



**Generation Interconnection
Feasibility Study Report
for
Queue Project AF2-349
“GARDEN PRAIRIE-SILVER LAKE 345 KV”**

1 Introduction

This Feasibility Study has been prepared in accordance with the PJM Open Access Transmission Tariff, 36.2, as well as the Feasibility Study Agreement between the Interconnection Customer (IC), and PJM Interconnection, LLC (PJM), Transmission Provider (TP). The Interconnected Transmission Owner (ITO) is ComEd.

2 Preface

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

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

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

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

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

3 General

The Interconnection Customer (IC) has proposed a solar generating facility to be located in McHenry County, Illinois. The installed facilities will have a total capability of 300 MW with 180 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is December 01, 2023. This study does not imply a TO commitment to this in-service date.

Queue Number	AF2-349
Project Name	GARDEN PRAIRIE-SILVER LAKE 345 KV
State	Illinois
County	McHenry
Transmission Owner	ComEd
MFO	300
MWE	300
MWC	180
Fuel	Solar
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

AF2-349 will interconnect with the ComEd transmission system tapping the Garden Prairie to Silver Lake 345 kV line. Queue Position AF2-349, a 300 MW solar facility, proposes to interconnect with the ComEd transmission system by tying to 'Silver Lake - Cherry Valley' 345kV line L15616, approximately 15.5 miles from TSS 156 Cherry Valley.

5 Cost Summary

The AF2-349 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$5,000,000
Total System Network Upgrade Costs	\$155,502,440
Total Costs	\$160,502,440

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 AF2-349 generator lead will interconnect into 345 kV TSS 971 Garden Prairie Road substation (see details in Direct Connection section below). The required Attachment Facilities are one 345 kV line MOD, one dead-end structure and one set of revenue-metering as shown in the one-line diagram.

Scope of Work	Cost Estimate
Installation of one 345 kV line MOD, one dead-end structure and one set of revenue metering (see notes below on cost estimate)	\$ 1,000,000
Total Cost Estimate (see notes below on cost estimate)	\$1,000,000

Direct Connection Network Upgrades

In order to accommodate interconnection of AF2-349, TSS 971 Garden Prairie Road substation would need to be expanded to create a bus position.

The scope of work includes installation of one 345 kV circuit breaker to create a line position to interconnect AF2-349 generator lead, as shown in the one-line diagram below.

It should be noted that if the U3-021 and AB2-096 project drops out, then scope of AF2-349 would change.

The Interconnection Customer ("IC") is responsible for constructing all the facilities on the Interconnection Customer side of the Point of Interconnection (POI).

The preliminary cost estimate for Direct Connection Network Upgrade is given in the following tables.

Scope of Work	Cost Estimate
Installation of one 345 kV circuit breaker at new proposed Interconnection Substation under earlier queue position AF1-314 as described above	\$4,000,000
Total Cost Estimate (see notes below on cost estimate)	\$4,000,000

Normally it takes about 24-months to engineer, design, procure material and construct 345 kV facilities after 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 Interconnection Customer.
- 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 Interconnection Customer and the actual costs of ComEd's work may differ significantly from these estimates. Interconnection Customer 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 Interconnection Customer is responsible for all engineering, procurement, testing and construction of all equipment on the Interconnection Customer'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 for acquiring property and associated legal costs will be investigation 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 AF2-349 was evaluated as a 300.0 MW (Capacity 180.0 MW) injection tapping the Garden Prairie to Silver Lake 345 kV line in the ComEd area. Project AF2-349 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-349 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 LOADING %	POST PROJE CT LOADING %	AC DC	MW IMPACT
96631729	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	AEP_P4_#2978_05DUMONT_FSA	breaker	1091.0	121.94	121.97	DC	26.74
96631730	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1091.0	121.94	121.97	DC	26.74
96631731	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P4_023-65-BT2-3__	breaker	1091.0	121.89	121.92	DC	26.98
96631732	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P4_112-65-BT4-5__	breaker	1091.0	121.74	121.77	DC	26.92
104992594	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P4_112-65-BT3-4__	breaker	1091.0	121.74	121.77	DC	26.92
95491611	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	COMED_P1-2_695_B2	single	1409.0	106.46	107.28	DC	25.64
96631733	270807	LIBERTYVILLE; R	345.0	CE	270857	P HTS 117; R	345.0	CE	1	COMED_P4_016-45-BT6-11__	breaker	1479.0	108.8	111.56	DC	40.6
96631734	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_A CRE	345.0	NIPS	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1091.0	121.93	121.96	DC	26.74
96631735	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_A CRE	345.0	NIPS	1	AEP_P4_#2978_05DUMONT_FSA	breaker	1091.0	121.94	121.97	DC	26.74
96631736	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_A CRE	345.0	NIPS	1	COMED_P4_023-65-BT2-3__	breaker	1091.0	121.88	121.91	DC	26.98

96631737	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_A CRE	345.0	NIP S	1	COMED_P4_112-65-BT4-5__	breaker	1091.0	121.73	121.76	DC	26.92
96631738	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_A CRE	345.0	NIP S	1	COMED_P4_023-65-BT4-5__	breaker	1091.0	121.73	121.76	DC	26.91
96631728	270926	WILTON ; B	345.0	CE	275232	WILTON ;3M	345.0	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.99	122.09	DC	44.24
96631716	270927	WILTON ; R	345.0	CE	275233	WILTON ;4M	345.0	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.54	124.64	DC	45.19
96631842	270940	ZION STA ; B	345.0	CE	270806	LIBERTYVI; B	345.0	CE	1	COMED_P4_016-45-BT6-11__	breaker	1201.0	110.97	111.57	DC	15.77
96633067	270942	ZION STA ;0B	345.0	CE	270915	WAUKEGA N ; R	345.0	CE	1	COMED_P7_345-L2221__R-N_+ 345-L2222__B-N-B	tower	1768.0	118.98	119.5	DC	20.03
96631606	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	AEP_P4_#2978_05DUMONT_FSA	breaker	1399.0	155.15	155.23	DC	37.51
96631607	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1399.0	155.15	155.22	DC	37.51
96632104	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	COMED_P1-2_695_B2	single	1399.0	107.59	108.32	DC	22.61
96631727	275232	WILTON ;3M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.99	122.09	DC	44.24
96631715	275233	WILTON ;4M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.54	124.64	DC	45.19
95491201	956820	J1180 TAP	345.0	AMI L	247712	05SULLIVAN	345.0	AEP	1	AEP_P4_#3128_05EUGENE_345_A2	breaker	1466.0	149.9	149.91	DC	18.81
96632161	960580	AF2-349 TAP	345.0	CE	270883	SILVER LK; R	345.0	CE	1	COMED_P1-2_345-L0626__B-R-B	single	1479.0	118.08	124.55	DC	95.03
96632164	960580	AF2-349 TAP	345.0	CE	270883	SILVER LK; R	345.0	CE	1	COMED_P1-2_345-L0626__B-R-A	single	1479.0	108.5	114.97	DC	95.03
96632165	960580	AF2-349 TAP	345.0	CE	270883	SILVER LK; R	345.0	CE	1	Base Case	single	1201.0	104.36	111.77	DC	88.7
95491279	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	971.0	110.56	111.19	DC	29.57
95491280	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P4_#2978_05DUMONT_FSA	breaker	971.0	110.56	111.19	DC	29.57
95491281	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P4_023-65-BT2-3__	breaker	971.0	110.24	110.89	DC	29.82

11.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPAC T
96632243	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P1-2_695_B2	operation	1091.0	121.72	121.75	DC	26.91
96632287	270770	GOODINGS ;4B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	COMED_P1-2_345-L11613AB-S	operation	1802.0	115.67	116.14	DC	31.96
96632292	270770	GOODINGS ;4B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	Base Case	operation	1560.0	102.96	103.63	DC	22.93

96632240	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_AC RE	345.0	NIPS	1	COMED_P 1- 2_695_B2	operatio n	1091.0	121.71	121.74	DC	26.91
96632333	270940	ZION STA ; B	345.0	CE	270914	WAUKEGAN ; B	345.0	CE	1	COMED_P 1-2_345- L2218_GR- N	operatio n	1479.0	113.41	113.88	DC	15.32
96632335	270942	ZION STA ;OB	345.0	CE	270915	WAUKEGAN ; R	345.0	CE	1	COMED_P 1-2_345- L2219__B- N	operatio n	1479.0	113.15	113.62	DC	15.24
96632101	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	COMED_P 1- 2_695_B2	operatio n	1399.0	154.97	155.04	DC	37.68
96632102	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	Base Case	operatio n	1091.0	153.9	154.01	DC	24.03
96632358	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P 1- 2_695_B2	operatio n	971.0	106.56	106.66	DC	29.78
96632246	274817	ZION EC ;RP	345.0	CE	270941	ZION STA ; R	345.0	CE	1	COMED_P 1-2_345- L2221__R- N	operatio n	1201.0	120.82	121.6	DC	20.63
96632390	930480	AB1-089 TAP	345.0	CE	270916	WAYNE ; B	345.0	CE	1	COMED_P 1-2_345- L97116__- R_FSA	operatio n	2058.0	101.29	103.05	DC	78.77
95491480	956820	J1180 TAP	345.0	AMIL	247712	05SULLIVAN	345.0	AEP	1	AEP_P1- 2_#286	operatio n	1466.0	138.21	138.22	DC	19.37
95491484	956820	J1180 TAP	345.0	AMIL	247712	05SULLIVAN	345.0	AEP	1	Base Case	operatio n	1334.0	134.68	134.69	DC	15.91
96632158	960580	AF2-349 TAP	345.0	CE	270883	SILVER LK; R	345.0	CE	1	COMED_P 1-2_345- L0626__B- R-B	operatio n	1479.0	127.88	138.59	DC	158.38
96632160	960580	AF2-349 TAP	345.0	CE	270883	SILVER LK; R	345.0	CE	1	Base Case	operatio n	1201.0	117.65	129.96	DC	147.83
95491566	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P 1- 2_695_B2	operatio n	971.0	110.12	110.76	DC	29.78

11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
95491201	12	J1180 TAP 345.0 kV - 05SULLIVAN 345.0 kV Ckt 1	<u>AEP</u> AEPI0010a (278) : Reconductor/rebuild 0.82 miles of ACAR ~ 1024.5 ~ 30/7 ~ RAIL1 conductor section 5 Project Type : FAC Cost : \$1,640,000 Time Estimate : 24 - 36 Months AEPI0010b (279) : Reconductor/rebuild 1 miles of ACAR ~ 1024.5 ~ 30/7 ~ RAIL1 conductor section 6 Project Type : FAC Cost : \$2,000,000 Time Estimate : 24 - 36 Months AEPI0010c (280) : Replace two Sullivan 3000A Wavetrap Project Type : FAC Cost : \$400,000 Time Estimate : 12- 18 Months <u>AMIL</u> NonPJMArea (536) : The external (i.e. Non-PJM) Transmission Owner, AMIL, will not evaluate this violation until the impact study phase. Project Type : FAC Cost : \$0 Time Estimate : N/A Months	\$4,040,000
96631833	3	LIBERTYVI; R 345.0 kV - P HTS 117; R 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L11723 (840) : ComEd 345kV L11723 SSTE rating is 1568 MVA. The upgrade will be to replace station conductor at both terminals and sag mitigation on the line. A preliminary estimate for this upgrade is \$8.2M with an estimated construction timeline of 24 months. Upon completion of the upgrade the ratings will be 1334/1726/1837/2084 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$8,200,000 Time Estimate : Months	\$8,200,000
96633067	8	ZION STA ;0B 345.0 kV - WAUKEGAN ; R 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L2218 (929) : ComEd 345kV L2228 SLD & ALDR ratings are 1768 MVA & 2033 MVA. The upgrade will be to re-conductor the line, replace 3-345kV Circuit Breakers and associated switching equipment at Station 16 Waukegan, replace 1 section of 138kV GIS bus and 1-138kV line disconnect switch. A preliminary estimate for the upgrade is \$16.2M with an estimated construction timeline of 24-30 months. Upon completion of the upgrade the new ratings will be 1334/1726/1837/2084/2397 MVA (SN/SLTE/SSTE/SLD/ALDR). Note that the re-conductor estimate does not include any transmission tower replacement work. This cost will increase the estimate given. Project Type : FAC Cost : \$16,200,000 Time Estimate : 24-30 Months	\$16,200,000

96631727	10	WILTON ;3M 345.0 kV - WILTON ; 765.0 kV Ckt 1	<u>ComEd</u> n5145 (886) : 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
96631728	5	WILTON ; B 345.0 kV - WILTON ;3M 345.0 kV Ckt 1		
96631716	6	WILTON ; R 345.0 kV - WILTON ;4M 345.0 kV Ckt 1		
96631715	11	WILTON ;4M 345.0 kV - WILTON ; 765.0 kV Ckt 1		
96631607,96631606,96632104	9	CRETE EC ;BP 345.0 kV - 17STJOHN 345.0 kV Ckt 1	<u>ComEd</u> N5253 (862) : 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 (1661) : 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

95491611	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. This Queue Project presently does not receive cost allocation for this upgrade. Note 1: as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc., this Queue Project could receive cost allocation. Note 2: Although this Queue Project may not have cost responsibility for this upgrade, the project may need this upgrade in-service to be deliverable to the PJM system. If this project comes into service prior to completion of the upgrade, this Queue project will need an interim study. Project Type : FAC Cost : \$0 Time Estimate : N/A Months <u>NIPS</u> NonPJMArea (1661) : 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
96631842	7	ZION STA ; B 345.0 kV - LIBERTYVI; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L2224 (931) : ComEd 345kV L2224 SSTE rating is 1251 MVA. The upgrade will be to mitigate sag on the line. A preliminary estimate is \$15M with a estimate construction timeline of 30 months. Upon completion of the work the new ratings will be 1201/1479/1568/1768 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$15,000,000 Time Estimate : 30.0 Months	\$15,000,000

96632161,9663 2165,96632164	13	AF2-349 TAP 345.0 kV - SILVER LK; R 345.0 kV Ckt 1	<u>ComEd</u> ce-012 (890) : L15616 SSTE rating is 1568 MVA. The post contingency flow for this event exceeds the rating therefore upgrades are required. Reconductor 26.7 miles of 2338 kcmil. Mitigate sag limits. Upgrade relay package. Replace station conductor at both line terminals. Replace 2-345 kV breakers at TSS 138 Silver Lake. A preliminary estimate for the upgrades is \$32.4M with a estimated construction timeline of 36 months. Upon completion of all upgrades the new ratings will be 1461/1656/1909/1912 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$32,400,000 Time Estimate : 36.0 Months ce-012a (891) : ComEd 345kV L15616 SN rating is 1201 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 and station bus work. A preliminary estimate for this upgrade is \$45.7M with a estimated construction timeline of 30 months. Upon completion of the upgrade the ratings will be 1248/1441/1667/1982 MVA SN/SLTE/SSTE/SLD. Project Type : FAC Cost : \$45,700,000 Time Estimate : 30.0 Months	\$78,100,000
95491279,9549 1281,95491280	14	AF2-359 TAP 345.0 kV - 05OLIVE 345.0 kV Ckt 1	<u>ComEd</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 CE_NUN_L97008 (914) : 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

104992594,966 31729,9663173 1,96631730,966 31732	1	17STJOHN 345.0 kV - ST JOHN ; T 345.0 kV Ckt 1	<u>ComEd</u> N5833 (863) : 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 a 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 (1661) : 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
96631735,9663 1734,96631737, 96631736,9663 1738	4	ST JOHN ; T 345.0 kV - 17GREEN_ACRE 345.0 kV Ckt 1	<u>ComEd</u> N5834 (864) : 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 a 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 (1661) : 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
TOTAL COST				\$155,502,440

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

11.6 Flow Gate Details

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

rules such as commercial probability of each project as well as the ramping impact of "Adder" contributions. The MW Impact found and used in the analysis is shown in the indices column named "Gendeliv MW Impact".

11.6.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
104992594	255112	17STJOHN	NIPS	270886	ST JOHN ; T	CE	1	COMED_P4_112-65-BT3-4__	breaker	1091.0	121.74	121.77	DC	26.92

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
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
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
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
95491611	255113	17STILLWELL	NIPS	243219	05DUMONT	AEP	1	COMED_P1-2_695_B2	single	1409.0	106.46	107.28	DC	25.64

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	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
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
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 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
96631833	270807	LIBERTYVI; R	CE	270857	P HTS 117; R	CE	1	COMED_P4_016-45-BT6-11_	breaker	1479.0	108.8	111.56	DC	40.6

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274683	WAUKEGAN ;8U	8.6783	50/50	8.6783
274725	ZION EC ;1P	6.6512	50/50	6.6512
274726	ZION EC ;2P	6.6512	50/50	6.6512
274727	ZION EC ;3P	6.6512	50/50	6.6512
274828	WAUKEGAN ;BP	2.4683	50/50	2.4683
274830	U3-021 1	5.6437	Adder	6.64
274831	U3-021 2	5.6437	Adder	6.64
274859	EASYSR;U1 E	5.9764	Adder	7.03
274860	EASYSR;U2 E	5.9764	Adder	7.03
276170	Z1-108 E	2.7896	50/50	2.7896
290051	GSG-6; E	3.8377	Adder	4.51
293516	O-009 E1	3.5313	Adder	4.15
293517	O-009 E2	1.7936	Adder	2.11
293518	O-009 E3	1.9753	Adder	2.32
293715	O-029 E	3.7754	Adder	4.44
293716	O-029 E	2.0700	Adder	2.44
293717	O-029 E	1.9025	Adder	2.24

294763	P-046 E	6.4178	Adder	7.55
915011	Y3-013 1	7.0107	50/50	7.0107
915021	Y3-013 2	7.0107	50/50	7.0107
915031	Y3-013 3	7.0107	50/50	7.0107
919581	AA2-030	7.8842	Adder	9.28
920272	AA2-123 E	2.1451	Adder	2.52
924471	AB2-096	46.1090	50/50	46.1090
926431	AC1-114	1.8090	Adder	2.13
927511	AC1-113 1	0.9047	Adder	1.06
927521	AC1-113 2	0.9047	Adder	1.06
930481	AB1-089	41.6636	Adder	49.02
932881	AC2-115 1	1.8093	Adder	2.13
932891	AC2-115 2	1.8093	Adder	2.13
932921	AC2-116	0.6331	Adder	0.74
933911	AD1-013 C	0.6727	Adder	0.79
933912	AD1-013 E	1.0746	Adder	1.26
933931	AD1-016 C	0.8151	Adder	0.96
933932	AD1-016 E	1.3299	Adder	1.56
934431	AD1-067 C	0.0482	Adder	0.06
934432	AD1-067 E	0.2026	Adder	0.24
934651	AD1-096 C	0.5775	Adder	0.68
934652	AD1-096 E	0.9422	Adder	1.11
934701	AD1-098 C O1	2.5607	Adder	3.01
934702	AD1-098 E O1	1.8695	Adder	2.2
934971	AD1-129 C	0.7344	Adder	0.86
934972	AD1-129 E	0.4896	Adder	0.58
936791	AD2-102 C	11.0762	Adder	13.03
936792	AD2-102 E	7.3841	Adder	8.69
937001	AD2-134 C	1.0032	Adder	1.18
937002	AD2-134 E	4.1443	Adder	4.88
937311	AD2-172 C	1.6847	Adder	1.98
937312	AD2-172 E	2.3265	Adder	2.74
937531	AD2-214 C	1.9195	Adder	2.26
937532	AD2-214 E	1.2797	Adder	1.51
938861	AE1-114 C O1	2.3366	Adder	2.75
938862	AE1-114 E O1	7.9718	Adder	9.38
939051	AE1-134 1	0.6127	Adder	0.72
939061	AE1-134 2	0.6127	Adder	0.72
940501	AE2-035 C	1.6847	Adder	1.98
940502	AE2-035 E	2.3265	Adder	2.74
942991	AE2-321 C	7.1113	Adder	8.37
942992	AE2-321 E	3.5026	Adder	4.12
943381	AF1-009 C	0.2215	Adder	0.26
943382	AF1-009 E	0.8860	Adder	1.04
943401	AF1-011 C	0.4821	Adder	0.57
943402	AF1-011 E	0.8092	Adder	0.95
943411	AF1-012 C	4.6928	Adder	5.52
943412	AF1-012 E	3.1285	Adder	3.68
943801	AF1-048 C	3.3243	Adder	3.91
943802	AF1-048 E	2.2162	Adder	2.61
943921	AF1-060	0.8295	Adder	0.98
944041	AF1-072	1.3737	Adder	1.62
946151	AF1-280 C O1	8.0304	Adder	9.45

946152	AF1-280 E O1	3.6928	Adder	4.34
946161	AF1-281 C	0.1758	Adder	0.21
946162	AF1-281 E	0.9965	Adder	1.17
946321	AF1-296 C O1	1.7144	Adder	2.02
946322	AF1-296 E O1	8.0264	Adder	9.44
946501	AF1-314 C	2.9933	Adder	3.52
946502	AF1-314 E	14.0140	Adder	16.49
946531	AF1-317 C O1	0.8939	Adder	1.05
946661	AF1-330 C	1.7589	Adder	2.07
946662	AF1-330 E	0.3861	Adder	0.45
946671	AF1-331	0.8736	Adder	1.03
950101	J390	64.9490	PJM External (MISO)	64.9490
951391	J505	11.3580	PJM External (MISO)	11.3580
952381	J703	13.4479	PJM External (MISO)	13.4479
952391	J704	5.7371	PJM External (MISO)	5.7371
952431	J760	2.3139	PJM External (MISO)	2.3139
952511	J584 C	0.7661	PJM External (MISO)	0.7661
952512	J584 E	4.1449	PJM External (MISO)	4.1449
953111	J807 C	0.8131	PJM External (MISO)	0.8131
953112	J807 E	4.3988	PJM External (MISO)	4.3988
953151	J831	5.3220	PJM External (MISO)	5.3220
953331	J801	3.7866	PJM External (MISO)	3.7866
953491	J947	30.2260	PJM External (MISO)	30.2260
953681	J818	14.4664	PJM External (MISO)	14.4664
953691	J819 C	1.0459	PJM External (MISO)	1.0459
953692	J819 E	5.6584	PJM External (MISO)	5.6584
953701	J821 C	1.2327	PJM External (MISO)	1.2327
953702	J821 E	6.6694	PJM External (MISO)	6.6694
953891	J849	13.1488	PJM External (MISO)	13.1488
953901	J850	23.6375	PJM External (MISO)	23.6375
954001	J864	3.3697	PJM External (MISO)	3.3697
954141	J878	29.1780	PJM External (MISO)	29.1780
954191	J886	17.0220	PJM External (MISO)	17.0220
954511	J926 C	0.8233	PJM External (MISO)	0.8233
954512	J926 E	4.4544	PJM External (MISO)	4.4544
954691	J732	35.4250	PJM External (MISO)	35.4250
954741	J928 C	1.3126	PJM External (MISO)	1.3126
954742	J928 E	7.1013	PJM External (MISO)	7.1013
955091	J986	12.7640	PJM External (MISO)	12.7640
955241	J1002	9.0882	PJM External (MISO)	9.0882
955251	J1003	5.0285	PJM External (MISO)	5.0285
955301	J1009	70.6280	PJM External (MISO)	70.6280
955311	J1010	60.9480	PJM External (MISO)	60.9480
955321	J1011	60.9480	PJM External (MISO)	60.9480
955581	J1042 C	3.6588	PJM External (MISO)	3.6588
955582	J1042 E	20.7332	PJM External (MISO)	20.7332
955671	J1051	5.8870	PJM External (MISO)	5.8870
955691	J1053	23.8160	PJM External (MISO)	23.8160
955981	J1085 C	3.1791	PJM External (MISO)	3.1791
955982	J1085 E	17.1999	PJM External (MISO)	17.1999
956141	J1101	2.2696	PJM External (MISO)	2.2696
956321	J1121	18.0520	PJM External (MISO)	18.0520
956571	J1153	19.2705	PJM External (MISO)	19.2705

956581	J1154	7.2795	PJM External (MISO)	7.2795
956731	J1171	11.3880	PJM External (MISO)	11.3880
956852	J1183 E	0.1420	PJM External (MISO)	0.1420
956901	J1188	4.4180	PJM External (MISO)	4.4180
957331	AF2-027 C	4.6738	50/50	4.6738
957332	AF2-027 E	7.0107	50/50	7.0107
958911	AF2-182	5.5920	Adder	12.41
958921	AF2-183 C	0.9941	Adder	2.21
958922	AF2-183 E	1.4912	Adder	3.31
959101	AF2-201 C O1	2.1854	Adder	4.85
959102	AF2-201 E O1	6.2757	Adder	13.93
959761	AF2-267 C O1	1.5776	Adder	3.5
959762	AF2-267 E O1	7.3857	Adder	16.39
960551	AF2-346 C	1.0659	Adder	2.37
960552	AF2-346 E	0.7106	Adder	1.58
960581	AF2-349 C	24.3576	50/50	24.3576
960582	AF2-349 E	16.2384	50/50	16.2384
960721	AF2-363 C O1	1.1441	Adder	2.54
960722	AF2-363 E O1	0.7628	Adder	1.69
960731	AF2-364 C O1	1.4035	Adder	3.12
960732	AF2-364 E O1	0.9357	Adder	2.08
961011	AF2-392 C O1	0.9559	Adder	2.12
961012	AF2-392 E O1	4.4753	Adder	9.93
961021	AF2-393 O1	1.6294	Adder	3.62
961031	AF2-394 O1	1.0862	Adder	2.41
WEC	WEC	5.5421	Confirmed LTF	5.5421
CBM-W2	CBM-W2	6.9205	Confirmed LTF	6.9205
NY	NY	0.1759	Confirmed LTF	0.1759
CBM-W1	CBM-W1	67.0161	Confirmed LTF	67.0161
TVA	TVA	0.7756	Confirmed LTF	0.7756
O-066	O-066	2.0429	Confirmed LTF	2.0429
CBM-S2	CBM-S2	0.3410	Confirmed LTF	0.3410
CBM-S1	CBM-S1	3.5443	Confirmed LTF	3.5443
TILTON	TILTON	0.1077	Confirmed LTF	0.1077
G-007	G-007	0.3151	Confirmed LTF	0.3151
MADISON	MADISON	12.6988	Confirmed LTF	12.6988
MEC	MEC	7.7210	Confirmed LTF	7.7210
GIBSON	GIBSON	0.0617	Confirmed LTF	0.0617
BLUEG	BLUEG	0.3715	Confirmed LTF	0.3715
TRIMBLE	TRIMBLE	0.1274	Confirmed LTF	0.1274

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
96631738	270886	ST JOHN ;T	CE	255104	17GREEN_ACRE	NIPS	1	COMED_P4_023-65-BT4-5__	breaker	1091.0	121.73	121.76	DC	26.91

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
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
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

11.6.5 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
96631728	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.99	122.09	DC	44.24

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
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
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
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

11.6.6 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
96631716	270927	WILTON ; R	CE	275233	WILTON ;4M	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.54	124.64	DC	45.19

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
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
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
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

11.6.7 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
96631842	270940	ZION STA ; B	CE	270806	LIBERTYV; B	CE	1	COMED_P4_016-45-BT6-11_	breaker	1201.0	110.97	111.57	DC	15.77

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274683	WAUKEGAN ;8U	12.2166	50/50	12.2166
274725	ZION EC ;1P	8.2538	50/50	8.2538
274726	ZION EC ;2P	8.2538	50/50	8.2538
274727	ZION EC ;3P	8.2538	50/50	8.2538
274828	WAUKEGAN ;BP	3.4747	50/50	3.4747
274830	U3-021 1	2.2388	Adder	2.63
274831	U3-021 2	2.2388	Adder	2.63
915011	Y3-013 1	8.7000	50/50	8.7000
915021	Y3-013 2	8.7000	50/50	8.7000
915031	Y3-013 3	8.7000	50/50	8.7000
924471	AB2-096	15.5474	Adder	18.29
926431	AC1-114	0.8840	Adder	1.04
927511	AC1-113 1	0.4422	Adder	0.52
927521	AC1-113 2	0.4422	Adder	0.52
932881	AC2-115 1	0.8843	Adder	1.04
932891	AC2-115 2	0.8843	Adder	1.04
932921	AC2-116	0.3094	Adder	0.36
936791	AD2-102 C	7.0696	Adder	8.32

936792	AD2-102 E	4.7131	Adder	5.54
950101	J390	60.4984	PJM External (MISO)	60.4984
951391	J505	15.4740	PJM External (MISO)	15.4740
952381	J703	17.8981	PJM External (MISO)	17.8981
952391	J704	7.6278	PJM External (MISO)	7.6278
952511	J584 C	0.6856	PJM External (MISO)	0.6856
952512	J584 E	3.7094	PJM External (MISO)	3.7094
953151	J831	7.5368	PJM External (MISO)	7.5368
953331	J801	4.0515	PJM External (MISO)	4.0515
953491	J947	43.8640	PJM External (MISO)	43.8640
953681	J818	15.3500	PJM External (MISO)	15.3500
953691	J819 C	0.9065	PJM External (MISO)	0.9065
953692	J819 E	4.9046	PJM External (MISO)	4.9046
953701	J821 C	1.5413	PJM External (MISO)	1.5413
953702	J821 E	8.3388	PJM External (MISO)	8.3388
953891	J849	17.5088	PJM External (MISO)	17.5088
953901	J850	25.8600	PJM External (MISO)	25.8600
954001	J864	3.1033	PJM External (MISO)	3.1033
954141	J878	40.5540	PJM External (MISO)	40.5540
954191	J886	23.1870	PJM External (MISO)	23.1870
954511	J926 C	0.8933	PJM External (MISO)	0.8933
954512	J926 E	4.8331	PJM External (MISO)	4.8331
954691	J732	41.7700	PJM External (MISO)	41.7700
954741	J928 C	1.7477	PJM External (MISO)	1.7477
954742	J928 E	9.4556	PJM External (MISO)	9.4556
955091	J986	15.7128	PJM External (MISO)	15.7128
955241	J1002	10.8474	PJM External (MISO)	10.8474
955251	J1003	5.9245	PJM External (MISO)	5.9245
955301	J1009	101.9360	PJM External (MISO)	101.9360
955311	J1010	106.6320	PJM External (MISO)	106.6320
955321	J1011	106.6320	PJM External (MISO)	106.6320
955581	J1042 C	4.4955	PJM External (MISO)	4.4955
955582	J1042 E	25.4745	PJM External (MISO)	25.4745
955671	J1051	7.5675	PJM External (MISO)	7.5675
955691	J1053	31.0460	PJM External (MISO)	31.0460
955981	J1085 C	3.8240	PJM External (MISO)	3.8240
955982	J1085 E	20.6890	PJM External (MISO)	20.6890
956051	J1092	5.1080	PJM External (MISO)	5.1080
956141	J1101	3.0916	PJM External (MISO)	3.0916
956321	J1121	23.2180	PJM External (MISO)	23.2180
956571	J1153	27.0570	PJM External (MISO)	27.0570
956581	J1154	7.7227	PJM External (MISO)	7.7227
956731	J1171	14.9060	PJM External (MISO)	14.9060
956852	J1183 E	0.1891	PJM External (MISO)	0.1891
956901	J1188	4.1005	PJM External (MISO)	4.1005
957331	AF2-027 C	5.8000	50/50	5.8000
957332	AF2-027 E	8.7000	50/50	8.7000
960581	AF2-349 C	4.2613	Adder	9.46
960582	AF2-349 E	2.8409	Adder	6.31
WEC	WEC	7.5389	Confirmed LTF	7.5389
CPL	CPL	0.0529	Confirmed LTF	0.0529
CBM-W2	CBM-W2	6.6912	Confirmed LTF	6.6912
NY	NY	0.0946	Confirmed LTF	0.0946

CBM-W1	CBM-W1	79.7012	Confirmed LTF	79.7012
TVA	TVA	0.8134	Confirmed LTF	0.8134
O-066	O-066	1.0752	Confirmed LTF	1.0752
CBM-S2	CBM-S2	0.8901	Confirmed LTF	0.8901
CBM-S1	CBM-S1	3.9192	Confirmed LTF	3.9192
TILTON	TILTON	0.0636	Confirmed LTF	0.0636
G-007	G-007	0.1664	Confirmed LTF	0.1664
MADISON	MADISON	13.2915	Confirmed LTF	13.2915
MEC	MEC	7.0520	Confirmed LTF	7.0520
GIBSON	GIBSON	0.0087	Confirmed LTF	0.0087
BLUEG	BLUEG	0.1614	Confirmed LTF	0.1614
TRIMBLE	TRIMBLE	0.0590	Confirmed LTF	0.0590

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
96633067	270942	ZION STA ;0B	CE	270915	WAUKEGAN ; R	CE	1	COMED_P7_345-L2221__R-N+_345-L2222__B-N-B	tower	1768.0	118.98	119.5	DC	20.03

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274725	ZION EC ;1P	11.9461	50/50	11.9461
274726	ZION EC ;2P	11.9461	50/50	11.9461
274727	ZION EC ;3P	11.9461	50/50	11.9461
274830	U3-021 1	2.8493	Adder	3.35
274831	U3-021 2	2.8493	Adder	3.35
294763	P-046 E	4.2548	Adder	5.01
915011	Y3-013 1	12.5919	50/50	12.5919
915021	Y3-013 2	12.5919	50/50	12.5919
915031	Y3-013 3	12.5919	50/50	12.5919
920272	AA2-123 E	0.8770	Adder	1.03
924471	AB2-096	19.7867	Adder	23.28
926431	AC1-114	1.1203	Adder	1.32
927511	AC1-113 1	0.5604	Adder	0.66
927521	AC1-113 2	0.5604	Adder	0.66
932881	AC2-115 1	1.1208	Adder	1.32
932891	AC2-115 2	1.1208	Adder	1.32
932921	AC2-116	0.3921	Adder	0.46
933931	AD1-016 C	0.3333	Adder	0.39
933932	AD1-016 E	0.5439	Adder	0.64
934651	AD1-096 C	0.3421	Adder	0.4
934652	AD1-096 E	0.5582	Adder	0.66
934971	AD1-129 C	0.3729	Adder	0.44
934972	AD1-129 E	0.2486	Adder	0.29
936791	AD2-102 C	8.7873	Adder	10.34
936792	AD2-102 E	5.8582	Adder	6.89
937311	AD2-172 C	1.1169	Adder	1.31
937312	AD2-172 E	1.5424	Adder	1.81

938861	AE1-114 C O1	1.5233	Adder	1.79
938862	AE1-114 E O1	5.1972	Adder	6.11
940501	AE2-035 C	1.1169	Adder	1.31
940502	AE2-035 E	1.5424	Adder	1.81
942991	AE2-321 C	2.9688	Adder	3.49
942992	AE2-321 E	1.4622	Adder	1.72
943801	AF1-048 C	1.3878	Adder	1.63
943802	AF1-048 E	0.9252	Adder	1.09
943921	AF1-060	0.5499	Adder	0.65
946501	AF1-314 C	1.9844	Adder	2.33
946502	AF1-314 E	9.2907	Adder	10.93
946661	AF1-330 C	0.7192	Adder	0.85
946662	AF1-330 E	0.1579	Adder	0.19
950101	J390	70.1509	PJM External (MISO)	70.1509
951391	J505	17.7990	PJM External (MISO)	17.7990
952381	J703	20.6177	PJM External (MISO)	20.6177
952391	J704	8.7873	PJM External (MISO)	8.7873
952431	J760	1.6584	PJM External (MISO)	1.6584
952511	J584 C	0.8011	PJM External (MISO)	0.8011
952512	J584 E	4.3343	PJM External (MISO)	4.3343
953111	J807 C	0.7997	PJM External (MISO)	0.7997
953112	J807 E	4.3267	PJM External (MISO)	4.3267
953151	J831	8.7160	PJM External (MISO)	8.7160
953331	J801	4.7382	PJM External (MISO)	4.7382
953491	J947	52.1740	PJM External (MISO)	52.1740
953681	J818	17.9381	PJM External (MISO)	17.9381
953691	J819 C	1.0668	PJM External (MISO)	1.0668
953692	J819 E	5.7714	PJM External (MISO)	5.7714
953701	J821 C	1.7825	PJM External (MISO)	1.7825
953702	J821 E	9.6440	PJM External (MISO)	9.6440
953891	J849	20.1675	PJM External (MISO)	20.1675
953901	J850	30.1525	PJM External (MISO)	30.1525
953921	J855 C	0.8215	PJM External (MISO)	0.8215
953922	J855 E	4.4445	PJM External (MISO)	4.4445
954001	J864	3.6620	PJM External (MISO)	3.6620
954061	J870	10.5320	PJM External (MISO)	10.5320
954071	J871	5.2660	PJM External (MISO)	5.2660
954141	J878	44.5540	PJM External (MISO)	44.5540
954191	J886	26.6700	PJM External (MISO)	26.6700
954511	J926 C	1.0436	PJM External (MISO)	1.0436
954512	J926 E	5.6460	PJM External (MISO)	5.6460
954691	J732	48.5080	PJM External (MISO)	48.5080
954741	J928 C	2.0131	PJM External (MISO)	2.0131
954742	J928 E	10.8916	PJM External (MISO)	10.8916
955091	J986	18.1898	PJM External (MISO)	18.1898
955241	J1002	12.5829	PJM External (MISO)	12.5829
955251	J1003	6.8830	PJM External (MISO)	6.8830
955301	J1009	131.9520	PJM External (MISO)	131.9520
955311	J1010	213.1040	PJM External (MISO)	213.1040
955321	J1011	213.1040	PJM External (MISO)	213.1040
955581	J1042 C	5.0181	PJM External (MISO)	5.0181
955582	J1042 E	28.4359	PJM External (MISO)	28.4359
955671	J1051	8.7655	PJM External (MISO)	8.7655

955691	J1053	35.9480	PJM External (MISO)	35.9480
955981	J1085 C	4.4343	PJM External (MISO)	4.4343
955982	J1085 E	23.9907	PJM External (MISO)	23.9907
956051	J1092	5.9800	PJM External (MISO)	5.9800
956141	J1101	3.5560	PJM External (MISO)	3.5560
956321	J1121	26.8020	PJM External (MISO)	26.8020
956571	J1153	31.2495	PJM External (MISO)	31.2495
956581	J1154	9.0247	PJM External (MISO)	9.0247
956731	J1171	17.2400	PJM External (MISO)	17.2400
956852	J1183 E	0.2178	PJM External (MISO)	0.2178
956901	J1188	4.7880	PJM External (MISO)	4.7880
957331	AF2-027 C	8.3946	50/50	8.3946
957332	AF2-027 E	12.5919	50/50	12.5919
959101	AF2-201 C O1	1.4489	Adder	3.22
959102	AF2-201 E O1	4.1605	Adder	9.24
959761	AF2-267 C O1	1.0460	Adder	2.32
959762	AF2-267 E O1	4.8969	Adder	10.87
960581	AF2-349 C	5.4136	Adder	12.02
960582	AF2-349 E	3.6090	Adder	8.01
WEC	WEC	8.9051	Confirmed LTF	8.9051
CPL	CPL	0.1118	Confirmed LTF	0.1118
CBM-W2	CBM-W2	8.6978	Confirmed LTF	8.6978
NY	NY	0.0735	Confirmed LTF	0.0735
CBM-W1	CBM-W1	94.5631	Confirmed LTF	94.5631
TVA	TVA	1.0836	Confirmed LTF	1.0836
O-066	O-066	0.8131	Confirmed LTF	0.8131
CBM-S2	CBM-S2	1.4970	Confirmed LTF	1.4970
CBM-S1	CBM-S1	5.3506	Confirmed LTF	5.3506
TILTON	TILTON	0.0239	Confirmed LTF	0.0239
G-007	G-007	0.1248	Confirmed LTF	0.1248
MADISON	MADISON	15.6684	Confirmed LTF	15.6684
MEC	MEC	8.5917	Confirmed LTF	8.5917
BLUEG	BLUEG	0.0660	Confirmed LTF	0.0660
TRIMBLE	TRIMBLE	0.0301	Confirmed LTF	0.0301

11.6.9 Index 9

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
96631607	274750	CRETE EC ;BP	CE	255112	17STJOHN	NIPS	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1399.0	155.15	155.22	DC	37.51

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
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
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

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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
96631727	275232	WILTON ;3M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.99	122.09	DC	44.24

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
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
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
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

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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
96631715	275233	WILTON ;4M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.54	124.64	DC	45.19

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
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
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
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

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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
95491201	956820	J1180 TAP	AMIL	247712	O5SULLIVAN	AEP	1	AEP_P4_#3128_05EUGENE 345_A2	breaker	1466.0	149.9	149.91	DC	18.81

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274650	KINCAID ;1U	16.4201	50/50	16.4201
274651	KINCAID ;2U	16.4134	50/50	16.4134
274830	U3-021 1	2.7006	Adder	3.18
274831	U3-021 2	2.7006	Adder	3.18
274853	TWINGROVE;U1	0.8780	50/50	0.8780
274854	TWINGROVE;U2	0.8780	50/50	0.8780
274859	EASYSR;U1 E	5.8205	Adder	6.85
274860	EASYSR;U2 E	5.8205	Adder	6.85
274880	GENERATOR;	1.1644	50/50	1.1644
274882	W4-005 E	45.2070	50/50	45.2070
274890	CAYUG;1U E	8.8046	Adder	10.36
274891	CAYUG;2U E	8.8046	Adder	10.36
276153	W2-048 E	9.4531	50/50	9.4531
290021	O50 E	9.3106	Adder	10.95
290051	GSG-6; E	4.7900	Adder	5.64
290108	LEEDK;1U E	10.5689	Adder	12.43
290261	S-027 E	20.3607	50/50	20.3607
290265	S-028 E	20.3607	50/50	20.3607
293516	O-009 E1	5.4128	Adder	6.37
293517	O-009 E2	2.7493	Adder	3.23
293518	O-009 E3	3.0277	Adder	3.56
293644	O22 E1	4.2351	Adder	4.98

293645	O22 E2	8.2211	Adder	9.67
293715	O-029 E	5.7868	Adder	6.81
293716	O-029 E	3.1728	Adder	3.73
293717	O-029 E	2.9162	Adder	3.43
293771	O-035 E	4.3577	Adder	5.13
294401	BSHIL;1U E	5.9235	Adder	6.97
294410	BSHIL;2U E	5.9235	Adder	6.97
294763	P-046 E	4.6158	Adder	5.43
909052	X2-022 E	28.4350	50/50	28.4350
917501	Z2-087 C	0.4565	50/50	0.4565
917502	Z2-087 E	17.7115	50/50	17.7115
918052	AA1-018 E OP	6.8407	Adder	8.05
919581	AA2-030	9.9554	Adder	11.71
920272	AA2-123 E	1.0469	Adder	1.23
924041	AB2-047 C O1	3.3082	50/50	3.3082
924042	AB2-047 E O1	22.1393	50/50	22.1393
924261	AB2-070 C O1	3.8212	50/50	3.8212
924262	AB2-070 E O1	24.2207	50/50	24.2207
924471	AB2-096	18.7544	Adder	22.06
925581	AC1-033 C	0.9699	Adder	1.14
925582	AC1-033 E	6.4929	Adder	7.64
925771	AC1-053 C	3.8568	50/50	3.8568
925772	AC1-053 E	25.8112	50/50	25.8112
926431	AC1-114	1.1133	Adder	1.31
926821	AC1-168 C O1	0.7021	Adder	0.83
926822	AC1-168 E O1	4.7116	Adder	5.54
926841	AC1-171 C O1	1.0395	50/50	1.0395
926842	AC1-171 E O1	6.9433	50/50	6.9433
927201	AC1-214 C O1	1.3986	Adder	1.65
927202	AC1-214 E O1	4.4460	Adder	5.23
927511	AC1-113 1	0.5567	Adder	0.65
927521	AC1-113 2	0.5567	Adder	0.65
930481	AB1-089	30.3080	Adder	35.66
930741	AB1-122 1O1	30.2194	Adder	35.55
932881	AC2-115 1	1.1133	Adder	1.31
932891	AC2-115 2	1.1133	Adder	1.31
932921	AC2-116	0.3897	Adder	0.46
933911	AD1-013 C	0.8324	Adder	0.98
933912	AD1-013 E	1.3297	Adder	1.56
933931	AD1-016 C	0.3978	Adder	0.47
933932	AD1-016 E	0.6491	Adder	0.76
934051	AD1-031 C O1	1.9693	Adder	2.32
934052	AD1-031 E O1	3.2131	Adder	3.78
934101	AD1-039 1	2.9615	Adder	3.48
934431	AD1-067 C	0.0601	Adder	0.07
934432	AD1-067 E	0.2529	Adder	0.3
934651	AD1-096 C	0.4384	Adder	0.52
934652	AD1-096 E	0.7153	Adder	0.84
934701	AD1-098 C O1	3.1831	Adder	3.74
934702	AD1-098 E O1	2.3240	Adder	2.73
934871	AD1-116 C	0.3984	Adder	0.47
934872	AD1-116 E	0.6500	Adder	0.76
934971	AD1-129 C	0.4056	Adder	0.48

934972	AD1-129 E	0.2704	Adder	0.32
935001	AD1-133 C O1	12.2446	Adder	14.41
935002	AD1-133 E O1	8.1631	Adder	9.6
935141	AD1-148	7.4113	50/50	7.4113
936291	AD2-038 C O1	1.1607	Adder	1.37
936292	AD2-038 E O1	7.7681	Adder	9.14
936511	AD2-066 C O1	4.0625	Adder	4.78
936512	AD2-066 E O1	2.7083	Adder	3.19
936771	AD2-100 C	22.4645	50/50	22.4645
936772	AD2-100 E	14.9764	50/50	14.9764
936791	AD2-102 C	6.7901	Adder	7.99
936792	AD2-102 E	4.5268	Adder	5.33
936971	AD2-131 C	1.4798	50/50	1.4798
936972	AD2-131 E	7.4347	50/50	7.4347
937001	AD2-134 C	1.2522	Adder	1.47
937002	AD2-134 E	5.1728	Adder	6.09
937211	AD2-159 C	4.8853	50/50	4.8853
937212	AD2-159 E	22.8722	50/50	22.8722
937311	AD2-172 C	1.2117	Adder	1.43
937312	AD2-172 E	1.6732	Adder	1.97
937531	AD2-214 C	2.7588	Adder	3.25
937532	AD2-214 E	1.8392	Adder	2.16
938851	AE1-113 C	3.8406	Adder	4.52
938852	AE1-113 E	13.6167	Adder	16.02
938861	AE1-114 C O1	2.0247	Adder	2.38
938862	AE1-114 E O1	6.9079	Adder	8.13
939051	AE1-134 1	0.7736	Adder	0.91
939061	AE1-134 2	0.7736	Adder	0.91
939321	AE1-163 C O1	2.9167	Adder	3.43
939322	AE1-163 E O1	17.9172	Adder	21.08
939401	AE1-172 C O1	2.9603	Adder	3.48
939402	AE1-172 E O1	13.8898	Adder	16.34
939741	AE1-205 C O1	8.5504	50/50	8.5504
939742	AE1-205 E O1	11.8076	50/50	11.8076
940101	AE1-252 C O1	5.9471	Adder	7.0
940102	AE1-252 E O1	3.9647	Adder	4.66
940501	AE2-035 C	1.2117	Adder	1.43
940502	AE2-035 E	1.6732	Adder	1.97
941131	AE2-107 C	3.1503	Adder	3.71
941132	AE2-107 E	2.1002	Adder	2.47
941343	AE2-130 BAT	31.8120	50/50	31.8120
941731	AE2-173 O1	5.0895	50/50	5.0895
942111	AE2-223 C	1.9849	50/50	1.9849
942112	AE2-223 E	13.2836	50/50	13.2836
942421	AE2-255 C O1	1.4548	Adder	1.71
942422	AE2-255 E O1	4.3643	Adder	5.13
942481	AE2-261 C	31.0577	50/50	31.0577
942482	AE2-261 E	20.7052	50/50	20.7052
942602	AE2-276 BAT	14.0105	50/50	14.0105
942651	AE2-281 C O1	0.4167	Adder	0.49
942652	AE2-281 E O1	2.5596	Adder	3.01
942991	AE2-321 C	3.5189	Adder	4.14
942992	AE2-321 E	1.7332	Adder	2.04

943381	AF1-009 C	0.2754	Adder	0.32
943382	AF1-009 E	1.1014	Adder	1.3
943401	AF1-011 C	0.7389	Adder	0.87
943402	AF1-011 E	1.2404	Adder	1.46
943411	AF1-012 C	6.4046	Adder	7.53
943412	AF1-012 E	4.2697	Adder	5.02
943801	AF1-048 C	1.6450	Adder	1.94
943802	AF1-048 E	1.0966	Adder	1.29
943921	AF1-060	0.5966	Adder	0.7
944202	AF1-088 FTWR	280.2100	50/50	280.2100
944221	AF1-090 C O1	6.8094	50/50	6.8094
944222	AF1-090 E O1	31.8806	50/50	31.8806
945871	AF1-252 O1	12.0713	50/50	12.0713
945881	AF1-253 O1	8.3570	50/50	8.3570
946151	AF1-280 C O1	8.4217	Adder	9.91
946152	AF1-280 E O1	3.8727	Adder	4.56
946161	AF1-281 C	0.1844	Adder	0.22
946162	AF1-281 E	1.0450	Adder	1.23
946321	AF1-296 C O1	2.6152	Adder	3.08
946322	AF1-296 E O1	12.2439	Adder	14.4
946501	AF1-314 C	2.1528	Adder	2.53
946502	AF1-314 E	10.0791	Adder	11.86
946531	AF1-317 C O1	1.2199	Adder	1.44
946541	AF1-318 C O1	3.8549	Adder	4.54
946542	AF1-318 E O1	18.0499	Adder	21.24
946661	AF1-330 C	0.8584	Adder	1.01
946662	AF1-330 E	0.1884	Adder	0.22
946671	AF1-331	1.0810	Adder	1.27
955131	J991	25.9737	PJM External (MISO)	25.9737
957021	AF2-003 C O1	1.5955	Adder	3.54
957022	AF2-003 E O1	7.4696	Adder	16.58
957381	AF2-032 C	2.3285	50/50	2.3285
957382	AF2-032 E	1.0957	50/50	1.0957
957471	AF2-041 C	5.3746	Adder	11.93
957472	AF2-041 E	3.5831	Adder	7.95
957751	AF2-069 C	0.0858	Adder	0.19
957752	AF2-069 E	0.2770	Adder	0.61
957761	AF2-070 C	0.1209	Adder	0.27
957762	AF2-070 E	0.5872	Adder	1.3
958341	AF2-128 C O1	0.5406	Adder	1.2
958342	AF2-128 E O1	2.5309	Adder	5.62
958481	AF2-142 C	2.5004	Adder	5.55
958482	AF2-142 E	1.6669	Adder	3.7
958491	AF2-143 C	2.8394	Adder	6.3
958492	AF2-143 E	1.8929	Adder	4.2
958911	AF2-182	5.8644	Adder	13.02
958921	AF2-183 C	1.0426	Adder	2.31
958922	AF2-183 E	1.5638	Adder	3.47
959081	AF2-199 C	1.7915	Adder	3.98
959082	AF2-199 E	1.1944	Adder	2.65
959091	AF2-200 C	3.5831	Adder	7.95
959092	AF2-200 E	2.3887	Adder	5.3
959101	AF2-201 C O1	1.5718	Adder	3.49

959102	AF2-201 E O1	4.5136	Adder	10.02
959341	AF2-225 C	6.4128	50/50	6.4128
959342	AF2-225 E	8.8557	50/50	8.8557
959351	AF2-226 C	0.5502	Adder	1.22
959352	AF2-226 E	0.8252	Adder	1.83
959611	AF2-252 C	2.5708	50/50	2.5708
959612	AF2-252 E	3.8562	50/50	3.8562
959761	AF2-267 C O1	1.1351	Adder	2.52
959762	AF2-267 E O1	5.3142	Adder	11.8
960141	AF2-305	1.3521	50/50	1.3521
960261	AF2-317	2.3716	50/50	2.3716
960281	AF2-319 C	0.5502	Adder	1.22
960282	AF2-319 E	0.8252	Adder	1.83
960551	AF2-346 C	1.4548	Adder	3.23
960552	AF2-346 E	0.9698	Adder	2.15
960581	AF2-349 C	5.0843	Adder	11.29
960582	AF2-349 E	3.3896	Adder	7.52
960611	AF2-352 C	2.5708	50/50	2.5708
960612	AF2-352 E	3.8562	50/50	3.8562
960623	AF2-353 BAT	31.8120	50/50	31.8120
960721	AF2-363 C O1	1.3562	Adder	3.01
960722	AF2-363 E O1	0.9042	Adder	2.01
960751	AF2-366 C O1	1.5712	Adder	3.49
960752	AF2-366 E O1	1.0474	Adder	2.32
961011	AF2-392 C O1	1.1727	Adder	2.6
961012	AF2-392 E O1	5.4902	Adder	12.19
961021	AF2-393 O1	1.9989	Adder	4.44
961031	AF2-394 O1	1.3326	Adder	2.96
990901	L-005 E	9.1810	Adder	10.8
WEC	WEC	2.0201	Confirmed LTF	2.0201
CPL	CPL	0.5953	Confirmed LTF	0.5953
CBM-W2	CBM-W2	70.4668	Confirmed LTF	70.4668
NY	NY	0.4468	Confirmed LTF	0.4468
CBM-W1	CBM-W1	61.5742	Confirmed LTF	61.5742
TVA	TVA	7.7938	Confirmed LTF	7.7938
O-066	O-066	4.9930	Confirmed LTF	4.9930
CBM-S2	CBM-S2	8.6238	Confirmed LTF	8.6238
CBM-S1	CBM-S1	36.9257	Confirmed LTF	36.9257
G-007	G-007	0.7706	Confirmed LTF	0.7706
MADISON	MADISON	25.0367	Confirmed LTF	25.0367
MEC	MEC	15.7613	Confirmed LTF	15.7613
BLUEG	BLUEG	2.7151	Confirmed LTF	2.7151
TRIMBLE	TRIMBLE	1.0039	Confirmed LTF	1.0039

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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
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96632161	960580	AF2-349 TAP	CE	270883	SILVER LK; R	CE	1	COMED_P1- 2_345- L0626__B- R-B	single	1479.0	118.08	124.55	DC	95.03
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Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274656	BYRON ;1U	52.1009	80/20	52.1009
274657	BYRON ;2U	50.9601	80/20	50.9601
274822	ROCKFORD ;11	4.7001	80/20	4.7001
274823	ROCKFORD ;21	4.8234	80/20	4.8234
274830	U3-021 1	25.1410	80/20	25.1410
274831	U3-021 2	25.1410	80/20	25.1410
290266	R-018	0.2820	80/20	0.2820
919581	AA2-030	17.0683	Adder	20.08
924471	AB2-096	174.5905	80/20	174.5905
926431	AC1-114	5.0394	80/20	5.0394
927511	AC1-113 1	2.1416	Adder	2.52
927521	AC1-113 2	2.1416	Adder	2.52
930481	AB1-089	142.1530	80/20	142.1530
932881	AC2-115 1	4.2831	Adder	5.04
932891	AC2-115 2	4.2831	Adder	5.04
932921	AC2-116	1.7638	80/20	1.7638
933911	AD1-013 C	1.2907	Adder	1.52
934431	AD1-067 C	0.0930	Adder	0.11
934651	AD1-096 C	1.4032	Adder	1.65
934701	AD1-098 C O1	4.9852	Adder	5.86
934971	AD1-129 C	1.1427	Adder	1.34
936791	AD2-102 C	24.5891	Adder	28.93
937001	AD2-134 C	1.9364	Adder	2.28
937311	AD2-172 C	3.8610	Adder	4.54
937531	AD2-214 C	3.8720	Adder	4.56
938861	AE1-114 C O1	5.2763	Adder	6.21
939051	AE1-134 1	1.3263	Adder	1.56
939061	AE1-134 2	1.3263	Adder	1.56
940501	AE2-035 C	3.8610	Adder	4.54
941131	AE2-107 C	4.2743	Adder	5.03
942991	AE2-321 C	4.1124	Adder	4.84
943381	AF1-009 C	0.4312	Adder	0.51
943401	AF1-011 C	1.0393	Adder	1.22
943411	AF1-012 C	9.3588	Adder	11.01
943801	AF1-048 C	1.9224	Adder	2.26
943921	AF1-060	1.9011	Adder	2.24
946151	AF1-280 C O1	19.1001	Adder	22.47
946161	AF1-281 C	0.4183	Adder	0.49
946321	AF1-296 C O1	3.2803	Adder	3.86
946501	AF1-314 C	6.8600	Adder	8.07
946531	AF1-317 C O1	1.7826	Adder	2.1
946671	AF1-331	1.6762	Adder	1.97
950101	J390	85.9950	PJM External (MISO)	85.9950
952431	J760	5.4783	PJM External (MISO)	5.4783
952511	J584 C	1.0907	PJM External (MISO)	1.0907
953111	J807 C	1.2441	PJM External (MISO)	1.2441
953681	J818	14.6616	PJM External (MISO)	14.6616

953691	J819 C	1.5290	PJM External (MISO)	1.5290
953901	J850	21.8100	PJM External (MISO)	21.8100
954001	J864	4.5297	PJM External (MISO)	4.5297
955221	J1000	3.7890	PJM External (MISO)	3.7890
955971	J1084	10.9800	PJM External (MISO)	10.9800
956581	J1154	7.3845	PJM External (MISO)	7.3845
956901	J1188	5.9740	PJM External (MISO)	5.9740
958911	AF2-182	13.3004	Adder	29.52
958921	AF2-183 C	2.3645	Adder	5.25
959101	AF2-201 C O1	5.0086	Adder	11.12
959761	AF2-267 C O1	3.6156	Adder	8.03
960551	AF2-346 C	2.1258	Adder	4.72
960581	AF2-349 C	95.0292	80/20	95.0292
960721	AF2-363 C O1	2.1842	Adder	4.85
960751	AF2-366 C O1	2.2786	Adder	5.06
961011	AF2-392 C O1	2.0775	Adder	4.61
961021	AF2-393 O1	3.5412	Adder	7.86
961031	AF2-394 O1	2.3608	Adder	5.24
WEC	WEC	0.6612	Confirmed LTF	0.6612
CBM-W2	CBM-W2	8.7961	Confirmed LTF	8.7961
NY	NY	0.2555	Confirmed LTF	0.2555
CBM-W1	CBM-W1	41.6583	Confirmed LTF	41.6583
TVA	TVA	0.9352	Confirmed LTF	0.9352
CBM-S2	CBM-S2	0.1387	Confirmed LTF	0.1387
CBM-S1	CBM-S1	4.1918	Confirmed LTF	4.1918
TILTON	TILTON	0.1228	Confirmed LTF	0.1228
MADISON	MADISON	11.7634	Confirmed LTF	11.7634
MEC	MEC	9.5960	Confirmed LTF	9.5960
GIBSON	GIBSON	0.0868	Confirmed LTF	0.0868
BLUEG	BLUEG	0.5382	Confirmed LTF	0.5382
TRIMBLE	TRIMBLE	0.1842	Confirmed LTF	0.1842

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
95491280	960680	AF2-359 TAP	CE	243229	05OLIVE	AEP	1	AEP_P4_#2978_05DUMONT_FS A	breaker	971.0	110.56	111.19	DC	29.57

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274806	UNIV PK N;2U	1.8341	50/50	1.8341
274808	UNIV PK N;4U	1.8341	50/50	1.8341
274809	UNIV PK N;5U	1.8341	50/50	1.8341
274811	UNIV PK N;7U	1.8341	50/50	1.8341
274812	UNIV PK N;8U	1.8341	50/50	1.8341
274814	UNIV PK N;0U	1.8341	50/50	1.8341
274815	UNIV PK N;XU	1.8341	50/50	1.8341
274830	U3-021 1	4.2120	Adder	4.96

274831	U3-021 2	4.2120	Adder	4.96
274881	PILOT HIL;1E	12.6830	Adder	14.92
275149	KELLYCK ;1E	12.6830	Adder	14.92
276167	Z1-106 E2	0.8743	Adder	1.03
276168	Z1-106 E1	0.8743	Adder	1.03
276169	Z1-107 E	1.8566	Adder	2.18
276170	Z1-108 E	1.7221	Adder	2.03
290021	O50 E	13.3076	Adder	15.66
290051	GSG-6; E	7.2539	Adder	8.53
290108	LEEDK;1U E	16.7960	Adder	19.76
293061	N-015 E	10.7712	Adder	12.67
293644	O22 E1	6.6849	Adder	7.86
293645	O22 E2	12.9766	Adder	15.27
294392	P-010 E	13.6794	Adder	16.09
915011	Y3-013 1	2.5967	Adder	3.05
915021	Y3-013 2	2.5967	Adder	3.05
915031	Y3-013 3	2.5967	Adder	3.05
918052	AA1-018 E OP	12.2295	Adder	14.39
920272	AA2-123 E	1.6893	Adder	1.99
924471	AB2-096	29.2502	Adder	34.41
926311	AC1-109 1	1.3213	Adder	1.55
926321	AC1-109 2	1.3213	Adder	1.55
926331	AC1-110 1	1.3140	Adder	1.55
926341	AC1-110 2	1.3140	Adder	1.55
926351	AC1-111 1	0.5285	Adder	0.62
926361	AC1-111 2	0.5285	Adder	0.62
926371	AC1-111 3	0.5285	Adder	0.62
926381	AC1-111 4	0.5285	Adder	0.62
926391	AC1-111 5	0.5285	Adder	0.62
926401	AC1-111 6	0.5285	Adder	0.62
926431	AC1-114	1.6410	Adder	1.93
927451	AC1-142A 1	2.9468	Adder	3.47
927461	AC1-142A 2	2.9455	Adder	3.47
927511	AC1-113 1	0.8205	Adder	0.97
927521	AC1-113 2	0.8205	Adder	0.97
930481	AB1-089	45.3569	Adder	53.36
930501	AB1-091 O1	48.7369	Adder	57.34
930741	AB1-122 1O1	49.5641	Adder	58.31
930751	AB1-122 2O1	50.9766	Adder	59.97
932881	AC2-115 1	1.6410	Adder	1.93
932891	AC2-115 2	1.6410	Adder	1.93
932921	AC2-116	0.5744	Adder	0.68
932931	AC2-117	8.9089	Adder	10.48
933411	AC2-154 C	1.7214	Adder	2.03
933412	AC2-154 E	2.8086	Adder	3.3
933431	AC2-156 C O1	0.6604	Adder	0.78
933432	AC2-156 E O1	1.0775	Adder	1.27
933911	AD1-013 C	1.2814	Adder	1.51
933912	AD1-013 E	2.0469	Adder	2.41
933931	AD1-016 C	0.6419	Adder	0.76
933932	AD1-016 E	1.0474	Adder	1.23
934101	AD1-039 1	4.8573	Adder	5.71
934111	AD1-039 2	4.9957	Adder	5.88

934431	AD1-067 C	0.0911	Adder	0.11
934432	AD1-067 E	0.3830	Adder	0.45
934651	AD1-096 C	0.6143	Adder	0.72
934652	AD1-096 E	1.0022	Adder	1.18
934701	AD1-098 C O1	4.7715	Adder	5.61
934702	AD1-098 E O1	3.4837	Adder	4.1
934721	AD1-100 C	13.2766	Adder	15.62
934722	AD1-100 E	61.9573	Adder	72.89
934871	AD1-116 C	0.7122	Adder	0.84
934872	AD1-116 E	1.1620	Adder	1.37
934971	AD1-129 C	0.6240	Adder	0.73
934972	AD1-129 E	0.4160	Adder	0.49
936291	AD2-038 C O1	1.6810	Adder	1.98
936292	AD2-038 E O1	11.2500	Adder	13.24
936371	AD2-047 C O1	3.0805	Adder	3.62
936372	AD2-047 E O1	15.0398	Adder	17.69
936461	AD2-060	1.8120	Adder	2.13
936511	AD2-066 C O1	5.8391	Adder	6.87
936512	AD2-066 E O1	3.8927	Adder	4.58
936791	AD2-102 C	9.7481	Adder	11.47
936792	AD2-102 E	6.4988	Adder	7.65
937001	AD2-134 C	1.8963	Adder	2.23
937002	AD2-134 E	7.8335	Adder	9.22
937401	AD2-194 1	5.4284	Adder	6.39
937411	AD2-194 2	5.4325	Adder	6.39
938511	AE1-070 1	6.3784	Adder	7.5
938521	AE1-070 2	5.8400	Adder	6.87
938851	AE1-113 C	5.4894	Adder	6.46
938852	AE1-113 E	19.4624	Adder	22.9
939321	AE1-163 C O1	4.2241	Adder	4.97
939322	AE1-163 E O1	25.9483	Adder	30.53
939351	AE1-166 C O1	7.0603	Adder	8.31
939352	AE1-166 E O1	6.5172	Adder	7.67
940752	AE2-062 E	0.0893	Adder	0.11
941131	AE2-107 C	5.0521	Adder	5.94
941132	AE2-107 E	3.3680	Adder	3.96
941551	AE2-152 C O1	8.1465	Adder	9.58
941552	AE2-152 E O1	5.4310	Adder	6.39
941561	AE2-153 C O1	3.2649	Adder	3.84
941562	AE2-153 E O1	15.2855	Adder	17.98
942421	AE2-255 C O1	2.0793	Adder	2.45
942422	AE2-255 E O1	6.2379	Adder	7.34
942651	AE2-281 C O1	0.6034	Adder	0.71
942652	AE2-281 E O1	3.7069	Adder	4.36
942991	AE2-321 C	5.6506	Adder	6.65
942992	AE2-321 E	2.7831	Adder	3.27
943121	AE2-341 C	8.8186	Adder	10.37
943122	AE2-341 E	4.3304	Adder	5.09
943381	AF1-009 C	0.4128	Adder	0.49
943382	AF1-009 E	1.6510	Adder	1.94
943591	AF1-030 C O1	5.8645	Adder	6.9
943592	AF1-030 E O1	2.9016	Adder	3.41
943801	AF1-048 C	2.6414	Adder	3.11

943802	AF1-048 E	1.7610	Adder	2.07
944041	AF1-072	1.4905	Adder	1.75
944911	AF1-156 C	8.3477	Adder	9.82
944912	AF1-156 E	5.5651	Adder	6.55
945351	AF1-200 FTIR	213.4308	Merchant Transmission	213.4308
946661	AF1-330 C	1.3852	Adder	1.63
946662	AF1-330 E	0.3041	Adder	0.36
946671	AF1-331	1.6641	Adder	1.96
957021	AF2-003 C O1	2.2874	Adder	5.08
957022	AF2-003 E O1	10.7090	Adder	23.77
957331	AF2-027 C	0.9175	Adder	2.04
957332	AF2-027 E	1.3762	Adder	3.05
957471	AF2-041 C	7.7903	Adder	17.29
957472	AF2-041 E	5.1935	Adder	11.53
958011	AF2-095 C O1	6.5293	Adder	14.49
958012	AF2-095 E O1	3.0726	Adder	6.82
958021	AF2-096 C O1	12.7704	Adder	28.35
958022	AF2-096 E O1	6.0391	Adder	13.41
958481	AF2-142 C	4.4701	Adder	9.92
958482	AF2-142 E	2.9801	Adder	6.62
958491	AF2-143 C	4.1121	Adder	9.13
958492	AF2-143 E	2.7414	Adder	6.09
959081	AF2-199 C	2.5968	Adder	5.76
959082	AF2-199 E	1.7312	Adder	3.84
959091	AF2-200 C	5.1935	Adder	11.53
959092	AF2-200 E	3.4624	Adder	7.69
959351	AF2-226 C	0.8684	Adder	1.93
959352	AF2-226 E	1.3026	Adder	2.89
959761	AF2-267 C O1	0.0257	Adder	0.06
959762	AF2-267 E O1	0.1203	Adder	0.27
960281	AF2-319 C	0.8684	Adder	1.93
960282	AF2-319 E	1.3026	Adder	2.89
960381	AF2-329	2.4252	Adder	5.38
960581	AF2-349 C	7.9930	Adder	17.74
960582	AF2-349 E	5.3287	Adder	11.83
960591	AF2-350 C O1	2.8809	Adder	6.39
960592	AF2-350 E O1	1.9206	Adder	4.26
960601	AF2-351 C O1	0.3841	Adder	0.85
960602	AF2-351 E O1	0.5762	Adder	1.28
960681	AF2-359 C	65.5680	50/50	65.5680
960682	AF2-359 E	43.7120	50/50	43.7120
960721	AF2-363 C O1	2.1813	Adder	4.84
960722	AF2-363 E O1	1.4542	Adder	3.23
960731	AF2-364 C O1	2.2530	Adder	5.0
960732	AF2-364 E O1	1.5020	Adder	3.33
960751	AF2-366 C O1	2.5495	Adder	5.66
960752	AF2-366 E O1	1.6997	Adder	3.77
WEC	WEC	3.0536	Confirmed LTF	3.0536
CALDERWOOD	CALDERWOOD	0.0268	Confirmed LTF	0.0268
CBM-W2	CBM-W2	15.3808	Confirmed LTF	15.3808
NY	NY	0.9196	Confirmed LTF	0.9196
CBM-W1	CBM-W1	46.1369	Confirmed LTF	46.1369
TVA	TVA	1.0304	Confirmed LTF	1.0304

O-066	O-066	10.8461	Confirmed LTF	10.8461
CHEOAH	CHEOAH	0.0355	Confirmed LTF	0.0355
CBM-S1	CBM-S1	3.9448	Confirmed LTF	3.9448
G-007	G-007	1.6765	Confirmed LTF	1.6765
MADISON	MADISON	15.6704	Confirmed LTF	15.6704
MEC	MEC	10.4445	Confirmed LTF	10.4445
GIBSON	GIBSON	0.0360	Confirmed LTF	0.0360
BLUEG	BLUEG	1.3228	Confirmed LTF	1.3228
TRIMBLE	TRIMBLE	0.4530	Confirmed LTF	0.4530
CATAWBA	CATAWBA	0.2167	Confirmed LTF	0.2167

11.7 Queue Dependencies

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

Queue Number	Project Name	Status
AA1-018	Powerton-Goodings Grove	In Service
AA2-030	Nelson	Active
AA2-123	Marengo 34kV	In Service
AB1-089	Byron-Wayne 345kV #1	Active
AB1-091	Davis Creek 345kV	Active
AB1-122	Kendall-Tazewell & Dresden-Mole Creek	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
AC1-109	Aurora 345kV	Active
AC1-110	Aurora 138kV	Active
AC1-111	Aurora 138kV	Active
AC1-113	Rockford	Active
AC1-114	Rockford II	Active
AC1-142A	Joliet	Active
AC1-168	Kewanee-Streator	Active
AC1-171	Powerton	Active
AC1-214	Crescent Ridge	Engineering and Procurement
AC2-115	Rockford	Active
AC2-116	Rockford II	Active
AC2-117	University Park North	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
AD1-116	Nevada 345 kV	Active
AD1-129	Belvidere 34 kV	Active
AD1-133	Pontiac MidPoint-Dresden	Active
AD1-148	Brokaw-Lanesville	Active
AD2-038	Powerton	Active
AD2-047	Davis Creek 138 kV	Active
AD2-060	Davis Creek 138kV	Active
AD2-066	Mazon-Crescent Ridge	Active
AD2-100	Kincaid-Pana	Active
AD2-102	Wempletown 345 kV	Active
AD2-131	Latham Kincaid	Active
AD2-134	Shady Oaks	Active
AD2-159	Chestnut 345kV	Active
AD2-172	Lena 138kV	Active
AD2-194	Elwood	Active
AD2-214	Rock Falls-Garden Plains	Active
AE1-070	Elwood 345 kV	Active
AE1-113	Mole Creek 345 kV	Active
AE1-114	Maryland-Lancaster 138 kV	Active
AE1-134	Nelson 345 kV	Active
AE1-163	Powerton-Nevada 345 kV	Active
AE1-166	Loretto-Wilton & Braidwood-Davis Creek	Active
AE1-172	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
AE2-062	Normantown	Active
AE2-107	Haumesser Road 138 kV	Active
AE2-130	Rockport 765 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
AE2-276	Sullivan 345kV	Active
AE2-281	Powerton-Nevada 345 kV	Active
AE2-321	Belvidere-Marengo 138 kV	Active
AE2-341	Sandwich-Plano	Active
AF1-009	Dixon-McGirr	Active
AF1-011	Schauff Road	Active
AF1-012	Electric Junc-Nelson	Active
AF1-030	Plano-R 138 kV	Active
AF1-048	Belvidere-Marengo	Active
AF1-060	Lena 138 kV	Active

AF1-072	Rocky Road	Active
AF1-088	Sullivan 345 kV	Active
AF1-090	Kincaid-Pana	Active
AF1-156	Braidwood-Davis Creek	Active
AF1-200	Plano 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
AF2-095	Wilmington-Davis Creek	Active
AF2-096	Braidwood-East Frankfort 345 kV	Active
AF2-128	Crescent Ridge-Corbin 138 kV	Active
AF2-142	Nevada 345 kV	Active
AF2-143	Powerton-Nevada 345 kV	Active
AF2-182	Nelson-Lee County 345 kV II	Active
AF2-183	Nelson-Lee County 345 kV	Active
AF2-199	Nelson-Electric Junction 345 kV	Active
AF2-200	Nelson-Electric Junction 345 kV	Active
AF2-201	Lena-Ecogrove 138 kV	Active
AF2-225	McLean 345 kV	Active
AF2-226	Katydid Road 345 kV	Active
AF2-252	Blue Mound 345 kV	Active
AF2-267	Lancaster 138 kV	Active
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
AF2-353	Rockport 765 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
AF2-392	Nelson-Dixon 138 kV	Active
AF2-393	Nelson-Dixon 138 kV	Active
AF2-394	Nelson-Dixon 138 kV	Active

AF2-441	Burnham 138kV	Active
U3-021	Silver Lake-Cherry Valley	Active
W2-048	Brokaw-Lanesville	In Service
W4-005	Blue Mound-Latham	Partially in Service - Under Construction
X2-022	Brokaw-Lanesville	In Service
X3-005	Wildwood 12kV	In Service
Y3-013	Zion Energy Center	Active
Z1-106	West Chicago 34kV	In Service
Z1-107	Joliet 34kV	In Service
Z1-108	McHenry 34kV	In Service
Z2-087	Pontiac MidPoint-Brokaw 345kV	In Service
J1000	MISO	MISO
J1002	MISO	MISO
J1003	MISO	MISO
J1009	MISO	MISO
J1010	MISO	MISO
J1011	MISO	MISO
J1042	MISO	MISO
J1051	MISO	MISO
J1053	MISO	MISO
J1058	MISO	MISO
J1084	MISO	MISO
J1085	MISO	MISO
J1092	MISO	MISO
J1101	MISO	MISO
J1121	MISO	MISO
J1153	MISO	MISO
J1154	MISO	MISO
J1171	MISO	MISO
J1183	MISO	MISO
J1188	MISO	MISO
J351	MISO	MISO
J390	MISO	MISO
J505	MISO	MISO
J584	MISO	MISO
J643	MISO	MISO
J703	MISO	MISO
J704	MISO	MISO
J732	MISO	MISO
J760	MISO	MISO
J801	MISO	MISO
J807	MISO	MISO
J818	MISO	MISO
J819	MISO	MISO
J821	MISO	MISO
J831	MISO	MISO
J847	MISO	MISO
J849	MISO	MISO
J850	MISO	MISO
J855	MISO	MISO
J864	MISO	MISO
J870	MISO	MISO
J871	MISO	MISO

J878	MISO	MISO
J886	MISO	MISO
J926	MISO	MISO
J928	MISO	MISO
J947	MISO	MISO
J986	MISO	MISO
J991	MISO	MISO

11.8 Contingency Descriptions

Contingency Name	Contingency Definition
AEP_P1-2_#286	CONTINGENCY 'AEP_P1-2_#286' OPEN BRANCH FROM BUS 243221 TO BUS 348885 CKT 1 / 243221 05EUGENE 345 348885 7BUNSONVILLE 345 1 END
COMED_P1-2_345-L11613AB-S	CONTINGENCY 'COMED_P1-2_345-L11613AB-S' TRIP BRANCH FROM BUS 270666 TO BUS 270664 CKT 1 / B ISL;BT 345 B ISL; B 345 TRIP BRANCH FROM BUS 270666 TO BUS 270926 CKT 1 / B ISL;BT 345 WILTO; B 345 TRIP BRANCH FROM BUS 270770 TO BUS 270666 CKT 1 / GOODI;4B 345 B ISL;BT 345 END
COMED_P1-2_345-L2219__B-N	CONTINGENCY 'COMED_P1-2_345-L2219__B-N' TRIP BRANCH FROM BUS 270940 TO BUS 270914 CKT 1 / ZION STA ; B 345 END
COMED_P7_345-L2221__R-N_+_345-L2222__B-N-B	CONTINGENCY 'COMED_P7_345-L2221__R-N_+_345-L2222__B-N-B' TRIP BRANCH FROM BUS 270940 TO BUS 270941 CKT 1 / ZION ; B 345 ZION ; R 345 TRIP BRANCH FROM BUS 270940 TO BUS 270942 CKT 1 / ZION ; B 345 ZION ;0B 345 TRIP BRANCH FROM BUS 270941 TO BUS 699432 CKT 1 / ZION ; R 345 PLS PR2 345 TRIP BRANCH FROM BUS 955310 TO BUS 699247 CKT 1 / J1010 TAP 345 ARCADN3 345 CLOSE BRANCH FROM BUS 270941 TO BUS 270942 CKT 1 / ZION ; R 345 ZION ;0B 345 END
COMED_P1-2_345-L0626__B-R-B	CONTINGENCY 'COMED_P1-2_345-L0626__B-R-B' TRIP BRANCH FROM BUS 930480 TO BUS 270916 CKT 1 / AB1-089 TAP 345 WAYNE ; B 345 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
COMED_P4_016-45-BT6-11__	CONTINGENCY 'COMED_P4_016-45-BT6-11__' TRIP BRANCH FROM BUS 270914 TO BUS 270830 CKT 1 / WAUKEGAN ; B 345 NBROOK159; B 345 TRIP BRANCH FROM BUS 270915 TO BUS 270914 CKT 1 / WAUKEGAN ; R 345 WAUKEGAN ; B 345 TRIP BRANCH FROM BUS 275206 TO BUS 270830 CKT 1 / NBROOK159;2M 138 NBROOK159; B 345 TRIP BRANCH FROM BUS 275206 TO BUS 272120 CKT 1 / NBROOK159;2M 138 NBROOK159; B 138 TRIP BRANCH FROM BUS 275206 TO BUS 275306 CKT 1 / NBROOK159;2M 138 NBROOK159;2C 34.5 CLOSE BRANCH FROM BUS 272120 TO BUS 272121 CKT 1 / NBROOK159; B 138 NBROOK159; R 138 TRIP BRANCH FROM BUS 270942 TO BUS 270915 CKT 1 / ZION STA ;OB 345 WAUKEGAN ; R 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
COMED_P1-2_345-L97116__-R_FSA	CONTINGENCY 'COMED_P1-2_345-L97116__-R_FSA' TRIP BRANCH FROM BUS 960580 TO BUS 270883 CKT 1 / U3-021 SILVE; 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-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_P1-2_345-L2218_GR-N	CONTINGENCY 'COMED_P1-2_345-L2218_GR-N' TRIP BRANCH FROM BUS 270942 TO BUS 270915 CKT 1 WAUKEGAN ; R 345 END	/ ZION STA ;0B 345
COMED_P4_112-65-BT3-4__	CONTINGENCY 'COMED_P4_112-65-BT3-4__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 765 TRIP BRANCH FROM BUS 275232 TO BUS 270644 CKT 1 TRIP BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 345 TRIP BRANCH FROM BUS 275232 TO BUS 275332 CKT 1 33 END	/ WILTO; 765 05DUMONT / WILTO;3M 345 WILTO; 765 / WILTO;3M 345 WILTO; B / WILTO;3M 345 WILTO;3C
COMED_P4_023-65-BT4-5__	CONTINGENCY 'COMED_P4_023-65-BT4-5__' TRIP BRANCH FROM BUS 275168 TO BUS 270607 CKT 1 TRIP BRANCH FROM BUS 275168 TO BUS 270697 CKT 1 TRIP BRANCH FROM BUS 275168 TO BUS 275268 CKT 1 TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 765 END	/ COLLI;2M 345 COLLI; 765 / COLLI;2M 345 COLLI; R 345 / COLLI;2M 345 COLLI;2C 33 / WILTO; 765 05DUMONT
COMED_P1-2_345-L2221__R-N	CONTINGENCY 'COMED_P1-2_345-L2221__R-N' TRIP BRANCH FROM BUS 270941 TO BUS 699432 CKT 1 END	/ ZION ; R 345 PLS PR2 345
Base Case		
COMED_P4_023-65-BT2-3__	CONTINGENCY 'COMED_P4_023-65-BT2-3__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 765 TRIP BRANCH FROM BUS 270607 TO BUS 270630 CKT 1 END	/ WILTO; 765 05DUMONT / COLLI; 765 PLANO; 765
COMED_P1-2_345-L0626__B-R-A	CONTINGENCY 'COMED_P1-2_345-L0626__B-R-A' TRIP BRANCH FROM BUS 270678 TO BUS 930480 CKT 1 TAP 345 END	/ BYRON ; B 345 AB1-089
AEP_P4_#2978_05DUMONT_NON_FSA	CONTINGENCY 'AEP_P4_#2978_05DUMONT_NON_FSA' OPEN BRANCH FROM BUS 243206 TO BUS 907040 CKT 1 X1-020 OPEN BRANCH FROM BUS 243207 TO BUS 907040 CKT 1 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 270644 WILTON ; 765 1 END	/ 243206 05DUMONT 765 / 243206 05DUMONT 765

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
AEP_P4_#3128_05EUGENE 345_A2	CONTINGENCY 'AEP_P4_#3128_05EUGENE 345_A2' OPEN BRANCH FROM BUS 243221 TO BUS 249504 CKT 1 / 243221 05EUGENE 345 249504 08CAYSUB 345 1 OPEN BRANCH FROM BUS 243221 TO BUS 348885 CKT 1 / 243221 05EUGENE 345 348885 7BUNSONVILLE 345 1 END

12 Short Circuit Analysis

The following breakers are overdutied:

None

12.1 System Reinforcements - Short Circuit

None

13 Summer Peak - Load Flow Analysis - Secondary POI

The Queue Project AF2-349 was evaluated as a 300.0 MW (Capacity 180.0 MW) injection at the Garden Prairie 345 kV substation in the ComEd area. Project AF2-349 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-349 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)

None

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 LOADING %	POST PROJE CT LOADING %	AC DC	MW IMPACT
96631729	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	AEP_P4_#2978_05DUMONT_FSA	breaker	1091.0	121.98	122.09	DC	26.67
96631730	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1091.0	121.98	122.09	DC	26.67
96631731	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P4_023-65-BT2-3__	breaker	1091.0	121.92	122.03	DC	26.91
96631732	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P4_112-65-BT4-5__	breaker	1091.0	121.76	121.88	DC	26.85
96631733	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P4_023-65-BT4-5__	breaker	1091.0	121.76	121.88	DC	26.84
95491611	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	COMED_P1-2_695_B2	single	1409.0	106.44	107.26	DC	25.58
96631621	270670	BRAIDWOOD; B	345.0	CE	934730	AD1-100 TAP	345.0	CE	1	COMED_P4_023-65-BT3-4__	breaker	1341.0	143.4	143.9	DC	21.23
96633144	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P7_345-L13821_R-R_+345-L18502AB-N	tower	1768.0	101.31	101.95	DC	24.9
156435954	270759	GARDEN PR; R	345.0	CE	270883	SILVER LK; R	345.0	CE	1	COMED_P1-2_345-L0626_B-R-B	single	1479.0	118.1	124.22	DC	89.79
156435955	270759	GARDEN PR; R	345.0	CE	270883	SILVER LK; R	345.0	CE	1	COMED_P1-2_345-L0626_B-R-A	single	1479.0	108.52	114.63	DC	89.79
156435956	270759	GARDEN PR; R	345.0	CE	270883	SILVER LK; R	345.0	CE	1	Base Case	single	1201.0	104.38	111.31	DC	82.89
96631406	270770	GOODING S;4B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	COMED_P2-2_116_GG-345R_2	bus	1802.0	117.14	117.73	DC	24.47
96631695	270770	GOODING S;4B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	COMED_P4_116-45-L11614__	breaker	1802.0	121.85	122.43	DC	24.37
96631696	270770	GOODING S;4B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	COMED_P4_116-45-L9801_FSA	breaker	1802.0	117.14	117.73	DC	24.47
96631697	270770	GOODING S;4B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	COMED_P4_116-45-TR82__	breaker	1802.0	117.12	117.71	DC	24.47
96631698	270770	GOODING S;4B	345.0	CE	270766	GOODINGS ;3B	345.0	CE	1	COMED_P4_112-45-BT4-5__	breaker	1802.0	116.85	117.3	DC	31.2
96631833	270807	LIBERTYVI ; R	345.0	CE	270857	P HTS 117; R	345.0	CE	1	COMED_P4_016-45-BT6-11__	breaker	1479.0	108.81	111.5	DC	39.52
96631872	270846	PLANO ; B	345.0	CE	275207	PLANO ;3M	345.0	CE	1	COMED_P4_167-45-BT5-6__	breaker	1379.0	104.05	104.37	DC	26.69
96631894	270847	PLANO ; R	345.0	CE	275208	PLANO ;4M	345.0	CE	1	COMED_P4_167-45-BT8-12__	breaker	1379.0	102.87	103.09	DC	24.51
96631734	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIPS	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1091.0	121.97	122.08	DC	26.67
96631735	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIPS	1	AEP_P4_#2978_05DUMONT_FSA	breaker	1091.0	121.97	122.08	DC	26.67
96631736	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIPS	1	COMED_P4_023-65-BT2-3__	breaker	1091.0	121.92	122.03	DC	26.91
96631737	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIPS	1	COMED_P4_112-65-BT4-5__	breaker	1091.0	121.76	121.88	DC	26.85
147699537	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_ACRE	345.0	NIPS	1	COMED_P4_112-65-BT3-4__	breaker	1091.0	121.76	121.88	DC	26.85
96631728	270926	WILTON ; B	345.0	CE	275232	WILTON ;3M	345.0	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.96	122.05	DC	44.14
96631716	270927	WILTON ; R	345.0	CE	275233	WILTON ;4M	345.0	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.51	124.6	DC	45.08
96631842	270940	ZION STA ; B	345.0	CE	270806	LIBERTYVI; B	345.0	CE	1	COMED_P4_016-45-BT6-11__	breaker	1201.0	110.97	111.57	DC	15.68
96633067	270942	ZION STA ;0B	345.0	CE	270915	WAUKEGA N ; R	345.0	CE	1	COMED_P7_345-L2221_R-N_+345-L2222_B-N-B	tower	1768.0	118.98	119.49	DC	19.95
96633068	270942	ZION STA ;0B	345.0	CE	270915	WAUKEGA N ; R	345.0	CE	1	COMED_P7_345-L2221_R-N_+345-L2222_B-N-A	tower	1768.0	106.29	106.8	DC	19.95

96631606	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	AEP_P4_#2978_05DUMONT_FSA	breaker	1399.0	155.14	155.23	DC	37.42
96631607	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	1399.0	155.14	155.23	DC	37.42
96631608	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	COMED_P4_112-65-BT4-5__	breaker	1399.0	155.03	155.12	DC	37.62
96632104	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	COMED_P1-2_695_B2	single	1399.0	107.5	108.23	DC	22.55
144403818	274804	UNIV PK N;RP	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P4_#2978_05DUMONT_FSA	breaker	971.0	106.99	107.09	DC	29.5
144403819	274804	UNIV PK N;RP	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	971.0	106.99	107.09	DC	29.5
144403820	274804	UNIV PK N;RP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P4_023-65-BT2-3__	breaker	971.0	106.67	106.77	DC	29.75
144403821	274804	UNIV PK N;RP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P4_112-65-BT4-5__	breaker	971.0	106.56	106.67	DC	29.72
144403822	274804	UNIV PK N;RP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P4_112-65-BT3-4__	breaker	971.0	106.56	106.67	DC	29.72
96632247	274817	ZION EC ;RP	345.0	CE	270941	ZION STA ; R	345.0	CE	1	COMED_P1-2_345-L2221_R-N	single	1201.0	111.81	112.77	DC	12.17
96633033	274817	ZION EC ;RP	345.0	CE	270941	ZION STA ; R	345.0	CE	1	COMED_P7_345-L2221_R-N + 345-L2222_B-N-A	tower	1367.0	137.49	138.15	DC	19.95
96633034	274817	ZION EC ;RP	345.0	CE	270941	ZION STA ; R	345.0	CE	1	COMED_P7_345-L2221_R-N + 345-L2222_B-N-B	tower	1367.0	122.73	123.39	DC	19.95
96631873	275207	PLANO ;3M	345.0	CE	270630	PLANO ;	765.0	CE	1	COMED_P4_167-45-BT5-6__	breaker	1379.0	104.05	104.37	DC	26.69
96631895	275208	PLANO ;4M	345.0	CE	270630	PLANO ;	765.0	CE	1	COMED_P4_167-45-BT8-12__	breaker	1379.0	102.87	103.09	DC	24.51
96631727	275232	WILTON ;3M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.96	122.05	DC	44.14
96631715	275233	WILTON ;4M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.51	124.6	DC	45.08
95491202	956820	J1180 TAP	345.0	AMI L	247712	05SULLIVAN	345.0	AEP	1	COMED_P4_080-45-BT4-5__	breaker	1466.0	137.04	137.12	DC	15.11

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 LOADIN G %	POST PROJE CT LOADIN G %	AC D C	MW IMPAC T
96632243	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P1-2_695_B2	operation	1091.0	121.75	121.86	DC	26.84
96632119	270670	BRAIDWOOD; B	345.0	CE	934730	AD1-100 TAP	345.0	CE	1	COMED_P1-2_765-L11216__-S	operation	1341.0	140.1	140.58	DC	20.41
96632260	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P1-3_TR81_LIBER_R-N	operation	1479.0	107.82	108.44	DC	20.43
156435952	270759	GARDEN PR; R	345.0	CE	270883	SILVER LK; R	345.0	CE	1	COMED_P1-2_345-L0626__B-R-B	operation	1479.0	127.9	138.02	DC	149.65

1564359 53	27075 9	GARDEN PR; R	345. 0	CE	27088 3	SILVER LK; R	345. 0	CE	1	Base Case	operati on	1201. 0	117.68	129.18	DC	138.15
9663228 7	27077 0	GOODINGS ;4B	345. 0	CE	27076 6	GOODINGS ;3B	345. 0	CE	1	COMED_P1- 2_345- L11613AB-S	operati on	1802. 0	112.73	113.13	DC	31.88
9663229 2	27077 0	GOODINGS ;4B	345. 0	CE	27076 6	GOODINGS ;3B	345. 0	CE	1	Base Case	operati on	1560. 0	99.53	100.2	DC	22.88
9663224 0	27088 6	ST JOHN ; T	345. 0	CE	25510 4	17GREEN_AC RE	345. 0	NIPS	1	COMED_P1- 2_695_B2	operati on	1091. 0	121.74	121.86	DC	26.84
9663233 3	27094 0	ZION STA ; B	345. 0	CE	27091 4	WAUKEGAN ; B	345. 0	CE	1	COMED_P1- 2_345- L2218_GR-N	operati on	1479. 0	113.41	113.88	DC	15.45
9663233 5	27094 2	ZION STA ;0B	345. 0	CE	27091 5	WAUKEGAN ; R	345. 0	CE	1	COMED_P1- 2_345- L2219__B-N	operati on	1479. 0	113.15	113.62	DC	15.38
9663210 1	27475 0	CRETE EC ;BP	345. 0	CE	25511 2	17STJOHN	345. 0	NIPS	1	COMED_P1- 2_695_B2	operati on	1399. 0	154.95	155.04	DC	37.58
9663210 2	27475 0	CRETE EC ;BP	345. 0	CE	25511 2	17STJOHN	345. 0	NIPS	1	Base Case	operati on	1091. 0	154.46	154.59	DC	23.97
1444042 50	27480 4	UNIV PK N;RP	345. 0	CE	24322 9	05OLIVE	345. 0	AEP	1	COMED_P1- 2_695_B2	operati on	971.0	106.53	106.64	DC	29.71
9663224 6	27481 7	ZION EC ;RP	345. 0	CE	27094 1	ZION STA ; R	345. 0	CE	1	COMED_P1- 2_345- L2221__R-N	operati on	1201. 0	120.82	121.59	DC	20.29
9663239 0	93048 0	AB1-089 TAP	345. 0	CE	27091 6	WAYNE ; B	345. 0	CE	1	COMED_P1- 2_345- L97116__- R_FSA	operati on	2058. 0	101.27	105.15	DC	78.77
9549148 1	95682 0	J1180 TAP	345. 0	AMIL	24771 2	05SULLIVAN	345. 0	AEP	1	COMED_P1- 2_345- L8001__S	operati on	1466. 0	132.77	132.83	DC	15.2

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
96631731	255112	17STJOHN	NIPS	270886	ST JOHN ; T	CE	1	COMED_P4_023- 65-BT2-3__	breaker	1091.0	121.92	122.03	DC	26.91

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	20.9263	50/50	20.9263
274655	BRAIDWOOD;2U	20.3696	50/50	20.3696
274687	WILL CNTY;4U	8.9362	50/50	8.9362
274751	CRETE EC ;1U	3.7811	50/50	3.7811
274752	CRETE EC ;2U	3.7811	50/50	3.7811
274753	CRETE EC ;3U	3.7811	50/50	3.7811
274754	CRETE EC ;4U	3.7811	50/50	3.7811
274861	TOP CROP ;1U	0.3653	50/50	0.3653
274862	TOP CROP ;2U	0.7090	50/50	0.7090
274881	PILOT HIL;1E	10.7993	Adder	12.71
275149	KELLYCK ;1E	10.7993	Adder	12.71
276167	Z1-106 E2	0.7969	Adder	0.94
276168	Z1-106 E1	0.7969	Adder	0.94
276169	Z1-107 E	1.5637	Adder	1.84
276170	Z1-108 E	1.5717	Adder	1.85
290021	O50 E	12.3216	Adder	14.5
290108	LEEDK;1U E	15.3051	Adder	18.01
293061	N-015 E	9.8175	Adder	11.55
293644	O22 E1	8.4701	50/50	8.4701
293645	O22 E2	16.4419	50/50	16.4419
294392	P-010 E	12.4682	Adder	14.67
915011	Y3-013 1	2.3712	Adder	2.79
915021	Y3-013 2	2.3712	Adder	2.79
915031	Y3-013 3	2.3712	Adder	2.79
920272	AA2-123 E	1.5414	Adder	1.81
924471	AB2-096	7.2673	Adder	8.55
926311	AC1-109 1	1.2019	Adder	1.41
926321	AC1-109 2	1.2019	Adder	1.41
926331	AC1-110 1	1.1989	Adder	1.41
926341	AC1-110 2	1.1989	Adder	1.41
926351	AC1-111 1	0.4802	Adder	0.56
926361	AC1-111 2	0.4802	Adder	0.56
926371	AC1-111 3	0.4802	Adder	0.56
926381	AC1-111 4	0.4802	Adder	0.56
926391	AC1-111 5	0.4802	Adder	0.56
926401	AC1-111 6	0.4802	Adder	0.56
927451	AC1-142A 1	2.7001	Adder	3.18
927461	AC1-142A 2	2.7015	Adder	3.18
930501	AB1-091 O1	42.6687	Adder	50.2
930741	AB1-122 1O1	44.6522	Adder	52.53
930751	AB1-122 2O1	47.4332	Adder	55.8
933411	AC2-154 C	1.4656	Adder	1.72
933412	AC2-154 E	2.3913	Adder	2.81
933431	AC2-156 C O1	0.6008	Adder	0.71
933432	AC2-156 E O1	0.9802	Adder	1.15
933931	AD1-016 C	0.5857	Adder	0.69
933932	AD1-016 E	0.9557	Adder	1.12
934101	AD1-039 1	4.3759	Adder	5.15
934111	AD1-039 2	4.6485	Adder	5.47
934721	AD1-100 C	12.0258	Adder	14.15

934722	AD1-100 E	56.1204	Adder	66.02
936371	AD2-047 C O1	2.6227	Adder	3.09
936372	AD2-047 E O1	12.8048	Adder	15.06
936461	AD2-060	1.5428	Adder	1.82
937401	AD2-194 1	5.0046	Adder	5.89
937411	AD2-194 2	4.9975	Adder	5.88
938511	AE1-070 1	5.8804	Adder	6.92
938521	AE1-070 2	5.3723	Adder	6.32
938851	AE1-113 C	5.0827	Adder	5.98
938852	AE1-113 E	18.0203	Adder	21.2
939351	AE1-166 C O1	6.4105	Adder	7.54
939352	AE1-166 E O1	5.9174	Adder	6.96
939631	AE1-193 C	18.9468	50/50	18.9468
939632	AE1-193 E	126.7981	50/50	126.7981
939641	AE1-194 C	18.9468	50/50	18.9468
939642	AE1-194 E	126.7981	50/50	126.7981
939651	AE1-195 C	18.9468	50/50	18.9468
939652	AE1-195 E	126.7981	50/50	126.7981
939681	AE1-198 C	56.2576	50/50	56.2576
939682	AE1-198 E	47.8044	50/50	47.8044
940752	AE2-062 E	0.1006	50/50	0.1006
941131	AE2-107 C	4.6033	Adder	5.42
941132	AE2-107 E	3.0688	Adder	3.61
941551	AE2-152 C O1	7.3968	Adder	8.7
941552	AE2-152 E O1	4.9312	Adder	5.8
941561	AE2-153 C O1	2.9492	Adder	3.47
941562	AE2-153 E O1	13.8077	Adder	16.24
942421	AE2-255 C O1	1.9252	Adder	2.26
942422	AE2-255 E O1	5.7757	Adder	6.79
942991	AE2-321 C	5.1563	Adder	6.07
942992	AE2-321 E	2.5396	Adder	2.99
943121	AE2-341 C	8.0183	Adder	9.43
943122	AE2-341 E	3.9374	Adder	4.63
943591	AF1-030 C O1	5.3322	Adder	6.27
943592	AF1-030 E O1	2.6382	Adder	3.1
943801	AF1-048 C	2.4104	Adder	2.84
943802	AF1-048 E	1.6069	Adder	1.89
944041	AF1-072	1.3604	Adder	1.6
944911	AF1-156 C	7.5406	Adder	8.87
944912	AF1-156 E	5.0271	Adder	5.91
945351	AF1-200 FTIR	195.6042	Merchant Transmission	195.6042
946661	AF1-330 C	1.2639	Adder	1.49
946662	AF1-330 E	0.2775	Adder	0.33
957331	AF2-027 C	0.8378	Adder	1.86
957332	AF2-027 E	1.2568	Adder	2.79
958011	AF2-095 C O2	5.6017	Adder	12.43
958012	AF2-095 E O2	2.6361	Adder	5.85
958021	AF2-096 C O2	27.7412	50/50	27.7412
958022	AF2-096 E O2	13.1188	50/50	13.1188
959351	AF2-226 C	2.0760	50/50	2.0760
959352	AF2-226 E	3.1140	50/50	3.1140
960281	AF2-319 C	2.0760	50/50	2.0760
960282	AF2-319 E	3.1140	50/50	3.1140

960381	AF2-329	2.2051	Adder	4.89
960581	AF2-349 C	7.2746	Adder	16.15
960582	AF2-349 E	4.8497	Adder	10.77
960591	AF2-350 C O2	2.4530	Adder	5.45
960592	AF2-350 E O2	1.6353	Adder	3.63
960601	AF2-351 C O2	0.3271	Adder	0.73
960602	AF2-351 E O2	0.4906	Adder	1.09
960731	AF2-364 C O2	2.0548	Adder	4.56
960732	AF2-364 E O2	1.3699	Adder	3.04
960751	AF2-366 C O2	2.3238	Adder	5.16
960752	AF2-366 E O2	1.5492	Adder	3.44
WEC	WEC	2.7871	Confirmed LTF	2.7871
CALDERWOOD	CALDERWOOD	0.0656	Confirmed LTF	0.0656
CBM-W2	CBM-W2	13.0712	Confirmed LTF	13.0712
NY	NY	0.8361	Confirmed LTF	0.8361
CBM-W1	CBM-W1	41.7459	Confirmed LTF	41.7459
TVA	TVA	0.8036	Confirmed LTF	0.8036
O-066	O-066	9.8717	Confirmed LTF	9.8717
CHEOAH	CHEOAH	0.0736	Confirmed LTF	0.0736
CBM-S1	CBM-S1	2.6582	Confirmed LTF	2.6582
G-007	G-007	1.5257	Confirmed LTF	1.5257
MADISON	MADISON	14.3862	Confirmed LTF	14.3862
MEC	MEC	9.4625	Confirmed LTF	9.4625
GIBSON	GIBSON	0.1343	Confirmed LTF	0.1343
BLUEG	BLUEG	1.5312	Confirmed LTF	1.5312
TRIMBLE	TRIMBLE	0.5192	Confirmed LTF	0.5192
CATAWBA	CATAWBA	0.2180	Confirmed LTF	0.2180

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
95491611	255113	17STILLWELL	NIPS	243219	05DUMONT	AEP	1	COMED_P1-2_695_B2	single	1409.0	106.44	107.26	DC	25.58

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	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 (Withdrawn : 07/22/2020)	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
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
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	11.5221	Adder	25.58
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
BLUEG	BLUEG	1.7030	Confirmed LTF	1.7030
TRIMBLE	TRIMBLE	0.5994	Confirmed LTF	0.5994
CATAWBA	CATAWBA	0.3045	Confirmed LTF	0.3045

13.5.3 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
96631621	270670	BRAIDWOOD; B	CE	934730	AD1-100 TAP	CE	1	COMED_P4_023-65-BT3-4__	breaker	1341.0	143.4	143.9	DC	21.23

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	70.1537	50/50	70.1537
274655	BRAIDWOOD;2U	67.5163	50/50	67.5163
274660	LASCO STA;1U	50.7126	50/50	50.7126
274661	LASCO STA;2U	50.9183	50/50	50.9183
274830	U3-021 1	3.0318	Adder	3.57
274831	U3-021 2	3.0318	Adder	3.57
274847	GR RIDGE ;BU	1.0795	50/50	1.0795
274859	EASYR;U1 E	5.1106	Adder	6.01
274860	EASYR;U2 E	5.1106	Adder	6.01
274871	GR RIDGE ;2U	1.3709	50/50	1.3709
276167	Z1-106 E2	0.6984	Adder	0.82
276168	Z1-106 E1	0.6985	Adder	0.82
276170	Z1-108 E	1.2706	Adder	1.49
276173	Z2-081	0.3310	50/50	0.3310
290051	GSG-6; E	5.6835	Adder	6.69
290108	LEEDK;1U E	13.6272	Adder	16.03
293061	N-015 E	25.0320	50/50	25.0320
294392	P-010 E	31.7906	50/50	31.7906
294763	P-046 E	4.5002	Adder	5.29
915011	Y3-013 1	1.7807	Adder	2.09
915021	Y3-013 2	1.7807	Adder	2.09
915031	Y3-013 3	1.7807	Adder	2.09
919581	AA2-030	7.9002	Adder	9.29
920272	AA2-123 E	1.2328	Adder	1.45
924041	AB2-047 C O1	-3.0249	Adder	-3.56
924471	AB2-096	21.0541	Adder	24.77
926311	AC1-109 1	1.0802	Adder	1.27
926321	AC1-109 2	1.0802	Adder	1.27
926331	AC1-110 1	1.0762	Adder	1.27
926341	AC1-110 2	1.0762	Adder	1.27

926351	AC1-111 1	0.4271	Adder	0.5
926361	AC1-111 2	0.4271	Adder	0.5
926371	AC1-111 3	0.4271	Adder	0.5
926381	AC1-111 4	0.4271	Adder	0.5
926391	AC1-111 5	0.4271	Adder	0.5
926401	AC1-111 6	0.4271	Adder	0.5
926431	AC1-114	1.1667	Adder	1.37
926821	AC1-168 C O1	0.6734	Adder	0.79
926822	AC1-168 E O1	4.5190	Adder	5.32
927451	AC1-142A 1	1.6143	Adder	1.9
927461	AC1-142A 2	1.6146	Adder	1.9
927511	AC1-113 1	0.5834	Adder	0.69
927521	AC1-113 2	0.5834	Adder	0.69
930481	AB1-089	32.7157	Adder	38.49
930751	AB1-122 2O1	15.8787	Adder	18.68
932881	AC2-115 1	1.1667	Adder	1.37
932891	AC2-115 2	1.1667	Adder	1.37
932921	AC2-116	0.4083	Adder	0.48
932931	AC2-117	3.8232	Adder	4.5
933431	AC2-156 C O1	0.6180	Adder	0.73
933432	AC2-156 E O1	1.0084	Adder	1.19
933911	AD1-013 C	1.0141	Adder	1.19
933912	AD1-013 E	1.6199	Adder	1.91
933931	AD1-016 C	0.4685	Adder	0.55
933932	AD1-016 E	0.7644	Adder	0.9
934111	AD1-039 2	2.6928	Adder	3.17
934431	AD1-067 C	0.0714	Adder	0.08
934432	AD1-067 E	0.3001	Adder	0.35
934651	AD1-096 C (Withdrawn : 07/22/2020)	0.4311	Adder	0.51
934652	AD1-096 E (Withdrawn : 07/22/2020)	0.7033	Adder	0.83
934701	AD1-098 C O1	3.7113	Adder	4.37
934702	AD1-098 E O1	2.7096	Adder	3.19
934971	AD1-129 C	0.4499	Adder	0.53
934972	AD1-129 E	0.3000	Adder	0.35
936791	AD2-102 C	6.8034	Adder	8.0
936792	AD2-102 E	4.5356	Adder	5.34
937001	AD2-134 C	1.4858	Adder	1.75
937002	AD2-134 E	6.1377	Adder	7.22
937311	AD2-172 C	1.1813	Adder	1.39
937312	AD2-172 E	1.6313	Adder	1.92
938861	AE1-114 C O1	1.8554	Adder	2.18
938862	AE1-114 E O1	6.3301	Adder	7.45
939051	AE1-134 1	0.6139	Adder	0.72
939061	AE1-134 2	0.6139	Adder	0.72
939631	AE1-193 C	4.1531	Adder	4.89
939632	AE1-193 E	27.7941	Adder	32.7
939641	AE1-194 C	4.1531	Adder	4.89
939642	AE1-194 E	27.7941	Adder	32.7
939651	AE1-195 C	4.1531	Adder	4.89
939652	AE1-195 E	27.7941	Adder	32.7
939681	AE1-198 C	12.3316	Adder	14.51
939682	AE1-198 E	10.4787	Adder	12.33

940501	AE2-035 C	1.1813	Adder	1.39
940502	AE2-035 E	1.6313	Adder	1.92
940752	AE2-062 E	0.0493	Adder	0.06
941131	AE2-107 C	4.1244	Adder	4.85
941132	AE2-107 E	2.7496	Adder	3.23
941561	AE2-153 C O1	7.2730	50/50	7.2730
941562	AE2-153 E O1	34.0510	50/50	34.0510
941732	AE2-173 BAT	5.4750	50/50	5.4750
942991	AE2-321 C	4.1203	Adder	4.85
942992	AE2-321 E	2.0294	Adder	2.39
943121	AE2-341 C	10.0872	50/50	10.0872
943122	AE2-341 E	4.9533	50/50	4.9533
943381	AF1-009 C	0.3210	Adder	0.38
943382	AF1-009 E	1.2842	Adder	1.51
943411	AF1-012 C	5.6593	Adder	6.66
943412	AF1-012 E	3.7729	Adder	4.44
943591	AF1-030 C O1	6.7081	50/50	6.7081
943592	AF1-030 E O1	3.3189	50/50	3.3189
943801	AF1-048 C	1.9261	Adder	2.27
943802	AF1-048 E	1.2841	Adder	1.51
943921	AF1-060	0.5817	Adder	0.68
944041	AF1-072	1.1379	Adder	1.34
944911	AF1-156 C	18.5958	50/50	18.5958
944912	AF1-156 E	12.3972	50/50	12.3972
945351	AF1-200 FTIR	307.1426	50/50	307.1426
946151	AF1-280 C O1	7.1722	Adder	8.44
946152	AF1-280 E O1	3.2981	Adder	3.88
946161	AF1-281 C	0.1571	Adder	0.18
946162	AF1-281 E	0.8900	Adder	1.05
946501	AF1-314 C	2.0989	Adder	2.47
946502	AF1-314 E	9.8267	Adder	11.56
946531	AF1-317 C O1	1.0780	Adder	1.27
946661	AF1-330 C	1.0109	Adder	1.19
946662	AF1-330 E	0.2219	Adder	0.26
946671	AF1-331	1.3170	Adder	1.55
957021	AF2-003 C O2	7.1198	50/50	7.1198
957022	AF2-003 E O2	33.3337	50/50	33.3337
957331	AF2-027 C	0.6292	Adder	1.4
957332	AF2-027 E	0.9438	Adder	2.1
957471	AF2-041 C	5.7996	Adder	12.87
957472	AF2-041 E	3.8664	Adder	8.58
958021	AF2-096 C O2	82.1900	50/50	82.1900
958022	AF2-096 E O2	38.8675	50/50	38.8675
958911	AF2-182	4.9943	Adder	11.09
958921	AF2-183 C	0.8879	Adder	1.97
958922	AF2-183 E	1.3318	Adder	2.96
959081	AF2-199 C O2	1.9332	Adder	4.29
959082	AF2-199 E O2	1.2888	Adder	2.86
959091	AF2-200 C O2	3.8664	Adder	8.58
959092	AF2-200 E O2	2.5776	Adder	5.72
959101	AF2-201 C O2	1.5324	Adder	3.4
959102	AF2-201 E O2	4.4006	Adder	9.77
959613	AF2-252 BAT	2.2223	Merchant Transmission	2.2223

959761	AF2-267 C O2	1.1067	Adder	2.46
959762	AF2-267 E O2	5.1811	Adder	11.5
960381	AF2-329	5.2341	50/50	5.2341
960551	AF2-346 C	1.2855	Adder	2.85
960552	AF2-346 E	0.8570	Adder	1.9
960581	AF2-349 C	5.7387	Adder	12.74
960582	AF2-349 E	3.8258	Adder	8.49
960613	AF2-352 BAT	2.2223	Merchant Transmission	2.2223
960721	AF2-363 C O2	1.6821	Adder	3.73
960722	AF2-363 E O2	1.1214	Adder	2.49
960731	AF2-364 C O2	1.7661	Adder	3.92
960732	AF2-364 E O2	1.1774	Adder	2.61
960751	AF2-366 C O2	2.0921	Adder	4.64
960752	AF2-366 E O2	1.3948	Adder	3.1
961011	AF2-392 C O2	0.9434	Adder	2.09
961012	AF2-392 E O2	4.4167	Adder	9.8
961021	AF2-393 O2	1.6080	Adder	3.57
961031	AF2-394 O2	1.0720	Adder	2.38
WEC	WEC	2.0349	Confirmed LTF	2.0349
NEWTON	NEWTON	2.3016	Confirmed LTF	2.3016
CALDERWOOD	CALDERWOOD	0.6531	Confirmed LTF	0.6531
NY	NY	0.8306	Confirmed LTF	0.8306
CBM-W1	CBM-W1	26.8965	Confirmed LTF	26.8965
PRAIRIE	PRAIRIE	3.2417	Confirmed LTF	3.2417
O-066	O-066	9.9658	Confirmed LTF	9.9658
CHEOAH	CHEOAH	0.6582	Confirmed LTF	0.6582
TILTON	TILTON	1.8925	Confirmed LTF	1.8925
G-007	G-007	1.5423	Confirmed LTF	1.5423
MADISON	MADISON	7.8664	Confirmed LTF	7.8664
MEC	MEC	4.1171	Confirmed LTF	4.1171
GIBSON	GIBSON	1.0057	Confirmed LTF	1.0057
BLUEG	BLUEG	2.8870	Confirmed LTF	2.8870
TRIMBLE	TRIMBLE	0.9249	Confirmed LTF	0.9249
CATAWBA	CATAWBA	0.4812	Confirmed LTF	0.4812

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
96633144	270730	ELECT JCT; B	CE	270812	LOMBARD ; B	CE	1	COMED_P7_345-L13821_R-R+_345-L18502AB-N	tower	1768.0	101.31	101.95	DC	24.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274738	AURORA EC;3P	4.5978	50/50	4.5978
274740	AURORA EC;4P	4.5978	50/50	4.5978
274818	ELGIN EC ;1P	2.4278	50/50	2.4278
274820	ELGIN EC ;2P	2.4278	50/50	2.4278
274830	U3-021 1	3.5557	Adder	4.18

274831	U3-021 2	3.5557	Adder	4.18
274859	EASYR;U1 E	7.2795	Adder	8.56
274860	EASYR;U2 E	7.2795	Adder	8.56
274872	LEE DEKAL;1U	0.9118	50/50	0.9118
276167	Z1-106 E2	1.2029	50/50	1.2029
276168	Z1-106 E1	1.2115	50/50	1.2115
276170	Z1-108 E	1.3289	Adder	1.56
290051	GSG-6; E	7.8496	Adder	9.23
290108	LEEDK;1U E	22.0240	50/50	22.0240
292543	L-013 2	0.6017	50/50	0.6017
293516	O-009 E1	5.3360	Adder	6.28
293517	O-009 E2	2.7103	Adder	3.19
293518	O-009 E3	2.9848	Adder	3.51
293715	O-029 E	5.7048	Adder	6.71
293716	O-029 E	3.1279	Adder	3.68
293717	O-029 E	2.8749	Adder	3.38
294763	P-046 E	5.2428	Adder	6.17
919581	AA2-030	12.4989	Adder	14.7
920272	AA2-123 E	1.4074	Adder	1.66
924471	AB2-096	24.6925	Adder	29.05
926331	AC1-110 1	2.6304	50/50	2.6304
926341	AC1-110 2	2.6304	50/50	2.6304
926351	AC1-111 1	0.3950	Adder	0.46
926361	AC1-111 2	0.3950	Adder	0.46
926371	AC1-111 3	0.3950	Adder	0.46
926381	AC1-111 4	0.3950	Adder	0.46
926391	AC1-111 5	0.3950	Adder	0.46
926401	AC1-111 6	0.3950	Adder	0.46
926431	AC1-114	1.3088	Adder	1.54
927511	AC1-113 1	0.6542	Adder	0.77
927521	AC1-113 2	0.6542	Adder	0.77
930481	AB1-089	41.4906	Adder	48.81
932881	AC2-115 1	1.3085	Adder	1.54
932891	AC2-115 2	1.3085	Adder	1.54
932921	AC2-116	0.4581	Adder	0.54
933431	AC2-156 C O1	0.6831	Adder	0.8
933432	AC2-156 E O1	1.1146	Adder	1.31
933911	AD1-013 C	1.3964	Adder	1.64
933912	AD1-013 E	2.2307	Adder	2.62
933931	AD1-016 C	0.5348	Adder	0.63
933932	AD1-016 E	0.8726	Adder	1.03
934431	AD1-067 C	0.0986	Adder	0.12
934432	AD1-067 E	0.4144	Adder	0.49
934651	AD1-096 C (Withdrawn : 07/22/2020)	0.5403	Adder	0.64
934652	AD1-096 E (Withdrawn : 07/22/2020)	0.8816	Adder	1.04
934701	AD1-098 C O1	5.1331	Adder	6.04
934702	AD1-098 E O1	3.7477	Adder	4.41
934971	AD1-129 C	0.5145	Adder	0.61
934972	AD1-129 E	0.3430	Adder	0.4
936791	AD2-102 C	6.3689	Adder	7.49
936792	AD2-102 E	4.2459	Adder	5.0
937001	AD2-134 C	2.0520	Adder	2.41

937002	AD2-134 E	8.4768	Adder	9.97
937311	AD2-172 C	1.3762	Adder	1.62
937312	AD2-172 E	1.9005	Adder	2.24
937531	AD2-214 C	2.6291	Adder	3.09
937532	AD2-214 E	1.7527	Adder	2.06
938861	AE1-114 C O1	2.3643	Adder	2.78
938862	AE1-114 E O1	8.0665	Adder	9.49
939051	AE1-134 1	0.9713	Adder	1.14
939061	AE1-134 2	0.9713	Adder	1.14
940501	AE2-035 C	1.3762	Adder	1.62
940502	AE2-035 E	1.9005	Adder	2.24
941131	AE2-107 C	6.6600	50/50	6.6600
941132	AE2-107 E	4.4400	50/50	4.4400
942991	AE2-321 C	4.7103	Adder	5.54
942992	AE2-321 E	2.3200	Adder	2.73
943121	AE2-341 C	8.8229	Adder	10.38
943122	AE2-341 E	4.3325	Adder	5.1
943381	AF1-009 C	0.4440	Adder	0.52
943382	AF1-009 E	1.7762	Adder	2.09
943401	AF1-011 C	0.7285	Adder	0.86
943402	AF1-011 E	1.2228	Adder	1.44
943411	AF1-012 C	12.1348	50/50	12.1348
943412	AF1-012 E	8.0899	50/50	8.0899
943591	AF1-030 C O1	5.8673	Adder	6.9
943592	AF1-030 E O1	2.9030	Adder	3.42
943801	AF1-048 C	2.2019	Adder	2.59
943802	AF1-048 E	1.4679	Adder	1.73
943921	AF1-060	0.6776	Adder	0.8
944041	AF1-072	1.4740	Adder	1.73
945351	AF1-200 FTIR	152.7064	Merchant Transmission	152.7064
946151	AF1-280 C O1	10.5445	Adder	12.41
946152	AF1-280 E O1	4.8490	Adder	5.7
946161	AF1-281 C	0.2309	Adder	0.27
946162	AF1-281 E	1.3084	Adder	1.54
946321	AF1-296 C O1	2.1653	Adder	2.55
946322	AF1-296 E O1	10.1374	Adder	11.93
946501	AF1-314 C	2.4452	Adder	2.88
946502	AF1-314 E	11.4482	Adder	13.47
946531	AF1-317 C O1	2.3114	50/50	2.3114
946661	AF1-330 C	1.1541	Adder	1.36
946662	AF1-330 E	0.2533	Adder	0.3
946671	AF1-331	1.8136	Adder	2.13
955971	J1084	9.7470	PJM External (MISO)	9.7470
956411	J1131	5.3340	PJM External (MISO)	5.3340
957333	AF2-027 BAT	5.3640	50/50	5.3640
957471	AF2-041 C	28.4076	50/50	28.4076
957472	AF2-041 E	18.9384	50/50	18.9384
958911	AF2-182	7.3427	Adder	16.3
958921	AF2-183 C	1.3054	Adder	2.9
958922	AF2-183 E	1.9581	Adder	4.35
959081	AF2-199 C O2	9.4692	50/50	9.4692
959082	AF2-199 E O2	6.3128	50/50	6.3128
959091	AF2-200 C O2	18.9384	50/50	18.9384

959092	AF2-200 E O2	12.6256	50/50	12.6256
959101	AF2-201 C O2	1.7853	Adder	3.96
959102	AF2-201 E O2	5.1267	Adder	11.38
959761	AF2-267 C O2	1.2896	Adder	2.86
959762	AF2-267 E O2	6.0376	Adder	13.4
960381	AF2-329	2.4264	Adder	5.39
960551	AF2-346 C	5.2007	50/50	5.2007
960552	AF2-346 E	3.4671	50/50	3.4671
960581	AF2-349 C	6.7305	Adder	14.94
960582	AF2-349 E	4.4870	Adder	9.96
960721	AF2-363 C O2	2.1862	Adder	4.85
960722	AF2-363 E O2	1.4574	Adder	3.24
960731	AF2-364 C O2	5.9438	50/50	5.9438
960732	AF2-364 E O2	3.9626	50/50	3.9626
960751	AF2-366 C O2	6.3528	50/50	6.3528
960752	AF2-366 E O2	4.2352	50/50	4.2352
961011	AF2-392 C O2	1.3633	Adder	3.03
961012	AF2-392 E O2	6.3826	Adder	14.17
961021	AF2-393 O2	2.3238	Adder	5.16
961031	AF2-394 O2	1.5492	Adder	3.44
CBM-W2	CBM-W2	4.1687	Confirmed LTF	4.1687
NY	NY	0.1349	Confirmed LTF	0.1349
TVA	TVA	0.4172	Confirmed LTF	0.4172
O-066	O-066	1.5725	Confirmed LTF	1.5725
CBM-S1	CBM-S1	1.8318	Confirmed LTF	1.8318
TILTON	TILTON	0.0365	Confirmed LTF	0.0365
G-007	G-007	0.2434	Confirmed LTF	0.2434
MADISON	MADISON	2.8405	Confirmed LTF	2.8405
MEC	MEC	4.2871	Confirmed LTF	4.2871
GIBSON	GIBSON	0.0459	Confirmed LTF	0.0459
BLUEG	BLUEG	0.2778	Confirmed LTF	0.2778
TRIMBLE	TRIMBLE	0.0946	Confirmed LTF	0.0946
CATAWBA	CATAWBA	0.0053	Confirmed LTF	0.0053

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
156435954	270759	GARDEN PR; R	CE	270883	SILVER LK; R	CE	1	COMED_P1-2_345-L0626__B-R-B	single	1479.0	118.1	124.22	DC	89.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274656	BYRON ;1U	52.1009	80/20	52.1009
274657	BYRON ;2U	50.9601	80/20	50.9601
274822	ROCKFORD ;11	4.7001	80/20	4.7001
274823	ROCKFORD ;21	4.8234	80/20	4.8234
274830	U3-021 1	25.1410	80/20	25.1410
274831	U3-021 2	25.1410	80/20	25.1410

290266	R-018	0.2820	80/20	0.2820
919581	AA2-030	17.0683	Adder	20.08
924471	AB2-096	174.5905	80/20	174.5905
926431	AC1-114	5.0394	80/20	5.0394
927511	AC1-113 1	2.1416	Adder	2.52
927521	AC1-113 2	2.1416	Adder	2.52
930481	AB1-089	142.1530	80/20	142.1530
932881	AC2-115 1	4.2831	Adder	5.04
932891	AC2-115 2	4.2831	Adder	5.04
932921	AC2-116	1.7638	80/20	1.7638
933911	AD1-013 C	1.2907	Adder	1.52
934431	AD1-067 C	0.0930	Adder	0.11
934651	AD1-096 C (Withdrawn : 07/22/2020)	1.4032	Adder	1.65
934701	AD1-098 C O1	4.9852	Adder	5.86
934971	AD1-129 C	1.1427	Adder	1.34
936791	AD2-102 C	24.5891	Adder	28.93
937001	AD2-134 C	1.9364	Adder	2.28
937311	AD2-172 C	3.8610	Adder	4.54
937531	AD2-214 C	3.8720	Adder	4.56
938861	AE1-114 C O1	5.2763	Adder	6.21
939051	AE1-134 1	1.3263	Adder	1.56
939061	AE1-134 2	1.3263	Adder	1.56
940501	AE2-035 C	3.8610	Adder	4.54
941131	AE2-107 C	4.2743	Adder	5.03
942991	AE2-321 C	4.1124	Adder	4.84
943381	AF1-009 C	0.4312	Adder	0.51
943401	AF1-011 C	1.0393	Adder	1.22
943411	AF1-012 C	9.3588	Adder	11.01
943801	AF1-048 C	1.9224	Adder	2.26
943921	AF1-060	1.9011	Adder	2.24
946151	AF1-280 C O1	19.1001	Adder	22.47
946161	AF1-281 C	0.4183	Adder	0.49
946321	AF1-296 C O1	3.2803	Adder	3.86
946501	AF1-314 C	6.8600	Adder	8.07
946531	AF1-317 C O1	1.7826	Adder	2.1
946671	AF1-331	1.6762	Adder	1.97
950101	J390	85.9950	PJM External (MISO)	85.9950
952431	J760	5.4783	PJM External (MISO)	5.4783
952511	J584 C	1.0907	PJM External (MISO)	1.0907
953111	J807 C	1.2441	PJM External (MISO)	1.2441
953681	J818	14.6616	PJM External (MISO)	14.6616
953691	J819 C	1.5290	PJM External (MISO)	1.5290
953901	J850	21.8100	PJM External (MISO)	21.8100
954001	J864	4.5297	PJM External (MISO)	4.5297
955221	J1000	3.7890	PJM External (MISO)	3.7890
955971	J1084	10.9800	PJM External (MISO)	10.9800
956581	J1154	7.3845	PJM External (MISO)	7.3845
956901	J1188	5.9740	PJM External (MISO)	5.9740
958911	AF2-182	13.3004	Adder	29.52
958921	AF2-183 C	2.3645	Adder	5.25
959101	AF2-201 C O2	5.0086	Adder	11.12
959761	AF2-267 C O2	3.6156	Adder	8.03
960551	AF2-346 C	2.1258	Adder	4.72

960581	AF2-349 C	89.7894	80/20	89.7894
960721	AF2-363 C O2	3.4898	Adder	7.75
960751	AF2-366 C O2	2.2442	Adder	4.98
961011	AF2-392 C O2	1.9963	Adder	4.43
961021	AF2-393 O2	3.4028	Adder	7.55
961031	AF2-394 O2	2.2685	Adder	5.04
WEC	WEC	0.6612	Confirmed LTF	0.6612
CBM-W2	CBM-W2	8.7961	Confirmed LTF	8.7961
NY	NY	0.2555	Confirmed LTF	0.2555
CBM-W1	CBM-W1	41.6583	Confirmed LTF	41.6583
TVA	TVA	0.9352	Confirmed LTF	0.9352
CBM-S2	CBM-S2	0.1387	Confirmed LTF	0.1387
CBM-S1	CBM-S1	4.1918	Confirmed LTF	4.1918
TILTON	TILTON	0.1228	Confirmed LTF	0.1228
MADISON	MADISON	11.7634	Confirmed LTF	11.7634
MEC	MEC	9.5960	Confirmed LTF	9.5960
GIBSON	GIBSON	0.0868	Confirmed LTF	0.0868
BLUEG	BLUEG	0.5382	Confirmed LTF	0.5382
TRIMBLE	TRIMBLE	0.1842	Confirmed LTF	0.1842

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
96631695	270770	GOODINGS ;4B	CE	270766	GOODINGS ;3B	CE	1	COMED_P4_116-45-L11614_	breaker	1802.0	121.85	122.43	DC	24.37

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274734	ELWOOD EC;8P	5.0615	50/50	5.0615
274736	ELWOOD EC;9P	5.0615	50/50	5.0615
274830	U3-021 1	3.4807	Adder	4.09
274831	U3-021 2	3.4807	Adder	4.09
274859	EASYSR;U1 E	6.5508	Adder	7.71
274860	EASYSR;U2 E	6.5508	Adder	7.71
274861	TOP CROP ;1U	0.9991	50/50	0.9991
274862	TOP CROP ;2U	1.9395	50/50	1.9395
276167	Z1-106 E2	0.6728	Adder	0.79
276168	Z1-106 E1	0.6730	Adder	0.79
276170	Z1-108 E	1.3994	Adder	1.65
290021	O50 E	20.4476	Adder	24.06
290051	GSG-6; E	5.6493	Adder	6.65
290108	LEEDK;1U E	12.7092	Adder	14.95
293516	O-009 E1	5.6401	Adder	6.64
293517	O-009 E2	2.8647	Adder	3.37
293518	O-009 E3	3.1548	Adder	3.71
293644	O22 E1	23.1687	50/50	23.1687
293645	O22 E2	44.9745	50/50	44.9745
293715	O-029 E	6.0299	Adder	7.09
293716	O-029 E	3.3061	Adder	3.89

293717	O-029 E	3.0387	Adder	3.57
293771	O-035 E	4.0613	Adder	4.78
294401	BSHIL;1U E	5.7004	Adder	6.71
294410	BSHIL;2U E	5.7004	Adder	6.71
294763	P-046 E	5.4563	Adder	6.42
915011	Y3-013 1	2.1667	Adder	2.55
915021	Y3-013 2	2.1667	Adder	2.55
915031	Y3-013 3	2.1667	Adder	2.55
918052	AA1-018 E OP	15.4940	Adder	18.23
919581	AA2-030	10.6893	Adder	12.58
920272	AA2-123 E	1.3845	Adder	1.63
924471	AB2-096	24.1719	Adder	28.44
925581	AC1-033 C	0.9334	Adder	1.1
925582	AC1-033 E	6.2491	Adder	7.35
926311	AC1-109 1	0.9856	Adder	1.16
926321	AC1-109 2	0.9856	Adder	1.16
926331	AC1-110 1	1.0129	Adder	1.19
926341	AC1-110 2	1.0129	Adder	1.19
926351	AC1-111 1	0.3862	Adder	0.45
926361	AC1-111 2	0.3862	Adder	0.45
926371	AC1-111 3	0.3862	Adder	0.45
926381	AC1-111 4	0.3862	Adder	0.45
926391	AC1-111 5	0.3862	Adder	0.45
926401	AC1-111 6	0.3862	Adder	0.45
926431	AC1-114	1.3676	Adder	1.61
926841	AC1-171 C O1	0.8129	Adder	0.96
926842	AC1-171 E O1	5.4299	Adder	6.39
927091	AC1-204 1	18.8270	50/50	18.8270
927201	AC1-214 C O1	1.3035	Adder	1.53
927202	AC1-214 E O1	4.1437	Adder	4.87
927451	AC1-142A 1	3.2820	Adder	3.86
927461	AC1-142A 2	3.3032	Adder	3.89
927511	AC1-113 1	0.6839	Adder	0.8
927521	AC1-113 2	0.6839	Adder	0.8
930481	AB1-089	37.7319	Adder	44.39
930741	AB1-122 1O1	54.9306	Adder	64.62
930751	AB1-122 2O1	76.3085	Adder	89.77
932881	AC2-115 1	1.3678	Adder	1.61
932891	AC2-115 2	1.3678	Adder	1.61
932921	AC2-116	0.4787	Adder	0.56
933911	AD1-013 C	0.9900	Adder	1.16
933912	AD1-013 E	1.5814	Adder	1.86
933931	AD1-016 C	0.5261	Adder	0.62
933932	AD1-016 E	0.8584	Adder	1.01
934051	AD1-031 C O1	1.8952	Adder	2.23
934052	AD1-031 E O1	3.0921	Adder	3.64
934101	AD1-039 1	5.3832	Adder	6.33
934111	AD1-039 2	7.4782	Adder	8.8
934431	AD1-067 C	0.0709	Adder	0.08
934432	AD1-067 E	0.2983	Adder	0.35
934651	AD1-096 C (Withdrawn : 07/22/2020)	0.5174	Adder	0.61
934652	AD1-096 E (Withdrawn : 07/22/2020)	0.8443	Adder	0.99

934701	AD1-098 C O1	3.7378	Adder	4.4
934702	AD1-098 E O1	2.7290	Adder	3.21
934871	AD1-116 C	0.9023	Adder	1.06
934872	AD1-116 E	1.4722	Adder	1.73
934971	AD1-129 C	0.5157	Adder	0.61
934972	AD1-129 E	0.3438	Adder	0.4
935001	AD1-133 C O1	12.3548	Adder	14.54
935002	AD1-133 E O1	8.2365	Adder	9.69
936291	AD2-038 C O1	2.3601	Adder	2.78
936292	AD2-038 E O1	15.7946	Adder	18.58
936511	AD2-066 C O1	5.3345	Adder	6.28
936512	AD2-066 E O1	3.5563	Adder	4.18
936791	AD2-102 C	8.1937	Adder	9.64
936792	AD2-102 E	5.4624	Adder	6.43
937001	AD2-134 C	1.4768	Adder	1.74
937002	AD2-134 E	6.1007	Adder	7.18
937311	AD2-172 C	1.4323	Adder	1.69
937312	AD2-172 E	1.9779	Adder	2.33
937401	AD2-194 1	9.9766	Adder	11.74
937411	AD2-194 2	9.9231	Adder	11.67
937531	AD2-214 C	2.7480	Adder	3.23
937532	AD2-214 E	1.8320	Adder	2.16
938511	AE1-070 1	11.7225	Adder	13.79
938521	AE1-070 2	10.6673	Adder	12.55
938851	AE1-113 C	8.4346	Adder	9.92
938852	AE1-113 E	29.9046	Adder	35.18
938861	AE1-114 C O1	2.3132	Adder	2.72
938862	AE1-114 E O1	7.8919	Adder	9.28
939051	AE1-134 1	0.8306	Adder	0.98
939061	AE1-134 2	0.8306	Adder	0.98
939321	AE1-163 C O1	5.9305	Adder	6.98
939322	AE1-163 E O1	36.4305	Adder	42.86
939683	AE1-198 BAT	26.9465	50/50	26.9465
940501	AE2-035 C	1.4323	Adder	1.69
940502	AE2-035 E	1.9779	Adder	2.33
941131	AE2-107 C	3.8021	Adder	4.47
941132	AE2-107 E	2.5347	Adder	2.98
942421	AE2-255 C O1	3.1949	Adder	3.76
942422	AE2-255 E O1	9.5848	Adder	11.28
942651	AE2-281 C O1	0.8472	Adder	1.0
942652	AE2-281 E O1	5.2044	Adder	6.12
942991	AE2-321 C	4.6340	Adder	5.45
942992	AE2-321 E	2.2824	Adder	2.69
943381	AF1-009 C	0.3233	Adder	0.38
943382	AF1-009 E	1.2934	Adder	1.52
943401	AF1-011 C	0.7700	Adder	0.91
943402	AF1-011 E	1.2925	Adder	1.52
943411	AF1-012 C	7.1998	Adder	8.47
943412	AF1-012 E	4.7999	Adder	5.65
943801	AF1-048 C	2.1662	Adder	2.55
943802	AF1-048 E	1.4442	Adder	1.7
943921	AF1-060	0.7052	Adder	0.83
944041	AF1-072	1.1943	Adder	1.41

946151	AF1-280 C O1	9.3428	Adder	10.99
946152	AF1-280 E O1	4.2963	Adder	5.05
946161	AF1-281 C	0.2046	Adder	0.24
946162	AF1-281 E	1.1593	Adder	1.36
946321	AF1-296 C O1	2.4937	Adder	2.93
946322	AF1-296 E O1	11.6749	Adder	13.74
946501	AF1-314 C	2.5448	Adder	2.99
946502	AF1-314 E	11.9144	Adder	14.02
946531	AF1-317 C O1	1.3714	Adder	1.61
946541	AF1-318 C O1	3.4259	Adder	4.03
946542	AF1-318 E O1	16.0414	Adder	18.87
946661	AF1-330 C	1.1353	Adder	1.34
946662	AF1-330 E	0.2492	Adder	0.29
946671	AF1-331	1.2857	Adder	1.51
954981	J974 C	3.4172	PJM External (MISO)	3.4172
954982	J974 E	18.4878	PJM External (MISO)	18.4878
957331	AF2-027 C	0.7656	Adder	1.7
957332	AF2-027 E	1.1484	Adder	2.55
957471	AF2-041 C	6.6324	Adder	14.72
957472	AF2-041 E	4.4216	Adder	9.81
957751	AF2-069 C	0.0800	Adder	0.18
957752	AF2-069 E	0.2582	Adder	0.57
957761	AF2-070 C	0.1127	Adder	0.25
957762	AF2-070 E	0.5472	Adder	1.21
958023	AF2-096 BAT	3.6828	Merchant Transmission	3.6828
958341	AF2-128 C O2	0.4739	Adder	1.05
958342	AF2-128 E O2	2.2187	Adder	4.92
958481	AF2-142 C	5.6633	Adder	12.57
958482	AF2-142 E	3.7756	Adder	8.38
958491	AF2-143 C	5.7732	Adder	12.82
958492	AF2-143 E	3.8488	Adder	8.54
958911	AF2-182	6.5059	Adder	14.44
958921	AF2-183 C	1.1566	Adder	2.57
958922	AF2-183 E	1.7349	Adder	3.85
959081	AF2-199 C O2	2.2108	Adder	4.91
959082	AF2-199 E O2	1.4739	Adder	3.27
959091	AF2-200 C O2	4.4216	Adder	9.81
959092	AF2-200 E O2	2.9477	Adder	6.54
959101	AF2-201 C O2	1.8580	Adder	4.12
959102	AF2-201 E O2	5.3355	Adder	11.84
959351	AF2-226 C	5.6786	50/50	5.6786
959352	AF2-226 E	8.5179	50/50	8.5179
959761	AF2-267 C O2	1.3418	Adder	2.98
959762	AF2-267 E O2	6.2818	Adder	13.94
960281	AF2-319 C	5.6786	50/50	5.6786
960282	AF2-319 E	8.5179	50/50	8.5179
960551	AF2-346 C	1.6354	Adder	3.63
960552	AF2-346 E	1.0903	Adder	2.42
960581	AF2-349 C	6.5886	Adder	14.63
960582	AF2-349 E	4.3924	Adder	9.75
960721	AF2-363 C O2	1.6935	Adder	3.76
960722	AF2-363 E O2	1.1290	Adder	2.51
960731	AF2-364 C O2	1.7833	Adder	3.96

960732	AF2-364 E O2	1.1889	Adder	2.64
960751	AF2-366 C O2	1.9115	Adder	4.24
960752	AF2-366 E O2	1.2744	Adder	2.83
961011	AF2-392 C O2	1.2708	Adder	2.82
961012	AF2-392 E O2	5.9498	Adder	13.21
961021	AF2-393 O2	2.1662	Adder	4.81
961031	AF2-394 O2	1.4441	Adder	3.21
990901	L-005 E	8.7445	Adder	10.29
WEC	WEC	2.5836	Confirmed LTF	2.5836
CBM-W2	CBM-W2	14.8567	Confirmed LTF	14.8567
NY	NY	0.5862	Confirmed LTF	0.5862
CBM-W1	CBM-W1	37.5675	Confirmed LTF	37.5675
TVA	TVA	1.2194	Confirmed LTF	1.2194
O-066	O-066	6.8678	Confirmed LTF	6.8678
CBM-S1	CBM-S1	5.1972	Confirmed LTF	5.1972
G-007	G-007	1.0608	Confirmed LTF	1.0608
MADISON	MADISON	13.7773	Confirmed LTF	13.7773
MEC	MEC	9.9535	Confirmed LTF	9.9535
GIBSON	GIBSON	0.0601	Confirmed LTF	0.0601
BLUEG	BLUEG	1.0069	Confirmed LTF	1.0069
TRIMBLE	TRIMBLE	0.3467	Confirmed LTF	0.3467
CATAWBA	CATAWBA	0.0826	Confirmed LTF	0.0826

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
96631833	270807	LIBERTYVI; R	CE	270857	P HTS 117; R	CE	1	COMED_P4_016-45-BT6-11_	breaker	1479.0	108.81	111.5	DC	39.52

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274683	WAUKEGAN ;8U	8.6783	50/50	8.6783
274725	ZION EC ;1P	6.6512	50/50	6.6512
274726	ZION EC ;2P	6.6512	50/50	6.6512
274727	ZION EC ;3P	6.6512	50/50	6.6512
274828	WAUKEGAN ;BP	2.4683	50/50	2.4683
274830	U3-021 1	5.6437	Adder	6.64
274831	U3-021 2	5.6437	Adder	6.64
274859	EASYR;U1 E	5.9764	Adder	7.03
274860	EASYR;U2 E	5.9764	Adder	7.03
276170	Z1-108 E	2.7896	50/50	2.7896
290051	GSG-6; E	3.8377	Adder	4.51
293516	O-009 E1	3.5313	Adder	4.15
293517	O-009 E2	1.7936	Adder	2.11
293518	O-009 E3	1.9753	Adder	2.32
293715	O-029 E	3.7754	Adder	4.44
293716	O-029 E	2.0700	Adder	2.44
293717	O-029 E	1.9025	Adder	2.24
294763	P-046 E	6.4178	Adder	7.55

915011	Y3-013 1	7.0107	50/50	7.0107
915021	Y3-013 2	7.0107	50/50	7.0107
915031	Y3-013 3	7.0107	50/50	7.0107
919581	AA2-030	7.8842	Adder	9.28
920272	AA2-123 E	2.1451	Adder	2.52
924471	AB2-096	46.1090	50/50	46.1090
926431	AC1-114	1.8090	Adder	2.13
927511	AC1-113 1	0.9047	Adder	1.06
927521	AC1-113 2	0.9047	Adder	1.06
930481	AB1-089	41.6636	Adder	49.02
932881	AC2-115 1	1.8093	Adder	2.13
932891	AC2-115 2	1.8093	Adder	2.13
932921	AC2-116	0.6331	Adder	0.74
933911	AD1-013 C	0.6727	Adder	0.79
933912	AD1-013 E	1.0746	Adder	1.26
933931	AD1-016 C	0.8151	Adder	0.96
933932	AD1-016 E	1.3299	Adder	1.56
934431	AD1-067 C	0.0482	Adder	0.06
934432	AD1-067 E	0.2026	Adder	0.24
934651	AD1-096 C (Withdrawn : 07/22/2020)	0.5775	Adder	0.68
934652	AD1-096 E (Withdrawn : 07/22/2020)	0.9422	Adder	1.11
934701	AD1-098 C O1	2.5607	Adder	3.01
934702	AD1-098 E O1	1.8695	Adder	2.2
934971	AD1-129 C	0.7344	Adder	0.86
934972	AD1-129 E	0.4896	Adder	0.58
936791	AD2-102 C	11.0762	Adder	13.03
936792	AD2-102 E	7.3841	Adder	8.69
937001	AD2-134 C	1.0032	Adder	1.18
937002	AD2-134 E	4.1443	Adder	4.88
937311	AD2-172 C	1.6847	Adder	1.98
937312	AD2-172 E	2.3265	Adder	2.74
937531	AD2-214 C	1.9195	Adder	2.26
937532	AD2-214 E	1.2797	Adder	1.51
938861	AE1-114 C O1	2.3366	Adder	2.75
938862	AE1-114 E O1	7.9718	Adder	9.38
939051	AE1-134 1	0.6127	Adder	0.72
939061	AE1-134 2	0.6127	Adder	0.72
940501	AE2-035 C	1.6847	Adder	1.98
940502	AE2-035 E	2.3265	Adder	2.74
942991	AE2-321 C	7.1113	Adder	8.37
942992	AE2-321 E	3.5026	Adder	4.12
943381	AF1-009 C	0.2215	Adder	0.26
943382	AF1-009 E	0.8860	Adder	1.04
943401	AF1-011 C	0.4821	Adder	0.57
943402	AF1-011 E	0.8092	Adder	0.95
943411	AF1-012 C	4.6928	Adder	5.52
943412	AF1-012 E	3.1285	Adder	3.68
943801	AF1-048 C	3.3243	Adder	3.91
943802	AF1-048 E	2.2162	Adder	2.61
943921	AF1-060	0.8295	Adder	0.98
944041	AF1-072	1.3737	Adder	1.62
946151	AF1-280 C O1	8.0304	Adder	9.45

946152	AF1-280 E O1	3.6928	Adder	4.34
946161	AF1-281 C	0.1758	Adder	0.21
946162	AF1-281 E	0.9965	Adder	1.17
946321	AF1-296 C O1	1.7144	Adder	2.02
946322	AF1-296 E O1	8.0264	Adder	9.44
946501	AF1-314 C	2.9933	Adder	3.52
946502	AF1-314 E	14.0140	Adder	16.49
946531	AF1-317 C O1	0.8939	Adder	1.05
946661	AF1-330 C	1.7589	Adder	2.07
946662	AF1-330 E	0.3861	Adder	0.45
946671	AF1-331	0.8736	Adder	1.03
950101	J390	64.9490	PJM External (MISO)	64.9490
951391	J505	11.3580	PJM External (MISO)	11.3580
952381	J703	13.4479	PJM External (MISO)	13.4479
952391	J704	5.7371	PJM External (MISO)	5.7371
952431	J760	2.3139	PJM External (MISO)	2.3139
952511	J584 C	0.7661	PJM External (MISO)	0.7661
952512	J584 E	4.1449	PJM External (MISO)	4.1449
953111	J807 C	0.8131	PJM External (MISO)	0.8131
953112	J807 E	4.3988	PJM External (MISO)	4.3988
953151	J831	5.3220	PJM External (MISO)	5.3220
953331	J801	3.7866	PJM External (MISO)	3.7866
953491	J947	30.2260	PJM External (MISO)	30.2260
953681	J818	14.4664	PJM External (MISO)	14.4664
953691	J819 C	1.0459	PJM External (MISO)	1.0459
953692	J819 E	5.6584	PJM External (MISO)	5.6584
953701	J821 C	1.2327	PJM External (MISO)	1.2327
953702	J821 E	6.6694	PJM External (MISO)	6.6694
953891	J849	13.1488	PJM External (MISO)	13.1488
953901	J850	23.6375	PJM External (MISO)	23.6375
954001	J864	3.3697	PJM External (MISO)	3.3697
954141	J878	29.1780	PJM External (MISO)	29.1780
954191	J886	17.0220	PJM External (MISO)	17.0220
954511	J926 C	0.8233	PJM External (MISO)	0.8233
954512	J926 E	4.4544	PJM External (MISO)	4.4544
954691	J732	35.4250	PJM External (MISO)	35.4250
954741	J928 C	1.3126	PJM External (MISO)	1.3126
954742	J928 E	7.1013	PJM External (MISO)	7.1013
955091	J986	12.7640	PJM External (MISO)	12.7640
955241	J1002	9.0882	PJM External (MISO)	9.0882
955251	J1003	5.0285	PJM External (MISO)	5.0285
955301	J1009	70.6280	PJM External (MISO)	70.6280
955311	J1010	60.9480	PJM External (MISO)	60.9480
955321	J1011	60.9480	PJM External (MISO)	60.9480
955581	J1042 C	3.6588	PJM External (MISO)	3.6588
955582	J1042 E	20.7332	PJM External (MISO)	20.7332
955671	J1051	5.8870	PJM External (MISO)	5.8870
955691	J1053	23.8160	PJM External (MISO)	23.8160
955981	J1085 C	3.1791	PJM External (MISO)	3.1791
955982	J1085 E	17.1999	PJM External (MISO)	17.1999
956141	J1101	2.2696	PJM External (MISO)	2.2696
956321	J1121	18.0520	PJM External (MISO)	18.0520
956571	J1153	19.2705	PJM External (MISO)	19.2705

956581	J1154	7.2795	PJM External (MISO)	7.2795
956731	J1171	11.3880	PJM External (MISO)	11.3880
956852	J1183 E	0.1420	PJM External (MISO)	0.1420
956901	J1188	4.4180	PJM External (MISO)	4.4180
957331	AF2-027 C	4.6738	50/50	4.6738
957332	AF2-027 E	7.0107	50/50	7.0107
958911	AF2-182	5.5920	Adder	12.41
958921	AF2-183 C	0.9941	Adder	2.21
958922	AF2-183 E	1.4912	Adder	3.31
959101	AF2-201 C O2	2.1854	Adder	4.85
959102	AF2-201 E O2	6.2757	Adder	13.93
959761	AF2-267 C O2	1.5776	Adder	3.5
959762	AF2-267 E O2	7.3857	Adder	16.39
960551	AF2-346 C	1.0659	Adder	2.37
960552	AF2-346 E	0.7106	Adder	1.58
960581	AF2-349 C	23.7132	50/50	23.7132
960582	AF2-349 E	15.8088	50/50	15.8088
960721	AF2-363 C O2	1.5650	Adder	3.47
960722	AF2-363 E O2	1.0434	Adder	2.32
960731	AF2-364 C O2	1.4161	Adder	3.14
960732	AF2-364 E O2	0.9441	Adder	2.1
961011	AF2-392 C O2	0.9182	Adder	2.04
961012	AF2-392 E O2	4.2986	Adder	9.54
961021	AF2-393 O2	1.5650	Adder	3.47
961031	AF2-394 O2	1.0434	Adder	2.32
WEC	WEC	5.5421	Confirmed LTF	5.5421
CBM-W2	CBM-W2	6.9205	Confirmed LTF	6.9205
NY	NY	0.1759	Confirmed LTF	0.1759
CBM-W1	CBM-W1	67.0161	Confirmed LTF	67.0161
TVA	TVA	0.7756	Confirmed LTF	0.7756
O-066	O-066	2.0429	Confirmed LTF	2.0429
CBM-S2	CBM-S2	0.3410	Confirmed LTF	0.3410
CBM-S1	CBM-S1	3.5443	Confirmed LTF	3.5443
TILTON	TILTON	0.1077	Confirmed LTF	0.1077
G-007	G-007	0.3151	Confirmed LTF	0.3151
MADISON	MADISON	12.6988	Confirmed LTF	12.6988
MEC	MEC	7.7210	Confirmed LTF	7.7210
GIBSON	GIBSON	0.0617	Confirmed LTF	0.0617
BLUEG	BLUEG	0.3715	Confirmed LTF	0.3715
TRIMBLE	TRIMBLE	0.1274	Confirmed LTF	0.1274

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
96631872	270846	PLANO ; B	CE	275207	PLANO ;3M	CE	1	COMED_P4_167-45-BT5-6__	breaker	1379.0	104.05	104.37	DC	26.69

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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272364	ESS H440N ;R	0.4228	50/50	0.4228
274660	LASCO STA;1U	31.0976	50/50	31.0976
274661	LASCO STA;2U	31.2227	50/50	31.2227
274738	AURORA EC;3P	3.0223	50/50	3.0223
274740	AURORA EC;4P	3.0223	50/50	3.0223
274830	U3-021 1	3.8110	Adder	4.48
274831	U3-021 2	3.8110	Adder	4.48
274847	GR RIDGE ;BU	0.7007	50/50	0.7007
274850	MENDOTA H;RU	0.0989	50/50	0.0989
274855	GSG-6 ;RU	0.4166	50/50	0.4166
274859	EASYR;U1 E	7.0829	Adder	8.33
274860	EASYR;U2 E	7.0829	Adder	8.33
274871	GR RIDGE ;2U	0.8899	50/50	0.8899
274872	LEE DEKAL;1U	0.9635	50/50	0.9635
276167	Z1-106 E2	0.8540	Adder	1.0
276168	Z1-106 E1	1.0067	50/50	1.0067
276169	Z1-107 E	1.1407	Adder	1.34
276170	Z1-108 E	1.5275	Adder	1.8
276173	Z2-081	0.2483	50/50	0.2483
290051	GSG-6; E	9.6605	50/50	9.6605
290108	LEEDK;1U E	23.2740	50/50	23.2740
292543	L-013 2	0.5026	50/50	0.5026
293061	N-015 E	16.2492	50/50	16.2492
293516	O-009 E1	5.6791	Adder	6.68
293517	O-009 E2	2.8846	Adder	3.39
293518	O-009 E3	3.1767	Adder	3.74
293715	O-029 E	6.0716	Adder	7.14
293716	O-029 E	3.3290	Adder	3.92
293717	O-029 E	3.0597	Adder	3.6
293771	O-035 E	3.4509	Adder	4.06
294392	P-010 E	20.6365	50/50	20.6365
294401	BSHIL;1U E	4.6165	Adder	5.43
294410	BSHIL;2U E	4.6165	Adder	5.43
294763	P-046 E	6.0003	Adder	7.06
915011	Y3-013 1	2.0681	Adder	2.43
915021	Y3-013 2	2.0681	Adder	2.43
915031	Y3-013 3	2.0681	Adder	2.43
916221	AB2-191	0.1598	50/50	0.1598
919581	AA2-030	11.4247	Adder	13.44
920272	AA2-123 E	1.5307	Adder	1.8
924471	AB2-096	26.4656	Adder	31.14
925581	AC1-033 C	0.7561	Adder	0.89
925582	AC1-033 E	5.0616	Adder	5.95
926311	AC1-109 1	1.0385	Adder	1.22
926321	AC1-109 2	1.0385	Adder	1.22
926331	AC1-110 1	1.7291	50/50	1.7291
926341	AC1-110 2	1.7291	50/50	1.7291
926351	AC1-111 1	0.4739	Adder	0.56
926361	AC1-111 2	0.4739	Adder	0.56
926371	AC1-111 3	0.4739	Adder	0.56
926381	AC1-111 4	0.4739	Adder	0.56
926391	AC1-111 5	0.4739	Adder	0.56
926401	AC1-111 6	0.4739	Adder	0.56

926431	AC1-114	1.5159	Adder	1.78
926821	AC1-168 C O1	0.6945	Adder	0.82
926822	AC1-168 E O1	4.6604	Adder	5.48
927201	AC1-214 C O1	1.1076	Adder	1.3
927202	AC1-214 E O1	3.5209	Adder	4.14
927511	AC1-113 1	0.7579	Adder	0.89
927521	AC1-113 2	0.7579	Adder	0.89
930481	AB1-089	42.0563	Adder	49.48
930751	AB1-122 2O1	32.7707	Adder	38.55
932881	AC2-115 1	1.5159	Adder	1.78
932891	AC2-115 2	1.5159	Adder	1.78
932921	AC2-116	0.5306	Adder	0.62
933431	AC2-156 C O1	1.1325	50/50	1.1325
933432	AC2-156 E O1	1.8477	50/50	1.8477
933911	AD1-013 C	1.7223	50/50	1.7223
933912	AD1-013 E	2.7513	50/50	2.7513
933931	AD1-016 C	0.5817	Adder	0.68
933932	AD1-016 E	0.9490	Adder	1.12
934051	AD1-031 C O1	1.5352	Adder	1.81
934052	AD1-031 E O1	2.5048	Adder	2.95
934111	AD1-039 2	3.2115	Adder	3.78
934431	AD1-067 C	0.1213	50/50	0.1213
934432	AD1-067 E	0.5100	50/50	0.5100
934651	AD1-096 C (Withdrawn : 07/22/2020)	0.5797	Adder	0.68
934652	AD1-096 E (Withdrawn : 07/22/2020)	0.9458	Adder	1.11
934701	AD1-098 C O1	6.3048	50/50	6.3048
934702	AD1-098 E O1	4.6032	50/50	4.6032
934971	AD1-129 C	0.5727	Adder	0.67
934972	AD1-129 E	0.3818	Adder	0.45
936511	AD2-066 C O1	4.0968	Adder	4.82
936512	AD2-066 E O1	2.7312	Adder	3.21
936791	AD2-102 C	8.8403	Adder	10.4
936792	AD2-102 E	5.8936	Adder	6.93
937001	AD2-134 C	2.5254	50/50	2.5254
937002	AD2-134 E	10.4325	50/50	10.4325
937311	AD2-172 C	1.5751	Adder	1.85
937312	AD2-172 E	2.1751	Adder	2.56
937531	AD2-214 C	2.7453	Adder	3.23
937532	AD2-214 E	1.8302	Adder	2.15
938861	AE1-114 C O1	2.5452	Adder	2.99
938862	AE1-114 E O1	8.6837	Adder	10.22
939051	AE1-134 1	0.8878	Adder	1.04
939061	AE1-134 2	0.8878	Adder	1.04
939351	AE1-166 C O1	1.3533	Adder	1.59
939352	AE1-166 E O1	1.2492	Adder	1.47
940501	AE2-035 C	1.5751	Adder	1.85
940502	AE2-035 E	2.1751	Adder	2.56
941131	AE2-107 C	7.0512	50/50	7.0512
941132	AE2-107 E	4.7008	50/50	4.7008
941551	AE2-152 C O1	4.9977	Adder	5.88
941552	AE2-152 E O1	3.3318	Adder	3.92
941561	AE2-153 C O1	2.3412	Adder	2.75

941562	AE2-153 E O1	10.9613	Adder	12.9
942991	AE2-321 C	5.1306	Adder	6.04
942992	AE2-321 E	2.5270	Adder	2.97
943121	AE2-341 C	16.0065	50/50	16.0065
943122	AE2-341 E	7.8600	50/50	7.8600
943381	AF1-009 C	0.5454	50/50	0.5454
943382	AF1-009 E	2.1816	50/50	2.1816
943401	AF1-011 C	0.7753	Adder	0.91
943402	AF1-011 E	1.3014	Adder	1.53
943411	AF1-012 C	8.1691	Adder	9.61
943412	AF1-012 E	5.4460	Adder	6.41
943591	AF1-030 C O1	10.6445	50/50	10.6445
943592	AF1-030 E O1	5.2665	50/50	5.2665
943801	AF1-048 C	2.3984	Adder	2.82
943802	AF1-048 E	1.5989	Adder	1.88
943921	AF1-060	0.7755	Adder	0.91
944041	AF1-072	1.3690	Adder	1.61
944911	AF1-156 C	5.9861	Adder	7.04
944912	AF1-156 E	3.9908	Adder	4.7
945351	AF1-200 FTIR	581.6030	50/50	581.6030
946151	AF1-280 C O1	10.0659	Adder	11.84
946152	AF1-280 E O1	4.6289	Adder	5.45
946161	AF1-281 C	0.2204	Adder	0.26
946162	AF1-281 E	1.2491	Adder	1.47
946321	AF1-296 C O1	2.3941	Adder	2.82
946322	AF1-296 E O1	11.2084	Adder	13.19
946501	AF1-314 C	2.7985	Adder	3.29
946502	AF1-314 E	13.1023	Adder	15.41
946531	AF1-317 C O1	1.5560	Adder	1.83
946541	AF1-318 C O1	3.1199	Adder	3.67
946542	AF1-318 E O1	14.6085	Adder	17.19
946661	AF1-330 C	1.2552	Adder	1.48
946662	AF1-330 E	0.2755	Adder	0.32
946671	AF1-331	2.2368	50/50	2.2368
957021	AF2-003 C O2	5.5301	50/50	5.5301
957022	AF2-003 E O2	25.8910	50/50	25.8910
957331	AF2-027 C	0.7307	Adder	1.62
957332	AF2-027 E	1.0961	Adder	2.43
957471	AF2-041 C	18.5310	50/50	18.5310
957472	AF2-041 E	12.3540	50/50	12.3540
957751	AF2-069 C	0.0680	Adder	0.15
957752	AF2-069 E	0.2194	Adder	0.49
957761	AF2-070 C	0.0958	Adder	0.21
957762	AF2-070 E	0.4650	Adder	1.03
958021	AF2-096 C O2	9.5015	Adder	21.09
958022	AF2-096 E O2	4.4933	Adder	9.97
958341	AF2-128 C O2	0.4399	Adder	0.98
958342	AF2-128 E O2	2.0593	Adder	4.57
958911	AF2-182	7.0094	Adder	15.56
958921	AF2-183 C	1.2461	Adder	2.77
958922	AF2-183 E	1.8692	Adder	4.15
959081	AF2-199 C O2	6.1770	50/50	6.1770
959082	AF2-199 E O2	4.1180	50/50	4.1180

959091	AF2-200 C O2	12.3540	50/50	12.3540
959092	AF2-200 E O2	8.2360	50/50	8.2360
959101	AF2-201 C O2	2.0433	Adder	4.54
959102	AF2-201 E O2	5.8674	Adder	13.02
959761	AF2-267 C O2	1.4756	Adder	3.28
959762	AF2-267 E O2	6.9081	Adder	15.33
960381	AF2-329	8.3055	50/50	8.3055
960551	AF2-346 C	1.8555	Adder	4.12
960552	AF2-346 E	1.2370	Adder	2.75
960581	AF2-349 C	7.2138	Adder	16.01
960582	AF2-349 E	4.8092	Adder	10.68
960721	AF2-363 C O2	5.2034	50/50	5.2034
960722	AF2-363 E O2	3.4689	50/50	3.4689
960731	AF2-364 C O2	2.1675	Adder	4.81
960732	AF2-364 E O2	1.4450	Adder	3.21
960751	AF2-366 C O2	6.7258	50/50	6.7258
960752	AF2-366 E O2	4.4838	50/50	4.4838
961011	AF2-392 C O2	1.3582	Adder	3.01
961012	AF2-392 E O2	6.3589	Adder	14.12
961021	AF2-393 O2	2.3151	Adder	5.14
961031	AF2-394 O2	1.5434	Adder	3.43
WEC	WEC	2.4923	Confirmed LTF	2.4923
CALDERWOOD	CALDERWOOD	0.0919	Confirmed LTF	0.0919
CBM-W2	CBM-W2	9.2629	Confirmed LTF	9.2629
NY	NY	0.6835	Confirmed LTF	0.6835
CBM-W1	CBM-W1	41.8209	Confirmed LTF	41.8209
TVA	TVA	0.5180	Confirmed LTF	0.5180
O-066	O-066	8.1043	Confirmed LTF	8.1043
CHEOAH	CHEOAH	0.0986	Confirmed LTF	0.0986
CBM-S1	CBM-S1	1.3802	Confirmed LTF	1.3802
G-007	G-007	1.2542	Confirmed LTF	1.2542
MADISON	MADISON	12.3722	Confirmed LTF	12.3722
MEC	MEC	8.3375	Confirmed LTF	8.3375
GIBSON	GIBSON	0.1605	Confirmed LTF	0.1605
BLUEG	BLUEG	1.3662	Confirmed LTF	1.3662
TRIMBLE	TRIMBLE	0.4602	Confirmed LTF	0.4602
CATAWBA	CATAWBA	0.1988	Confirmed LTF	0.1988

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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
96631894	270847	PLANO ; R	CE	275208	PLANO ;4M	CE	1	COMED_P4_167-45-BT8-12_	breaker	1379.0	102.87	103.09	DC	24.51

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274660	LASCO STA;1U	33.3383	50/50	33.3383
274661	LASCO STA;2U	33.4737	50/50	33.4737
274737	AURORA EC;1P	3.1982	50/50	3.1982

274739	AURORA EC;2P	3.1982	50/50	3.1982
274745	AURORA EC;9P	0.6040	50/50	0.6040
274746	AURORA EC;0P	0.6040	50/50	0.6040
274830	U3-021 1	3.5005	Adder	4.12
274831	U3-021 2	3.5005	Adder	4.12
274847	GR RIDGE ;BU	0.7450	50/50	0.7450
274859	EASYR;U1 E	5.9837	Adder	7.04
274860	EASYR;U2 E	5.9837	Adder	7.04
274871	GR RIDGE ;2U	0.9461	50/50	0.9461
274881	PILOT HIL;1E	7.6648	Adder	9.02
275149	KELLYCK ;1E	7.6648	Adder	9.02
276167	Z1-106 E2	0.8035	Adder	0.95
276168	Z1-106 E1	0.8018	Adder	0.94
276169	Z1-107 E	1.0596	Adder	1.25
276170	Z1-108 E	1.4606	Adder	1.72
276173	Z2-081	0.2567	50/50	0.2567
290051	GSG-6; E	5.8235	Adder	6.85
290108	LEEDK;1U E	13.5728	Adder	15.97
293061	N-015 E	17.2752	50/50	17.2752
293516	O-009 E1	4.7370	Adder	5.57
293517	O-009 E2	2.4060	Adder	2.83
293518	O-009 E3	2.6497	Adder	3.12
293715	O-029 E	5.0644	Adder	5.96
293716	O-029 E	2.7767	Adder	3.27
293717	O-029 E	2.5521	Adder	3.0
293771	O-035 E	3.1988	Adder	3.76
294392	P-010 E	21.9395	50/50	21.9395
294401	BSHIL;1U E	4.2004	Adder	4.94
294410	BSHIL;2U E	4.2004	Adder	4.94
294763	P-046 E	5.2115	Adder	6.13
915011	Y3-013 1	2.0010	Adder	2.35
915021	Y3-013 2	2.0010	Adder	2.35
915031	Y3-013 3	2.0010	Adder	2.35
919581	AA2-030	9.2948	Adder	10.94
920272	AA2-123 E	1.4188	Adder	1.67
924471	AB2-096	24.3087	Adder	28.6
925581	AC1-033 C	0.6878	Adder	0.81
925582	AC1-033 E	4.6046	Adder	5.42
926311	AC1-109 1	1.8297	50/50	1.8297
926321	AC1-109 2	1.8297	50/50	1.8297
926331	AC1-110 1	1.0771	Adder	1.27
926341	AC1-110 2	1.0771	Adder	1.27
926351	AC1-111 1	0.5471	Adder	0.64
926361	AC1-111 2	0.5471	Adder	0.64
926371	AC1-111 3	0.5471	Adder	0.64
926381	AC1-111 4	0.5471	Adder	0.64
926391	AC1-111 5	0.5471	Adder	0.64
926401	AC1-111 6	0.5471	Adder	0.64
926431	AC1-114	1.3455	Adder	1.58
926821	AC1-168 C O1	0.6816	Adder	0.8
926822	AC1-168 E O1	4.5743	Adder	5.38
927201	AC1-214 C O1	1.0267	Adder	1.21
927202	AC1-214 E O1	3.2637	Adder	3.84

927511	AC1-113 1	0.6728	Adder	0.79
927521	AC1-113 2	0.6728	Adder	0.79
930481	AB1-089	38.0779	Adder	44.8
930501	AB1-091 O1	30.8176	Adder	36.26
930751	AB1-122 2O1	0.0988	Adder	0.12
932881	AC2-115 1	1.3455	Adder	1.58
932891	AC2-115 2	1.3455	Adder	1.58
932921	AC2-116	0.4709	Adder	0.55
933411	AC2-154 C	1.0402	Adder	1.22
933412	AC2-154 E	1.6972	Adder	2.0
933431	AC2-156 C O1	0.5351	Adder	0.63
933432	AC2-156 E O1	0.8731	Adder	1.03
933911	AD1-013 C	1.0318	Adder	1.21
933912	AD1-013 E	1.6481	Adder	1.94
933931	AD1-016 C	0.5392	Adder	0.63
933932	AD1-016 E	0.8797	Adder	1.03
934051	AD1-031 C O1	1.3968	Adder	1.64
934052	AD1-031 E O1	2.2791	Adder	2.68
934111	AD1-039 2	2.7915	Adder	3.28
934431	AD1-067 C	0.0731	Adder	0.09
934432	AD1-067 E	0.3075	Adder	0.36
934651	AD1-096 C (Withdrawn : 07/22/2020)	0.4954	Adder	0.58
934652	AD1-096 E (Withdrawn : 07/22/2020)	0.8083	Adder	0.95
934701	AD1-098 C O1	3.8248	Adder	4.5
934702	AD1-098 E O1	2.7925	Adder	3.29
934971	AD1-129 C	0.5178	Adder	0.61
934972	AD1-129 E	0.3452	Adder	0.41
936371	AD2-047 C O1	1.8614	Adder	2.19
936372	AD2-047 E O1	9.0883	Adder	10.69
936461	AD2-060	1.0950	Adder	1.29
936511	AD2-066 C O1	3.8738	Adder	4.56
936512	AD2-066 E O1	2.5825	Adder	3.04
936791	AD2-102 C	7.9315	Adder	9.33
936792	AD2-102 E	5.2877	Adder	6.22
937001	AD2-134 C	1.5224	Adder	1.79
937002	AD2-134 E	6.2889	Adder	7.4
937311	AD2-172 C	1.3680	Adder	1.61
937312	AD2-172 E	1.8892	Adder	2.22
937531	AD2-214 C	2.2754	Adder	2.68
937532	AD2-214 E	1.5169	Adder	1.78
938861	AE1-114 C O1	2.1504	Adder	2.53
938862	AE1-114 E O1	7.3368	Adder	8.63
939051	AE1-134 1	0.7223	Adder	0.85
939061	AE1-134 2	0.7223	Adder	0.85
939351	AE1-166 C O1	4.6171	Adder	5.43
939352	AE1-166 E O1	4.2620	Adder	5.01
940501	AE2-035 C	1.3680	Adder	1.61
940502	AE2-035 E	1.8892	Adder	2.22
940752	AE2-062 E	0.0506	Adder	0.06
941131	AE2-107 C	4.0871	Adder	4.81
941132	AE2-107 E	2.7248	Adder	3.21
941551	AE2-152 C O1	5.3275	Adder	6.27

941552	AE2-152 E O1	3.5516	Adder	4.18
941561	AE2-153 C O1	2.4795	Adder	2.92
941562	AE2-153 E O1	11.6084	Adder	13.66
942991	AE2-321 C	4.7399	Adder	5.58
942992	AE2-321 E	2.3346	Adder	2.75
943121	AE2-341 C	7.1444	Adder	8.41
943122	AE2-341 E	3.5083	Adder	4.13
943381	AF1-009 C	0.3309	Adder	0.39
943382	AF1-009 E	1.3234	Adder	1.56
943401	AF1-011 C	0.6467	Adder	0.76
943402	AF1-011 E	1.0855	Adder	1.28
943411	AF1-012 C	6.3546	Adder	7.48
943412	AF1-012 E	4.2364	Adder	4.98
943591	AF1-030 C O1	4.7511	Adder	5.59
943592	AF1-030 E O1	2.3507	Adder	2.77
943801	AF1-048 C	2.2157	Adder	2.61
943802	AF1-048 E	1.4772	Adder	1.74
943921	AF1-060	0.6736	Adder	0.79
944041	AF1-072	1.3146	Adder	1.55
944911	AF1-156 C	6.3396	Adder	7.46
944912	AF1-156 E	4.2264	Adder	4.97
945351	AF1-200 FTIR	627.0445	50/50	627.0445
946151	AF1-280 C O1	8.4100	Adder	9.89
946152	AF1-280 E O1	3.8674	Adder	4.55
946161	AF1-281 C	0.1842	Adder	0.22
946162	AF1-281 E	1.0436	Adder	1.23
946321	AF1-296 C O1	2.0012	Adder	2.35
946322	AF1-296 E O1	9.3693	Adder	11.02
946501	AF1-314 C	2.4307	Adder	2.86
946502	AF1-314 E	11.3799	Adder	13.39
946531	AF1-317 C O1	1.2104	Adder	1.42
946541	AF1-318 C O1	2.9651	Adder	3.49
946542	AF1-318 E O1	13.8836	Adder	16.33
946661	AF1-330 C	1.1634	Adder	1.37
946662	AF1-330 E	0.2554	Adder	0.3
946671	AF1-331	1.3399	Adder	1.58
957021	AF2-003 C O2	2.5588	Adder	5.68
957022	AF2-003 E O2	11.9800	Adder	26.59
957331	AF2-027 C	0.7070	Adder	1.57
957332	AF2-027 E	1.0605	Adder	2.35
957471	AF2-041 C	6.0161	Adder	13.35
957472	AF2-041 E	4.0107	Adder	8.9
957751	AF2-069 C	0.0630	Adder	0.14
957752	AF2-069 E	0.2033	Adder	0.45
957761	AF2-070 C	0.0888	Adder	0.2
957762	AF2-070 E	0.4310	Adder	0.96
958011	AF2-095 C O2	3.8973	Adder	8.65
958012	AF2-095 E O2	1.8340	Adder	4.07
958021	AF2-096 C O2	10.0762	Adder	22.37
958022	AF2-096 E O2	4.7650	Adder	10.58
958341	AF2-128 C O2	0.4208	Adder	0.93
958342	AF2-128 E O2	1.9699	Adder	4.37
958911	AF2-182	5.8563	Adder	13.0

958921	AF2-183 C	1.0411	Adder	2.31
958922	AF2-183 E	1.5617	Adder	3.47
959081	AF2-199 C O2	2.0054	Adder	4.45
959082	AF2-199 E O2	1.3369	Adder	2.97
959091	AF2-200 C O2	4.0107	Adder	8.9
959092	AF2-200 E O2	2.6738	Adder	5.94
959101	AF2-201 C O2	1.7747	Adder	3.94
959102	AF2-201 E O2	5.0961	Adder	11.31
959761	AF2-267 C O2	1.2814	Adder	2.84
959762	AF2-267 E O2	5.9992	Adder	13.32
960381	AF2-329	1.9648	Adder	4.36
960551	AF2-346 C	1.4434	Adder	3.2
960552	AF2-346 E	0.9623	Adder	2.14
960581	AF2-349 C	6.6259	Adder	14.71
960582	AF2-349 E	4.4172	Adder	9.81
960591	AF2-350 C O2	1.7410	Adder	3.86
960592	AF2-350 E O2	1.1607	Adder	2.58
960601	AF2-351 C O2	0.2321	Adder	0.52
960602	AF2-351 E O2	0.3482	Adder	0.77
960721	AF2-363 C O2	1.7637	Adder	3.91
960722	AF2-363 E O2	1.1758	Adder	2.61
960731	AF2-364 C O2	2.0101	Adder	4.46
960732	AF2-364 E O2	1.3401	Adder	2.97
960751	AF2-366 C O2	2.0693	Adder	4.59
960752	AF2-366 E O2	1.3795	Adder	3.06
961011	AF2-392 C O2	1.1105	Adder	2.47
961012	AF2-392 E O2	5.1992	Adder	11.54
961021	AF2-393 O2	1.8929	Adder	4.2
961031	AF2-394 O2	1.2619	Adder	2.8
990901	L-005 E	6.0139	Adder	7.08
WEC	WEC	2.3562	Confirmed LTF	2.3562
CALDERWOOD	CALDERWOOD	0.1103	Confirmed LTF	0.1103
CBM-W2	CBM-W2	8.3620	Confirmed LTF	8.3620
NY	NY	0.6669	Confirmed LTF	0.6669
CBM-W1	CBM-W1	37.6301	Confirmed LTF	37.6301
TVA	TVA	0.4144	Confirmed LTF	0.4144
O-066	O-066	7.9094	Confirmed LTF	7.9094
CHEOAH	CHEOAH	0.1166	Confirmed LTF	0.1166
CBM-S1	CBM-S1	0.8946	Confirmed LTF	0.8946
G-007	G-007	1.2230	Confirmed LTF	1.2230
MADISON	MADISON	11.3098	Confirmed LTF	11.3098
MEC	MEC	7.3205	Confirmed LTF	7.3205
GIBSON	GIBSON	0.1523	Confirmed LTF	0.1523
BLUEG	BLUEG	1.3280	Confirmed LTF	1.3280
TRIMBLE	TRIMBLE	0.4469	Confirmed LTF	0.4469
CATAWBA	CATAWBA	0.2034	Confirmed LTF	0.2034

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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
96631736	270886	ST JOHN ;T	CE	255104	17GREEN_ACRE	NIPS	1	COMED_P4_023-65-BT2-3__	breaker	1091.0	121.92	122.03	DC	26.91

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	20.9263	50/50	20.9263
274655	BRAIDWOOD;2U	20.3696	50/50	20.3696
274687	WILL CNTY;4U	8.9362	50/50	8.9362
274751	CRETE EC ;1U	3.7811	50/50	3.7811
274752	CRETE EC ;2U	3.7811	50/50	3.7811
274753	CRETE EC ;3U	3.7811	50/50	3.7811
274754	CRETE EC ;4U	3.7811	50/50	3.7811
274861	TOP CROP ;1U	0.3653	50/50	0.3653
274862	TOP CROP ;2U	0.7090	50/50	0.7090
274881	PILOT HIL;1E	10.7993	Adder	12.71
275149	KELLYCK ;1E	10.7993	Adder	12.71
276167	Z1-106 E2	0.7969	Adder	0.94
276168	Z1-106 E1	0.7969	Adder	0.94
276169	Z1-107 E	1.5637	Adder	1.84
276170	Z1-108 E	1.5717	Adder	1.85
290021	O50 E	12.3216	Adder	14.5
290108	LEEDK;1U E	15.3051	Adder	18.01
293061	N-015 E	9.8175	Adder	11.55
293644	O22 E1	8.4701	50/50	8.4701
293645	O22 E2	16.4419	50/50	16.4419
294392	P-010 E	12.4682	Adder	14.67
915011	Y3-013 1	2.3712	Adder	2.79
915021	Y3-013 2	2.3712	Adder	2.79
915031	Y3-013 3	2.3712	Adder	2.79
920272	AA2-123 E	1.5414	Adder	1.81
924471	AB2-096	7.2673	Adder	8.55
926311	AC1-109 1	1.2019	Adder	1.41
926321	AC1-109 2	1.2019	Adder	1.41
926331	AC1-110 1	1.1989	Adder	1.41
926341	AC1-110 2	1.1989	Adder	1.41
926351	AC1-111 1	0.4802	Adder	0.56
926361	AC1-111 2	0.4802	Adder	0.56
926371	AC1-111 3	0.4802	Adder	0.56
926381	AC1-111 4	0.4802	Adder	0.56
926391	AC1-111 5	0.4802	Adder	0.56
926401	AC1-111 6	0.4802	Adder	0.56
927451	AC1-142A 1	2.7001	Adder	3.18
927461	AC1-142A 2	2.7015	Adder	3.18
930501	AB1-091 O1	42.6687	Adder	50.2
930741	AB1-122 1O1	44.6522	Adder	52.53
930751	AB1-122 2O1	47.4332	Adder	55.8
933411	AC2-154 C	1.4656	Adder	1.72
933412	AC2-154 E	2.3913	Adder	2.81
933431	AC2-156 C O1	0.6008	Adder	0.71
933432	AC2-156 E O1	0.9802	Adder	1.15

933931	AD1-016 C	0.5857	Adder	0.69
933932	AD1-016 E	0.9557	Adder	1.12
934101	AD1-039 1	4.3759	Adder	5.15
934111	AD1-039 2	4.6485	Adder	5.47
934721	AD1-100 C	12.0258	Adder	14.15
934722	AD1-100 E	56.1204	Adder	66.02
936371	AD2-047 C O1	2.6227	Adder	3.09
936372	AD2-047 E O1	12.8048	Adder	15.06
936461	AD2-060	1.5428	Adder	1.82
937401	AD2-194 1	5.0046	Adder	5.89
937411	AD2-194 2	4.9975	Adder	5.88
938511	AE1-070 1	5.8804	Adder	6.92
938521	AE1-070 2	5.3723	Adder	6.32
938851	AE1-113 C	5.0827	Adder	5.98
938852	AE1-113 E	18.0203	Adder	21.2
939351	AE1-166 C O1	6.4105	Adder	7.54
939352	AE1-166 E O1	5.9174	Adder	6.96
939631	AE1-193 C	18.9468	50/50	18.9468
939632	AE1-193 E	126.7981	50/50	126.7981
939641	AE1-194 C	18.9468	50/50	18.9468
939642	AE1-194 E	126.7981	50/50	126.7981
939651	AE1-195 C	18.9468	50/50	18.9468
939652	AE1-195 E	126.7981	50/50	126.7981
939681	AE1-198 C	56.2576	50/50	56.2576
939682	AE1-198 E	47.8044	50/50	47.8044
940752	AE2-062 E	0.1006	50/50	0.1006
941131	AE2-107 C	4.6033	Adder	5.42
941132	AE2-107 E	3.0688	Adder	3.61
941551	AE2-152 C O1	7.3968	Adder	8.7
941552	AE2-152 E O1	4.9312	Adder	5.8
941561	AE2-153 C O1	2.9492	Adder	3.47
941562	AE2-153 E O1	13.8077	Adder	16.24
942421	AE2-255 C O1	1.9252	Adder	2.26
942422	AE2-255 E O1	5.7757	Adder	6.79
942991	AE2-321 C	5.1563	Adder	6.07
942992	AE2-321 E	2.5396	Adder	2.99
943121	AE2-341 C	8.0183	Adder	9.43
943122	AE2-341 E	3.9374	Adder	4.63
943591	AF1-030 C O1	5.3322	Adder	6.27
943592	AF1-030 E O1	2.6382	Adder	3.1
943801	AF1-048 C	2.4104	Adder	2.84
943802	AF1-048 E	1.6069	Adder	1.89
944041	AF1-072	1.3604	Adder	1.6
944911	AF1-156 C	7.5406	Adder	8.87
944912	AF1-156 E	5.0271	Adder	5.91
945351	AF1-200 FTIR	195.6042	Merchant Transmission	195.6042
946661	AF1-330 C	1.2639	Adder	1.49
946662	AF1-330 E	0.2775	Adder	0.33
957331	AF2-027 C	0.8378	Adder	1.86
957332	AF2-027 E	1.2568	Adder	2.79
958011	AF2-095 C O2	5.6017	Adder	12.43
958012	AF2-095 E O2	2.6361	Adder	5.85
958021	AF2-096 C O2	27.7412	50/50	27.7412

958022	AF2-096 E O2	13.1188	50/50	13.1188
959351	AF2-226 C	2.0760	50/50	2.0760
959352	AF2-226 E	3.1140	50/50	3.1140
960281	AF2-319 C	2.0760	50/50	2.0760
960282	AF2-319 E	3.1140	50/50	3.1140
960381	AF2-329	2.2051	Adder	4.89
960581	AF2-349 C	7.2746	Adder	16.15
960582	AF2-349 E	4.8497	Adder	10.77
960591	AF2-350 C O2	2.4530	Adder	5.45
960592	AF2-350 E O2	1.6353	Adder	3.63
960601	AF2-351 C O2	0.3271	Adder	0.73
960602	AF2-351 E O2	0.4906	Adder	1.09
960731	AF2-364 C O2	2.0548	Adder	4.56
960732	AF2-364 E O2	1.3699	Adder	3.04
960751	AF2-366 C O2	2.3238	Adder	5.16
960752	AF2-366 E O2	1.5492	Adder	3.44
WEC	WEC	2.7871	Confirmed LTF	2.7871
CALDERWOOD	CALDERWOOD	0.0656	Confirmed LTF	0.0656
CBM-W2	CBM-W2	13.0712	Confirmed LTF	13.0712
NY	NY	0.8361	Confirmed LTF	0.8361
CBM-W1	CBM-W1	41.7459	Confirmed LTF	41.7459
TVA	TVA	0.8036	Confirmed LTF	0.8036
O-066	O-066	9.8717	Confirmed LTF	9.8717
CHEOAH	CHEOAH	0.0736	Confirmed LTF	0.0736
CBM-S1	CBM-S1	2.6582	Confirmed LTF	2.6582
G-007	G-007	1.5257	Confirmed LTF	1.5257
MADISON	MADISON	14.3862	Confirmed LTF	14.3862
MEC	MEC	9.4625	Confirmed LTF	9.4625
GIBSON	GIBSON	0.1343	Confirmed LTF	0.1343
BLUEG	BLUEG	1.5312	Confirmed LTF	1.5312
TRIMBLE	TRIMBLE	0.5192	Confirmed LTF	0.5192
CATAWBA	CATAWBA	0.2180	Confirmed LTF	0.2180

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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
96631728	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.96	122.05	DC	44.14

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
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
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	11.9316	Adder	26.49
960582	AF2-349 E	7.9544	Adder	17.66
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
96631716	270927	WILTON ; R	CE	275233	WILTON ;4M	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.51	124.6	DC	45.08

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
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
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	12.1862	Adder	27.05
960582	AF2-349 E	8.1241	Adder	18.03

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

13.5.13 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
96631842	270940	ZION STA ; B	CE	270806	LIBERTYV; B	CE	1	COMED_P4_016-45-BT6-11_	breaker	1201.0	110.97	111.57	DC	15.68

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274683	WAUKEGAN ;8U	12.2166	50/50	12.2166
274725	ZION EC ;1P	8.2538	50/50	8.2538
274726	ZION EC ;2P	8.2538	50/50	8.2538
274727	ZION EC ;3P	8.2538	50/50	8.2538
274828	WAUKEGAN ;BP	3.4747	50/50	3.4747
274830	U3-021 1	2.2388	Adder	2.63
274831	U3-021 2	2.2388	Adder	2.63
915011	Y3-013 1	8.7000	50/50	8.7000
915021	Y3-013 2	8.7000	50/50	8.7000
915031	Y3-013 3	8.7000	50/50	8.7000
924471	AB2-096	15.5474	Adder	18.29
926431	AC1-114	0.8840	Adder	1.04
927511	AC1-113 1	0.4422	Adder	0.52

927521	AC1-113 2	0.4422	Adder	0.52
932881	AC2-115 1	0.8843	Adder	1.04
932891	AC2-115 2	0.8843	Adder	1.04
932921	AC2-116	0.3094	Adder	0.36
936791	AD2-102 C	7.0696	Adder	8.32
936792	AD2-102 E	4.7131	Adder	5.54
950101	J390	60.4984	PJM External (MISO)	60.4984
951391	J505	15.4740	PJM External (MISO)	15.4740
952381	J703	17.8981	PJM External (MISO)	17.8981
952391	J704	7.6278	PJM External (MISO)	7.6278
952511	J584 C	0.6856	PJM External (MISO)	0.6856
952512	J584 E	3.7094	PJM External (MISO)	3.7094
953151	J831	7.5368	PJM External (MISO)	7.5368
953331	J801	4.0515	PJM External (MISO)	4.0515
953491	J947	43.8640	PJM External (MISO)	43.8640
953681	J818	15.3500	PJM External (MISO)	15.3500
953691	J819 C	0.9065	PJM External (MISO)	0.9065
953692	J819 E	4.9046	PJM External (MISO)	4.9046
953701	J821 C	1.5413	PJM External (MISO)	1.5413
953702	J821 E	8.3388	PJM External (MISO)	8.3388
953891	J849	17.5088	PJM External (MISO)	17.5088
953901	J850	25.8600	PJM External (MISO)	25.8600
954001	J864	3.1033	PJM External (MISO)	3.1033
954141	J878	40.5540	PJM External (MISO)	40.5540
954191	J886	23.1870	PJM External (MISO)	23.1870
954511	J926 C	0.8933	PJM External (MISO)	0.8933
954512	J926 E	4.8331	PJM External (MISO)	4.8331
954691	J732	41.7700	PJM External (MISO)	41.7700
954741	J928 C	1.7477	PJM External (MISO)	1.7477
954742	J928 E	9.4556	PJM External (MISO)	9.4556
955091	J986	15.7128	PJM External (MISO)	15.7128
955241	J1002	10.8474	PJM External (MISO)	10.8474
955251	J1003	5.9245	PJM External (MISO)	5.9245
955301	J1009	101.9360	PJM External (MISO)	101.9360
955311	J1010	106.6320	PJM External (MISO)	106.6320
955321	J1011	106.6320	PJM External (MISO)	106.6320
955581	J1042 C	4.4955	PJM External (MISO)	4.4955
955582	J1042 E	25.4745	PJM External (MISO)	25.4745
955671	J1051	7.5675	PJM External (MISO)	7.5675
955691	J1053	31.0460	PJM External (MISO)	31.0460
955981	J1085 C	3.8240	PJM External (MISO)	3.8240
955982	J1085 E	20.6890	PJM External (MISO)	20.6890
956051	J1092	5.1080	PJM External (MISO)	5.1080
956141	J1101	3.0916	PJM External (MISO)	3.0916
956321	J1121	23.2180	PJM External (MISO)	23.2180
956571	J1153	27.0570	PJM External (MISO)	27.0570
956581	J1154	7.7227	PJM External (MISO)	7.7227
956731	J1171	14.9060	PJM External (MISO)	14.9060
956852	J1183 E	0.1891	PJM External (MISO)	0.1891
956901	J1188	4.1005	PJM External (MISO)	4.1005
957331	AF2-027 C	5.8000	50/50	5.8000
957332	AF2-027 E	8.7000	50/50	8.7000
960581	AF2-349 C	4.2378	Adder	9.41

960582	AF2-349 E	2.8252	Adder	6.27
WEC	WEC	7.5389	Confirmed LTF	7.5389
CPL	CPL	0.0529	Confirmed LTF	0.0529
CBM-W2	CBM-W2	6.6912	Confirmed LTF	6.6912
NY	NY	0.0946	Confirmed LTF	0.0946
CBM-W1	CBM-W1	79.7012	Confirmed LTF	79.7012
TVA	TVA	0.8134	Confirmed LTF	0.8134
O-066	O-066	1.0752	Confirmed LTF	1.0752
CBM-S2	CBM-S2	0.8901	Confirmed LTF	0.8901
CBM-S1	CBM-S1	3.9192	Confirmed LTF	3.9192
TILTON	TILTON	0.0636	Confirmed LTF	0.0636
G-007	G-007	0.1664	Confirmed LTF	0.1664
MADISON	MADISON	13.2915	Confirmed LTF	13.2915
MEC	MEC	7.0520	Confirmed LTF	7.0520
GIBSON	GIBSON	0.0087	Confirmed LTF	0.0087
BLUEG	BLUEG	0.1614	Confirmed LTF	0.1614
TRIMBLE	TRIMBLE	0.0590	Confirmed LTF	0.0590

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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
96633067	270942	ZION STA ;0B	CE	270915	WAUKEGAN ; R	CE	1	COMED_P7_345-L2221__R-N_+345-L2222__B-N-B	tower	1768.0	118.98	119.49	DC	19.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274725	ZION EC ;1P	11.9461	50/50	11.9461
274726	ZION EC ;2P	11.9461	50/50	11.9461
274727	ZION EC ;3P	11.9461	50/50	11.9461
274830	U3-021 1	2.8493	Adder	3.35
274831	U3-021 2	2.8493	Adder	3.35
294763	P-046 E	4.2548	Adder	5.01
915011	Y3-013 1	12.5919	50/50	12.5919
915021	Y3-013 2	12.5919	50/50	12.5919
915031	Y3-013 3	12.5919	50/50	12.5919
920272	AA2-123 E	0.8770	Adder	1.03
924471	AB2-096	19.7867	Adder	23.28
926431	AC1-114	1.1203	Adder	1.32
927511	AC1-113 1	0.5604	Adder	0.66
927521	AC1-113 2	0.5604	Adder	0.66
932881	AC2-115 1	1.1208	Adder	1.32
932891	AC2-115 2	1.1208	Adder	1.32
932921	AC2-116	0.3921	Adder	0.46
933931	AD1-016 C	0.3333	Adder	0.39
933932	AD1-016 E	0.5439	Adder	0.64
934651	AD1-096 C (Withdrawn : 07/22/2020)	0.3421	Adder	0.4

934652	AD1-096 E (Withdrawn : 07/22/2020)	0.5582	Adder	0.66
934971	AD1-129 C	0.3729	Adder	0.44
934972	AD1-129 E	0.2486	Adder	0.29
936791	AD2-102 C	8.7873	Adder	10.34
936792	AD2-102 E	5.8582	Adder	6.89
937311	AD2-172 C	1.1169	Adder	1.31
937312	AD2-172 E	1.5424	Adder	1.81
938861	AE1-114 C O1	1.5233	Adder	1.79
938862	AE1-114 E O1	5.1972	Adder	6.11
940501	AE2-035 C	1.1169	Adder	1.31
940502	AE2-035 E	1.5424	Adder	1.81
942991	AE2-321 C	2.9688	Adder	3.49
942992	AE2-321 E	1.4622	Adder	1.72
943801	AF1-048 C	1.3878	Adder	1.63
943802	AF1-048 E	0.9252	Adder	1.09
943921	AF1-060	0.5499	Adder	0.65
946501	AF1-314 C	1.9844	Adder	2.33
946502	AF1-314 E	9.2907	Adder	10.93
946661	AF1-330 C	0.7192	Adder	0.85
946662	AF1-330 E	0.1579	Adder	0.19
950101	J390	70.1509	PJM External (MISO)	70.1509
951391	J505	17.7990	PJM External (MISO)	17.7990
952381	J703	20.6177	PJM External (MISO)	20.6177
952391	J704	8.7873	PJM External (MISO)	8.7873
952431	J760	1.6584	PJM External (MISO)	1.6584
952511	J584 C	0.8011	PJM External (MISO)	0.8011
952512	J584 E	4.3343	PJM External (MISO)	4.3343
953111	J807 C	0.7997	PJM External (MISO)	0.7997
953112	J807 E	4.3267	PJM External (MISO)	4.3267
953151	J831	8.7160	PJM External (MISO)	8.7160
953331	J801	4.7382	PJM External (MISO)	4.7382
953491	J947	52.1740	PJM External (MISO)	52.1740
953681	J818	17.9381	PJM External (MISO)	17.9381
953691	J819 C	1.0668	PJM External (MISO)	1.0668
953692	J819 E	5.7714	PJM External (MISO)	5.7714
953701	J821 C	1.7825	PJM External (MISO)	1.7825
953702	J821 E	9.6440	PJM External (MISO)	9.6440
953891	J849	20.1675	PJM External (MISO)	20.1675
953901	J850	30.1525	PJM External (MISO)	30.1525
953921	J855 C	0.8215	PJM External (MISO)	0.8215
953922	J855 E	4.4445	PJM External (MISO)	4.4445
954001	J864	3.6620	PJM External (MISO)	3.6620
954061	J870	10.5320	PJM External (MISO)	10.5320
954071	J871	5.2660	PJM External (MISO)	5.2660
954141	J878	44.5540	PJM External (MISO)	44.5540
954191	J886	26.6700	PJM External (MISO)	26.6700
954511	J926 C	1.0436	PJM External (MISO)	1.0436
954512	J926 E	5.6460	PJM External (MISO)	5.6460
954691	J732	48.5080	PJM External (MISO)	48.5080
954741	J928 C	2.0131	PJM External (MISO)	2.0131
954742	J928 E	10.8916	PJM External (MISO)	10.8916
955091	J986	18.1898	PJM External (MISO)	18.1898
955241	J1002	12.5829	PJM External (MISO)	12.5829

955251	J1003	6.8830	PJM External (MISO)	6.8830
955301	J1009	131.9520	PJM External (MISO)	131.9520
955311	J1010	213.1040	PJM External (MISO)	213.1040
955321	J1011	213.1040	PJM External (MISO)	213.1040
955581	J1042 C	5.0181	PJM External (MISO)	5.0181
955582	J1042 E	28.4359	PJM External (MISO)	28.4359
955671	J1051	8.7655	PJM External (MISO)	8.7655
955691	J1053	35.9480	PJM External (MISO)	35.9480
955981	J1085 C	4.4343	PJM External (MISO)	4.4343
955982	J1085 E	23.9907	PJM External (MISO)	23.9907
956051	J1092	5.9800	PJM External (MISO)	5.9800
956141	J1101	3.5560	PJM External (MISO)	3.5560
956321	J1121	26.8020	PJM External (MISO)	26.8020
956571	J1153	31.2495	PJM External (MISO)	31.2495
956581	J1154	9.0247	PJM External (MISO)	9.0247
956731	J1171	17.2400	PJM External (MISO)	17.2400
956852	J1183 E	0.2178	PJM External (MISO)	0.2178
956901	J1188	4.7880	PJM External (MISO)	4.7880
957331	AF2-027 C	8.3946	50/50	8.3946
957332	AF2-027 E	12.5919	50/50	12.5919
959101	AF2-201 C O2	1.4489	Adder	3.22
959102	AF2-201 E O2	4.1605	Adder	9.24
959761	AF2-267 C O2	1.0460	Adder	2.32
959762	AF2-267 E O2	4.8969	Adder	10.87
960581	AF2-349 C	5.3933	Adder	11.97
960582	AF2-349 E	3.5955	Adder	7.98
WEC	WEC	8.9051	Confirmed LTF	8.9051
CPL	CPL	0.1118	Confirmed LTF	0.1118
CBM-W2	CBM-W2	8.6978	Confirmed LTF	8.6978
NY	NY	0.0735	Confirmed LTF	0.0735
CBM-W1	CBM-W1	94.5631	Confirmed LTF	94.5631
TVA	TVA	1.0836	Confirmed LTF	1.0836
O-066	O-066	0.8131	Confirmed LTF	0.8131
CBM-S2	CBM-S2	1.4970	Confirmed LTF	1.4970
CBM-S1	CBM-S1	5.3506	Confirmed LTF	5.3506
TILTON	TILTON	0.0239	Confirmed LTF	0.0239
G-007	G-007	0.1248	Confirmed LTF	0.1248
MADISON	MADISON	15.6684	Confirmed LTF	15.6684
MEC	MEC	8.5917	Confirmed LTF	8.5917
BLUEG	BLUEG	0.0660	Confirmed LTF	0.0660
TRIMBLE	TRIMBLE	0.0301	Confirmed LTF	0.0301

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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
96631608	274750	CRETE EC ;BP	CE	255112	17STJOHN	NIPS	1	COMED_P4_112-65-BT4-5__	breaker	1399.0	155.03	155.12	DC	37.62

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	29.7601	50/50	29.7601
274655	BRAIDWOOD;2U	28.9529	50/50	28.9529
274687	WILL CNTY;4U	12.5641	50/50	12.5641
274704	KENDALL ;1C	4.4156	50/50	4.4156
274706	KENDALL ;2C	4.4156	50/50	4.4156
274751	CRETE EC ;1U	6.4737	50/50	6.4737
274752	CRETE EC ;2U	6.4737	50/50	6.4737
274753	CRETE EC ;3U	6.4737	50/50	6.4737
274754	CRETE EC ;4U	6.4737	50/50	6.4737
274830	U3-021 1	5.3721	Adder	6.32
274831	U3-021 2	5.3721	Adder	6.32
274861	TOP CROP ;1U	0.5274	50/50	0.5274
274862	TOP CROP ;2U	1.0237	50/50	1.0237
276167	Z1-106 E2	1.1127	Adder	1.31
276168	Z1-106 E1	1.1127	Adder	1.31
276169	Z1-107 E	2.1386	Adder	2.52
276170	Z1-108 E	2.1974	Adder	2.59
290021	O50 E	17.3400	Adder	20.4
290051	GSG-6; E	9.2263	Adder	10.85
290108	LEEDK;1U E	21.3537	Adder	25.12
293061	N-015 E	13.7996	Adder	16.23
293644	O22 E1	12.2294	50/50	12.2294
293645	O22 E2	23.7394	50/50	23.7394
294392	P-010 E	17.5255	Adder	20.62
915011	Y3-013 1	3.3191	Adder	3.9
915021	Y3-013 2	3.3191	Adder	3.9
915031	Y3-013 3	3.3191	Adder	3.9
920272	AA2-123 E	2.1548	Adder	2.54
924471	AB2-096	37.3065	Adder	43.89
926311	AC1-109 1	1.6782	Adder	1.97
926321	AC1-109 2	1.6782	Adder	1.97
926331	AC1-110 1	1.6737	Adder	1.97
926341	AC1-110 2	1.6737	Adder	1.97
926351	AC1-111 1	0.6699	Adder	0.79
926361	AC1-111 2	0.6699	Adder	0.79
926371	AC1-111 3	0.6699	Adder	0.79
926381	AC1-111 4	0.6699	Adder	0.79
926391	AC1-111 5	0.6699	Adder	0.79
926401	AC1-111 6	0.6699	Adder	0.79
927451	AC1-142A 1	3.8004	Adder	4.47
927461	AC1-142A 2	3.8028	Adder	4.47
930481	AB1-089	34.5474	Adder	40.64
930741	AB1-122 1O1	62.5111	Adder	73.54
930751	AB1-122 2O1	66.7926	Adder	78.58
933431	AC2-156 C O1	0.8367	Adder	0.98
933432	AC2-156 E O1	1.3651	Adder	1.61
933911	AD1-013 C	1.6297	Adder	1.92
933912	AD1-013 E	2.6033	Adder	3.06
933931	AD1-016 C	0.8188	Adder	0.96
933932	AD1-016 E	1.3359	Adder	1.57
934101	AD1-039 1	6.1261	Adder	7.21
934111	AD1-039 2	6.5457	Adder	7.7

934431	AD1-067 C	0.1159	Adder	0.14
934432	AD1-067 E	0.4871	Adder	0.57
934721	AD1-100 C	16.6744	Adder	19.62
934722	AD1-100 E	77.8141	Adder	91.55
934971	AD1-129 C	0.7959	Adder	0.94
934972	AD1-129 E	0.5306	Adder	0.62
937001	AD2-134 C	2.4119	Adder	2.84
937002	AD2-134 E	9.9636	Adder	11.72
937401	AD2-194 1	7.0559	Adder	8.3
937411	AD2-194 2	7.0431	Adder	8.29
938511	AE1-070 1	8.2906	Adder	9.75
938521	AE1-070 2	7.5713	Adder	8.91
938851	AE1-113 C	7.1527	Adder	8.41
938852	AE1-113 E	25.3597	Adder	29.83
939351	AE1-166 C O1	8.9266	Adder	10.5
939352	AE1-166 E O1	8.2400	Adder	9.69
939631	AE1-193 C	32.4395	50/50	32.4395
939632	AE1-193 E	217.0954	50/50	217.0954
939641	AE1-194 C	32.4395	50/50	32.4395
939642	AE1-194 E	217.0954	50/50	217.0954
939651	AE1-195 C	32.4395	50/50	32.4395
939652	AE1-195 E	217.0954	50/50	217.0954
939681	AE1-198 C	96.3205	50/50	96.3205
939682	AE1-198 E	81.8475	50/50	81.8475
940752	AE2-062 E	0.1413	50/50	0.1413
941131	AE2-107 C	6.4224	Adder	7.56
941132	AE2-107 E	4.2816	Adder	5.04
941551	AE2-152 C O1	10.3000	Adder	12.12
941552	AE2-152 E O1	6.8666	Adder	8.08
941561	AE2-153 C O1	4.0987	Adder	4.82
941562	AE2-153 E O1	19.1896	Adder	22.58
942421	AE2-255 C O1	2.7094	Adder	3.19
942422	AE2-255 E O1	8.1281	Adder	9.56
942991	AE2-321 C	7.2076	Adder	8.48
942992	AE2-321 E	3.5500	Adder	4.18
943121	AE2-341 C	11.1616	Adder	13.13
943122	AE2-341 E	5.4810	Adder	6.45
943591	AF1-030 C O1	7.4226	Adder	8.73
943592	AF1-030 E O1	3.6725	Adder	4.32
943801	AF1-048 C	3.3693	Adder	3.96
943802	AF1-048 E	2.2462	Adder	2.64
944041	AF1-072	1.9015	Adder	2.24
944911	AF1-156 C	10.4797	Adder	12.33
944912	AF1-156 E	6.9865	Adder	8.22
945351	AF1-200 FTIR	271.5504	Merchant Transmission	271.5504
946661	AF1-330 C	1.7669	Adder	2.08
946662	AF1-330 E	0.3879	Adder	0.46
946671	AF1-331	2.1165	Adder	2.49
957021	AF2-003 C O2	2.9797	Adder	6.61
957022	AF2-003 E O2	13.9506	Adder	30.97
957331	AF2-027 C	1.1727	Adder	2.6
957332	AF2-027 E	1.7591	Adder	3.9
958021	AF2-096 C O2	40.1657	50/50	40.1657

958022	AF2-096 E O2	18.9943	50/50	18.9943
959351	AF2-226 C	2.9974	50/50	2.9974
959352	AF2-226 E	4.4961	50/50	4.4961
960281	AF2-319 C	2.9974	50/50	2.9974
960282	AF2-319 E	4.4961	50/50	4.4961
960381	AF2-329	3.0696	Adder	6.81
960581	AF2-349 C	10.1687	Adder	22.57
960582	AF2-349 E	6.7791	Adder	15.05
960721	AF2-363 C O2	2.7534	Adder	6.11
960722	AF2-363 E O2	1.8356	Adder	4.07
960731	AF2-364 C O2	2.8711	Adder	6.37
960732	AF2-364 E O2	1.9141	Adder	4.25
960751	AF2-366 C O2	3.2421	Adder	7.2
960752	AF2-366 E O2	2.1614	Adder	4.8
WEC	WEC	3.8994	Confirmed LTF	3.8994
CALDERWOOD	CALDERWOOD	0.1233	Confirmed LTF	0.1233
CBM-W2	CBM-W2	17.6085	Confirmed LTF	17.6085
NY	NY	1.1901	Confirmed LTF	1.1901
CBM-W1	CBM-W1	53.8430	Confirmed LTF	53.8430
TVA	TVA	1.0290	Confirmed LTF	1.0290
O-066	O-066	14.0582	Confirmed LTF	14.0582
CHEOAH	CHEOAH	0.1341	Confirmed LTF	0.1341
CBM-S1	CBM-S1	3.1013	Confirmed LTF	3.1013
G-007	G-007	2.1736	Confirmed LTF	2.1736
MADISON	MADISON	20.2164	Confirmed LTF	20.2164
MEC	MEC	13.1855	Confirmed LTF	13.1855
GIBSON	GIBSON	0.2550	Confirmed LTF	0.2550
BLUEG	BLUEG	2.3019	Confirmed LTF	2.3019
TRIMBLE	TRIMBLE	0.7763	Confirmed LTF	0.7763
CATAWBA	CATAWBA	0.3241	Confirmed LTF	0.3241

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
144403819	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	AEP_P4_#2978_05DUMONT_NON_FSA	breaker	971.0	106.99	107.09	DC	29.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274806	UNIV PK N;2U	1.8341	50/50	1.8341
274808	UNIV PK N;4U	1.8341	50/50	1.8341
274809	UNIV PK N;5U	1.8341	50/50	1.8341
274811	UNIV PK N;7U	1.8341	50/50	1.8341
274812	UNIV PK N;8U	1.8341	50/50	1.8341
274814	UNIV PK N;0U	1.8341	50/50	1.8341
274815	UNIV PK N;XU	1.8341	50/50	1.8341
274830	U3-021 1	4.2120	Adder	4.96
274831	U3-021 2	4.2120	Adder	4.96

274881	PILOT HIL;1E	12.6830	Adder	14.92
275149	KELLYCK ;1E	12.6830	Adder	14.92
276167	Z1-106 E2	0.8743	Adder	1.03
276168	Z1-106 E1	0.8743	Adder	1.03
276169	Z1-107 E	1.8566	Adder	2.18
276170	Z1-108 E	1.7221	Adder	2.03
290021	O50 E	13.3076	Adder	15.66
290051	GSG-6; E	7.2539	Adder	8.53
290108	LEEDK;1U E	16.7960	Adder	19.76
293061	N-015 E	10.7712	Adder	12.67
293644	O22 E1	6.6849	Adder	7.86
293645	O22 E2	12.9766	Adder	15.27
294392	P-010 E	13.6794	Adder	16.09
915011	Y3-013 1	2.5967	Adder	3.05
915021	Y3-013 2	2.5967	Adder	3.05
915031	Y3-013 3	2.5967	Adder	3.05
918052	AA1-018 E OP	12.2295	Adder	14.39
920272	AA2-123 E	1.6893	Adder	1.99
924471	AB2-096	29.2502	Adder	34.41
926311	AC1-109 1	1.3213	Adder	1.55
926321	AC1-109 2	1.3213	Adder	1.55
926331	AC1-110 1	1.3140	Adder	1.55
926341	AC1-110 2	1.3140	Adder	1.55
926351	AC1-111 1	0.5285	Adder	0.62
926361	AC1-111 2	0.5285	Adder	0.62
926371	AC1-111 3	0.5285	Adder	0.62
926381	AC1-111 4	0.5285	Adder	0.62
926391	AC1-111 5	0.5285	Adder	0.62
926401	AC1-111 6	0.5285	Adder	0.62
926431	AC1-114	1.6410	Adder	1.93
927451	AC1-142A 1	2.9468	Adder	3.47
927461	AC1-142A 2	2.9455	Adder	3.47
927511	AC1-113 1	0.8205	Adder	0.97
927521	AC1-113 2	0.8205	Adder	0.97
930481	AB1-089	45.3569	Adder	53.36
930501	AB1-091 O1	48.7415	Adder	57.34
930741	AB1-122 1O1	49.5641	Adder	58.31
930751	AB1-122 2O1	50.9766	Adder	59.97
932881	AC2-115 1	1.6410	Adder	1.93
932891	AC2-115 2	1.6410	Adder	1.93
932921	AC2-116	0.5744	Adder	0.68
932931	AC2-117	8.9089	Adder	10.48
933411	AC2-154 C	1.7214	Adder	2.03
933412	AC2-154 E	2.8086	Adder	3.3
933431	AC2-156 C O1	0.6604	Adder	0.78
933432	AC2-156 E O1	1.0775	Adder	1.27
933911	AD1-013 C	1.2814	Adder	1.51
933912	AD1-013 E	2.0469	Adder	2.41
933931	AD1-016 C	0.6419	Adder	0.76
933932	AD1-016 E	1.0474	Adder	1.23
934101	AD1-039 1	4.8573	Adder	5.71
934111	AD1-039 2	4.9957	Adder	5.88
934431	AD1-067 C	0.0911	Adder	0.11

934432	AD1-067 E	0.3830	Adder	0.45
934651	AD1-096 C (Withdrawn : 07/22/2020)	0.6143	Adder	0.72
934652	AD1-096 E (Withdrawn : 07/22/2020)	1.0022	Adder	1.18
934701	AD1-098 C O1	4.7715	Adder	5.61
934702	AD1-098 E O1	3.4837	Adder	4.1
934721	AD1-100 C	13.2766	Adder	15.62
934722	AD1-100 E	61.9573	Adder	72.89
934871	AD1-116 C	0.7122	Adder	0.84
934872	AD1-116 E	1.1620	Adder	1.37
934971	AD1-129 C	0.6240	Adder	0.73
934972	AD1-129 E	0.4160	Adder	0.49
936291	AD2-038 C O1	1.6810	Adder	1.98
936292	AD2-038 E O1	11.2500	Adder	13.24
936371	AD2-047 C O1	3.0805	Adder	3.62
936372	AD2-047 E O1	15.0398	Adder	17.69
936461	AD2-060	1.8120	Adder	2.13
936511	AD2-066 C O1	5.8391	Adder	6.87
936512	AD2-066 E O1	3.8927	Adder	4.58
936791	AD2-102 C	9.7481	Adder	11.47
936792	AD2-102 E	6.4988	Adder	7.65
937001	AD2-134 C	1.8963	Adder	2.23
937002	AD2-134 E	7.8335	Adder	9.22
937401	AD2-194 1	5.4284	Adder	6.39
937411	AD2-194 2	5.4325	Adder	6.39
938511	AE1-070 1	6.3784	Adder	7.5
938521	AE1-070 2	5.8400	Adder	6.87
938851	AE1-113 C	5.4894	Adder	6.46
938852	AE1-113 E	19.4624	Adder	22.9
939321	AE1-163 C O1	4.2241	Adder	4.97
939322	AE1-163 E O1	25.9483	Adder	30.53
939351	AE1-166 C O1	7.0603	Adder	8.31
939352	AE1-166 E O1	6.5172	Adder	7.67
940752	AE2-062 E	0.0893	Adder	0.11
941131	AE2-107 C	5.0521	Adder	5.94
941132	AE2-107 E	3.3680	Adder	3.96
941551	AE2-152 C O1	8.1465	Adder	9.58
941552	AE2-152 E O1	5.4310	Adder	6.39
941561	AE2-153 C O1	3.2649	Adder	3.84
941562	AE2-153 E O1	15.2855	Adder	17.98
942421	AE2-255 C O1	2.0793	Adder	2.45
942422	AE2-255 E O1	6.2379	Adder	7.34
942651	AE2-281 C O1	0.6034	Adder	0.71
942652	AE2-281 E O1	3.7069	Adder	4.36
942991	AE2-321 C	5.6506	Adder	6.65
942992	AE2-321 E	2.7831	Adder	3.27
943121	AE2-341 C	8.8186	Adder	10.37
943122	AE2-341 E	4.3304	Adder	5.09
943381	AF1-009 C	0.4128	Adder	0.49
943382	AF1-009 E	1.6510	Adder	1.94
943591	AF1-030 C O1	5.8645	Adder	6.9
943592	AF1-030 E O1	2.9016	Adder	3.41
943801	AF1-048 C	2.6414	Adder	3.11

943802	AF1-048 E	1.7610	Adder	2.07
944041	AF1-072	1.4905	Adder	1.75
944911	AF1-156 C	8.3477	Adder	9.82
944912	AF1-156 E	5.5651	Adder	6.55
945351	AF1-200 FTIR	213.4308	Merchant Transmission	213.4308
946661	AF1-330 C	1.3852	Adder	1.63
946662	AF1-330 E	0.3041	Adder	0.36
946671	AF1-331	1.6641	Adder	1.96
957021	AF2-003 C O2	2.3356	Adder	5.18
957022	AF2-003 E O2	10.9350	Adder	24.27
957331	AF2-027 C	0.9175	Adder	2.04
957332	AF2-027 E	1.3762	Adder	3.05
957471	AF2-041 C	7.7903	Adder	17.29
957472	AF2-041 E	5.1935	Adder	11.53
958011	AF2-095 C O2	6.5238	Adder	14.48
958012	AF2-095 E O2	3.0700	Adder	6.81
958021	AF2-096 C O2	12.5318	Adder	27.82
958022	AF2-096 E O2	5.9263	Adder	13.15
958481	AF2-142 C	4.4701	Adder	9.92
958482	AF2-142 E	2.9801	Adder	6.62
958491	AF2-143 C	4.1121	Adder	9.13
958492	AF2-143 E	2.7414	Adder	6.09
959081	AF2-199 C O2	2.5968	Adder	5.76
959082	AF2-199 E O2	1.7312	Adder	3.84
959091	AF2-200 C O2	5.1935	Adder	11.53
959092	AF2-200 E O2	3.4624	Adder	7.69
959101	AF2-201 C O2	0.7734	Adder	1.72
959102	AF2-201 E O2	2.2208	Adder	4.93
959351	AF2-226 C	0.8684	Adder	1.93
959352	AF2-226 E	1.3026	Adder	2.89
959761	AF2-267 C O2	1.5881	Adder	3.53
959762	AF2-267 E O2	7.4350	Adder	16.5
960281	AF2-319 C	0.8684	Adder	1.93
960282	AF2-319 E	1.3026	Adder	2.89
960381	AF2-329	2.4252	Adder	5.38
960581	AF2-349 C	7.9728	Adder	17.7
960582	AF2-349 E	5.3152	Adder	11.8
960591	AF2-350 C O2	2.8809	Adder	6.39
960592	AF2-350 E O2	1.9206	Adder	4.26
960601	AF2-351 C O2	0.3841	Adder	0.85
960602	AF2-351 E O2	0.5762	Adder	1.28
960721	AF2-363 C O2	2.1635	Adder	4.8
960722	AF2-363 E O2	1.4423	Adder	3.2
960731	AF2-364 C O2	2.2513	Adder	5.0
960732	AF2-364 E O2	1.5009	Adder	3.33
960751	AF2-366 C O2	2.5505	Adder	5.66
960752	AF2-366 E O2	1.7004	Adder	3.77
WEC	WEC	3.0536	Confirmed LTF	3.0536
CALDERWOOD	CALDERWOOD	0.0268	Confirmed LTF	0.0268
CBM-W2	CBM-W2	15.3808	Confirmed LTF	15.3808
NY	NY	0.9196	Confirmed LTF	0.9196
CBM-W1	CBM-W1	46.1369	Confirmed LTF	46.1369
TVA	TVA	1.0304	Confirmed LTF	1.0304

O-066	O-066	10.8461	Confirmed LTF	10.8461
CHEOAH	CHEOAH	0.0355	Confirmed LTF	0.0355
CBM-S1	CBM-S1	3.9448	Confirmed LTF	3.9448
G-007	G-007	1.6765	Confirmed LTF	1.6765
MADISON	MADISON	15.6704	Confirmed LTF	15.6704
MEC	MEC	10.4445	Confirmed LTF	10.4445
GIBSON	GIBSON	0.0360	Confirmed LTF	0.0360
BLUEG	BLUEG	1.3228	Confirmed LTF	1.3228
TRIMBLE	TRIMBLE	0.4530	Confirmed LTF	0.4530
CATAWBA	CATAWBA	0.2167	Confirmed LTF	0.2167

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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
96633033	274817	ZION EC ;RP	CE	270941	ZION STA ; R	CE	1	COMED_P7_345-L2221__R-N+_345-L2222__B-N-A	tower	1367.0	137.49	138.15	DC	19.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274725	ZION EC ;1P	11.9461	50/50	11.9461
274726	ZION EC ;2P	11.9461	50/50	11.9461
274727	ZION EC ;3P	11.9461	50/50	11.9461
274830	U3-021 1	2.8493	Adder	3.35
274831	U3-021 2	2.8493	Adder	3.35
294763	P-046 E	4.2548	Adder	5.01
915011	Y3-013 1	12.5919	50/50	12.5919
915021	Y3-013 2	12.5919	50/50	12.5919
915031	Y3-013 3	12.5919	50/50	12.5919
920272	AA2-123 E	0.8770	Adder	1.03
924471	AB2-096	19.7867	Adder	23.28
926431	AC1-114	1.1203	Adder	1.32
927511	AC1-113 1	0.5604	Adder	0.66
927521	AC1-113 2	0.5604	Adder	0.66
932881	AC2-115 1	1.1208	Adder	1.32
932891	AC2-115 2	1.1208	Adder	1.32
932921	AC2-116	0.3921	Adder	0.46
933931	AD1-016 C	0.3333	Adder	0.39
933932	AD1-016 E	0.5439	Adder	0.64
934651	AD1-096 C (Withdrawn : 07/22/2020)	0.3421	Adder	0.4
934652	AD1-096 E (Withdrawn : 07/22/2020)	0.5582	Adder	0.66
934971	AD1-129 C	0.3729	Adder	0.44
934972	AD1-129 E	0.2486	Adder	0.29
936791	AD2-102 C	8.7873	Adder	10.34
936792	AD2-102 E	5.8582	Adder	6.89
937311	AD2-172 C	1.1169	Adder	1.31
937312	AD2-172 E	1.5424	Adder	1.81

938861	AE1-114 C O1	1.5233	Adder	1.79
938862	AE1-114 E O1	5.1972	Adder	6.11
940501	AE2-035 C	1.1169	Adder	1.31
940502	AE2-035 E	1.5424	Adder	1.81
942991	AE2-321 C	2.9688	Adder	3.49
942992	AE2-321 E	1.4622	Adder	1.72
943801	AF1-048 C	1.3878	Adder	1.63
943802	AF1-048 E	0.9252	Adder	1.09
943921	AF1-060	0.5499	Adder	0.65
946501	AF1-314 C	1.9844	Adder	2.33
946502	AF1-314 E	9.2907	Adder	10.93
946661	AF1-330 C	0.7192	Adder	0.85
946662	AF1-330 E	0.1579	Adder	0.19
950101	J390	70.1509	PJM External (MISO)	70.1509
951391	J505	17.7990	PJM External (MISO)	17.7990
952381	J703	20.6177	PJM External (MISO)	20.6177
952391	J704	8.7873	PJM External (MISO)	8.7873
952431	J760	1.6584	PJM External (MISO)	1.6584
952511	J584 C	0.8011	PJM External (MISO)	0.8011
952512	J584 E	4.3343	PJM External (MISO)	4.3343
953111	J807 C	0.7997	PJM External (MISO)	0.7997
953112	J807 E	4.3267	PJM External (MISO)	4.3267
953151	J831	8.7160	PJM External (MISO)	8.7160
953331	J801	4.7382	PJM External (MISO)	4.7382
953491	J947	52.1740	PJM External (MISO)	52.1740
953681	J818	17.9381	PJM External (MISO)	17.9381
953691	J819 C	1.0668	PJM External (MISO)	1.0668
953692	J819 E	5.7714	PJM External (MISO)	5.7714
953701	J821 C	1.7825	PJM External (MISO)	1.7825
953702	J821 E	9.6440	PJM External (MISO)	9.6440
953891	J849	20.1675	PJM External (MISO)	20.1675
953901	J850	30.1525	PJM External (MISO)	30.1525
953921	J855 C	0.8215	PJM External (MISO)	0.8215
953922	J855 E	4.4445	PJM External (MISO)	4.4445
954001	J864	3.6620	PJM External (MISO)	3.6620
954061	J870	10.5320	PJM External (MISO)	10.5320
954071	J871	5.2660	PJM External (MISO)	5.2660
954141	J878	44.5540	PJM External (MISO)	44.5540
954191	J886	26.6700	PJM External (MISO)	26.6700
954511	J926 C	1.0436	PJM External (MISO)	1.0436
954512	J926 E	5.6460	PJM External (MISO)	5.6460
954691	J732	48.5080	PJM External (MISO)	48.5080
954741	J928 C	2.0131	PJM External (MISO)	2.0131
954742	J928 E	10.8916	PJM External (MISO)	10.8916
955091	J986	18.1898	PJM External (MISO)	18.1898
955241	J1002	12.5829	PJM External (MISO)	12.5829
955251	J1003	6.8830	PJM External (MISO)	6.8830
955301	J1009	131.9520	PJM External (MISO)	131.9520
955311	J1010	100.8840	PJM External (MISO)	100.8840
955321	J1011	100.8840	PJM External (MISO)	100.8840
955581	J1042 C	5.0181	PJM External (MISO)	5.0181
955582	J1042 E	28.4359	PJM External (MISO)	28.4359
955671	J1051	8.7655	PJM External (MISO)	8.7655

955691	J1053	35.9480	PJM External (MISO)	35.9480
955981	J1085 C	4.4343	PJM External (MISO)	4.4343
955982	J1085 E	23.9907	PJM External (MISO)	23.9907
956051	J1092	5.9800	PJM External (MISO)	5.9800
956141	J1101	3.5560	PJM External (MISO)	3.5560
956321	J1121	26.8020	PJM External (MISO)	26.8020
956571	J1153	31.2495	PJM External (MISO)	31.2495
956581	J1154	9.0247	PJM External (MISO)	9.0247
956731	J1171	17.2400	PJM External (MISO)	17.2400
956852	J1183 E	0.2178	PJM External (MISO)	0.2178
956901	J1188	4.7880	PJM External (MISO)	4.7880
957331	AF2-027 C	8.3946	50/50	8.3946
957332	AF2-027 E	12.5919	50/50	12.5919
959101	AF2-201 C O2	1.4489	Adder	3.22
959102	AF2-201 E O2	4.1605	Adder	9.24
959761	AF2-267 C O2	1.0460	Adder	2.32
959762	AF2-267 E O2	4.8969	Adder	10.87
960581	AF2-349 C	5.3933	Adder	11.97
960582	AF2-349 E	3.5955	Adder	7.98
WEC	WEC	8.9051	Confirmed LTF	8.9051
CPL	CPL	0.1118	Confirmed LTF	0.1118
CBM-W2	CBM-W2	8.6978	Confirmed LTF	8.6978
NY	NY	0.0735	Confirmed LTF	0.0735
CBM-W1	CBM-W1	94.5631	Confirmed LTF	94.5631
TVA	TVA	1.0836	Confirmed LTF	1.0836
O-066	O-066	0.8131	Confirmed LTF	0.8131
CBM-S2	CBM-S2	1.4970	Confirmed LTF	1.4970
CBM-S1	CBM-S1	5.3506	Confirmed LTF	5.3506
TILTON	TILTON	0.0239	Confirmed LTF	0.0239
G-007	G-007	0.1248	Confirmed LTF	0.1248
MADISON	MADISON	15.6684	Confirmed LTF	15.6684
MEC	MEC	8.5917	Confirmed LTF	8.5917
BLUEG	BLUEG	0.0660	Confirmed LTF	0.0660
TRIMBLE	TRIMBLE	0.0301	Confirmed LTF	0.0301

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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
96631873	275207	PLANO ;3M	CE	270630	PLANO ;	CE	1	COMED_P4_167-45-BT5-6__	breaker	1379.0	104.05	104.37	DC	26.69

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	0.4228	50/50	0.4228
274660	LASCO STA;1U	31.0976	50/50	31.0976
274661	LASCO STA;2U	31.2227	50/50	31.2227
274738	AURORA EC;3P	3.0223	50/50	3.0223
274740	AURORA EC;4P	3.0223	50/50	3.0223
274830	U3-021 1	3.8110	Adder	4.48

274831	U3-021 2	3.8110	Adder	4.48
274847	GR RIDGE ;BU	0.7007	50/50	0.7007
274850	MENDOTA H;RU	0.0989	50/50	0.0989
274855	GSG-6 ;RU	0.4166	50/50	0.4166
274859	EASYR;U1 E	7.0829	Adder	8.33
274860	EASYR;U2 E	7.0829	Adder	8.33
274871	GR RIDGE ;2U	0.8899	50/50	0.8899
274872	LEE DEKAL;1U	0.9635	50/50	0.9635
276167	Z1-106 E2	0.8540	Adder	1.0
276168	Z1-106 E1	1.0067	50/50	1.0067
276169	Z1-107 E	1.1407	Adder	1.34
276170	Z1-108 E	1.5275	Adder	1.8
276173	Z2-081	0.2483	50/50	0.2483
290051	GSG-6; E	9.6605	50/50	9.6605
290108	LEEDK;1U E	23.2740	50/50	23.2740
292543	L-013 2	0.5026	50/50	0.5026
293061	N-015 E	16.2492	50/50	16.2492
293516	O-009 E1	5.6791	Adder	6.68
293517	O-009 E2	2.8846	Adder	3.39
293518	O-009 E3	3.1767	Adder	3.74
293715	O-029 E	6.0716	Adder	7.14
293716	O-029 E	3.3290	Adder	3.92
293717	O-029 E	3.0597	Adder	3.6
293771	O-035 E	3.4509	Adder	4.06
294392	P-010 E	20.6365	50/50	20.6365
294401	BSHIL;1U E	4.6165	Adder	5.43
294410	BSHIL;2U E	4.6165	Adder	5.43
294763	P-046 E	6.0003	Adder	7.06
915011	Y3-013 1	2.0681	Adder	2.43
915021	Y3-013 2	2.0681	Adder	2.43
915031	Y3-013 3	2.0681	Adder	2.43
916221	AB2-191	0.1598	50/50	0.1598
919581	AA2-030	11.4247	Adder	13.44
920272	AA2-123 E	1.5307	Adder	1.8
924471	AB2-096	26.4656	Adder	31.14
925581	AC1-033 C	0.7561	Adder	0.89
925582	AC1-033 E	5.0616	Adder	5.95
926311	AC1-109 1	1.0385	Adder	1.22
926321	AC1-109 2	1.0385	Adder	1.22
926331	AC1-110 1	1.7291	50/50	1.7291
926341	AC1-110 2	1.7291	50/50	1.7291
926351	AC1-111 1	0.4739	Adder	0.56
926361	AC1-111 2	0.4739	Adder	0.56
926371	AC1-111 3	0.4739	Adder	0.56
926381	AC1-111 4	0.4739	Adder	0.56
926391	AC1-111 5	0.4739	Adder	0.56
926401	AC1-111 6	0.4739	Adder	0.56
926431	AC1-114	1.5159	Adder	1.78
926821	AC1-168 C O1	0.6945	Adder	0.82
926822	AC1-168 E O1	4.6604	Adder	5.48
927201	AC1-214 C O1	1.1076	Adder	1.3
927202	AC1-214 E O1	3.5209	Adder	4.14
927511	AC1-113 1	0.7579	Adder	0.89

927521	AC1-113 2	0.7579	Adder	0.89
930481	AB1-089	42.0563	Adder	49.48
930751	AB1-122 2O1	32.7707	Adder	38.55
932881	AC2-115 1	1.5159	Adder	1.78
932891	AC2-115 2	1.5159	Adder	1.78
932921	AC2-116	0.5306	Adder	0.62
933431	AC2-156 C O1	1.1325	50/50	1.1325
933432	AC2-156 E O1	1.8477	50/50	1.8477
933911	AD1-013 C	1.7223	50/50	1.7223
933912	AD1-013 E	2.7513	50/50	2.7513
933931	AD1-016 C	0.5817	Adder	0.68
933932	AD1-016 E	0.9490	Adder	1.12
934051	AD1-031 C O1	1.5352	Adder	1.81
934052	AD1-031 E O1	2.5048	Adder	2.95
934111	AD1-039 2	3.2115	Adder	3.78
934431	AD1-067 C	0.1213	50/50	0.1213
934432	AD1-067 E	0.5100	50/50	0.5100
934651	AD1-096 C (Withdrawn : 07/22/2020)	0.5797	Adder	0.68
934652	AD1-096 E (Withdrawn : 07/22/2020)	0.9458	Adder	1.11
934701	AD1-098 C O1	6.3048	50/50	6.3048
934702	AD1-098 E O1	4.6032	50/50	4.6032
934971	AD1-129 C	0.5727	Adder	0.67
934972	AD1-129 E	0.3818	Adder	0.45
936511	AD2-066 C O1	4.0968	Adder	4.82
936512	AD2-066 E O1	2.7312	Adder	3.21
936791	AD2-102 C	8.8403	Adder	10.4
936792	AD2-102 E	5.8936	Adder	6.93
937001	AD2-134 C	2.5254	50/50	2.5254
937002	AD2-134 E	10.4325	50/50	10.4325
937311	AD2-172 C	1.5751	Adder	1.85
937312	AD2-172 E	2.1751	Adder	2.56
937531	AD2-214 C	2.7453	Adder	3.23
937532	AD2-214 E	1.8302	Adder	2.15
938861	AE1-114 C O1	2.5452	Adder	2.99
938862	AE1-114 E O1	8.6837	Adder	10.22
939051	AE1-134 1	0.8878	Adder	1.04
939061	AE1-134 2	0.8878	Adder	1.04
939351	AE1-166 C O1	1.3533	Adder	1.59
939352	AE1-166 E O1	1.2492	Adder	1.47
940501	AE2-035 C	1.5751	Adder	1.85
940502	AE2-035 E	2.1751	Adder	2.56
941131	AE2-107 C	7.0512	50/50	7.0512
941132	AE2-107 E	4.7008	50/50	4.7008
941551	AE2-152 C O1	4.9977	Adder	5.88
941552	AE2-152 E O1	3.3318	Adder	3.92
941561	AE2-153 C O1	2.3412	Adder	2.75
941562	AE2-153 E O1	10.9613	Adder	12.9
942991	AE2-321 C	5.1306	Adder	6.04
942992	AE2-321 E	2.5270	Adder	2.97
943121	AE2-341 C	16.0065	50/50	16.0065
943122	AE2-341 E	7.8600	50/50	7.8600
943381	AF1-009 C	0.5454	50/50	0.5454

943382	AF1-009 E	2.1816	50/50	2.1816
943401	AF1-011 C	0.7753	Adder	0.91
943402	AF1-011 E	1.3014	Adder	1.53
943411	AF1-012 C	8.1691	Adder	9.61
943412	AF1-012 E	5.4460	Adder	6.41
943591	AF1-030 C O1	10.6445	50/50	10.6445
943592	AF1-030 E O1	5.2665	50/50	5.2665
943801	AF1-048 C	2.3984	Adder	2.82
943802	AF1-048 E	1.5989	Adder	1.88
943921	AF1-060	0.7755	Adder	0.91
944041	AF1-072	1.3690	Adder	1.61
944911	AF1-156 C	5.9861	Adder	7.04
944912	AF1-156 E	3.9908	Adder	4.7
945351	AF1-200 FTIR	581.6030	50/50	581.6030
946151	AF1-280 C O1	10.0659	Adder	11.84
946152	AF1-280 E O1	4.6289	Adder	5.45
946161	AF1-281 C	0.2204	Adder	0.26
946162	AF1-281 E	1.2491	Adder	1.47
946321	AF1-296 C O1	2.3941	Adder	2.82
946322	AF1-296 E O1	11.2084	Adder	13.19
946501	AF1-314 C	2.7985	Adder	3.29
946502	AF1-314 E	13.1023	Adder	15.41
946531	AF1-317 C O1	1.5560	Adder	1.83
946541	AF1-318 C O1	3.1199	Adder	3.67
946542	AF1-318 E O1	14.6085	Adder	17.19
946661	AF1-330 C	1.2552	Adder	1.48
946662	AF1-330 E	0.2755	Adder	0.32
946671	AF1-331	2.2368	50/50	2.2368
957021	AF2-003 C O2	5.5301	50/50	5.5301
957022	AF2-003 E O2	25.8910	50/50	25.8910
957331	AF2-027 C	0.7307	Adder	1.62
957332	AF2-027 E	1.0961	Adder	2.43
957471	AF2-041 C	18.5310	50/50	18.5310
957472	AF2-041 E	12.3540	50/50	12.3540
957751	AF2-069 C	0.0680	Adder	0.15
957752	AF2-069 E	0.2194	Adder	0.49
957761	AF2-070 C	0.0958	Adder	0.21
957762	AF2-070 E	0.4650	Adder	1.03
958021	AF2-096 C O2	9.5015	Adder	21.09
958022	AF2-096 E O2	4.4933	Adder	9.97
958341	AF2-128 C O2	0.4399	Adder	0.98
958342	AF2-128 E O2	2.0593	Adder	4.57
958911	AF2-182	7.0094	Adder	15.56
958921	AF2-183 C	1.2461	Adder	2.77
958922	AF2-183 E	1.8692	Adder	4.15
959081	AF2-199 C O2	6.1770	50/50	6.1770
959082	AF2-199 E O2	4.1180	50/50	4.1180
959091	AF2-200 C O2	12.3540	50/50	12.3540
959092	AF2-200 E O2	8.2360	50/50	8.2360
959101	AF2-201 C O2	2.0433	Adder	4.54
959102	AF2-201 E O2	5.8674	Adder	13.02
959761	AF2-267 C O2	1.4756	Adder	3.28
959762	AF2-267 E O2	6.9081	Adder	15.33

960381	AF2-329	8.3055	50/50	8.3055
960551	AF2-346 C	1.8555	Adder	4.12
960552	AF2-346 E	1.2370	Adder	2.75
960581	AF2-349 C	7.2138	Adder	16.01
960582	AF2-349 E	4.8092	Adder	10.68
960721	AF2-363 C O2	5.2034	50/50	5.2034
960722	AF2-363 E O2	3.4689	50/50	3.4689
960731	AF2-364 C O2	2.1675	Adder	4.81
960732	AF2-364 E O2	1.4450	Adder	3.21
960751	AF2-366 C O2	6.7258	50/50	6.7258
960752	AF2-366 E O2	4.4838	50/50	4.4838
961011	AF2-392 C O2	1.3582	Adder	3.01
961012	AF2-392 E O2	6.3589	Adder	14.12
961021	AF2-393 O2	2.3151	Adder	5.14
961031	AF2-394 O2	1.5434	Adder	3.43
WEC	WEC	2.4923	Confirmed LTF	2.4923
CALDERWOOD	CALDERWOOD	0.0919	Confirmed LTF	0.0919
CBM-W2	CBM-W2	9.2629	Confirmed LTF	9.2629
NY	NY	0.6835	Confirmed LTF	0.6835
CBM-W1	CBM-W1	41.8209	Confirmed LTF	41.8209
TVA	TVA	0.5180	Confirmed LTF	0.5180
O-066	O-066	8.1043	Confirmed LTF	8.1043
CHEOAH	CHEOAH	0.0986	Confirmed LTF	0.0986
CBM-S1	CBM-S1	1.3802	Confirmed LTF	1.3802
G-007	G-007	1.2542	Confirmed LTF	1.2542
MADISON	MADISON	12.3722	Confirmed LTF	12.3722
MEC	MEC	8.3375	Confirmed LTF	8.3375
GIBSON	GIBSON	0.1605	Confirmed LTF	0.1605
BLUEG	BLUEG	1.3662	Confirmed LTF	1.3662
TRIMBLE	TRIMBLE	0.4602	Confirmed LTF	0.4602
CATAWBA	CATAWBA	0.1988	Confirmed LTF	0.1988

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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
96631895	275208	PLANO ;4M	CE	270630	PLANO ;	CE	1	COMED_P4_167-45-BT8-12_	breaker	1379.0	102.87	103.09	DC	24.51

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274660	LASCO STA;1U	33.3383	50/50	33.3383
274661	LASCO STA;2U	33.4737	50/50	33.4737
274737	AURORA EC;1P	3.1982	50/50	3.1982
274739	AURORA EC;2P	3.1982	50/50	3.1982
274745	AURORA EC;9P	0.6040	50/50	0.6040
274746	AURORA EC;0P	0.6040	50/50	0.6040
274830	U3-021 1	3.5005	Adder	4.12
274831	U3-021 2	3.5005	Adder	4.12
274847	GR RIDGE ;BU	0.7450	50/50	0.7450

274859	EASYR;U1 E	5.9837	Adder	7.04
274860	EASYR;U2 E	5.9837	Adder	7.04
274871	GR RIDGE ;2U	0.9461	50/50	0.9461
274881	PILOT HIL;1E	7.6648	Adder	9.02
275149	KELLYCK ;1E	7.6648	Adder	9.02
276167	Z1-106 E2	0.8035	Adder	0.95
276168	Z1-106 E1	0.8018	Adder	0.94
276169	Z1-107 E	1.0596	Adder	1.25
276170	Z1-108 E	1.4606	Adder	1.72
276173	Z2-081	0.2567	50/50	0.2567
290051	GSG-6; E	5.8235	Adder	6.85
290108	LEEDK;1U E	13.5728	Adder	15.97
293061	N-015 E	17.2752	50/50	17.2752
293516	O-009 E1	4.7370	Adder	5.57
293517	O-009 E2	2.4060	Adder	2.83
293518	O-009 E3	2.6497	Adder	3.12
293715	O-029 E	5.0644	Adder	5.96
293716	O-029 E	2.7767	Adder	3.27
293717	O-029 E	2.5521	Adder	3.0
293771	O-035 E	3.1988	Adder	3.76
294392	P-010 E	21.9395	50/50	21.9395
294401	BSHIL;1U E	4.2004	Adder	4.94
294410	BSHIL;2U E	4.2004	Adder	4.94
294763	P-046 E	5.2115	Adder	6.13
915011	Y3-013 1	2.0010	Adder	2.35
915021	Y3-013 2	2.0010	Adder	2.35
915031	Y3-013 3	2.0010	Adder	2.35
919581	AA2-030	9.2948	Adder	10.94
920272	AA2-123 E	1.4188	Adder	1.67
924471	AB2-096	24.3087	Adder	28.6
925581	AC1-033 C	0.6878	Adder	0.81
925582	AC1-033 E	4.6046	Adder	5.42
926311	AC1-109 1	1.8297	50/50	1.8297
926321	AC1-109 2	1.8297	50/50	1.8297
926331	AC1-110 1	1.0771	Adder	1.27
926341	AC1-110 2	1.0771	Adder	1.27
926351	AC1-111 1	0.5471	Adder	0.64
926361	AC1-111 2	0.5471	Adder	0.64
926371	AC1-111 3	0.5471	Adder	0.64
926381	AC1-111 4	0.5471	Adder	0.64
926391	AC1-111 5	0.5471	Adder	0.64
926401	AC1-111 6	0.5471	Adder	0.64
926431	AC1-114	1.3455	Adder	1.58
926821	AC1-168 C O1	0.6816	Adder	0.8
926822	AC1-168 E O1	4.5743	Adder	5.38
927201	AC1-214 C O1	1.0267	Adder	1.21
927202	AC1-214 E O1	3.2637	Adder	3.84
927511	AC1-113 1	0.6728	Adder	0.79
927521	AC1-113 2	0.6728	Adder	0.79
930481	AB1-089	38.0779	Adder	44.8
930501	AB1-091 O1	30.8176	Adder	36.26
930751	AB1-122 2O1	0.0988	Adder	0.12
932881	AC2-115 1	1.3455	Adder	1.58

932891	AC2-115 2	1.3455	Adder	1.58
932921	AC2-116	0.4709	Adder	0.55
933411	AC2-154 C	1.0402	Adder	1.22
933412	AC2-154 E	1.6972	Adder	2.0
933431	AC2-156 C O1	0.5351	Adder	0.63
933432	AC2-156 E O1	0.8731	Adder	1.03
933911	AD1-013 C	1.0318	Adder	1.21
933912	AD1-013 E	1.6481	Adder	1.94
933931	AD1-016 C	0.5392	Adder	0.63
933932	AD1-016 E	0.8797	Adder	1.03
934051	AD1-031 C O1	1.3968	Adder	1.64
934052	AD1-031 E O1	2.2791	Adder	2.68
934111	AD1-039 2	2.7915	Adder	3.28
934431	AD1-067 C	0.0731	Adder	0.09
934432	AD1-067 E	0.3075	Adder	0.36
934651	AD1-096 C (Withdrawn : 07/22/2020)	0.4954	Adder	0.58
934652	AD1-096 E (Withdrawn : 07/22/2020)	0.8083	Adder	0.95
934701	AD1-098 C O1	3.8248	Adder	4.5
934702	AD1-098 E O1	2.7925	Adder	3.29
934971	AD1-129 C	0.5178	Adder	0.61
934972	AD1-129 E	0.3452	Adder	0.41
936371	AD2-047 C O1	1.8614	Adder	2.19
936372	AD2-047 E O1	9.0883	Adder	10.69
936461	AD2-060	1.0950	Adder	1.29
936511	AD2-066 C O1	3.8738	Adder	4.56
936512	AD2-066 E O1	2.5825	Adder	3.04
936791	AD2-102 C	7.9315	Adder	9.33
936792	AD2-102 E	5.2877	Adder	6.22
937001	AD2-134 C	1.5224	Adder	1.79
937002	AD2-134 E	6.2889	Adder	7.4
937311	AD2-172 C	1.3680	Adder	1.61
937312	AD2-172 E	1.8892	Adder	2.22
937531	AD2-214 C	2.2754	Adder	2.68
937532	AD2-214 E	1.5169	Adder	1.78
938861	AE1-114 C O1	2.1504	Adder	2.53
938862	AE1-114 E O1	7.3368	Adder	8.63
939051	AE1-134 1	0.7223	Adder	0.85
939061	AE1-134 2	0.7223	Adder	0.85
939351	AE1-166 C O1	4.6171	Adder	5.43
939352	AE1-166 E O1	4.2620	Adder	5.01
940501	AE2-035 C	1.3680	Adder	1.61
940502	AE2-035 E	1.8892	Adder	2.22
940752	AE2-062 E	0.0506	Adder	0.06
941131	AE2-107 C	4.0871	Adder	4.81
941132	AE2-107 E	2.7248	Adder	3.21
941551	AE2-152 C O1	5.3275	Adder	6.27
941552	AE2-152 E O1	3.5516	Adder	4.18
941561	AE2-153 C O1	2.4795	Adder	2.92
941562	AE2-153 E O1	11.6084	Adder	13.66
942991	AE2-321 C	4.7399	Adder	5.58
942992	AE2-321 E	2.3346	Adder	2.75
943121	AE2-341 C	7.1444	Adder	8.41

943122	AE2-341 E	3.5083	Adder	4.13
943381	AF1-009 C	0.3309	Adder	0.39
943382	AF1-009 E	1.3234	Adder	1.56
943401	AF1-011 C	0.6467	Adder	0.76
943402	AF1-011 E	1.0855	Adder	1.28
943411	AF1-012 C	6.3546	Adder	7.48
943412	AF1-012 E	4.2364	Adder	4.98
943591	AF1-030 C O1	4.7511	Adder	5.59
943592	AF1-030 E O1	2.3507	Adder	2.77
943801	AF1-048 C	2.2157	Adder	2.61
943802	AF1-048 E	1.4772	Adder	1.74
943921	AF1-060	0.6736	Adder	0.79
944041	AF1-072	1.3146	Adder	1.55
944911	AF1-156 C	6.3396	Adder	7.46
944912	AF1-156 E	4.2264	Adder	4.97
945351	AF1-200 FTIR	627.0445	50/50	627.0445
946151	AF1-280 C O1	8.4100	Adder	9.89
946152	AF1-280 E O1	3.8674	Adder	4.55
946161	AF1-281 C	0.1842	Adder	0.22
946162	AF1-281 E	1.0436	Adder	1.23
946321	AF1-296 C O1	2.0012	Adder	2.35
946322	AF1-296 E O1	9.3693	Adder	11.02
946501	AF1-314 C	2.4307	Adder	2.86
946502	AF1-314 E	11.3799	Adder	13.39
946531	AF1-317 C O1	1.2104	Adder	1.42
946541	AF1-318 C O1	2.9651	Adder	3.49
946542	AF1-318 E O1	13.8836	Adder	16.33
946661	AF1-330 C	1.1634	Adder	1.37
946662	AF1-330 E	0.2554	Adder	0.3
946671	AF1-331	1.3399	Adder	1.58
957021	AF2-003 C O2	2.5588	Adder	5.68
957022	AF2-003 E O2	11.9800	Adder	26.59
957331	AF2-027 C	0.7070	Adder	1.57
957332	AF2-027 E	1.0605	Adder	2.35
957471	AF2-041 C	6.0161	Adder	13.35
957472	AF2-041 E	4.0107	Adder	8.9
957751	AF2-069 C	0.0630	Adder	0.14
957752	AF2-069 E	0.2033	Adder	0.45
957761	AF2-070 C	0.0888	Adder	0.2
957762	AF2-070 E	0.4310	Adder	0.96
958011	AF2-095 C O2	3.8973	Adder	8.65
958012	AF2-095 E O2	1.8340	Adder	4.07
958021	AF2-096 C O2	10.0762	Adder	22.37
958022	AF2-096 E O2	4.7650	Adder	10.58
958341	AF2-128 C O2	0.4208	Adder	0.93
958342	AF2-128 E O2	1.9699	Adder	4.37
958911	AF2-182	5.8563	Adder	13.0
958921	AF2-183 C	1.0411	Adder	2.31
958922	AF2-183 E	1.5617	Adder	3.47
959081	AF2-199 C O2	2.0054	Adder	4.45
959082	AF2-199 E O2	1.3369	Adder	2.97
959091	AF2-200 C O2	4.0107	Adder	8.9
959092	AF2-200 E O2	2.6738	Adder	5.94

959101	AF2-201 C O2	1.7747	Adder	3.94
959102	AF2-201 E O2	5.0961	Adder	11.31
959761	AF2-267 C O2	1.2814	Adder	2.84
959762	AF2-267 E O2	5.9992	Adder	13.32
960381	AF2-329	1.9648	Adder	4.36
960551	AF2-346 C	1.4434	Adder	3.2
960552	AF2-346 E	0.9623	Adder	2.14
960581	AF2-349 C	6.6259	Adder	14.71
960582	AF2-349 E	4.4172	Adder	9.81
960591	AF2-350 C O2	1.7410	Adder	3.86
960592	AF2-350 E O2	1.1607	Adder	2.58
960601	AF2-351 C O2	0.2321	Adder	0.52
960602	AF2-351 E O2	0.3482	Adder	0.77
960721	AF2-363 C O2	1.7637	Adder	3.91
960722	AF2-363 E O2	1.1758	Adder	2.61
960731	AF2-364 C O2	2.0101	Adder	4.46
960732	AF2-364 E O2	1.3401	Adder	2.97
960751	AF2-366 C O2	2.0693	Adder	4.59
960752	AF2-366 E O2	1.3795	Adder	3.06
961011	AF2-392 C O2	1.1105	Adder	2.47
961012	AF2-392 E O2	5.1992	Adder	11.54
961021	AF2-393 O2	1.8929	Adder	4.2
961031	AF2-394 O2	1.2619	Adder	2.8
990901	L-005 E	6.0139	Adder	7.08
WEC	WEC	2.3562	Confirmed LTF	2.3562
CALDERWOOD	CALDERWOOD	0.1103	Confirmed LTF	0.1103
CBM-W2	CBM-W2	8.3620	Confirmed LTF	8.3620
NY	NY	0.6669	Confirmed LTF	0.6669
CBM-W1	CBM-W1	37.6301	Confirmed LTF	37.6301
TVA	TVA	0.4144	Confirmed LTF	0.4144
O-066	O-066	7.9094	Confirmed LTF	7.9094
CHEOAH	CHEOAH	0.1166	Confirmed LTF	0.1166
CBM-S1	CBM-S1	0.8946	Confirmed LTF	0.8946
G-007	G-007	1.2230	Confirmed LTF	1.2230
MADISON	MADISON	11.3098	Confirmed LTF	11.3098
MEC	MEC	7.3205	Confirmed LTF	7.3205
GIBSON	GIBSON	0.1523	Confirmed LTF	0.1523
BLUEG	BLUEG	1.3280	Confirmed LTF	1.3280
TRIMBLE	TRIMBLE	0.4469	Confirmed LTF	0.4469
CATAWBA	CATAWBA	0.2034	Confirmed LTF	0.2034

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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
96631727	275232	WILTON ;3M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	121.96	122.05	DC	44.14

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
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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
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
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	11.9316	Adder	26.49
960582	AF2-349 E	7.9544	Adder	17.66
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

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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
96631715	275233	WILTON ;4M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	124.51	124.6	DC	45.08

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
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
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	12.1862	Adder	27.05
960582	AF2-349 E	8.1241	Adder	18.03
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

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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
95491202	956820	J1180 TAP	AMIL	247712	05SULLIVAN	AEP	1	COMED_P4_080-45-BT4-5__	breaker	1466.0	137.04	137.12	DC	15.11

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274650	KINCAID ;1U	14.7734	50/50	14.7734
274651	KINCAID ;2U	14.7696	50/50	14.7696
274830	U3-021 1	2.1574	Adder	2.54
274831	U3-021 2	2.1574	Adder	2.54
274853	TWINGROVE;U1	0.9714	50/50	0.9714

274854	TWINGROVE;U2	0.9714	50/50	0.9714
274859	EASYR;U1 E	4.7695	Adder	5.61
274860	EASYR;U2 E	4.7695	Adder	5.61
274880	GENERATOR;	1.1187	50/50	1.1187
274882	W4-005 E	43.4297	50/50	43.4297
276153	W2-048 E	8.0700	50/50	8.0700
290021	O50 E	7.5045	Adder	8.83
290051	GSG-6; E	3.8339	Adder	4.51
290261	S-027 E	22.5261	50/50	22.5261
290265	S-028 E	22.5261	50/50	22.5261
293516	O-009 E1	4.4713	Adder	5.26
293517	O-009 E2	2.2711	Adder	2.67
293518	O-009 E3	2.5011	Adder	2.94
293715	O-029 E	4.7804	Adder	5.62
293716	O-029 E	2.6210	Adder	3.08
293717	O-029 E	2.4090	Adder	2.83
293771	O-035 E	3.5853	Adder	4.22
294401	BSHIL;1U E	4.9096	Adder	5.78
294410	BSHIL;2U E	4.9096	Adder	5.78
294763	P-046 E	3.7448	Adder	4.41
909052	X2-022 E	24.2746	50/50	24.2746
917502	Z2-087 E	12.9753	Adder	15.27
919581	AA2-030	8.2245	Adder	9.68
924041	AB2-047 C O1	2.4235	Adder	2.85
924042	AB2-047 E O1	16.2191	Adder	19.08
924261	AB2-070 C O1	3.2144	50/50	3.2144
924262	AB2-070 E O1	20.3742	50/50	20.3742
924471	AB2-096	14.9821	Adder	17.63
925581	AC1-033 C	0.8039	Adder	0.95
925582	AC1-033 E	5.3821	Adder	6.33
925771	AC1-053 C	3.2601	50/50	3.2601
925772	AC1-053 E	21.8179	50/50	21.8179
926431	AC1-114	0.8971	Adder	1.06
926821	AC1-168 C O1	0.5663	Adder	0.67
926822	AC1-168 E O1	3.8005	Adder	4.47
926841	AC1-171 C O1	0.7437	Adder	0.87
926842	AC1-171 E O1	4.9679	Adder	5.84
927201	AC1-214 C O1	1.1507	Adder	1.35
927202	AC1-214 E O1	3.6580	Adder	4.3
927511	AC1-113 1	0.4485	Adder	0.53
927521	AC1-113 2	0.4485	Adder	0.53
930481	AB1-089	24.3614	Adder	28.66
932881	AC2-115 1	0.8971	Adder	1.06
932891	AC2-115 2	0.8971	Adder	1.06
932921	AC2-116	0.3140	Adder	0.37
933911	AD1-013 C	0.6647	Adder	0.78
933912	AD1-013 E	1.0618	Adder	1.25
934051	AD1-031 C O1	1.6324	Adder	1.92
934052	AD1-031 E O1	2.6635	Adder	3.13
934431	AD1-067 C	0.0481	Adder	0.06
934432	AD1-067 E	0.2024	Adder	0.24
934651	AD1-096 C (Withdrawn : 07/22/2020)	0.3555	Adder	0.42

934652	AD1-096 E (Withdrawn : 07/22/2020)	0.5800	Adder	0.68
934701	AD1-098 C O1	2.5523	Adder	3.0
934702	AD1-098 E O1	1.8634	Adder	2.19
934971	AD1-129 C	0.3246	Adder	0.38
934972	AD1-129 E	0.2164	Adder	0.25
935001	AD1-133 C O1	10.2219	Adder	12.03
935002	AD1-133 E O1	6.8146	Adder	8.02
935141	AD1-148	6.3269	50/50	6.3269
936291	AD2-038 C O1	0.9395	Adder	1.11
936292	AD2-038 E O1	6.2872	Adder	7.4
936511	AD2-066 C O1	3.2011	Adder	3.77
936512	AD2-066 E O1	2.1341	Adder	2.51
936771	AD2-100 C	20.2457	50/50	20.2457
936772	AD2-100 E	13.4971	50/50	13.4971
936791	AD2-102 C	5.4947	Adder	6.46
936792	AD2-102 E	3.6632	Adder	4.31
936971	AD2-131 C	1.3336	50/50	1.3336
936972	AD2-131 E	6.7004	50/50	6.7004
937001	AD2-134 C	1.0023	Adder	1.18
937002	AD2-134 E	4.1403	Adder	4.87
937211	AD2-159 C	4.6933	50/50	4.6933
937212	AD2-159 E	21.9730	50/50	21.9730
937311	AD2-172 C	0.9830	Adder	1.16
937312	AD2-172 E	1.3575	Adder	1.6
937531	AD2-214 C	2.3055	Adder	2.71
937532	AD2-214 E	1.5370	Adder	1.81
938851	AE1-113 C	3.0956	Adder	3.64
938852	AE1-113 E	10.9753	Adder	12.91
938861	AE1-114 C O1	1.6519	Adder	1.94
938862	AE1-114 E O1	5.6360	Adder	6.63
939051	AE1-134 1	0.6391	Adder	0.75
939061	AE1-134 2	0.6391	Adder	0.75
939321	AE1-163 C O1	2.3607	Adder	2.78
939322	AE1-163 E O1	14.5016	Adder	17.06
939741	AE1-205 C O1	6.2639	Adder	7.37
939742	AE1-205 E O1	8.6502	Adder	10.18
940501	AE2-035 C	0.9830	Adder	1.16
940502	AE2-035 E	1.3575	Adder	1.6
941343	AE2-130 BAT	28.4620	50/50	28.4620
941731	AE2-173 O1	3.7285	Adder	4.39
942111	AE2-223 C	1.4541	Adder	1.71
942112	AE2-223 E	9.7315	Adder	11.45
942421	AE2-255 C O1	1.1726	Adder	1.38
942422	AE2-255 E O1	3.5177	Adder	4.14
942481	AE2-261 C	27.9559	50/50	27.9559
942482	AE2-261 E	18.6373	50/50	18.6373
942602	AE2-276 BAT	12.6470	50/50	12.6470
942651	AE2-281 C O1	0.3372	Adder	0.4
942652	AE2-281 E O1	2.0717	Adder	2.44
943381	AF1-009 C	0.2208	Adder	0.26
943382	AF1-009 E	0.8832	Adder	1.04
943401	AF1-011 C	0.6104	Adder	0.72
943402	AF1-011 E	1.0246	Adder	1.21

943411	AF1-012 C	5.2515	Adder	6.18
943412	AF1-012 E	3.5010	Adder	4.12
943921	AF1-060	0.4840	Adder	0.57
944202	AF1-088 FTWR	252.9400	50/50	252.9400
944221	AF1-090 C O1	6.1561	50/50	6.1561
944222	AF1-090 E O1	28.8219	50/50	28.8219
945871	AF1-252 O1	10.9131	50/50	10.9131
945881	AF1-253 O1	7.5552	50/50	7.5552
946151	AF1-280 C O1	6.9195	Adder	8.14
946152	AF1-280 E O1	3.1819	Adder	3.74
946161	AF1-281 C	0.1515	Adder	0.18
946162	AF1-281 E	0.8586	Adder	1.01
946321	AF1-296 C O1	2.2011	Adder	2.59
946322	AF1-296 E O1	10.3052	Adder	12.12
946501	AF1-314 C	1.7466	Adder	2.05
946502	AF1-314 E	8.1771	Adder	9.62
946531	AF1-317 C O1	1.0003	Adder	1.18
946541	AF1-318 C O1	3.1379	Adder	3.69
946542	AF1-318 E O1	14.6925	Adder	17.29
946671	AF1-331	0.8633	Adder	1.02
953401	J811	17.1864	PJM External (MISO)	17.1864
953641	J813	38.8950	PJM External (MISO)	38.8950
953651	J815	29.5200	PJM External (MISO)	29.5200
953881	J848 C	4.8083	PJM External (MISO)	4.8083
953882	J848 E	26.0142	PJM External (MISO)	26.0142
954411	J912	13.2010	PJM External (MISO)	13.2010
954681	J949 C	27.9888	PJM External (MISO)	27.9888
954761	J468 C	3.4793	PJM External (MISO)	3.4793
954762	J468 E	19.7163	PJM External (MISO)	19.7163
954821	J955	65.0835	PJM External (MISO)	65.0835
955031	J979 C	3.8466	PJM External (MISO)	3.8466
955032	J979 E	20.8114	PJM External (MISO)	20.8114
955131	J991	40.4580	PJM External (MISO)	40.4580
957021	AF2-003 C O2	1.3160	Adder	2.92
957022	AF2-003 E O2	6.1615	Adder	13.68
957381	AF2-032 C	2.0949	50/50	2.0949
957382	AF2-032 E	0.9859	50/50	0.9859
957471	AF2-041 C	4.3359	Adder	9.62
957472	AF2-041 E	2.8906	Adder	6.42
957751	AF2-069 C	0.0706	Adder	0.16
957752	AF2-069 E	0.2279	Adder	0.51
957761	AF2-070 C	0.0995	Adder	0.22
957762	AF2-070 E	0.4831	Adder	1.07
958341	AF2-128 C O2	0.4386	Adder	0.97
958342	AF2-128 E O2	2.0534	Adder	4.56
958491	AF2-143 C	2.2981	Adder	5.1
958492	AF2-143 E	1.5321	Adder	3.4
958911	AF2-182	4.8184	Adder	10.7
958921	AF2-183 C	0.8566	Adder	1.9
958922	AF2-183 E	1.2849	Adder	2.85
959081	AF2-199 C O2	1.4453	Adder	3.21
959082	AF2-199 E O2	0.9635	Adder	2.14
959091	AF2-200 C O2	2.8906	Adder	6.42

959092	AF2-200 E O2	1.9271	Adder	4.28
959101	AF2-201 C O2	1.2752	Adder	2.83
959102	AF2-201 E O2	3.6618	Adder	8.13
959341	AF2-225 C	2.4899	Adder	5.53
959342	AF2-225 E	3.4384	Adder	7.63
959611	AF2-252 C	2.8442	50/50	2.8442
959612	AF2-252 E	4.2663	50/50	4.2663
959761	AF2-267 C O2	0.9209	Adder	2.04
959762	AF2-267 E O2	4.3113	Adder	9.57
960141	AF2-305	1.1374	50/50	1.1374
960261	AF2-317	2.0246	50/50	2.0246
960551	AF2-346 C	1.1928	Adder	2.65
960552	AF2-346 E	0.7952	Adder	1.77
960581	AF2-349 C	4.0837	Adder	9.06
960582	AF2-349 E	2.7225	Adder	6.04
960611	AF2-352 C	2.8442	50/50	2.8442
960612	AF2-352 E	4.2663	50/50	4.2663
960623	AF2-353 BAT	28.4620	50/50	28.4620
961011	AF2-392 C O2	0.9756	Adder	2.17
961012	AF2-392 E O2	4.5674	Adder	10.14
961021	AF2-393 O2	1.6629	Adder	3.69
961031	AF2-394 O2	1.1086	Adder	2.46
990901	L-005 E	7.6388	Adder	8.99
WEC	WEC	1.6257	Confirmed LTF	1.6257
CPL	CPL	0.6132	Confirmed LTF	0.6132
CBM-W2	CBM-W2	62.6125	Confirmed LTF	62.6125
NY	NY	0.3362	Confirmed LTF	0.3362
CBM-W1	CBM-W1	53.3551	Confirmed LTF	53.3551
TVA	TVA	7.2198	Confirmed LTF	7.2198
O-066	O-066	3.7027	Confirmed LTF	3.7027
CBM-S2	CBM-S2	8.4446	Confirmed LTF	8.4446
CBM-S1	CBM-S1	34.0289	Confirmed LTF	34.0289
G-007	G-007	0.5710	Confirmed LTF	0.5710
MADISON	MADISON	22.0792	Confirmed LTF	22.0792
MEC	MEC	13.8434	Confirmed LTF	13.8434
GIBSON	GIBSON	0.3200	Confirmed LTF	0.3200
BLUEG	BLUEG	2.6821	Confirmed LTF	2.6821
TRIMBLE	TRIMBLE	0.9689	Confirmed LTF	0.9689

13.6 Contingency Descriptions - Secondary POI

Contingency Name	Contingency Definition
COMED_P4_080-45-BT4-5__	CONTINGENCY 'COMED_P4_080-45-BT4-5__' TRIP BRANCH FROM BUS 270852 TO BUS 270668 CKT 1 / PONTI; B 345 BLUEM; B 345 TRIP BRANCH FROM BUS 270852 TO BUS 270704 CKT 1 / PONTI; B 345 LORET; B 345 END

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_P4_116-45-L9801__FSA	CONTINGENCY 'COMED_P4_116-45-L9801__FSA' TRIP BRANCH FROM BUS 918050 TO BUS 270769 CKT 1 / AA1-018 GOODINGS ;2R 345 DISCONNECT BUS 270769 / GOODI;2R 345 END
COMED_P4_016-45-BT6-11__	CONTINGENCY 'COMED_P4_016-45-BT6-11__' TRIP BRANCH FROM BUS 270914 TO BUS 270830 CKT 1 / WAUKEGAN ; B 345 NBROOK159; B 345 TRIP BRANCH FROM BUS 270915 TO BUS 270914 CKT 1 / WAUKEGAN ; R 345 WAUKEGAN ; B 345 TRIP BRANCH FROM BUS 275206 TO BUS 270830 CKT 1 / NBROOK159;2M 138 NBROOK159; B 345 TRIP BRANCH FROM BUS 275206 TO BUS 272120 CKT 1 / NBROOK159;2M 138 NBROOK159; B 138 TRIP BRANCH FROM BUS 275206 TO BUS 275306 CKT 1 / NBROOK159;2M 138 NBROOK159;2C 34.5 CLOSE BRANCH FROM BUS 272120 TO BUS 272121 CKT 1 / NBROOK159; B 138 NBROOK159; R 138 TRIP BRANCH FROM BUS 270942 TO BUS 270915 CKT 1 / ZION STA ;0B 345 WAUKEGAN ; 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_P1-2_345-L8001__-S	CONTINGENCY 'COMED_P1-2_345-L8001__-S' TRIP BRANCH FROM BUS 270853 TO BUS 917500 CKT 1 / PONTI; R 345 Z2-087 TAP 345 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_P4_116-45-TR82__	CONTINGENCY 'COMED_P4_116-45-TR82__' TRIP BRANCH FROM BUS 270769 TO BUS 271565 TO BUS 275324 CKT 1 / GOODINGS ;2R 345 GOODINGS ; R 138 GOODINGS ;2C 34.5 DISCONNECT BUS 270769 / GOODINGS ;2R 345 END
COMED_P1-2_345-L0626__B-R-B	CONTINGENCY 'COMED_P1-2_345-L0626__B-R-B' TRIP BRANCH FROM BUS 930480 TO BUS 270916 CKT 1 / AB1-089 TAP 345 WAYNE ; B 345 END
COMED_P1-2_345-L0626__B-R-A	CONTINGENCY 'COMED_P1-2_345-L0626__B-R-A' TRIP BRANCH FROM BUS 270678 TO BUS 930480 CKT 1 / BYRON ; B 345 AB1-089 TAP 345 END
COMED_P4_112-45-BT4-5__	CONTINGENCY 'COMED_P4_112-45-BT4-5__' TRIP BRANCH FROM BUS 270666 TO BUS 270664 CKT 1 / B ISL;BT 345 B ISL; B 345 TRIP BRANCH FROM BUS 270666 TO BUS 270926 CKT 1 / B ISL;BT 345 WILTO; B 345 TRIP BRANCH FROM BUS 270770 TO BUS 270666 CKT 1 / GOODI;4B 345 B ISL;BT 345 TRIP BRANCH FROM BUS 270852 TO BUS 270704 CKT 1 / PONTI; B 345 LORET; B 345 END
COMED_P7_345-L2221__R-N_+_345-L2222__B-N-B	CONTINGENCY 'COMED_P7_345-L2221__R-N_+_345-L2222__B-N-B' TRIP BRANCH FROM BUS 270940 TO BUS 270941 CKT 1 / ZION ; B 345 ZION ; R 345 TRIP BRANCH FROM BUS 270940 TO BUS 270942 CKT 1 / ZION ; B 345 ZION ;0B 345 TRIP BRANCH FROM BUS 270941 TO BUS 699432 CKT 1 / ZION ; R 345 PLS PR2 345 TRIP BRANCH FROM BUS 955310 TO BUS 699247 CKT 1 / J1010 TAP 345 ARCADN3 345 CLOSE BRANCH FROM BUS 270941 TO BUS 270942 CKT 1 / ZION ; R 345 ZION ;0B 345 END
COMED_P1-2_345-L2221__R-N	CONTINGENCY 'COMED_P1-2_345-L2221__R-N' TRIP BRANCH FROM BUS 270941 TO BUS 699432 CKT 1 / ZION ; R 345 PLS PR2 345 END

COMED_P1-2_345-L2218_GR-N	CONTINGENCY 'COMED_P1-2_345-L2218_GR-N' TRIP BRANCH FROM BUS 270942 TO BUS 270915 CKT 1 / ZION STA ;0B 345 WAUKEGAN ; 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_P2-2_116_GG-345R__2	CONTINGENCY 'COMED_P2-2_116_GG-345R__2' DISCONNECT BUS 270769 / GOODI;2R 345 END
COMED_P7_345-L2221__R-N+_345-L2222__B-N-A	CONTINGENCY 'COMED_P7_345-L2221__R-N+_345-L2222__B-N-A' TRIP BRANCH FROM BUS 270940 TO BUS 270941 CKT 1 / ZION ; B 345 ZION ; R 345 TRIP BRANCH FROM BUS 270940 TO BUS 270942 CKT 1 / ZION ; B 345 ZION ;0B 345 TRIP BRANCH FROM BUS 270941 TO BUS 699432 CKT 1 / ZION ; R 345 PLS PR2 345 TRIP BRANCH FROM BUS 270942 TO BUS 955310 CKT 1 / ZION ;0B 345 J1010 TAP 345 CLOSE BRANCH FROM BUS 270941 TO BUS 270942 CKT 1 / ZION ; R 345 ZION ;0B 345 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_167-45-BT8-12_	CONTINGENCY 'COMED_P4_167-45-BT8-12_' TRIP BRANCH FROM BUS 275207 TO BUS 270630 CKT 1 / PLANO ;3M 345 PLANO ; 765 TRIP BRANCH FROM BUS 275207 TO BUS 270846 CKT 1 / PLANO ;3M 345 PLANO ; B 345 TRIP BRANCH FROM BUS 275207 TO BUS 275307 CKT 1 / PLANO ;3M 345 PLANO ;3C 33 TRIP BRANCH FROM BUS 270846 TO BUS 270730 CKT 1 / PLANO ; B 345 ELEC JUNC; B 345 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 1 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 2 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 270846 TO BUS 272278 TO BUS 275354 CKT 1 / PLANO ; B 345 PLANO;1I 138 PLANO;1C 34.5 END
COMED_P1-3_TR81_LIBER_R-N	CONTINGENCY 'COMED_P1-3_TR81_LIBER_R-N' TRIP BRANCH FROM BUS 270807 TO BUS 270883 CKT 1 / LIBERTYVI; R 345 SILVER LK; R 345 TRIP BRANCH FROM BUS 275194 TO BUS 270807 CKT 1 / LIBERTYVI;1M 138 LIBERTYVI; R 345 TRIP BRANCH FROM BUS 275194 TO BUS 271916 CKT 1 / LIBERTYVI;1M 138 LIBERTYVI; B 138 TRIP BRANCH FROM BUS 275194 TO BUS 275294 CKT 1 / LIBERTYVI;1M 138 LIBERTYVI;1C 34.5 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
COMED_P4_116-45-L11614_	CONTINGENCY 'COMED_P4_116-45-L11614_' TRIP BRANCH FROM BUS 270667 TO BUS 270665 CKT 1 / B ISL;RT 345 B ISL; R 345 TRIP BRANCH FROM BUS 270667 TO BUS 270927 CKT 1 / B ISL;RT 345 WILTO; R 345 TRIP BRANCH FROM BUS 270769 TO BUS 270667 CKT 1 / GOODI;2R 345 B ISL;RT 345 DISCONNECT BUS 270769 / GOODI;2R 345 END
COMED_P1-2_345-L97116__-R_FSA	CONTINGENCY 'COMED_P1-2_345-L97116__-R_FSA' TRIP BRANCH FROM BUS 270759 TO BUS 270883 CKT 1 / U3-021 SILVE; R 345 END
Base Case	

COMED_P1-2_765-L11216__S	CONTINGENCY 'COMED_P1-2_765-L11216__-S' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 END	/ WILTO; 765 COLLI; 765
AEP_P4_#2978_05DUMONT_NON_FSA	CONTINGENCY 'AEP_P4_#2978_05DUMONT_NON_FSA' OPEN BRANCH FROM BUS 243206 TO BUS 907040 CKT 1 X1-020 OPEN BRANCH FROM BUS 243207 TO BUS 907040 CKT 1 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 270644 WILTON ; 765 1 END	/ 243206 05DUMONT 765 / 243206 05DUMONT 765
COMED_P4_023-65-BT3-4__	CONTINGENCY 'COMED_P4_023-65-BT3-4__' TRIP BRANCH FROM BUS 270607 TO BUS 270630 CKT 1 TRIP BRANCH FROM BUS 275168 TO BUS 270607 CKT 1 TRIP BRANCH FROM BUS 275168 TO BUS 270697 CKT 1 TRIP BRANCH FROM BUS 275168 TO BUS 275268 CKT 1 END	/ COLLI; 765 PLANO; 765 / COLLI;2M 345 COLLI; 765 / COLLI;2M 345 COLLI; R 345 / COLLI;2M 345 COLLI;2C 33
COMED_P1-2_345-L11613AB-S	CONTINGENCY 'COMED_P1-2_345-L11613AB-S' TRIP BRANCH FROM BUS 270666 TO BUS 270664 CKT 1 TRIP BRANCH FROM BUS 270666 TO BUS 270926 CKT 1 TRIP BRANCH FROM BUS 270770 TO BUS 270666 CKT 1 END	/ B ISL;BT 345 B ISL; B 345 / B ISL;BT 345 WILTO; B 345 / GOODI;4B 345 B ISL;BT 345
COMED_P1-2_345-L2219__B-N	CONTINGENCY 'COMED_P1-2_345-L2219__B-N' TRIP BRANCH FROM BUS 270940 TO BUS 270914 CKT 1 END	/ ZION STA ; B 345
COMED_P4_112-65-BT2-3__	CONTINGENCY 'COMED_P4_112-65-BT2-3__' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 TRIP BRANCH FROM BUS 275232 TO BUS 270644 CKT 1 TRIP BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 345 TRIP BRANCH FROM BUS 275232 TO BUS 275332 CKT 1 33 END	/ WILTO; 765 COLLI; 765 / WILTO;3M 345 WILTO; 765 / WILTO;3M 345 WILTO; B / WILTO;3M 345 WILTO;3C
COMED_P4_112-65-BT5-6__	CONTINGENCY 'COMED_P4_112-65-BT5-6__' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 TRIP BRANCH FROM BUS 275233 TO BUS 270644 CKT 1 TRIP BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 345 TRIP BRANCH FROM BUS 275233 TO BUS 275333 CKT 1 33 END	/ WILTO; 765 COLLI; 765 / WILTO;4M 345 WILTO; 765 / WILTO;4M 345 WILTO; R / WILTO;4M 345 WILTO;4C

COMED_P7_345-L13821_R- R+_345-L18502AB-N	CONTINGENCY 'COMED_P7_345-L13821_R-R+_345-L18502AB-N' TRIP BRANCH FROM BUS 270883 TO BUS 270807 CKT 1 / SILVE; R 345 LIBER; R 345 TRIP BRANCH FROM BUS 270900 TO BUS 270806 CKT 1 / TOLLW; B 345 LIBER; B 345 END
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14 Affected Systems

14.1 MISO

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