	O-066	16.9546	Confirmed LTF	16.9546
CHEOAH	CHEOAH	0.0771	Confirmed LTF	0.0771
CBM-S1	CBM-S1	6.0407	Confirmed LTF	6.0407
G-007	G-007	2.6218	Confirmed LTF	2.6218
MADISON	MADISON	24.3210	Confirmed LTF	24.3210
MEC	MEC	16.0171	Confirmed LTF	16.0171
BLUEG	BLUEG	2.3071	Confirmed LTF	2.3071
TRIMBLE	TRIMBLE	0.7969	Confirmed LTF	0.7969
CATAWBA	CATAWBA	0.3619	Confirmed LTF	0.3619

11.6.10 Index 10

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
96182322	270927	WILTON ; R	CE	275233	WILTON ;4M	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.21	124.35	DC	65.93

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274771	LINCOLN ;2U	3.8683	50/50	3.8683
274772	LINCOLN ;3U	3.8683	50/50	3.8683
274773	LINCOLN ;4U	3.8683	50/50	3.8683
274774	LINCOLN ;5U	3.8683	50/50	3.8683
274775	LINCOLN ;6U	3.8683	50/50	3.8683
274776	LINCOLN ;7U	3.8683	50/50	3.8683
274777	LINCOLN ;8U	3.8683	50/50	3.8683
274830	U3-021 1	6.4380	Adder	7.57
274831	U3-021 2	6.4380	Adder	7.57
274881	PILOT HIL;1E	20.3561	Adder	23.95
274890	CAYUG;1U E	17.3451	Adder	20.41
274891	CAYUG;2U E	17.3451	Adder	20.41
275149	KELLYCK ;1E	20.3561	Adder	23.95
276167	Z1-106 E2	1.3342	Adder	1.57
276168	Z1-106 E1	1.3341	Adder	1.57
276169	Z1-107 E	2.7309	Adder	3.21
276170	Z1-108 E	2.6251	Adder	3.09
290021	O50 E	20.4530	Adder	24.06
290051	GSG-6; E	11.1236	Adder	13.09
290108	LEEDK;1U E	25.7295	Adder	30.27
293061	N-015 E	16.7861	Adder	19.75
293644	O22 E1	10.8153	Adder	12.72
293645	O22 E2	20.9944	Adder	24.7
294392	P-010 E	21.3184	Adder	25.08
910542	X3-005 E	0.7727	Adder	0.91

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
915011	Y3-013 1	3.9461	Adder	4.64
915021	Y3-013 2	3.9461	Adder	4.64
915031	Y3-013 3	3.9461	Adder	4.64
918052	AA1-018 E OP	17.3542	Adder	20.42
920272	AA2-123 E	2.5799	Adder	3.04
924471	AB2-096	44.7083	Adder	52.6
926311	AC1-109 1	2.0186	Adder	2.37
926321	AC1-109 2	2.0186	Adder	2.37
926331	AC1-110 1	2.0052	Adder	2.36
926341	AC1-110 2	2.0052	Adder	2.36
926351	AC1-111 1	0.8063	Adder	0.95
926361	AC1-111 2	0.8063	Adder	0.95
926371	AC1-111 3	0.8063	Adder	0.95
926381	AC1-111 4	0.8063	Adder	0.95
926391	AC1-111 5	0.8063	Adder	0.95
926401	AC1-111 6	0.8063	Adder	0.95
927451	AC1-142A 1	4.4186	Adder	5.2
927461	AC1-142A 2	4.4186	Adder	5.2
930501	AB1-091 O1	80.9897	Adder	95.28
930741	AB1-122 1O1	76.8999	Adder	90.47
930751	AB1-122 2O1	77.8579	Adder	91.6
933411	AC2-154 C	2.7626	Adder	3.25
933412	AC2-154 E	4.5074	Adder	5.3
933431	AC2-156 C O1	1.0103	Adder	1.19
933432	AC2-156 E O1	1.6485	Adder	1.94
933911	AD1-013 C	1.9642	Adder	2.31
933912	AD1-013 E	3.1375	Adder	3.69
933931	AD1-016 C	0.9804	Adder	1.15
933932	AD1-016 E	1.5996	Adder	1.88
934101	AD1-039 1	7.5362	Adder	8.87
934111	AD1-039 2	7.6301	Adder	8.98
934431	AD1-067 C	0.1397	Adder	0.16
934432	AD1-067 E	0.5873	Adder	0.69
934701	AD1-098 C O1	7.3184	Adder	8.61
934702	AD1-098 E O1	5.3432	Adder	6.29
934721	AD1-100 C	25.3457	Adder	29.82
934722	AD1-100 E	118.2800	Adder	139.15
934871	AD1-116 C	1.0107	Adder	1.19
934872	AD1-116 E	1.6490	Adder	1.94
934971	AD1-129 C	0.9544	Adder	1.12
934972	AD1-129 E	0.6363	Adder	0.75
935001	AD1-133 C O1	23.5023	Adder	27.65
935002	AD1-133 E O1	15.6682	Adder	18.43
936291	AD2-038 C O1	2.4826	Adder	2.92
936292	AD2-038 E O1	16.6143	Adder	19.55
936371	AD2-047 C O1	4.9436	Adder	5.82
936372	AD2-047 E O1	24.1366	Adder	28.4
936461	AD2-060	2.9080	Adder	3.42
936511	AD2-066 C O1	8.9497	Adder	10.53
936512	AD2-066 E O1	5.9665	Adder	7.02
937001	AD2-134 C	2.9079	Adder	3.42
937002	AD2-134 E	12.0124	Adder	14.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
937401	AD2-194 1	8.2426	Adder	9.7
937411	AD2-194 2	8.2421	Adder	9.7
938511	AE1-070 1	9.6851	Adder	11.39
938521	AE1-070 2	8.8603	Adder	10.42
938851	AE1-113 C	8.4369	Adder	9.93
938852	AE1-113 E	29.9126	Adder	35.19
939321	AE1-163 C O1	6.2383	Adder	7.34
939322	AE1-163 E O1	38.3212	Adder	45.08
939351	AE1-166 C O1	12.5095	Adder	14.72
939352	AE1-166 E O1	11.5472	Adder	13.58
939401	AE1-172 C O1	6.9294	Adder	8.15
939402	AE1-172 E O1	32.5126	Adder	38.25
940101	AE1-252 C O1	13.9207	Adder	16.38
940102	AE1-252 E O1	9.2805	Adder	10.92
940752	AE2-062 E	0.1379	Adder	0.16
941131	AE2-107 C	7.7372	Adder	9.1
941132	AE2-107 E	5.1581	Adder	6.07
941551	AE2-152 C O1	14.4340	Adder	16.98
941552	AE2-152 E O1	9.6227	Adder	11.32
941561	AE2-153 C O1	5.2303	Adder	6.15
941562	AE2-153 E O1	24.4874	Adder	28.81
941731	AE2-173 O1	3.3326	Adder	3.92
942111	AE2-223 C	2.4629	Adder	2.9
942112	AE2-223 E	16.4823	Adder	19.39
942421	AE2-255 C O1	3.1958	Adder	3.76
942422	AE2-255 E O1	9.5874	Adder	11.28
942651	AE2-281 C O1	0.8912	Adder	1.05
942652	AE2-281 E O1	5.4745	Adder	6.44
942991	AE2-321 C	8.6313	Adder	10.15
942992	AE2-321 E	4.2513	Adder	5.0
943121	AE2-341 C	13.4892	Adder	15.87
943122	AE2-341 E	6.6239	Adder	7.79
943381	AF1-009 C	0.6331	Adder	0.74
943382	AF1-009 E	2.5323	Adder	2.98
943591	AF1-030 C O1	8.9705	Adder	10.55
943592	AF1-030 E O1	4.4383	Adder	5.22
943801	AF1-048 C	4.0348	Adder	4.75
943802	AF1-048 E	2.6899	Adder	3.16
944041	AF1-072	2.2734	Adder	2.67
944911	AF1-156 C	13.3730	Adder	15.73
944912	AF1-156 E	8.9153	Adder	10.49
945351	AF1-200 FTIR	329.4462	Merchant Transmission	329.4462
946661	AF1-330 C	2.1155	Adder	2.49
946662	AF1-330 E	0.4644	Adder	0.55
946671	AF1-331	2.5508	Adder	3.0
957021	AF2-003 C O1	3.6510	Adder	8.1
957022	AF2-003 E O1	17.0932	Adder	37.94
957331	AF2-027 C	1.3943	Adder	3.1
957332	AF2-027 E	2.0914	Adder	4.64
958011	AF2-095 C O1	10.4805	Adder	23.26
958012	AF2-095 E O1	4.9320	Adder	10.95
958021	AF2-096 C O1	20.1649	Adder	44.76

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958022	AF2-096 E O1	9.5360	Adder	21.17
958481	AF2-142 C	6.3433	Adder	14.08
958482	AF2-142 E	4.2288	Adder	9.39
958491	AF2-143 C	6.0728	Adder	13.48
958492	AF2-143 E	4.0486	Adder	8.99
959341	AF2-225 C	4.2172	Adder	9.36
959342	AF2-225 E	5.8238	Adder	12.93
959351	AF2-226 C	1.4049	Adder	3.12
959352	AF2-226 E	2.1074	Adder	4.68
960281	AF2-319 C	1.4049	Adder	3.12
960282	AF2-319 E	2.1074	Adder	4.68
960381	AF2-329	3.7097	Adder	8.23
960581	AF2-349 C	12.2138	Adder	27.11
960582	AF2-349 E	8.1425	Adder	18.07
960591	AF2-350 C O1	4.6238	Adder	10.26
960592	AF2-350 E O1	3.0825	Adder	6.84
960601	AF2-351 C O1	0.6165	Adder	1.37
960602	AF2-351 E O1	0.9248	Adder	2.05
960721	AF2-363 C O1	3.3397	Adder	7.41
960722	AF2-363 E O1	2.2265	Adder	4.94
960731	AF2-364 C O1	3.4379	Adder	7.63
960732	AF2-364 E O1	2.2919	Adder	5.09
960751	AF2-366 C O1	3.9034	Adder	8.66
960752	AF2-366 E O1	2.6023	Adder	5.78
961501	AF2-441 C O1	5.6075	Adder	12.45
961502	AF2-441 E O1	8.4112	Adder	18.67
WEC	WEC	4.6573	Confirmed LTF	4.6573
CALDERWOOD	CALDERWOOD	0.0656	Confirmed LTF	0.0656
CBM-W2	CBM-W2	25.6101	Confirmed LTF	25.6101
NY	NY	1.4616	Confirmed LTF	1.4616
CBM-W1	CBM-W1	79.8388	Confirmed LTF	79.8388
TVA	TVA	1.6492	Confirmed LTF	1.6492
O-066	O-066	17.3242	Confirmed LTF	17.3242
CHEOAH	CHEOAH	0.0801	Confirmed LTF	0.0801
CBM-S1	CBM-S1	6.1514	Confirmed LTF	6.1514
G-007	G-007	2.6780	Confirmed LTF	2.6780
MADISON	MADISON	24.8371	Confirmed LTF	24.8371
MEC	MEC	16.3540	Confirmed LTF	16.3540
BLUEG	BLUEG	2.3592	Confirmed LTF	2.3592
TRIMBLE	TRIMBLE	0.8147	Confirmed LTF	0.8147
CATAWBA	CATAWBA	0.3703	Confirmed LTF	0.3703

11.6.11 Index 11

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPACT
96182213	274750	CRET E EC ;BP	CE	255112	17STJOHN	NIPS	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1399.0	154.82	155.06	DC	54.42

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	29.6152	50/50	29.6152
274655	BRAIDWOOD;2U	28.8116	50/50	28.8116
274687	WILL CNTY;4U	12.4964	50/50	12.4964
274704	KENDALL ;1C	4.3923	50/50	4.3923
274706	KENDALL ;2C	4.3923	50/50	4.3923
274751	CRETE EC ;1U	6.4615	50/50	6.4615
274752	CRETE EC ;2U	6.4615	50/50	6.4615
274753	CRETE EC ;3U	6.4615	50/50	6.4615
274754	CRETE EC ;4U	6.4615	50/50	6.4615
274830	U3-021 1	5.3434	Adder	6.29
274831	U3-021 2	5.3434	Adder	6.29
274861	TOP CROP ;1U	0.5252	50/50	0.5252
274862	TOP CROP ;2U	1.0194	50/50	1.0194
276167	Z1-106 E2	1.1061	Adder	1.3
276168	Z1-106 E1	1.1061	Adder	1.3
276169	Z1-107 E	2.1255	Adder	2.5
276170	Z1-108 E	2.1850	Adder	2.57
290021	O50 E	17.2611	Adder	20.31
290051	GSG-6; E	9.1765	Adder	10.8
290108	LEEDK;1U E	21.2347	Adder	24.98
293061	N-015 E	13.7231	Adder	16.14
293644	O22 E1	12.1780	50/50	12.1780
293645	O22 E2	23.6396	50/50	23.6396
294392	P-010 E	17.4283	Adder	20.5
915011	Y3-013 1	3.3010	Adder	3.88
915021	Y3-013 2	3.3010	Adder	3.88
915031	Y3-013 3	3.3010	Adder	3.88
920272	AA2-123 E	2.1430	Adder	2.52
924471	AB2-096	37.1072	Adder	43.66
926311	AC1-109 1	1.6678	Adder	1.96
926321	AC1-109 2	1.6678	Adder	1.96
926331	AC1-110 1	1.6637	Adder	1.96
926341	AC1-110 2	1.6637	Adder	1.96
926351	AC1-111 1	0.6659	Adder	0.78
926361	AC1-111 2	0.6659	Adder	0.78
926371	AC1-111 3	0.6659	Adder	0.78
926381	AC1-111 4	0.6659	Adder	0.78
926391	AC1-111 5	0.6659	Adder	0.78
926401	AC1-111 6	0.6659	Adder	0.78
927451	AC1-142A 1	3.7794	Adder	4.45
927461	AC1-142A 2	3.7819	Adder	4.45
930481	AB1-089	13.8760	Adder	16.32
930741	AB1-122 1O1	62.1543	Adder	73.12
930751	AB1-122 2O1	66.4358	Adder	78.16
933431	AC2-156 C O1	0.8315	Adder	0.98
933432	AC2-156 E O1	1.3567	Adder	1.6
933911	AD1-013 C	1.6208	Adder	1.91
933912	AD1-013 E	2.5891	Adder	3.05
933931	AD1-016 C	0.8143	Adder	0.96
933932	AD1-016 E	1.3287	Adder	1.56

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934101	AD1-039 1	6.0911	Adder	7.17
934111	AD1-039 2	6.5107	Adder	7.66
934431	AD1-067 C	0.1152	Adder	0.14
934432	AD1-067 E	0.4845	Adder	0.57
934721	AD1-100 C	16.6069	Adder	19.54
934722	AD1-100 E	77.4988	Adder	91.18
934971	AD1-129 C	0.7916	Adder	0.93
934972	AD1-129 E	0.5278	Adder	0.62
937001	AD2-134 C	2.3989	Adder	2.82
937002	AD2-134 E	9.9097	Adder	11.66
937401	AD2-194 1	7.0176	Adder	8.26
937411	AD2-194 2	7.0054	Adder	8.24
938511	AE1-070 1	8.2457	Adder	9.7
938521	AE1-070 2	7.5308	Adder	8.86
938851	AE1-113 C	7.1202	Adder	8.38
938852	AE1-113 E	25.2444	Adder	29.7
939351	AE1-166 C O1	8.8862	Adder	10.45
939352	AE1-166 E O1	8.2026	Adder	9.65
939631	AE1-193 C	32.3784	50/50	32.3784
939632	AE1-193 E	216.6865	50/50	216.6865
939641	AE1-194 C	32.3784	50/50	32.3784
939642	AE1-194 E	216.6865	50/50	216.6865
939651	AE1-195 C	32.3784	50/50	32.3784
939652	AE1-195 E	216.6865	50/50	216.6865
939681	AE1-198 C	96.1391	50/50	96.1391
939682	AE1-198 E	81.6933	50/50	81.6933
940752	AE2-062 E	0.1405	50/50	0.1405
941131	AE2-107 C	6.3862	Adder	7.51
941132	AE2-107 E	4.2575	Adder	5.01
941551	AE2-152 C O1	10.2533	Adder	12.06
941552	AE2-152 E O1	6.8355	Adder	8.04
941561	AE2-153 C O1	4.0772	Adder	4.8
941562	AE2-153 E O1	19.0887	Adder	22.46
942421	AE2-255 C O1	2.6970	Adder	3.17
942422	AE2-255 E O1	8.0911	Adder	9.52
942991	AE2-321 C	7.1683	Adder	8.43
942992	AE2-321 E	3.5307	Adder	4.15
943121	AE2-341 C	11.0906	Adder	13.05
943122	AE2-341 E	5.4461	Adder	6.41
943591	AF1-030 C O1	7.3754	Adder	8.68
943592	AF1-030 E O1	3.6491	Adder	4.29
943801	AF1-048 C	3.3509	Adder	3.94
943802	AF1-048 E	2.2339	Adder	2.63
944041	AF1-072	1.8905	Adder	2.22
944911	AF1-156 C	10.4247	Adder	12.26
944912	AF1-156 E	6.9498	Adder	8.18
945351	AF1-200 FTIR	269.5357	Merchant Transmission	269.5357
946661	AF1-330 C	1.7573	Adder	2.07
946662	AF1-330 E	0.3857	Adder	0.45
946671	AF1-331	2.1049	Adder	2.48
957021	AF2-003 C O1	7.4675	50/50	7.4675
957022	AF2-003 E O1	34.9616	50/50	34.9616

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957331	AF2-027 C	1.1663	Adder	2.59
957332	AF2-027 E	1.7495	Adder	3.88
958021	AF2-096 C O1	36.9501	50/50	36.9501
958022	AF2-096 E O1	17.4737	50/50	17.4737
959351	AF2-226 C	2.9848	50/50	2.9848
959352	AF2-226 E	4.4772	50/50	4.4772
960281	AF2-319 C	2.9848	50/50	2.9848
960282	AF2-319 E	4.4772	50/50	4.4772
960381	AF2-329	3.0500	Adder	6.77
960581	AF2-349 C	10.1403	Adder	22.51
960582	AF2-349 E	6.7602	Adder	15.01
960721	AF2-363 C O1	2.7582	Adder	6.12
960722	AF2-363 E O1	1.8388	Adder	4.08
960731	AF2-364 C O1	2.8544	Adder	6.34
960732	AF2-364 E O1	1.9029	Adder	4.22
960751	AF2-366 C O1	3.2229	Adder	7.15
960752	AF2-366 E O1	2.1486	Adder	4.77
WEC	WEC	3.8792	Confirmed LTF	3.8792
CALDERWOOD	CALDERWOOD	0.0914	Confirmed LTF	0.0914
CBM-W2	CBM-W2	18.2228	Confirmed LTF	18.2228
NY	NY	1.1862	Confirmed LTF	1.1862
CBM-W1	CBM-W1	52.9799	Confirmed LTF	52.9799
TVA	TVA	1.1256	Confirmed LTF	1.1256
O-066	O-066	14.0045	Confirmed LTF	14.0045
CHEOAH	CHEOAH	0.1026	Confirmed LTF	0.1026
CBM-S1	CBM-S1	3.7914	Confirmed LTF	3.7914
G-007	G-007	2.1653	Confirmed LTF	2.1653
MADISON	MADISON	20.0572	Confirmed LTF	20.0572
MEC	MEC	13.1776	Confirmed LTF	13.1776
GIBSON	GIBSON	0.1807	Confirmed LTF	0.1807
BLUEG	BLUEG	2.0398	Confirmed LTF	2.0398
TRIMBLE	TRIMBLE	0.6906	Confirmed LTF	0.6906
CATAWBA	CATAWBA	0.3066	Confirmed LTF	0.3066

11.6.12 Index 12

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
96182333	275232	WILTON ;3M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.67	121.8	DC	64.6

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274771	LINCOLN ;2U	3.7664	50/50	3.7664
274772	LINCOLN ;3U	3.7664	50/50	3.7664
274773	LINCOLN ;4U	3.7664	50/50	3.7664
274774	LINCOLN ;5U	3.7664	50/50	3.7664
274775	LINCOLN ;6U	3.7664	50/50	3.7664
274776	LINCOLN ;7U	3.7664	50/50	3.7664

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274777	LINCOLN ;8U	3.7664	50/50	3.7664
274830	U3-021 1	6.3035	Adder	7.42
274831	U3-021 2	6.3035	Adder	7.42
274881	PILOT HIL;1E	19.9396	Adder	23.46
274890	CAYUG;1U E	17.0054	Adder	20.01
274891	CAYUG;2U E	17.0054	Adder	20.01
275149	KELLYCK ;1E	19.9396	Adder	23.46
276167	Z1-106 E2	1.3063	Adder	1.54
276168	Z1-106 E1	1.3062	Adder	1.54
276169	Z1-107 E	2.6738	Adder	3.15
276170	Z1-108 E	2.5704	Adder	3.02
290021	O50 E	20.0260	Adder	23.56
290051	GSG-6; E	10.8913	Adder	12.81
290108	LEEDK;1U E	25.1940	Adder	29.64
293061	N-015 E	16.4434	Adder	19.35
293644	O22 E1	10.5913	Adder	12.46
293645	O22 E2	20.5595	Adder	24.19
294392	P-010 E	20.8831	Adder	24.57
910542	X3-005 E	0.7562	Adder	0.89
915011	Y3-013 1	3.8635	Adder	4.55
915021	Y3-013 2	3.8635	Adder	4.55
915031	Y3-013 3	3.8635	Adder	4.55
918052	AA1-018 E OP	16.9837	Adder	19.98
920272	AA2-123 E	2.5262	Adder	2.97
924471	AB2-096	43.7741	Adder	51.5
926311	AC1-109 1	1.9765	Adder	2.33
926321	AC1-109 2	1.9765	Adder	2.33
926331	AC1-110 1	1.9634	Adder	2.31
926341	AC1-110 2	1.9634	Adder	2.31
926351	AC1-111 1	0.7894	Adder	0.93
926361	AC1-111 2	0.7894	Adder	0.93
926371	AC1-111 3	0.7894	Adder	0.93
926381	AC1-111 4	0.7894	Adder	0.93
926391	AC1-111 5	0.7894	Adder	0.93
926401	AC1-111 6	0.7894	Adder	0.93
927451	AC1-142A 1	4.3256	Adder	5.09
927461	AC1-142A 2	4.3256	Adder	5.09
930501	AB1-091 O1	79.3394	Adder	93.34
930741	AB1-122 1O1	75.3017	Adder	88.59
930751	AB1-122 2O1	76.2303	Adder	89.68
933411	AC2-154 C	2.7061	Adder	3.18
933412	AC2-154 E	4.4152	Adder	5.19
933431	AC2-156 C O1	0.9893	Adder	1.16
933432	AC2-156 E O1	1.6142	Adder	1.9
933911	AD1-013 C	1.9232	Adder	2.26
933912	AD1-013 E	3.0721	Adder	3.61
933931	AD1-016 C	0.9600	Adder	1.13
933932	AD1-016 E	1.5662	Adder	1.84
934101	AD1-039 1	7.3796	Adder	8.68
934111	AD1-039 2	7.4706	Adder	8.79
934431	AD1-067 C	0.1368	Adder	0.16
934432	AD1-067 E	0.5750	Adder	0.68

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934701	AD1-098 C O1	7.1661	Adder	8.43
934702	AD1-098 E O1	5.2320	Adder	6.16
934721	AD1-100 C	24.8523	Adder	29.24
934722	AD1-100 E	115.9774	Adder	136.44
934871	AD1-116 C	0.9891	Adder	1.16
934872	AD1-116 E	1.6138	Adder	1.9
934971	AD1-129 C	0.9344	Adder	1.1
934972	AD1-129 E	0.6230	Adder	0.73
935001	AD1-133 C O1	23.0234	Adder	27.09
935002	AD1-133 E O1	15.3490	Adder	18.06
936291	AD2-038 C O1	2.4301	Adder	2.86
936292	AD2-038 E O1	16.2627	Adder	19.13
936371	AD2-047 C O1	4.8425	Adder	5.7
936372	AD2-047 E O1	23.6427	Adder	27.81
936461	AD2-060	2.8485	Adder	3.35
936511	AD2-066 C O1	8.7640	Adder	10.31
936512	AD2-066 E O1	5.8426	Adder	6.87
937001	AD2-134 C	2.8471	Adder	3.35
937002	AD2-134 E	11.7616	Adder	13.84
937401	AD2-194 1	8.0697	Adder	9.49
937411	AD2-194 2	8.0692	Adder	9.49
938511	AE1-070 1	9.4819	Adder	11.16
938521	AE1-070 2	8.6744	Adder	10.21
938851	AE1-113 C	8.2607	Adder	9.72
938852	AE1-113 E	29.2880	Adder	34.46
939321	AE1-163 C O1	6.1063	Adder	7.18
939322	AE1-163 E O1	37.5102	Adder	44.13
939351	AE1-166 C O1	12.2622	Adder	14.43
939352	AE1-166 E O1	11.3189	Adder	13.32
939401	AE1-172 C O1	6.7946	Adder	7.99
939402	AE1-172 E O1	31.8801	Adder	37.51
940101	AE1-252 C O1	13.6499	Adder	16.06
940102	AE1-252 E O1	9.0999	Adder	10.71
940752	AE2-062 E	0.1351	Adder	0.16
941131	AE2-107 C	7.5761	Adder	8.91
941132	AE2-107 E	5.0507	Adder	5.94
941551	AE2-152 C O1	14.1487	Adder	16.65
941552	AE2-152 E O1	9.4325	Adder	11.1
941561	AE2-153 C O1	5.1247	Adder	6.03
941562	AE2-153 E O1	23.9929	Adder	28.23
941731	AE2-173 O1	3.2665	Adder	3.84
942111	AE2-223 C	2.4140	Adder	2.84
942112	AE2-223 E	16.1551	Adder	19.01
942421	AE2-255 C O1	3.1291	Adder	3.68
942422	AE2-255 E O1	9.3872	Adder	11.04
942651	AE2-281 C O1	0.8723	Adder	1.03
942652	AE2-281 E O1	5.3586	Adder	6.3
942991	AE2-321 C	8.4508	Adder	9.94
942992	AE2-321 E	4.1623	Adder	4.9
943121	AE2-341 C	13.2079	Adder	15.54
943122	AE2-341 E	6.4858	Adder	7.63
943381	AF1-009 C	0.6199	Adder	0.73

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
943382	AF1-009 E	2.4796	Adder	2.92
943591	AF1-030 C O1	8.7834	Adder	10.33
943592	AF1-030 E O1	4.3457	Adder	5.11
943801	AF1-048 C	3.9504	Adder	4.65
943802	AF1-048 E	2.6336	Adder	3.1
944041	AF1-072	2.2259	Adder	2.62
944911	AF1-156 C	13.1029	Adder	15.42
944912	AF1-156 E	8.7353	Adder	10.28
945351	AF1-200 FTIR	322.6289	Merchant Transmission	322.6289
946661	AF1-330 C	2.0715	Adder	2.44
946662	AF1-330 E	0.4547	Adder	0.53
946671	AF1-331	2.4976	Adder	2.94
957021	AF2-003 C O1	3.5751	Adder	7.94
957022	AF2-003 E O1	16.7377	Adder	37.15
957331	AF2-027 C	1.3651	Adder	3.03
957332	AF2-027 E	2.0477	Adder	4.55
958011	AF2-095 C O1	10.2661	Adder	22.79
958012	AF2-095 E O1	4.8311	Adder	10.72
958021	AF2-096 C O1	19.7578	Adder	43.86
958022	AF2-096 E O1	9.3434	Adder	20.74
958481	AF2-142 C	6.2078	Adder	13.78
958482	AF2-142 E	4.1386	Adder	9.19
958491	AF2-143 C	5.9443	Adder	13.19
958492	AF2-143 E	3.9629	Adder	8.8
959341	AF2-225 C	4.1335	Adder	9.18
959342	AF2-225 E	5.7081	Adder	12.67
959351	AF2-226 C	1.3758	Adder	3.05
959352	AF2-226 E	2.0637	Adder	4.58
960281	AF2-319 C	1.3758	Adder	3.05
960282	AF2-319 E	2.0637	Adder	4.58
960381	AF2-329	3.6323	Adder	8.06
960581	AF2-349 C	11.9583	Adder	26.54
960582	AF2-349 E	7.9722	Adder	17.7
960591	AF2-350 C O1	4.5291	Adder	10.05
960592	AF2-350 E O1	3.0194	Adder	6.7
960601	AF2-351 C O1	0.6039	Adder	1.34
960602	AF2-351 E O1	0.9058	Adder	2.01
960721	AF2-363 C O1	3.2702	Adder	7.26
960722	AF2-363 E O1	2.1801	Adder	4.84
960731	AF2-364 C O1	3.3662	Adder	7.47
960732	AF2-364 E O1	2.2441	Adder	4.98
960751	AF2-366 C O1	3.8221	Adder	8.48
960752	AF2-366 E O1	2.5480	Adder	5.66
961501	AF2-441 C O1	5.4914	Adder	12.19
961502	AF2-441 E O1	8.2371	Adder	18.28
WEC	WEC	4.5603	Confirmed LTF	4.5603
CALDERWOOD	CALDERWOOD	0.0631	Confirmed LTF	0.0631
CBM-W2	CBM-W2	25.0942	Confirmed LTF	25.0942
NY	NY	1.4306	Confirmed LTF	1.4306
CBM-W1	CBM-W1	78.1875	Confirmed LTF	78.1875
TVA	TVA	1.6184	Confirmed LTF	1.6184
O-066	O-066	16.9546	Confirmed LTF	16.9546

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CHEOAH	CHEOAH	0.0771	Confirmed LTF	0.0771
CBM-S1	CBM-S1	6.0407	Confirmed LTF	6.0407
G-007	G-007	2.6218	Confirmed LTF	2.6218
MADISON	MADISON	24.3210	Confirmed LTF	24.3210
MEC	MEC	16.0171	Confirmed LTF	16.0171
BLUEG	BLUEG	2.3071	Confirmed LTF	2.3071
TRIMBLE	TRIMBLE	0.7969	Confirmed LTF	0.7969
CATAWBA	CATAWBA	0.3619	Confirmed LTF	0.3619

11.6.13 Index 13

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
96182321	275233	WILTON ;4M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.21	124.35	DC	65.93

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274771	LINCOLN ;2U	3.8683	50/50	3.8683
274772	LINCOLN ;3U	3.8683	50/50	3.8683
274773	LINCOLN ;4U	3.8683	50/50	3.8683
274774	LINCOLN ;5U	3.8683	50/50	3.8683
274775	LINCOLN ;6U	3.8683	50/50	3.8683
274776	LINCOLN ;7U	3.8683	50/50	3.8683
274777	LINCOLN ;8U	3.8683	50/50	3.8683
274830	U3-021 1	6.4380	Adder	7.57
274831	U3-021 2	6.4380	Adder	7.57
274881	PILOT HIL;1E	20.3561	Adder	23.95
274890	CAYUG;1U E	17.3451	Adder	20.41
274891	CAYUG;2U E	17.3451	Adder	20.41
275149	KELLYCK ;1E	20.3561	Adder	23.95
276167	Z1-106 E2	1.3342	Adder	1.57
276168	Z1-106 E1	1.3341	Adder	1.57
276169	Z1-107 E	2.7309	Adder	3.21
276170	Z1-108 E	2.6251	Adder	3.09
290021	O50 E	20.4530	Adder	24.06
290051	GSG-6; E	11.1236	Adder	13.09
290108	LEEDK;1U E	25.7295	Adder	30.27
293061	N-015 E	16.7861	Adder	19.75
293644	O22 E1	10.8153	Adder	12.72
293645	O22 E2	20.9944	Adder	24.7
294392	P-010 E	21.3184	Adder	25.08
910542	X3-005 E	0.7727	Adder	0.91
915011	Y3-013 1	3.9461	Adder	4.64
915021	Y3-013 2	3.9461	Adder	4.64
915031	Y3-013 3	3.9461	Adder	4.64
918052	AA1-018 E OP	17.3542	Adder	20.42
920272	AA2-123 E	2.5799	Adder	3.04
924471	AB2-096	44.7083	Adder	52.6

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
926311	AC1-109 1	2.0186	Adder	2.37
926321	AC1-109 2	2.0186	Adder	2.37
926331	AC1-110 1	2.0052	Adder	2.36
926341	AC1-110 2	2.0052	Adder	2.36
926351	AC1-111 1	0.8063	Adder	0.95
926361	AC1-111 2	0.8063	Adder	0.95
926371	AC1-111 3	0.8063	Adder	0.95
926381	AC1-111 4	0.8063	Adder	0.95
926391	AC1-111 5	0.8063	Adder	0.95
926401	AC1-111 6	0.8063	Adder	0.95
927451	AC1-142A 1	4.4186	Adder	5.2
927461	AC1-142A 2	4.4186	Adder	5.2
930501	AB1-091 O1	80.9897	Adder	95.28
930741	AB1-122 1O1	76.8999	Adder	90.47
930751	AB1-122 2O1	77.8579	Adder	91.6
933411	AC2-154 C	2.7626	Adder	3.25
933412	AC2-154 E	4.5074	Adder	5.3
933431	AC2-156 C O1	1.0103	Adder	1.19
933432	AC2-156 E O1	1.6485	Adder	1.94
933911	AD1-013 C	1.9642	Adder	2.31
933912	AD1-013 E	3.1375	Adder	3.69
933931	AD1-016 C	0.9804	Adder	1.15
933932	AD1-016 E	1.5996	Adder	1.88
934101	AD1-039 1	7.5362	Adder	8.87
934111	AD1-039 2	7.6301	Adder	8.98
934431	AD1-067 C	0.1397	Adder	0.16
934432	AD1-067 E	0.5873	Adder	0.69
934701	AD1-098 C O1	7.3184	Adder	8.61
934702	AD1-098 E O1	5.3432	Adder	6.29
934721	AD1-100 C	25.3457	Adder	29.82
934722	AD1-100 E	118.2800	Adder	139.15
934871	AD1-116 C	1.0107	Adder	1.19
934872	AD1-116 E	1.6490	Adder	1.94
934971	AD1-129 C	0.9544	Adder	1.12
934972	AD1-129 E	0.6363	Adder	0.75
935001	AD1-133 C O1	23.5023	Adder	27.65
935002	AD1-133 E O1	15.6682	Adder	18.43
936291	AD2-038 C O1	2.4826	Adder	2.92
936292	AD2-038 E O1	16.6143	Adder	19.55
936371	AD2-047 C O1	4.9436	Adder	5.82
936372	AD2-047 E O1	24.1366	Adder	28.4
936461	AD2-060	2.9080	Adder	3.42
936511	AD2-066 C O1	8.9497	Adder	10.53
936512	AD2-066 E O1	5.9665	Adder	7.02
937001	AD2-134 C	2.9079	Adder	3.42
937002	AD2-134 E	12.0124	Adder	14.13
937401	AD2-194 1	8.2426	Adder	9.7
937411	AD2-194 2	8.2421	Adder	9.7
938511	AE1-070 1	9.6851	Adder	11.39
938521	AE1-070 2	8.8603	Adder	10.42
938851	AE1-113 C	8.4369	Adder	9.93
938852	AE1-113 E	29.9126	Adder	35.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939321	AE1-163 C O1	6.2383	Adder	7.34
939322	AE1-163 E O1	38.3212	Adder	45.08
939351	AE1-166 C O1	12.5095	Adder	14.72
939352	AE1-166 E O1	11.5472	Adder	13.58
939401	AE1-172 C O1	6.9294	Adder	8.15
939402	AE1-172 E O1	32.5126	Adder	38.25
940101	AE1-252 C O1	13.9207	Adder	16.38
940102	AE1-252 E O1	9.2805	Adder	10.92
940752	AE2-062 E	0.1379	Adder	0.16
941131	AE2-107 C	7.7372	Adder	9.1
941132	AE2-107 E	5.1581	Adder	6.07
941551	AE2-152 C O1	14.4340	Adder	16.98
941552	AE2-152 E O1	9.6227	Adder	11.32
941561	AE2-153 C O1	5.2303	Adder	6.15
941562	AE2-153 E O1	24.4874	Adder	28.81
941731	AE2-173 O1	3.3326	Adder	3.92
942111	AE2-223 C	2.4629	Adder	2.9
942112	AE2-223 E	16.4823	Adder	19.39
942421	AE2-255 C O1	3.1958	Adder	3.76
942422	AE2-255 E O1	9.5874	Adder	11.28
942651	AE2-281 C O1	0.8912	Adder	1.05
942652	AE2-281 E O1	5.4745	Adder	6.44
942991	AE2-321 C	8.6313	Adder	10.15
942992	AE2-321 E	4.2513	Adder	5.0
943121	AE2-341 C	13.4892	Adder	15.87
943122	AE2-341 E	6.6239	Adder	7.79
943381	AF1-009 C	0.6331	Adder	0.74
943382	AF1-009 E	2.5323	Adder	2.98
943591	AF1-030 C O1	8.9705	Adder	10.55
943592	AF1-030 E O1	4.4383	Adder	5.22
943801	AF1-048 C	4.0348	Adder	4.75
943802	AF1-048 E	2.6899	Adder	3.16
944041	AF1-072	2.2734	Adder	2.67
944911	AF1-156 C	13.3730	Adder	15.73
944912	AF1-156 E	8.9153	Adder	10.49
945351	AF1-200 FTIR	329.4462	Merchant Transmission	329.4462
946661	AF1-330 C	2.1155	Adder	2.49
946662	AF1-330 E	0.4644	Adder	0.55
946671	AF1-331	2.5508	Adder	3.0
957021	AF2-003 C O1	3.6510	Adder	8.1
957022	AF2-003 E O1	17.0932	Adder	37.94
957331	AF2-027 C	1.3943	Adder	3.1
957332	AF2-027 E	2.0914	Adder	4.64
958011	AF2-095 C O1	10.4805	Adder	23.26
958012	AF2-095 E O1	4.9320	Adder	10.95
958021	AF2-096 C O1	20.1649	Adder	44.76
958022	AF2-096 E O1	9.5360	Adder	21.17
958481	AF2-142 C	6.3433	Adder	14.08
958482	AF2-142 E	4.2288	Adder	9.39
958491	AF2-143 C	6.0728	Adder	13.48
958492	AF2-143 E	4.0486	Adder	8.99
959341	AF2-225 C	4.2172	Adder	9.36

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959342	AF2-225 E	5.8238	Adder	12.93
959351	AF2-226 C	1.4049	Adder	3.12
959352	AF2-226 E	2.1074	Adder	4.68
960281	AF2-319 C	1.4049	Adder	3.12
960282	AF2-319 E	2.1074	Adder	4.68
960381	AF2-329	3.7097	Adder	8.23
960581	AF2-349 C	12.2138	Adder	27.11
960582	AF2-349 E	8.1425	Adder	18.07
960591	AF2-350 C O1	4.6238	Adder	10.26
960592	AF2-350 E O1	3.0825	Adder	6.84
960601	AF2-351 C O1	0.6165	Adder	1.37
960602	AF2-351 E O1	0.9248	Adder	2.05
960721	AF2-363 C O1	3.3397	Adder	7.41
960722	AF2-363 E O1	2.2265	Adder	4.94
960731	AF2-364 C O1	3.4379	Adder	7.63
960732	AF2-364 E O1	2.2919	Adder	5.09
960751	AF2-366 C O1	3.9034	Adder	8.66
960752	AF2-366 E O1	2.6023	Adder	5.78
961501	AF2-441 C O1	5.6075	Adder	12.45
961502	AF2-441 E O1	8.4112	Adder	18.67
WEC	WEC	4.6573	Confirmed LTF	4.6573
CALDERWOOD	CALDERWOOD	0.0656	Confirmed LTF	0.0656
CBM-W2	CBM-W2	25.6101	Confirmed LTF	25.6101
NY	NY	1.4616	Confirmed LTF	1.4616
CBM-W1	CBM-W1	79.8388	Confirmed LTF	79.8388
TVA	TVA	1.6492	Confirmed LTF	1.6492
O-066	O-066	17.3242	Confirmed LTF	17.3242
CHEOAH	CHEOAH	0.0801	Confirmed LTF	0.0801
CBM-S1	CBM-S1	6.1514	Confirmed LTF	6.1514
G-007	G-007	2.6780	Confirmed LTF	2.6780
MADISON	MADISON	24.8371	Confirmed LTF	24.8371
MEC	MEC	16.3540	Confirmed LTF	16.3540
BLUEG	BLUEG	2.3592	Confirmed LTF	2.3592
TRIMBLE	TRIMBLE	0.8147	Confirmed LTF	0.8147
CATAWBA	CATAWBA	0.3703	Confirmed LTF	0.3703

11.6.14 Index 14

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
96183668	934720	AD1-100 TAP	CE	270926	WILTON ; B	CE	1	COMED_P7_345-L2001__B-S_+_345-L2003__R-S	tower	2221.0	115.73	118.74	DC	86.57

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	47.1072	50/50	47.1072
274655	BRAIDWOOD;2U	45.7454	50/50	45.7454

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274660	LASCO STA;1U	29.7712	50/50	29.7712
274661	LASCO STA;2U	29.8914	50/50	29.8914
274847	GR RIDGE ;BU	0.6528	50/50	0.6528
274853	TWINGROVE;U1	0.9571	50/50	0.9571
274854	TWINGROVE;U2	0.9571	50/50	0.9571
274863	CAYUGA RI;1U	1.3220	50/50	1.3220
274864	CAYUGA RI;2U	1.3220	50/50	1.3220
274871	GR RIDGE ;2U	0.8291	50/50	0.8291
274880	GENERATOR;	0.8854	50/50	0.8854
274881	PILOT HIL;1E	20.2230	50/50	20.2230
274882	W4-005 E	34.3755	50/50	34.3755
274887	PILOT HIL;1U	0.8721	50/50	0.8721
274888	KELLYCK ;1U	0.8721	50/50	0.8721
274890	CAYUG;1U E	30.6564	50/50	30.6564
274891	CAYUG;2U E	30.6564	50/50	30.6564
275149	KELLYCK ;1E	20.2230	50/50	20.2230
276153	W2-048 E	6.4163	50/50	6.4163
290261	S-027 E	22.1934	50/50	22.1934
290265	S-028 E	22.1934	50/50	22.1934
293061	N-015 E	15.1380	50/50	15.1380
294392	P-010 E	19.2253	50/50	19.2253
909052	X2-022 E	19.3001	50/50	19.3001
917501	Z2-087 C	0.7931	50/50	0.7931
917502	Z2-087 E	30.7719	50/50	30.7719
924041	AB2-047 C O1	5.7476	50/50	5.7476
924042	AB2-047 E O1	38.4649	50/50	38.4649
924261	AB2-070 C O1	2.8181	50/50	2.8181
924262	AB2-070 E O1	17.8627	50/50	17.8627
925771	AC1-053 C	2.7703	50/50	2.7703
925772	AC1-053 E	18.5397	50/50	18.5397
926821	AC1-168 C O1	0.5733	Adder	0.67
926822	AC1-168 E O1	3.8476	Adder	4.53
930501	AB1-091 O1	91.9655	50/50	91.9655
933411	AC2-154 C	2.7444	50/50	2.7444
933412	AC2-154 E	4.4776	50/50	4.4776
934721	AD1-100 C	51.5040	50/50	51.5040
934722	AD1-100 E	240.3520	50/50	240.3520
935001	AD1-133 C O1	15.0200	Adder	17.67
935002	AD1-133 E O1	10.0133	Adder	11.78
935141	AD1-148	5.0303	50/50	5.0303
936371	AD2-047 C O1	4.9110	50/50	4.9110
936372	AD2-047 E O1	23.9770	50/50	23.9770
936461	AD2-060	2.8888	50/50	2.8888
936771	AD2-100 C	8.0786	Adder	9.5
936772	AD2-100 E	5.3857	Adder	6.34
936971	AD2-131 C	0.5322	Adder	0.63
936972	AD2-131 E	2.6736	Adder	3.15
937211	AD2-159 C	3.7148	50/50	3.7148
937212	AD2-159 E	17.3921	50/50	17.3921
939351	AE1-166 C O1	22.5124	50/50	22.5124
939352	AE1-166 E O1	20.7806	50/50	20.7806
939401	AE1-172 C O1	13.4051	50/50	13.4051

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939402	AE1-172 E O1	62.8960	50/50	62.8960
939741	AE1-205 C O1	14.8554	50/50	14.8554
939742	AE1-205 E O1	20.5146	50/50	20.5146
940101	AE1-252 C O1	26.9298	50/50	26.9298
940102	AE1-252 E O1	17.9532	50/50	17.9532
941551	AE2-152 C O1	25.9758	50/50	25.9758
941552	AE2-152 E O1	17.3172	50/50	17.3172
941561	AE2-153 C O1	7.3403	50/50	7.3403
941562	AE2-153 E O1	34.3657	50/50	34.3657
941731	AE2-173 O1	8.8425	50/50	8.8425
942111	AE2-223 C	3.4486	50/50	3.4486
942112	AE2-223 E	23.0789	50/50	23.0789
942481	AE2-261 C	11.9095	Adder	14.01
942482	AE2-261 E	7.9396	Adder	9.34
944221	AF1-090 C O1	2.0232	Adder	2.38
944222	AF1-090 E O1	9.4722	Adder	11.14
944911	AF1-156 C	18.7677	50/50	18.7677
944912	AF1-156 E	12.5118	50/50	12.5118
945871	AF1-252 O1	3.5866	Adder	4.22
945881	AF1-253 O1	2.4830	Adder	2.92
946541	AF1-318 C O1	2.5213	Adder	2.97
946542	AF1-318 E O1	11.8057	Adder	13.89
951741	J474 C	1.8519	PJM External (MISO)	1.8519
951742	J474 E	10.0194	PJM External (MISO)	10.0194
953741	J826 C	1.0380	PJM External (MISO)	1.0380
953742	J826 E	5.6160	PJM External (MISO)	5.6160
954821	J955	61.0144	PJM External (MISO)	61.0144
955401	J1022 C	1.5570	PJM External (MISO)	1.5570
955402	J1022 E	8.4240	PJM External (MISO)	8.4240
956151	J1102	4.3260	PJM External (MISO)	4.3260
956281	J1115 C	2.6642	PJM External (MISO)	2.6642
956282	J1115 E	14.4138	PJM External (MISO)	14.4138
957381	AF2-032 C	0.4845	Adder	1.08
957382	AF2-032 E	0.2280	Adder	0.51
958011	AF2-095 C O1	19.6452	50/50	19.6452
958012	AF2-095 E O1	9.2448	50/50	9.2448
958021	AF2-096 C O1	58.7744	50/50	58.7744
958022	AF2-096 E O1	27.7943	50/50	27.7943
958341	AF2-128 C O1	0.3635	Adder	0.81
958342	AF2-128 E O1	1.7016	Adder	3.78
959341	AF2-225 C	11.1416	50/50	11.1416
959342	AF2-225 E	15.3860	50/50	15.3860
959611	AF2-252 C	2.8022	50/50	2.8022
959612	AF2-252 E	4.2033	50/50	4.2033
960141	AF2-305	0.9972	50/50	0.9972
960261	AF2-317	1.6097	50/50	1.6097
960591	AF2-350 C O1	8.6670	50/50	8.6670
960592	AF2-350 E O1	5.7780	50/50	5.7780
960601	AF2-351 C O1	1.1556	50/50	1.1556
960602	AF2-351 E O1	1.7334	50/50	1.7334
960611	AF2-352 C	2.8022	50/50	2.8022
960612	AF2-352 E	4.2033	50/50	4.2033

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
WEC	WEC	0.4237	Confirmed LTF	0.4237
LGEE	LGEE	0.0867	Confirmed LTF	0.0867
CBM-W2	CBM-W2	17.3464	Confirmed LTF	17.3464
NY	NY	0.3987	Confirmed LTF	0.3987
CBM-W1	CBM-W1	9.0322	Confirmed LTF	9.0322
TVA	TVA	1.5218	Confirmed LTF	1.5218
O-066	O-066	4.6570	Confirmed LTF	4.6570
CBM-S2	CBM-S2	0.3526	Confirmed LTF	0.3526
CBM-S1	CBM-S1	7.7788	Confirmed LTF	7.7788
G-007	G-007	0.7197	Confirmed LTF	0.7197
MADISON	MADISON	6.6024	Confirmed LTF	6.6024
MEC	MEC	4.3936	Confirmed LTF	4.3936

11.6.15 Index 15

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
95250249	960680	AF2-359 TAP	CE	243229	05OLIVE	AEP	1	COMED_P4_023-65-BT2-3__	breaker	971.0	107.69	108.6	DC	42.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274806	UNIV PK N;2U	1.8438	50/50	1.8438
274808	UNIV PK N;4U	1.8438	50/50	1.8438
274809	UNIV PK N;5U	1.8438	50/50	1.8438
274811	UNIV PK N;7U	1.8438	50/50	1.8438
274812	UNIV PK N;8U	1.8438	50/50	1.8438
274814	UNIV PK N;0U	1.8438	50/50	1.8438
274815	UNIV PK N;XU	1.8438	50/50	1.8438
274830	U3-021 1	4.2476	Adder	5.0
274831	U3-021 2	4.2476	Adder	5.0
274881	PILOT HIL;1E	12.8032	Adder	15.06
275149	KELLYCK ;1E	12.8032	Adder	15.06
276167	Z1-106 E2	0.8826	Adder	1.04
276168	Z1-106 E1	0.8825	Adder	1.04
276169	Z1-107 E	1.8729	Adder	2.2
276170	Z1-108 E	1.7374	Adder	2.04
290021	O50 E	13.4028	Adder	15.77
290051	GSG-6; E	7.3164	Adder	8.61
290108	LEEDK;1U E	16.9456	Adder	19.94
293061	N-015 E	10.8722	Adder	12.79
293644	O22 E1	6.7404	Adder	7.93
293645	O22 E2	13.0843	Adder	15.39
294392	P-010 E	13.8077	Adder	16.24
915011	Y3-013 1	2.6194	Adder	3.08
915021	Y3-013 2	2.6194	Adder	3.08
915031	Y3-013 3	2.6194	Adder	3.08
918052	AA1-018 E OP	12.3171	Adder	14.49

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
920272	AA2-123 E	1.7039	Adder	2.0
924471	AB2-096	29.4971	Adder	34.7
926311	AC1-109 1	1.3339	Adder	1.57
926321	AC1-109 2	1.3339	Adder	1.57
926331	AC1-110 1	1.3265	Adder	1.56
926341	AC1-110 2	1.3265	Adder	1.56
926351	AC1-111 1	0.5336	Adder	0.63
926361	AC1-111 2	0.5336	Adder	0.63
926371	AC1-111 3	0.5336	Adder	0.63
926381	AC1-111 4	0.5336	Adder	0.63
926391	AC1-111 5	0.5336	Adder	0.63
926401	AC1-111 6	0.5336	Adder	0.63
926431	AC1-114	1.6543	Adder	1.95
927451	AC1-142A 1	2.9724	Adder	3.5
927461	AC1-142A 2	2.9711	Adder	3.5
927511	AC1-113 1	0.8271	Adder	0.97
927521	AC1-113 2	0.8271	Adder	0.97
930481	AB1-089	45.7308	Adder	53.8
930501	AB1-091 O1	49.2090	Adder	57.89
930741	AB1-122 1O1	49.9014	Adder	58.71
930751	AB1-122 2O1	51.4116	Adder	60.48
932881	AC2-115 1	1.6543	Adder	1.95
932891	AC2-115 2	1.6543	Adder	1.95
932921	AC2-116	0.5790	Adder	0.68
932931	AC2-117	8.9559	Adder	10.54
933411	AC2-154 C	1.7377	Adder	2.04
933412	AC2-154 E	2.8353	Adder	3.34
933431	AC2-156 C O1	0.6670	Adder	0.78
933432	AC2-156 E O1	1.0883	Adder	1.28
933911	AD1-013 C	1.2925	Adder	1.52
933912	AD1-013 E	2.0647	Adder	2.43
933931	AD1-016 C	0.6475	Adder	0.76
933932	AD1-016 E	1.0564	Adder	1.24
934101	AD1-039 1	4.8903	Adder	5.75
934111	AD1-039 2	5.0383	Adder	5.93
934431	AD1-067 C	0.0919	Adder	0.11
934432	AD1-067 E	0.3863	Adder	0.45
934651	AD1-096 C	0.6191	Adder	0.73
934652	AD1-096 E	1.0100	Adder	1.19
934701	AD1-098 C O1	4.8123	Adder	5.66
934702	AD1-098 E O1	3.5135	Adder	4.13
934721	AD1-100 C	13.3798	Adder	15.74
934722	AD1-100 E	62.4393	Adder	73.46
934871	AD1-116 C	0.7173	Adder	0.84
934872	AD1-116 E	1.1704	Adder	1.38
934971	AD1-129 C	0.6293	Adder	0.74
934972	AD1-129 E	0.4195	Adder	0.49
936291	AD2-038 C O1	1.6921	Adder	1.99
936292	AD2-038 E O1	11.3243	Adder	13.32
936371	AD2-047 C O1	3.1096	Adder	3.66
936372	AD2-047 E O1	15.1824	Adder	17.86
936461	AD2-060	1.8292	Adder	2.15

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936511	AD2-066 C O1	5.8817	Adder	6.92
936512	AD2-066 E O1	3.9211	Adder	4.61
936791	AD2-102 C	9.8257	Adder	11.56
936792	AD2-102 E	6.5504	Adder	7.71
937001	AD2-134 C	1.9126	Adder	2.25
937002	AD2-134 E	7.9011	Adder	9.3
937401	AD2-194 1	5.4728	Adder	6.44
937411	AD2-194 2	5.4769	Adder	6.44
938511	AE1-070 1	6.4306	Adder	7.57
938521	AE1-070 2	5.8877	Adder	6.93
938851	AE1-113 C	5.5287	Adder	6.5
938852	AE1-113 E	19.6016	Adder	23.06
939321	AE1-163 C O1	4.2520	Adder	5.0
939322	AE1-163 E O1	26.1197	Adder	30.73
939351	AE1-166 C O1	7.1193	Adder	8.38
939352	AE1-166 E O1	6.5717	Adder	7.73
940752	AE2-062 E	0.0901	Adder	0.11
941131	AE2-107 C	5.0975	Adder	6.0
941132	AE2-107 E	3.3983	Adder	4.0
941551	AE2-152 C O1	8.2146	Adder	9.66
941552	AE2-152 E O1	5.4764	Adder	6.44
941561	AE2-153 C O1	3.2948	Adder	3.88
941562	AE2-153 E O1	15.4256	Adder	18.15
942421	AE2-255 C O1	2.0942	Adder	2.46
942422	AE2-255 E O1	6.2826	Adder	7.39
942651	AE2-281 C O1	0.6074	Adder	0.71
942652	AE2-281 E O1	3.7314	Adder	4.39
942991	AE2-321 C	5.6990	Adder	6.7
942992	AE2-321 E	2.8070	Adder	3.3
943121	AE2-341 C	8.9093	Adder	10.48
943122	AE2-341 E	4.3749	Adder	5.15
943381	AF1-009 C	0.4163	Adder	0.49
943382	AF1-009 E	1.6651	Adder	1.96
943591	AF1-030 C O1	5.9248	Adder	6.97
943592	AF1-030 E O1	2.9314	Adder	3.45
943801	AF1-048 C	2.6641	Adder	3.13
943802	AF1-048 E	1.7760	Adder	2.09
944041	AF1-072	1.5041	Adder	1.77
944911	AF1-156 C	8.4242	Adder	9.91
944912	AF1-156 E	5.6161	Adder	6.61
945351	AF1-200 FTIR	216.1577	Merchant Transmission	216.1577
946661	AF1-330 C	1.3972	Adder	1.64
946662	AF1-330 E	0.3067	Adder	0.36
946671	AF1-331	1.6786	Adder	1.97
957021	AF2-003 C O1	2.3046	Adder	5.12
957022	AF2-003 E O1	10.7899	Adder	23.95
957331	AF2-027 C	0.9255	Adder	2.05
957332	AF2-027 E	1.3883	Adder	3.08
957471	AF2-041 C	7.8536	Adder	17.43
957472	AF2-041 E	5.2357	Adder	11.62
958011	AF2-095 C O1	6.5912	Adder	14.63
958012	AF2-095 E O1	3.1017	Adder	6.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958021	AF2-096 C O1	12.8851	Adder	28.6
958022	AF2-096 E O1	6.0933	Adder	13.53
958481	AF2-142 C	4.5021	Adder	9.99
958482	AF2-142 E	3.0014	Adder	6.66
958491	AF2-143 C	4.1392	Adder	9.19
958492	AF2-143 E	2.7595	Adder	6.13
959081	AF2-199 C	2.6179	Adder	5.81
959082	AF2-199 E	1.7452	Adder	3.87
959091	AF2-200 C	5.2357	Adder	11.62
959092	AF2-200 E	3.4905	Adder	7.75
959351	AF2-226 C	0.8756	Adder	1.94
959352	AF2-226 E	1.3134	Adder	2.92
959761	AF2-267 C O1	0.0259	Adder	0.06
959762	AF2-267 E O1	0.1213	Adder	0.27
960281	AF2-319 C	0.8756	Adder	1.94
960282	AF2-319 E	1.3134	Adder	2.92
960381	AF2-329	2.4501	Adder	5.44
960581	AF2-349 C	8.0603	Adder	17.89
960582	AF2-349 E	5.3736	Adder	11.93
960591	AF2-350 C O1	2.9082	Adder	6.46
960592	AF2-350 E O1	1.9388	Adder	4.3
960601	AF2-351 C O1	0.3878	Adder	0.86
960602	AF2-351 E O1	0.5816	Adder	1.29
960681	AF2-359 C	65.7532	50/50	65.7532
960682	AF2-359 E	43.8355	50/50	43.8355
960721	AF2-363 C O1	2.2009	Adder	4.89
960722	AF2-363 E O1	1.4673	Adder	3.26
960731	AF2-364 C O1	2.2737	Adder	5.05
960732	AF2-364 E O1	1.5158	Adder	3.36
960751	AF2-366 C O1	2.5726	Adder	5.71
960752	AF2-366 E O1	1.7151	Adder	3.81
WEC	WEC	3.0779	Confirmed LTF	3.0779
CALDERWOOD	CALDERWOOD	0.0691	Confirmed LTF	0.0691
CBM-W2	CBM-W2	14.5536	Confirmed LTF	14.5536
NY	NY	0.9246	Confirmed LTF	0.9246
CBM-W1	CBM-W1	47.2252	Confirmed LTF	47.2252
TVA	TVA	0.9016	Confirmed LTF	0.9016
O-066	O-066	10.9133	Confirmed LTF	10.9133
CHEOAH	CHEOAH	0.0776	Confirmed LTF	0.0776
CBM-S1	CBM-S1	3.0246	Confirmed LTF	3.0246
G-007	G-007	1.6879	Confirmed LTF	1.6879
MADISON	MADISON	15.8740	Confirmed LTF	15.8740
MEC	MEC	10.4477	Confirmed LTF	10.4477
GIBSON	GIBSON	0.1343	Confirmed LTF	0.1343
BLUEG	BLUEG	1.6666	Confirmed LTF	1.6666
TRIMBLE	TRIMBLE	0.5660	Confirmed LTF	0.5660
CATAWBA	CATAWBA	0.2394	Confirmed LTF	0.2394

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
AA2-116	Cook-East Elkhart 345kV	Under Construction
AA2-123	Marengo 34kV	In Service
AB1-080	Dumont-Olive 345kV	In Service
AB1-089	Byron-Wayne 345kV #1	Active
AB1-091	Davis Creek 345kV	Active
AB1-107	Bayshore-GM Powertrain 138 kV & Lallendorf 345kV	Engineering and Procurement
AB1-122	Kendall-Tazewell & Dresden-Mole Creek	Active
AB2-047	Brokaw-Pontiac Midpoint	Engineering and Procurement
AB2-070	Brokaw-Lanesville	Active
AB2-096	Silver Lake-Cherry Valley	Active
AC1-033	Kewanee	Active
AC1-053	Lanesville-Brokaw	Active
AC1-072	Segreto (Covert) 345kV	In Service
AC1-109	Aurora 345kV	Active
AC1-110	Aurora 138kV	Active
AC1-111	Aurora 138kV	Active
AC1-113	Rockford	Active
AC1-114	Rockford II	Active
AC1-141	Cook-East Elkhart 345kV	Under Construction
AC1-142A	Joliet	Active
AC1-168	Kewanee-Streator	Active
AC1-171	Powerton	Active
AC1-214	Crescent Ridge	Engineering and Procurement
AC2-080	Olive-Reynolds 345kV	Active
AC2-115	Rockford	Active
AC2-116	Rockford II	Active
AC2-117	University Park North	Engineering and Procurement
AC2-140	DC Cook Unit 2	Engineering and Procurement
AC2-154	Davis Creek 138kV	Active
AC2-156	Sandwich 34.5kV	Active
AD1-013	Twombly Road 138kV	Active
AD1-016	Marengo	Active
AD1-031	Kewanee 138 kV	Active
AD1-039	Kendall-Tazewell & Dresden-Mole Creek	Active
AD1-067	Mendota Hills	Active
AD1-096	Stillman Valley 34 kV	Active
AD1-098	Dixon-McGirr	Active
AD1-100	Loretto-Wilton & Braidwood-Davis Creek	Active

Queue Number	Project Name	Status
AD1-116	Nevada 345 kV	Active
AD1-129	Belvidere 34 kV	Active
AD1-133	Pontiac MidPoint-Dresden	Active
AD1-148	Brokaw-Lanesville	Active
AD2-020	Valley 138 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
AD2-075	Segreto 345kV	Active
AD2-079	Capitol Ave 34.5kV	Active
AD2-100	Kincaid-Pana	Active
AD2-102	Wempletown 345 kV	Active
AD2-131	Latham Kincaid	Active
AD2-134	Shady Oaks	Active
AD2-138	Olive-Reynolds 345kV	Active
AD2-159	Chestnut 345kV	Active
AD2-172	Lena 138kV	Active
AD2-194	Elwood	Active
AD2-214	Rock Falls-Garden Plains	Active
AE1-039	West Street (Orchard Hills) 12.47 kV	Engineering and Procurement
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
AE1-170	Kenzie Creek-Colby 138 kV	Active
AE1-172	Loretto-Wilton Center	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
AE1-205	McLean 345 kV	Active
AE1-252	Loretto-Wilton Center	Active
AE2-035	Lena 138 kV	Active
AE2-045	Olive-Reynolds 345 kV	Active
AE2-062	Normantown	Active
AE2-107	Haumesser Road 138 kV	Active
AE2-152	Loretto-Wilton & Braidwood-Davis Creek	Active
AE2-153	Braidwood-Davis Creek	Active
AE2-173	McLean 345 kV	Active
AE2-223	McLean 345 kV	Active
AE2-255	Molecreek 345 kV	Active
AE2-261	Kincaid-Pana	Active
AE2-281	Powerton-Nevada 345 kV	Active
AE2-321	Belvidere-Marengo 138 kV	Active
AE2-323	Twin Branch-Guardian 138 kV	Active
AE2-325	Valley 138 kV	Active
AE2-341	Sandwich-Plano	Active
AF1-009	Dixon-McGirr	Active
AF1-011	Schauff Road	Active

Queue Number	Project Name	Status
AF1-012	Electric Junc-Nelson	Active
AF1-030	Plano-R 138 kV	Active
AF1-046	Twin Branch-Guardian 138 kV	Active
AF1-048	Belvidere-Marengo	Active
AF1-060	Lena 138 kV	Active
AF1-072	Rocky Road	Active
AF1-084	East Hartford-Murch 69 kV	Active
AF1-090	Kincaid-Pana	Active
AF1-156	Braidwood-Davis Creek	Active
AF1-158	Edison-Gravel Pit 138 kV	Active
AF1-161	Valley 138 kV	Active
AF1-176	Corey 138 kV	Active
AF1-200	Plano 345 kV	Active
AF1-215	Reynolds-Olive 345 kV	Active
AF1-252	Kincaid-Pana	Active
AF1-253	Kincaid-Pana	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
AF1-317	Electric Jct-Nelson	Active
AF1-318	Crescent Ridge-Corbin	Active
AF1-330	Marengo	Active
AF1-331	Twombly Road	Active
AF2-003	Powerton-Mole Creek	Active
AF2-027	Zion Energy Center 345 kV	Active
AF2-031	River E.C.	Active
AF2-032	Kincaid	Active
AF2-041	Nelson-Electric Junction 345 kV	Active
AF2-069	Crescent Ridge 138 kV	Active
AF2-070	Crescent Ridge 138 kV	Active
AF2-083	Ed Lowe-Kenzie Creek 138 kV	Active
AF2-095	Wilmington-Davis Creek	Active
AF2-096	Braidwood-East Frankfort 345 kV	Active
AF2-128	Crescent Ridge-Corbin 138 kV	Active
AF2-132	Reynolds-Olive #1 345 kV	Active
AF2-133	Reynolds-Olive #2 345 kV	Active
AF2-134	Reynolds-Olive #2 345 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
AF2-190	Olive-Reynolds #2 345 kV	Active
AF2-191	New Carlisle 138 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
AF2-205	Olive-Reynolds #2 345 kV	Active
AF2-225	McLean 345 kV	Active
AF2-226	Katydid Road 345 kV	Active
AF2-252	Blue Mound 345 kV	Active
AF2-267	Lancaster 138 kV	Active

Queue Number	Project Name	Status
AF2-305	Brokaw-Lanesville 345 kV	Active
AF2-317	Hill Topper 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
AF2-352	Blue Mound 34.5 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 345 kV	Active
AF2-389	Pokagon-Corey 69 kV	Active
AF2-392	Nelson-Dixon 138 kV	Active
AF2-393	Nelson-Dixon 138 kV	Active
AF2-394	Nelson-Dixon 138 kV	Active
AF2-396	Stinger 138 kV	Active
AF2-441	Burnham 138kV	Active
U3-021	Silver Lake-Cherry Valley	Active
W2-048	Brokaw-Lanesville	In Service
W4-005	Blue Mound-Latham	Partially in Service - Under Construction
X1-042	Watervliet	In Service
X2-022	Brokaw-Lanesville	In Service
X3-005	Wildwood 12kV	In Service
Y3-013	Zion Energy Center	Active
Y3-023	Country Side 12kV	In Service
Z1-106	West Chicago 34kV	In Service
Z1-107	Joliet 34kV	In Service
Z1-108	McHenry 34kV	In Service
Z2-081	Streator 34.5kV	In Service
Z2-087	Pontiac MidPoint-Brokaw 345kV	In Service
Z2-116	Twin Branch 12.47kV	In Service
J1005	MISO	MISO
J1022	MISO	MISO
J1058	MISO	MISO
J1089	MISO	MISO
J1102	MISO	MISO
J1103	MISO	MISO
J1115	MISO	MISO
J1172	MISO	MISO
J1173	MISO	MISO
J201	MISO	MISO
J351	MISO	MISO
J466	MISO	MISO
J474	MISO	MISO
J602	MISO	MISO
J643	MISO	MISO
J701	MISO	MISO
J752	MISO	MISO
J793	MISO	MISO
J796	MISO	MISO

Queue Number	Project Name	Status
J799	MISO	MISO
J826	MISO	MISO
J833	MISO	MISO
J839	MISO	MISO
J847	MISO	MISO
J875	MISO	MISO
J955	MISO	MISO
J989	MISO	MISO
J996	MISO	MISO

11.8 Contingency Descriptions - Primary POI

Contingency Name	Contingency Definition
COMED_P4_167-45-BT5-6__	CONTINGENCY 'COMED_P4_167-45-BT5-6__' TRIP BRANCH FROM BUS 270846 TO BUS 270847 CKT 1 / PLANO ; B 345 PLANO ; R 345 TRIP BRANCH FROM BUS 270847 TO BUS 270733 CKT 1 / PLANO ; R 345 ELEC JUNC;3R 345 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
COMED_P1-2_345-L0101__B-S	CONTINGENCY 'COMED_P1-2_345-L0101__B-S' TRIP BRANCH FROM BUS 270802 TO BUS 270846 CKT 1 / LASCO STA; B 345 PLANO ; B 345 TRIP BRANCH FROM BUS 270846 TO BUS 270847 CKT 1 / PLANO ; B 345 PLANO ; R 345 END
COMED_P1-2_695_B2	CONTINGENCY 'COMED_P1-2_695_B2' OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTO; 765 1 END
COMED_P4_112-65-BT3-4__	CONTINGENCY 'COMED_P4_112-65-BT3-4__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 TRIP BRANCH FROM BUS 275232 TO BUS 270644 CKT 1 / WILTO;3M 345 WILTO; 765 TRIP BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / WILTO;3M 345 WILTO; B 345 TRIP BRANCH FROM BUS 275232 TO BUS 275332 CKT 1 / WILTO;3M 345 WILTO;3C 33 END

Contingency Name	Contingency Definition
COMED_P4_023-65-BT2-3__	CONTINGENCY 'COMED_P4_023-65-BT2-3__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 TRIP BRANCH FROM BUS 270607 TO BUS 270630 CKT 1 / COLLI; 765 PLANO; 765 END
COMED_P1-2_345-L2004_AR-S-B	CONTINGENCY 'COMED_P1-2_345-L2004_AR-S-B' TRIP BRANCH FROM BUS 941560 TO BUS 270711 CKT 1 / AE2-153 TAP 345 DAVIS; R 345 END
ATSI-P1-2-TE-345-605T	CONTINGENCY 'ATSI-P1-2-TE-345-605T' /*LINE OUTAGE: AJ TO ITC MOROCCO DISCONNECT BRANCH FROM BUS 238530 TO BUS 256583 CKT 1 END
270670 BRAIDWOOD; B 345 934730 AD1-100 TAP 345 1	CONTINGENCY '270670 BRAIDWOOD; B 345 934730 AD1-100 TAP 345 1' OPEN BRANCH FROM BUS 270670 TO BUS 934730 CKT 1 END
ADD AD1-100 5	CONTINGENCY 'ADD AD1-100 5' OPEN BRANCH FROM BUS 934730 TO BUS 270710 CKT 1 / AD1-100 - DAVIS CREEK OPEN BRANCH FROM BUS 934720 TO BUS 270926 CKT 1 / AD1-100 - WILTON END
COMED_P7_345-L2001__B-S+_345-L2003__R-S	CONTINGENCY 'COMED_P7_345-L2001__B-S+_345-L2003__R-S' TRIP BRANCH FROM BUS 270670 TO BUS 270728 CKT 1 / BRAID; B 345 E FRA; B 345 TRIP BRANCH FROM BUS 270728 TO BUS 270766 CKT 1 / E FRA; B 345 GOODI;3B 345 TRIP BRANCH FROM BUS 270728 TO BUS 274750 CKT 1 / E FRA; B 345 CRETE;BP 345 TRIP BRANCH FROM BUS 270671 TO BUS 270729 CKT 1 / BRAID; R 345 E FRA; R 345 END
COMED_P4_023-65-BT4-5__	CONTINGENCY 'COMED_P4_023-65-BT4-5__' TRIP BRANCH FROM BUS 275168 TO BUS 270607 CKT 1 / COLLI;2M 345 COLLI; 765 TRIP BRANCH FROM BUS 275168 TO BUS 270697 CKT 1 / COLLI;2M 345 COLLI; R 345 TRIP BRANCH FROM BUS 275168 TO BUS 275268 CKT 1 / COLLI;2M 345 COLLI;2C 33 TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 END
COMED_P7_345-L94507_B-S+_345-L97008_R-S-B	CONTINGENCY 'COMED_P7_345-L94507_B-S+_345-L97008_R-S-B' TRIP BRANCH FROM BUS 274750 TO BUS 255112 CKT 1 / CRETE;BP 345 17STJOHN 345 TRIP BRANCH FROM BUS 960680 TO BUS 243229 CKT 1 / AF2-359 TAP 345 05OLIVE 345 END

Contingency Name	Contingency Definition
COMED_P4_167-45-BT2-5__	CONTINGENCY 'COMED_P4_167-45-BT2-5__' 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 TRIP BRANCH FROM BUS 270803 TO BUS 270847 CKT 1 / LASCO; R 345 PLANO; R 345 END
COMED_P7_345-L94507_B-S+_345-L97008_R-S-A	CONTINGENCY 'COMED_P7_345-L94507_B-S+_345-L97008_R-S-A' TRIP BRANCH FROM BUS 274750 TO BUS 255112 CKT 1 / CRETE;BP 345 17STJOHN 345 TRIP BRANCH FROM BUS 274804 TO BUS 960680 CKT 1 / UPNOR;RP 345 AF2-359 TAP 345 END
COMED_P1-2_345-L11212_B-S-A	CONTINGENCY 'COMED_P1-2_345-L11212_B-S-A' TRIP BRANCH FROM BUS 270926 TO BUS 934720 CKT 1 / WILTO; B 345 AD1-100 TAP 345 END
AEP_P4_#2978_05DUMONT_FSA	CONTINGENCY 'AEP_P4_#2978_05DUMONT_FSA' OPEN BRANCH FROM BUS 243206 TO BUS 907040 CKT 1 / 243206 05DUMONT 765 X1-020 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 END
Base Case	
AEP_P4_#2978_05DUMONT_NON_FSA	CONTINGENCY 'AEP_P4_#2978_05DUMONT_NON_FSA' OPEN BRANCH FROM BUS 243206 TO BUS 907040 CKT 1 / 243206 05DUMONT 765 X1-020 OPEN BRANCH FROM BUS 243207 TO BUS 907040 CKT 1 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 END
COMED_P1-2_345-L94507_B-S	CONTINGENCY 'COMED_P1-2_345-L94507_B-S' TRIP BRANCH FROM BUS 274750 TO BUS 255112 CKT 1 / CRETE;BP 345 17STJOHN 345 END
COMED_P1-2_345-L0102__R-S	CONTINGENCY 'COMED_P1-2_345-L0102__R-S' TRIP BRANCH FROM BUS 270803 TO BUS 270847 CKT 1 / LASCO; R 345 PLANO; R 345 END

Contingency Name	Contingency Definition
COMED_P4_112-65-BT2-3__	CONTINGENCY 'COMED_P4_112-65-BT2-3__' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 / WILTO; 765 COLLI; 765 TRIP BRANCH FROM BUS 275232 TO BUS 270644 CKT 1 / WILTO;3M 345 WILTO; 765 TRIP BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / WILTO;3M 345 WILTO; B 345 TRIP BRANCH FROM BUS 275232 TO BUS 275332 CKT 1 / WILTO;3M 345 WILTO;3C 33 END
COMED_P4_112-65-BT4-5__	CONTINGENCY 'COMED_P4_112-65-BT4-5__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 TRIP BRANCH FROM BUS 275233 TO BUS 270644 CKT 1 / WILTO;4M 345 WILTO; 765 TRIP BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / WILTO;4M 345 WILTO; R 345 TRIP BRANCH FROM BUS 275233 TO BUS 275333 CKT 1 / WILTO;4M 345 WILTO;4C 33 END
COMED_P4_112-65-BT5-6__	CONTINGENCY 'COMED_P4_112-65-BT5-6__' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 / WILTO; 765 COLLI; 765 TRIP BRANCH FROM BUS 275233 TO BUS 270644 CKT 1 / WILTO;4M 345 WILTO; 765 TRIP BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / WILTO;4M 345 WILTO; R 345 TRIP BRANCH FROM BUS 275233 TO BUS 275333 CKT 1 / WILTO;4M 345 WILTO;4C 33 END

12 Short Circuit Analysis - Primary POI

The following breakers are overdutied:

None

12.1 System Reinforcements - Short Circuit

None

13 Summer Peak - Load Flow Analysis - Secondary POI

The Queue Project AF2-096 was evaluated as a 375.0 MW (Capacity 254.6 MW) injection tapping the Braidwood to East Frankfort 345 kV line in the ComEd area. Project AF2-096 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-096 was studied with a commercial probability of 53.0 %. 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
147537606	270670	BRAIDWOOD; B	345.0	CE	958020	AF2-096 TAP	345.0	CE	1	ADD AD1-100 5	breaker	1528.0	96.6	100.13	DC	52.88
147537496	958020	AF2-096 TAP	345.0	CE	270728	E FRANKFO; B	345.0	CE	1	COMED_P4_020-45-BT7-11_	breaker	1528.0	95.94	108.6	DC	193.36
147537497	958020	AF2-096 TAP	345.0	CE	270728	E FRANKFO; B	345.0	CE	1	ADD AD1-100 5	breaker	1528.0	96.56	102.91	DC	95.73

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
96182335	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	AEP_P4_#2978_05DUMONT_FSA	breaker	1091.0	121.49	121.86	DC	40.54
96182336	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1091.0	121.49	121.86	DC	40.54
96182337	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P4_023-65-BT2-3_	breaker	1091.0	121.43	121.8	DC	40.86
96182338	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P4_112-65-BT4-5_	breaker	1091.0	121.27	121.65	DC	40.83
96182339	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P4_023-65-BT4-5_	breaker	1091.0	121.27	121.65	DC	40.85
95250579	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	COMED_P1-2_695_B2	single	1409.0	101.23	102.5	DC	39.6
98680886	264612	19MON12	345.0	ITCT	241901	02LALLENDORF	345.0	ATSI	1	ATSI-P1-2-TE-345-605T	single	1244.0	141.38	141.39	DC	14.68
96182332	270670	BRAIDWOOD; B	345.0	CE	270671	BRAIDWOOD; R	345.0	CE	1	ADD AD1-100 5	breaker	1726.0	110.43	120.31	DC	170.64
148510662	270670	BRAIDWOOD; B	345.0	CE	934730	AD1-100 TAP	345.0	CE	1	COMED_P7_345-L2001__B-S_+ 345-L2003__R-S-B	tower	1915.0	105.46	114.89	DC	180.77
148510633	270728	E FRANKFO; B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	COMED_P7_345-L94507__B-S_+ 345-L97008__R-S	tower	2084.0	116.49	120.01	DC	73.38
96182363	270802	LASCO STA; B	345.0	CE	270846	PLANO ; B	345.0	CE	1	COMED_P4_167-45-BT2-5_	breaker	1528.0	117.95	120.83	DC	43.75
96182340	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIPS	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1091.0	121.48	121.85	DC	40.54
96182341	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIPS	1	AEP_P4_#2978_05DUMONT_FSA	breaker	1091.0	121.48	121.85	DC	40.54
96182342	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIPS	1	COMED_P4_023-65-BT2-3_	breaker	1091.0	121.43	121.8	DC	40.86
96182343	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIPS	1	COMED_P4_112-65-BT4-5_	breaker	1091.0	121.27	121.65	DC	40.83

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
140175055	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIP S	1	COMED_P4_112-65-BT3-4__	breaker	1091.0	121.27	121.65	DC	40.83
96182334	270926	WILTON ; B	345.0	CE	275232	WILTON ;3M	345.0	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.65	121.78	DC	63.78
96182322	270927	WILTON ; R	345.0	CE	275233	WILTON ;4M	345.0	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.2	124.33	DC	65.09
96182212	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	AEP_P4_#2978_05DUMONT_FSA	breaker	1399.0	154.72	155.04	DC	58.89
96182213	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1399.0	154.72	155.04	DC	58.89
96182214	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	COMED_P4_112-65-BT4-5__	breaker	1399.0	154.62	154.94	DC	59.16
96182710	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	COMED_P1-2_695_B2	single	1399.0	100.97	103.85	DC	40.17
144030896	274804	UNIV PK N;RP	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P4_#2978_05DUMONT_FSA	breaker	971.0	106.51	106.65	DC	40.97
144030897	274804	UNIV PK N;RP	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	971.0	106.51	106.65	DC	40.97
144030898	274804	UNIV PK N;RP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P4_023-65-BT2-3__	breaker	971.0	106.17	106.31	DC	41.35
144030899	274804	UNIV PK N;RP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P4_112-65-BT4-5__	breaker	971.0	106.08	106.23	DC	41.33
144030900	274804	UNIV PK N;RP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P4_112-65-BT3-4__	breaker	971.0	106.08	106.23	DC	41.33
96182333	275232	WILTON ;3M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.65	121.78	DC	63.78
96182321	275233	WILTON ;4M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.2	124.33	DC	65.09
148510628	934720	AD1-100 TAP	345.0	CE	270926	WILTON ; B	345.0	CE	1	COMED_P7_345-L2001__B-S_+ 345-L2003__R-S-B	tower	2221.0	115.73	118.75	DC	86.56

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 LOADING %	POST PROJE CT LOADING %	AC DC	MW IMPACT
96182849	255112	17STJOHN	345.0	NIP S	270886	ST JOHN ; T	345.0	CE	1	COMED_P1-2_695_B2	operation	1091.0	121.25	121.64	DC	40.83
96182724	270670	BRAIDWOOD ; B	345.0	CE	934730	AD1-100 TAP	345.0	CE	1	COMED_P1-2_345-L2004_AR-S-B	operation	1341.0	135.0	145.13	DC	135.99
96182733	270670	BRAIDWOOD ; B	345.0	CE	934730	AD1-100 TAP	345.0	CE	1	Base Case	operation	1245.0	101.13	110.1	DC	111.93
96182735	270728	E FRANKFORD ; B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	COMED_P1-2_345-L94507_B-S	operation	1726.0	140.5	144.7	DC	72.7

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 IMPACT
96182736	270728	E FRANKFO; B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	Base Case	operation	1334.0	130.95	134.13	DC	42.47
96182937	270802	LASCO STA; B	345.0	CE	270846	PLANO ; B	345.0	CE	1	COMED_P1-2_345-L0102_R-S	operation	1528.0	113.83	116.85	DC	45.92
96182936	270803	LASCO STA; R	345.0	CE	270847	PLANO ; R	345.0	CE	1	COMED_P1-2_345-L0101_B-S	operation	1528.0	114.02	117.05	DC	45.95
96182846	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_AC RE	345.0	NIPS	1	COMED_P1-2_695_B2	operation	1091.0	121.25	121.63	DC	40.83
96182707	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	COMED_P1-2_695_B2	operation	1399.0	154.54	154.86	DC	59.17
96182708	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	Base Case	operation	1091.0	153.35	153.87	DC	42.06
144031328	274804	UNIV PK N;RP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P1-2_695_B2	operation	971.0	106.04	106.18	DC	41.33
96182673	934720	AD1-100 TAP	345.0	CE	270926	WILTON ; B	345.0	CE	1	Base Case	operation	1364.0	138.68	142.45	DC	51.3
96182827	934730	AD1-100 TAP	345.0	CE	270670	BRAIDWOOD; B	345.0	CE	1	COMED_P1-2_345-L11212_B-S-A	operation	1341.0	117.57	118.78	DC	16.2
96182990	934730	AD1-100 TAP	345.0	CE	270710	DAVIS CRK; B	345.0	CE	1	COMED_P1-2_345-L2004_AR-S-B	operation	1341.0	100.51	103.5	DC	40.02
96182979	941560	AE2-153 TAP	345.0	CE	270711	DAVIS CRK; R	345.0	CE	1	270670 BRAIDWOOD; B 345 934730 AD1-100 TAP 345 1	operation	1341.0	99.39	105.62	DC	83.01
147843985	958020	AF2-096 TAP	345.0	CE	270728	E FRANKFO; B	345.0	CE	1	934720 AD1-100 TAP 345 934725 AD1-100 JNT 345 1	operation	1528.0	93.91	100.8	DC	104.74

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
147537606	270670	BRAIDWOOD; B	CE	958020	AF2-096 TAP	CE	1	ADD AD1-100 5	breaker	1528.0	96.6	100.13	DC	52.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	41.5405	50/50	41.5405
274655	BRAIDWOOD;2U	40.0862	50/50	40.0862
274660	LASCO STA;1U	26.9347	50/50	26.9347
274661	LASCO STA;2U	27.0444	50/50	27.0444
274847	GR RIDGE ;BU	0.5671	50/50	0.5671
274863	CAYUGA RI;1U	0.5275	50/50	0.5275
274864	CAYUGA RI;2U	0.5275	50/50	0.5275
274871	GR RIDGE ;2U	0.7202	50/50	0.7202
274881	PILOT HIL;1E	8.9060	Adder	10.48
274890	CAYUG;1U E	12.2328	50/50	12.2328
274891	CAYUG;2U E	12.2328	50/50	12.2328
275149	KELLYCK ;1E	8.9060	Adder	10.48
290261	S-027 E	7.3042	Adder	8.59
290265	S-028 E	7.3042	Adder	8.59
293061	N-015 E	13.1496	50/50	13.1496
294392	P-010 E	16.7000	50/50	16.7000
917502	Z2-087 E	10.2850	Adder	12.1
924041	AB2-047 C O1	1.9210	Adder	2.26
924042	AB2-047 E O1	12.8562	Adder	15.12
930501	AB1-091 O1	40.0788	Adder	47.15
933411	AC2-154 C	1.2088	Adder	1.42
933412	AC2-154 E	1.9723	Adder	2.32
934721	AD1-100 C	25.8180	50/50	25.8180
934722	AD1-100 E	120.4840	50/50	120.4840
936371	AD2-047 C O1	2.1632	Adder	2.54
936372	AD2-047 E O1	10.5613	Adder	12.43
936461	AD2-060	1.2725	Adder	1.5
939351	AE1-166 C O1	14.3153	50/50	14.3153
939352	AE1-166 E O1	13.2142	50/50	13.2142
939401	AE1-172 C O1	5.3747	50/50	5.3747
939402	AE1-172 E O1	25.2177	50/50	25.2177
939683	AE1-198 BAT	13.6304	50/50	13.6304
939741	AE1-205 C O1	4.9652	Adder	5.84
939742	AE1-205 E O1	6.8566	Adder	8.07
940101	AE1-252 C O1	10.7973	50/50	10.7973
940102	AE1-252 E O1	7.1982	50/50	7.1982
941551	AE2-152 C O1	16.5177	50/50	16.5177
941552	AE2-152 E O1	11.0118	50/50	11.0118
941561	AE2-153 C O1	5.7045	50/50	5.7045
941562	AE2-153 E O1	26.7075	50/50	26.7075
941731	AE2-173 O1	2.9555	Adder	3.48

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942111	AE2-223 C	1.1526	Adder	1.36
942112	AE2-223 E	7.7137	Adder	9.07
944911	AF1-156 C	14.5854	50/50	14.5854
944912	AF1-156 E	9.7236	50/50	9.7236
957021	AF2-003 C O2	1.6853	Adder	3.74
957022	AF2-003 E O2	7.8903	Adder	17.51
958011	AF2-095 C O2	3.7900	Adder	8.41
958012	AF2-095 E O2	1.7835	Adder	3.96
958023	AF2-096 BAT	52.8758	50/50	52.8758
959341	AF2-225 C	1.9736	Adder	4.38
959342	AF2-225 E	2.7255	Adder	6.05
959611	AF2-252 C	0.4888	Adder	1.09
959612	AF2-252 E	0.7332	Adder	1.63
960591	AF2-350 C O2	2.0229	Adder	4.49
960592	AF2-350 E O2	1.3486	Adder	2.99
960601	AF2-351 C O2	0.2697	Adder	0.6
960602	AF2-351 E O2	0.4046	Adder	0.9
960611	AF2-352 C	0.4888	Adder	1.09
960612	AF2-352 E	0.7332	Adder	1.63
WEC	WEC	0.0602	Confirmed LTF	0.0602
CALDERWOOD	CALDERWOOD	0.0134	Confirmed LTF	0.0134
CBM-W2	CBM-W2	4.7666	Confirmed LTF	4.7666
NY	NY	0.2710	Confirmed LTF	0.2710
TVA	TVA	0.2758	Confirmed LTF	0.2758
O-066	O-066	3.1920	Confirmed LTF	3.1920
CHEOAH	CHEOAH	0.0160	Confirmed LTF	0.0160
CBM-S1	CBM-S1	1.0906	Confirmed LTF	1.0906
G-007	G-007	0.4940	Confirmed LTF	0.4940
MADISON	MADISON	2.5744	Confirmed LTF	2.5744
MEC	MEC	1.3729	Confirmed LTF	1.3729
BLUEG	BLUEG	0.3177	Confirmed LTF	0.3177
TRIMBLE	TRIMBLE	0.1130	Confirmed LTF	0.1130
CATAWBA	CATAWBA	0.0672	Confirmed LTF	0.0672

13.5.2 Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
147537496	958020	AF2-096 TAP	CE	270728	E FRANKFO; B	CE	1	COMED_P4_020-45-BT7-11_	breaker	1528.0	95.94	108.6	DC	193.36

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	98.3895	50/50	98.3895
274655	BRAIDWOOD;2U	26.2636	50/50	26.2636
274660	LASCO STA;1U	41.3202	50/50	41.3202
274661	LASCO STA;2U	41.2244	50/50	41.2244
274847	GR RIDGE ;BU	0.8549	50/50	0.8549

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274871	GR RIDGE ;2U	1.0857	50/50	1.0857
276173	Z2-081	0.2509	50/50	0.2509
293061	N-015 E	19.8240	50/50	19.8240
294392	P-010 E	25.1765	50/50	25.1765
926821	AC1-168 C O1	0.4458	Adder	0.52
926822	AC1-168 E O1	2.9917	Adder	3.52
939683	AE1-198 BAT	9.1688	50/50	9.1688
945351	AF1-200 FTIR	156.4101	Merchant Transmission	156.4101
957021	AF2-003 C O2	5.3328	50/50	5.3328
957022	AF2-003 E O2	24.9672	50/50	24.9672
958021	AF2-096 C O2	131.2769	50/50	131.2769
958022	AF2-096 E O2	62.0806	50/50	62.0806
WEC	WEC	0.3339	Confirmed LTF	0.3339
NEWTON	NEWTON	0.4996	Confirmed LTF	0.4996
CALDERWOOD	CALDERWOOD	0.2893	Confirmed LTF	0.2893
NY	NY	0.4308	Confirmed LTF	0.4308
PRAIRIE	PRAIRIE	0.6096	Confirmed LTF	0.6096
O-066	O-066	5.1408	Confirmed LTF	5.1408
CHEOAH	CHEOAH	0.2923	Confirmed LTF	0.2923
TILTON	TILTON	0.3641	Confirmed LTF	0.3641
G-007	G-007	0.7956	Confirmed LTF	0.7956
MADISON	MADISON	2.6027	Confirmed LTF	2.6027
MEC	MEC	0.9391	Confirmed LTF	0.9391
GIBSON	GIBSON	0.3685	Confirmed LTF	0.3685
BLUEG	BLUEG	1.2499	Confirmed LTF	1.2499
TRIMBLE	TRIMBLE	0.4035	Confirmed LTF	0.4035
CATAWBA	CATAWBA	0.2261	Confirmed LTF	0.2261

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
96182339	255112	17STJOHN	NIPS	270886	ST JOHN ; T	CE	1	COMED_P4_023-65-BT4-5__	breaker	1091.0	121.27	121.65	DC	40.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	20.9182	50/50	20.9182
274655	BRAIDWOOD;2U	20.3636	50/50	20.3636
274687	WILL CNTY;4U	8.9326	50/50	8.9326
274751	CRETE EC ;1U	3.7815	50/50	3.7815
274752	CRETE EC ;2U	3.7815	50/50	3.7815
274753	CRETE EC ;3U	3.7815	50/50	3.7815
274754	CRETE EC ;4U	3.7815	50/50	3.7815
274861	TOP CROP ;1U	0.3652	50/50	0.3652
274862	TOP CROP ;2U	0.7090	50/50	0.7090
274881	PILOT HIL;1E	10.8028	Adder	12.71
275149	KELLYCK ;1E	10.8028	Adder	12.71

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
276167	Z1-106 E2	0.7945	Adder	0.93
276168	Z1-106 E1	0.7945	Adder	0.93
276169	Z1-107 E	1.5621	Adder	1.84
276170	Z1-108 E	1.5676	Adder	1.84
290021	O50 E	12.3121	Adder	14.48
290108	LEEDK;1U E	15.2558	Adder	17.95
293061	N-015 E	9.7930	Adder	11.52
293644	O22 E1	8.4693	50/50	8.4693
293645	O22 E2	16.4403	50/50	16.4403
294392	P-010 E	12.4371	Adder	14.63
915011	Y3-013 1	2.3664	Adder	2.78
915021	Y3-013 2	2.3664	Adder	2.78
915031	Y3-013 3	2.3664	Adder	2.78
920272	AA2-123 E	1.5375	Adder	1.81
924471	AB2-096	7.2486	Adder	8.53
926311	AC1-109 1	1.1981	Adder	1.41
926321	AC1-109 2	1.1981	Adder	1.41
926331	AC1-110 1	1.1952	Adder	1.41
926341	AC1-110 2	1.1952	Adder	1.41
926351	AC1-111 1	0.4787	Adder	0.56
926361	AC1-111 2	0.4787	Adder	0.56
926371	AC1-111 3	0.4787	Adder	0.56
926381	AC1-111 4	0.4787	Adder	0.56
926391	AC1-111 5	0.4787	Adder	0.56
926401	AC1-111 6	0.4787	Adder	0.56
927451	AC1-142A 1	2.6985	Adder	3.17
927461	AC1-142A 2	2.6999	Adder	3.18
930501	AB1-091 O1	42.6874	Adder	50.22
930741	AB1-122 1O1	44.6180	Adder	52.49
930751	AB1-122 2O1	47.3892	Adder	55.75
933411	AC2-154 C	1.4661	Adder	1.72
933412	AC2-154 E	2.3921	Adder	2.81
933431	AC2-156 C O1	0.5983	Adder	0.7
933432	AC2-156 E O1	0.9762	Adder	1.15
933931	AD1-016 C	0.5842	Adder	0.69
933932	AD1-016 E	0.9532	Adder	1.12
934101	AD1-039 1	4.3726	Adder	5.14
934111	AD1-039 2	4.6441	Adder	5.46
934721	AD1-100 C	12.0437	Adder	14.17
934722	AD1-100 E	56.2037	Adder	66.12
936371	AD2-047 C O1	2.6235	Adder	3.09
936372	AD2-047 E O1	12.8091	Adder	15.07
936461	AD2-060	1.5433	Adder	1.82
937401	AD2-194 1	5.0026	Adder	5.89
937411	AD2-194 2	4.9955	Adder	5.88
938511	AE1-070 1	5.8780	Adder	6.92
938521	AE1-070 2	5.3701	Adder	6.32
938851	AE1-113 C	5.0787	Adder	5.97
938852	AE1-113 E	18.0064	Adder	21.18
939351	AE1-166 C O1	6.4152	Adder	7.55
939352	AE1-166 E O1	5.9217	Adder	6.97
939631	AE1-193 C	18.9488	50/50	18.9488

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939632	AE1-193 E	126.8112	50/50	126.8112
939641	AE1-194 C	18.9488	50/50	18.9488
939642	AE1-194 E	126.8112	50/50	126.8112
939651	AE1-195 C	18.9488	50/50	18.9488
939652	AE1-195 E	126.8112	50/50	126.8112
939681	AE1-198 C	56.2634	50/50	56.2634
939682	AE1-198 E	47.8093	50/50	47.8093
940752	AE2-062 E	0.1005	50/50	0.1005
941131	AE2-107 C	4.5880	Adder	5.4
941132	AE2-107 E	3.0586	Adder	3.6
941551	AE2-152 C O1	7.4021	Adder	8.71
941552	AE2-152 E O1	4.9348	Adder	5.81
941561	AE2-153 C O1	2.9489	Adder	3.47
941562	AE2-153 E O1	13.8063	Adder	16.24
942421	AE2-255 C O1	1.9238	Adder	2.26
942422	AE2-255 E O1	5.7713	Adder	6.79
942991	AE2-321 C	5.1426	Adder	6.05
942992	AE2-321 E	2.5329	Adder	2.98
943121	AE2-341 C	7.9841	Adder	9.39
943122	AE2-341 E	3.9206	Adder	4.61
943591	AF1-030 C O1	5.3095	Adder	6.25
943592	AF1-030 E O1	2.6270	Adder	3.09
943801	AF1-048 C	2.4040	Adder	2.83
943802	AF1-048 E	1.6026	Adder	1.89
944041	AF1-072	1.3566	Adder	1.6
944911	AF1-156 C	7.5398	Adder	8.87
944912	AF1-156 E	5.0266	Adder	5.91
945351	AF1-200 FTIR	194.1186	Merchant Transmission	194.1186
946661	AF1-330 C	1.2607	Adder	1.48
946662	AF1-330 E	0.2767	Adder	0.33
957331	AF2-027 C	0.8361	Adder	1.86
957332	AF2-027 E	1.2542	Adder	2.78
958011	AF2-095 C O2	5.6023	Adder	12.44
958012	AF2-095 E O2	2.6364	Adder	5.85
958021	AF2-096 C O2	27.7361	50/50	27.7361
958022	AF2-096 E O2	13.1164	50/50	13.1164
959351	AF2-226 C	2.0758	50/50	2.0758
959352	AF2-226 E	3.1137	50/50	3.1137
960281	AF2-319 C	2.0758	50/50	2.0758
960282	AF2-319 E	3.1137	50/50	3.1137
960381	AF2-329	2.1957	Adder	4.87
960581	AF2-349 C	7.2746	Adder	16.15
960582	AF2-349 E	4.8497	Adder	10.77
960591	AF2-350 C O2	2.4538	Adder	5.45
960592	AF2-350 E O2	1.6359	Adder	3.63
960601	AF2-351 C O2	0.3272	Adder	0.73
960602	AF2-351 E O2	0.4908	Adder	1.09
960731	AF2-364 C O2	2.0489	Adder	4.55
960732	AF2-364 E O2	1.3659	Adder	3.03
960751	AF2-366 C O2	2.3163	Adder	5.14
960752	AF2-366 E O2	1.5442	Adder	3.43
WEC	WEC	2.7811	Confirmed LTF	2.7811

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CALDERWOOD	CALDERWOOD	0.0656	Confirmed LTF	0.0656
CBM-W2	CBM-W2	13.0549	Confirmed LTF	13.0549
NY	NY	0.8345	Confirmed LTF	0.8345
CBM-W1	CBM-W1	41.6458	Confirmed LTF	41.6458
TVA	TVA	0.8036	Confirmed LTF	0.8036
O-066	O-066	9.8582	Confirmed LTF	9.8582
CHEOAH	CHEOAH	0.0736	Confirmed LTF	0.0736
CBM-S1	CBM-S1	2.6582	Confirmed LTF	2.6582
G-007	G-007	1.5246	Confirmed LTF	1.5246
MADISON	MADISON	14.3620	Confirmed LTF	14.3620
MEC	MEC	9.4450	Confirmed LTF	9.4450
GIBSON	GIBSON	0.1338	Confirmed LTF	0.1338
BLUEG	BLUEG	1.5294	Confirmed LTF	1.5294
TRIMBLE	TRIMBLE	0.5187	Confirmed LTF	0.5187
CATAWBA	CATAWBA	0.2180	Confirmed LTF	0.2180

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
95250579	255113	17STILLWELL	NIPS	243219	05DUMONT	AEP	1	COMED_P1-2_695_B2	single	1409.0	101.23	102.5	DC	39.6

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274723	RIVER EC ;12	5.5486	80/20	5.5486
274724	RIVER EC ;11	5.5078	80/20	5.5078
274788	SE CHICAG;5U (Deactivation : 01/06/2020)	7.5182	80/20	7.5182
274789	SE CHICAG;6U (Deactivation : 01/06/2020)	7.5381	80/20	7.5381
274790	SE CHICAG;7U (Deactivation : 01/06/2020)	7.6372	80/20	7.6372
274791	SE CHICAG;8U (Deactivation : 01/06/2020)	7.6372	80/20	7.6372
274792	SE CHICAG;9U (Deactivation : 01/06/2020)	7.5475	80/20	7.5475
274793	SE CHICAG;0U (Deactivation : 01/06/2020)	7.5475	80/20	7.5475
274794	SE CHICAG;1U (Deactivation : 01/06/2020)	7.5475	80/20	7.5475

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274795	SE CHICAG;2U (Deactivation : 01/06/2020)	7.5475	80/20	7.5475
274798	UNIV PARK;1U	1.5551	80/20	1.5551
274801	UNIV PARK;4U	1.5435	80/20	1.5435
274826	FISK ;BP	2.9034	80/20	2.9034
274827	FISK ;RP	2.0577	80/20	2.0577
274830	U3-021 1	6.0871	Adder	7.16
274831	U3-021 2	6.0871	Adder	7.16
276164	X3-005 C	0.1075	80/20	0.1075
293540	O-012 C	0.6150	80/20	0.6150
915011	Y3-013 1	3.7444	Adder	4.41
915021	Y3-013 2	3.7444	Adder	4.41
915031	Y3-013 3	3.7444	Adder	4.41
919581	AA2-030	17.5313	Adder	20.63
924041	AB2-047 C O1	3.3636	Adder	3.96
924471	AB2-096	42.2718	Adder	49.73
925581	AC1-033 C	1.4016	Adder	1.65
926311	AC1-109 1	1.9040	Adder	2.24
926321	AC1-109 2	1.9040	Adder	2.24
926331	AC1-110 1	1.8980	Adder	2.23
926341	AC1-110 2	1.8980	Adder	2.23
926351	AC1-111 1	0.7620	Adder	0.9
926361	AC1-111 2	0.7620	Adder	0.9
926371	AC1-111 3	0.7620	Adder	0.9
926381	AC1-111 4	0.7620	Adder	0.9
926391	AC1-111 5	0.7620	Adder	0.9
926401	AC1-111 6	0.7620	Adder	0.9
926431	AC1-114	2.3739	Adder	2.79
926821	AC1-168 C O1	1.1406	Adder	1.34
926841	AC1-171 C O1	1.0368	Adder	1.22
927201	AC1-214 C O1	2.0483	Adder	2.41
927451	AC1-142A 1	4.2157	Adder	4.96
927461	AC1-142A 2	4.2160	Adder	4.96
927511	AC1-113 1	1.1869	Adder	1.4
927521	AC1-113 2	1.1869	Adder	1.4
930481	AB1-089	65.6043	Adder	77.18
930501	AB1-091 O1	76.9692	Adder	90.55
930741	AB1-122 1O1	71.4553	Adder	84.07
930751	AB1-122 2O1	73.8990	Adder	86.94
932881	AC2-115 1	2.3739	Adder	2.79
932891	AC2-115 2	2.3739	Adder	2.79
932921	AC2-116	0.8309	Adder	0.98
932931	AC2-117	5.1330	Adder	6.04
933411	AC2-154 C	2.6404	Adder	3.11
933431	AC2-156 C O1	0.9541	Adder	1.12
933911	AD1-013 C	1.8539	Adder	2.18
933931	AD1-016 C	0.9273	Adder	1.09
934051	AD1-031 C O1	2.8459	Adder	3.35
934101	AD1-039 1	7.0026	Adder	8.24
934111	AD1-039 2	7.2421	Adder	8.52
934431	AD1-067 C	0.1318	Adder	0.16
934651	AD1-096 C	0.8893	Adder	1.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934701	AD1-098 C O1	6.9062	Adder	8.12
934721	AD1-100 C	19.5139	Adder	22.96
934871	AD1-116 C	0.9472	Adder	1.11
934971	AD1-129 C	0.9021	Adder	1.06
935001	AD1-133 C O1	20.6718	Adder	24.32
936291	AD2-038 C O1	2.3283	Adder	2.74
936371	AD2-047 C O1	4.7249	Adder	5.56
936461	AD2-060	2.7793	Adder	3.27
936511	AD2-066 C O1	8.3972	Adder	9.88
936791	AD2-102 C	14.1066	Adder	16.6
937001	AD2-134 C	2.7442	Adder	3.23
937311	AD2-172 C	2.4544	Adder	2.89
937401	AD2-194 1	7.7948	Adder	9.17
937411	AD2-194 2	7.7923	Adder	9.17
937531	AD2-214 C	4.3946	Adder	5.17
938511	AE1-070 1	9.1589	Adder	10.78
938521	AE1-070 2	8.3767	Adder	9.85
938851	AE1-113 C	7.9623	Adder	9.37
938861	AE1-114 C O1	3.9206	Adder	4.61
939051	AE1-134 1	1.3623	Adder	1.6
939061	AE1-134 2	1.3623	Adder	1.6
939321	AE1-163 C O1	5.8506	Adder	6.88
939351	AE1-166 C O1	10.2692	Adder	12.08
939401	AE1-172 C O1	5.2573	Adder	6.19
939631	AE1-193 C	9.0290	Adder	10.62
939641	AE1-194 C	9.0290	Adder	10.62
939651	AE1-195 C	9.0290	Adder	10.62
939681	AE1-198 C	26.8091	Adder	31.54
939741	AE1-205 C O1	8.6937	Adder	10.23
940101	AE1-252 C O1	10.5616	Adder	12.43
940501	AE2-035 C	2.4544	Adder	2.89
941131	AE2-107 C	7.3063	Adder	8.6
941551	AE2-152 C O1	11.8491	Adder	13.94
941561	AE2-153 C O1	4.7360	Adder	5.57
941731	AE2-173 O1	5.1748	Adder	6.09
942111	AE2-223 C	2.0182	Adder	2.37
942421	AE2-255 C O1	3.0160	Adder	3.55
942651	AE2-281 C O1	0.8358	Adder	0.98
942991	AE2-321 C	8.1632	Adder	9.6
943121	AE2-341 C	12.7367	Adder	14.98
943381	AF1-009 C	0.5974	Adder	0.7
943401	AF1-011 C	1.2399	Adder	1.46
943411	AF1-012 C	11.9631	Adder	14.07
943591	AF1-030 C O1	8.4700	Adder	9.96
943801	AF1-048 C	3.8160	Adder	4.49
943921	AF1-060	1.2085	Adder	1.42
944041	AF1-072	2.1512	Adder	2.53
944911	AF1-156 C	12.1092	Adder	14.25
945351	AF1-200 FTIR	308.5264	Merchant Transmission	308.5264
946151	AF1-280 C O1	15.5391	Adder	18.28
946161	AF1-281 C	0.3403	Adder	0.4
946321	AF1-296 C O1	3.9241	Adder	4.62

Bus #	Bus	Gendoliv MW Impact	Type	Full MW Impact
946501	AF1-314 C	4.3608	Adder	5.13
946531	AF1-317 C O1	2.2787	Adder	2.68
946541	AF1-318 C O1	5.7512	Adder	6.77
946661	AF1-330 C	2.0011	Adder	2.35
946671	AF1-331	2.4077	Adder	2.83
951721	J643	27.1460	PJM External (MISO)	27.1460
953871	J847	13.8150	PJM External (MISO)	13.8150
954751	J351	446.6739	PJM External (MISO)	446.6739
955741	J1058	38.3400	PJM External (MISO)	38.3400
957021	AF2-003 C O2	3.3475	Adder	7.43
957331	AF2-027 C	1.3230	Adder	2.94
957371	AF2-031 C O2	1.5596	80/20	1.5596
957471	AF2-041 C	11.2861	Adder	25.05
957751	AF2-069 C	0.1257	Adder	0.28
957761	AF2-070 C	0.1771	Adder	0.39
958011	AF2-095 C O2	9.8782	Adder	21.93
958021	AF2-096 C O2	17.8412	Adder	39.6
958341	AF2-128 C O2	0.8102	Adder	1.8
958481	AF2-142 C	5.9447	Adder	13.2
958491	AF2-143 C	5.6954	Adder	12.64
958911	AF2-182	10.8206	Adder	24.02
958921	AF2-183 C	1.9237	Adder	4.27
959081	AF2-199 C O2	3.7620	Adder	8.35
959091	AF2-200 C O2	7.5241	Adder	16.7
959101	AF2-201 C O2	3.1839	Adder	7.07
959341	AF2-225 C	3.4557	Adder	7.67
959351	AF2-226 C	1.3489	Adder	2.99
959611	AF2-252 C	0.9462	Adder	2.1
959761	AF2-267 C O2	2.2994	Adder	5.1
960281	AF2-319 C	1.3489	Adder	2.99
960381	AF2-329	3.5027	Adder	7.78
960551	AF2-346 C	2.7173	Adder	6.03
960581	AF2-349 C	11.5496	Adder	25.64
960591	AF2-350 C O2	4.4191	Adder	9.81
960601	AF2-351 C O2	0.5892	Adder	1.31
960611	AF2-352 C	0.9462	Adder	2.1
960721	AF2-363 C O2	3.1287	Adder	6.94
960731	AF2-364 C O2	3.2498	Adder	7.21
960751	AF2-366 C O2	3.6877	Adder	8.19
961011	AF2-392 C O2	2.0929	Adder	4.65
961021	AF2-393 O2	3.5674	Adder	7.92
961031	AF2-394 O2	2.3783	Adder	5.28
961501	AF2-441 C O2	15.2240	80/20	15.2240
WEC	WEC	4.4132	Confirmed LTF	4.4132
CBM-W2	CBM-W2	24.9631	Confirmed LTF	24.9631
NY	NY	1.3416	Confirmed LTF	1.3416
CBM-W1	CBM-W1	79.8013	Confirmed LTF	79.8013
TVA	TVA	1.7262	Confirmed LTF	1.7262
CHEOAH	CHEOAH	0.0065	Confirmed LTF	0.0065
CBM-S1	CBM-S1	7.0972	Confirmed LTF	7.0972
MADISON	MADISON	22.9824	Confirmed LTF	22.9824
MEC	MEC	15.3656	Confirmed LTF	15.3656

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
BLUEG	BLUEG	1.7030	Confirmed LTF	1.7030
TRIMBLE	TRIMBLE	0.5994	Confirmed LTF	0.5994
CATAWBA	CATAWBA	0.3045	Confirmed LTF	0.3045

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
98680886	264612	19MON12	ITCT	241901	02LALLENDORF	ATSI	1	ATSI-P1-2-TE-345-605T	single	1244.0	141.38	141.39	DC	14.68

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
243071	05BERRINSP G	0.0914	80/20	0.0914
243440	05CKG1	15.1055	80/20	15.1055
243441	05CKG2	13.2913	80/20	13.2913
244130	05ST.JOE CTR	8.1410	80/20	8.1410
244412	05WTRV SLR C	0.0376	80/20	0.0376
244415	05OLIV SLR C	0.0316	80/20	0.0316
246397	05ELKHART HY	0.0337	80/20	0.0337
246416	05TWIN BRCH1	0.0546	80/20	0.0546
246422	05MAYFLOWER	0.0661	80/20	0.0661
246431	05BUCHANAN	0.0124	80/20	0.0124
246536	05MOTTVILL	0.0221	80/20	0.0221
247528	05COVRT1	4.7532	80/20	4.7532
247529	05COVRT2	4.7532	80/20	4.7532
247530	05COVRT3	4.7532	80/20	4.7532
247531	05COVRT4	2.8528	80/20	2.8528
247532	05COVRT5	2.8528	80/20	2.8528
247533	05COVRT6	2.8528	80/20	2.8528
247604	X1-042	0.0504	80/20	0.0504
247620	Y3-023	0.0604	80/20	0.0604
247643	Z2-116 C	0.0169	80/20	0.0169
247651	AA2-116	13.9585	80/20	13.9585
274723	RIVER EC ;12	1.7026	80/20	1.7026
274751	CRETE EC ;1U	0.7844	80/20	0.7844
274752	CRETE EC ;2U	0.7844	80/20	0.7844
274753	CRETE EC ;3U	0.7844	80/20	0.7844
274754	CRETE EC ;4U	0.7844	80/20	0.7844
274788	SE CHICAG;5U (Deactivation : 01/06/2020)	1.9258	Adder	2.27
274789	SE CHICAG;6U (Deactivation : 01/06/2020)	1.9309	Adder	2.27
274790	SE CHICAG;7U (Deactivation : 01/06/2020)	1.9563	Adder	2.3

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274791	SE CHICAG;8U (Deactivation : 01/06/2020)	2.3015	80/20	2.3015
274792	SE CHICAG;9U (Deactivation : 01/06/2020)	2.3065	80/20	2.3065
274793	SE CHICAG;0U (Deactivation : 01/06/2020)	2.3065	80/20	2.3065
274794	SE CHICAG;1U (Deactivation : 01/06/2020)	2.3065	80/20	2.3065
274795	SE CHICAG;2U (Deactivation : 01/06/2020)	2.3065	80/20	2.3065
922912	AB1-080	0.4824	80/20	0.4824
925961	AC1-072	0.4409	80/20	0.4409
926581	AC1-141	1.2779	80/20	1.2779
927451	AC1-142A 1	1.5561	Adder	1.83
927461	AC1-142A 2	1.5561	Adder	1.83
930501	AB1-091 O1	27.0729	Adder	31.85
931951	AB1-107 1	-34.4746	Adder	-40.56
931961	AB1-107 2	-112.3235	Adder	-132.15
932601	AC2-080 C O1	1.2637	Adder	1.49
932931	AC2-117	2.3241	Adder	2.73
933281	AC2-140 C	2.5506	80/20	2.5506
933411	AC2-154 C	0.9346	Adder	1.1
934721	AD1-100 C	7.2624	Adder	8.54
936141	AD2-020 C O1	5.3921	80/20	5.3921
936371	AD2-047 C O1	1.6724	Adder	1.97
936461	AD2-060	0.9838	Adder	1.16
936601	AD2-075	18.5325	80/20	18.5325
936631	AD2-079 C O1	0.9048	80/20	0.9048
937041	AD2-138 C	1.7108	Adder	2.01
937401	AD2-194 1	2.9029	Adder	3.42
937411	AD2-194 2	2.9029	Adder	3.42
938261	AE1-039	0.0779	80/20	0.0779
938511	AE1-070 1	3.4109	Adder	4.01
938521	AE1-070 2	3.1206	Adder	3.67
939351	AE1-166 C O1	3.7963	Adder	4.47
939391	AE1-170 C O1	5.2196	80/20	5.2196
939631	AE1-193 C	3.9305	80/20	3.9305
939641	AE1-194 C	3.9305	80/20	3.9305
939651	AE1-195 C	3.9305	80/20	3.9305
939681	AE1-198 C	11.6707	80/20	11.6707
940581	AE2-045 C O1	5.7352	Adder	6.75
941551	AE2-152 C O1	4.3804	Adder	5.15
941561	AE2-153 C O1	1.7261	Adder	2.03
943001	AE2-323 C	4.1864	80/20	4.1864
943021	AE2-325 C	2.7309	80/20	2.7309
943781	AF1-046 C	1.9541	80/20	1.9541
944161	AF1-084 C	4.8750	80/20	4.8750
944911	AF1-156 C	4.4133	Adder	5.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944931	AF1-158 C O1	6.6276	80/20	6.6276
944961	AF1-161 C	2.1777	80/20	2.1777
945111	AF1-176 C O1	12.6957	80/20	12.6957
945351	AF1-200 FTIR	115.7304	Merchant Transmission	115.7304
945501	AF1-215 C O1	11.1636	80/20	11.1636
950351	J466	6.4410	PJM External (MISO)	6.4410
950791	J201 C	0.7628	PJM External (MISO)	0.7628
951941	J602 C	5.6160	PJM External (MISO)	5.6160
952401	J752 C	3.2738	PJM External (MISO)	3.2738
952971	J793	321.0741	PJM External (MISO)	321.0741
953271	J701 C	1.5931	PJM External (MISO)	1.5931
953291	J796	37.9231	PJM External (MISO)	37.9231
953321	J799	48.3424	PJM External (MISO)	48.3424
953781	J833	24.9220	PJM External (MISO)	24.9220
953811	J839	23.5040	PJM External (MISO)	23.5040
954111	J875	29.9235	PJM External (MISO)	29.9235
955121	J989	15.8048	PJM External (MISO)	15.8048
955181	J996	17.2944	PJM External (MISO)	17.2944
955261	J1005	35.6320	PJM External (MISO)	35.6320
956161	J1103	4.1682	PJM External (MISO)	4.1682
956741	J1172	9.6605	PJM External (MISO)	9.6605
956751	J1173	16.5016	PJM External (MISO)	16.5016
957371	AF2-031 C O2	0.4786	80/20	0.4786
957891	AF2-083 C O2	9.7872	80/20	9.7872
958011	AF2-095 C O2	3.5315	Adder	7.84
958021	AF2-096 C O2	6.6146	Adder	14.68
958381	AF2-132 C O2	10.8090	80/20	10.8090
958391	AF2-133 C O2	4.7721	Adder	10.59
958401	AF2-134 C O2	3.7146	80/20	3.7146
958991	AF2-190 C O2	9.5644	80/20	9.5644
959001	AF2-191 C O2	4.8563	80/20	4.8563
959141	AF2-205 C	3.1436	Adder	6.98
960591	AF2-350 C O2	1.5642	Adder	3.47
960601	AF2-351 C O2	0.2086	Adder	0.46
960681	AF2-359 C O2	5.1675	80/20	5.1675
960981	AF2-389 C	2.4483	80/20	2.4483
961051	AF2-396 O2	16.9540	80/20	16.9540
961501	AF2-441 C O2	2.1292	Adder	4.73
WEC	WEC	1.7101	Confirmed LTF	1.7101
LGEE	LGEE	1.3378	Confirmed LTF	1.3378
CPL	CPL	0.2547	Confirmed LTF	0.2547
CBM-W2	CBM-W2	25.1843	Confirmed LTF	25.1843
NY	NY	0.9589	Confirmed LTF	0.9589
CBM-W1	CBM-W1	167.6340	Confirmed LTF	167.6340
TVA	TVA	2.9526	Confirmed LTF	2.9526
CBM-S2	CBM-S2	4.1269	Confirmed LTF	4.1269
CBM-S1	CBM-S1	18.3436	Confirmed LTF	18.3436
MADISON	MADISON	6.0702	Confirmed LTF	6.0702
MEC	MEC	7.1950	Confirmed LTF	7.1950

13.5.6 Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
96182332	270670	BRAIDWOOD; B	CE	270671	BRAIDWOOD; R	CE	1	ADD AD1-100 5	breaker	1726.0	110.43	120.31	DC	170.64

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	99.9077	50/50	99.9077
274853	TWINGROVE;U1	0.8797	50/50	0.8797
274854	TWINGROVE;U2	0.8797	50/50	0.8797
274863	CAYUGA RI;1U	1.2549	50/50	1.2549
274864	CAYUGA RI;2U	1.2549	50/50	1.2549
274880	GENERATOR;	0.8066	50/50	0.8066
274882	W4-005 E	31.3157	50/50	31.3157
274890	CAYUG;1U E	29.1012	50/50	29.1012
274891	CAYUG;2U E	29.1012	50/50	29.1012
276153	W2-048 E	4.9109	Adder	5.78
290261	S-027 E	20.4003	50/50	20.4003
290265	S-028 E	20.4003	50/50	20.4003
909052	X2-022 E	14.7719	Adder	17.38
917501	Z2-087 C	0.7343	50/50	0.7343
917502	Z2-087 E	28.4890	50/50	28.4890
924041	AB2-047 C O1	5.3212	50/50	5.3212
924042	AB2-047 E O1	35.6113	50/50	35.6113
924261	AB2-070 C O1	2.1638	Adder	2.55
924262	AB2-070 E O1	13.7152	Adder	16.14
925771	AC1-053 C	2.1251	Adder	2.5
925772	AC1-053 E	14.2221	Adder	16.73
932931	AC2-117	-5.6996	Adder	-6.71
934721	AD1-100 C	61.9740	50/50	61.9740
934722	AD1-100 E	289.2120	50/50	289.2120
935001	AD1-133 C O1	12.4680	Adder	14.67
935002	AD1-133 E O1	8.3120	Adder	9.78
935141	AD1-148	3.8501	Adder	4.53
936771	AD2-100 C	7.1864	Adder	8.45
936772	AD2-100 E	4.7909	Adder	5.64
936971	AD2-131 C	0.4734	Adder	0.56
936972	AD2-131 E	2.3784	Adder	2.8
937211	AD2-159 C	3.3841	50/50	3.3841
937212	AD2-159 E	15.8440	50/50	15.8440
939351	AE1-166 C O1	34.3894	50/50	34.3894
939352	AE1-166 E O1	31.7441	50/50	31.7441
939401	AE1-172 C O1	12.8285	50/50	12.8285
939402	AE1-172 E O1	60.1908	50/50	60.1908
939741	AE1-205 C O1	13.7533	50/50	13.7533
939742	AE1-205 E O1	18.9927	50/50	18.9927
940101	AE1-252 C O1	25.7715	50/50	25.7715
940102	AE1-252 E O1	17.1810	50/50	17.1810

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941551	AE2-152 C O1	39.6801	50/50	39.6801
941552	AE2-152 E O1	26.4534	50/50	26.4534
941731	AE2-173 O1	8.1865	50/50	8.1865
942111	AE2-223 C	3.1927	50/50	3.1927
942112	AE2-223 E	21.3668	50/50	21.3668
942481	AE2-261 C	10.5782	Adder	12.44
942482	AE2-261 E	7.0522	Adder	8.3
951741	J474 C	1.7693	PJM External (MISO)	1.7693
951742	J474 E	9.5722	PJM External (MISO)	9.5722
953741	J826 C	1.0376	PJM External (MISO)	1.0376
953742	J826 E	5.6134	PJM External (MISO)	5.6134
955401	J1022 C	1.5563	PJM External (MISO)	1.5563
955402	J1022 E	8.4202	PJM External (MISO)	8.4202
956281	J1115 C	2.5965	PJM External (MISO)	2.5965
956282	J1115 E	14.0475	PJM External (MISO)	14.0475
957381	AF2-032 C	0.4302	Adder	0.95
957382	AF2-032 E	0.2024	Adder	0.45
958013	AF2-095 BAT	7.8672	50/50	7.8672
958021	AF2-096 C O2	115.8506	50/50	115.8506
958022	AF2-096 E O2	54.7856	50/50	54.7856
959341	AF2-225 C	10.3150	50/50	10.3150
959342	AF2-225 E	14.2445	50/50	14.2445
959611	AF2-252 C	2.5758	50/50	2.5758
959612	AF2-252 E	3.8637	50/50	3.8637
960141	AF2-305	0.4058	Adder	0.9
960261	AF2-317	0.6530	Adder	1.45
960603	AF2-351 BAT	4.6498	50/50	4.6498
960611	AF2-352 C	2.5758	50/50	2.5758
960612	AF2-352 E	3.8637	50/50	3.8637
LGEE	LGEE	0.4712	Confirmed LTF	0.4712
CPLE	CPLE	0.3685	Confirmed LTF	0.3685
G-007A	G-007A	0.4339	Confirmed LTF	0.4339
VFT	VFT	1.1675	Confirmed LTF	1.1675
CBM-W2	CBM-W2	16.3964	Confirmed LTF	16.3964
TVA	TVA	1.8270	Confirmed LTF	1.8270
CBM-S2	CBM-S2	3.8379	Confirmed LTF	3.8379
CBM-S1	CBM-S1	10.3603	Confirmed LTF	10.3603
MADISON	MADISON	1.7459	Confirmed LTF	1.7459
MEC	MEC	1.7574	Confirmed LTF	1.7574

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
148510662	270670	BRAIDWOOD; B	CE	934730	AD1-100 TAP	CE	1	COMED_P7_345-L2001__B-S+_345-L2003__R-S-B	tower	1915.0	105.46	114.89	DC	180.77

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	98.3732	50/50	98.3732
274655	BRAIDWOOD;2U	95.1037	50/50	95.1037
274660	LASCO STA;1U	64.4730	50/50	64.4730
274661	LASCO STA;2U	64.7376	50/50	64.7376
274847	GR RIDGE ;BU	1.3349	50/50	1.3349
274871	GR RIDGE ;2U	1.6954	50/50	1.6954
276153	W2-048 E	-2.7168	Adder	-3.2
276173	Z2-081	0.3890	50/50	0.3890
293061	N-015 E	30.9564	50/50	30.9564
294392	P-010 E	39.3146	50/50	39.3146
909052	X2-022 E	-8.1722	Adder	-9.61
924041	AB2-047 C O1	-2.5490	Adder	-3.0
926311	AC1-109 1	0.6490	Adder	0.76
926321	AC1-109 2	0.6490	Adder	0.76
926331	AC1-110 1	0.6394	Adder	0.75
926341	AC1-110 2	0.6394	Adder	0.75
926821	AC1-168 C O1	0.6749	Adder	0.79
926822	AC1-168 E O1	4.5289	Adder	5.33
933431	AC2-156 C O1	0.4125	Adder	0.49
933432	AC2-156 E O1	0.6730	Adder	0.79
941561	AE2-153 C O1	11.2865	50/50	11.2865
941562	AE2-153 E O1	52.8415	50/50	52.8415
941732	AE2-173 BAT	4.6135	Merchant Transmission	4.6135
943121	AE2-341 C	5.8489	Adder	6.88
943122	AE2-341 E	2.8721	Adder	3.38
943591	AF1-030 C O1	3.8896	Adder	4.58
943592	AF1-030 E O1	1.9244	Adder	2.26
944911	AF1-156 C	28.8576	50/50	28.8576
944912	AF1-156 E	19.2384	50/50	19.2384
945351	AF1-200 FTIR	248.5752	50/50	248.5752
957021	AF2-003 C O2	8.2509	50/50	8.2509
957022	AF2-003 E O2	38.6293	50/50	38.6293
958021	AF2-096 C O2	122.7325	50/50	122.7325
958022	AF2-096 E O2	58.0400	50/50	58.0400
959613	AF2-252 BAT	1.9215	Merchant Transmission	1.9215
960381	AF2-329	1.6085	Adder	3.57
960613	AF2-352 BAT	1.9215	Merchant Transmission	1.9215
WEC	WEC	0.9626	Confirmed LTF	0.9626
NEWTON	NEWTON	2.3908	Confirmed LTF	2.3908
CALDERWOOD	CALDERWOOD	0.6829	Confirmed LTF	0.6829
NY	NY	0.7449	Confirmed LTF	0.7449
CBM-W1	CBM-W1	7.2433	Confirmed LTF	7.2433
PRAIRIE	PRAIRIE	4.3446	Confirmed LTF	4.3446
O-066	O-066	8.9510	Confirmed LTF	8.9510
CHEOAH	CHEOAH	0.6872	Confirmed LTF	0.6872
TILTON	TILTON	1.8087	Confirmed LTF	1.8087
G-007	G-007	1.3853	Confirmed LTF	1.3853
MADISON	MADISON	4.0441	Confirmed LTF	4.0441
MEC	MEC	1.2442	Confirmed LTF	1.2442
GIBSON	GIBSON	0.9828	Confirmed LTF	0.9828
BLUEG	BLUEG	2.6977	Confirmed LTF	2.6977
TRIMBLE	TRIMBLE	0.8598	Confirmed LTF	0.8598

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CATAWBA	CATAWBA	0.4739	Confirmed LTF	0.4739

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
148510633	270728	E FRANKFO; B	CE	270766	GOODINGS ;3B	CE	1	COMED_P7_345-L94507_B-S_+_345-L97008_R-S	tower	2084.0	116.49	120.01	DC	73.38

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	29.6295	50/50	29.6295
274655	BRAIDWOOD;2U	28.5866	50/50	28.5866
274751	CRETE EC ;1U	9.2556	50/50	9.2556
274752	CRETE EC ;2U	9.2556	50/50	9.2556
274753	CRETE EC ;3U	9.2556	50/50	9.2556
274754	CRETE EC ;4U	9.2556	50/50	9.2556
934721	AD1-100 C	10.7623	Adder	12.66
934722	AD1-100 E	50.2239	Adder	59.09
939351	AE1-166 C O1	8.0371	50/50	8.0371
939352	AE1-166 E O1	7.4189	50/50	7.4189
939631	AE1-193 C	46.3795	50/50	46.3795
939632	AE1-193 E	310.3856	50/50	310.3856
939641	AE1-194 C	46.3795	50/50	46.3795
939642	AE1-194 E	310.3856	50/50	310.3856
939651	AE1-195 C	46.3795	50/50	46.3795
939652	AE1-195 E	310.3856	50/50	310.3856
939681	AE1-198 C	137.7113	50/50	137.7113
939682	AE1-198 E	117.0189	50/50	117.0189
941551	AE2-152 C O1	9.2736	50/50	9.2736
941552	AE2-152 E O1	6.1824	50/50	6.1824
941561	AE2-153 C O1	4.2117	50/50	4.2117
941562	AE2-153 E O1	19.7183	50/50	19.7183
944911	AF1-156 C	10.7685	50/50	10.7685
944912	AF1-156 E	7.1790	50/50	7.1790
958021	AF2-096 C O2	49.8201	50/50	49.8201
958022	AF2-096 E O2	23.5599	50/50	23.5599
959353	AF2-226 BAT	1.9997	Merchant Transmission	1.9997
960283	AF2-319 BAT	1.9997	Merchant Transmission	1.9997
NEWTON	NEWTON	0.0860	Confirmed LTF	0.0860
FARMERCITY	FARMERCITY	0.0551	Confirmed LTF	0.0551
CALDERWOOD	CALDERWOOD	0.1188	Confirmed LTF	0.1188
NY	NY	0.0973	Confirmed LTF	0.0973
PRAIRIE	PRAIRIE	0.8111	Confirmed LTF	0.8111
O-066	O-066	1.1760	Confirmed LTF	1.1760
CHEOAH	CHEOAH	0.1191	Confirmed LTF	0.1191
EDWARDS	EDWARDS	0.6262	Confirmed LTF	0.6262

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
G-007	G-007	0.1820	Confirmed LTF	0.1820
GIBSON	GIBSON	0.0595	Confirmed LTF	0.0595
BLUEG	BLUEG	0.2465	Confirmed LTF	0.2465
TRIMBLE	TRIMBLE	0.0790	Confirmed LTF	0.0790
CATAWBA	CATAWBA	0.0756	Confirmed LTF	0.0756

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
96182363	270802	LASCO STA; B	CE	270846	PLANO ; B	CE	1	COMED_P4_167-45-BT2-5_	breaker	1528.0	117.95	120.83	DC	43.75

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	25.5136	50/50	25.5136
274655	BRAIDWOOD;2U	24.9439	50/50	24.9439
274660	LASCO STA;1U	53.7210	50/50	53.7210
274661	LASCO STA;2U	53.6927	50/50	53.6927
274847	GR RIDGE ;BU	1.0908	50/50	1.0908
274871	GR RIDGE ;2U	1.3854	50/50	1.3854
274881	PILOT HIL;1E	7.7053	Adder	9.07
275149	KELLYCK ;1E	7.7053	Adder	9.07
276165	Z1-106 BAT2	0.7257	Merchant Transmission	0.7257
276166	Z1-106 BAT1	0.7257	Merchant Transmission	0.7257
276172	Z1-108 BAT	1.2034	Merchant Transmission	1.2034
276173	Z2-081	0.3044	50/50	0.3044
293061	N-015 E	25.2960	50/50	25.2960
294392	P-010 E	32.1259	50/50	32.1259
920273	AA2-123 BAT	1.1788	Merchant Transmission	1.1788
926821	AC1-168 C O1	0.4461	Adder	0.52
926822	AC1-168 E O1	2.9935	Adder	3.52
930501	AB1-091 O1	34.9176	Adder	41.08
933411	AC2-154 C	1.0457	Adder	1.23
933412	AC2-154 E	1.7062	Adder	2.01
934721	AD1-100 C	9.8545	Adder	11.59
934722	AD1-100 E	45.9875	Adder	54.1
936371	AD2-047 C O1	1.8713	Adder	2.2
936372	AD2-047 E O1	9.1362	Adder	10.75
936461	AD2-060	1.1008	Adder	1.3
939351	AE1-166 C O1	6.1374	Adder	7.22
939352	AE1-166 E O1	5.6653	Adder	6.67
941551	AE2-152 C O1	7.0816	Adder	8.33
941552	AE2-152 E O1	4.7211	Adder	5.55
941561	AE2-153 C O1	3.8051	50/50	3.8051
941562	AE2-153 E O1	17.8149	50/50	17.8149
943383	AF1-009 BAT	1.6720	Merchant Transmission	1.6720
943803	AF1-048 BAT	3.0709	Merchant Transmission	3.0709
943922	AF1-060 BAT	0.5506	Merchant Transmission	0.5506
944911	AF1-156 C	9.7290	50/50	9.7290

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944912	AF1-156 E	6.4860	50/50	6.4860
945352	AF1-200 NTFW	406.0980	50/50	406.0980
946533	AF1-317 BAT	2.6190	Merchant Transmission	2.6190
957021	AF2-003 C O2	6.3748	50/50	6.3748
957022	AF2-003 E O2	29.8458	50/50	29.8458
958011	AF2-095 C O2	3.1761	Adder	7.05
958012	AF2-095 E O2	1.4947	Adder	3.32
958021	AF2-096 C O2	29.7042	50/50	29.7042
958022	AF2-096 E O2	14.0471	50/50	14.0471
960382	AF2-329 BAT	5.4356	50/50	5.4356
960591	AF2-350 C O2	1.7502	Adder	3.89
960592	AF2-350 E O2	1.1668	Adder	2.59
960601	AF2-351 C O2	0.2334	Adder	0.52
960602	AF2-351 E O2	0.3500	Adder	0.78
NEWTON	NEWTON	0.1440	Confirmed LTF	0.1440
FARMERCITY	FARMERCITY	0.1155	Confirmed LTF	0.1155
CALDERWOOD	CALDERWOOD	0.1948	Confirmed LTF	0.1948
NY	NY	0.1300	Confirmed LTF	0.1300
PRAIRIE	PRAIRIE	1.4594	Confirmed LTF	1.4594
O-066	O-066	1.5926	Confirmed LTF	1.5926
CHEOAH	CHEOAH	0.1952	Confirmed LTF	0.1952
EDWARDS	EDWARDS	0.1915	Confirmed LTF	0.1915
G-007	G-007	0.2465	Confirmed LTF	0.2465
GIBSON	GIBSON	0.0699	Confirmed LTF	0.0699
BLUEG	BLUEG	0.3281	Confirmed LTF	0.3281
TRIMBLE	TRIMBLE	0.1041	Confirmed LTF	0.1041
CATAWBA	CATAWBA	0.1190	Confirmed LTF	0.1190

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
140175055	270886	ST JOHN ; T	CE	255104	17GREEN_ACRE	NIPS	1	COMED_P4_112-65-BT3-4__	breaker	1091.0	121.27	121.65	DC	40.83

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	20.9080	50/50	20.9080
274655	BRAIDWOOD;2U	20.3516	50/50	20.3516
274687	WILL CNTY;4U	8.9335	50/50	8.9335
274751	CRETE EC ;1U	3.7813	50/50	3.7813
274752	CRETE EC ;2U	3.7813	50/50	3.7813
274753	CRETE EC ;3U	3.7813	50/50	3.7813
274754	CRETE EC ;4U	3.7813	50/50	3.7813
274861	TOP CROP ;1U	0.3653	50/50	0.3653
274862	TOP CROP ;2U	0.7091	50/50	0.7091
274881	PILOT HIL;1E	10.7969	Adder	12.7
275149	KELLYCK ;1E	10.7969	Adder	12.7

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
276167	Z1-106 E2	0.7947	Adder	0.93
276168	Z1-106 E1	0.7947	Adder	0.93
276169	Z1-107 E	1.5628	Adder	1.84
276170	Z1-108 E	1.5681	Adder	1.84
290021	O50 E	12.3189	Adder	14.49
290108	LEEDK;1U E	15.2575	Adder	17.95
293061	N-015 E	9.7910	Adder	11.52
293644	O22 E1	8.4709	50/50	8.4709
293645	O22 E2	16.4435	50/50	16.4435
294392	P-010 E	12.4345	Adder	14.63
915011	Y3-013 1	2.3674	Adder	2.79
915021	Y3-013 2	2.3674	Adder	2.79
915031	Y3-013 3	2.3674	Adder	2.79
920272	AA2-123 E	1.5380	Adder	1.81
924471	AB2-096	7.2511	Adder	8.53
926311	AC1-109 1	1.1986	Adder	1.41
926321	AC1-109 2	1.1986	Adder	1.41
926331	AC1-110 1	1.1953	Adder	1.41
926341	AC1-110 2	1.1953	Adder	1.41
926351	AC1-111 1	0.4788	Adder	0.56
926361	AC1-111 2	0.4788	Adder	0.56
926371	AC1-111 3	0.4788	Adder	0.56
926381	AC1-111 4	0.4788	Adder	0.56
926391	AC1-111 5	0.4788	Adder	0.56
926401	AC1-111 6	0.4788	Adder	0.56
927451	AC1-142A 1	2.6999	Adder	3.18
927461	AC1-142A 2	2.7015	Adder	3.18
930501	AB1-091 O1	42.6594	Adder	50.19
930741	AB1-122 1O1	44.7157	Adder	52.61
930751	AB1-122 2O1	47.4136	Adder	55.78
933411	AC2-154 C	1.4653	Adder	1.72
933412	AC2-154 E	2.3907	Adder	2.81
933431	AC2-156 C O1	0.5983	Adder	0.7
933432	AC2-156 E O1	0.9762	Adder	1.15
933931	AD1-016 C	0.5844	Adder	0.69
933932	AD1-016 E	0.9536	Adder	1.12
934101	AD1-039 1	4.3821	Adder	5.16
934111	AD1-039 2	4.6465	Adder	5.47
934721	AD1-100 C	12.0322	Adder	14.16
934722	AD1-100 E	56.1502	Adder	66.06
936371	AD2-047 C O1	2.6221	Adder	3.08
936372	AD2-047 E O1	12.8020	Adder	15.06
936461	AD2-060	1.5424	Adder	1.81
937401	AD2-194 1	5.0067	Adder	5.89
937411	AD2-194 2	4.9990	Adder	5.88
938511	AE1-070 1	5.8828	Adder	6.92
938521	AE1-070 2	5.3739	Adder	6.32
938851	AE1-113 C	5.0815	Adder	5.98
938852	AE1-113 E	18.0164	Adder	21.2
939351	AE1-166 C O1	6.4099	Adder	7.54
939352	AE1-166 E O1	5.9168	Adder	6.96
939631	AE1-193 C	18.9481	50/50	18.9481

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939632	AE1-193 E	126.8068	50/50	126.8068
939641	AE1-194 C	18.9481	50/50	18.9481
939642	AE1-194 E	126.8068	50/50	126.8068
939651	AE1-195 C	18.9481	50/50	18.9481
939652	AE1-195 E	126.8068	50/50	126.8068
939681	AE1-198 C	56.2614	50/50	56.2614
939682	AE1-198 E	47.8076	50/50	47.8076
940752	AE2-062 E	0.1005	50/50	0.1005
941131	AE2-107 C	4.5890	Adder	5.4
941132	AE2-107 E	3.0593	Adder	3.6
941551	AE2-152 C O1	7.3960	Adder	8.7
941552	AE2-152 E O1	4.9307	Adder	5.8
941561	AE2-153 C O1	2.9474	Adder	3.47
941562	AE2-153 E O1	13.7993	Adder	16.23
942421	AE2-255 C O1	1.9248	Adder	2.26
942422	AE2-255 E O1	5.7745	Adder	6.79
942991	AE2-321 C	5.1443	Adder	6.05
942992	AE2-321 E	2.5338	Adder	2.98
943121	AE2-341 C	7.9832	Adder	9.39
943122	AE2-341 E	3.9202	Adder	4.61
943591	AF1-030 C O1	5.3089	Adder	6.25
943592	AF1-030 E O1	2.6267	Adder	3.09
943801	AF1-048 C	2.4048	Adder	2.83
943802	AF1-048 E	1.6032	Adder	1.89
944041	AF1-072	1.3570	Adder	1.6
944911	AF1-156 C	7.5360	Adder	8.87
944912	AF1-156 E	5.0240	Adder	5.91
945351	AF1-200 FTIR	193.9965	Merchant Transmission	193.9965
946661	AF1-330 C	1.2612	Adder	1.48
946662	AF1-330 E	0.2768	Adder	0.33
957331	AF2-027 C	0.8365	Adder	1.86
957332	AF2-027 E	1.2547	Adder	2.79
958011	AF2-095 C O2	5.6005	Adder	12.43
958012	AF2-095 E O2	2.6355	Adder	5.85
958021	AF2-096 C O2	27.7208	50/50	27.7208
958022	AF2-096 E O2	13.1092	50/50	13.1092
959351	AF2-226 C	2.0762	50/50	2.0762
959352	AF2-226 E	3.1143	50/50	3.1143
960281	AF2-319 C	2.0762	50/50	2.0762
960282	AF2-319 E	3.1143	50/50	3.1143
960381	AF2-329	2.1955	Adder	4.87
960581	AF2-349 C	7.2762	Adder	16.15
960582	AF2-349 E	4.8508	Adder	10.77
960591	AF2-350 C O2	2.4524	Adder	5.44
960592	AF2-350 E O2	1.6350	Adder	3.63
960601	AF2-351 C O2	0.3270	Adder	0.73
960602	AF2-351 E O2	0.4905	Adder	1.09
960731	AF2-364 C O2	2.0493	Adder	4.55
960732	AF2-364 E O2	1.3662	Adder	3.03
960751	AF2-366 C O2	2.3166	Adder	5.14
960752	AF2-366 E O2	1.5444	Adder	3.43
WEC	WEC	2.7824	Confirmed LTF	2.7824

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CALDERWOOD	CALDERWOOD	0.0656	Confirmed LTF	0.0656
CBM-W2	CBM-W2	13.0630	Confirmed LTF	13.0630
NY	NY	0.8350	Confirmed LTF	0.8350
CBM-W1	CBM-W1	41.6708	Confirmed LTF	41.6708
TVA	TVA	0.8050	Confirmed LTF	0.8050
O-066	O-066	9.8582	Confirmed LTF	9.8582
CHEOAH	CHEOAH	0.0731	Confirmed LTF	0.0731
CBM-S1	CBM-S1	2.6582	Confirmed LTF	2.6582
G-007	G-007	1.5246	Confirmed LTF	1.5246
MADISON	MADISON	14.3660	Confirmed LTF	14.3660
MEC	MEC	9.4482	Confirmed LTF	9.4482
GIBSON	GIBSON	0.1332	Confirmed LTF	0.1332
BLUEG	BLUEG	1.5294	Confirmed LTF	1.5294
TRIMBLE	TRIMBLE	0.5187	Confirmed LTF	0.5187
CATAWBA	CATAWBA	0.2177	Confirmed LTF	0.2177

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
96182334	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.65	121.78	DC	63.78

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274771	LINCOLN ;2U	3.7664	50/50	3.7664
274772	LINCOLN ;3U	3.7664	50/50	3.7664
274773	LINCOLN ;4U	3.7664	50/50	3.7664
274774	LINCOLN ;5U	3.7664	50/50	3.7664
274775	LINCOLN ;6U	3.7664	50/50	3.7664
274776	LINCOLN ;7U	3.7664	50/50	3.7664
274777	LINCOLN ;8U	3.7664	50/50	3.7664
274830	U3-021 1	6.3035	Adder	7.42
274831	U3-021 2	6.3035	Adder	7.42
274881	PILOT HIL;1E	19.9396	Adder	23.46
274890	CAYUG;1U E	17.0054	Adder	20.01
274891	CAYUG;2U E	17.0054	Adder	20.01
275149	KELLYCK ;1E	19.9396	Adder	23.46
276167	Z1-106 E2	1.3063	Adder	1.54
276168	Z1-106 E1	1.3062	Adder	1.54
276169	Z1-107 E	2.6738	Adder	3.15
276170	Z1-108 E	2.5704	Adder	3.02
290021	O50 E	20.0260	Adder	23.56
290051	GSG-6; E	10.8913	Adder	12.81
290108	LEEDK;1U E	25.1940	Adder	29.64
293061	N-015 E	16.4434	Adder	19.35
293644	O22 E1	10.5913	Adder	12.46
293645	O22 E2	20.5595	Adder	24.19
294392	P-010 E	20.8831	Adder	24.57

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
910542	X3-005 E	0.7562	Adder	0.89
915011	Y3-013 1	3.8635	Adder	4.55
915021	Y3-013 2	3.8635	Adder	4.55
915031	Y3-013 3	3.8635	Adder	4.55
918052	AA1-018 E OP	16.9837	Adder	19.98
920272	AA2-123 E	2.5262	Adder	2.97
924471	AB2-096	43.7741	Adder	51.5
926311	AC1-109 1	1.9765	Adder	2.33
926321	AC1-109 2	1.9765	Adder	2.33
926331	AC1-110 1	1.9634	Adder	2.31
926341	AC1-110 2	1.9634	Adder	2.31
926351	AC1-111 1	0.7894	Adder	0.93
926361	AC1-111 2	0.7894	Adder	0.93
926371	AC1-111 3	0.7894	Adder	0.93
926381	AC1-111 4	0.7894	Adder	0.93
926391	AC1-111 5	0.7894	Adder	0.93
926401	AC1-111 6	0.7894	Adder	0.93
927451	AC1-142A 1	4.3256	Adder	5.09
927461	AC1-142A 2	4.3256	Adder	5.09
930501	AB1-091 O1	79.3394	Adder	93.34
930741	AB1-122 1O1	75.3017	Adder	88.59
930751	AB1-122 2O1	76.2303	Adder	89.68
933411	AC2-154 C	2.7061	Adder	3.18
933412	AC2-154 E	4.4152	Adder	5.19
933431	AC2-156 C O1	0.9893	Adder	1.16
933432	AC2-156 E O1	1.6142	Adder	1.9
933911	AD1-013 C	1.9232	Adder	2.26
933912	AD1-013 E	3.0721	Adder	3.61
933931	AD1-016 C	0.9600	Adder	1.13
933932	AD1-016 E	1.5662	Adder	1.84
934101	AD1-039 1	7.3796	Adder	8.68
934111	AD1-039 2	7.4706	Adder	8.79
934431	AD1-067 C	0.1368	Adder	0.16
934432	AD1-067 E	0.5750	Adder	0.68
934701	AD1-098 C O1	7.1661	Adder	8.43
934702	AD1-098 E O1	5.2320	Adder	6.16
934721	AD1-100 C	24.8523	Adder	29.24
934722	AD1-100 E	115.9774	Adder	136.44
934871	AD1-116 C	0.9891	Adder	1.16
934872	AD1-116 E	1.6138	Adder	1.9
934971	AD1-129 C	0.9344	Adder	1.1
934972	AD1-129 E	0.6230	Adder	0.73
935001	AD1-133 C O1	23.0234	Adder	27.09
935002	AD1-133 E O1	15.3490	Adder	18.06
936291	AD2-038 C O1	2.4301	Adder	2.86
936292	AD2-038 E O1	16.2627	Adder	19.13
936371	AD2-047 C O1	4.8425	Adder	5.7
936372	AD2-047 E O1	23.6427	Adder	27.81
936461	AD2-060	2.8485	Adder	3.35
936511	AD2-066 C O1	8.7640	Adder	10.31
936512	AD2-066 E O1	5.8426	Adder	6.87
937001	AD2-134 C	2.8471	Adder	3.35

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
937002	AD2-134 E	11.7616	Adder	13.84
937401	AD2-194 1	8.0697	Adder	9.49
937411	AD2-194 2	8.0692	Adder	9.49
938511	AE1-070 1	9.4819	Adder	11.16
938521	AE1-070 2	8.6744	Adder	10.21
938851	AE1-113 C	8.2607	Adder	9.72
938852	AE1-113 E	29.2880	Adder	34.46
939321	AE1-163 C O1	6.1063	Adder	7.18
939322	AE1-163 E O1	37.5102	Adder	44.13
939351	AE1-166 C O1	12.2622	Adder	14.43
939352	AE1-166 E O1	11.3189	Adder	13.32
939401	AE1-172 C O1	6.7946	Adder	7.99
939402	AE1-172 E O1	31.8801	Adder	37.51
940101	AE1-252 C O1	13.6499	Adder	16.06
940102	AE1-252 E O1	9.0999	Adder	10.71
940752	AE2-062 E	0.1351	Adder	0.16
941131	AE2-107 C	7.5761	Adder	8.91
941132	AE2-107 E	5.0507	Adder	5.94
941551	AE2-152 C O1	14.1487	Adder	16.65
941552	AE2-152 E O1	9.4325	Adder	11.1
941561	AE2-153 C O1	5.1247	Adder	6.03
941562	AE2-153 E O1	23.9929	Adder	28.23
941731	AE2-173 O1	3.2665	Adder	3.84
942111	AE2-223 C	2.4140	Adder	2.84
942112	AE2-223 E	16.1551	Adder	19.01
942421	AE2-255 C O1	3.1291	Adder	3.68
942422	AE2-255 E O1	9.3872	Adder	11.04
942651	AE2-281 C O1	0.8723	Adder	1.03
942652	AE2-281 E O1	5.3586	Adder	6.3
942991	AE2-321 C	8.4508	Adder	9.94
942992	AE2-321 E	4.1623	Adder	4.9
943121	AE2-341 C	13.2079	Adder	15.54
943122	AE2-341 E	6.4858	Adder	7.63
943381	AF1-009 C	0.6199	Adder	0.73
943382	AF1-009 E	2.4796	Adder	2.92
943591	AF1-030 C O1	8.7834	Adder	10.33
943592	AF1-030 E O1	4.3457	Adder	5.11
943801	AF1-048 C	3.9504	Adder	4.65
943802	AF1-048 E	2.6336	Adder	3.1
944041	AF1-072	2.2259	Adder	2.62
944911	AF1-156 C	13.1029	Adder	15.42
944912	AF1-156 E	8.7353	Adder	10.28
945351	AF1-200 FTIR	322.6289	Merchant Transmission	322.6289
946661	AF1-330 C	2.0715	Adder	2.44
946662	AF1-330 E	0.4547	Adder	0.53
946671	AF1-331	2.4976	Adder	2.94
957021	AF2-003 C O2	3.5767	Adder	7.94
957022	AF2-003 E O2	16.7456	Adder	37.17
957331	AF2-027 C	1.3651	Adder	3.03
957332	AF2-027 E	2.0477	Adder	4.55
958011	AF2-095 C O2	10.1350	Adder	22.5
958012	AF2-095 E O2	4.7694	Adder	10.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958021	AF2-096 C O2	19.5077	Adder	43.3
958022	AF2-096 E O2	9.2252	Adder	20.48
958481	AF2-142 C	6.2078	Adder	13.78
958482	AF2-142 E	4.1386	Adder	9.19
958491	AF2-143 C	5.9443	Adder	13.19
958492	AF2-143 E	3.9629	Adder	8.8
959341	AF2-225 C	4.1335	Adder	9.18
959342	AF2-225 E	5.7081	Adder	12.67
959351	AF2-226 C	1.3758	Adder	3.05
959352	AF2-226 E	2.0637	Adder	4.58
960281	AF2-319 C	1.3758	Adder	3.05
960282	AF2-319 E	2.0637	Adder	4.58
960381	AF2-329	3.6323	Adder	8.06
960581	AF2-349 C	11.9583	Adder	26.54
960582	AF2-349 E	7.9722	Adder	17.7
960591	AF2-350 C O2	4.5291	Adder	10.05
960592	AF2-350 E O2	3.0194	Adder	6.7
960601	AF2-351 C O2	0.6039	Adder	1.34
960602	AF2-351 E O2	0.9058	Adder	2.01
960721	AF2-363 C O2	3.2432	Adder	7.2
960722	AF2-363 E O2	2.1621	Adder	4.8
960731	AF2-364 C O2	3.3639	Adder	7.47
960732	AF2-364 E O2	2.2426	Adder	4.98
960751	AF2-366 C O2	3.8234	Adder	8.49
960752	AF2-366 E O2	2.5489	Adder	5.66
961501	AF2-441 C O2	5.5606	Adder	12.34
961502	AF2-441 E O2	8.3409	Adder	18.51
WEC	WEC	4.5603	Confirmed LTF	4.5603
CALDERWOOD	CALDERWOOD	0.0631	Confirmed LTF	0.0631
CBM-W2	CBM-W2	25.0942	Confirmed LTF	25.0942
NY	NY	1.4306	Confirmed LTF	1.4306
CBM-W1	CBM-W1	78.1875	Confirmed LTF	78.1875
TVA	TVA	1.6184	Confirmed LTF	1.6184
O-066	O-066	16.9546	Confirmed LTF	16.9546
CHEOAH	CHEOAH	0.0771	Confirmed LTF	0.0771
CBM-S1	CBM-S1	6.0407	Confirmed LTF	6.0407
G-007	G-007	2.6218	Confirmed LTF	2.6218
MADISON	MADISON	24.3210	Confirmed LTF	24.3210
MEC	MEC	16.0171	Confirmed LTF	16.0171
BLUEG	BLUEG	2.3071	Confirmed LTF	2.3071
TRIMBLE	TRIMBLE	0.7969	Confirmed LTF	0.7969
CATAWBA	CATAWBA	0.3619	Confirmed LTF	0.3619

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
96182322	270927	WILTON ; R	CE	275233	WILTON ;4M	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.2	124.33	DC	65.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274771	LINCOLN ;2U	3.8683	50/50	3.8683
274772	LINCOLN ;3U	3.8683	50/50	3.8683
274773	LINCOLN ;4U	3.8683	50/50	3.8683
274774	LINCOLN ;5U	3.8683	50/50	3.8683
274775	LINCOLN ;6U	3.8683	50/50	3.8683
274776	LINCOLN ;7U	3.8683	50/50	3.8683
274777	LINCOLN ;8U	3.8683	50/50	3.8683
274830	U3-021 1	6.4380	Adder	7.57
274831	U3-021 2	6.4380	Adder	7.57
274881	PILOT HIL;1E	20.3561	Adder	23.95
274890	CAYUG;1U E	17.3451	Adder	20.41
274891	CAYUG;2U E	17.3451	Adder	20.41
275149	KELLYCK ;1E	20.3561	Adder	23.95
276167	Z1-106 E2	1.3342	Adder	1.57
276168	Z1-106 E1	1.3341	Adder	1.57
276169	Z1-107 E	2.7309	Adder	3.21
276170	Z1-108 E	2.6251	Adder	3.09
290021	O50 E	20.4530	Adder	24.06
290051	GSG-6; E	11.1236	Adder	13.09
290108	LEEDK;1U E	25.7295	Adder	30.27
293061	N-015 E	16.7861	Adder	19.75
293644	O22 E1	10.8153	Adder	12.72
293645	O22 E2	20.9944	Adder	24.7
294392	P-010 E	21.3184	Adder	25.08
910542	X3-005 E	0.7727	Adder	0.91
915011	Y3-013 1	3.9461	Adder	4.64
915021	Y3-013 2	3.9461	Adder	4.64
915031	Y3-013 3	3.9461	Adder	4.64
918052	AA1-018 E OP	17.3542	Adder	20.42
920272	AA2-123 E	2.5799	Adder	3.04
924471	AB2-096	44.7083	Adder	52.6
926311	AC1-109 1	2.0186	Adder	2.37
926321	AC1-109 2	2.0186	Adder	2.37
926331	AC1-110 1	2.0052	Adder	2.36
926341	AC1-110 2	2.0052	Adder	2.36
926351	AC1-111 1	0.8063	Adder	0.95
926361	AC1-111 2	0.8063	Adder	0.95
926371	AC1-111 3	0.8063	Adder	0.95
926381	AC1-111 4	0.8063	Adder	0.95
926391	AC1-111 5	0.8063	Adder	0.95
926401	AC1-111 6	0.8063	Adder	0.95
927451	AC1-142A 1	4.4186	Adder	5.2
927461	AC1-142A 2	4.4186	Adder	5.2
930501	AB1-091 O1	80.9897	Adder	95.28
930741	AB1-122 1O1	76.8999	Adder	90.47
930751	AB1-122 2O1	77.8579	Adder	91.6
933411	AC2-154 C	2.7626	Adder	3.25
933412	AC2-154 E	4.5074	Adder	5.3
933431	AC2-156 C O1	1.0103	Adder	1.19
933432	AC2-156 E O1	1.6485	Adder	1.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933911	AD1-013 C	1.9642	Adder	2.31
933912	AD1-013 E	3.1375	Adder	3.69
933931	AD1-016 C	0.9804	Adder	1.15
933932	AD1-016 E	1.5996	Adder	1.88
934101	AD1-039 1	7.5362	Adder	8.87
934111	AD1-039 2	7.6301	Adder	8.98
934431	AD1-067 C	0.1397	Adder	0.16
934432	AD1-067 E	0.5873	Adder	0.69
934701	AD1-098 C O1	7.3184	Adder	8.61
934702	AD1-098 E O1	5.3432	Adder	6.29
934721	AD1-100 C	25.3457	Adder	29.82
934722	AD1-100 E	118.2800	Adder	139.15
934871	AD1-116 C	1.0107	Adder	1.19
934872	AD1-116 E	1.6490	Adder	1.94
934971	AD1-129 C	0.9544	Adder	1.12
934972	AD1-129 E	0.6363	Adder	0.75
935001	AD1-133 C O1	23.5023	Adder	27.65
935002	AD1-133 E O1	15.6682	Adder	18.43
936291	AD2-038 C O1	2.4826	Adder	2.92
936292	AD2-038 E O1	16.6143	Adder	19.55
936371	AD2-047 C O1	4.9436	Adder	5.82
936372	AD2-047 E O1	24.1366	Adder	28.4
936461	AD2-060	2.9080	Adder	3.42
936511	AD2-066 C O1	8.9497	Adder	10.53
936512	AD2-066 E O1	5.9665	Adder	7.02
937001	AD2-134 C	2.9079	Adder	3.42
937002	AD2-134 E	12.0124	Adder	14.13
937401	AD2-194 1	8.2426	Adder	9.7
937411	AD2-194 2	8.2421	Adder	9.7
938511	AE1-070 1	9.6851	Adder	11.39
938521	AE1-070 2	8.8603	Adder	10.42
938851	AE1-113 C	8.4369	Adder	9.93
938852	AE1-113 E	29.9126	Adder	35.19
939321	AE1-163 C O1	6.2383	Adder	7.34
939322	AE1-163 E O1	38.3212	Adder	45.08
939351	AE1-166 C O1	12.5095	Adder	14.72
939352	AE1-166 E O1	11.5472	Adder	13.58
939401	AE1-172 C O1	6.9294	Adder	8.15
939402	AE1-172 E O1	32.5126	Adder	38.25
940101	AE1-252 C O1	13.9207	Adder	16.38
940102	AE1-252 E O1	9.2805	Adder	10.92
940752	AE2-062 E	0.1379	Adder	0.16
941131	AE2-107 C	7.7372	Adder	9.1
941132	AE2-107 E	5.1581	Adder	6.07
941551	AE2-152 C O1	14.4340	Adder	16.98
941552	AE2-152 E O1	9.6227	Adder	11.32
941561	AE2-153 C O1	5.2303	Adder	6.15
941562	AE2-153 E O1	24.4874	Adder	28.81
941731	AE2-173 O1	3.3326	Adder	3.92
942111	AE2-223 C	2.4629	Adder	2.9
942112	AE2-223 E	16.4823	Adder	19.39
942421	AE2-255 C O1	3.1958	Adder	3.76

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
942422	AE2-255 E O1	9.5874	Adder	11.28
942651	AE2-281 C O1	0.8912	Adder	1.05
942652	AE2-281 E O1	5.4745	Adder	6.44
942991	AE2-321 C	8.6313	Adder	10.15
942992	AE2-321 E	4.2513	Adder	5.0
943121	AE2-341 C	13.4892	Adder	15.87
943122	AE2-341 E	6.6239	Adder	7.79
943381	AF1-009 C	0.6331	Adder	0.74
943382	AF1-009 E	2.5323	Adder	2.98
943591	AF1-030 C O1	8.9705	Adder	10.55
943592	AF1-030 E O1	4.4383	Adder	5.22
943801	AF1-048 C	4.0348	Adder	4.75
943802	AF1-048 E	2.6899	Adder	3.16
944041	AF1-072	2.2734	Adder	2.67
944911	AF1-156 C	13.3730	Adder	15.73
944912	AF1-156 E	8.9153	Adder	10.49
945351	AF1-200 FTIR	329.4462	Merchant Transmission	329.4462
946661	AF1-330 C	2.1155	Adder	2.49
946662	AF1-330 E	0.4644	Adder	0.55
946671	AF1-331	2.5508	Adder	3.0
957021	AF2-003 C O2	3.6517	Adder	8.11
957022	AF2-003 E O2	17.0965	Adder	37.95
957331	AF2-027 C	1.3943	Adder	3.1
957332	AF2-027 E	2.0914	Adder	4.64
958011	AF2-095 C O2	10.3469	Adder	22.97
958012	AF2-095 E O2	4.8691	Adder	10.81
958021	AF2-096 C O2	19.9092	Adder	44.19
958022	AF2-096 E O2	9.4150	Adder	20.9
958481	AF2-142 C	6.3433	Adder	14.08
958482	AF2-142 E	4.2288	Adder	9.39
958491	AF2-143 C	6.0728	Adder	13.48
958492	AF2-143 E	4.0486	Adder	8.99
959341	AF2-225 C	4.2172	Adder	9.36
959342	AF2-225 E	5.8238	Adder	12.93
959351	AF2-226 C	1.4049	Adder	3.12
959352	AF2-226 E	2.1074	Adder	4.68
960281	AF2-319 C	1.4049	Adder	3.12
960282	AF2-319 E	2.1074	Adder	4.68
960381	AF2-329	3.7097	Adder	8.23
960581	AF2-349 C	12.2138	Adder	27.11
960582	AF2-349 E	8.1425	Adder	18.07
960591	AF2-350 C O2	4.6238	Adder	10.26
960592	AF2-350 E O2	3.0825	Adder	6.84
960601	AF2-351 C O2	0.6165	Adder	1.37
960602	AF2-351 E O2	0.9248	Adder	2.05
960721	AF2-363 C O2	3.3122	Adder	7.35
960722	AF2-363 E O2	2.2082	Adder	4.9
960731	AF2-364 C O2	3.4357	Adder	7.63
960732	AF2-364 E O2	2.2905	Adder	5.08
960751	AF2-366 C O2	3.9047	Adder	8.67
960752	AF2-366 E O2	2.6031	Adder	5.78
961501	AF2-441 C O2	5.6774	Adder	12.6

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
961502	AF2-441 E O2	8.5161	Adder	18.9
WEC	WEC	4.6573	Confirmed LTF	4.6573
CALDERWOOD	CALDERWOOD	0.0656	Confirmed LTF	0.0656
CBM-W2	CBM-W2	25.6101	Confirmed LTF	25.6101
NY	NY	1.4616	Confirmed LTF	1.4616
CBM-W1	CBM-W1	79.8388	Confirmed LTF	79.8388
TVA	TVA	1.6492	Confirmed LTF	1.6492
O-066	O-066	17.3242	Confirmed LTF	17.3242
CHEOAH	CHEOAH	0.0801	Confirmed LTF	0.0801
CBM-S1	CBM-S1	6.1514	Confirmed LTF	6.1514
G-007	G-007	2.6780	Confirmed LTF	2.6780
MADISON	MADISON	24.8371	Confirmed LTF	24.8371
MEC	MEC	16.3540	Confirmed LTF	16.3540
BLUEG	BLUEG	2.3592	Confirmed LTF	2.3592
TRIMBLE	TRIMBLE	0.8147	Confirmed LTF	0.8147
CATAWBA	CATAWBA	0.3703	Confirmed LTF	0.3703

13.5.13 Index 13

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPACT
96182213	274750	CRETE EC ;BP	CE	255112	17STJOHN	NIPS	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1399.0	154.72	155.04	DC	58.89

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	29.6152	50/50	29.6152
274655	BRAIDWOOD;2U	28.8116	50/50	28.8116
274687	WILL CNTY;4U	12.4964	50/50	12.4964
274704	KENDALL ;1C	4.3923	50/50	4.3923
274706	KENDALL ;2C	4.3923	50/50	4.3923
274751	CRETE EC ;1U	6.4615	50/50	6.4615
274752	CRETE EC ;2U	6.4615	50/50	6.4615
274753	CRETE EC ;3U	6.4615	50/50	6.4615
274754	CRETE EC ;4U	6.4615	50/50	6.4615
274830	U3-021 1	5.3434	Adder	6.29
274831	U3-021 2	5.3434	Adder	6.29
274861	TOP CROP ;1U	0.5252	50/50	0.5252
274862	TOP CROP ;2U	1.0194	50/50	1.0194
276167	Z1-106 E2	1.1061	Adder	1.3
276168	Z1-106 E1	1.1061	Adder	1.3
276169	Z1-107 E	2.1255	Adder	2.5
276170	Z1-108 E	2.1850	Adder	2.57
290021	O50 E	17.2611	Adder	20.31
290051	GSG-6; E	9.1765	Adder	10.8
290108	LEEDK;1U E	21.2347	Adder	24.98
293061	N-015 E	13.7231	Adder	16.14
293644	O22 E1	12.1780	50/50	12.1780

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
293645	O22 E2	23.6396	50/50	23.6396
294392	P-010 E	17.4283	Adder	20.5
915011	Y3-013 1	3.3010	Adder	3.88
915021	Y3-013 2	3.3010	Adder	3.88
915031	Y3-013 3	3.3010	Adder	3.88
920272	AA2-123 E	2.1430	Adder	2.52
924471	AB2-096	37.1072	Adder	43.66
926311	AC1-109 1	1.6678	Adder	1.96
926321	AC1-109 2	1.6678	Adder	1.96
926331	AC1-110 1	1.6637	Adder	1.96
926341	AC1-110 2	1.6637	Adder	1.96
926351	AC1-111 1	0.6659	Adder	0.78
926361	AC1-111 2	0.6659	Adder	0.78
926371	AC1-111 3	0.6659	Adder	0.78
926381	AC1-111 4	0.6659	Adder	0.78
926391	AC1-111 5	0.6659	Adder	0.78
926401	AC1-111 6	0.6659	Adder	0.78
927451	AC1-142A 1	3.7794	Adder	4.45
927461	AC1-142A 2	3.7819	Adder	4.45
930481	AB1-089	34.3687	Adder	40.43
930741	AB1-122 1O1	62.1543	Adder	73.12
930751	AB1-122 2O1	66.4358	Adder	78.16
933431	AC2-156 C O1	0.8315	Adder	0.98
933432	AC2-156 E O1	1.3567	Adder	1.6
933911	AD1-013 C	1.6208	Adder	1.91
933912	AD1-013 E	2.5891	Adder	3.05
933931	AD1-016 C	0.8143	Adder	0.96
933932	AD1-016 E	1.3287	Adder	1.56
934101	AD1-039 1	6.0911	Adder	7.17
934111	AD1-039 2	6.5107	Adder	7.66
934431	AD1-067 C	0.1152	Adder	0.14
934432	AD1-067 E	0.4845	Adder	0.57
934721	AD1-100 C	16.6069	Adder	19.54
934722	AD1-100 E	77.4988	Adder	91.18
934971	AD1-129 C	0.7916	Adder	0.93
934972	AD1-129 E	0.5278	Adder	0.62
937001	AD2-134 C	2.3989	Adder	2.82
937002	AD2-134 E	9.9097	Adder	11.66
937401	AD2-194 1	7.0176	Adder	8.26
937411	AD2-194 2	7.0054	Adder	8.24
938511	AE1-070 1	8.2457	Adder	9.7
938521	AE1-070 2	7.5308	Adder	8.86
938851	AE1-113 C	7.1202	Adder	8.38
938852	AE1-113 E	25.2444	Adder	29.7
939351	AE1-166 C O1	8.8862	Adder	10.45
939352	AE1-166 E O1	8.2026	Adder	9.65
939631	AE1-193 C	32.3784	50/50	32.3784
939632	AE1-193 E	216.6865	50/50	216.6865
939641	AE1-194 C	32.3784	50/50	32.3784
939642	AE1-194 E	216.6865	50/50	216.6865
939651	AE1-195 C	32.3784	50/50	32.3784
939652	AE1-195 E	216.6865	50/50	216.6865

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
939681	AE1-198 C	96.1391	50/50	96.1391
939682	AE1-198 E	81.6933	50/50	81.6933
940752	AE2-062 E	0.1405	50/50	0.1405
941131	AE2-107 C	6.3862	Adder	7.51
941132	AE2-107 E	4.2575	Adder	5.01
941551	AE2-152 C O1	10.2533	Adder	12.06
941552	AE2-152 E O1	6.8355	Adder	8.04
941561	AE2-153 C O1	4.0772	Adder	4.8
941562	AE2-153 E O1	19.0887	Adder	22.46
942421	AE2-255 C O1	2.6970	Adder	3.17
942422	AE2-255 E O1	8.0911	Adder	9.52
942991	AE2-321 C	7.1683	Adder	8.43
942992	AE2-321 E	3.5307	Adder	4.15
943121	AE2-341 C	11.0906	Adder	13.05
943122	AE2-341 E	5.4461	Adder	6.41
943591	AF1-030 C O1	7.3754	Adder	8.68
943592	AF1-030 E O1	3.6491	Adder	4.29
943801	AF1-048 C	3.3509	Adder	3.94
943802	AF1-048 E	2.2339	Adder	2.63
944041	AF1-072	1.8905	Adder	2.22
944911	AF1-156 C	10.4247	Adder	12.26
944912	AF1-156 E	6.9498	Adder	8.18
945351	AF1-200 FTIR	269.5357	Merchant Transmission	269.5357
946661	AF1-330 C	1.7573	Adder	2.07
946662	AF1-330 E	0.3857	Adder	0.45
946671	AF1-331	2.1049	Adder	2.48
957021	AF2-003 C O2	2.9658	Adder	6.58
957022	AF2-003 E O2	13.8853	Adder	30.82
957331	AF2-027 C	1.1663	Adder	2.59
957332	AF2-027 E	1.7495	Adder	3.88
958021	AF2-096 C O2	39.9824	50/50	39.9824
958022	AF2-096 E O2	18.9076	50/50	18.9076
959351	AF2-226 C	2.9848	50/50	2.9848
959352	AF2-226 E	4.4772	50/50	4.4772
960281	AF2-319 C	2.9848	50/50	2.9848
960282	AF2-319 E	4.4772	50/50	4.4772
960381	AF2-329	3.0500	Adder	6.77
960581	AF2-349 C	10.1403	Adder	22.51
960582	AF2-349 E	6.7602	Adder	15.01
960721	AF2-363 C O2	2.7384	Adder	6.08
960722	AF2-363 E O2	1.8256	Adder	4.05
960731	AF2-364 C O2	2.8544	Adder	6.34
960732	AF2-364 E O2	1.9029	Adder	4.22
960751	AF2-366 C O2	3.2239	Adder	7.16
960752	AF2-366 E O2	2.1493	Adder	4.77
WEC	WEC	3.8792	Confirmed LTF	3.8792
CALDERWOOD	CALDERWOOD	0.0914	Confirmed LTF	0.0914
CBM-W2	CBM-W2	18.2228	Confirmed LTF	18.2228
NY	NY	1.1862	Confirmed LTF	1.1862
CBM-W1	CBM-W1	52.9799	Confirmed LTF	52.9799
TVA	TVA	1.1256	Confirmed LTF	1.1256
O-066	O-066	14.0045	Confirmed LTF	14.0045

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CHEOAH	CHEOAH	0.1026	Confirmed LTF	0.1026
CBM-S1	CBM-S1	3.7914	Confirmed LTF	3.7914
G-007	G-007	2.1653	Confirmed LTF	2.1653
MADISON	MADISON	20.0572	Confirmed LTF	20.0572
MEC	MEC	13.1776	Confirmed LTF	13.1776
GIBSON	GIBSON	0.1807	Confirmed LTF	0.1807
BLUEG	BLUEG	2.0398	Confirmed LTF	2.0398
TRIMBLE	TRIMBLE	0.6906	Confirmed LTF	0.6906
CATAWBA	CATAWBA	0.3066	Confirmed LTF	0.3066

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
144030900	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	COMED_P4_112-65-BT3-4__	breaker	971.0	106.08	106.23	DC	41.33

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274806	UNIV PK N;2U	1.8438	50/50	1.8438
274808	UNIV PK N;4U	1.8438	50/50	1.8438
274809	UNIV PK N;5U	1.8438	50/50	1.8438
274811	UNIV PK N;7U	1.8438	50/50	1.8438
274812	UNIV PK N;8U	1.8438	50/50	1.8438
274814	UNIV PK N;0U	1.8438	50/50	1.8438
274815	UNIV PK N;XU	1.8438	50/50	1.8438
274830	U3-021 1	4.2437	Adder	4.99
274831	U3-021 2	4.2437	Adder	4.99
274881	PILOT HIL;1E	12.8008	Adder	15.06
275149	KELLYCK ;1E	12.8008	Adder	15.06
276167	Z1-106 E2	0.8815	Adder	1.04
276168	Z1-106 E1	0.8815	Adder	1.04
276169	Z1-107 E	1.8726	Adder	2.2
276170	Z1-108 E	1.7357	Adder	2.04
290021	O50 E	13.4014	Adder	15.77
290051	GSG-6; E	7.3075	Adder	8.6
290108	LEEDK;1U E	16.9235	Adder	19.91
293061	N-015 E	10.8589	Adder	12.78
293644	O22 E1	6.7411	Adder	7.93
293645	O22 E2	13.0857	Adder	15.39
294392	P-010 E	13.7908	Adder	16.22
915011	Y3-013 1	2.6176	Adder	3.08
915021	Y3-013 2	2.6176	Adder	3.08
915031	Y3-013 3	2.6176	Adder	3.08
918052	AA1-018 E OP	12.3182	Adder	14.49
920272	AA2-123 E	1.7022	Adder	2.0
924471	AB2-096	29.4703	Adder	34.67
926311	AC1-109 1	1.3324	Adder	1.57

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
926321	AC1-109 2	1.3324	Adder	1.57
926331	AC1-110 1	1.3249	Adder	1.56
926341	AC1-110 2	1.3249	Adder	1.56
926351	AC1-111 1	0.5330	Adder	0.63
926361	AC1-111 2	0.5330	Adder	0.63
926371	AC1-111 3	0.5330	Adder	0.63
926381	AC1-111 4	0.5330	Adder	0.63
926391	AC1-111 5	0.5330	Adder	0.63
926401	AC1-111 6	0.5330	Adder	0.63
926431	AC1-114	1.6527	Adder	1.94
927451	AC1-142A 1	2.9727	Adder	3.5
927461	AC1-142A 2	2.9713	Adder	3.5
927511	AC1-113 1	0.8264	Adder	0.97
927521	AC1-113 2	0.8264	Adder	0.97
930481	AB1-089	45.6841	Adder	53.75
930501	AB1-091 O1	49.2044	Adder	57.89
930741	AB1-122 1O1	49.9503	Adder	58.77
930751	AB1-122 2O1	51.4018	Adder	60.47
932881	AC2-115 1	1.6527	Adder	1.94
932891	AC2-115 2	1.6527	Adder	1.94
932921	AC2-116	0.5785	Adder	0.68
932931	AC2-117	8.9559	Adder	10.54
933411	AC2-154 C	1.7374	Adder	2.04
933412	AC2-154 E	2.8347	Adder	3.33
933431	AC2-156 C O1	0.6658	Adder	0.78
933432	AC2-156 E O1	1.0864	Adder	1.28
933911	AD1-013 C	1.2909	Adder	1.52
933912	AD1-013 E	2.0621	Adder	2.43
933931	AD1-016 C	0.6468	Adder	0.76
933932	AD1-016 E	1.0554	Adder	1.24
934101	AD1-039 1	4.8951	Adder	5.76
934111	AD1-039 2	5.0374	Adder	5.93
934431	AD1-067 C	0.0918	Adder	0.11
934432	AD1-067 E	0.3858	Adder	0.45
934651	AD1-096 C	0.6185	Adder	0.73
934652	AD1-096 E	1.0091	Adder	1.19
934701	AD1-098 C O1	4.8064	Adder	5.65
934702	AD1-098 E O1	3.5092	Adder	4.13
934721	AD1-100 C	13.3811	Adder	15.74
934722	AD1-100 E	62.4453	Adder	73.47
934871	AD1-116 C	0.7174	Adder	0.84
934872	AD1-116 E	1.1705	Adder	1.38
934971	AD1-129 C	0.6287	Adder	0.74
934972	AD1-129 E	0.4191	Adder	0.49
936291	AD2-038 C O1	1.6923	Adder	1.99
936292	AD2-038 E O1	11.3254	Adder	13.32
936371	AD2-047 C O1	3.1091	Adder	3.66
936372	AD2-047 E O1	15.1795	Adder	17.86
936461	AD2-060	1.8289	Adder	2.15
936511	AD2-066 C O1	5.8799	Adder	6.92
936512	AD2-066 E O1	3.9199	Adder	4.61
936791	AD2-102 C	9.8165	Adder	11.55

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936792	AD2-102 E	6.5443	Adder	7.7
937001	AD2-134 C	1.9103	Adder	2.25
937002	AD2-134 E	7.8914	Adder	9.28
937401	AD2-194 1	5.4743	Adder	6.44
937411	AD2-194 2	5.4784	Adder	6.45
938511	AE1-070 1	6.4323	Adder	7.57
938521	AE1-070 2	5.8893	Adder	6.93
938851	AE1-113 C	5.5281	Adder	6.5
938852	AE1-113 E	19.5996	Adder	23.06
939321	AE1-163 C O1	4.2525	Adder	5.0
939322	AE1-163 E O1	26.1223	Adder	30.73
939351	AE1-166 C O1	7.1186	Adder	8.37
939352	AE1-166 E O1	6.5710	Adder	7.73
940752	AE2-062 E	0.0901	Adder	0.11
941131	AE2-107 C	5.0908	Adder	5.99
941132	AE2-107 E	3.3939	Adder	3.99
941551	AE2-152 C O1	8.2138	Adder	9.66
941552	AE2-152 E O1	5.4759	Adder	6.44
941561	AE2-153 C O1	3.2939	Adder	3.88
941562	AE2-153 E O1	15.4214	Adder	18.14
942421	AE2-255 C O1	2.0940	Adder	2.46
942422	AE2-255 E O1	6.2819	Adder	7.39
942651	AE2-281 C O1	0.6075	Adder	0.71
942652	AE2-281 E O1	3.7318	Adder	4.39
942991	AE2-321 C	5.6939	Adder	6.7
942992	AE2-321 E	2.8044	Adder	3.3
943121	AE2-341 C	8.8930	Adder	10.46
943122	AE2-341 E	4.3670	Adder	5.14
943381	AF1-009 C	0.4158	Adder	0.49
943382	AF1-009 E	1.6631	Adder	1.96
943591	AF1-030 C O1	5.9140	Adder	6.96
943592	AF1-030 E O1	2.9260	Adder	3.44
943801	AF1-048 C	2.6617	Adder	3.13
943802	AF1-048 E	1.7744	Adder	2.09
944041	AF1-072	1.5025	Adder	1.77
944911	AF1-156 C	8.4219	Adder	9.91
944912	AF1-156 E	5.6146	Adder	6.61
945351	AF1-200 FTIR	215.3640	Merchant Transmission	215.3640
946501	AF1-314 C	0.6209	Adder	0.73
946502	AF1-314 E	2.9068	Adder	3.42
946661	AF1-330 C	1.3958	Adder	1.64
946662	AF1-330 E	0.3064	Adder	0.36
946671	AF1-331	1.6765	Adder	1.97
957021	AF2-003 C O2	2.3515	Adder	5.22
957022	AF2-003 E O2	11.0093	Adder	24.44
957331	AF2-027 C	0.9249	Adder	2.05
957332	AF2-027 E	1.3873	Adder	3.08
957471	AF2-041 C	7.8455	Adder	17.42
957472	AF2-041 E	5.2303	Adder	11.61
958011	AF2-095 C O2	6.5832	Adder	14.61
958012	AF2-095 E O2	3.0980	Adder	6.88
958021	AF2-096 C O2	12.6419	Adder	28.06

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958022	AF2-096 E O2	5.9784	Adder	13.27
958481	AF2-142 C	4.5025	Adder	9.99
958482	AF2-142 E	3.0017	Adder	6.66
958491	AF2-143 C	4.1396	Adder	9.19
958492	AF2-143 E	2.7598	Adder	6.13
959081	AF2-199 C O2	2.6152	Adder	5.81
959082	AF2-199 E O2	1.7434	Adder	3.87
959091	AF2-200 C O2	5.2303	Adder	11.61
959092	AF2-200 E O2	3.4869	Adder	7.74
959101	AF2-201 C O2	2.2144	Adder	4.92
959102	AF2-201 E O2	6.3588	Adder	14.11
959351	AF2-226 C	0.8757	Adder	1.94
959352	AF2-226 E	1.3135	Adder	2.92
960281	AF2-319 C	0.8757	Adder	1.94
960282	AF2-319 E	1.3135	Adder	2.92
960381	AF2-329	2.4457	Adder	5.43
960581	AF2-349 C	8.0530	Adder	17.88
960582	AF2-349 E	5.3687	Adder	11.92
960591	AF2-350 C O2	2.9076	Adder	6.45
960592	AF2-350 E O2	1.9384	Adder	4.3
960601	AF2-351 C O2	0.3877	Adder	0.86
960602	AF2-351 E O2	0.5815	Adder	1.29
960721	AF2-363 C O2	2.1796	Adder	4.84
960722	AF2-363 E O2	1.4530	Adder	3.23
960731	AF2-364 C O2	2.2698	Adder	5.04
960732	AF2-364 E O2	1.5132	Adder	3.36
960751	AF2-366 C O2	2.5700	Adder	5.7
960752	AF2-366 E O2	1.7133	Adder	3.8
WEC	WEC	3.0757	Confirmed LTF	3.0757
CALDERWOOD	CALDERWOOD	0.0691	Confirmed LTF	0.0691
CBM-W2	CBM-W2	14.5536	Confirmed LTF	14.5536
NY	NY	0.9241	Confirmed LTF	0.9241
CBM-W1	CBM-W1	47.1877	Confirmed LTF	47.1877
TVA	TVA	0.9016	Confirmed LTF	0.9016
O-066	O-066	10.9133	Confirmed LTF	10.9133
CHEOAH	CHEOAH	0.0776	Confirmed LTF	0.0776
CBM-S1	CBM-S1	3.0246	Confirmed LTF	3.0246
G-007	G-007	1.6869	Confirmed LTF	1.6869
MADISON	MADISON	15.8659	Confirmed LTF	15.8659
MEC	MEC	10.4429	Confirmed LTF	10.4429
GIBSON	GIBSON	0.1338	Confirmed LTF	0.1338
BLUEG	BLUEG	1.6666	Confirmed LTF	1.6666
TRIMBLE	TRIMBLE	0.5654	Confirmed LTF	0.5654
CATAWBA	CATAWBA	0.2394	Confirmed LTF	0.2394

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
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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
96182333	275232	WILTON ;3M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.65	121.78	DC	63.78

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274771	LINCOLN ;2U	3.7664	50/50	3.7664
274772	LINCOLN ;3U	3.7664	50/50	3.7664
274773	LINCOLN ;4U	3.7664	50/50	3.7664
274774	LINCOLN ;5U	3.7664	50/50	3.7664
274775	LINCOLN ;6U	3.7664	50/50	3.7664
274776	LINCOLN ;7U	3.7664	50/50	3.7664
274777	LINCOLN ;8U	3.7664	50/50	3.7664
274830	U3-021 1	6.3035	Adder	7.42
274831	U3-021 2	6.3035	Adder	7.42
274881	PILOT HIL;1E	19.9396	Adder	23.46
274890	CAYUG;1U E	17.0054	Adder	20.01
274891	CAYUG;2U E	17.0054	Adder	20.01
275149	KELLYCK ;1E	19.9396	Adder	23.46
276167	Z1-106 E2	1.3063	Adder	1.54
276168	Z1-106 E1	1.3062	Adder	1.54
276169	Z1-107 E	2.6738	Adder	3.15
276170	Z1-108 E	2.5704	Adder	3.02
290021	O50 E	20.0260	Adder	23.56
290051	GSG-6; E	10.8913	Adder	12.81
290108	LEEDK;1U E	25.1940	Adder	29.64
293061	N-015 E	16.4434	Adder	19.35
293644	O22 E1	10.5913	Adder	12.46
293645	O22 E2	20.5595	Adder	24.19
294392	P-010 E	20.8831	Adder	24.57
910542	X3-005 E	0.7562	Adder	0.89
915011	Y3-013 1	3.8635	Adder	4.55
915021	Y3-013 2	3.8635	Adder	4.55
915031	Y3-013 3	3.8635	Adder	4.55
918052	AA1-018 E OP	16.9837	Adder	19.98
920272	AA2-123 E	2.5262	Adder	2.97
924471	AB2-096	43.7741	Adder	51.5
926311	AC1-109 1	1.9765	Adder	2.33
926321	AC1-109 2	1.9765	Adder	2.33
926331	AC1-110 1	1.9634	Adder	2.31
926341	AC1-110 2	1.9634	Adder	2.31
926351	AC1-111 1	0.7894	Adder	0.93
926361	AC1-111 2	0.7894	Adder	0.93
926371	AC1-111 3	0.7894	Adder	0.93
926381	AC1-111 4	0.7894	Adder	0.93
926391	AC1-111 5	0.7894	Adder	0.93
926401	AC1-111 6	0.7894	Adder	0.93
927451	AC1-142A 1	4.3256	Adder	5.09
927461	AC1-142A 2	4.3256	Adder	5.09
930501	AB1-091 O1	79.3394	Adder	93.34
930741	AB1-122 1O1	75.3017	Adder	88.59
930751	AB1-122 2O1	76.2303	Adder	89.68

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933411	AC2-154 C	2.7061	Adder	3.18
933412	AC2-154 E	4.4152	Adder	5.19
933431	AC2-156 C O1	0.9893	Adder	1.16
933432	AC2-156 E O1	1.6142	Adder	1.9
933911	AD1-013 C	1.9232	Adder	2.26
933912	AD1-013 E	3.0721	Adder	3.61
933931	AD1-016 C	0.9600	Adder	1.13
933932	AD1-016 E	1.5662	Adder	1.84
934101	AD1-039 1	7.3796	Adder	8.68
934111	AD1-039 2	7.4706	Adder	8.79
934431	AD1-067 C	0.1368	Adder	0.16
934432	AD1-067 E	0.5750	Adder	0.68
934701	AD1-098 C O1	7.1661	Adder	8.43
934702	AD1-098 E O1	5.2320	Adder	6.16
934721	AD1-100 C	24.8523	Adder	29.24
934722	AD1-100 E	115.9774	Adder	136.44
934871	AD1-116 C	0.9891	Adder	1.16
934872	AD1-116 E	1.6138	Adder	1.9
934971	AD1-129 C	0.9344	Adder	1.1
934972	AD1-129 E	0.6230	Adder	0.73
935001	AD1-133 C O1	23.0234	Adder	27.09
935002	AD1-133 E O1	15.3490	Adder	18.06
936291	AD2-038 C O1	2.4301	Adder	2.86
936292	AD2-038 E O1	16.2627	Adder	19.13
936371	AD2-047 C O1	4.8425	Adder	5.7
936372	AD2-047 E O1	23.6427	Adder	27.81
936461	AD2-060	2.8485	Adder	3.35
936511	AD2-066 C O1	8.7640	Adder	10.31
936512	AD2-066 E O1	5.8426	Adder	6.87
937001	AD2-134 C	2.8471	Adder	3.35
937002	AD2-134 E	11.7616	Adder	13.84
937401	AD2-194 1	8.0697	Adder	9.49
937411	AD2-194 2	8.0692	Adder	9.49
938511	AE1-070 1	9.4819	Adder	11.16
938521	AE1-070 2	8.6744	Adder	10.21
938851	AE1-113 C	8.2607	Adder	9.72
938852	AE1-113 E	29.2880	Adder	34.46
939321	AE1-163 C O1	6.1063	Adder	7.18
939322	AE1-163 E O1	37.5102	Adder	44.13
939351	AE1-166 C O1	12.2622	Adder	14.43
939352	AE1-166 E O1	11.3189	Adder	13.32
939401	AE1-172 C O1	6.7946	Adder	7.99
939402	AE1-172 E O1	31.8801	Adder	37.51
940101	AE1-252 C O1	13.6499	Adder	16.06
940102	AE1-252 E O1	9.0999	Adder	10.71
940752	AE2-062 E	0.1351	Adder	0.16
941131	AE2-107 C	7.5761	Adder	8.91
941132	AE2-107 E	5.0507	Adder	5.94
941551	AE2-152 C O1	14.1487	Adder	16.65
941552	AE2-152 E O1	9.4325	Adder	11.1
941561	AE2-153 C O1	5.1247	Adder	6.03
941562	AE2-153 E O1	23.9929	Adder	28.23

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
941731	AE2-173 O1	3.2665	Adder	3.84
942111	AE2-223 C	2.4140	Adder	2.84
942112	AE2-223 E	16.1551	Adder	19.01
942421	AE2-255 C O1	3.1291	Adder	3.68
942422	AE2-255 E O1	9.3872	Adder	11.04
942651	AE2-281 C O1	0.8723	Adder	1.03
942652	AE2-281 E O1	5.3586	Adder	6.3
942991	AE2-321 C	8.4508	Adder	9.94
942992	AE2-321 E	4.1623	Adder	4.9
943121	AE2-341 C	13.2079	Adder	15.54
943122	AE2-341 E	6.4858	Adder	7.63
943381	AF1-009 C	0.6199	Adder	0.73
943382	AF1-009 E	2.4796	Adder	2.92
943591	AF1-030 C O1	8.7834	Adder	10.33
943592	AF1-030 E O1	4.3457	Adder	5.11
943801	AF1-048 C	3.9504	Adder	4.65
943802	AF1-048 E	2.6336	Adder	3.1
944041	AF1-072	2.2259	Adder	2.62
944911	AF1-156 C	13.1029	Adder	15.42
944912	AF1-156 E	8.7353	Adder	10.28
945351	AF1-200 FTIR	322.6289	Merchant Transmission	322.6289
946661	AF1-330 C	2.0715	Adder	2.44
946662	AF1-330 E	0.4547	Adder	0.53
946671	AF1-331	2.4976	Adder	2.94
957021	AF2-003 C O2	3.5767	Adder	7.94
957022	AF2-003 E O2	16.7456	Adder	37.17
957331	AF2-027 C	1.3651	Adder	3.03
957332	AF2-027 E	2.0477	Adder	4.55
958011	AF2-095 C O2	10.1350	Adder	22.5
958012	AF2-095 E O2	4.7694	Adder	10.59
958021	AF2-096 C O2	19.5077	Adder	43.3
958022	AF2-096 E O2	9.2252	Adder	20.48
958481	AF2-142 C	6.2078	Adder	13.78
958482	AF2-142 E	4.1386	Adder	9.19
958491	AF2-143 C	5.9443	Adder	13.19
958492	AF2-143 E	3.9629	Adder	8.8
959341	AF2-225 C	4.1335	Adder	9.18
959342	AF2-225 E	5.7081	Adder	12.67
959351	AF2-226 C	1.3758	Adder	3.05
959352	AF2-226 E	2.0637	Adder	4.58
960281	AF2-319 C	1.3758	Adder	3.05
960282	AF2-319 E	2.0637	Adder	4.58
960381	AF2-329	3.6323	Adder	8.06
960581	AF2-349 C	11.9583	Adder	26.54
960582	AF2-349 E	7.9722	Adder	17.7
960591	AF2-350 C O2	4.5291	Adder	10.05
960592	AF2-350 E O2	3.0194	Adder	6.7
960601	AF2-351 C O2	0.6039	Adder	1.34
960602	AF2-351 E O2	0.9058	Adder	2.01
960721	AF2-363 C O2	3.2432	Adder	7.2
960722	AF2-363 E O2	2.1621	Adder	4.8
960731	AF2-364 C O2	3.3639	Adder	7.47

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960732	AF2-364 E O2	2.2426	Adder	4.98
960751	AF2-366 C O2	3.8234	Adder	8.49
960752	AF2-366 E O2	2.5489	Adder	5.66
961501	AF2-441 C O2	5.5606	Adder	12.34
961502	AF2-441 E O2	8.3409	Adder	18.51
WEC	WEC	4.5603	Confirmed LTF	4.5603
CALDERWOOD	CALDERWOOD	0.0631	Confirmed LTF	0.0631
CBM-W2	CBM-W2	25.0942	Confirmed LTF	25.0942
NY	NY	1.4306	Confirmed LTF	1.4306
CBM-W1	CBM-W1	78.1875	Confirmed LTF	78.1875
TVA	TVA	1.6184	Confirmed LTF	1.6184
O-066	O-066	16.9546	Confirmed LTF	16.9546
CHEOAH	CHEOAH	0.0771	Confirmed LTF	0.0771
CBM-S1	CBM-S1	6.0407	Confirmed LTF	6.0407
G-007	G-007	2.6218	Confirmed LTF	2.6218
MADISON	MADISON	24.3210	Confirmed LTF	24.3210
MEC	MEC	16.0171	Confirmed LTF	16.0171
BLUEG	BLUEG	2.3071	Confirmed LTF	2.3071
TRIMBLE	TRIMBLE	0.7969	Confirmed LTF	0.7969
CATAWBA	CATAWBA	0.3619	Confirmed LTF	0.3619

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
96182321	275233	WILTON ;4M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.2	124.33	DC	65.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274771	LINCOLN ;2U	3.8683	50/50	3.8683
274772	LINCOLN ;3U	3.8683	50/50	3.8683
274773	LINCOLN ;4U	3.8683	50/50	3.8683
274774	LINCOLN ;5U	3.8683	50/50	3.8683
274775	LINCOLN ;6U	3.8683	50/50	3.8683
274776	LINCOLN ;7U	3.8683	50/50	3.8683
274777	LINCOLN ;8U	3.8683	50/50	3.8683
274830	U3-021 1	6.4380	Adder	7.57
274831	U3-021 2	6.4380	Adder	7.57
274881	PILOT HIL;1E	20.3561	Adder	23.95
274890	CAYUG;1U E	17.3451	Adder	20.41
274891	CAYUG;2U E	17.3451	Adder	20.41
275149	KELLYCK ;1E	20.3561	Adder	23.95
276167	Z1-106 E2	1.3342	Adder	1.57
276168	Z1-106 E1	1.3341	Adder	1.57
276169	Z1-107 E	2.7309	Adder	3.21
276170	Z1-108 E	2.6251	Adder	3.09
290021	O50 E	20.4530	Adder	24.06
290051	GSG-6; E	11.1236	Adder	13.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
290108	LEEDK;1U E	25.7295	Adder	30.27
293061	N-015 E	16.7861	Adder	19.75
293644	O22 E1	10.8153	Adder	12.72
293645	O22 E2	20.9944	Adder	24.7
294392	P-010 E	21.3184	Adder	25.08
910542	X3-005 E	0.7727	Adder	0.91
915011	Y3-013 1	3.9461	Adder	4.64
915021	Y3-013 2	3.9461	Adder	4.64
915031	Y3-013 3	3.9461	Adder	4.64
918052	AA1-018 E OP	17.3542	Adder	20.42
920272	AA2-123 E	2.5799	Adder	3.04
924471	AB2-096	44.7083	Adder	52.6
926311	AC1-109 1	2.0186	Adder	2.37
926321	AC1-109 2	2.0186	Adder	2.37
926331	AC1-110 1	2.0052	Adder	2.36
926341	AC1-110 2	2.0052	Adder	2.36
926351	AC1-111 1	0.8063	Adder	0.95
926361	AC1-111 2	0.8063	Adder	0.95
926371	AC1-111 3	0.8063	Adder	0.95
926381	AC1-111 4	0.8063	Adder	0.95
926391	AC1-111 5	0.8063	Adder	0.95
926401	AC1-111 6	0.8063	Adder	0.95
927451	AC1-142A 1	4.4186	Adder	5.2
927461	AC1-142A 2	4.4186	Adder	5.2
930501	AB1-091 O1	80.9897	Adder	95.28
930741	AB1-122 1O1	76.8999	Adder	90.47
930751	AB1-122 2O1	77.8579	Adder	91.6
933411	AC2-154 C	2.7626	Adder	3.25
933412	AC2-154 E	4.5074	Adder	5.3
933431	AC2-156 C O1	1.0103	Adder	1.19
933432	AC2-156 E O1	1.6485	Adder	1.94
933911	AD1-013 C	1.9642	Adder	2.31
933912	AD1-013 E	3.1375	Adder	3.69
933931	AD1-016 C	0.9804	Adder	1.15
933932	AD1-016 E	1.5996	Adder	1.88
934101	AD1-039 1	7.5362	Adder	8.87
934111	AD1-039 2	7.6301	Adder	8.98
934431	AD1-067 C	0.1397	Adder	0.16
934432	AD1-067 E	0.5873	Adder	0.69
934701	AD1-098 C O1	7.3184	Adder	8.61
934702	AD1-098 E O1	5.3432	Adder	6.29
934721	AD1-100 C	25.3457	Adder	29.82
934722	AD1-100 E	118.2800	Adder	139.15
934871	AD1-116 C	1.0107	Adder	1.19
934872	AD1-116 E	1.6490	Adder	1.94
934971	AD1-129 C	0.9544	Adder	1.12
934972	AD1-129 E	0.6363	Adder	0.75
935001	AD1-133 C O1	23.5023	Adder	27.65
935002	AD1-133 E O1	15.6682	Adder	18.43
936291	AD2-038 C O1	2.4826	Adder	2.92
936292	AD2-038 E O1	16.6143	Adder	19.55
936371	AD2-047 C O1	4.9436	Adder	5.82

Bus #	Bus	Gendoliv MW Impact	Type	Full MW Impact
936372	AD2-047 E O1	24.1366	Adder	28.4
936461	AD2-060	2.9080	Adder	3.42
936511	AD2-066 C O1	8.9497	Adder	10.53
936512	AD2-066 E O1	5.9665	Adder	7.02
937001	AD2-134 C	2.9079	Adder	3.42
937002	AD2-134 E	12.0124	Adder	14.13
937401	AD2-194 1	8.2426	Adder	9.7
937411	AD2-194 2	8.2421	Adder	9.7
938511	AE1-070 1	9.6851	Adder	11.39
938521	AE1-070 2	8.8603	Adder	10.42
938851	AE1-113 C	8.4369	Adder	9.93
938852	AE1-113 E	29.9126	Adder	35.19
939321	AE1-163 C O1	6.2383	Adder	7.34
939322	AE1-163 E O1	38.3212	Adder	45.08
939351	AE1-166 C O1	12.5095	Adder	14.72
939352	AE1-166 E O1	11.5472	Adder	13.58
939401	AE1-172 C O1	6.9294	Adder	8.15
939402	AE1-172 E O1	32.5126	Adder	38.25
940101	AE1-252 C O1	13.9207	Adder	16.38
940102	AE1-252 E O1	9.2805	Adder	10.92
940752	AE2-062 E	0.1379	Adder	0.16
941131	AE2-107 C	7.7372	Adder	9.1
941132	AE2-107 E	5.1581	Adder	6.07
941551	AE2-152 C O1	14.4340	Adder	16.98
941552	AE2-152 E O1	9.6227	Adder	11.32
941561	AE2-153 C O1	5.2303	Adder	6.15
941562	AE2-153 E O1	24.4874	Adder	28.81
941731	AE2-173 O1	3.3326	Adder	3.92
942111	AE2-223 C	2.4629	Adder	2.9
942112	AE2-223 E	16.4823	Adder	19.39
942421	AE2-255 C O1	3.1958	Adder	3.76
942422	AE2-255 E O1	9.5874	Adder	11.28
942651	AE2-281 C O1	0.8912	Adder	1.05
942652	AE2-281 E O1	5.4745	Adder	6.44
942991	AE2-321 C	8.6313	Adder	10.15
942992	AE2-321 E	4.2513	Adder	5.0
943121	AE2-341 C	13.4892	Adder	15.87
943122	AE2-341 E	6.6239	Adder	7.79
943381	AF1-009 C	0.6331	Adder	0.74
943382	AF1-009 E	2.5323	Adder	2.98
943591	AF1-030 C O1	8.9705	Adder	10.55
943592	AF1-030 E O1	4.4383	Adder	5.22
943801	AF1-048 C	4.0348	Adder	4.75
943802	AF1-048 E	2.6899	Adder	3.16
944041	AF1-072	2.2734	Adder	2.67
944911	AF1-156 C	13.3730	Adder	15.73
944912	AF1-156 E	8.9153	Adder	10.49
945351	AF1-200 FTIR	329.4462	Merchant Transmission	329.4462
946661	AF1-330 C	2.1155	Adder	2.49
946662	AF1-330 E	0.4644	Adder	0.55
946671	AF1-331	2.5508	Adder	3.0
957021	AF2-003 C O2	3.6517	Adder	8.11

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957022	AF2-003 E O2	17.0965	Adder	37.95
957331	AF2-027 C	1.3943	Adder	3.1
957332	AF2-027 E	2.0914	Adder	4.64
958011	AF2-095 C O2	10.3469	Adder	22.97
958012	AF2-095 E O2	4.8691	Adder	10.81
958021	AF2-096 C O2	19.9092	Adder	44.19
958022	AF2-096 E O2	9.4150	Adder	20.9
958481	AF2-142 C	6.3433	Adder	14.08
958482	AF2-142 E	4.2288	Adder	9.39
958491	AF2-143 C	6.0728	Adder	13.48
958492	AF2-143 E	4.0486	Adder	8.99
959341	AF2-225 C	4.2172	Adder	9.36
959342	AF2-225 E	5.8238	Adder	12.93
959351	AF2-226 C	1.4049	Adder	3.12
959352	AF2-226 E	2.1074	Adder	4.68
960281	AF2-319 C	1.4049	Adder	3.12
960282	AF2-319 E	2.1074	Adder	4.68
960381	AF2-329	3.7097	Adder	8.23
960581	AF2-349 C	12.2138	Adder	27.11
960582	AF2-349 E	8.1425	Adder	18.07
960591	AF2-350 C O2	4.6238	Adder	10.26
960592	AF2-350 E O2	3.0825	Adder	6.84
960601	AF2-351 C O2	0.6165	Adder	1.37
960602	AF2-351 E O2	0.9248	Adder	2.05
960721	AF2-363 C O2	3.3122	Adder	7.35
960722	AF2-363 E O2	2.2082	Adder	4.9
960731	AF2-364 C O2	3.4357	Adder	7.63
960732	AF2-364 E O2	2.2905	Adder	5.08
960751	AF2-366 C O2	3.9047	Adder	8.67
960752	AF2-366 E O2	2.6031	Adder	5.78
961501	AF2-441 C O2	5.6774	Adder	12.6
961502	AF2-441 E O2	8.5161	Adder	18.9
WEC	WEC	4.6573	Confirmed LTF	4.6573
CALDERWOOD	CALDERWOOD	0.0656	Confirmed LTF	0.0656
CBM-W2	CBM-W2	25.6101	Confirmed LTF	25.6101
NY	NY	1.4616	Confirmed LTF	1.4616
CBM-W1	CBM-W1	79.8388	Confirmed LTF	79.8388
TVA	TVA	1.6492	Confirmed LTF	1.6492
O-066	O-066	17.3242	Confirmed LTF	17.3242
CHEOAH	CHEOAH	0.0801	Confirmed LTF	0.0801
CBM-S1	CBM-S1	6.1514	Confirmed LTF	6.1514
G-007	G-007	2.6780	Confirmed LTF	2.6780
MADISON	MADISON	24.8371	Confirmed LTF	24.8371
MEC	MEC	16.3540	Confirmed LTF	16.3540
BLUEG	BLUEG	2.3592	Confirmed LTF	2.3592
TRIMBLE	TRIMBLE	0.8147	Confirmed LTF	0.8147
CATAWBA	CATAWBA	0.3703	Confirmed LTF	0.3703

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
148510628	934720	AD1-100 TAP	CE	270926	WILTON ; B	CE	1	COMED_P7_345-L2001__B-S_+_345-L2003__R-S-B	tower	2221.0	115.73	118.75	DC	86.56

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	47.1072	50/50	47.1072
274655	BRAIDWOOD;2U	45.7454	50/50	45.7454
274660	LASCO STA;1U	29.7712	50/50	29.7712
274661	LASCO STA;2U	29.8914	50/50	29.8914
274847	GR RIDGE ;BU	0.6528	50/50	0.6528
274853	TWINGROVE;U1	0.9571	50/50	0.9571
274854	TWINGROVE;U2	0.9571	50/50	0.9571
274863	CAYUGA RI;1U	1.3220	50/50	1.3220
274864	CAYUGA RI;2U	1.3220	50/50	1.3220
274871	GR RIDGE ;2U	0.8291	50/50	0.8291
274880	GENERATOR;	0.8854	50/50	0.8854
274881	PILOT HIL;1E	20.2230	50/50	20.2230
274882	W4-005 E	34.3755	50/50	34.3755
274887	PILOT HIL;1U	0.8721	50/50	0.8721
274888	KELLYCK ;1U	0.8721	50/50	0.8721
274890	CAYUG;1U E	30.6564	50/50	30.6564
274891	CAYUG;2U E	30.6564	50/50	30.6564
275149	KELLYCK ;1E	20.2230	50/50	20.2230
276153	W2-048 E	6.4163	50/50	6.4163
290261	S-027 E	22.1934	50/50	22.1934
290265	S-028 E	22.1934	50/50	22.1934
293061	N-015 E	15.1380	50/50	15.1380
294392	P-010 E	19.2253	50/50	19.2253
909052	X2-022 E	19.3001	50/50	19.3001
917501	Z2-087 C	0.7931	50/50	0.7931
917502	Z2-087 E	30.7719	50/50	30.7719
924041	AB2-047 C O1	5.7476	50/50	5.7476
924042	AB2-047 E O1	38.4649	50/50	38.4649
924261	AB2-070 C O1	2.8181	50/50	2.8181
924262	AB2-070 E O1	17.8627	50/50	17.8627
925771	AC1-053 C	2.7703	50/50	2.7703
925772	AC1-053 E	18.5397	50/50	18.5397
926821	AC1-168 C O1	0.5733	Adder	0.67
926822	AC1-168 E O1	3.8476	Adder	4.53
930501	AB1-091 O1	91.9655	50/50	91.9655
933411	AC2-154 C	2.7444	50/50	2.7444
933412	AC2-154 E	4.4776	50/50	4.4776
934721	AD1-100 C	51.5040	50/50	51.5040
934722	AD1-100 E	240.3520	50/50	240.3520
935001	AD1-133 C O1	15.0200	Adder	17.67
935002	AD1-133 E O1	10.0133	Adder	11.78
935141	AD1-148	5.0303	50/50	5.0303
936371	AD2-047 C O1	4.9110	50/50	4.9110
936372	AD2-047 E O1	23.9770	50/50	23.9770

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936461	AD2-060	2.8888	50/50	2.8888
936771	AD2-100 C	8.0786	Adder	9.5
936772	AD2-100 E	5.3857	Adder	6.34
936971	AD2-131 C	0.5322	Adder	0.63
936972	AD2-131 E	2.6736	Adder	3.15
937211	AD2-159 C	3.7148	50/50	3.7148
937212	AD2-159 E	17.3921	50/50	17.3921
939351	AE1-166 C O1	22.5124	50/50	22.5124
939352	AE1-166 E O1	20.7806	50/50	20.7806
939401	AE1-172 C O1	13.4051	50/50	13.4051
939402	AE1-172 E O1	62.8960	50/50	62.8960
939741	AE1-205 C O1	14.8554	50/50	14.8554
939742	AE1-205 E O1	20.5146	50/50	20.5146
940101	AE1-252 C O1	26.9298	50/50	26.9298
940102	AE1-252 E O1	17.9532	50/50	17.9532
941551	AE2-152 C O1	25.9758	50/50	25.9758
941552	AE2-152 E O1	17.3172	50/50	17.3172
941561	AE2-153 C O1	7.3403	50/50	7.3403
941562	AE2-153 E O1	34.3657	50/50	34.3657
941731	AE2-173 O1	8.8425	50/50	8.8425
942111	AE2-223 C	3.4486	50/50	3.4486
942112	AE2-223 E	23.0789	50/50	23.0789
942481	AE2-261 C	11.9095	Adder	14.01
942482	AE2-261 E	7.9396	Adder	9.34
944221	AF1-090 C O1	2.0232	Adder	2.38
944222	AF1-090 E O1	9.4722	Adder	11.14
944911	AF1-156 C	18.7677	50/50	18.7677
944912	AF1-156 E	12.5118	50/50	12.5118
945871	AF1-252 O1	3.5866	Adder	4.22
945881	AF1-253 O1	2.4830	Adder	2.92
946541	AF1-318 C O1	2.5213	Adder	2.97
946542	AF1-318 E O1	11.8057	Adder	13.89
951741	J474 C	1.8519	PJM External (MISO)	1.8519
951742	J474 E	10.0194	PJM External (MISO)	10.0194
953741	J826 C	1.0380	PJM External (MISO)	1.0380
953742	J826 E	5.6160	PJM External (MISO)	5.6160
954821	J955	52.7779	PJM External (MISO)	52.7779
955401	J1022 C	1.5570	PJM External (MISO)	1.5570
955402	J1022 E	8.4240	PJM External (MISO)	8.4240
956151	J1102	4.3260	PJM External (MISO)	4.3260
956281	J1115 C	2.6642	PJM External (MISO)	2.6642
956282	J1115 E	14.4138	PJM External (MISO)	14.4138
957021	AF2-003 C O2	2.2061	Adder	4.9
957022	AF2-003 E O2	10.3288	Adder	22.93
957381	AF2-032 C	0.4845	Adder	1.08
957382	AF2-032 E	0.2280	Adder	0.51
958011	AF2-095 C O2	16.6233	50/50	16.6233
958012	AF2-095 E O2	7.8227	50/50	7.8227
958021	AF2-096 C O2	58.7668	50/50	58.7668
958022	AF2-096 E O2	27.7907	50/50	27.7907
958341	AF2-128 C O2	0.3662	Adder	0.81
958342	AF2-128 E O2	1.7143	Adder	3.81

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959341	AF2-225 C	11.1416	50/50	11.1416
959342	AF2-225 E	15.3860	50/50	15.3860
959611	AF2-252 C	2.8022	50/50	2.8022
959612	AF2-252 E	4.2033	50/50	4.2033
960141	AF2-305	0.9972	50/50	0.9972
960261	AF2-317	1.6097	50/50	1.6097
960591	AF2-350 C O2	8.6670	50/50	8.6670
960592	AF2-350 E O2	5.7780	50/50	5.7780
960601	AF2-351 C O2	1.1556	50/50	1.1556
960602	AF2-351 E O2	1.7334	50/50	1.7334
960611	AF2-352 C	2.8022	50/50	2.8022
960612	AF2-352 E	4.2033	50/50	4.2033
WEC	WEC	0.4237	Confirmed LTF	0.4237
LGEE	LGEE	0.0867	Confirmed LTF	0.0867
CBM-W2	CBM-W2	17.3464	Confirmed LTF	17.3464
NY	NY	0.3987	Confirmed LTF	0.3987
CBM-W1	CBM-W1	9.0322	Confirmed LTF	9.0322
TVA	TVA	1.5218	Confirmed LTF	1.5218
O-066	O-066	4.6570	Confirmed LTF	4.6570
CBM-S2	CBM-S2	0.3526	Confirmed LTF	0.3526
CBM-S1	CBM-S1	7.7788	Confirmed LTF	7.7788
G-007	G-007	0.7197	Confirmed LTF	0.7197
MADISON	MADISON	6.6024	Confirmed LTF	6.6024
MEC	MEC	4.3936	Confirmed LTF	4.3936

13.6 Contingency Descriptions - Secondary POI

Contingency Name	Contingency Definition
COMED_P7_345-L2001__B-S+_345-L2003__R-S-B	CONTINGENCY 'COMED_P7_345-L2001__B-S+_345-L2003__R-S-B' TRIP BRANCH FROM BUS 958020 TO BUS 270728 CKT 1 / AF2-096 TAP 345 E FRA; B 345 TRIP BRANCH FROM BUS 270728 TO BUS 270766 CKT 1 / E FRA; B 345 GOODI;3B 345 TRIP BRANCH FROM BUS 270728 TO BUS 274750 CKT 1 / E FRA; B 345 CRETE;BP 345 TRIP BRANCH FROM BUS 270671 TO BUS 270729 CKT 1 / BRAID; R 345 E FRA; R 345 END
COMED_P4_020-45-BT7-11_	CONTINGENCY 'COMED_P4_020-45-BT7-11_ 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 CLOSE BRANCH FROM BUS 270710 TO BUS 270711 CKT 1 / DAVIS; B 345 DAVIS; R 345 TRIP BRANCH FROM BUS 270671 TO BUS 941560 CKT 1 / BRAID; R 345 AE2-153 TAP 345 END

Contingency Name	Contingency Definition
COMED_P1-2_345-L0101__B-S	CONTINGENCY 'COMED_P1-2_345-L0101__B-S' TRIP BRANCH FROM BUS 270802 TO BUS 270846 CKT 1 / LASCO STA; B 345 PLANO ; B 345 TRIP BRANCH FROM BUS 270846 TO BUS 270847 CKT 1 / PLANO ; B 345 PLANO ; R 345 END
COMED_P1-2_695_B2	CONTINGENCY 'COMED_P1-2_695_B2' OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTO; 765 1 END
COMED_P4_112-65-BT3-4__	CONTINGENCY 'COMED_P4_112-65-BT3-4__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 TRIP BRANCH FROM BUS 275232 TO BUS 270644 CKT 1 / WILTO;3M 345 WILTO; 765 TRIP BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / WILTO;3M 345 WILTO; B 345 TRIP BRANCH FROM BUS 275232 TO BUS 275332 CKT 1 / WILTO;3M 345 WILTO;3C 33 END
COMED_P4_023-65-BT2-3__	CONTINGENCY 'COMED_P4_023-65-BT2-3__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 TRIP BRANCH FROM BUS 270607 TO BUS 270630 CKT 1 / COLLI; 765 PLANO; 765 END
COMED_P1-2_345-L2004_AR-S-B	CONTINGENCY 'COMED_P1-2_345-L2004_AR-S-B' TRIP BRANCH FROM BUS 941560 TO BUS 270711 CKT 1 / AE2-153 TAP 345 DAVIS; R 345 END
ATSI-P1-2-TE-345-605T	CONTINGENCY 'ATSI-P1-2-TE-345-605T' /*LINE OUTAGE: AJ TO ITC MOROCCO DISCONNECT BRANCH FROM BUS 238530 TO BUS 256583 CKT 1 END
270670 BRAIDWOOD; B 345 934730 AD1-100 TAP 345 1	CONTINGENCY '270670 BRAIDWOOD; B 345 934730 AD1-100 TAP 345 1' OPEN BRANCH FROM BUS 270670 TO BUS 934730 CKT 1 END
COMED_P7_345-L94507_B-S_+_345-L97008_R-S	CONTINGENCY 'COMED_P7_345-L94507_B-S_+_345-L97008_R-S' TRIP BRANCH FROM BUS 274750 TO BUS 255112 CKT 1 / CRETE;BP 345 17STJOHN 345 TRIP BRANCH FROM BUS 274804 TO BUS 243229 CKT 1 / UPNOR;RP 345 05OLIVE 345 END

Contingency Name	Contingency Definition
ADD AD1-100 5	CONTINGENCY 'ADD AD1-100 5' OPEN BRANCH FROM BUS 934730 TO BUS 270710 CKT 1 / AD1-100 - DAVIS CREEK OPEN BRANCH FROM BUS 934720 TO BUS 270926 CKT 1 / AD1-100 - WILTON END
COMED_P4_023-65-BT4-5__	CONTINGENCY 'COMED_P4_023-65-BT4-5__' TRIP BRANCH FROM BUS 275168 TO BUS 270607 CKT 1 / COLLI;2M 345 COLLI; 765 TRIP BRANCH FROM BUS 275168 TO BUS 270697 CKT 1 / COLLI;2M 345 COLLI; R 345 TRIP BRANCH FROM BUS 275168 TO BUS 275268 CKT 1 / COLLI;2M 345 COLLI;2C 33 TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 END
COMED_P4_167-45-BT2-5__	CONTINGENCY 'COMED_P4_167-45-BT2-5__' 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 TRIP BRANCH FROM BUS 270803 TO BUS 270847 CKT 1 / LASCO; R 345 PLANO; R 345 END
934720 AD1-100 TAP 345 934725 AD1-100 JNT 345 1	CONTINGENCY '934720 AD1-100 TAP 345 934725 AD1-100 JNT 345 1' OPEN BRANCH FROM BUS 934720 TO BUS 934725 CKT 1 END
COMED_P1-2_345-L11212_B-S-A	CONTINGENCY 'COMED_P1-2_345-L11212_B-S-A' TRIP BRANCH FROM BUS 270926 TO BUS 934720 CKT 1 / WILTO; B 345 AD1-100 TAP 345 END
AEP_P4_#2978_05DUMONT_FSA	CONTINGENCY 'AEP_P4_#2978_05DUMONT_FSA' OPEN BRANCH FROM BUS 243206 TO BUS 907040 CKT 1 / 243206 05DUMONT 765 X1-020 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 END
Base Case	
AEP_P4_#2978_05DUMONT_NON_FSA	CONTINGENCY 'AEP_P4_#2978_05DUMONT_NON_FSA' OPEN BRANCH FROM BUS 243206 TO BUS 907040 CKT 1 / 243206 05DUMONT 765 X1-020 OPEN BRANCH FROM BUS 243207 TO BUS 907040 CKT 1 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 END

Contingency Name	Contingency Definition
COMED_P1-2_345-L94507_B-S	CONTINGENCY 'COMED_P1-2_345-L94507_B-S' TRIP BRANCH FROM BUS 274750 TO BUS 255112 CKT 1 / CRETE;BP 345 17STJOHN 345 END
COMED_P1-2_345-L0102__R-S	CONTINGENCY 'COMED_P1-2_345-L0102__R-S' TRIP BRANCH FROM BUS 270803 TO BUS 270847 CKT 1 / LASCO; R 345 PLANO; R 345 END
COMED_P4_112-65-BT2-3__	CONTINGENCY 'COMED_P4_112-65-BT2-3__' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 / WILTO; 765 COLLI; 765 TRIP BRANCH FROM BUS 275232 TO BUS 270644 CKT 1 / WILTO;3M 345 WILTO; 765 TRIP BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / WILTO;3M 345 WILTO; B 345 TRIP BRANCH FROM BUS 275232 TO BUS 275332 CKT 1 / WILTO;3M 345 WILTO;3C 33 END
COMED_P4_112-65-BT4-5__	CONTINGENCY 'COMED_P4_112-65-BT4-5__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 TRIP BRANCH FROM BUS 275233 TO BUS 270644 CKT 1 / WILTO;4M 345 WILTO; 765 TRIP BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / WILTO;4M 345 WILTO; R 345 TRIP BRANCH FROM BUS 275233 TO BUS 275333 CKT 1 / WILTO;4M 345 WILTO;4C 33 END
COMED_P4_112-65-BT5-6__	CONTINGENCY 'COMED_P4_112-65-BT5-6__' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 / WILTO; 765 COLLI; 765 TRIP BRANCH FROM BUS 275233 TO BUS 270644 CKT 1 / WILTO;4M 345 WILTO; 765 TRIP BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / WILTO;4M 345 WILTO; R 345 TRIP BRANCH FROM BUS 275233 TO BUS 275333 CKT 1 / WILTO;4M 345 WILTO;4C 33 END

14 Affected Systems

None