



**Generation Interconnection
Feasibility Study Report
for
Queue Project AG1-434
ELECTRIC JUNCTION-NELSON 345 KV
35.2 MW Capacity / 200 MW Energy**

January 2021

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1 Introduction

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

The conduct of light load analysis as required under the PJM planning process is not performed during the Generation Interconnection Feasibility Study phase of the PJM study process. Additional reinforcement requirements for this Interconnection Request may be defined during the conduct of the light load analysis which shall be performed following execution of the System Impact Study agreement.

3 General

The Interconnection Customer (IC), has proposed a Wind generating facility located in Lee County, Illinois. The installed facilities will have a total capability of 200 MW with 35.2 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is December 31, 2023. This study does not imply a TO commitment to this in-service date.

Queue Number	AG1-434
Project Name	ELECTRIC JUNCTION-NELSON 345 KV
State	Illinois
County	Lee
Transmission Owner	ComEd
MFO	200
MWE	200
MWC	35.2
Fuel	Wind
Basecase Study Year	2024

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

4 Point of Interconnection

AG1-434 will interconnect with the ComEd transmission system tapping the Electric Junction to Nelson 345 kV line L15502.

5 Cost Summary

The AG1-434 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$ 27,000,000
Total System Network Upgrade Costs	\$ 124,500,000
Total Costs	\$ 151,500,000

This cost excludes a Federal Income Tax Gross Up charges. This tax may or may not be charged based on whether this project meets the eligibility requirements of IRS Notice 2016-36, 2016-25 I.R.B. (6/20/2016). If at a future date it is determined that the Federal Income Tax Gross charge is required, the Transmission Owner shall be reimbursed by the Interconnection Customer for such taxes.

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

6 Transmission Owner Scope of Work

6.1 Attachment Facilities

The AG1-434 generator lead would interconnect to a new 345kV Interconnection Substation (see details in Direct Connection section below). The required Attachment Facilities are one 345kV line MOD, a dead-end structure and revenue metering as shown in the one-line diagram.

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

6.2 Direct Connection Network Upgrades

To accommodate interconnection of AG1-434, a new 345kV Interconnection Substation would need to be built close to the 'Nelson- Electric Junction' 345kV transmission line L15502, 24 miles from Nelson and 48.7 miles from Electric Junction.

The scope of work includes the installation of three 345kV circuit breakers in a "breaker-and-a-half" bus configuration and cutting in the Interconnection Substation to 'Nelson- Electric Junction' 345kV transmission line L15502, as shown in the one-line diagram below.

The Interconnection Customer ("IC") is responsible for constructing all of the facilities on the IC side of the Point of Interconnection ("POI"). It is assumed for the purposes of this report that the IC will obtain the site for the Interconnection Substation and right-of-way between the Interconnection Substation and the 345kV transmission line.

In the event that the IC exercises the option to build the Interconnecting Substation, the IC will be required to construct all interconnection facilities that will be turned over to ComEd in accordance with ComEd published standards and the PJM Tariff.

ComEd would design, engineer and construct the tie in of the Interconnection Substation to the 'Nelson- Electric Junction' 345kV transmission line L15502.

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

For Option to Build Direct Connection cost estimates:

Scope of Work	Cost Estimate
Installation of a new 345kV substation as described above	N/A
Transmission line tie in work (foundations, structures, conductors)	\$ 4,000,000
ComEd oversight and testing	\$ 2,000,000
Total Cost Estimate (see notes below on cost estimate)	\$ 6,000,000

For ComEd building the Interconnecting Substation cost estimates:

Scope of Work	Cost Estimate
Installation of a new 345kV substation as described above	\$ 20,000,000
Transmission line tie in work (foundations, structures, conductors)	\$ 4,000,000
Total Cost Estimate (see notes below on cost estimate)	\$ 24,000,000

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

6.3 Non-Direct Connection Network Upgrades

The integration of the new 345kV Interconnection Substation would require relay, communications and SCADA upgrades at the Dresden Station 12 and Pontiac TSS 80. The ComEd cost is given below:

Scope of Work	Cost Estimate
Relay/communications/SCADA upgrades at Nelson TSS 155	\$ 1,000,000
Relay/communications/SCADA upgrades at Electric Junction TSS 111	\$ 1,000,000
Total Cost Estimate (see notes below on cost estimate)	\$ 2,000,000

6.4 Notes on Cost Estimate:

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

7 Schedule

See Sections 6 and 11.

8 Transmission Owner Analysis

See Sections 6 and 11.

9 Interconnection Customer Requirements

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

10 Revenue Metering and SCADA Requirements

10.1 PJM Requirements

The Interconnection Customer will be required to install equipment necessary to provide Revenue Metering (KWH, KVARH) and real time data (KW, KVAR) for IC's generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Section 8 of Attachment O.

10.2 Meteorological Data Reporting Requirements

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

- Wind speed (meters/second) - (Required)
- Wind direction (decimal degrees from true north) - (Required)
- Ambient air temperature (Fahrenheit) - (Required)
- Air Pressure (Hectopascals) - (Required)
- Humidity (Percent) (Accepted, not required)

10.3 Interconnected Transmission Owner Requirements

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

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

11 Summer Peak - Load Flow Analysis - Primary POI

The Queue Project AG1-434 was evaluated as a 200.0 MW (Capacity 35.2 MW) injection tapping the Electric Junction to Nelson 345 kV line in the ComEd area. Project AG1-434 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-434 was studied with a commercial probability of 53%. Potential network impacts were as follows:

11.1 Generation Deliverability

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

None

11.2 Multiple Facility Contingency

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	ACID C	MW IMPACT
16222228	270679	BYRON ; R	345.0	CE	270695	CHERRY VA; R	345.0	CE	1	COMED_P7-1_345-L0621_B-R_+138-L15621_R-R	tower	1768.0	99.73	100.01	DC	11.05

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 LOADIN G %	POST PROJE CT LOADIN G %	AC DC	MW IMPAC T
162221871	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P2-2_111_EJ-345R_3	bus	1479.0	124.45	126.23	DC	26.21
162221872	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	120.18	124.2	DC	63.05
162221896	270730	ELECT JCT; B	345.0	CE	270846	PLANO ; B	345.0	CE	1	COMED_P2-2_111_EJ-345R_4	bus	1341.0	118.52	120.95	DC	32.73
162221897	270730	ELECT JCT; B	345.0	CE	270846	PLANO ; B	345.0	CE	1	COMED_P2-2_111_EJ-345R_3	bus	1341.0	119.27	121.19	DC	32.98
162222184	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P7-1_345-L13821_R-R+_345-L18502AB-N	tower	1768.0	113.74	115.26	DC	28.31
162221846	270743	ESS W407K;9T	345.0	CE	274749	AURORA EC;RP	345.0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	131.38	132.06	DC	22.26
162221847	270743	ESS W407K;9T	345.0	CE	274749	AURORA EC;RP	345.0	CE	1	COMED_P2-2_144_WN-345B_7	bus	1479.0	107.08	107.73	DC	21.14
162221835	270751	ESS W407M;9T	345.0	CE	270743	ESS W407K;9T	345.0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	132.34	133.02	DC	22.26
162221836	270751	ESS W407M;9T	345.0	CE	270743	ESS W407K;9T	345.0	CE	1	COMED_P2-2_144_WN-345B_7	bus	1479.0	108.04	108.69	DC	21.14
162221840	270917	WAYNE ; R	345.0	CE	270751	ESS W407M;9T	345.0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	132.34	133.02	DC	22.26
162221841	270917	WAYNE ; R	345.0	CE	270751	ESS W407M;9T	345.0	CE	1	COMED_P2-2_144_WN-345B_7	bus	1479.0	108.04	108.69	DC	21.14
162221811	274749	AURORA EC;RP	345.0	CE	270731	ELECT JCT;4R	345.0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	138.61	139.28	DC	21.9
162222174	274768	LEE CO EC;BP	345.0	CE	270678	BYRON ; B	345.0	CE	1	COMED_P7-1_345-L15502_B-R+_345-L16703_R-S-A	tower	2084.0	112.67	114.3	DC	75.68
162222175	274768	LEE CO EC;BP	345.0	CE	270678	BYRON ; B	345.0	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	tower	2084.0	112.52	114.16	DC	76.24
162222125	946150	AF1-280 TAP	345.0	CE	274768	LEE CO EC;BP	345.0	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	tower	1768.0	111.77	116.12	DC	76.98

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC DC	MW IMPACT
16222126	946150	AF1-280 TAP	345.0	CE	274768	LEE CO EC;BP	345.0	CE	1	COMED_P 7-1_345-L15502_B-R+_345-L16703_R-S-A	tower	1768.0	111.84	116.16	DC	76.42
170032869	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	COMED_P 1-2_345-L18905__B-R-B	single	1656.0	124.05	125.06	DC	16.87
170032887	965660	AG1-434 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	COMED_P 1-2_345-L18905__B-R-B	single	1656.0	111.52	112.54	DC	16.87
170032888	965660	AG1-434 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	COMED_P 1-2_345-L18905__B-R-A	single	1656.0	111.33	112.35	DC	16.87
170032889	965660	AG1-434 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	Base Case	single	1334.0	109.64	110.87	DC	16.43

11.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC DC	MW IMPACT
168522752	270644	WILTON ;	765.0	CE	243206	05DUMONT	765.0	AEP	1	Base Case	operation	3555.0	107.58	107.59	DC	54.32
168522412	270694	CHERRY VA; B	345.0	CE	924470	GARDEN PR; R	345.0	CE	1	COMED_P1-2_345-L18905__B-R-B	operation	1479.0	175.23	175.7	DC	15.35
168522595	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	Base Case	operation	1201.0	128.78	130.9	DC	25.41
168522596	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P2-1_111-L11120__	operation	1479.0	123.41	125.19	DC	26.29
168522666	270730	ELECT JCT; B	345.0	CE	270846	PLANO ; B	345.0	CE	1	COMED_P1-2_345-L11119_R-N	operation	1341.0	115.88	118.32	DC	32.79
168522659	270731	ELECT JCT;4R	345.0	CE	270733	ELECT JCT;3R	345.0	CE	1	COMED_P1-2_345-L16704TB-S	operation	1656.0	119.72	120.28	DC	20.42
168522713	270743	ESS W407K; 9T	345.0	CE	274749	AURORA EC;RP	345.0	CE	1	Base Case	operation	1201.0	111.76	112.52	DC	20.21
168522714	270743	ESS W407K; 9T	345.0	CE	274749	AURORA EC;RP	345.0	CE	1	COMED_P2-1_154-CB_13__	operation	1479.0	102.2	102.85	DC	21.24
168522698	270751	ESS W407M ;9T	345.0	CE	270743	ESS W407K;9 T	345.0	CE	1	Base Case	operation	1201.0	112.94	113.7	DC	20.21

ID	FRO M BUS#	FROM BUS	kV	FRO M BUS ARE A	TO BUS#	TO BUS	kV	TO BUS ARE A	CK T ID	CONT NAME	Type	Rati ng MVA	PRE PROJE CT LOADI NG %	POST PROJE CT LOADI NG %	AC DC	MW IMPA CT
168522 699	2707 51	ESS W407M ;9T	345 .0	CE	2707 43	ESS W407K;9 T	345 .0	CE	1	COMED_P1-2_345- L11723TR-N	operati on	1479 .0	103.9	104.56	DC	21.8
168522 761	2708 10	LOCKPO RT; B	345 .0	CE	2707 70	GOODIN GS ;4B	345 .0	CE	1	COMED_P1-2_345- L11620_B-S	operati on	1479 .0	105.41	105.7	DC	21.29
168522 552	2708 28	NELSON ; B	345 .0	CE	9461 50	AF1-280 TAP	345 .0	CE	1	COMED_P1-2_345- L15502_B-R-D	operati on	1479 .0	116.97	122.16	DC	76.7
168522 669	2708 46	PLANO ; B	345 .0	CE	2752 07	PLANO ;3M	345 .0	CE	1	COMED_P1- 3_TR94_PLANO_R-S	operati on	1379 .0	118.87	119.09	DC	21.13
168522 655	2708 47	PLANO ; R	345 .0	CE	2752 08	PLANO ;4M	345 .0	CE	1	COMED_P1- 3_TR93_PLANO_B-S	operati on	1379 .0	121.77	122.0	DC	21.63
168522 535	2708 66	QUAD 6-7	345 .0	CE	6366 10	SUB 91 3	345 .0	ME C	1	EXT_P12:345:MEC:CORD OVA:SUB 39	operati on	1471 .0	129.33	130.16	DC	26.47
168522 702	2709 17	WAYNE ; R	345 .0	CE	2707 51	ESS W407M; 9T	345 .0	CE	1	Base Case	operati on	1201 .0	112.94	113.7	DC	20.21
168522 703	2709 17	WAYNE ; R	345 .0	CE	2707 51	ESS W407M; 9T	345 .0	CE	1	COMED_P1-2_345- L11723TR-N	operati on	1479 .0	103.9	104.56	DC	21.8
168522 624	2747 49	AUROR A EC;RP	345 .0	CE	2707 31	ELECT JCT;4R	345 .0	CE	1	Base Case	operati on	1201 .0	125.69	126.44	DC	19.86
168522 625	2747 49	AUROR A EC;RP	345 .0	CE	2707 31	ELECT JCT;4R	345 .0	CE	1	COMED_P1-2_345- L13821_R-R	operati on	1479 .0	113.6	114.27	DC	21.76
168522 540	2747 68	LEE CO EC;BP	345 .0	CE	2706 78	BYRON ; B	345 .0	CE	1	COMED_P1-2_345- L15502_B-R-D	operati on	1726 .0	135.53	137.5	DC	75.95
168522 541	2747 68	LEE CO EC;BP	345 .0	CE	2706 78	BYRON ; B	345 .0	CE	1	Base Case	operati on	1334 .0	130.76	131.97	DC	35.7
168522 673	2752 07	PLANO ;3M	345 .0	CE	2706 30	PLANO ;	765 .0	CE	1	COMED_P1- 3_TR94_PLANO_R-S	operati on	1379 .0	118.87	119.09	DC	21.13
168522 651	2752 08	PLANO ;4M	345 .0	CE	2706 30	PLANO ;	765 .0	CE	1	COMED_P1- 3_TR93_PLANO_B-S	operati on	1379 .0	121.77	122.0	DC	21.63
169750 100	9244 70	GARDEN PR; R	345 .0	CE	2708 83	SILVER LK; R	345 .0	CE	1	COMED_P1-2_345- L18905_B-R-B	operati on	1479 .0	200.38	200.85	DC	15.35
168522 496	9461 50	AF1-280 TAP	345 .0	CE	2747 68	LEE CO EC;BP	345 .0	CE	1	COMED_P1-2_345- L15502_B-R-D	operati on	1479 .0	133.16	138.34	DC	76.7
168522 498	9461 50	AF1-280 TAP	345 .0	CE	2747 68	LEE CO EC;BP	345 .0	CE	1	Base Case	operati on	1201 .0	101.09	104.12	DC	36.45
170032 866	9574 70	AF2-041 TAP	345 .0	CE	2707 30	ELECT JCT; B	345 .0	CE	1	Base Case	operati on	1334 .0	148.06	155.0	DC	93.37
170032 867	9574 70	AF2-041 TAP	345 .0	CE	2707 30	ELECT JCT; B	345 .0	CE	1	COMED_P1-2_345- L18905_B-R-B	operati on	1656 .0	144.73	150.48	DC	95.83
170032 885	9656 60	AG1- 434 TAP	345 .0	CE	9574 70	AF2-041 TAP	345 .0	CE	1	Base Case	operati on	1334 .0	135.66	142.7	DC	93.37
170032 886	9656 60	AG1- 434 TAP	345 .0	CE	9574 70	AF2-041 TAP	345 .0	CE	1	COMED_P1-2_345- L18905_B-R-A	operati on	1656 .0	134.75	140.57	DC	95.83

11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
162221896,162221897	3	ELECT JCT; B 345.0 kV - PLANO ; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L16704 (1126) : ComEd 345kV L16704 SSTE rating is 1603 MVA. The upgrade will be to replace 1-345kV circuit breaker. A preliminary estimate is \$3M. A preliminary construction timeline is 24 months. Upon completion of the upgrade the ratings will be 1334/1726/1837/2084 MVA (SNSLTE/SSTE/SLD) MVA. Project Type : FAC Cost : \$3,000,000 Time Estimate : 24.0 Months	\$3,000,000
162221811	7	AURORA EC;RP 345.0 kV - ELECT JCT;4R 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_11119_1 (1113) : In addition to CE_NUN_11119, this upgrde will require replacement of motor operated 345kV disconnect switches on L11119 at TSS 111 Electric Junction along with a new 345kV Circuit Breaker. A preliminary estimate is \$7.2M with estimated construction timeline of 30 months. Upon completion of the upgrade the ratings will be 1754/2246/2297/2488 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$7,200,000 Time Estimate : 30.0 Months	\$7,200,000
162221841,162221840	6	WAYNE ; R 345.0 kV - ESS W407M;9T 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L14419_2 (1040) : ComEd 345kV L14419_2 SSTE rating is 1568 MVA. The upgrade will be to reconductor the line. A preliminary estimate for the upgrade is \$3.3M with an estimated construction timeline of 30 months. Upon completion of the upgrade the rating limit will be 1334/1726/1837/2084 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$3,300,000 Time Estimate : 30.0 Months	\$6,600,000
162221836,162221835	5	ESS W407M;9T 345.0 kV - ESS W407K;9T 345.0 kV Ckt 1	CE_NUN_L14419_6 (1123) : ComEd 345kV L14419_1 SSTE rating is 1568 MVA. The upgrade will be to reconductor the line. A preliminary estimate for the upgrade is \$3.3M with an estimated construction timeline of 30 months. Upon completion of the upgrade the rating limit will be 1679/2058/2107/2280 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$3,300,000 Time Estimate : 30.0 Months	

ID	Idx	Facility	Upgrade Description	Cost
162222288	1	BYRON ; R 345.0 kV - CHERRY VA; R 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L0622_1 (1107) : ComEd SSTE rating is 1568 MVA. In addition to upgrade CE_NUN_0622, this upgrade will be mitigate all sag limits on the line. A preliminary estimate is \$4.2M with an estimated construction timeline of 30 months. Upon completion of the upgrade the limiting ratings will be 1334/1726/1837/2106 MVA Project Type : FAC Cost : \$4,200,000 Time Estimate : 30.0 Months	\$4,200,000
162221847,162 221846	4	ESS W407K;9T 345.0 kV - AURORA EC;RP 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L14419_1 (1038) : ComEd 345kV L14419_1 SSTE rating is 1568 MVA. The upgrade will be to reconductor the line. A preliminary estimate for the upgrade is \$1.1M with an estimated construction timeline of 30 months. Upon completion of the upgrade the rating limit will be 1334/1726/1837/2084 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$1,100,000 Time Estimate : 30.0 Months CE_NUN_L14419_5 (1122) : ComEd 345kV L14419_1 SSTE rating is 1568 MVA. The upgrade will be to reconductor the line and station conductor. A preliminary estimate for the upgrade is \$2.5M with an estimated construction timeline of 30 months. Upon completion of the upgrade the rating limit will be 1754/2246/2297/2488 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$2,500,000 Time Estimate : 30.0 Months	\$3,600,000
170032869	10	AF2-041 TAP 345.0 kV - ELECT JCT; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L15502_3 (1079) : SSTE is 1837MVA. Replace station conductor at TSS111 EJ, replace MOD. Relay upgrades, re-conductor part of the line. New ratings will be 1683/2068/2172/2308 Project Type : FAC Cost : \$22,300,000 Time Estimate : 36.0 Months	\$22,300,000
162222125,162 222126	9	AF1-280 TAP 345.0 kV - LEE CO EC;BP 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L15501 (1148) : Re-conductor the line, upgrade 1-345kV circuit breaker, upgrade station conductor at both line terminals, new line disconnect switches. A preliminary estimate for this upgrade is \$8.5M. Estimated construction timeline of 30 months. Upon completion the limiting ratings will be 1679/2058/2107/2280 MVA (SN/SLTE/SSTE/SLD) Project Type : FAC Cost : \$8,500,000 Time Estimate : 30.0 Months	\$8,500,000

ID	Idx	Facility	Upgrade Description	Cost
162221872,16222184,162221871	2	ELECT JCT; B 345.0 kV - LOMBARD ; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L11124 (1012) : ComEd 345kV L11124 SSTE rating is 1568 MVA. The upgrade will be to reconductor the line. A preliminary estimate is \$14.6M with an estimated construction timeline of 30 months. Upon completion of the upgrade the ratings will be 1334/1726/1837/2084 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$14,600,000 Time Estimate : 30.0 Months CE_NUN_L11124_1 (1072) : ComEd 345kV L11124 SSTE rating is 1568 MVA. The upgrade will be to reconductor the line and station conductor. A preliminary estimate is \$15.3M with an estimated construction timeline of 30 months. Upon completion of the upgrade the ratings will be 1364/1726/1846/2221 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$14,600,000 Time Estimate : 30.0 Months CE_NUN_L11124_2 (1114) : In addition to CE_NUN_11124_1, the upgrade will be to replace 2-345kV Circuit Breakers and station conductor. A preliminary estimate is \$7M with an estimated construction timeline of 30 months. Upon completion of the upgrade the ratings will be 1461/1656/1909/1912 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$7,000,000 Time Estimate : 30.0 Months	\$36,200,000
162222174,16222175	8	LEE CO EC;BP 345.0 kV - BYRON ; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L0627 (1086) : ComEd 345kV L0627 SSTE rating is 1837 MVA. The upgrade will be to re-conductor the line and upgrade station conductor at Byron Station. A preliminary estimate for the upgrades is \$17.2M. The preliminary construction timeline is 24-30 months contingent upon outage coordination with Byron Nuclear Station. Note that the preliminary cost estimate does not include the potential for new transmission towers. This unknown will add to this estimate if required. Upon completion of the upgrades the new ratings will be 1679/1904/1944/2088 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$17,200,000 Time Estimate : 24-30 Months CE_NUN_L0627_1 (1111) : ComEd 345kV L0627 SLD & ALDR ratings are 2084 MVA & 2397MVA. In addition to CE_NUN_0627 upgrade, mitigate sag on line. A preliminary estimate is \$10M with a estimated construction timeline of 30 months. Upon completion the ratings will 1679/2058/2107/2280/2622 MVA (SN/SLTE/SSTE/SLD/ALDR) Project Type : FAC Cost : \$10,000,000 Time Estimate : 30.0 Months	\$27,200,000

ID	Idx	Facility	Upgrade Description	Cost
170032887,170032888,170032889	11	AG1-434 TAP 345.0 kV - AF2-041 TAP 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L15502_2 (1078) : SSTE is 1837MVA. Replace station conductor at TSS111 Electric Junction, replace MOD. A preliminary estimate for the upgrade is \$1.7M with an estimated construction timeline of 30 months. Upon completion the new ratings will be 1529/1765/2041/2280 MVA (SN/SLTE.SSTE/SLD). Project Type : FAC Cost : \$1,700,000 Time Estimate : 30.0 Months	\$1,700,000
			TOTAL COST	\$120,500,000

11.6 Flow Gate Details - Primary POI

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

11.6.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162222288	270679	BYRON ;R	CE	270695	CHERRY VA; R	CE	1	COMED_P7-1_345-L0621_B-R+_138-L15621_R-R	tower	1768.0	99.73	100.01	DC	11.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274656	BYRON ;1U	41.8187	50/50	41.8187
274657	BYRON ;2U	40.9947	50/50	40.9947
274760	LEE CO EC;1U	1.8971	50/50	1.8971
274761	LEE CO EC;2U	1.8971	50/50	1.8971
274762	LEE CO EC;3U	1.8971	50/50	1.8971
274763	LEE CO EC;4U	1.8792	50/50	1.8792
274764	LEE CO EC;5U	1.9015	50/50	1.9015
274765	LEE CO EC;6U	1.9015	50/50	1.9015
274859	EASYR;U1 E	11.5570	Adder	13.6
274860	EASYR;U2 E	11.5570	Adder	13.6
276172	Z1-108 BAT	1.5970	Merchant Transmission	1.5970
293516	O-009 E1	3.8138	Adder	4.49
293517	O-009 E2	1.9371	Adder	2.28
293518	O-009 E3	2.1333	Adder	2.51
293715	O-029 E	4.0773	Adder	4.8
293716	O-029 E	2.2355	Adder	2.63
293717	O-029 E	2.0547	Adder	2.42
919581	AA2-030 C	11.4313	Adder	13.45
920273	AA2-123 BAT	3.1804	50/50	3.1804
930482	AB1-089 CT	57.3336	50/50	57.3336
930483	AB1-089 ST	45.5824	50/50	45.5824
937531	AD2-214 C	2.0215	Adder	2.38
937532	AD2-214 E	1.3477	Adder	1.59
939051	AE1-134 1	0.8883	Adder	1.05
939061	AE1-134 2	0.8883	Adder	1.05
943411	AF1-012 C	6.4099	Adder	7.54
943412	AF1-012 E	4.2733	Adder	5.03
943803	AF1-048 BAT	8.5540	50/50	8.5540
943922	AF1-060 BAT	1.0904	Merchant Transmission	1.0904
946151	AF1-280 C O1	14.4852	Adder	17.04
946152	AF1-280 E O1	6.6611	Adder	7.84
946161	AF1-281 C O1	0.3172	Adder	0.37
946162	AF1-281 E O1	1.7974	Adder	2.11
946321	AF1-296 C O1	1.6716	Adder	1.97
946322	AF1-296 E O1	7.8259	Adder	9.21
955971	J1084	8.2065	PJM External (MISO)	8.2065
958911	AF2-182 C	19.0317	Adder	22.39
958912	AF2-182 E	12.6878	Adder	14.93
958921	AF2-183 C	3.3834	Adder	3.98
958922	AF2-183 E	5.0751	Adder	5.97

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960551	AF2-346 C	2.7471	Adder	3.23
960552	AF2-346 E	1.8314	Adder	2.15
961011	AF2-392 C O1	1.7042	Adder	2.0
961012	AF2-392 E O1	7.9790	Adder	9.39
961021	AF2-393 O1	2.9050	Adder	3.42
961031	AF2-394 O1	1.9366	Adder	2.28
962012	AG1-044 E	0.0164	Adder	0.04
962701	AG1-119 C	10.1362	Adder	22.5
962702	AG1-119 E	6.7575	Adder	15.0
964461	AG1-309 FTIR	462.4334	50/50	462.4334
965661	AG1-434 C O1	0.8758	Adder	1.94
965662	AG1-434 E O1	4.1004	Adder	9.1
965931	AG1-462 C O1	4.5735	Adder	10.15
965932	AG1-462 E O1	3.0490	Adder	6.77
966821	AG1-553 C O1	6.7078	Adder	14.89
966822	AG1-553 E O1	1.6769	Adder	3.72
CALDERWOOD	CALDERWOOD	0.0258	Confirmed LTF	0.0258
CBM-W2	CBM-W2	1.9622	Confirmed LTF	1.9622
NY	NY	0.1670	Confirmed LTF	0.1670
TVA	TVA	0.1316	Confirmed LTF	0.1316
O-066	O-066	1.9988	Confirmed LTF	1.9988
SIGE	SIGE	0.0142	Confirmed LTF	0.0142
CHEOAH	CHEOAH	0.0275	Confirmed LTF	0.0275
CBM-S1	CBM-S1	0.0129	Confirmed LTF	0.0129
G-007	G-007	0.3119	Confirmed LTF	0.3119
HAMLET	HAMLET	0.0924	Confirmed LTF	0.0924
MEC	MEC	2.7601	Confirmed LTF	2.7601
GIBSON	GIBSON	0.0999	Confirmed LTF	0.0999
BLUEG	BLUEG	0.4236	Confirmed LTF	0.4236
TRIMBLE	TRIMBLE	0.1397	Confirmed LTF	0.1397
LAGN	LAGN	0.5180	Confirmed LTF	0.5180
CATAWBA	CATAWBA	0.0500	Confirmed LTF	0.0500

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
162221871	270730	ELECT JCT; B	CE	270812	LOMBARD ; B	CE	1	COMED_P2-2_111_EJ-345R_3	bus	1479.0	124.45	126.23	DC	26.21

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

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

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

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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
162221897	270730	ELECT JCT; B	CE	270846	PLANO ; B	CE	1	COMED_P2-2_111_EJ-345R_3	bus	1341.0	119.27	121.19	DC	32.98

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.0153	Adder	2.37
274658	DRESDEN ;2U	65.1442	Adder	76.64
274738	AURORA EC;3P	4.4199	50/50	4.4199
274740	AURORA EC;4P	4.4199	50/50	4.4199
274820	ELGIN EC ;2P	2.9992	50/50	2.9992
274859	EASYR;U1 E	10.7826	Adder	12.69
274860	EASYR;U2 E	10.7826	Adder	12.69
276167	Z1-106 E2	1.5751	50/50	1.5751
276168	Z1-106 E1	1.5795	50/50	1.5795
276170	Z1-108 E	2.3775	Adder	2.8
276591	L-013 2	4.5678	50/50	4.5678
290021	O50 E	8.8849	Adder	10.45
290051	GSG-6; E	8.0566	Adder	9.48
290108	LEEDK;1U E	17.6324	Adder	20.74
293516	O-009 E1	7.6345	Adder	8.98
293517	O-009 E2	3.8777	Adder	4.56
293518	O-009 E3	4.2704	Adder	5.02
293715	O-029 E	8.1621	Adder	9.6
293716	O-029 E	4.4752	Adder	5.26
293717	O-029 E	4.1132	Adder	4.84
294401	BSHIL;1U E	4.2745	Adder	5.03
294410	BSHIL;2U E	4.2745	Adder	5.03
294763	P-046 E	8.7230	Adder	10.26
295109	WESTBROOK E	4.3134	Adder	5.07
295111	SUBLETTE E	2.3574	Adder	2.77
915011	Y3-013 1	3.0391	Adder	3.58
915021	Y3-013 2	3.0391	Adder	3.58
915031	Y3-013 3	3.0391	Adder	3.58
916221	Z1-073 E	4.1846	Adder	4.92
919581	AA2-030 C	17.4152	Adder	20.49
920272	AA2-123 E	2.3290	Adder	2.74
924472	AB2-096 CT1	18.0819	Adder	21.27
924473	AB2-096 CT2	18.0819	Adder	21.27
924474	AB2-096 CT3	18.0819	Adder	21.27
925581	AC1-033 C	0.7001	Adder	0.82
925582	AC1-033 E	4.6866	Adder	5.51
926331	AC1-110 1	2.7647	50/50	2.7647
926341	AC1-110 2	2.7647	50/50	2.7647
927451	AC1-142A 1	1.7381	Adder	2.04
927461	AC1-142A 2	1.7400	Adder	2.05
930482	AB1-089 CT	36.1829	Adder	42.57

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
930483	AB1-089 ST	28.7668	Adder	33.84
930771	AB1-122 CT2	41.1772	Adder	48.44
933911	AD1-013 C	1.4087	Adder	1.66
933912	AD1-013 E	2.2503	Adder	2.65
933931	AD1-016 C	0.8846	Adder	1.04
933932	AD1-016 E	1.4433	Adder	1.7
934051	AD1-031 C O1	1.4215	Adder	1.67
934052	AD1-031 E O1	2.3193	Adder	2.73
934111	AD1-039 2	4.0354	Adder	4.75
934432	AD1-067 E	0.4254	Adder	0.5
934701	AD1-098 C O1	5.3522	Adder	6.3
934702	AD1-098 E O1	3.9077	Adder	4.6
934971	AD1-129 C	0.8539	Adder	1.0
934972	AD1-129 E	0.5693	Adder	0.67
936791	AD2-102 C	13.1682	Adder	15.49
936792	AD2-102 E	8.7788	Adder	10.33
937001	AD2-134 C	2.1061	Adder	2.48
937002	AD2-134 E	8.7004	Adder	10.24
937311	AD2-172 C	2.2898	Adder	2.69
937312	AD2-172 E	3.1621	Adder	3.72
937531	AD2-214 C	3.9774	Adder	4.68
937532	AD2-214 E	2.6516	Adder	3.12
938851	AE1-113 C O1	3.6650	Adder	4.31
938852	AE1-113 E O1	12.9941	Adder	15.29
938861	AE1-114 C O1	3.6371	Adder	4.28
938862	AE1-114 E O1	12.4088	Adder	14.6
939051	AE1-134 1	1.3533	Adder	1.59
939061	AE1-134 2	1.3533	Adder	1.59
940501	AE2-035 C	2.2898	Adder	2.69
940502	AE2-035 E	3.1621	Adder	3.72
940752	AE2-062 E	0.0313	Adder	0.07
941131	AE2-107 C	4.7607	Adder	5.6
941132	AE2-107 E	3.1738	Adder	3.73
942421	AE2-255 C O1	1.3883	Adder	1.63
942422	AE2-255 E O1	4.1648	Adder	4.9
942991	AE2-321 C	7.7834	Adder	9.16
942992	AE2-321 E	3.8336	Adder	4.51
943411	AF1-012 C	13.0439	Adder	15.35
943412	AF1-012 E	8.6959	Adder	10.23
943801	AF1-048 C	3.6384	Adder	4.28
943802	AF1-048 E	2.4256	Adder	2.85
943921	AF1-060	1.1275	Adder	1.33
944041	AF1-072	2.1858	Adder	2.57
945352	AF1-200 NFTW	581.7840	50/50	581.7840
946151	AF1-280 C O1	15.3283	Adder	18.03
946152	AF1-280 E O1	7.0488	Adder	8.29
946161	AF1-281 C O1	0.3357	Adder	0.39
946162	AF1-281 E O1	1.9021	Adder	2.24
946321	AF1-296 C O1	3.4748	Adder	4.09
946322	AF1-296 E O1	16.2682	Adder	19.14
946501	AF1-314 C	4.0684	Adder	4.79
946502	AF1-314 E	19.0476	Adder	22.41

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
946661	AF1-330 C	1.9098	Adder	2.25
946662	AF1-330 E	0.4192	Adder	0.49
946671	AF1-331	1.8295	Adder	2.15
952381	J703	8.7915	PJM External (MISO)	8.7915
952391	J704	3.7601	PJM External (MISO)	3.7601
952431	J760	2.5245	PJM External (MISO)	2.5245
953151	J831	2.9900	PJM External (MISO)	2.9900
953491	J947	15.3280	PJM External (MISO)	15.3280
953681	J818	11.4492	PJM External (MISO)	11.4492
953891	J849	8.5863	PJM External (MISO)	8.5863
953901	J850	20.0350	PJM External (MISO)	20.0350
953921	J855 C	1.0240	PJM External (MISO)	1.0240
953922	J855 E	5.5400	PJM External (MISO)	5.5400
954001	J864	3.3976	PJM External (MISO)	3.3976
954061	J870	13.4800	PJM External (MISO)	13.4800
954071	J871	6.7400	PJM External (MISO)	6.7400
954141	J878	15.6260	PJM External (MISO)	15.6260
954191	J886	10.5855	PJM External (MISO)	10.5855
954691	J732	13.2787	PJM External (MISO)	13.2787
954741	J928 C	0.8572	PJM External (MISO)	0.8572
954742	J928 E	4.6377	PJM External (MISO)	4.6377
955091	J986	9.6565	PJM External (MISO)	9.6565
955221	J1000	3.1680	PJM External (MISO)	3.1680
955241	J1002	6.8112	PJM External (MISO)	6.8112
955251	J1003	3.6680	PJM External (MISO)	3.6680
955582	J1042 E	14.2758	PJM External (MISO)	14.2758
955971	J1084	10.0725	PJM External (MISO)	10.0725
956141	J1101	1.4114	PJM External (MISO)	1.4114
956571	J1153	11.0760	PJM External (MISO)	11.0760
956581	J1154	5.7630	PJM External (MISO)	5.7630
956731	J1171	7.3110	PJM External (MISO)	7.3110
956852	J1183 E	0.0927	PJM External (MISO)	0.0927
956901	J1188	3.8925	PJM External (MISO)	3.8925
957331	AF2-027 C	2.0261	Adder	2.38
957332	AF2-027 E	3.0391	Adder	3.58
957401	AF2-034 C	0.7257	Adder	0.85
957402	AF2-034 E	0.6182	Adder	0.73
957471	AF2-041 C	31.7376	50/50	31.7376
957472	AF2-041 E	15.8688	50/50	15.8688
958911	AF2-182 C	20.1394	Adder	23.69
958912	AF2-182 E	13.4263	Adder	15.8
958921	AF2-183 C	3.5803	Adder	4.21
958922	AF2-183 E	5.3705	Adder	6.32
959081	AF2-199 C	10.5792	50/50	10.5792
959082	AF2-199 E	5.2896	50/50	5.2896
959091	AF2-200 C O1	21.1584	50/50	21.1584
959092	AF2-200 E O1	10.5792	50/50	10.5792
959101	AF2-201 C O1	5.6046	Adder	6.59
959102	AF2-201 E O1	16.0940	Adder	18.93
960551	AF2-346 C	5.5902	Adder	6.58
960552	AF2-346 E	3.7268	Adder	4.38
960581	AF2-349 C	20.6519	Adder	24.3

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960582	AF2-349 E	13.7680	Adder	16.2
960721	AF2-363 C O1	4.7974	Adder	5.64
960722	AF2-363 E O1	3.1982	Adder	3.76
960731	AF2-364 C O1	6.3404	Adder	7.46
960732	AF2-364 E O1	4.2270	Adder	4.97
960751	AF2-366 C	5.0562	Adder	5.95
960752	AF2-366 E	3.3708	Adder	3.97
961011	AF2-392 C O1	3.7032	Adder	4.36
961012	AF2-392 E O1	17.3377	Adder	20.4
961021	AF2-393 O1	6.3123	Adder	7.43
961031	AF2-394 O1	4.2082	Adder	4.95
962012	AG1-044 E	0.0304	Adder	0.07
962691	AG1-118 C O1	10.9026	Adder	24.2
962692	AG1-118 E O1	7.2684	Adder	16.13
962701	AG1-119 C	11.8124	Adder	26.22
962702	AG1-119 E	7.8749	Adder	17.48
962711	AG1-120 C O1	3.6950	Adder	8.2
962712	AG1-120 E O1	2.4633	Adder	5.47
962781	AG1-127 C	2.9818	Adder	6.62
962782	AG1-127 E	1.9878	Adder	4.41
962791	AG1-128 C O1	2.5249	Adder	5.6
962792	AG1-128 E O1	11.8156	Adder	26.23
963681	AG1-220 C O1	4.1705	Adder	9.26
963682	AG1-220 E O1	2.7803	Adder	6.17
964461	AG1-309 FTIR	273.9313	Merchant Transmission	273.9313
965061	AG1-371	5.2896	50/50	5.2896
965071	AG1-372	3.5264	50/50	3.5264
965081	AG1-373	1.7632	50/50	1.7632
965141	AG1-379 C	4.0380	Adder	8.96
965142	AG1-379 E	1.8483	Adder	4.1
965551	AG1-423 C O1	19.1328	50/50	19.1328
965552	AG1-423 E O1	12.7552	50/50	12.7552
965661	AG1-434 C O1	5.8045	50/50	5.8045
965662	AG1-434 E O1	27.1755	50/50	27.1755
965931	AG1-462 C O1	8.7918	Adder	19.52
965932	AG1-462 E O1	5.8612	Adder	13.01
966441	AG1-513 C	0.2410	Adder	0.53
966442	AG1-513 E	0.3615	Adder	0.8
966521	AG1-521 C O1	4.2909	Adder	9.52
966522	AG1-521 E O1	1.0727	Adder	2.38
966821	AG1-553 C O1	12.8946	Adder	28.62
966822	AG1-553 E O1	3.2237	Adder	7.16
WEC	WEC	3.6430	Confirmed LTF	3.6430
CBM-W2	CBM-W2	14.3360	Confirmed LTF	14.3360
NY	NY	0.4363	Confirmed LTF	0.4363
TVA	TVA	1.3818	Confirmed LTF	1.3818
O-066	O-066	5.1821	Confirmed LTF	5.1821
SIGE	SIGE	0.0779	Confirmed LTF	0.0779
CBM-S1	CBM-S1	0.2785	Confirmed LTF	0.2785
G-007	G-007	0.8074	Confirmed LTF	0.8074
HAMLET	HAMLET	0.0889	Confirmed LTF	0.0889
MEC	MEC	11.8222	Confirmed LTF	11.8222

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
GIBSON	GIBSON	0.0480	Confirmed LTF	0.0480
BLUEG	BLUEG	0.7986	Confirmed LTF	0.7986
TRIMBLE	TRIMBLE	0.2760	Confirmed LTF	0.2760
LAGN	LAGN	3.3442	Confirmed LTF	3.3442
CATAWBA	CATAWBA	0.0269	Confirmed LTF	0.0269
CBM-W1	CBM-W1	72.3152	Confirmed LTF	72.3152

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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
162221846	270743	ESS W407K;9T	CE	274749	AURORA EC;RP	CE	1	COMED_P2-2_111_EJ-345B__2	bus	1479.0	131.38	132.06	DC	22.26

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.9390	Adder	2.28
274693	ROCKY RD ;1P	4.9438	50/50	4.9438
274695	ROCKY RD ;2P	4.9930	50/50	4.9930
274697	ROCKY RD ;3P	1.3564	50/50	1.3564
274818	ELGIN EC ;1P	6.1193	50/50	6.1193
274819	ELGIN EC ;3P	5.9003	50/50	5.9003
274820	ELGIN EC ;2P	6.1193	50/50	6.1193
274821	ELGIN EC ;4P	5.9445	50/50	5.9445
274859	EASYR;U1 E	13.9642	Adder	16.43
274860	EASYR;U2 E	13.9642	Adder	16.43
276167	Z1-106 E2	1.4340	Adder	1.69
276168	Z1-106 E1	1.4417	Adder	1.7
276170	Z1-108 E	4.6211	Adder	5.44
276591	L-013 2	4.1587	Adder	4.89
290051	GSG-6; E	7.7662	Adder	9.14
290108	LEEDK;1U E	15.8661	Adder	18.67
293516	O-009 E1	7.7042	Adder	9.06
293517	O-009 E2	3.9131	Adder	4.6
293518	O-009 E3	4.3094	Adder	5.07
293715	O-029 E	8.2367	Adder	9.69
293716	O-029 E	4.5160	Adder	5.31
293717	O-029 E	4.1507	Adder	4.88
294763	P-046 E	13.0043	Adder	15.3
295109	WESTBROOK E	4.1579	Adder	4.89
295111	SUBLETTE E	2.6058	Adder	3.07
915011	Y3-013 1	3.8467	Adder	4.53
915021	Y3-013 2	3.8467	Adder	4.53
915031	Y3-013 3	3.8467	Adder	4.53
916221	Z1-073 E	4.0338	Adder	4.75
919581	AA2-030 C	17.9891	Adder	21.16
920272	AA2-123 E	4.2932	Adder	5.05
924472	AB2-096 CT1	32.4357	Adder	38.16
924473	AB2-096 CT2	32.4357	Adder	38.16
924474	AB2-096 CT3	32.4357	Adder	38.16
926331	AC1-110 1	1.1713	Adder	1.38
926341	AC1-110 2	1.1713	Adder	1.38
930482	AB1-089 CT	67.6128	Adder	79.54
930483	AB1-089 ST	53.7548	Adder	63.24
933911	AD1-013 C	1.3548	Adder	1.59
933912	AD1-013 E	2.1642	Adder	2.55
933931	AD1-016 C	1.6280	Adder	1.92

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933932	AD1-016 E	2.6562	Adder	3.12
934432	AD1-067 E	0.4100	Adder	0.48
934701	AD1-098 C O1	5.2058	Adder	6.12
934702	AD1-098 E O1	3.8008	Adder	4.47
934971	AD1-129 C	1.4858	Adder	1.75
934972	AD1-129 E	0.9905	Adder	1.17
936791	AD2-102 C	21.2711	Adder	25.02
936792	AD2-102 E	14.1807	Adder	16.68
937001	AD2-134 C	2.0302	Adder	2.39
937002	AD2-134 E	8.3868	Adder	9.87
937311	AD2-172 C	3.4136	Adder	4.02
937312	AD2-172 E	4.7141	Adder	5.55
937531	AD2-214 C	4.1214	Adder	4.85
937532	AD2-214 E	2.7476	Adder	3.23
938861	AE1-114 C O1	4.8471	Adder	5.7
938862	AE1-114 E O1	16.5372	Adder	19.46
939051	AE1-134 1	1.3979	Adder	1.64
939061	AE1-134 2	1.3979	Adder	1.64
940501	AE2-035 C	3.4136	Adder	4.02
940502	AE2-035 E	4.7141	Adder	5.55
941131	AE2-107 C	4.2838	Adder	5.04
941132	AE2-107 E	2.8559	Adder	3.36
942991	AE2-321 C	14.2751	Adder	16.79
942992	AE2-321 E	7.0310	Adder	8.27
943411	AF1-012 C	11.0759	Adder	13.03
943412	AF1-012 E	7.3839	Adder	8.69
943801	AF1-048 C	6.6731	Adder	7.85
943802	AF1-048 E	4.4487	Adder	5.23
943921	AF1-060	1.6808	Adder	1.98
944041	AF1-072	5.3576	50/50	5.3576
945352	AF1-200 NFTW	160.5240	Merchant Transmission	160.5240
946151	AF1-280 C O1	18.6250	Adder	21.91
946152	AF1-280 E O1	8.5648	Adder	10.08
946161	AF1-281 C O1	0.4078	Adder	0.48
946162	AF1-281 E O1	2.3111	Adder	2.72
946321	AF1-296 C O1	3.5830	Adder	4.22
946322	AF1-296 E O1	16.7748	Adder	19.74
946501	AF1-314 C	6.0652	Adder	7.14
946502	AF1-314 E	28.3962	Adder	33.41
946661	AF1-330 C	3.5204	Adder	4.14
946662	AF1-330 E	0.7728	Adder	0.91
946671	AF1-331	1.7595	Adder	2.07
952381	J703	12.0901	PJM External (MISO)	12.0901
952391	J704	5.1683	PJM External (MISO)	5.1683
952431	J760	4.4037	PJM External (MISO)	4.4037
953151	J831	4.1304	PJM External (MISO)	4.1304
953491	J947	20.7780	PJM External (MISO)	20.7780
953681	J818	17.7638	PJM External (MISO)	17.7638
953891	J849	11.8100	PJM External (MISO)	11.8100
953901	J850	31.6400	PJM External (MISO)	31.6400
953921	J855 C	1.3711	PJM External (MISO)	1.3711
953922	J855 E	7.4179	PJM External (MISO)	7.4179

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
954001	J864	4.8021	PJM External (MISO)	4.8021
954061	J870	18.6640	PJM External (MISO)	18.6640
954071	J871	9.3320	PJM External (MISO)	9.3320
954141	J878	21.7400	PJM External (MISO)	21.7400
954191	J886	14.5965	PJM External (MISO)	14.5965
954741	J928 C	1.1790	PJM External (MISO)	1.1790
954742	J928 E	6.3789	PJM External (MISO)	6.3789
955091	J986	13.1909	PJM External (MISO)	13.1909
955221	J1000	4.0525	PJM External (MISO)	4.0525
955241	J1002	9.6961	PJM External (MISO)	9.6961
955251	J1003	5.4075	PJM External (MISO)	5.4075
955582	J1042 E	21.3750	PJM External (MISO)	21.3750
956141	J1101	1.9462	PJM External (MISO)	1.9462
956571	J1153	15.3075	PJM External (MISO)	15.3075
956581	J1154	8.9423	PJM External (MISO)	8.9423
956731	J1171	10.3950	PJM External (MISO)	10.3950
956852	J1183 E	0.1275	PJM External (MISO)	0.1275
956901	J1188	6.1955	PJM External (MISO)	6.1955
957331	AF2-027 C	2.5644	Adder	3.02
957332	AF2-027 E	3.8467	Adder	4.53
957471	AF2-041 C	15.8309	Adder	18.62
957472	AF2-041 E	7.9155	Adder	9.31
958911	AF2-182 C	24.4708	Adder	28.79
958912	AF2-182 E	16.3139	Adder	19.19
958921	AF2-183 C	4.3504	Adder	5.12
958922	AF2-183 E	6.5256	Adder	7.68
959081	AF2-199 C	5.2770	Adder	6.21
959082	AF2-199 E	2.6385	Adder	3.1
959091	AF2-200 C O1	10.5539	Adder	12.42
959092	AF2-200 E O1	5.2770	Adder	6.21
959101	AF2-201 C O1	8.3553	Adder	9.83
959102	AF2-201 E O1	23.9930	Adder	28.23
960551	AF2-346 C	4.7468	Adder	5.58
960552	AF2-346 E	3.1646	Adder	3.72
960581	AF2-349 C	37.0459	Adder	43.58
960582	AF2-349 E	24.6973	Adder	29.06
960721	AF2-363 C O1	5.9801	Adder	7.04
960722	AF2-363 E O1	3.9867	Adder	4.69
960731	AF2-364 C O1	12.8042	Adder	15.06
960732	AF2-364 E O1	8.5361	Adder	10.04
960751	AF2-366 C	4.5785	Adder	5.39
960752	AF2-366 E	3.0524	Adder	3.59
961011	AF2-392 C O1	3.9761	Adder	4.68
961012	AF2-392 E O1	18.6152	Adder	21.9
961021	AF2-393 O1	6.7774	Adder	7.97
961031	AF2-394 O1	4.5183	Adder	5.32
962012	AG1-044 E	0.0316	Adder	0.07
962701	AG1-119 C	56.0682	50/50	56.0682
962702	AG1-119 E	37.3788	50/50	37.3788
962711	AG1-120 C O1	4.5727	Adder	10.15
962712	AG1-120 E O1	3.0485	Adder	6.77
962781	AG1-127 C	2.7193	Adder	6.04

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962782	AG1-127 E	1.8128	Adder	4.02
962791	AG1-128 C O1	2.4339	Adder	5.4
962792	AG1-128 E O1	11.3897	Adder	25.28
963681	AG1-220 C O1	3.6981	Adder	8.21
963682	AG1-220 E O1	2.4654	Adder	5.47
964461	AG1-309 FTIR	460.7444	Merchant Transmission	460.7444
965061	AG1-371	1.3984	Adder	3.1
965071	AG1-372	0.9323	Adder	2.07
965081	AG1-373	0.4661	Adder	1.03
965551	AG1-423 C O1	51.3480	50/50	51.3480
965552	AG1-423 E O1	34.2320	50/50	34.2320
965661	AG1-434 C O1	1.7646	Adder	3.92
965662	AG1-434 E O1	8.2617	Adder	18.34
965931	AG1-462 C O1	8.8785	Adder	19.71
965932	AG1-462 E O1	5.9190	Adder	13.14
966521	AG1-521 C O1	4.6373	Adder	10.29
966522	AG1-521 E O1	1.1593	Adder	2.57
966821	AG1-553 C O1	13.0219	Adder	28.91
966822	AG1-553 E O1	3.2555	Adder	7.23
WEC	WEC	4.7045	Confirmed LTF	4.7045
CBM-W2	CBM-W2	10.0352	Confirmed LTF	10.0352
NY	NY	0.4159	Confirmed LTF	0.4159
TVA	TVA	0.9912	Confirmed LTF	0.9912
O-066	O-066	4.9533	Confirmed LTF	4.9533
SIGE	SIGE	0.0407	Confirmed LTF	0.0407
CBM-S1	CBM-S1	0.1813	Confirmed LTF	0.1813
G-007	G-007	0.7718	Confirmed LTF	0.7718
HAMLET	HAMLET	0.1322	Confirmed LTF	0.1322
MEC	MEC	12.2957	Confirmed LTF	12.2957
GIBSON	GIBSON	0.2424	Confirmed LTF	0.2424
BLUEG	BLUEG	1.0468	Confirmed LTF	1.0468
TRIMBLE	TRIMBLE	0.3489	Confirmed LTF	0.3489
LAGN	LAGN	2.8682	Confirmed LTF	2.8682
CATAWBA	CATAWBA	0.0581	Confirmed LTF	0.0581
CBM-W1	CBM-W1	87.9194	Confirmed LTF	87.9194

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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
162221835	270751	ESS W407M;9T	CE	270743	ESS W407K;9T	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	132.34	133.02	DC	22.26

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.9390	Adder	2.28
274693	ROCKY RD ;1P	4.9438	50/50	4.9438
274695	ROCKY RD ;2P	4.9930	50/50	4.9930
274697	ROCKY RD ;3P	1.3564	50/50	1.3564
274818	ELGIN EC ;1P	6.1193	50/50	6.1193
274819	ELGIN EC ;3P	5.9003	50/50	5.9003
274820	ELGIN EC ;2P	6.1193	50/50	6.1193
274821	ELGIN EC ;4P	5.9445	50/50	5.9445
274859	EASYR;U1 E	13.9642	Adder	16.43
274860	EASYR;U2 E	13.9642	Adder	16.43
276167	Z1-106 E2	1.4340	Adder	1.69
276168	Z1-106 E1	1.4417	Adder	1.7
276170	Z1-108 E	4.6211	Adder	5.44
276591	L-013 2	4.1587	Adder	4.89
290051	GSG-6; E	7.7662	Adder	9.14
290108	LEEDK;1U E	15.8661	Adder	18.67
293516	O-009 E1	7.7042	Adder	9.06
293517	O-009 E2	3.9131	Adder	4.6
293518	O-009 E3	4.3094	Adder	5.07
293715	O-029 E	8.2367	Adder	9.69
293716	O-029 E	4.5160	Adder	5.31
293717	O-029 E	4.1507	Adder	4.88
294763	P-046 E	13.0043	Adder	15.3
295109	WESTBROOK E	4.1579	Adder	4.89
295111	SUBLETTE E	2.6058	Adder	3.07
915011	Y3-013 1	3.8467	Adder	4.53
915021	Y3-013 2	3.8467	Adder	4.53
915031	Y3-013 3	3.8467	Adder	4.53
916221	Z1-073 E	4.0338	Adder	4.75
919581	AA2-030 C	17.9891	Adder	21.16
920272	AA2-123 E	4.2932	Adder	5.05
924472	AB2-096 CT1	32.4357	Adder	38.16
924473	AB2-096 CT2	32.4357	Adder	38.16
924474	AB2-096 CT3	32.4357	Adder	38.16
926331	AC1-110 1	1.1713	Adder	1.38
926341	AC1-110 2	1.1713	Adder	1.38
930482	AB1-089 CT	67.6128	Adder	79.54
930483	AB1-089 ST	53.7548	Adder	63.24
933911	AD1-013 C	1.3548	Adder	1.59
933912	AD1-013 E	2.1642	Adder	2.55
933931	AD1-016 C	1.6280	Adder	1.92

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933932	AD1-016 E	2.6562	Adder	3.12
934432	AD1-067 E	0.4100	Adder	0.48
934701	AD1-098 C O1	5.2058	Adder	6.12
934702	AD1-098 E O1	3.8008	Adder	4.47
934971	AD1-129 C	1.4858	Adder	1.75
934972	AD1-129 E	0.9905	Adder	1.17
936791	AD2-102 C	21.2711	Adder	25.02
936792	AD2-102 E	14.1807	Adder	16.68
937001	AD2-134 C	2.0302	Adder	2.39
937002	AD2-134 E	8.3868	Adder	9.87
937311	AD2-172 C	3.4136	Adder	4.02
937312	AD2-172 E	4.7141	Adder	5.55
937531	AD2-214 C	4.1214	Adder	4.85
937532	AD2-214 E	2.7476	Adder	3.23
938861	AE1-114 C O1	4.8471	Adder	5.7
938862	AE1-114 E O1	16.5372	Adder	19.46
939051	AE1-134 1	1.3979	Adder	1.64
939061	AE1-134 2	1.3979	Adder	1.64
940501	AE2-035 C	3.4136	Adder	4.02
940502	AE2-035 E	4.7141	Adder	5.55
941131	AE2-107 C	4.2838	Adder	5.04
941132	AE2-107 E	2.8559	Adder	3.36
942991	AE2-321 C	14.2751	Adder	16.79
942992	AE2-321 E	7.0310	Adder	8.27
943411	AF1-012 C	11.0759	Adder	13.03
943412	AF1-012 E	7.3839	Adder	8.69
943801	AF1-048 C	6.6731	Adder	7.85
943802	AF1-048 E	4.4487	Adder	5.23
943921	AF1-060	1.6808	Adder	1.98
944041	AF1-072	5.3576	50/50	5.3576
945352	AF1-200 NFTW	160.5240	Merchant Transmission	160.5240
946151	AF1-280 C O1	18.6250	Adder	21.91
946152	AF1-280 E O1	8.5648	Adder	10.08
946161	AF1-281 C O1	0.4078	Adder	0.48
946162	AF1-281 E O1	2.3111	Adder	2.72
946321	AF1-296 C O1	3.5830	Adder	4.22
946322	AF1-296 E O1	16.7748	Adder	19.74
946501	AF1-314 C	6.0652	Adder	7.14
946502	AF1-314 E	28.3962	Adder	33.41
946661	AF1-330 C	3.5204	Adder	4.14
946662	AF1-330 E	0.7728	Adder	0.91
946671	AF1-331	1.7595	Adder	2.07
952381	J703	12.0901	PJM External (MISO)	12.0901
952391	J704	5.1683	PJM External (MISO)	5.1683
952431	J760	4.4037	PJM External (MISO)	4.4037
953151	J831	4.1304	PJM External (MISO)	4.1304
953491	J947	20.7780	PJM External (MISO)	20.7780
953681	J818	17.7638	PJM External (MISO)	17.7638
953891	J849	11.8100	PJM External (MISO)	11.8100
953901	J850	31.6400	PJM External (MISO)	31.6400
953921	J855 C	1.3711	PJM External (MISO)	1.3711
953922	J855 E	7.4179	PJM External (MISO)	7.4179

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
954001	J864	4.8021	PJM External (MISO)	4.8021
954061	J870	18.6640	PJM External (MISO)	18.6640
954071	J871	9.3320	PJM External (MISO)	9.3320
954141	J878	21.7400	PJM External (MISO)	21.7400
954191	J886	14.5965	PJM External (MISO)	14.5965
954741	J928 C	1.1790	PJM External (MISO)	1.1790
954742	J928 E	6.3789	PJM External (MISO)	6.3789
955091	J986	13.1909	PJM External (MISO)	13.1909
955221	J1000	4.0525	PJM External (MISO)	4.0525
955241	J1002	9.6961	PJM External (MISO)	9.6961
955251	J1003	5.4075	PJM External (MISO)	5.4075
955582	J1042 E	21.3750	PJM External (MISO)	21.3750
956141	J1101	1.9462	PJM External (MISO)	1.9462
956571	J1153	15.3075	PJM External (MISO)	15.3075
956581	J1154	8.9423	PJM External (MISO)	8.9423
956731	J1171	10.3950	PJM External (MISO)	10.3950
956852	J1183 E	0.1275	PJM External (MISO)	0.1275
956901	J1188	6.1955	PJM External (MISO)	6.1955
957331	AF2-027 C	2.5644	Adder	3.02
957332	AF2-027 E	3.8467	Adder	4.53
957471	AF2-041 C	15.8309	Adder	18.62
957472	AF2-041 E	7.9155	Adder	9.31
958911	AF2-182 C	24.4708	Adder	28.79
958912	AF2-182 E	16.3139	Adder	19.19
958921	AF2-183 C	4.3504	Adder	5.12
958922	AF2-183 E	6.5256	Adder	7.68
959081	AF2-199 C	5.2770	Adder	6.21
959082	AF2-199 E	2.6385	Adder	3.1
959091	AF2-200 C O1	10.5539	Adder	12.42
959092	AF2-200 E O1	5.2770	Adder	6.21
959101	AF2-201 C O1	8.3553	Adder	9.83
959102	AF2-201 E O1	23.9930	Adder	28.23
960551	AF2-346 C	4.7468	Adder	5.58
960552	AF2-346 E	3.1646	Adder	3.72
960581	AF2-349 C	37.0459	Adder	43.58
960582	AF2-349 E	24.6973	Adder	29.06
960721	AF2-363 C O1	5.9801	Adder	7.04
960722	AF2-363 E O1	3.9867	Adder	4.69
960731	AF2-364 C O1	12.8042	Adder	15.06
960732	AF2-364 E O1	8.5361	Adder	10.04
960751	AF2-366 C	4.5785	Adder	5.39
960752	AF2-366 E	3.0524	Adder	3.59
961011	AF2-392 C O1	3.9761	Adder	4.68
961012	AF2-392 E O1	18.6152	Adder	21.9
961021	AF2-393 O1	6.7774	Adder	7.97
961031	AF2-394 O1	4.5183	Adder	5.32
962012	AG1-044 E	0.0316	Adder	0.07
962701	AG1-119 C	56.0682	50/50	56.0682
962702	AG1-119 E	37.3788	50/50	37.3788
962711	AG1-120 C O1	4.5727	Adder	10.15
962712	AG1-120 E O1	3.0485	Adder	6.77
962781	AG1-127 C	2.7193	Adder	6.04

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962782	AG1-127 E	1.8128	Adder	4.02
962791	AG1-128 C O1	2.4339	Adder	5.4
962792	AG1-128 E O1	11.3897	Adder	25.28
963681	AG1-220 C O1	3.6981	Adder	8.21
963682	AG1-220 E O1	2.4654	Adder	5.47
964461	AG1-309 FTIR	460.7444	Merchant Transmission	460.7444
965061	AG1-371	1.3984	Adder	3.1
965071	AG1-372	0.9323	Adder	2.07
965081	AG1-373	0.4661	Adder	1.03
965551	AG1-423 C O1	51.3480	50/50	51.3480
965552	AG1-423 E O1	34.2320	50/50	34.2320
965661	AG1-434 C O1	1.7646	Adder	3.92
965662	AG1-434 E O1	8.2617	Adder	18.34
965931	AG1-462 C O1	8.8785	Adder	19.71
965932	AG1-462 E O1	5.9190	Adder	13.14
966521	AG1-521 C O1	4.6373	Adder	10.29
966522	AG1-521 E O1	1.1593	Adder	2.57
966821	AG1-553 C O1	13.0219	Adder	28.91
966822	AG1-553 E O1	3.2555	Adder	7.23
WEC	WEC	4.7045	Confirmed LTF	4.7045
CBM-W2	CBM-W2	10.0352	Confirmed LTF	10.0352
NY	NY	0.4159	Confirmed LTF	0.4159
TVA	TVA	0.9912	Confirmed LTF	0.9912
O-066	O-066	4.9533	Confirmed LTF	4.9533
SIGE	SIGE	0.0407	Confirmed LTF	0.0407
CBM-S1	CBM-S1	0.1813	Confirmed LTF	0.1813
G-007	G-007	0.7718	Confirmed LTF	0.7718
HAMLET	HAMLET	0.1322	Confirmed LTF	0.1322
MEC	MEC	12.2957	Confirmed LTF	12.2957
GIBSON	GIBSON	0.2424	Confirmed LTF	0.2424
BLUEG	BLUEG	1.0468	Confirmed LTF	1.0468
TRIMBLE	TRIMBLE	0.3489	Confirmed LTF	0.3489
LAGN	LAGN	2.8682	Confirmed LTF	2.8682
CATAWBA	CATAWBA	0.0581	Confirmed LTF	0.0581
CBM-W1	CBM-W1	87.9194	Confirmed LTF	87.9194

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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
162221840	270917	WAYNE ; R	CE	270751	ESS W407M;9T	CE	1	COMED_P2-2_111_EJ-345B__2	bus	1479.0	132.34	133.02	DC	22.26

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.9390	Adder	2.28
274693	ROCKY RD ;1P	4.9438	50/50	4.9438
274695	ROCKY RD ;2P	4.9930	50/50	4.9930
274697	ROCKY RD ;3P	1.3564	50/50	1.3564
274818	ELGIN EC ;1P	6.1193	50/50	6.1193
274819	ELGIN EC ;3P	5.9003	50/50	5.9003
274820	ELGIN EC ;2P	6.1193	50/50	6.1193
274821	ELGIN EC ;4P	5.9445	50/50	5.9445
274859	EASYR;U1 E	13.9642	Adder	16.43
274860	EASYR;U2 E	13.9642	Adder	16.43
276167	Z1-106 E2	1.4340	Adder	1.69
276168	Z1-106 E1	1.4417	Adder	1.7
276170	Z1-108 E	4.6211	Adder	5.44
276591	L-013 2	4.1587	Adder	4.89
290051	GSG-6; E	7.7662	Adder	9.14
290108	LEEDK;1U E	15.8661	Adder	18.67
293516	O-009 E1	7.7042	Adder	9.06
293517	O-009 E2	3.9131	Adder	4.6
293518	O-009 E3	4.3094	Adder	5.07
293715	O-029 E	8.2367	Adder	9.69
293716	O-029 E	4.5160	Adder	5.31
293717	O-029 E	4.1507	Adder	4.88
294763	P-046 E	13.0043	Adder	15.3
295109	WESTBROOK E	4.1579	Adder	4.89
295111	SUBLETTE E	2.6058	Adder	3.07
915011	Y3-013 1	3.8467	Adder	4.53
915021	Y3-013 2	3.8467	Adder	4.53
915031	Y3-013 3	3.8467	Adder	4.53
916221	Z1-073 E	4.0338	Adder	4.75
919581	AA2-030 C	17.9891	Adder	21.16
920272	AA2-123 E	4.2932	Adder	5.05
924472	AB2-096 CT1	32.4357	Adder	38.16
924473	AB2-096 CT2	32.4357	Adder	38.16
924474	AB2-096 CT3	32.4357	Adder	38.16
926331	AC1-110 1	1.1713	Adder	1.38
926341	AC1-110 2	1.1713	Adder	1.38
930482	AB1-089 CT	67.6128	Adder	79.54
930483	AB1-089 ST	53.7548	Adder	63.24
933911	AD1-013 C	1.3548	Adder	1.59
933912	AD1-013 E	2.1642	Adder	2.55
933931	AD1-016 C	1.6280	Adder	1.92

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933932	AD1-016 E	2.6562	Adder	3.12
934432	AD1-067 E	0.4100	Adder	0.48
934701	AD1-098 C O1	5.2058	Adder	6.12
934702	AD1-098 E O1	3.8008	Adder	4.47
934971	AD1-129 C	1.4858	Adder	1.75
934972	AD1-129 E	0.9905	Adder	1.17
936791	AD2-102 C	21.2711	Adder	25.02
936792	AD2-102 E	14.1807	Adder	16.68
937001	AD2-134 C	2.0302	Adder	2.39
937002	AD2-134 E	8.3868	Adder	9.87
937311	AD2-172 C	3.4136	Adder	4.02
937312	AD2-172 E	4.7141	Adder	5.55
937531	AD2-214 C	4.1214	Adder	4.85
937532	AD2-214 E	2.7476	Adder	3.23
938861	AE1-114 C O1	4.8471	Adder	5.7
938862	AE1-114 E O1	16.5372	Adder	19.46
939051	AE1-134 1	1.3979	Adder	1.64
939061	AE1-134 2	1.3979	Adder	1.64
940501	AE2-035 C	3.4136	Adder	4.02
940502	AE2-035 E	4.7141	Adder	5.55
941131	AE2-107 C	4.2838	Adder	5.04
941132	AE2-107 E	2.8559	Adder	3.36
942991	AE2-321 C	14.2751	Adder	16.79
942992	AE2-321 E	7.0310	Adder	8.27
943411	AF1-012 C	11.0759	Adder	13.03
943412	AF1-012 E	7.3839	Adder	8.69
943801	AF1-048 C	6.6731	Adder	7.85
943802	AF1-048 E	4.4487	Adder	5.23
943921	AF1-060	1.6808	Adder	1.98
944041	AF1-072	5.3576	50/50	5.3576
945352	AF1-200 NFTW	160.5240	Merchant Transmission	160.5240
946151	AF1-280 C O1	18.6250	Adder	21.91
946152	AF1-280 E O1	8.5648	Adder	10.08
946161	AF1-281 C O1	0.4078	Adder	0.48
946162	AF1-281 E O1	2.3111	Adder	2.72
946321	AF1-296 C O1	3.5830	Adder	4.22
946322	AF1-296 E O1	16.7748	Adder	19.74
946501	AF1-314 C	6.0652	Adder	7.14
946502	AF1-314 E	28.3962	Adder	33.41
946661	AF1-330 C	3.5204	Adder	4.14
946662	AF1-330 E	0.7728	Adder	0.91
946671	AF1-331	1.7595	Adder	2.07
952381	J703	12.0901	PJM External (MISO)	12.0901
952391	J704	5.1683	PJM External (MISO)	5.1683
952431	J760	4.4037	PJM External (MISO)	4.4037
953151	J831	4.1304	PJM External (MISO)	4.1304
953491	J947	20.7780	PJM External (MISO)	20.7780
953681	J818	17.7638	PJM External (MISO)	17.7638
953891	J849	11.8100	PJM External (MISO)	11.8100
953901	J850	31.6400	PJM External (MISO)	31.6400
953921	J855 C	1.3711	PJM External (MISO)	1.3711
953922	J855 E	7.4179	PJM External (MISO)	7.4179

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
954001	J864	4.8021	PJM External (MISO)	4.8021
954061	J870	18.6640	PJM External (MISO)	18.6640
954071	J871	9.3320	PJM External (MISO)	9.3320
954141	J878	21.7400	PJM External (MISO)	21.7400
954191	J886	14.5965	PJM External (MISO)	14.5965
954741	J928 C	1.1790	PJM External (MISO)	1.1790
954742	J928 E	6.3789	PJM External (MISO)	6.3789
955091	J986	13.1909	PJM External (MISO)	13.1909
955221	J1000	4.0525	PJM External (MISO)	4.0525
955241	J1002	9.6961	PJM External (MISO)	9.6961
955251	J1003	5.4075	PJM External (MISO)	5.4075
955582	J1042 E	21.3750	PJM External (MISO)	21.3750
956141	J1101	1.9462	PJM External (MISO)	1.9462
956571	J1153	15.3075	PJM External (MISO)	15.3075
956581	J1154	8.9423	PJM External (MISO)	8.9423
956731	J1171	10.3950	PJM External (MISO)	10.3950
956852	J1183 E	0.1275	PJM External (MISO)	0.1275
956901	J1188	6.1955	PJM External (MISO)	6.1955
957331	AF2-027 C	2.5644	Adder	3.02
957332	AF2-027 E	3.8467	Adder	4.53
957471	AF2-041 C	15.8309	Adder	18.62
957472	AF2-041 E	7.9155	Adder	9.31
958911	AF2-182 C	24.4708	Adder	28.79
958912	AF2-182 E	16.3139	Adder	19.19
958921	AF2-183 C	4.3504	Adder	5.12
958922	AF2-183 E	6.5256	Adder	7.68
959081	AF2-199 C	5.2770	Adder	6.21
959082	AF2-199 E	2.6385	Adder	3.1
959091	AF2-200 C O1	10.5539	Adder	12.42
959092	AF2-200 E O1	5.2770	Adder	6.21
959101	AF2-201 C O1	8.3553	Adder	9.83
959102	AF2-201 E O1	23.9930	Adder	28.23
960551	AF2-346 C	4.7468	Adder	5.58
960552	AF2-346 E	3.1646	Adder	3.72
960581	AF2-349 C	37.0459	Adder	43.58
960582	AF2-349 E	24.6973	Adder	29.06
960721	AF2-363 C O1	5.9801	Adder	7.04
960722	AF2-363 E O1	3.9867	Adder	4.69
960731	AF2-364 C O1	12.8042	Adder	15.06
960732	AF2-364 E O1	8.5361	Adder	10.04
960751	AF2-366 C	4.5785	Adder	5.39
960752	AF2-366 E	3.0524	Adder	3.59
961011	AF2-392 C O1	3.9761	Adder	4.68
961012	AF2-392 E O1	18.6152	Adder	21.9
961021	AF2-393 O1	6.7774	Adder	7.97
961031	AF2-394 O1	4.5183	Adder	5.32
962012	AG1-044 E	0.0316	Adder	0.07
962701	AG1-119 C	56.0682	50/50	56.0682
962702	AG1-119 E	37.3788	50/50	37.3788
962711	AG1-120 C O1	4.5727	Adder	10.15
962712	AG1-120 E O1	3.0485	Adder	6.77
962781	AG1-127 C	2.7193	Adder	6.04

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962782	AG1-127 E	1.8128	Adder	4.02
962791	AG1-128 C O1	2.4339	Adder	5.4
962792	AG1-128 E O1	11.3897	Adder	25.28
963681	AG1-220 C O1	3.6981	Adder	8.21
963682	AG1-220 E O1	2.4654	Adder	5.47
964461	AG1-309 FTIR	460.7444	Merchant Transmission	460.7444
965061	AG1-371	1.3984	Adder	3.1
965071	AG1-372	0.9323	Adder	2.07
965081	AG1-373	0.4661	Adder	1.03
965551	AG1-423 C O1	51.3480	50/50	51.3480
965552	AG1-423 E O1	34.2320	50/50	34.2320
965661	AG1-434 C O1	1.7646	Adder	3.92
965662	AG1-434 E O1	8.2617	Adder	18.34
965931	AG1-462 C O1	8.8785	Adder	19.71
965932	AG1-462 E O1	5.9190	Adder	13.14
966521	AG1-521 C O1	4.6373	Adder	10.29
966522	AG1-521 E O1	1.1593	Adder	2.57
966821	AG1-553 C O1	13.0219	Adder	28.91
966822	AG1-553 E O1	3.2555	Adder	7.23
WEC	WEC	4.7045	Confirmed LTF	4.7045
CBM-W2	CBM-W2	10.0352	Confirmed LTF	10.0352
NY	NY	0.4159	Confirmed LTF	0.4159
TVA	TVA	0.9912	Confirmed LTF	0.9912
O-066	O-066	4.9533	Confirmed LTF	4.9533
SIGE	SIGE	0.0407	Confirmed LTF	0.0407
CBM-S1	CBM-S1	0.1813	Confirmed LTF	0.1813
G-007	G-007	0.7718	Confirmed LTF	0.7718
HAMLET	HAMLET	0.1322	Confirmed LTF	0.1322
MEC	MEC	12.2957	Confirmed LTF	12.2957
GIBSON	GIBSON	0.2424	Confirmed LTF	0.2424
BLUEG	BLUEG	1.0468	Confirmed LTF	1.0468
TRIMBLE	TRIMBLE	0.3489	Confirmed LTF	0.3489
LAGN	LAGN	2.8682	Confirmed LTF	2.8682
CATAWBA	CATAWBA	0.0581	Confirmed LTF	0.0581
CBM-W1	CBM-W1	87.9194	Confirmed LTF	87.9194

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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
162221811	274749	AURORA EC;RP	CE	270731	ELECT JCT;4R	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	138.61	139.28	DC	21.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.9061	Adder	2.24
274693	ROCKY RD ;1P	4.9159	50/50	4.9159
274695	ROCKY RD ;2P	4.9648	50/50	4.9648
274697	ROCKY RD ;3P	1.3487	50/50	1.3487
274737	AURORA EC;1P	18.4979	50/50	18.4979
274739	AURORA EC;2P	18.4979	50/50	18.4979
274818	ELGIN EC ;1P	6.0857	50/50	6.0857
274820	ELGIN EC ;2P	6.0857	50/50	6.0857
274859	EASYR;U1 E	13.8206	Adder	16.26
274860	EASYR;U2 E	13.8206	Adder	16.26
276167	Z1-106 E2	1.4191	Adder	1.67
276168	Z1-106 E1	1.4267	Adder	1.68
276170	Z1-108 E	4.5912	Adder	5.4
276591	L-013 2	4.1153	Adder	4.84
290051	GSG-6; E	7.6351	Adder	8.98
290108	LEEDK;1U E	15.5669	Adder	18.31
293516	O-009 E1	7.5822	Adder	8.92
293517	O-009 E2	3.8512	Adder	4.53
293518	O-009 E3	4.2412	Adder	4.99
293715	O-029 E	8.1062	Adder	9.54
293716	O-029 E	4.4445	Adder	5.23
293717	O-029 E	4.0850	Adder	4.81
294763	P-046 E	12.8846	Adder	15.16
295109	WESTBROOK E	4.0878	Adder	4.81
295111	SUBLETTE E	2.5719	Adder	3.03
915011	Y3-013 1	3.8018	Adder	4.47
915021	Y3-013 2	3.8018	Adder	4.47
915031	Y3-013 3	3.8018	Adder	4.47
916221	Z1-073 E	3.9657	Adder	4.67
919581	AA2-030 C	17.7542	Adder	20.89
920272	AA2-123 E	4.2633	Adder	5.02
924472	AB2-096 CT1	32.2000	Adder	37.88
924473	AB2-096 CT2	32.2000	Adder	37.88
924474	AB2-096 CT3	32.2000	Adder	37.88
926311	AC1-109 1	1.8257	50/50	1.8257
926321	AC1-109 2	1.8257	50/50	1.8257
930482	AB1-089 CT	67.1571	Adder	79.01
930483	AB1-089 ST	53.3925	Adder	62.81
933911	AD1-013 C	1.3318	Adder	1.57
933912	AD1-013 E	2.1274	Adder	2.5
933931	AD1-016 C	1.6166	Adder	1.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933932	AD1-016 E	2.6376	Adder	3.1
934432	AD1-067 E	0.4031	Adder	0.47
934701	AD1-098 C O1	5.1193	Adder	6.02
934702	AD1-098 E O1	3.7377	Adder	4.4
934971	AD1-129 C	1.4745	Adder	1.73
934972	AD1-129 E	0.9830	Adder	1.16
936791	AD2-102 C	21.0916	Adder	24.81
936792	AD2-102 E	14.0610	Adder	16.54
937001	AD2-134 C	1.9959	Adder	2.35
937002	AD2-134 E	8.2452	Adder	9.7
937311	AD2-172 C	3.3822	Adder	3.98
937312	AD2-172 E	4.6707	Adder	5.49
937531	AD2-214 C	4.0607	Adder	4.78
937532	AD2-214 E	2.7071	Adder	3.18
938861	AE1-114 C O1	4.7962	Adder	5.64
938862	AE1-114 E O1	16.3637	Adder	19.25
939051	AE1-134 1	1.3796	Adder	1.62
939061	AE1-134 2	1.3796	Adder	1.62
940501	AE2-035 C	3.3822	Adder	3.98
940502	AE2-035 E	4.6707	Adder	5.49
941131	AE2-107 C	4.2031	Adder	4.94
941132	AE2-107 E	2.8020	Adder	3.3
942991	AE2-321 C	14.1749	Adder	16.68
942992	AE2-321 E	6.9816	Adder	8.21
943411	AF1-012 C	10.9188	Adder	12.85
943412	AF1-012 E	7.2792	Adder	8.56
943801	AF1-048 C	6.6262	Adder	7.8
943802	AF1-048 E	4.4175	Adder	5.2
943921	AF1-060	1.6653	Adder	1.96
944041	AF1-072	5.3274	50/50	5.3274
946151	AF1-280 C O1	18.4201	Adder	21.67
946152	AF1-280 E O1	8.4705	Adder	9.97
946161	AF1-281 C O1	0.4034	Adder	0.47
946162	AF1-281 E O1	2.2857	Adder	2.69
946321	AF1-296 C O1	3.5272	Adder	4.15
946322	AF1-296 E O1	16.5133	Adder	19.43
946501	AF1-314 C	6.0094	Adder	7.07
946502	AF1-314 E	28.1349	Adder	33.1
946661	AF1-330 C	3.4959	Adder	4.11
946662	AF1-330 E	0.7674	Adder	0.9
946671	AF1-331	1.7296	Adder	2.03
952381	J703	12.0901	PJM External (MISO)	12.0901
952391	J704	5.1683	PJM External (MISO)	5.1683
952431	J760	4.4037	PJM External (MISO)	4.4037
953151	J831	4.1304	PJM External (MISO)	4.1304
953491	J947	20.7780	PJM External (MISO)	20.7780
953681	J818	17.7638	PJM External (MISO)	17.7638
953891	J849	11.8100	PJM External (MISO)	11.8100
953901	J850	31.6400	PJM External (MISO)	31.6400
954001	J864	4.8021	PJM External (MISO)	4.8021
954061	J870	18.6640	PJM External (MISO)	18.6640
954071	J871	9.3320	PJM External (MISO)	9.3320

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
954141	J878	21.7400	PJM External (MISO)	21.7400
954191	J886	14.5965	PJM External (MISO)	14.5965
954741	J928 C	1.1790	PJM External (MISO)	1.1790
954742	J928 E	6.3789	PJM External (MISO)	6.3789
955241	J1002	9.6961	PJM External (MISO)	9.6961
955251	J1003	5.4075	PJM External (MISO)	5.4075
955582	J1042 E	21.3750	PJM External (MISO)	21.3750
956141	J1101	1.9462	PJM External (MISO)	1.9462
956571	J1153	15.3075	PJM External (MISO)	15.3075
956581	J1154	8.9423	PJM External (MISO)	8.9423
956731	J1171	10.3950	PJM External (MISO)	10.3950
956852	J1183 E	0.1275	PJM External (MISO)	0.1275
956901	J1188	6.1955	PJM External (MISO)	6.1955
957331	AF2-027 C	2.5345	Adder	2.98
957332	AF2-027 E	3.8018	Adder	4.47
957471	AF2-041 C	15.5616	Adder	18.31
957472	AF2-041 E	7.7808	Adder	9.15
958911	AF2-182 C	24.2015	Adder	28.47
958912	AF2-182 E	16.1344	Adder	18.98
958921	AF2-183 C	4.3025	Adder	5.06
958922	AF2-183 E	6.4537	Adder	7.59
959081	AF2-199 C	5.1872	Adder	6.1
959082	AF2-199 E	2.5936	Adder	3.05
959091	AF2-200 C O1	10.3744	Adder	12.21
959092	AF2-200 E O1	5.1872	Adder	6.1
959101	AF2-201 C O1	8.2784	Adder	9.74
959102	AF2-201 E O1	23.7722	Adder	27.97
960551	AF2-346 C	4.6795	Adder	5.51
960552	AF2-346 E	3.1197	Adder	3.67
960581	AF2-349 C	36.7766	Adder	43.27
960582	AF2-349 E	24.5177	Adder	28.84
960721	AF2-363 C O1	5.9070	Adder	6.95
960722	AF2-363 E O1	3.9380	Adder	4.63
960731	AF2-364 C O1	12.7311	Adder	14.98
960732	AF2-364 E O1	8.4874	Adder	9.99
960751	AF2-366 C	4.4934	Adder	5.29
960752	AF2-366 E	2.9956	Adder	3.52
961011	AF2-392 C O1	3.9234	Adder	4.62
961012	AF2-392 E O1	18.3687	Adder	21.61
961021	AF2-393 O1	6.6876	Adder	7.87
961031	AF2-394 O1	4.4584	Adder	5.25
962012	AG1-044 E	0.0312	Adder	0.07
962701	AG1-119 C	55.7514	50/50	55.7514
962702	AG1-119 E	37.1676	50/50	37.1676
962711	AG1-120 C O1	4.5163	Adder	10.03
962712	AG1-120 E O1	3.0108	Adder	6.68
962781	AG1-127 C	2.6693	Adder	5.93
962782	AG1-127 E	1.7795	Adder	3.95
962791	AG1-128 C O1	2.3929	Adder	5.31
962792	AG1-128 E O1	11.1975	Adder	24.86
964461	AG1-309 FTIR	457.1627	Merchant Transmission	457.1627
965061	AG1-371	1.3746	Adder	3.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965071	AG1-372	0.9164	Adder	2.03
965081	AG1-373	0.4582	Adder	1.02
965551	AG1-423 C O1	51.1368	50/50	51.1368
965552	AG1-423 E O1	34.0912	50/50	34.0912
965661	AG1-434 C O1	1.7367	Adder	3.86
965662	AG1-434 E O1	8.1310	Adder	18.05
965931	AG1-462 C O1	8.7358	Adder	19.39
965932	AG1-462 E O1	5.8239	Adder	12.93
966521	AG1-521 C O1	4.5738	Adder	10.15
966522	AG1-521 E O1	1.1435	Adder	2.54
966821	AG1-553 C O1	12.8125	Adder	28.44
966822	AG1-553 E O1	3.2031	Adder	7.11
WEC	WEC	4.6494	Confirmed LTF	4.6494
CALDERWOOD	CALDERWOOD	0.0060	Confirmed LTF	0.0060
CBM-W2	CBM-W2	8.4672	Confirmed LTF	8.4672
NY	NY	0.5126	Confirmed LTF	0.5126
TVA	TVA	0.7462	Confirmed LTF	0.7462
O-066	O-066	6.1310	Confirmed LTF	6.1310
SIGE	SIGE	0.0407	Confirmed LTF	0.0407
CHEOAH	CHEOAH	0.0105	Confirmed LTF	0.0105
CBM-S1	CBM-S1	0.1148	Confirmed LTF	0.1148
G-007	G-007	0.9555	Confirmed LTF	0.9555
HAMLET	HAMLET	0.2333	Confirmed LTF	0.2333
MEC	MEC	12.0176	Confirmed LTF	12.0176
GIBSON	GIBSON	0.3380	Confirmed LTF	0.3380
BLUEG	BLUEG	1.3506	Confirmed LTF	1.3506
TRIMBLE	TRIMBLE	0.4463	Confirmed LTF	0.4463
LAGN	LAGN	2.5620	Confirmed LTF	2.5620
CATAWBA	CATAWBA	0.1193	Confirmed LTF	0.1193
CBM-W1	CBM-W1	85.4659	Confirmed LTF	85.4659

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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
162222175	274768	LEE CO EC;BP	CE	270678	BYRON ; B	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	tower	2084.0	112.52	114.16	DC	76.24

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274760	LEE CO EC;1U	7.0694	50/50	7.0694
274761	LEE CO EC;2U	7.0694	50/50	7.0694
274762	LEE CO EC;3U	7.0694	50/50	7.0694
274763	LEE CO EC;4U	7.0028	50/50	7.0028
274764	LEE CO EC;5U	7.0861	50/50	7.0861
274765	LEE CO EC;6U	7.0861	50/50	7.0861
274767	LEE CO EC;8U	6.9861	50/50	6.9861
274859	EASYR;U1 E	43.0668	Adder	50.67
274860	EASYR;U2 E	43.0668	Adder	50.67
293516	O-009 E1	18.3972	Adder	21.64
293517	O-009 E2	9.3444	Adder	10.99
293518	O-009 E3	10.2907	Adder	12.11
293715	O-029 E	19.6687	Adder	23.14
293716	O-029 E	10.7840	Adder	12.69
293717	O-029 E	9.9117	Adder	11.66
294401	BSHIL;1U E	8.2450	Adder	9.7
294410	BSHIL;2U E	8.2450	Adder	9.7
295111	SUBLETTE E	4.5086	Adder	5.3
919581	AA2-030 C	50.8778	Adder	59.86
920273	AA2-123 BAT	2.3854	Merchant Transmission	2.3854
925581	AC1-033 C	1.3505	Adder	1.59
925582	AC1-033 E	9.0408	Adder	10.64
934051	AD1-031 C O1	2.7430	Adder	3.23
934052	AD1-031 E O1	4.4755	Adder	5.27
937531	AD2-214 C	9.5401	Adder	11.22
937532	AD2-214 E	6.3601	Adder	7.48
939051	AE1-134 1	3.9536	Adder	4.65
939061	AE1-134 2	3.9536	Adder	4.65
943411	AF1-012 C	34.0239	Adder	40.03
943412	AF1-012 E	22.6826	Adder	26.69
943803	AF1-048 BAT	6.1601	Merchant Transmission	6.1601
946151	AF1-280 C O1	56.2046	Adder	66.12
946152	AF1-280 E O1	25.8459	Adder	30.41
946161	AF1-281 C O1	1.2308	Adder	1.45
946162	AF1-281 E O1	6.9743	Adder	8.21
946321	AF1-296 C O1	7.8777	Adder	9.27
946322	AF1-296 E O1	36.8816	Adder	43.39
951421	J514	3.3000	PJM External (MISO)	3.3000
951511	J530 C	5.6565	PJM External (MISO)	5.6565

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
951512	J530 E	22.6260	PJM External (MISO)	22.6260
954702	J844 E	16.1347	PJM External (MISO)	16.1347
954792	J952 E	7.3040	PJM External (MISO)	7.3040
954901	J963	1.3109	PJM External (MISO)	1.3109
955051	J981 C	4.0782	PJM External (MISO)	4.0782
955052	J981 E	22.0638	PJM External (MISO)	22.0638
955971	J1084	34.4835	PJM External (MISO)	34.4835
956411	J1131	18.0800	PJM External (MISO)	18.0800
957471	AF2-041 C	58.3190	Adder	68.61
957472	AF2-041 E	29.1595	Adder	34.31
958911	AF2-182 C	73.8455	Adder	86.88
958912	AF2-182 E	49.2303	Adder	57.92
958921	AF2-183 C	13.1281	Adder	15.44
958922	AF2-183 E	19.6921	Adder	23.17
959081	AF2-199 C	19.4397	Adder	22.87
959082	AF2-199 E	9.7198	Adder	11.44
959091	AF2-200 C O1	38.8793	Adder	45.74
959092	AF2-200 E O1	19.4397	Adder	22.87
960551	AF2-346 C	14.5817	Adder	17.15
960552	AF2-346 E	9.7211	Adder	11.44
961011	AF2-392 C O1	8.5580	Adder	10.07
961012	AF2-392 E O1	40.0671	Adder	47.14
961021	AF2-393 O1	14.5875	Adder	17.16
961031	AF2-394 O1	9.7250	Adder	11.44
962012	AG1-044 E	0.0773	Adder	0.17
964462	AG1-309 NFTW	522.6270	Merchant Transmission	522.6270
965061	AG1-371	5.1515	Adder	11.44
965071	AG1-372	3.4343	Adder	7.62
965081	AG1-373	1.7172	Adder	3.81
965661	AG1-434 C O1	6.0448	Adder	13.42
965662	AG1-434 E O1	28.3005	Adder	62.82
965931	AG1-462 C O1	20.9650	Adder	46.54
965932	AG1-462 E O1	13.9767	Adder	31.02
966521	AG1-521 C O1	7.2275	Adder	16.04
966522	AG1-521 E O1	1.8069	Adder	4.01
966821	AG1-553 C O1	30.7487	Adder	68.25
966822	AG1-553 E O1	7.6872	Adder	17.06
LGEE	LGEE	0.1564	Confirmed LTF	0.1564
CPLE	CPLE	0.3535	Confirmed LTF	0.3535
CBM-W2	CBM-W2	21.1008	Confirmed LTF	21.1008
NY	NY	0.0343	Confirmed LTF	0.0343
TVA	TVA	2.4906	Confirmed LTF	2.4906
O-066	O-066	0.2759	Confirmed LTF	0.2759
SIGE	SIGE	0.0646	Confirmed LTF	0.0646
CBM-S2	CBM-S2	7.2767	Confirmed LTF	7.2767
CBM-S1	CBM-S1	0.5704	Confirmed LTF	0.5704
G-007	G-007	0.0420	Confirmed LTF	0.0420
MEC	MEC	15.1718	Confirmed LTF	15.1718
LAGN	LAGN	4.8090	Confirmed LTF	4.8090
CBM-W1	CBM-W1	22.0254	Confirmed LTF	22.0254

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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
162222126	946150	AF1-280 TAP	CE	274768	LEE CO EC;BP	CE	1	COMED_P7-1_345-L15502_B-R+_345-L16703_R-S-A	tower	1768.0	111.84	116.16	DC	76.42

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274662	QUAD CITI;1U	37.0988	50/50	37.0988
274663	QUAD CITI;2U	37.2081	50/50	37.2081
274699	CORDOVA ;1C	6.5438	50/50	6.5438
274700	CORDOVA ;2C	6.5438	50/50	6.5438
274701	CORDOVA ;1S	7.3617	50/50	7.3617
274715	NELSON EC;1C	10.1476	50/50	10.1476
274716	NELSON EC;1S	7.4042	50/50	7.4042
274717	NELSON EC;2C	10.2260	50/50	10.2260
274718	NELSON EC;2S	7.4705	50/50	7.4705
274848	CAMP GROVE;RU	0.4467	50/50	0.4467
274849	CRESCENT ;1U	0.1623	50/50	0.1623
274851	PROVIDENC;RU	0.1672	50/50	0.1672
274877	BISHOP HL;1U	0.3896	50/50	0.3896
274878	BISHOP HL;2U	0.3896	50/50	0.3896
276156	O-029 C	0.4634	50/50	0.4634
276157	O-029 C	0.5010	50/50	0.5010
276158	O-029 C	0.9143	50/50	0.9143
293513	O-009 C1	0.8558	50/50	0.8558
293514	O-009 C2	0.4342	50/50	0.4342
293515	O-009 C3	0.4801	50/50	0.4801
293516	O-009 E1	21.7086	50/50	21.7086
293517	O-009 E2	11.0263	50/50	11.0263
293518	O-009 E3	12.1430	50/50	12.1430
293715	O-029 E	23.2089	50/50	23.2089
293716	O-029 E	12.7251	50/50	12.7251
293717	O-029 E	11.6958	50/50	11.6958
293771	O-035 E	6.0917	50/50	6.0917
294401	BSHIL;1U E	9.8776	50/50	9.8776
294410	BSHIL;2U E	9.8776	50/50	9.8776
295110	SUBLETTE C	0.1171	50/50	0.1171
295111	SUBLETTE E	5.2875	50/50	5.2875
916211	Z1-072 E	4.6099	50/50	4.6099
919221	AA1-146	9.4663	50/50	9.4663
919581	AA2-030 C	60.0007	50/50	60.0007
920273	AA2-123 BAT	2.3628	50/50	2.3628
925581	AC1-033 C	1.6178	50/50	1.6178
925582	AC1-033 E	10.8309	50/50	10.8309
927201	AC1-214 C O1	0.3085	50/50	0.3085
927202	AC1-214 E O1	6.2152	50/50	6.2152

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934051	AD1-031 C O1	3.2862	50/50	3.2862
934052	AD1-031 E O1	5.3616	50/50	5.3616
937531	AD2-214 C	11.2632	50/50	11.2632
937532	AD2-214 E	7.5088	50/50	7.5088
939051	AE1-134 1	4.6625	50/50	4.6625
939061	AE1-134 2	4.6625	50/50	4.6625
943411	AF1-012 C	40.1257	50/50	40.1257
943412	AF1-012 E	26.7505	50/50	26.7505
943803	AF1-048 BAT	6.1058	50/50	6.1058
946151	AF1-280 C O1	66.2518	50/50	66.2518
946152	AF1-280 E O1	30.4662	50/50	30.4662
946161	AF1-281 C O1	1.4508	50/50	1.4508
946162	AF1-281 E O1	8.2210	50/50	8.2210
946321	AF1-296 C O1	9.3131	50/50	9.3131
946322	AF1-296 E O1	43.6016	50/50	43.6016
951381	J504	5.2420	PJM External (MISO)	5.2420
951421	J514	3.2700	PJM External (MISO)	3.2700
951511	J530 C	5.6125	PJM External (MISO)	5.6125
951512	J530 E	22.4500	PJM External (MISO)	22.4500
954702	J844 E	16.0230	PJM External (MISO)	16.0230
954792	J952 E	7.2495	PJM External (MISO)	7.2495
954901	J963	1.3009	PJM External (MISO)	1.3009
955051	J981 C	4.0485	PJM External (MISO)	4.0485
955052	J981 E	21.9035	PJM External (MISO)	21.9035
955971	J1084	34.2570	PJM External (MISO)	34.2570
956411	J1131	17.9560	PJM External (MISO)	17.9560
957471	AF2-041 C	68.7780	50/50	68.7780
957472	AF2-041 E	34.3890	50/50	34.3890
957751	AF2-069 C	0.2264	50/50	0.2264
957752	AF2-069 E	0.7306	50/50	0.7306
957761	AF2-070 C	0.3190	50/50	0.3190
957762	AF2-070 E	1.5486	50/50	1.5486
958911	AF2-182 C	87.0462	50/50	87.0462
958912	AF2-182 E	58.0308	50/50	58.0308
958921	AF2-183 C	15.4749	50/50	15.4749
958922	AF2-183 E	23.2123	50/50	23.2123
959081	AF2-199 C	22.9260	50/50	22.9260
959082	AF2-199 E	11.4630	50/50	11.4630
959091	AF2-200 C O1	45.8520	50/50	45.8520
959092	AF2-200 E O1	22.9260	50/50	22.9260
960551	AF2-346 C	17.1967	50/50	17.1967
960552	AF2-346 E	11.4645	50/50	11.4645
961011	AF2-392 C O1	10.0683	50/50	10.0683
961012	AF2-392 E O1	47.1377	50/50	47.1377
961021	AF2-393 O1	17.1618	50/50	17.1618
961031	AF2-394 O1	11.4412	50/50	11.4412
962012	AG1-044 E	0.1720	50/50	0.1720
964462	AG1-309 NFTW	520.5480	50/50	520.5480
965061	AG1-371	11.4630	50/50	11.4630
965071	AG1-372	7.6420	50/50	7.6420
965081	AG1-373	3.8210	50/50	3.8210
965661	AG1-434 C O1	13.4506	50/50	13.4506

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965662	AG1-434 E O1	62.9734	50/50	62.9734
965671	AG1-435 C O1	3.7752	50/50	3.7752
965672	AG1-435 E O1	17.6748	50/50	17.6748
965931	AG1-462 C O1	46.7928	50/50	46.7928
965932	AG1-462 E O1	31.1952	50/50	31.1952
966521	AG1-521 C O1	15.8456	50/50	15.8456
966522	AG1-521 E O1	3.9614	50/50	3.9614
966821	AG1-553 C O1	68.6294	50/50	68.6294
966822	AG1-553 E O1	17.1574	50/50	17.1574
990901	L-005 E	13.5036	50/50	13.5036
LGEE	LGEE	0.3946	Confirmed LTF	0.3946
CPL	CPL	0.6095	Confirmed LTF	0.6095
G-007A	G-007A	0.8295	Confirmed LTF	0.8295
VFT	VFT	2.2252	Confirmed LTF	2.2252
CBM-W2	CBM-W2	24.1293	Confirmed LTF	24.1293
TVA	TVA	2.9806	Confirmed LTF	2.9806
SIGE	SIGE	0.0630	Confirmed LTF	0.0630
CBM-S2	CBM-S2	11.1499	Confirmed LTF	11.1499
CBM-S1	CBM-S1	0.7057	Confirmed LTF	0.7057
CBM-N	CBM-N	0.4128	Confirmed LTF	0.4128
MEC	MEC	15.5229	Confirmed LTF	15.5229
LAGN	LAGN	5.3900	Confirmed LTF	5.3900
CBM-W1	CBM-W1	25.8949	Confirmed LTF	25.8949

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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
170032869	957470	AF2-041 TAP	CE	270730	ELECT JCT; B	CE	1	COMED_P1-2_345-L18905__B-R-B	single	1656.0	124.05	125.06	DC	16.87

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274656	BYRON ;1U	26.2058	80/20	26.2058
274657	BYRON ;2U	25.5607	80/20	25.5607
274662	QUAD CITI;1U	27.2624	80/20	27.2624
274663	QUAD CITI;2U	27.3408	80/20	27.3408
274699	CORDOVA ;1C	4.7985	80/20	4.7985
274700	CORDOVA ;2C	4.7985	80/20	4.7985
274701	CORDOVA ;1S	5.3983	80/20	5.3983
274715	NELSON EC;1C	6.9650	80/20	6.9650
274716	NELSON EC;1S	5.0820	80/20	5.0820
274717	NELSON EC;2C	7.0188	80/20	7.0188
274718	NELSON EC;2S	5.1275	80/20	5.1275
274760	LEE CO EC;1U	2.8754	80/20	2.8754
274761	LEE CO EC;2U	2.8754	80/20	2.8754
274762	LEE CO EC;3U	2.8754	80/20	2.8754
274763	LEE CO EC;4U	2.8483	80/20	2.8483
274764	LEE CO EC;5U	2.8822	80/20	2.8822
274765	LEE CO EC;6U	2.8822	80/20	2.8822
274766	LEE CO EC;7U	2.8416	80/20	2.8416
274767	LEE CO EC;8U	2.8416	80/20	2.8416
274823	ROCKFORD ;21	2.0945	80/20	2.0945
274856	ECOGROVE ;U1	0.4177	80/20	0.4177
274857	BIG SKY ;U1	0.5148	80/20	0.5148
274858	BIG SKY ;U2	0.5148	80/20	0.5148
276156	O-029 C	0.3402	80/20	0.3402
276157	O-029 C	0.3678	80/20	0.3678
276158	O-029 C	0.6712	80/20	0.6712
276162	X1-087	0.2088	80/20	0.2088
293513	O-009 C1	0.6283	80/20	0.6283
293514	O-009 C2	0.3188	80/20	0.3188
293515	O-009 C3	0.3525	80/20	0.3525
295110	SUBLETTE C	0.0994	80/20	0.0994
919221	AA1-146	6.4974	80/20	6.4974
919581	AA2-030 C	41.1827	80/20	41.1827
925581	AC1-033 C	0.9655	Adder	1.14
926431	AC1-114	0.3402	80/20	0.3402
930482	AB1-089 CT	43.5394	80/20	43.5394
930483	AB1-089 ST	34.6156	80/20	34.6156
932921	AC2-116	0.1191	80/20	0.1191
934051	AD1-031 C O1	1.9610	Adder	2.31
934701	AD1-098 C O1	4.3804	Adder	5.15
936791	AD2-102 C	13.8516	80/20	13.8516

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
937001	AD2-134 C	1.6135	Adder	1.9
937311	AD2-172 C	2.8661	80/20	2.8661
937531	AD2-214 C	8.3460	80/20	8.3460
938861	AE1-114 C O1	5.5916	80/20	5.5916
939051	AE1-134 1	3.2002	80/20	3.2002
939061	AE1-134 2	3.2002	80/20	3.2002
940501	AE2-035 C	2.8661	80/20	2.8661
943411	AF1-012 C	37.8976	80/20	37.8976
943921	AF1-060	1.4112	80/20	1.4112
946151	AF1-280 C O1	31.4210	80/20	31.4210
946161	AF1-281 C O1	0.6881	80/20	0.6881
946321	AF1-296 C O1	7.0348	80/20	7.0348
946501	AF1-314 C	5.0923	80/20	5.0923
951381	J504	4.2105	PJM External (MISO)	4.2105
951421	J514	2.5047	PJM External (MISO)	2.5047
954901	J963	0.9142	PJM External (MISO)	0.9142
955051	J981 C	2.7103	PJM External (MISO)	2.7103
955221	J1000	4.1425	PJM External (MISO)	4.1425
955971	J1084	22.7625	PJM External (MISO)	22.7625
956411	J1131	11.9130	PJM External (MISO)	11.9130
957471	AF2-041 C	99.2052	80/20	99.2052
958911	AF2-182 C	41.2830	80/20	41.2830
958921	AF2-183 C	7.3392	80/20	7.3392
959081	AF2-199 C	33.0684	80/20	33.0684
959091	AF2-200 C O1	66.1368	80/20	66.1368
959101	AF2-201 C O1	7.0151	80/20	7.0151
960551	AF2-346 C	16.2418	80/20	16.2418
961011	AF2-392 C O1	7.7215	80/20	7.7215
961021	AF2-393 O1	13.1616	80/20	13.1616
961031	AF2-394 O1	8.7744	80/20	8.7744
962701	AG1-119 C	25.5618	80/20	25.5618
962791	AG1-128 C O1	1.9343	Adder	4.29
964461	AG1-309 FTIR	289.0514	80/20	289.0514
965061	AG1-371	16.5342	80/20	16.5342
965071	AG1-372	11.0228	80/20	11.0228
965081	AG1-373	5.5114	80/20	5.5114
965661	AG1-434 C O1	16.8661	80/20	16.8661
965931	AG1-462 C O1	34.3008	80/20	34.3008
966521	AG1-521 C O1	14.0032	80/20	14.0032
966821	AG1-553 C O1	50.3078	80/20	50.3078
WEC	WEC	0.8543	Confirmed LTF	0.8543
CPL	CPL	0.0853	Confirmed LTF	0.0853
CBM-W2	CBM-W2	17.0867	Confirmed LTF	17.0867
NY	NY	0.2461	Confirmed LTF	0.2461
TVA	TVA	1.9068	Confirmed LTF	1.9068
SIGE	SIGE	0.0587	Confirmed LTF	0.0587
CBM-S2	CBM-S2	3.1529	Confirmed LTF	3.1529
CBM-S1	CBM-S1	0.4123	Confirmed LTF	0.4123
MEC	MEC	14.8953	Confirmed LTF	14.8953
BLUEG	BLUEG	0.3715	Confirmed LTF	0.3715
TRIMBLE	TRIMBLE	0.1369	Confirmed LTF	0.1369
LAGN	LAGN	4.1965	Confirmed LTF	4.1965

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-W1	CBM-W1	58.5615	Confirmed LTF	58.5615

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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
170032888	965660	AG1-434 TAP	CE	957470	AF2-041 TAP	CE	1	COMED_P1-2_345-L18905_B-R-A	single	1656.0	111.33	112.35	DC	16.87

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.4262	Adder	1.68
274656	BYRON ;1U	26.2058	80/20	26.2058
274657	BYRON ;2U	25.5607	80/20	25.5607
274662	QUAD CITI;1U	27.2624	80/20	27.2624
274663	QUAD CITI;2U	27.3408	80/20	27.3408
274699	CORDOVA ;1C	4.7985	80/20	4.7985
274700	CORDOVA ;2C	4.7985	80/20	4.7985
274701	CORDOVA ;1S	5.3983	80/20	5.3983
274715	NELSON EC;1C	6.9650	80/20	6.9650
274716	NELSON EC;1S	5.0820	80/20	5.0820
274717	NELSON EC;2C	7.0188	80/20	7.0188
274718	NELSON EC;2S	5.1275	80/20	5.1275
274760	LEE CO EC;1U	2.8754	80/20	2.8754
274761	LEE CO EC;2U	2.8754	80/20	2.8754
274762	LEE CO EC;3U	2.8754	80/20	2.8754
274763	LEE CO EC;4U	2.8483	80/20	2.8483
274764	LEE CO EC;5U	2.8822	80/20	2.8822
274765	LEE CO EC;6U	2.8822	80/20	2.8822
274766	LEE CO EC;7U	2.8416	80/20	2.8416
274767	LEE CO EC;8U	2.8416	80/20	2.8416
274822	ROCKFORD ;11	2.0409	80/20	2.0409
274823	ROCKFORD ;21	2.0945	80/20	2.0945
274856	ECOGROVE ;U1	0.4177	80/20	0.4177
274857	BIG SKY ;U1	0.5148	80/20	0.5148
274858	BIG SKY ;U2	0.5148	80/20	0.5148
276156	O-029 C	0.3402	80/20	0.3402
276157	O-029 C	0.3678	80/20	0.3678
276158	O-029 C	0.6712	80/20	0.6712
276162	X1-087	0.2088	80/20	0.2088
293513	O-009 C1	0.6283	80/20	0.6283
293514	O-009 C2	0.3188	80/20	0.3188
293515	O-009 C3	0.3525	80/20	0.3525
295110	SUBLETTE C	0.0994	80/20	0.0994
919221	AA1-146	6.4974	80/20	6.4974
919581	AA2-030 C	41.1827	80/20	41.1827
925581	AC1-033 C	0.9655	Adder	1.14
926431	AC1-114	0.3402	80/20	0.3402
930482	AB1-089 CT	43.5394	80/20	43.5394
930483	AB1-089 ST	34.6156	80/20	34.6156
932921	AC2-116	0.1191	80/20	0.1191
933911	AD1-013 C	0.9626	Adder	1.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934051	AD1-031 C O1	1.9610	Adder	2.31
934701	AD1-098 C O1	4.3804	Adder	5.15
934971	AD1-129 C	0.5038	Adder	0.59
936791	AD2-102 C	13.8516	80/20	13.8516
937001	AD2-134 C	1.6135	Adder	1.9
937311	AD2-172 C	2.8661	80/20	2.8661
937531	AD2-214 C	8.3460	80/20	8.3460
938861	AE1-114 C O1	5.5916	80/20	5.5916
939051	AE1-134 1	3.2002	80/20	3.2002
939061	AE1-134 2	3.2002	80/20	3.2002
940501	AE2-035 C	2.8661	80/20	2.8661
943411	AF1-012 C	37.8976	80/20	37.8976
943921	AF1-060	1.4112	80/20	1.4112
946151	AF1-280 C O1	31.4210	80/20	31.4210
946161	AF1-281 C O1	0.6881	80/20	0.6881
946321	AF1-296 C O1	7.0348	80/20	7.0348
946501	AF1-314 C	5.0923	80/20	5.0923
946671	AF1-331	1.2502	Adder	1.47
951381	J504	4.2105	PJM External (MISO)	4.2105
951421	J514	2.5047	PJM External (MISO)	2.5047
951511	J530 C	3.8900	PJM External (MISO)	3.8900
953921	J855 C	1.2293	PJM External (MISO)	1.2293
954061	J870	14.6480	PJM External (MISO)	14.6480
954071	J871	7.3240	PJM External (MISO)	7.3240
954091	J873 C	2.4529	PJM External (MISO)	2.4529
954861	J959 C	1.8170	PJM External (MISO)	1.8170
954901	J963	0.9142	PJM External (MISO)	0.9142
955051	J981 C	2.7103	PJM External (MISO)	2.7103
955221	J1000	4.1425	PJM External (MISO)	4.1425
955971	J1084	22.7625	PJM External (MISO)	22.7625
956411	J1131	11.9130	PJM External (MISO)	11.9130
956831	J1181 C	2.3388	PJM External (MISO)	2.3388
958911	AF2-182 C	41.2830	80/20	41.2830
958921	AF2-183 C	7.3392	80/20	7.3392
959101	AF2-201 C O1	7.0151	80/20	7.0151
960551	AF2-346 C	16.2418	80/20	16.2418
961011	AF2-392 C O1	7.7215	80/20	7.7215
961021	AF2-393 O1	13.1616	80/20	13.1616
961031	AF2-394 O1	8.7744	80/20	8.7744
962791	AG1-128 C O1	1.9343	Adder	4.29
964461	AG1-309 FTIR	289.0514	80/20	289.0514
965661	AG1-434 C O1	16.8661	80/20	16.8661
965671	AG1-435 C O1	1.1709	Adder	2.6
965931	AG1-462 C O1	34.3008	80/20	34.3008
966521	AG1-521 C O1	14.0032	80/20	14.0032
966821	AG1-553 C O1	50.3078	80/20	50.3078
WEC	WEC	0.8543	Confirmed LTF	0.8543
CPL	CPL	0.0853	Confirmed LTF	0.0853
CBM-W2	CBM-W2	17.0867	Confirmed LTF	17.0867
NY	NY	0.2461	Confirmed LTF	0.2461
TVA	TVA	1.9068	Confirmed LTF	1.9068
SIG	SIG	0.0587	Confirmed LTF	0.0587

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-S2	CBM-S2	3.1529	Confirmed LTF	3.1529
CBM-S1	CBM-S1	0.4123	Confirmed LTF	0.4123
MEC	MEC	14.8953	Confirmed LTF	14.8953
BLUEG	BLUEG	0.3715	Confirmed LTF	0.3715
TRIMBLE	TRIMBLE	0.1369	Confirmed LTF	0.1369
LAGN	LAGN	4.1965	Confirmed LTF	4.1965
CBM-W1	CBM-W1	58.5615	Confirmed LTF	58.5615

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
AA1-146	Nelson	Active
AA2-030	Nelson	Active
AA2-123	Marengo 34kV	In Service
AB1-089	Byron-Wayne 345kV #1	Active
AB1-122	Kendall-Tazewell & Dresden-Mole Creek	Engineering and Procurement
AB2-096	Silver Lake-Cherry Valley	Active
AC1-033	Kewanee	Active
AC1-109	Aurora 345kV	In Service
AC1-110	Aurora 138kV	Active
AC1-114	Rockford II	Partially in Service - Under Construction
AC1-142A	Joliet	In Service
AC1-214	Crescent Ridge	In Service
AC2-116	Rockford II	Partially in Service - Under Construction
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	In Service
AD1-098	Dixon-McGirr	Active
AD1-129	Belvidere 34 kV	Active
AD2-102	Wempletown 345 kV	Active
AD2-134	Shady Oaks	Active
AD2-172	Lena 138kV	Active
AD2-214	Rock Falls-Garden Plains	Active
AE1-113	Mole Creek 345 kV	Active
AE1-114	Maryland-Lancaster 138 kV	Active
AE1-134	Nelson 345 kV	Active
AE2-035	Lena 138 kV	Active

Queue Number	Project Name	Status
AE2-062	Romeoville 12 kV	Engineering and Procurement
AE2-107	Haumesser Road 138 kV	Active
AE2-255	Molecreek 345 kV	Active
AE2-321	Belvidere-Marengo 138 kV	Active
AE2-341	Sandwich-Plano	Active
AF1-012	Electric Junc-Nelson	Active
AF1-030	Plano-R 138 kV	Active
AF1-048	Belvidere-Marengo	Active
AF1-060	Lena 138 kV	Active
AF1-072	Rocky Road	Active
AF1-200	Plano 345 kV	Active
AF1-280	Nelson-Lee County	Active
AF1-281	Nelson-Lee County	Active
AF1-296	Garden Plain 138 kV	Active
AF1-314	Lena 138 kV	Active
AF1-330	Marengo	Active
AF1-331	Twombly Road	Active
AF2-027	Zion Energy Center 345 kV	Active
AF2-034	Kendall	Active
AF2-041	Nelson-Electric Junction 345 kV	Active
AF2-069	Crescent Ridge 138 kV	Active
AF2-070	Crescent Ridge 138 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
AF2-329	Sandwich-Plano 138 kV	Active
AF2-346	Electric Junction-Nelson 345 kV	Active
AF2-349	Garden Prairie-Silver Lake 345 kV	Active
AF2-363	Glidden 138 kV	Active
AF2-364	Wayne Red 138 kV	Active
AF2-366	Glidden-Waterman 138 kV	Active
AF2-392	Nelson-Dixon 138 kV	Active
AF2-393	Nelson-Dixon 138 kV	Active
AF2-394	Nelson-Dixon 138 kV	Active
AG1-044	Whiteside County	Active
AG1-118	Sugar Grove 138 kV	Active
AG1-119	Wayne-Byron 345 kV	Active
AG1-120	Glidden-Cherry Valley 138 kV	Active
AG1-127	Glidden-Waterman 138 kV	Active
AG1-128	Shady Oaks 138 kV	Active
AG1-220	West Dekalb 138 kV	Active
AG1-309	Byron 345 kV	Active
AG1-371	Nelson-Electric Junction 345 kV	Active
AG1-372	Nelson-Electric Junction 345 kV	Active
AG1-373	Nelson-Electric Junction 345 kV	Active
AG1-379	Minonk 345 kV	Active
AG1-423	Wayne 345 kV	Active
AG1-434	Electric Junction-Nelson 345 kV	Active
AG1-435	Kewanee-Hennepin 138 kV	Active
AG1-462	Quad Cities-Sterling Steel 345 kV	Active

Queue Number	Project Name	Status
AG1-513	Aurora 138 kV	Active
AG1-521	Dixon-McGirr Road 138 kV	Active
AG1-553	Cordova 345 kV	Active
X1-087	Stillman Valley	In Service
Y3-013	Zion Energy Center	In Service
Z1-072	Crescent Ridge	In Service
Z1-073	Mendota Hills	In Service
Z1-106	West Chicago 34kV	In Service
Z1-108	McHenry 34kV	In Service
J1000	MISO	MISO
J1002	MISO	MISO
J1003	MISO	MISO
J1042	MISO	MISO
J1084	MISO	MISO
J1101	MISO	MISO
J1131	MISO	MISO
J1153	MISO	MISO
J1154	MISO	MISO
J1171	MISO	MISO
J1181	MISO	MISO
J1183	MISO	MISO
J1188	MISO	MISO
J504	MISO	MISO
J514	MISO	MISO
J530	MISO	MISO
J703	MISO	MISO
J704	MISO	MISO
J732	MISO	MISO
J760	MISO	MISO
J818	MISO	MISO
J831	MISO	MISO
J844	MISO	MISO
J849	MISO	MISO
J850	MISO	MISO
J855	MISO	MISO
J864	MISO	MISO
J870	MISO	MISO
J871	MISO	MISO
J873	MISO	MISO
J878	MISO	MISO
J886	MISO	MISO
J928	MISO	MISO
J947	MISO	MISO
J952	MISO	MISO
J959	MISO	MISO
J963	MISO	MISO
J981	MISO	MISO
J986	MISO	MISO

11.8 Contingency Descriptions - Primary POI

Contingency Name	Contingency Definition
COMED_P7-1_345-L0621__B-R+_138-L15621_R-R	CONTINGENCY 'COMED_P7-1_345-L0621__B-R+_138-L15621_R-R' / CONTINGENCY # 11 TRIP BRANCH FROM BUS 270678 TO BUS 270694 CKT 1 / BYRON ; B 345 CHERRY VA; B 345 TRIP BRANCH FROM BUS 271193 TO BUS 272517 CKT 1 / CHERRY VA; R 138 STILLMAN ;RT 138 END
COMED_P2-1_154-CB_13__	CONTINGENCY 'COMED_P2-1_154-CB_13__' / CONTINGENCY # 215 TRIP BRANCH FROM BUS 270857 TO BUS 270807 CKT 1 / P HTS 117; R 345 LIBERTYVI; R 345 END
COMED_P7-1_345-L13821_R-R+_345-L18502AB-N	CONTINGENCY 'COMED_P7-1_345-L13821_R-R+_345-L18502AB-N' / CONTINGENCY # 127 TRIP BRANCH FROM BUS 270883 TO BUS 270807 CKT 1 / SILVER LK; R 345 LIBERTYVI; R 345 TRIP BRANCH FROM BUS 270900 TO BUS 270806 CKT 1 / TOLLWAY ; B 345 LIBERTYVI; B 345 END
COMED_P1-2_345-L11620_B-S	CONTINGENCY 'COMED_P1-2_345-L11620_B-S' / CONTINGENCY # 230 TRIP BRANCH FROM BUS 270736 TO BUS 270770 CKT 1 / ELWOOD ; B 345 GOODINGS ;4B 345 END
COMED_P2-1_111-L11120__	CONTINGENCY 'COMED_P2-1_111-L11120__' / CONTINGENCY # 134 TRIP BRANCH FROM BUS 270733 TO BUS 270747 CKT 1 / ELECT JCT;3R 345 ESS W407K;OT 345 END
COMED_P1-2_345-L15502_B-R-D	CONTINGENCY 'COMED_P1-2_345-L15502_B-R-D' / CONTINGENCY # 347 TRIP BRANCH FROM BUS 957470 TO BUS 270730 CKT 1 / AF2-041 TAP 345 ELECT JCT; B 345 END
COMED_P1-2_345-L13821_R-R	CONTINGENCY 'COMED_P1-2_345-L13821_R-R' / CONTINGENCY # 300 TRIP BRANCH FROM BUS 270883 TO BUS 270807 CKT 1 / SILVER LK; R 345 LIBERTYVI; R 345 END

Contingency Name	Contingency Definition
COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	CONTINGENCY 'COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A' / CONTINGENCY # 58 TRIP BRANCH FROM BUS 271390 TO BUS 271586 CKT 1 / ELECT JCT; B 138 ESS W541 ; B 138 TRIP BRANCH FROM BUS 271560 TO BUS 272948 CKT 1 / GLIDDEN ;BT 138 CHI W CTR 138 TRIP BRANCH FROM BUS 272948 TO BUS 271558 CKT 1 / CHI W CTR 138 GLIDDEN ; B 138 TRIP BRANCH FROM BUS 271560 TO BUS 272728 CKT 1 / GLIDDEN ;BT 138 WATERMAN ; B 138 TRIP BRANCH FROM BUS 271586 TO BUS 272114 CKT 1 / ESS W541 ; B 138 N AURORA ; B 138 TRIP BRANCH FROM BUS 272114 TO BUS 272522 CKT 1 / N AURORA ; B 138 SUGAR GRV; B 138 TRIP BRANCH FROM BUS 272522 TO BUS 271560 CKT 1 / SUGAR GRV; B 138 GLIDDEN ;BT 138 MOVE 100 PERCENT LOAD FROM BUS 271586 TO BUS 271587 / ESS W541 ; B 138 ESS W541 ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272522 TO BUS 272523 / SUGAR GRV; B 138 SUGAR GRV; R 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 / N AURORA ; B 138 N AURORA ; R 138 TRIP BRANCH FROM BUS 957470 TO BUS 270730 CKT 1 / AF2-041 TAP 345 ELECT JCT; B 345 END
COMED_P1-3_TR93_PLANO_B-S	CONTINGENCY 'COMED_P1-3_TR93_PLANO_B-S' / CONTINGENCY # 646 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 END
COMED_P2-2_144_WN-345B__7	CONTINGENCY 'COMED_P2-2_144_WN-345B__7' / CONTINGENCY # 147 TRIP BRANCH FROM BUS 270916 TO BUS 270900 CKT 1 / WAYNE ; B 345 TOLLWA COMED_P2-2_ ; B 345 DISCONNECT BUS 275228 / WAYNE ;1M 138 END
COMED_P7-1_345-L15502_B-R+_345-L16703_R-S-A	CONTINGENCY 'COMED_P7-1_345-L15502_B-R+_345-L16703_R-S-A' / CONTINGENCY # 136 TRIP BRANCH FROM BUS 957470 TO BUS 270730 CKT 1 / AF2-041 TAP 345 ELECT JCT; B 345 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 ELECT JCT;3R 345 END

Contingency Name	Contingency Definition
COMED_P2-2_111_EJ-345R__3	CONTINGENCY 'COMED_P2-2_111_EJ-345R__3' / CONTINGENCY # 103 DISCONNECT BUS 270733 / ELECT JCT;3R 345 DISCONNECT BUS 275183 / ELECT JCT;3M 138 END
COMED_P2-2_111_EJ-345R__4	CONTINGENCY 'COMED_P2-2_111_EJ-345R__4' / CONTINGENCY # 104 DISCONNECT BUS 270731 / ELECT JCT;4R 345 DISCONNECT BUS 275184 / ELECT JCT;4M 138 END
COMED_P1-3_TR94_PLANO_R-S	CONTINGENCY 'COMED_P1-3_TR94_PLANO_R-S' / CONTINGENCY # 648 TRIP BRANCH FROM BUS 275208 TO BUS 270630 CKT 1 / PLANO ;4M 345 PLANO ; 765 TRIP BRANCH FROM BUS 275208 TO BUS 270847 CKT 1 / PLANO ;4M 345 PLANO ; R 345 TRIP BRANCH FROM BUS 275208 TO BUS 275308 CKT 1 / PLANO ;4M 345 PLANO ;4C 33 END
COMED_P1-2_345-L11723TR-N	CONTINGENCY 'COMED_P1-2_345-L11723TR-N' / CONTINGENCY # 238 TRIP BRANCH FROM BUS 270807 TO BUS 274817 CKT 1 / LIBERTYVI; R 345 ZION EC ;RP 345 TRIP BRANCH FROM BUS 270857 TO BUS 270807 CKT 1 / P HTS 117; R 345 LIBERTYVI; R 345 TRIP BRANCH FROM BUS 275211 TO BUS 270857 CKT 1 / P HTS 117;1M 138 P HTS 117; R 345 TRIP BRANCH FROM BUS 275211 TO BUS 272273 CKT 1 / P HTS 117;1M 138 P HTS 117; R 138 TRIP BRANCH FROM BUS 275211 TO BUS 275311 CKT 1 / P HTS 117;1M 138 P HTS 117;1C 34.5 END
Base Case	
COMED_P1-2_345-L18905__B-R-B	CONTINGENCY 'COMED_P1-2_345-L18905__B-R-B' / CONTINGENCY # 141B TRIP BRANCH FROM BUS 962700 TO BUS 270916 CKT 1 / AG1-119 TAP 345 WAYNE ; B 345 END
COMED_P1-2_345-L18905__B-R-A	CONTINGENCY 'COMED_P1-2_345-L18905__B-R-A' / CONTINGENCY # 141B TRIP BRANCH FROM BUS 930480 TO BUS 962700 CKT 1 / AB1-089 ; B 345 AG1-119 TAP 345 END

Contingency Name	Contingency Definition
COMED_P1-2_345-L16704TB-S	CONTINGENCY 'COMED_P1-2_345-L16704TB-S' / CONTINGENCY # 378 TRIP BRANCH FROM BUS 270846 TO BUS 270730 CKT 1 / PLANO ; B 345 ELECT JCT; B 345 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 2 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 1 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 270846 TO BUS 272278 TO BUS 275354 CKT 1 / PLANO ; B 345 PLANO;1I 138 PLANO;1C 34.5 END
COMED_P2-2_111_EJ-345B__2	CONTINGENCY 'COMED_P2-2_111_EJ-345B__2' / CONTINGENCY # 102 TRIP BRANCH FROM BUS 270730 TO BUS 270846 CKT 1 / ELECT JCT; B 345 PLANO ; B 345 TRIP BRANCH FROM BUS 270730 TO BUS 270916 CKT 1 / ELECT JCT; B 345 WAYNE ; B 345 TRIP BRANCH FROM BUS 270730 TO BUS 270928 CKT 1 / ELECT JCT; B 345 WOLFS ; B 345 TRIP BRANCH FROM BUS 270928 TO BUS 272794 TO BUS 275334 CKT 1 / WOLFS ; B 345 WOLFS ; B 138 WOLFS ;1C 34.5 DISCONNECT BUS 275239 / ELECT JCT;2M 138 END
COMED_P1-2_345-L11119_R-N	CONTINGENCY 'COMED_P1-2_345-L11119_R-N' / CONTINGENCY # 194 TRIP BRANCH FROM BUS 270731 TO BUS 274749 CKT 1 / ELECT JCT;4R 345 AURORA EC;RP 345 END
EXT_P12:345:MEC:CORDOVA:SUB 39	CONTINGENCY 'EXT_P12:345:MEC:CORDOVA:SUB 39' / 13918 OPEN BRANCH FROM BUS 636600 TO BUS 636605 CKT 1 / 636600 SB 39 3 345 636605 MECCORD3 345 1 END

12 Short Circuit Analysis - Primary POI

The following Breakers are overdutied

Bus Number	Bus Name	BREAKER	Type	Capacity (Amps)	Duty Percentage Post Queue	Duty Percentage Pre Queue
270730	ELECJCT B 345.kV	111 14321	S	37688.9	100.44%	99.63%

12.1 System Reinforcements - Short Circuit

- Upgrade the existing overdutied 345kV circuit breaker with a new 345kV circuit breaker that has an interrupting fault rating of 63kA at 3 cycles. Estimated cost is \$4M with a 30 month estimated construction timeline. No change in one line or relay schemes.

13 Summer Peak - Load Flow Analysis - Secondary POI

The Queue Project AG1-434 was evaluated as a 200.0 MW (Capacity 35.2 MW) injection at the McGirr Road 138 kV substation in the ComEd area. Project AG1-434 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-434 was studied with a commercial probability of 53%. Potential network impacts were as follows:

13.1 Generation Deliverability

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

None

13.2 Multiple Facility Contingency

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
162222312	270743	ESS W407K;9T	345.0	CE	274749	AURORA EC;RP	345.0	CE	1	COMED_P7-1_138-L11104_R-R+_345-L16704TB-S	tower	1768.0	99.67	100.32	DC	25.3
162222298	270751	ESS W407M;9T	345.0	CE	270743	ESS W407K;9T	345.0	CE	1	COMED_P7-1_345-L13821_R-R+_345-L18502AB-N	tower	1768.0	99.45	100.01	DC	21.68
162222303	270917	WAYNE ; R	345.0	CE	270751	ESS W407M;9T	345.0	CE	1	COMED_P7-1_345-L13821_R-R+_345-L18502AB-N	tower	1768.0	99.45	100.01	DC	21.68
162370645	271117	BRISTOL ; R	138.0	CE	272027	MONTGOMER;RT	138.0	CE	1	COMED_P2-2_167_PL-138B_2	bus	498.0	98.29	105.27	DC	34.74
162503782	271117	BRISTOL ; R	138.0	CE	272027	MONTGOMER;RT	138.0	CE	1	COMED_P4_167-38-L14302_	breaker	498.0	97.94	104.86	DC	34.5
162503673	272027	MONTGOMER;RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P4_143-38-TR81_	breaker	264.0	99.91	102.83	DC	17.14
163033381	272365	ESS H440 ;RT	138.0	CE	272516	STEWART ; B	138.0	CE	1	COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-A	tower	495.0	92.4	123.01	DC	151.51
171301552	272365	ESS H440 ;RT	138.0	CE	272516	STEWART ; B	138.0	CE	1	COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-B	tower	495.0	92.4	123.01	DC	151.51

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	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
161831672	270644	WILTON ;	765.0	CE	243206	05DUMONT	765.0	AEP	1	COMED_P7-1_345-L94507_B-S+_345-L97008_R-S	tower	4105.0	108.04	108.06	DC	64.92

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADI NG %	POST PROJE CT LOADI NG %	AC DC	MW IMPA CT
161831 673	2706 44	WILTON ;	765 .0	CE	2432 06	05DUMONT	765 .0	AEP	1	COMED_P7-1_345-L6607__B-S+_345-L97008_R-S-A	tower	4105.0	106.27	106.3	DC	65.01
174555 436	2707 28	E FRANKFO; B	345 .0	CE	2747 50	CRETE EC;BP	345 .0	CE	1	COMED_P4_1 12-65-BT4-5	breaker	1399.0	115.93	115.95	DC	25.31
174555 437	2707 28	E FRANKFO; B	345 .0	CE	2747 50	CRETE EC;BP	345 .0	CE	1	COMED_P4_1 12-65-BT3-4	breaker	1399.0	115.92	115.94	DC	25.31
162221 871	2707 30	ELECT JCT; B	345 .0	CE	2708 12	LOMBARD ; B	345 .0	CE	1	COMED_P2-2_111_EJ-345R_3	bus	1479.0	123.89	124.47	DC	18.96
162221 873	2707 30	ELECT JCT; B	345 .0	CE	2708 12	LOMBARD ; B	345 .0	CE	1	COMED_P2-2_120_LO-345R_2	bus	1479.0	123.72	124.31	DC	19.22
162221 896	2707 30	ELECT JCT; B	345 .0	CE	2708 46	PLANO ; B	345 .0	CE	1	COMED_P2-2_111_EJ-345R_4	bus	1341.0	118.78	119.48	DC	21.04
162221 897	2707 30	ELECT JCT; B	345 .0	CE	2708 46	PLANO ; B	345 .0	CE	1	COMED_P2-2_111_EJ-345R_3	bus	1341.0	119.97	120.56	DC	21.65
162222 184	2707 30	ELECT JCT; B	345 .0	CE	2708 12	LOMBARD ; B	345 .0	CE	1	COMED_P7-1_345-L13821_R-R+_345-L18502AB-N	tower	1768.0	115.87	116.38	DC	21.01
174302 550	2707 30	ELECT JCT; B	345 .0	CE	2708 12	LOMBARD ; B	345 .0	CE	1	COMED_P4_1 11-45-L11120	breaker	1479.0	123.64	124.22	DC	18.96
174555 416	2707 30	ELECT JCT; B	345 .0	CE	2708 46	PLANO ; B	345 .0	CE	1	COMED_P4_1 11-45-L16703	breaker	1341.0	127.6	128.23	DC	23.53
174555 417	2707 30	ELECT JCT; B	345 .0	CE	2708 46	PLANO ; B	345 .0	CE	1	COMED_P4_1 11-45-L11120	breaker	1341.0	119.91	120.5	DC	21.65
162222 246	2707 31	ELECT JCT;4R	345 .0	CE	2707 33	ELECT JCT;3R	345 .0	CE	1	COMED_P7-1_138-L11104_R-R+_345-L16704TB-S	tower	1912.0	105.72	106.2	DC	20.23
174477 417	2707 31	ELECT JCT;4R	345 .0	CE	2707 33	ELECT JCT;3R	345 .0	CE	1	COMED_P4_1 11-45-L16704T	breaker	1656.0	125.35	125.89	DC	19.35
162221 846	2707 43	ESS W407K;9T	345 .0	CE	2747 49	AURORA EC;RP	345 .0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	125.89	126.54	DC	21.05
162221 847	2707 43	ESS W407K;9T	345 .0	CE	2747 49	AURORA EC;RP	345 .0	CE	1	COMED_P2-2_144_WN-345B_7	bus	1479.0	107.2	107.72	DC	17.01
174477 368	2707 43	ESS W407K;9T	345 .0	CE	2747 49	AURORA EC;RP	345 .0	CE	1	COMED_P4_1 11-45-L16704T	breaker	1479.0	138.69	139.41	DC	23.48
174477 369	2707 43	ESS W407K;9T	345 .0	CE	2747 49	AURORA EC;RP	345 .0	CE	1	COMED_P4_1 11-45-L14321T	breaker	1479.0	125.92	126.56	DC	21.09
162221 835	2707 51	ESS W407M;9T	345 .0	CE	2707 43	ESS W407K;9T	345 .0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	126.85	127.5	DC	21.05
162221 836	2707 51	ESS W407M;9T	345 .0	CE	2707 43	ESS W407K;9T	345 .0	CE	1	COMED_P2-2_144_WN-345B_7	bus	1479.0	108.16	108.68	DC	17.01
162222 297	2707 51	ESS W407M;9T	345 .0	CE	2707 43	ESS W407K;9T	345 .0	CE	1	COMED_P7-1_138-L11104_R-R+_345-L16704TB-S	tower	1768.0	100.48	101.12	DC	25.3

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADI NG %	POST PROJE CT LOADI NG %	AC DC	MW IMPA CT
174477360	270751	ESS W407M;9T	345.0	CE	270743	ESS W407K;9T	345.0	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	139.65	140.37	DC	23.48
174477361	270751	ESS W407M;9T	345.0	CE	270743	ESS W407K;9T	345.0	CE	1	COMED_P4_111-45-L14321T	breaker	1479.0	126.88	127.52	DC	21.09
174302518	270828	NELSON ;B	345.0	CE	943410	AF1-012 TAP	345.0	CE	1	COMED_P4_144-45-BT7-8	breaker	1656.0	128.18	128.64	DC	16.81
162221840	270917	WAYNE ;R	345.0	CE	270751	ESS W407M;9T	345.0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	126.85	127.5	DC	21.05
162221841	270917	WAYNE ;R	345.0	CE	270751	ESS W407M;9T	345.0	CE	1	COMED_P2-2_144_WN-345B_7	bus	1479.0	108.16	108.68	DC	17.01
162222302	270917	WAYNE ;R	345.0	CE	270751	ESS W407M;9T	345.0	CE	1	COMED_P7-1_138-L11104_R-R_+345-L16704TB-S	tower	1768.0	100.48	101.12	DC	25.3
174477358	270917	WAYNE ;R	345.0	CE	270751	ESS W407M;9T	345.0	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	139.65	140.37	DC	23.48
174477359	270917	WAYNE ;R	345.0	CE	270751	ESS W407M;9T	345.0	CE	1	COMED_P4_111-45-L14321T	breaker	1479.0	126.88	127.52	DC	21.09
162503781	271117	BRISTOL ;R	138.0	CE	272027	MONTGOMER;RT	138.0	CE	1	COMED_P4_167-38-TR81	breaker	449.0	108.99	116.73	DC	34.76
162370503	271428	ESS H452 ;RT	138.0	CE	272730	WATERMAN ;3B	138.0	CE	1	COMED_P2-2_107_DX-138R_23	bus	538.0	130.79	154.56	DC	127.88
177728714	271428	ESS H452 ;RT	138.0	CE	272730	WATERMAN ;3B	138.0	CE	1	COMED_P4_107-38-L15508	breaker	538.0	130.79	154.56	DC	127.88
177728771	271560	GLIDDEN ;BT	138.0	CE	962690	AG1-118 TAP	138.0	CE	1	COMED_P4_167-38-L14609	breaker	538.0	113.78	124.91	DC	59.88
162503809	271586	ESS W541 ;B	138.0	CE	271390	ELECT JCT; B	138.0	CE	1	COMED_P4_167-38-L14609	breaker	498.0	104.87	115.68	DC	53.82
162503656	272002	MCGIRR RD;	138.0	CE	272365	ESS H440 ;RT	138.0	CE	1	COMED_P4_155-45-BT2-34	breaker	449.0	150.6	178.22	DC	123.99
162503657	272002	MCGIRR RD;	138.0	CE	272365	ESS H440 ;RT	138.0	CE	1	COMED_P4_155-45-BT34-5	breaker	449.0	150.19	177.77	DC	123.84
163033307	272002	MCGIRR RD;	138.0	CE	272365	ESS H440 ;RT	138.0	CE	1	COMED_P7-1_138-L10714_R-R_+138-L10721_R-R-A	tower	498.0	123.02	163.17	DC	199.95
171301489	272002	MCGIRR RD;	138.0	CE	272365	ESS H440 ;RT	138.0	CE	1	COMED_P7-1_138-L10714_R-R_+138-L10721_R-R-B	tower	498.0	123.02	163.17	DC	199.95
162370535	272027	MONTGOMER;RT	138.0	CE	272203	OSWEGO ;R	138.0	CE	1	COMED_P2-2_167_PL-138B_2	bus	275.0	150.78	162.7	DC	32.77
162503671	272027	MONTGOMER;RT	138.0	CE	272203	OSWEGO ;R	138.0	CE	1	COMED_P4_167-38-TR81	breaker	264.0	156.98	169.4	DC	32.79
162503672	272027	MONTGOMER;RT	138.0	CE	272203	OSWEGO ;R	138.0	CE	1	COMED_P4_167-38-L14302	breaker	275.0	143.72	156.26	DC	34.5

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADING %	POST PROJE CT LOADING %	AC/DC	MW IMPACT
162503800	272114	N AURORA ; B	138.0	CE	271586	ESS W541 ; B	138.0	CE	1	COMED_P4_1 67-38-L14609_	breaker	498.0	106.34	117.14	DC	53.82
162370638	272251	PLANO; R	138.0	CE	271117	BRISTOL ; R	138.0	CE	1	COMED_P2-2_167_PL-138B_2	bus	498.0	102.69	109.66	DC	34.74
162503766	272251	PLANO; R	138.0	CE	271117	BRISTOL ; R	138.0	CE	1	COMED_P4_1 67-38-TR81_	breaker	449.0	113.85	121.59	DC	34.76
162503767	272251	PLANO; R	138.0	CE	271117	BRISTOL ; R	138.0	CE	1	COMED_P4_1 67-38-L14302_	breaker	498.0	104.12	111.05	DC	34.5
162370580	272365	ESS H440 ;RT	138.0	CE	272516	STEWART ; B	138.0	CE	1	COMED_P2-2_107_DX-138R_23	bus	495.0	107.37	137.98	DC	151.51
162503741	272365	ESS H440 ;RT	138.0	CE	272516	STEWART ; B	138.0	CE	1	COMED_P4_1 07-38-L15508_	breaker	495.0	107.37	137.98	DC	151.51
162503742	272365	ESS H440 ;RT	138.0	CE	272516	STEWART ; B	138.0	CE	1	COMED_P4_1 55-45-BT34-5_	breaker	449.0	113.74	134.69	DC	94.05
162678115	272365	ESS H440 ;RT	138.0	CE	272363	ESS H440 ; R	138.0	CE	1	COMED_P2-1_186-L16914_	single	196.699996948	112.08	121.16	DC	17.85
162503721	272522	SUGAR GRV; B	138.0	CE	272114	N AURORA ; B	138.0	CE	1	COMED_P4_1 67-38-L14609_	breaker	498.0	140.99	153.02	DC	59.88
162503624	272728	WATERMAN ; B	138.0	CE	271560	GLIDDEN ;BT	138.0	CE	1	COMED_P4_1 67-38-L14609_	breaker	344.0	177.95	195.36	DC	59.88
162370488	272730	WATERMAN ;3B	138.0	CE	272728	WATERMAN ; B	138.0	CE	1	COMED_P2-2_107_DX-138R_23	bus	539.0	170.74	195.81	DC	135.12
162370490	272730	WATERMAN ;3B	138.0	CE	272728	WATERMAN ; B	138.0	CE	1	COMED_P2-2_156_CV-138R_1	bus	539.0	173.62	194.19	DC	110.87
177507747	272730	WATERMAN ;3B	138.0	CE	272728	WATERMAN ; B	138.0	CE	1	COMED_P1-2_345-L18905_B-R-B	single	507.0	106.73	109.7	DC	15.03
177507748	272730	WATERMAN ;3B	138.0	CE	272728	WATERMAN ; B	138.0	CE	1	COMED_P1-2_345-L18905_B-R-A	single	507.0	105.55	108.52	DC	15.03
171301254	272756	W DEKALB ;3T	138.0	CE	271428	ESS H452 ;RT	138.0	CE	1	COMED_P2-2_107_DX-138R_23	bus	471.0	149.39	176.55	DC	127.88
177728679	272756	W DEKALB ;3T	138.0	CE	271428	ESS H452 ;RT	138.0	CE	1	COMED_P4_1 07-38-L15508_	breaker	471.0	149.4	176.55	DC	127.88
162221811	274749	AURORA EC;RP	345.0	CE	270731	ELECT JCT;4R	345.0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	141.92	142.56	DC	20.7
174477338	274749	AURORA EC;RP	345.0	CE	270731	ELECT JCT;4R	345.0	CE	1	COMED_P4_1 11-45-L16704T	breaker	1479.0	145.52	146.23	DC	23.13
174477339	274749	AURORA EC;RP	345.0	CE	270731	ELECT JCT;4R	345.0	CE	1	COMED_P4_1 11-45-L14321T	breaker	1479.0	141.93	142.57	DC	20.74
162221827	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	AEP_P2-2_#672_05EUGENE 345_1	bus	1399.0	137.71	137.73	DC	15.71
162221828	274750	CRETE EC ;BP	345.0	CE	255112	17STJOHN	345.0	NIP S	1	COMED_P2-2_103_LS-345B_2	bus	1399.0	137.34	137.35	DC	15.55

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADING %	POST PROJE CT LOADING %	AC/DC	MW IMPACT
162222092	274750	CRETE EC;BP	345.0	CE	255112	17STJOHN	345.0	NIPS	1	COMED_P7-1_345-L2002_B-S+_345-L2004_R-S-B	tower	1399.0	152.46	152.48	DC	16.46
174477380	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P4_112-65-BT4-5	breaker	971.0	138.22	138.4	DC	19.76
174477381	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P4_112-65-BT3-4	breaker	971.0	138.22	138.4	DC	19.76
171060737	943410	AF1-012 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	COMED_P2-2_113_WM-138B_2	bus	1912.0	104.76	105.5	DC	31.27
171061006	943410	AF1-012 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	COMED_P7-1_138-L11323_R-R+_138-L11305_B-R-A	tower	1912.0	105.26	106.03	DC	32.68
174302482	943410	AF1-012 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	COMED_P4_144-45-BT7-8	breaker	1656.0	139.09	139.55	DC	16.81
171060690	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	COMED_P2-2_113_WM-138B_2	bus	1912.0	114.83	115.56	DC	31.27
174302457	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	COMED_P4_144-45-BT7-8	breaker	1656.0	145.91	146.36	DC	16.81
177728719	962690	AG1-118 TAP	138.0	CE	272522	SUGAR GRV; B	138.0	CE	1	COMED_P4_167-38-L14609_	breaker	538.0	140.31	151.44	DC	59.88

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	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADING %	POST PROJE CT LOADING %	AC/DC	MW IMPACT
168522412	270694	CHERRY VA; B	345.0	CE	924470	GARDEN PR; R	345.0	CE	1	COMED_P1-2_345-L18905_B-R-B	operation	1479.0	175.37	175.98	DC	20.03
168522416	270694	CHERRY VA; B	345.0	CE	924470	GARDEN PR; R	345.0	CE	1	Base Case	operation	1201.0	152.93	153.52	DC	15.79
168522768	270697	COLLINS ; R	345.0	CE	275168	COLLINS ;2M	345.0	CE	1	COMED_P1-2_765-L2315_-S	operation	1379.0	105.02	105.04	DC	19.69
168522595	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	Base Case	operation	1201.0	130.36	131.02	DC	17.45
168522666	270730	ELECT JCT; B	345.0	CE	270846	PLANO ; B	345.0	CE	1	COMED_P1-2_345-L11119_R-N	operation	1341.0	116.79	117.49	DC	20.95

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADI NG %	POST PROJE CT LOADI NG %	AC DC	MW IMPA CT
168522 713	2707 43	ESS W407K;9 T	345 .0	CE	2747 49	AURORA EC;RP	345 .0	CE	1	Base Case	operat ion	1201.0	116.28	116.91	DC	16.92
175939 103	2707 43	ESS W407K;9 T	345 .0	CE	2747 49	AURORA EC;RP	345 .0	CE	1	COMED_P1-2_345-L11124_B-N	operat ion	1479.0	104.94	105.52	DC	18.84
168522 698	2707 51	ESS W407M;9T	345 .0	CE	2707 43	ESS W407K;9 T	345 .0	CE	1	Base Case	operat ion	1201.0	117.46	118.1	DC	16.92
175939 099	2707 51	ESS W407M;9T	345 .0	CE	2707 43	ESS W407K;9 T	345 .0	CE	1	COMED_P1-2_345-L11124_B-N	operat ion	1479.0	105.9	106.48	DC	18.84
175939 076	2707 70	GOODIN GS;4B	345 .0	CE	2707 66	GOODIN GS;3B	345 .0	CE	1	COMED_P1-2_765-L11215__S	operat ion	1802.0	124.77	124.85	DC	20.42
168522 601	2708 28	NELSON ; B	345 .0	CE	9434 10	AF1-012 TAP	345 .0	CE	1	Base Case	operat ion	1334.0	127.29	127.78	DC	14.31
168522 535	2708 66	QUAD 6-7	345 .0	CE	6366 10	SUB 91 3	345 .0	ME C	1	EXT_P12:345:MEC:COR DOVA:SUB 39	operat ion	1471.0	129.56	130.11	DC	17.56
168522 702	2709 17	WAYNE ; R	345 .0	CE	2707 51	ESS W407M;9T	345 .0	CE	1	Base Case	operat ion	1201.0	117.46	118.1	DC	16.92
175939 096	2709 17	WAYNE ; R	345 .0	CE	2707 51	ESS W407M;9T	345 .0	CE	1	COMED_P1-2_345-L11124_B-N	operat ion	1479.0	105.9	106.48	DC	18.84
162678 184	2714 28	ESS H452 ;RT	138 .0	CE	2727 30	WATERM AN ;3B	138 .0	CE	1	Base Case	operat ion	376.0	151.4	172.35	DC	78.76
162678 185	2714 28	ESS H452 ;RT	138 .0	CE	2727 30	WATERM AN ;3B	138 .0	CE	1	COMED_P1-2_138-L8315__R-R	operat ion	483.0	146.76	169.55	DC	110.1 1
177507 916	2715 58	GLIDDEN ; B	138 .0	CE	2715 81	ESS B200 ; R	138 .0	CE	1	COMED_P2-1_113-L11323__	operat ion	449.0	109.33	127.53	DC	81.71
177507 934	2715 58	GLIDDEN ; B	138 .0	CE	9607 50	AF2-366 TAP	138 .0	CE	1	COMED_P2-1_094-L11323__	operat ion	480.0	103.02	114.51	DC	55.16
177507 876	2715 60	GLIDDEN ;BT	138 .0	CE	9626 90	AG1-118 TAP	138 .0	CE	1	COMED_P1-2_138-L14609_R-R-A	operat ion	483.0	126.66	139.06	DC	59.89
177507 881	2715 60	GLIDDEN ;BT	138 .0	CE	9626 90	AG1-118 TAP	138 .0	CE	1	Base Case	operat ion	376.0	97.02	107.97	DC	41.17
177507 887	2715 81	ESS B200 ; R	138 .0	CE	9636 80	AG1-220 TAP	138 .0	CE	1	COMED_P2-1_113-L11323__	operat ion	449.0	118.85	137.05	DC	81.71
162678 364	2715 86	ESS W541 ; B	138 .0	CE	2713 90	ELECT JCT; B	138 .0	CE	1	COMED_P1-2_138-L14609_R-R-A	operat ion	449.0	116.23	128.22	DC	53.83
162678 219	2716 80	HAUMES SER; B	138 .0	CE	2727 56	W DEKALB ;3T	138 .0	CE	1	COMED_P1-2_138-L8315__R-R	operat ion	452.0	168.61	192.97	DC	110.1 1
162678 224	2716 80	HAUMES SER; B	138 .0	CE	2727 56	W DEKALB ;3T	138 .0	CE	1	Base Case	operat ion	438.0	136.32	154.3	DC	78.76
162678 189	2720 02	MCGIRR RD;	138 .0	CE	2723 65	ESS H440 ;RT	138 .0	CE	1	Base Case	operat ion	351.0	175.37	210.32	DC	122.6 8
162678 190	2720 02	MCGIRR RD;	138 .0	CE	2723 65	ESS H440 ;RT	138 .0	CE	1	COMED_P1-2_345-L15502_B-R-A	operat ion	449.0	150.2	177.7	DC	123.4 9
162678 286	2720 02	MCGIRR RD;	138 .0	CE	9347 00	AD1-098 TAP	138 .0	CE	1	COMED_P2-1_169-L16914__	operat ion	449.0	136.45	180.98	DC	199.9 5
162678 287	2720 02	MCGIRR RD;	138 .0	CE	9347 00	AD1-098 TAP	138 .0	CE	1	COMED_P1-2_138-L16914_R-R	operat ion	449.0	136.45	180.98	DC	199.9 5
162678 291	2720 02	MCGIRR RD;	138 .0	CE	9347 00	AD1-098 TAP	138 .0	CE	1	Base Case	operat ion	351.0	94.04	116.06	DC	77.27
162678 359	2721 14	N AURORA ; B	138 .0	CE	2715 86	ESS W541 ; B	138 .0	CE	1	COMED_P1-2_138-L14609_R-R-A	operat ion	449.0	117.88	129.87	DC	53.83
162678 150	2723 62	ESS H445 ;3B	138 .0	CE	2727 57	W DEKALB ;7T	138 .0	CE	1	COMED_P2-1_094-L11323__	operat ion	298.0	195.0	225.31	DC	90.33
162678 349	2723 62	ESS H445 ;3B	138 .0	CE	2725 16	STEWAR D ; B	138 .0	CE	1	COMED_P2-1_186-L16914__	operat ion	196.69999 6948	117.51	142.53	DC	49.22
162678 117	2723 63	ESS H440 ; R	138 .0	CE	2723 64	ESS H440N ;R	138 .0	CE	1	COMED_P2-1_186-L16914__	operat ion	196.69999 6948	239.08	290.65	DC	101.4 4

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADI NG %	POST PROJE CT LOADI NG %	AC DC	MW IMPA CT
162678 123	2723 64	ESS H440N ;R	138 .0	CE	2723 62	ESS H445 ;3B	138 .0	CE	1	COMED_P2-1_186-L16914__	operat ion	196.69999 6948	237.26	288.83	DC	101.4 4
162678 110	2723 65	ESS H440 ;RT	138 .0	CE	2723 63	ESS H440 ;R	138 .0	CE	1	COMED_P2-1_186-L16914__	operat ion	196.69999 6948	261.3	312.87	DC	101.4 4
162678 296	2723 65	ESS H440 ;RT	138 .0	CE	2725 16	STEWAR D ; B	138 .0	CE	1	Base Case	operat ion	351.0	127.29	153.82	DC	93.12
162678 298	2723 65	ESS H440 ;RT	138 .0	CE	2725 16	STEWAR D ; B	138 .0	CE	1	COMED_P1-2_138-L8315__R-R	operat ion	449.0	111.31	134.32	DC	103.3 2
162678 315	2724 44	SANDWI CH ; B	138 .0	CE	9431 20	AE2-341 TAP	138 .0	CE	1	Base Case	operat ion	351.0	116.85	129.23	DC	43.47
177507 856	2724 44	SANDWI CH ; B	138 .0	CE	9431 20	AE2-341 TAP	138 .0	CE	1	COMED_P1-2_138-L11106__B-R-AA	operat ion	449.0	137.47	151.16	DC	61.46
162678 302	2724 45	SANDWI CH ; R	138 .0	CE	2724 44	SANDWI CH ; B	138 .0	CE	1	Base Case	operat ion	351.0	120.68	133.06	DC	43.46
177507 835	2724 45	SANDWI CH ; R	138 .0	CE	2724 44	SANDWI CH ; B	138 .0	CE	1	COMED_P1-2_138-L11106__B-R-AA	operat ion	449.0	145.23	158.92	DC	61.45
162678 266	2725 16	STEWAR D ; B	138 .0	CE	2723 62	ESS H445 ;3B	138 .0	CE	1	COMED_P2-1_094-L11323__	operat ion	196.69999 6948	141.99	162.08	DC	39.53
162678 318	2725 16	STEWAR D ; B	138 .0	CE	2716 80	HAUMES SER ; B	138 .0	CE	1	COMED_P1-2_138-L8315__R-R	operat ion	449.0	119.85	144.39	DC	110.1 5
162678 320	2725 16	STEWAR D ; B	138 .0	CE	2716 80	HAUMES SER ; B	138 .0	CE	1	Base Case	operat ion	351.0	109.51	131.96	DC	78.8
162678 230	2725 22	SUGAR GRV ; B	138 .0	CE	2721 14	N AURORA ; B	138 .0	CE	1	COMED_P1-2_138-L14609__R-R-A	operat ion	374.0	187.65	203.66	DC	59.89
162678 235	2725 22	SUGAR GRV ; B	138 .0	CE	2721 14	N AURORA ; B	138 .0	CE	1	Base Case	operat ion	330.0	127.23	139.7	DC	41.17
162678 161	2727 28	WATERM AN ; B	138 .0	CE	2724 45	SANDWI CH ; R	138 .0	CE	1	Base Case	operat ion	238.0	186.49	204.76	DC	43.47
162678 175	2727 28	WATERM AN ; B	138 .0	CE	2715 60	GLIDDEN ;BT	138 .0	CE	1	COMED_P1-2_138-L14609__R-R-A	operat ion	321.0	190.58	209.24	DC	59.89
162678 180	2727 28	WATERM AN ; B	138 .0	CE	2715 60	GLIDDEN ;BT	138 .0	CE	1	Base Case	operat ion	292.0	124.94	139.03	DC	41.17
177507 716	2727 28	WATERM AN ; B	138 .0	CE	2724 45	SANDWI CH ; R	138 .0	CE	1	COMED_P1-2_138-L11106__B-R-AA	operat ion	309.0	217.24	237.13	DC	61.46
162678 169	2727 30	WATERM AN ;3B	138 .0	CE	2727 28	WATERM AN ; B	138 .0	CE	1	Base Case	operat ion	487.0	159.78	177.16	DC	84.64
177507 741	2727 30	WATERM AN ;3B	138 .0	CE	2727 28	WATERM AN ; B	138 .0	CE	1	COMED_P1-2_138-L15627__R-R-AA	operat ion	507.0	182.99	204.66	DC	109.9
162678 170	2727 56	W DEKALB ;3T	138 .0	CE	2714 28	ESS H452 ;RT	138 .0	CE	1	COMED_P1-2_138-L8315__R-R	operat ion	452.0	156.82	181.18	DC	110.1 1
162678 171	2727 56	W DEKALB ;3T	138 .0	CE	2714 28	ESS H452 ;RT	138 .0	CE	1	Base Case	operat ion	376.0	151.4	172.35	DC	78.76
162678 144	2727 57	W DEKALB ;7T	138 .0	CE	2715 58	GLIDDEN ; B	138 .0	CE	1	COMED_P2-1_094-L11323__	operat ion	264.0	210.46	244.67	DC	90.33
162678 149	2727 57	W DEKALB ;7T	138 .0	CE	2715 58	GLIDDEN ; B	138 .0	CE	1	Base Case	operat ion	208.0	96.54	117.64	DC	43.88
162678 226	2728 03	W PLANO ; R	138 .0	CE	2722 51	PLANO ; R	138 .0	CE	1	Base Case	operat ion	351.0	171.63	184.02	DC	43.47
177507 772	2728 03	W PLANO ; R	138 .0	CE	2722 51	PLANO ; R	138 .0	CE	1	COMED_P1-2_138-L11106__B-R-AA	operat ion	449.0	182.87	196.55	DC	61.46
168522 624	2747 49	AURORA EC;RP	345 .0	CE	2707 31	ELECT JCT;4R	345 .0	CE	1	Base Case	operat ion	1201.0	127.82	128.45	DC	16.56
168522 625	2747 49	AURORA EC;RP	345 .0	CE	2707 31	ELECT JCT;4R	345 .0	CE	1	COMED_P1-2_345-L13821__R-R	operat ion	1479.0	117.62	118.21	DC	19.08
168522 421	2747 50	CRETE EC ;BP	345 .0	CE	2551 12	17STJOH N	345 .0	NIP S	1	Base Case	operat ion	1091.0	175.07	175.1	DC	15.73
168522 547	2748 04	UNIV PK N;RP	345 .0	CE	9606 80	AF2-359 TAP	345 .0	CE	1	COMED_P1-2_765-L11215__S	operat ion	971.0	138.19	138.36	DC	19.76

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADING %	POST PROJE CT LOADING %	AC DC	MW IMPACT
168522771	275168	COLLINS ;2M	345.0	CE	270607	COLLINS ;	765.0	CE	1	COMED_P1-2_765-L2315__-S	operation	1379.0	105.02	105.04	DC	19.69
169750100	924470	GARDEN PR; R	345.0	CE	270883	SILVER LK; R	345.0	CE	1	COMED_P1-2_345-L18905__B-R-B	operation	1479.0	200.56	201.17	DC	20.03
169750102	924470	GARDEN PR; R	345.0	CE	270883	SILVER LK; R	345.0	CE	1	Base Case	operation	1201.0	181.43	182.03	DC	15.79
177507766	934700	AD1-098 TAP	138.0	CE	271333	DIXON ; R	138.0	CE	1	COMED_P2-1_169-L16914__	operation	449.0	158.2	202.73	DC	199.95
177507767	934700	AD1-098 TAP	138.0	CE	271333	DIXON ; R	138.0	CE	1	COMED_P1-2_138-L16914__R-R	operation	449.0	158.2	202.73	DC	199.95
177507771	934700	AD1-098 TAP	138.0	CE	271333	DIXON ; R	138.0	CE	1	Base Case	operation	351.0	105.17	127.19	DC	77.27
162678203	943120	AE2-341 TAP	138.0	CE	272803	W PLANO ; R	138.0	CE	1	Base Case	operation	351.0	181.6	193.99	DC	43.47
177507759	943120	AE2-341 TAP	138.0	CE	272803	W PLANO ; R	138.0	CE	1	COMED_P1-2_138-L11106__B-R-AA	operation	449.0	190.68	204.37	DC	61.46
175550053	943410	AF1-012 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	Base Case	operation	1334.0	137.82	138.31	DC	14.31
170032839	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P1-2_765-L11215__-S	operation	971.0	150.99	151.56	DC	19.76
177507895	960750	AF2-366 TAP	138.0	CE	272730	WATERMAN ;3B	138.0	CE	1	COMED_P2-1_094-L11323__	operation	480.0	121.4	132.9	DC	55.16
177507970	960750	AF2-366 TAP	138.0	CE	271558	GLIDDEN ; B	138.0	CE	1	COMED_P2-1_113-L11323__	operation	480.0	93.14	101.96	DC	42.29
162678381	961010	AF2-392 TAP	138.0	CE	272094	NELSON ; B	138.0	CE	1	COMED_P2-1_169-L16914__	operation	440.0	92.9	108.0	DC	66.43
177507821	962690	AG1-118 TAP	138.0	CE	272522	SUGAR GRV; B	138.0	CE	1	COMED_P1-2_138-L14609__R-R-A	operation	483.0	156.21	168.61	DC	59.89
177507825	962690	AG1-118 TAP	138.0	CE	272522	SUGAR GRV; B	138.0	CE	1	Base Case	operation	376.0	125.71	136.65	DC	41.17
177507826	963680	AG1-220 TAP	138.0	CE	271193	CHERRY VA; R	138.0	CE	1	COMED_P2-1_113-L11323__	operation	449.0	147.16	165.36	DC	81.71
177507831	963680	AG1-220 TAP	138.0	CE	271193	CHERRY VA; R	138.0	CE	1	Base Case	operation	351.0	104.1	114.93	DC	38.0

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
174477368	270743	ESS W407K;9T	CE	274749	AURORA EC;RP	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	138.69	139.41	DC	23.48

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.2059	Adder	2.6
274693	ROCKY RD ;1P	4.9878	50/50	4.9878
274695	ROCKY RD ;2P	5.0374	50/50	5.0374
274697	ROCKY RD ;3P	1.3684	50/50	1.3684
274818	ELGIN EC ;1P	6.1779	50/50	6.1779
274819	ELGIN EC ;3P	5.9544	50/50	5.9544
274820	ELGIN EC ;2P	6.1779	50/50	6.1779
274821	ELGIN EC ;4P	5.9991	50/50	5.9991
274859	EASYR;U1 E	14.2425	Adder	16.76
274860	EASYR;U2 E	14.2425	Adder	16.76
276167	Z1-106 E2	1.4705	Adder	1.73
276168	Z1-106 E1	1.4783	Adder	1.74
276170	Z1-108 E	4.6675	Adder	5.49
276591	L-013 2	4.2644	Adder	5.02
290051	GSG-6; E	8.7423	Adder	10.29
290108	LEEDK;1U E	18.1458	Adder	21.35
293516	O-009 E1	7.9413	Adder	9.34
293517	O-009 E2	4.0336	Adder	4.75
293518	O-009 E3	4.4421	Adder	5.23
293715	O-029 E	8.4902	Adder	9.99
293716	O-029 E	4.6550	Adder	5.48
293717	O-029 E	4.2785	Adder	5.03
294763	P-046 E	13.2872	Adder	15.63
295109	WESTBROOK E	4.6805	Adder	5.51
295111	SUBLETTE E	2.7014	Adder	3.18
915011	Y3-013 1	3.9030	Adder	4.59
915021	Y3-013 2	3.9030	Adder	4.59
915031	Y3-013 3	3.9030	Adder	4.59
916221	Z1-073 E	4.5408	Adder	5.34
919581	AA2-030 C	18.4375	Adder	21.69
920272	AA2-123 E	4.3515	Adder	5.12
924472	AB2-096 CT1	32.8885	Adder	38.69
924473	AB2-096 CT2	32.8885	Adder	38.69
924474	AB2-096 CT3	32.8885	Adder	38.69
926331	AC1-110 1	1.2550	Adder	1.48
926341	AC1-110 2	1.2550	Adder	1.48
930482	AB1-089 CT	68.4671	Adder	80.55
930483	AB1-089 ST	54.4340	Adder	64.04
933911	AD1-013 C	1.5484	Adder	1.82
933912	AD1-013 E	2.4734	Adder	2.91
933931	AD1-016 C	1.6497	Adder	1.94
933932	AD1-016 E	2.6916	Adder	3.17

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934432	AD1-067 E	0.4616	Adder	0.54
934701	AD1-098 C O1	5.8278	Adder	6.86
934702	AD1-098 E O1	4.2549	Adder	5.01
934971	AD1-129 C	1.5109	Adder	1.78
934972	AD1-129 E	1.0073	Adder	1.19
936791	AD2-102 C	21.6250	Adder	25.44
936792	AD2-102 E	14.4167	Adder	16.96
937001	AD2-134 C	2.2854	Adder	2.69
937002	AD2-134 E	9.4409	Adder	11.11
937311	AD2-172 C	3.4879	Adder	4.1
937312	AD2-172 E	4.8166	Adder	5.67
937531	AD2-214 C	4.2341	Adder	4.98
937532	AD2-214 E	2.8227	Adder	3.32
938861	AE1-114 C O1	4.9737	Adder	5.85
938862	AE1-114 E O1	16.9691	Adder	19.96
939051	AE1-134 1	1.4327	Adder	1.69
939061	AE1-134 2	1.4327	Adder	1.69
940501	AE2-035 C	3.4879	Adder	4.1
940502	AE2-035 E	4.8166	Adder	5.67
941131	AE2-107 C	4.8994	Adder	5.76
941132	AE2-107 E	3.2662	Adder	3.84
942991	AE2-321 C	14.4790	Adder	17.03
942992	AE2-321 E	7.1314	Adder	8.39
943411	AF1-012 C	11.3794	Adder	13.39
943412	AF1-012 E	7.5862	Adder	8.92
943801	AF1-048 C	6.7684	Adder	7.96
943802	AF1-048 E	4.5123	Adder	5.31
943921	AF1-060	1.7174	Adder	2.02
944041	AF1-072	5.4053	50/50	5.4053
945352	AF1-200 NFTW	174.1740	Merchant Transmission	174.1740
946151	AF1-280 C O1	19.0198	Adder	22.38
946152	AF1-280 E O1	8.7463	Adder	10.29
946161	AF1-281 C O1	0.4165	Adder	0.49
946162	AF1-281 E O1	2.3601	Adder	2.78
946321	AF1-296 C O1	3.6776	Adder	4.33
946322	AF1-296 E O1	17.2175	Adder	20.26
946501	AF1-314 C	6.1972	Adder	7.29
946502	AF1-314 E	29.0139	Adder	34.13
946661	AF1-330 C	3.5682	Adder	4.2
946662	AF1-330 E	0.7833	Adder	0.92
946671	AF1-331	2.0109	Adder	2.37
952381	J703	12.2771	PJM External (MISO)	12.2771
952391	J704	5.2484	PJM External (MISO)	5.2484
952431	J760	4.4730	PJM External (MISO)	4.4730
953151	J831	4.1888	PJM External (MISO)	4.1888
953491	J947	21.0560	PJM External (MISO)	21.0560
953681	J818	18.0409	PJM External (MISO)	18.0409
953891	J849	11.9925	PJM External (MISO)	11.9925
953901	J850	32.1175	PJM External (MISO)	32.1175
953921	J855 C	1.3974	PJM External (MISO)	1.3974
953922	J855 E	7.5606	PJM External (MISO)	7.5606
954001	J864	4.8880	PJM External (MISO)	4.8880

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
954061	J870	19.0080	PJM External (MISO)	19.0080
954071	J871	9.5040	PJM External (MISO)	9.5040
954141	J878	22.0320	PJM External (MISO)	22.0320
954191	J886	14.8170	PJM External (MISO)	14.8170
954741	J928 C	1.1973	PJM External (MISO)	1.1973
954742	J928 E	6.4775	PJM External (MISO)	6.4775
955091	J986	13.4095	PJM External (MISO)	13.4095
955221	J1000	4.1340	PJM External (MISO)	4.1340
955241	J1002	9.8525	PJM External (MISO)	9.8525
955251	J1003	5.4920	PJM External (MISO)	5.4920
955582	J1042 E	21.6846	PJM External (MISO)	21.6846
956141	J1101	1.9756	PJM External (MISO)	1.9756
956571	J1153	15.5265	PJM External (MISO)	15.5265
956581	J1154	9.0818	PJM External (MISO)	9.0818
956731	J1171	10.5520	PJM External (MISO)	10.5520
956852	J1183 E	0.1295	PJM External (MISO)	0.1295
956901	J1188	6.2940	PJM External (MISO)	6.2940
957331	AF2-027 C	2.6020	Adder	3.06
957332	AF2-027 E	3.9030	Adder	4.59
957471	AF2-041 C	16.3618	Adder	19.25
957472	AF2-041 E	8.1809	Adder	9.62
958911	AF2-182 C	24.9895	Adder	29.4
958912	AF2-182 E	16.6597	Adder	19.6
958921	AF2-183 C	4.4426	Adder	5.23
958922	AF2-183 E	6.6639	Adder	7.84
959081	AF2-199 C	5.4539	Adder	6.42
959082	AF2-199 E	2.7270	Adder	3.21
959091	AF2-200 C O1	10.9079	Adder	12.83
959092	AF2-200 E O1	5.4539	Adder	6.42
959101	AF2-201 C O1	8.5370	Adder	10.04
959102	AF2-201 E O1	24.5149	Adder	28.84
960551	AF2-346 C	4.8769	Adder	5.74
960552	AF2-346 E	3.2513	Adder	3.83
960581	AF2-349 C	37.5630	Adder	44.19
960582	AF2-349 E	25.0420	Adder	29.46
960721	AF2-363 C O1	6.6061	Adder	7.77
960722	AF2-363 E O1	4.4041	Adder	5.18
960731	AF2-364 C O1	12.9241	Adder	15.2
960732	AF2-364 E O1	8.6161	Adder	10.14
960751	AF2-366 C	5.3786	Adder	6.33
960752	AF2-366 E	3.5857	Adder	4.22
961011	AF2-392 C O1	4.1026	Adder	4.83
961012	AF2-392 E O1	19.2078	Adder	22.6
961021	AF2-393 O1	6.9931	Adder	8.23
961031	AF2-394 O1	4.6621	Adder	5.48
962012	AG1-044 E	0.0325	Adder	0.07
962691	AG1-118 C O2	7.8357	Adder	17.39
962692	AG1-118 E O2	5.2238	Adder	11.6
962701	AG1-119 C O2	77.4324	50/50	77.4324
962702	AG1-119 E O2	51.6216	50/50	51.6216
962711	AG1-120 C O2	30.6116	50/50	30.6116
962712	AG1-120 E O2	20.4077	50/50	20.4077

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962781	AG1-127 C O2	3.1570	Adder	7.01
962782	AG1-127 E O2	2.1047	Adder	4.67
962791	AG1-128 C O2	2.7399	Adder	6.08
962792	AG1-128 E O2	12.8213	Adder	28.46
963681	AG1-220 C O2	7.9310	Adder	17.6
963682	AG1-220 E O2	5.2873	Adder	11.74
964461	AG1-309 FTIR	467.8058	Merchant Transmission	467.8058
965061	AG1-371	1.4453	Adder	3.21
965071	AG1-372	0.9635	Adder	2.14
965081	AG1-373	0.4818	Adder	1.07
965551	AG1-423 C O2	37.7352	50/50	37.7352
965552	AG1-423 E O2	25.1568	50/50	25.1568
965661	AG1-434 C O2	1.8618	Adder	4.13
965662	AG1-434 E O2	8.7168	Adder	19.35
965931	AG1-462 C O2	9.3059	Adder	20.66
965932	AG1-462 E O2	6.2039	Adder	13.77
966521	AG1-521 C O2	5.2157	Adder	11.58
966522	AG1-521 E O2	1.3039	Adder	2.89
966651	AG1-535 O2	7.6677	Adder	17.02
966821	AG1-553 C O2	13.3882	Adder	29.72
966822	AG1-553 E O2	3.3470	Adder	7.43
WEC	WEC	4.7795	Confirmed LTF	4.7795
CBM-W2	CBM-W2	10.3757	Confirmed LTF	10.3757
NY	NY	0.4264	Confirmed LTF	0.4264
TVA	TVA	1.0234	Confirmed LTF	1.0234
O-066	O-066	5.0812	Confirmed LTF	5.0812
SIGE	SIGE	0.0426	Confirmed LTF	0.0426
CBM-S1	CBM-S1	0.1877	Confirmed LTF	0.1877
G-007	G-007	0.7928	Confirmed LTF	0.7928
HAMLET	HAMLET	0.1351	Confirmed LTF	0.1351
MEC	MEC	12.5865	Confirmed LTF	12.5865
GIBSON	GIBSON	0.2441	Confirmed LTF	0.2441
BLUEG	BLUEG	1.0659	Confirmed LTF	1.0659
TRIMBLE	TRIMBLE	0.3562	Confirmed LTF	0.3562
LAGN	LAGN	2.9470	Confirmed LTF	2.9470
CATAWBA	CATAWBA	0.0591	Confirmed LTF	0.0591
CBM-W1	CBM-W1	89.6018	Confirmed LTF	89.6018

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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
174477360	270751	ESS W407M;9T	CE	270743	ESS W407K;9T	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	139.65	140.37	DC	23.48

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.2059	Adder	2.6
274693	ROCKY RD ;1P	4.9878	50/50	4.9878
274695	ROCKY RD ;2P	5.0374	50/50	5.0374
274697	ROCKY RD ;3P	1.3684	50/50	1.3684
274818	ELGIN EC ;1P	6.1779	50/50	6.1779
274819	ELGIN EC ;3P	5.9544	50/50	5.9544
274820	ELGIN EC ;2P	6.1779	50/50	6.1779
274821	ELGIN EC ;4P	5.9991	50/50	5.9991
274859	EASYR;U1 E	14.2425	Adder	16.76
274860	EASYR;U2 E	14.2425	Adder	16.76
276167	Z1-106 E2	1.4705	Adder	1.73
276168	Z1-106 E1	1.4783	Adder	1.74
276170	Z1-108 E	4.6675	Adder	5.49
276591	L-013 2	4.2644	Adder	5.02
290051	GSG-6; E	8.7423	Adder	10.29
290108	LEEDK;1U E	18.1458	Adder	21.35
293516	O-009 E1	7.9413	Adder	9.34
293517	O-009 E2	4.0336	Adder	4.75
293518	O-009 E3	4.4421	Adder	5.23
293715	O-029 E	8.4902	Adder	9.99
293716	O-029 E	4.6550	Adder	5.48
293717	O-029 E	4.2785	Adder	5.03
294763	P-046 E	13.2872	Adder	15.63
295109	WESTBROOK E	4.6805	Adder	5.51
295111	SUBLETTE E	2.7014	Adder	3.18
915011	Y3-013 1	3.9030	Adder	4.59
915021	Y3-013 2	3.9030	Adder	4.59
915031	Y3-013 3	3.9030	Adder	4.59
916221	Z1-073 E	4.5408	Adder	5.34
919581	AA2-030 C	18.4375	Adder	21.69
920272	AA2-123 E	4.3515	Adder	5.12
924472	AB2-096 CT1	32.8885	Adder	38.69
924473	AB2-096 CT2	32.8885	Adder	38.69
924474	AB2-096 CT3	32.8885	Adder	38.69
926331	AC1-110 1	1.2550	Adder	1.48
926341	AC1-110 2	1.2550	Adder	1.48
930482	AB1-089 CT	68.4671	Adder	80.55
930483	AB1-089 ST	54.4340	Adder	64.04
933911	AD1-013 C	1.5484	Adder	1.82
933912	AD1-013 E	2.4734	Adder	2.91
933931	AD1-016 C	1.6497	Adder	1.94
933932	AD1-016 E	2.6916	Adder	3.17

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934432	AD1-067 E	0.4616	Adder	0.54
934701	AD1-098 C O1	5.8278	Adder	6.86
934702	AD1-098 E O1	4.2549	Adder	5.01
934971	AD1-129 C	1.5109	Adder	1.78
934972	AD1-129 E	1.0073	Adder	1.19
936791	AD2-102 C	21.6250	Adder	25.44
936792	AD2-102 E	14.4167	Adder	16.96
937001	AD2-134 C	2.2854	Adder	2.69
937002	AD2-134 E	9.4409	Adder	11.11
937311	AD2-172 C	3.4879	Adder	4.1
937312	AD2-172 E	4.8166	Adder	5.67
937531	AD2-214 C	4.2341	Adder	4.98
937532	AD2-214 E	2.8227	Adder	3.32
938861	AE1-114 C O1	4.9737	Adder	5.85
938862	AE1-114 E O1	16.9691	Adder	19.96
939051	AE1-134 1	1.4327	Adder	1.69
939061	AE1-134 2	1.4327	Adder	1.69
940501	AE2-035 C	3.4879	Adder	4.1
940502	AE2-035 E	4.8166	Adder	5.67
941131	AE2-107 C	4.8994	Adder	5.76
941132	AE2-107 E	3.2662	Adder	3.84
942991	AE2-321 C	14.4790	Adder	17.03
942992	AE2-321 E	7.1314	Adder	8.39
943411	AF1-012 C	11.3794	Adder	13.39
943412	AF1-012 E	7.5862	Adder	8.92
943801	AF1-048 C	6.7684	Adder	7.96
943802	AF1-048 E	4.5123	Adder	5.31
943921	AF1-060	1.7174	Adder	2.02
944041	AF1-072	5.4053	50/50	5.4053
945352	AF1-200 NFTW	174.1740	Merchant Transmission	174.1740
946151	AF1-280 C O1	19.0198	Adder	22.38
946152	AF1-280 E O1	8.7463	Adder	10.29
946161	AF1-281 C O1	0.4165	Adder	0.49
946162	AF1-281 E O1	2.3601	Adder	2.78
946321	AF1-296 C O1	3.6776	Adder	4.33
946322	AF1-296 E O1	17.2175	Adder	20.26
946501	AF1-314 C	6.1972	Adder	7.29
946502	AF1-314 E	29.0139	Adder	34.13
946661	AF1-330 C	3.5682	Adder	4.2
946662	AF1-330 E	0.7833	Adder	0.92
946671	AF1-331	2.0109	Adder	2.37
952381	J703	12.2771	PJM External (MISO)	12.2771
952391	J704	5.2484	PJM External (MISO)	5.2484
952431	J760	4.4730	PJM External (MISO)	4.4730
953151	J831	4.1888	PJM External (MISO)	4.1888
953491	J947	21.0560	PJM External (MISO)	21.0560
953681	J818	18.0409	PJM External (MISO)	18.0409
953891	J849	11.9925	PJM External (MISO)	11.9925
953901	J850	32.1175	PJM External (MISO)	32.1175
953921	J855 C	1.3974	PJM External (MISO)	1.3974
953922	J855 E	7.5606	PJM External (MISO)	7.5606
954001	J864	4.8880	PJM External (MISO)	4.8880

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
954061	J870	19.0080	PJM External (MISO)	19.0080
954071	J871	9.5040	PJM External (MISO)	9.5040
954141	J878	22.0320	PJM External (MISO)	22.0320
954191	J886	14.8170	PJM External (MISO)	14.8170
954741	J928 C	1.1973	PJM External (MISO)	1.1973
954742	J928 E	6.4775	PJM External (MISO)	6.4775
955091	J986	13.4095	PJM External (MISO)	13.4095
955221	J1000	4.1340	PJM External (MISO)	4.1340
955241	J1002	9.8525	PJM External (MISO)	9.8525
955251	J1003	5.4920	PJM External (MISO)	5.4920
955582	J1042 E	21.6846	PJM External (MISO)	21.6846
956141	J1101	1.9756	PJM External (MISO)	1.9756
956571	J1153	15.5265	PJM External (MISO)	15.5265
956581	J1154	9.0818	PJM External (MISO)	9.0818
956731	J1171	10.5520	PJM External (MISO)	10.5520
956852	J1183 E	0.1295	PJM External (MISO)	0.1295
956901	J1188	6.2940	PJM External (MISO)	6.2940
957331	AF2-027 C	2.6020	Adder	3.06
957332	AF2-027 E	3.9030	Adder	4.59
957471	AF2-041 C	16.3618	Adder	19.25
957472	AF2-041 E	8.1809	Adder	9.62
958911	AF2-182 C	24.9895	Adder	29.4
958912	AF2-182 E	16.6597	Adder	19.6
958921	AF2-183 C	4.4426	Adder	5.23
958922	AF2-183 E	6.6639	Adder	7.84
959081	AF2-199 C	5.4539	Adder	6.42
959082	AF2-199 E	2.7270	Adder	3.21
959091	AF2-200 C O1	10.9079	Adder	12.83
959092	AF2-200 E O1	5.4539	Adder	6.42
959101	AF2-201 C O1	8.5370	Adder	10.04
959102	AF2-201 E O1	24.5149	Adder	28.84
960551	AF2-346 C	4.8769	Adder	5.74
960552	AF2-346 E	3.2513	Adder	3.83
960581	AF2-349 C	37.5630	Adder	44.19
960582	AF2-349 E	25.0420	Adder	29.46
960721	AF2-363 C O1	6.6061	Adder	7.77
960722	AF2-363 E O1	4.4041	Adder	5.18
960731	AF2-364 C O1	12.9241	Adder	15.2
960732	AF2-364 E O1	8.6161	Adder	10.14
960751	AF2-366 C	5.3786	Adder	6.33
960752	AF2-366 E	3.5857	Adder	4.22
961011	AF2-392 C O1	4.1026	Adder	4.83
961012	AF2-392 E O1	19.2078	Adder	22.6
961021	AF2-393 O1	6.9931	Adder	8.23
961031	AF2-394 O1	4.6621	Adder	5.48
962012	AG1-044 E	0.0325	Adder	0.07
962691	AG1-118 C O2	7.8357	Adder	17.39
962692	AG1-118 E O2	5.2238	Adder	11.6
962701	AG1-119 C O2	77.4324	50/50	77.4324
962702	AG1-119 E O2	51.6216	50/50	51.6216
962711	AG1-120 C O2	30.6116	50/50	30.6116
962712	AG1-120 E O2	20.4077	50/50	20.4077

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962781	AG1-127 C O2	3.1570	Adder	7.01
962782	AG1-127 E O2	2.1047	Adder	4.67
962791	AG1-128 C O2	2.7399	Adder	6.08
962792	AG1-128 E O2	12.8213	Adder	28.46
963681	AG1-220 C O2	7.9310	Adder	17.6
963682	AG1-220 E O2	5.2873	Adder	11.74
964461	AG1-309 FTIR	467.8058	Merchant Transmission	467.8058
965061	AG1-371	1.4453	Adder	3.21
965071	AG1-372	0.9635	Adder	2.14
965081	AG1-373	0.4818	Adder	1.07
965551	AG1-423 C O2	37.7352	50/50	37.7352
965552	AG1-423 E O2	25.1568	50/50	25.1568
965661	AG1-434 C O2	1.8618	Adder	4.13
965662	AG1-434 E O2	8.7168	Adder	19.35
965931	AG1-462 C O2	9.3059	Adder	20.66
965932	AG1-462 E O2	6.2039	Adder	13.77
966521	AG1-521 C O2	5.2157	Adder	11.58
966522	AG1-521 E O2	1.3039	Adder	2.89
966651	AG1-535 O2	7.6677	Adder	17.02
966821	AG1-553 C O2	13.3882	Adder	29.72
966822	AG1-553 E O2	3.3470	Adder	7.43
WEC	WEC	4.7795	Confirmed LTF	4.7795
CBM-W2	CBM-W2	10.3757	Confirmed LTF	10.3757
NY	NY	0.4264	Confirmed LTF	0.4264
TVA	TVA	1.0234	Confirmed LTF	1.0234
O-066	O-066	5.0812	Confirmed LTF	5.0812
SIGE	SIGE	0.0426	Confirmed LTF	0.0426
CBM-S1	CBM-S1	0.1877	Confirmed LTF	0.1877
G-007	G-007	0.7928	Confirmed LTF	0.7928
HAMLET	HAMLET	0.1351	Confirmed LTF	0.1351
MEC	MEC	12.5865	Confirmed LTF	12.5865
GIBSON	GIBSON	0.2441	Confirmed LTF	0.2441
BLUEG	BLUEG	1.0659	Confirmed LTF	1.0659
TRIMBLE	TRIMBLE	0.3562	Confirmed LTF	0.3562
LAGN	LAGN	2.9470	Confirmed LTF	2.9470
CATAWBA	CATAWBA	0.0591	Confirmed LTF	0.0591
CBM-W1	CBM-W1	89.6018	Confirmed LTF	89.6018

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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
174477358	270917	WAYNE ; R	CE	270751	ESS W407M;9T	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	139.65	140.37	DC	23.48

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.2059	Adder	2.6
274693	ROCKY RD ;1P	4.9878	50/50	4.9878
274695	ROCKY RD ;2P	5.0374	50/50	5.0374
274697	ROCKY RD ;3P	1.3684	50/50	1.3684
274818	ELGIN EC ;1P	6.1779	50/50	6.1779
274819	ELGIN EC ;3P	5.9544	50/50	5.9544
274820	ELGIN EC ;2P	6.1779	50/50	6.1779
274821	ELGIN EC ;4P	5.9991	50/50	5.9991
274859	EASYR;U1 E	14.2425	Adder	16.76
274860	EASYR;U2 E	14.2425	Adder	16.76
276167	Z1-106 E2	1.4705	Adder	1.73
276168	Z1-106 E1	1.4783	Adder	1.74
276170	Z1-108 E	4.6675	Adder	5.49
276591	L-013 2	4.2644	Adder	5.02
290051	GSG-6; E	8.7423	Adder	10.29
290108	LEEDK;1U E	18.1458	Adder	21.35
293516	O-009 E1	7.9413	Adder	9.34
293517	O-009 E2	4.0336	Adder	4.75
293518	O-009 E3	4.4421	Adder	5.23
293715	O-029 E	8.4902	Adder	9.99
293716	O-029 E	4.6550	Adder	5.48
293717	O-029 E	4.2785	Adder	5.03
294763	P-046 E	13.2872	Adder	15.63
295109	WESTBROOK E	4.6805	Adder	5.51
295111	SUBLETTE E	2.7014	Adder	3.18
915011	Y3-013 1	3.9030	Adder	4.59
915021	Y3-013 2	3.9030	Adder	4.59
915031	Y3-013 3	3.9030	Adder	4.59
916221	Z1-073 E	4.5408	Adder	5.34
919581	AA2-030 C	18.4375	Adder	21.69
920272	AA2-123 E	4.3515	Adder	5.12
924472	AB2-096 CT1	32.8885	Adder	38.69
924473	AB2-096 CT2	32.8885	Adder	38.69
924474	AB2-096 CT3	32.8885	Adder	38.69
926331	AC1-110 1	1.2550	Adder	1.48
926341	AC1-110 2	1.2550	Adder	1.48
930482	AB1-089 CT	68.4671	Adder	80.55
930483	AB1-089 ST	54.4340	Adder	64.04
933911	AD1-013 C	1.5484	Adder	1.82
933912	AD1-013 E	2.4734	Adder	2.91
933931	AD1-016 C	1.6497	Adder	1.94
933932	AD1-016 E	2.6916	Adder	3.17

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934432	AD1-067 E	0.4616	Adder	0.54
934701	AD1-098 C O1	5.8278	Adder	6.86
934702	AD1-098 E O1	4.2549	Adder	5.01
934971	AD1-129 C	1.5109	Adder	1.78
934972	AD1-129 E	1.0073	Adder	1.19
936791	AD2-102 C	21.6250	Adder	25.44
936792	AD2-102 E	14.4167	Adder	16.96
937001	AD2-134 C	2.2854	Adder	2.69
937002	AD2-134 E	9.4409	Adder	11.11
937311	AD2-172 C	3.4879	Adder	4.1
937312	AD2-172 E	4.8166	Adder	5.67
937531	AD2-214 C	4.2341	Adder	4.98
937532	AD2-214 E	2.8227	Adder	3.32
938861	AE1-114 C O1	4.9737	Adder	5.85
938862	AE1-114 E O1	16.9691	Adder	19.96
939051	AE1-134 1	1.4327	Adder	1.69
939061	AE1-134 2	1.4327	Adder	1.69
940501	AE2-035 C	3.4879	Adder	4.1
940502	AE2-035 E	4.8166	Adder	5.67
941131	AE2-107 C	4.8994	Adder	5.76
941132	AE2-107 E	3.2662	Adder	3.84
942991	AE2-321 C	14.4790	Adder	17.03
942992	AE2-321 E	7.1314	Adder	8.39
943411	AF1-012 C	11.3794	Adder	13.39
943412	AF1-012 E	7.5862	Adder	8.92
943801	AF1-048 C	6.7684	Adder	7.96
943802	AF1-048 E	4.5123	Adder	5.31
943921	AF1-060	1.7174	Adder	2.02
944041	AF1-072	5.4053	50/50	5.4053
945352	AF1-200 NFTW	174.1740	Merchant Transmission	174.1740
946151	AF1-280 C O1	19.0198	Adder	22.38
946152	AF1-280 E O1	8.7463	Adder	10.29
946161	AF1-281 C O1	0.4165	Adder	0.49
946162	AF1-281 E O1	2.3601	Adder	2.78
946321	AF1-296 C O1	3.6776	Adder	4.33
946322	AF1-296 E O1	17.2175	Adder	20.26
946501	AF1-314 C	6.1972	Adder	7.29
946502	AF1-314 E	29.0139	Adder	34.13
946661	AF1-330 C	3.5682	Adder	4.2
946662	AF1-330 E	0.7833	Adder	0.92
946671	AF1-331	2.0109	Adder	2.37
952381	J703	12.2771	PJM External (MISO)	12.2771
952391	J704	5.2484	PJM External (MISO)	5.2484
952431	J760	4.4730	PJM External (MISO)	4.4730
953151	J831	4.1888	PJM External (MISO)	4.1888
953491	J947	21.0560	PJM External (MISO)	21.0560
953681	J818	18.0409	PJM External (MISO)	18.0409
953891	J849	11.9925	PJM External (MISO)	11.9925
953901	J850	32.1175	PJM External (MISO)	32.1175
953921	J855 C	1.3974	PJM External (MISO)	1.3974
953922	J855 E	7.5606	PJM External (MISO)	7.5606
954001	J864	4.8880	PJM External (MISO)	4.8880

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
954061	J870	19.0080	PJM External (MISO)	19.0080
954071	J871	9.5040	PJM External (MISO)	9.5040
954141	J878	22.0320	PJM External (MISO)	22.0320
954191	J886	14.8170	PJM External (MISO)	14.8170
954741	J928 C	1.1973	PJM External (MISO)	1.1973
954742	J928 E	6.4775	PJM External (MISO)	6.4775
955091	J986	13.4095	PJM External (MISO)	13.4095
955221	J1000	4.1340	PJM External (MISO)	4.1340
955241	J1002	9.8525	PJM External (MISO)	9.8525
955251	J1003	5.4920	PJM External (MISO)	5.4920
955582	J1042 E	21.6846	PJM External (MISO)	21.6846
956141	J1101	1.9756	PJM External (MISO)	1.9756
956571	J1153	15.5265	PJM External (MISO)	15.5265
956581	J1154	9.0818	PJM External (MISO)	9.0818
956731	J1171	10.5520	PJM External (MISO)	10.5520
956852	J1183 E	0.1295	PJM External (MISO)	0.1295
956901	J1188	6.2940	PJM External (MISO)	6.2940
957331	AF2-027 C	2.6020	Adder	3.06
957332	AF2-027 E	3.9030	Adder	4.59
957471	AF2-041 C	16.3618	Adder	19.25
957472	AF2-041 E	8.1809	Adder	9.62
958911	AF2-182 C	24.9895	Adder	29.4
958912	AF2-182 E	16.6597	Adder	19.6
958921	AF2-183 C	4.4426	Adder	5.23
958922	AF2-183 E	6.6639	Adder	7.84
959081	AF2-199 C	5.4539	Adder	6.42
959082	AF2-199 E	2.7270	Adder	3.21
959091	AF2-200 C O1	10.9079	Adder	12.83
959092	AF2-200 E O1	5.4539	Adder	6.42
959101	AF2-201 C O1	8.5370	Adder	10.04
959102	AF2-201 E O1	24.5149	Adder	28.84
960551	AF2-346 C	4.8769	Adder	5.74
960552	AF2-346 E	3.2513	Adder	3.83
960581	AF2-349 C	37.5630	Adder	44.19
960582	AF2-349 E	25.0420	Adder	29.46
960721	AF2-363 C O1	6.6061	Adder	7.77
960722	AF2-363 E O1	4.4041	Adder	5.18
960731	AF2-364 C O1	12.9241	Adder	15.2
960732	AF2-364 E O1	8.6161	Adder	10.14
960751	AF2-366 C	5.3786	Adder	6.33
960752	AF2-366 E	3.5857	Adder	4.22
961011	AF2-392 C O1	4.1026	Adder	4.83
961012	AF2-392 E O1	19.2078	Adder	22.6
961021	AF2-393 O1	6.9931	Adder	8.23
961031	AF2-394 O1	4.6621	Adder	5.48
962012	AG1-044 E	0.0325	Adder	0.07
962691	AG1-118 C O2	7.8357	Adder	17.39
962692	AG1-118 E O2	5.2238	Adder	11.6
962701	AG1-119 C O2	77.4324	50/50	77.4324
962702	AG1-119 E O2	51.6216	50/50	51.6216
962711	AG1-120 C O2	30.6116	50/50	30.6116
962712	AG1-120 E O2	20.4077	50/50	20.4077

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962781	AG1-127 C O2	3.1570	Adder	7.01
962782	AG1-127 E O2	2.1047	Adder	4.67
962791	AG1-128 C O2	2.7399	Adder	6.08
962792	AG1-128 E O2	12.8213	Adder	28.46
963681	AG1-220 C O2	7.9310	Adder	17.6
963682	AG1-220 E O2	5.2873	Adder	11.74
964461	AG1-309 FTIR	467.8058	Merchant Transmission	467.8058
965061	AG1-371	1.4453	Adder	3.21
965071	AG1-372	0.9635	Adder	2.14
965081	AG1-373	0.4818	Adder	1.07
965551	AG1-423 C O2	37.7352	50/50	37.7352
965552	AG1-423 E O2	25.1568	50/50	25.1568
965661	AG1-434 C O2	1.8618	Adder	4.13
965662	AG1-434 E O2	8.7168	Adder	19.35
965931	AG1-462 C O2	9.3059	Adder	20.66
965932	AG1-462 E O2	6.2039	Adder	13.77
966521	AG1-521 C O2	5.2157	Adder	11.58
966522	AG1-521 E O2	1.3039	Adder	2.89
966651	AG1-535 O2	7.6677	Adder	17.02
966821	AG1-553 C O2	13.3882	Adder	29.72
966822	AG1-553 E O2	3.3470	Adder	7.43
WEC	WEC	4.7795	Confirmed LTF	4.7795
CBM-W2	CBM-W2	10.3757	Confirmed LTF	10.3757
NY	NY	0.4264	Confirmed LTF	0.4264
TVA	TVA	1.0234	Confirmed LTF	1.0234
O-066	O-066	5.0812	Confirmed LTF	5.0812
SIGE	SIGE	0.0426	Confirmed LTF	0.0426
CBM-S1	CBM-S1	0.1877	Confirmed LTF	0.1877
G-007	G-007	0.7928	Confirmed LTF	0.7928
HAMLET	HAMLET	0.1351	Confirmed LTF	0.1351
MEC	MEC	12.5865	Confirmed LTF	12.5865
GIBSON	GIBSON	0.2441	Confirmed LTF	0.2441
BLUEG	BLUEG	1.0659	Confirmed LTF	1.0659
TRIMBLE	TRIMBLE	0.3562	Confirmed LTF	0.3562
LAGN	LAGN	2.9470	Confirmed LTF	2.9470
CATAWBA	CATAWBA	0.0591	Confirmed LTF	0.0591
CBM-W1	CBM-W1	89.6018	Confirmed LTF	89.6018

13.5.4 Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	ACID C	MW IMPACT
162503781	271117	BRISTOL ; R	CE	272027	MONTGOMERY ; R	CE	1	COMED_P4_167-38-TR81	breaker	449.0	108.99	116.73	DC	34.76

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ; R	3.9261	50/50	3.9261
274850	MENDOTA H ; RU	0.3647	50/50	0.3647
274855	GSG-6 ; RU	0.6005	50/50	0.6005
274872	LEE DEKAL ; 1U	1.3648	50/50	1.3648
290051	GSG-6 ; E	15.2249	50/50	15.2249
290108	LEEDK ; 1U E	43.2540	50/50	43.2540
295108	WESTBROOK C	0.1947	50/50	0.1947
295109	WESTBROOK E	8.1512	50/50	8.1512
916221	Z1-073 E	7.9079	50/50	7.9079
933431	AC2-156 C O1	4.0839	50/50	4.0839
933432	AC2-156 E O1	6.6633	50/50	6.6633
933911	AD1-013 C	2.7754	50/50	2.7754
933912	AD1-013 E	4.4334	50/50	4.4334
934431	AD1-067 C	0.0302	50/50	0.0302
934432	AD1-067 E	0.8038	50/50	0.8038
934701	AD1-098 C O1	9.6277	50/50	9.6277
934702	AD1-098 E O1	7.0293	50/50	7.0293
937001	AD2-134 C	3.9800	50/50	3.9800
937002	AD2-134 E	16.4415	50/50	16.4415
941131	AE2-107 C	11.6786	50/50	11.6786
941132	AE2-107 E	7.7857	50/50	7.7857
943121	AE2-341 C	64.4766	50/50	64.4766
943122	AE2-341 E	31.6614	50/50	31.6614
943591	AF1-030 C O1	42.8775	50/50	42.8775
943592	AF1-030 E O1	21.2145	50/50	21.2145
946671	AF1-331	3.6044	50/50	3.6044
960381	AF2-329	33.4560	50/50	33.4560
960721	AF2-363 C O1	6.5026	50/50	6.5026
960722	AF2-363 E O1	4.3350	50/50	4.3350
960751	AF2-366 C	12.4733	50/50	12.4733
960752	AF2-366 E	8.3155	50/50	8.3155
962691	AG1-118 C O2	38.9538	50/50	38.9538
962692	AG1-118 E O2	25.9692	50/50	25.9692
962781	AG1-127 C O2	13.8139	50/50	13.8139
962782	AG1-127 E O2	9.2093	50/50	9.2093
962791	AG1-128 C O2	9.0028	50/50	9.0028
962792	AG1-128 E O2	42.1291	50/50	42.1291
963681	AG1-220 C O2	2.9099	Adder	6.46
963682	AG1-220 E O2	1.9399	Adder	4.31
965661	AG1-434 C O2	6.1178	50/50	6.1178
965662	AG1-434 E O2	28.6422	50/50	28.6422
WEC	WEC	0.1723	Confirmed LTF	0.1723

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-W2	CBM-W2	1.2275	Confirmed LTF	1.2275
NY	NY	0.0293	Confirmed LTF	0.0293
TVA	TVA	0.1302	Confirmed LTF	0.1302
O-066	O-066	0.3432	Confirmed LTF	0.3432
SIGE	SIGE	0.0046	Confirmed LTF	0.0046
CBM-S2	CBM-S2	0.0835	Confirmed LTF	0.0835
CBM-S1	CBM-S1	0.0270	Confirmed LTF	0.0270
G-007	G-007	0.0535	Confirmed LTF	0.0535
MEC	MEC	1.1933	Confirmed LTF	1.1933
GIBSON	GIBSON	0.0087	Confirmed LTF	0.0087
BLUEG	BLUEG	0.0608	Confirmed LTF	0.0608
TRIMBLE	TRIMBLE	0.0206	Confirmed LTF	0.0206
LAGN	LAGN	0.3150	Confirmed LTF	0.3150
CBM-W1	CBM-W1	5.9305	Confirmed LTF	5.9305

13.5.5 Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	ACID C	MW IMPACT
162503671	272027	MONTGOMER;R T	CE	272203	OSWEG O ;R	CE	1	COMED_P4_167-38-TR81	breaker	264.0	156.98	169.4	DC	32.79

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

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

13.5.6 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
162503741	272365	ESS H440 ;RT	CE	272516	STEWART ; B	CE	1	COMED_P4_107-38-L15508_	breaker	495.0	107.37	137.98	DC	151.51

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	9.3452	50/50	9.3452
274850	MENDOTA H;RU	1.5896	50/50	1.5896
274855	GSG-6 ;RU	2.6175	50/50	2.6175
290051	GSG-6; E	66.3631	50/50	66.3631
295108	WESTBROOK C	0.8486	50/50	0.8486
295109	WESTBROOK E	35.5300	50/50	35.5300
916221	Z1-073 E	34.4694	50/50	34.4694
933911	AD1-013 C	4.1403	50/50	4.1403
933912	AD1-013 E	6.6137	50/50	6.6137
934431	AD1-067 C	0.1315	50/50	0.1315
934432	AD1-067 E	3.5038	50/50	3.5038
934701	AD1-098 C O1	43.7875	50/50	43.7875
934702	AD1-098 E O1	31.9695	50/50	31.9695
937001	AD2-134 C	17.3484	50/50	17.3484
937002	AD2-134 E	71.6661	50/50	71.6661
946671	AF1-331	5.3770	50/50	5.3770
962791	AG1-128 C O2	39.2421	50/50	39.2421
962792	AG1-128 E O2	183.6350	50/50	183.6350
965661	AG1-434 C O2	26.6665	50/50	26.6665
965662	AG1-434 E O2	124.8475	50/50	124.8475
WEC	WEC	0.0280	Confirmed LTF	0.0280
CALDERWOOD	CALDERWOOD	0.0060	Confirmed LTF	0.0060
NY	NY	0.0127	Confirmed LTF	0.0127
O-066	O-066	0.1481	Confirmed LTF	0.1481
SIGE	SIGE	0.0005	Confirmed LTF	0.0005
CHEOAH	CHEOAH	0.0060	Confirmed LTF	0.0060
G-007	G-007	0.0231	Confirmed LTF	0.0231
HAMLET	HAMLET	0.0092	Confirmed LTF	0.0092
MEC	MEC	0.1160	Confirmed LTF	0.1160
GIBSON	GIBSON	0.0098	Confirmed LTF	0.0098
BLUEG	BLUEG	0.0365	Confirmed LTF	0.0365
TRIMBLE	TRIMBLE	0.0117	Confirmed LTF	0.0117
LAGN	LAGN	0.0087	Confirmed LTF	0.0087
CATAWBA	CATAWBA	0.0056	Confirmed LTF	0.0056
CBM-W1	CBM-W1	0.6730	Confirmed LTF	0.6730

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
161831672	270644	WILTON ;	CE	243206	05DUMONT	AEP	1	COMED_P7-1_345-L94507_B-S+_345-L97008_R-S	tower	4105.0	108.04	108.06	DC	64.92

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	6.0876	Adder	7.16
274658	DRESDEN ;2U	252.5452	Adder	297.11
274659	DRESDEN ;3U	253.1440	Adder	297.82
274771	LINCOLN ;2U	4.8320	50/50	4.8320
274772	LINCOLN ;3U	4.8320	50/50	4.8320
274773	LINCOLN ;4U	4.8320	50/50	4.8320
274774	LINCOLN ;5U	4.8320	50/50	4.8320
274775	LINCOLN ;6U	4.8320	50/50	4.8320
274776	LINCOLN ;7U	4.8320	50/50	4.8320
274777	LINCOLN ;8U	4.8320	50/50	4.8320
276167	Z1-106 E2	2.8901	Adder	3.4
276168	Z1-106 E1	2.8900	Adder	3.4
276169	Z1-107 E	5.5242	Adder	6.5
276170	Z1-108 E	5.6197	Adder	6.61
276591	L-013 2	8.3812	Adder	9.86
290051	GSG-6; E	24.1712	Adder	28.44
290108	LEEDK;1U E	56.1323	Adder	66.04
293061	N-015 E	35.1115	Adder	41.31
294392	P-010 E	44.5916	Adder	52.46
295109	WESTBROOK E	12.9410	Adder	15.22
915011	Y3-013 1	8.3334	Adder	9.8
915021	Y3-013 2	8.3334	Adder	9.8
915031	Y3-013 3	8.3334	Adder	9.8
916221	Z1-073 E	12.5547	Adder	14.77
920272	AA2-123 E	5.5243	Adder	6.5
924472	AB2-096 CT1	43.0735	Adder	50.67
924473	AB2-096 CT2	43.0735	Adder	50.67
924474	AB2-096 CT3	43.0735	Adder	50.67
926331	AC1-110 1	4.3521	Adder	5.12
926341	AC1-110 2	4.3521	Adder	5.12
927451	AC1-142A 1	9.0114	Adder	10.6
927461	AC1-142A 2	9.0105	Adder	10.6
930482	AB1-089 CT	83.0335	Adder	97.69
930483	AB1-089 ST	66.0149	Adder	77.66
930761	AB1-122 CT1	155.9503	Adder	183.47
930771	AB1-122 CT2	160.7157	Adder	189.08
933431	AC2-156 C O1	2.2410	Adder	2.64
933432	AC2-156 E O1	3.6563	Adder	4.3
933911	AD1-013 C	4.2662	Adder	5.02
933912	AD1-013 E	6.8148	Adder	8.02

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933931	AD1-016 C	2.0967	Adder	2.47
933932	AD1-016 E	3.4209	Adder	4.02
934101	AD1-039 1	15.2831	Adder	17.98
934111	AD1-039 2	15.7501	Adder	18.53
934432	AD1-067 E	1.2762	Adder	1.5
934701	AD1-098 C O1	15.8965	Adder	18.7
934702	AD1-098 E O1	11.6061	Adder	13.65
934721	AD1-100 C	43.3500	Adder	51.0
934722	AD1-100 E	202.3000	Adder	238.0
934971	AD1-129 C	2.0431	Adder	2.4
934972	AD1-129 E	1.3621	Adder	1.6
937001	AD2-134 C	6.3187	Adder	7.43
937002	AD2-134 E	26.1027	Adder	30.71
937401	AD2-194 1	16.7336	Adder	19.69
937411	AD2-194 2	16.7326	Adder	19.69
938511	AE1-070 1	19.6608	Adder	23.13
938521	AE1-070 2	17.9886	Adder	21.16
939351	AE1-166 C O1	11.8271	Adder	26.25
939352	AE1-166 E O1	10.9173	Adder	24.23
939631	AE1-193 C	17.9480	Adder	21.12
939632	AE1-193 E	120.1133	Adder	141.31
939641	AE1-194 C	17.9480	Adder	21.12
939642	AE1-194 E	120.1133	Adder	141.31
939651	AE1-195 C	17.9480	Adder	21.12
939652	AE1-195 E	120.1133	Adder	141.31
939681	AE1-198 C	53.2916	Adder	62.7
939682	AE1-198 E	45.2841	Adder	53.28
940752	AE2-062 E	0.1480	Adder	0.33
941131	AE2-107 C	15.1557	Adder	17.83
941132	AE2-107 E	10.1038	Adder	11.89
941551	AE2-152 C O1	13.6466	Adder	30.29
941552	AE2-152 E O1	9.0978	Adder	20.19
941561	AE2-153 C O1	9.8706	Adder	11.61
941562	AE2-153 E O1	46.2124	Adder	54.37
942991	AE2-321 C	18.5008	Adder	21.77
942992	AE2-321 E	9.1123	Adder	10.72
943121	AE2-341 C	30.0636	Adder	35.37
943122	AE2-341 E	14.7628	Adder	17.37
943591	AF1-030 C O1	19.9926	Adder	23.52
943592	AF1-030 E O1	9.8917	Adder	11.64
943801	AF1-048 C	8.6484	Adder	10.17
943802	AF1-048 E	5.7656	Adder	6.78
944041	AF1-072	4.8913	Adder	5.75
944911	AF1-156 C	25.2373	Adder	29.69
944912	AF1-156 E	16.8249	Adder	19.79
945351	AF1-200 FTIR	789.6207	Merchant Transmission	789.6207
946661	AF1-330 C	4.5299	Adder	5.33
946662	AF1-330 E	0.9944	Adder	1.17
946671	AF1-331	5.5405	Adder	6.52
957331	AF2-027 C	5.5556	Adder	6.54
957332	AF2-027 E	8.3334	Adder	9.8
957401	AF2-034 C	3.0216	Adder	3.55

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957402	AF2-034 E	2.5740	Adder	3.03
957471	AF2-041 C	48.8835	Adder	57.51
957472	AF2-041 E	24.4417	Adder	28.75
958021	AF2-096 C	72.8367	Adder	85.69
958022	AF2-096 E	34.2761	Adder	40.32
959081	AF2-199 C	16.2945	Adder	19.17
959082	AF2-199 E	8.1473	Adder	9.59
959091	AF2-200 C O1	32.5890	Adder	38.34
959092	AF2-200 E O1	16.2945	Adder	19.17
960381	AF2-329	15.5996	Adder	18.35
960581	AF2-349 C	49.1956	Adder	57.88
960582	AF2-349 E	32.7971	Adder	38.58
960721	AF2-363 C O1	13.4879	Adder	15.87
960722	AF2-363 E O1	8.9919	Adder	10.58
960731	AF2-364 C O1	14.0147	Adder	16.49
960732	AF2-364 E O1	9.3431	Adder	10.99
960751	AF2-366 C	16.0423	Adder	18.87
960752	AF2-366 E	10.6949	Adder	12.58
962691	AG1-118 C O2	27.1173	Adder	60.19
962692	AG1-118 E O2	18.0782	Adder	40.13
962701	AG1-119 C O2	27.3695	Adder	60.75
962702	AG1-119 E O2	18.2463	Adder	40.5
962711	AG1-120 C O2	10.8201	Adder	24.02
962712	AG1-120 E O2	7.2134	Adder	16.01
962781	AG1-127 C O2	9.4163	Adder	20.9
962782	AG1-127 E O2	6.2775	Adder	13.93
962791	AG1-128 C O2	7.5753	Adder	16.82
962792	AG1-128 E O2	35.4489	Adder	78.69
963681	AG1-220 C O2	12.9987	Adder	28.85
963682	AG1-220 E O2	8.6658	Adder	19.24
965061	AG1-371	4.3180	Adder	9.58
965071	AG1-372	2.8787	Adder	6.39
965081	AG1-373	1.4393	Adder	3.19
965141	AG1-379 C	11.9253	Adder	26.47
965142	AG1-379 E	5.4585	Adder	12.12
965551	AG1-423 C O2	17.5527	Adder	38.96
965552	AG1-423 E O2	11.7018	Adder	25.98
965661	AG1-434 C O2	5.1477	Adder	11.43
965662	AG1-434 E O2	24.1006	Adder	53.5
966081	AG1-477 C	2.3403	Adder	5.19
966082	AG1-477 E	0.5887	Adder	1.31
966091	AG1-478 C	2.3079	Adder	5.12
966092	AG1-478 E	0.5806	Adder	1.29
966101	AG1-479 C (Withdrawn : 12/03/2020)	2.3403	Adder	5.19
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.5887	Adder	1.31
966431	AG1-512 C	2.3403	Adder	5.19
966432	AG1-512 E	3.5104	Adder	7.79
966441	AG1-513 C	0.6192	Adder	1.37
966442	AG1-513 E	0.9288	Adder	2.06
966651	AG1-535 O2	13.0015	Adder	28.86
WEC	WEC	9.8371	Confirmed LTF	9.8371

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-W2	CBM-W2	56.1702	Confirmed LTF	56.1702
NY	NY	2.7700	Confirmed LTF	2.7700
TVA	TVA	4.2154	Confirmed LTF	4.2154
O-066	O-066	33.1318	Confirmed LTF	33.1318
SIGE	SIGE	0.5104	Confirmed LTF	0.5104
CBM-S1	CBM-S1	0.7638	Confirmed LTF	0.7638
G-007	G-007	5.1649	Confirmed LTF	5.1649
HAMLET	HAMLET	1.2335	Confirmed LTF	1.2335
MEC	MEC	35.0231	Confirmed LTF	35.0231
BLUEG	BLUEG	4.6646	Confirmed LTF	4.6646
TRIMBLE	TRIMBLE	1.6055	Confirmed LTF	1.6055
LAGN	LAGN	10.8325	Confirmed LTF	10.8325
CATAWBA	CATAWBA	0.6244	Confirmed LTF	0.6244
CBM-W1	CBM-W1	189.1859	Confirmed LTF	189.1859

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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
174555437	270728	E FRANKFO; B	CE	274750	CRETE EC ;BP	CE	1	COMED_P4_112-65-BT3-4__	breaker	1399.0	115.92	115.94	DC	25.31

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

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

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

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

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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
174302550	270730	ELECT JCT; B	CE	270812	LOMBARD ; B	CE	1	COMED_P4_111-45-L11120_	breaker	1479.0	123.64	124.22	DC	18.96

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

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

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

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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
174555416	270730	ELECT JCT; B	CE	270846	PLANO ; B	CE	1	COMED_P4_111-45-L16703_	breaker	1341.0	127.6	128.23	DC	23.53

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

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

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

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

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

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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
174477417	270731	ELECT JCT;4R	CE	270733	ELECT JCT;3R	CE	1	COMED_P4_111-45-L16704T	breaker	1656.0	125.35	125.89	DC	19.35

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.8199	Adder	2.14
274659	DRESDEN ;3U	70.5533	Adder	83.0
274695	ROCKY RD ;2P	3.3920	50/50	3.3920
274737	AURORA EC;1P	12.6528	50/50	12.6528
274739	AURORA EC;2P	12.6528	50/50	12.6528
274818	ELGIN EC ;1P	4.2523	50/50	4.2523
274819	ELGIN EC ;3P	4.2387	50/50	4.2387
274820	ELGIN EC ;2P	4.2523	50/50	4.2523
274821	ELGIN EC ;4P	4.2705	50/50	4.2705
274859	EASYR;U1 E	9.8255	Adder	11.56
274860	EASYR;U2 E	9.8255	Adder	11.56
276167	Z1-106 E2	1.3081	Adder	1.54
276168	Z1-106 E1	1.3076	Adder	1.54
276170	Z1-108 E	2.9769	Adder	3.5
276591	L-013 2	3.7934	Adder	4.46
290051	GSG-6; E	7.2040	Adder	8.48
290108	LEEDK;1U E	15.8202	Adder	18.61
293516	O-009 E1	6.1994	Adder	7.29
293517	O-009 E2	3.1488	Adder	3.7
293518	O-009 E3	3.4677	Adder	4.08
293715	O-029 E	6.6278	Adder	7.8
293716	O-029 E	3.6339	Adder	4.28
293717	O-029 E	3.3400	Adder	3.93
294763	P-046 E	8.9835	Adder	10.57
295109	WESTBROOK E	3.8569	Adder	4.54
295111	SUBLETTE E	1.9754	Adder	2.32
915011	Y3-013 1	1.8447	Adder	2.17
915021	Y3-013 2	1.8447	Adder	2.17
915031	Y3-013 3	1.8447	Adder	2.17
916221	Z1-073 E	3.7418	Adder	4.4
919581	AA2-030 C	13.1448	Adder	15.46
920272	AA2-123 E	2.8320	Adder	3.33
924472	AB2-096 CT1	21.3264	Adder	25.09
924473	AB2-096 CT2	21.3264	Adder	25.09
924474	AB2-096 CT3	21.3264	Adder	25.09
926311	AC1-109 1	1.2488	50/50	1.2488
926321	AC1-109 2	1.2488	50/50	1.2488
926331	AC1-110 1	1.1123	Adder	1.31
926341	AC1-110 2	1.1123	Adder	1.31
930482	AB1-089 CT	45.8739	Adder	53.97
930483	AB1-089 ST	36.4715	Adder	42.91
930761	AB1-122 CT1	38.4060	Adder	45.18

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933431	AC2-156 C O1	0.4666	Adder	0.55
933432	AC2-156 E O1	0.7613	Adder	0.9
933911	AD1-013 C	1.2777	Adder	1.5
933912	AD1-013 E	2.0410	Adder	2.4
933931	AD1-016 C	1.0735	Adder	1.26
933932	AD1-016 E	1.7515	Adder	2.06
934101	AD1-039 1	3.7638	Adder	4.43
934432	AD1-067 E	0.3803	Adder	0.45
934701	AD1-098 C O1	4.7676	Adder	5.61
934702	AD1-098 E O1	3.4808	Adder	4.1
934971	AD1-129 C	0.9945	Adder	1.17
934972	AD1-129 E	0.6630	Adder	0.78
936791	AD2-102 C	14.2474	Adder	16.76
936792	AD2-102 E	9.4982	Adder	11.17
937001	AD2-134 C	1.8832	Adder	2.22
937002	AD2-134 E	7.7797	Adder	9.15
937311	AD2-172 C	2.3582	Adder	2.77
937312	AD2-172 E	3.2565	Adder	3.83
937531	AD2-214 C	3.1777	Adder	3.74
937532	AD2-214 E	2.1185	Adder	2.49
938861	AE1-114 C O1	3.4512	Adder	4.06
938862	AE1-114 E O1	11.7748	Adder	13.85
939051	AE1-134 1	1.0214	Adder	1.2
939061	AE1-134 2	1.0214	Adder	1.2
940501	AE2-035 C	2.3582	Adder	2.77
940502	AE2-035 E	3.2565	Adder	3.83
941131	AE2-107 C	4.2715	Adder	5.03
941132	AE2-107 E	2.8476	Adder	3.35
942991	AE2-321 C	9.4372	Adder	11.1
942992	AE2-321 E	4.6482	Adder	5.47
943411	AF1-012 C	7.9192	Adder	9.32
943412	AF1-012 E	5.2794	Adder	6.21
943801	AF1-048 C	4.4115	Adder	5.19
943802	AF1-048 E	2.9410	Adder	3.46
943921	AF1-060	1.1611	Adder	1.37
944041	AF1-072	3.0937	Adder	3.64
945352	AF1-200 NFTW	374.4930	Merchant Transmission	374.4930
946151	AF1-280 C O1	13.2357	Adder	15.57
946152	AF1-280 E O1	6.0865	Adder	7.16
946161	AF1-281 C O1	0.2898	Adder	0.34
946162	AF1-281 E O1	1.6424	Adder	1.93
946321	AF1-296 C O1	2.8069	Adder	3.3
946322	AF1-296 E O1	13.1411	Adder	15.46
946501	AF1-314 C	4.1899	Adder	4.93
946502	AF1-314 E	19.6163	Adder	23.08
946661	AF1-330 C	2.3223	Adder	2.73
946662	AF1-330 E	0.5098	Adder	0.6
946671	AF1-331	1.6594	Adder	1.95
952431	J760	2.8251	PJM External (MISO)	2.8251
953681	J818	10.5164	PJM External (MISO)	10.5164
953901	J850	18.2150	PJM External (MISO)	18.2150
956581	J1154	5.2950	PJM External (MISO)	5.2950

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
956901	J1188	3.8050	PJM External (MISO)	3.8050
957331	AF2-027 C	1.2298	Adder	1.45
957332	AF2-027 E	1.8447	Adder	2.17
957471	AF2-041 C	10.6901	Adder	12.58
957472	AF2-041 E	5.3451	Adder	6.29
958911	AF2-182 C	17.3900	Adder	20.46
958912	AF2-182 E	11.5933	Adder	13.64
958921	AF2-183 C	3.0916	Adder	3.64
958922	AF2-183 E	4.6373	Adder	5.46
959081	AF2-199 C	3.5634	Adder	4.19
959082	AF2-199 E	1.7817	Adder	2.1
959091	AF2-200 C O1	7.1267	Adder	8.38
959092	AF2-200 E O1	3.5634	Adder	4.19
959101	AF2-201 C O1	5.7719	Adder	6.79
959102	AF2-201 E O1	16.5745	Adder	19.5
960551	AF2-346 C	3.3939	Adder	3.99
960552	AF2-346 E	2.2626	Adder	2.66
960581	AF2-349 C	24.3576	Adder	28.66
960582	AF2-349 E	16.2384	Adder	19.1
960721	AF2-363 C O1	4.9032	Adder	5.77
960722	AF2-363 E O1	3.2688	Adder	3.85
960731	AF2-364 C O1	11.0540	50/50	11.0540
960732	AF2-364 E O1	7.3693	50/50	7.3693
960751	AF2-366 C	4.6318	Adder	5.45
960752	AF2-366 E	3.0879	Adder	3.63
961011	AF2-392 C O1	2.9845	Adder	3.51
961012	AF2-392 E O1	13.9730	Adder	16.44
961021	AF2-393 O1	5.0873	Adder	5.99
961031	AF2-394 O1	3.3915	Adder	3.99
962012	AG1-044 E	0.0240	Adder	0.05
962691	AG1-118 C O2	7.2089	Adder	16.0
962692	AG1-118 E O2	4.8059	Adder	10.67
962701	AG1-119 C O2	52.1478	50/50	52.1478
962702	AG1-119 E O2	34.7652	50/50	34.7652
962711	AG1-120 C O2	20.6158	50/50	20.6158
962712	AG1-120 E O2	13.7438	50/50	13.7438
962781	AG1-127 C O2	2.7187	Adder	6.03
962782	AG1-127 E O2	1.8125	Adder	4.02
962791	AG1-128 C O2	2.2577	Adder	5.01
962792	AG1-128 E O2	10.5652	Adder	23.45
963681	AG1-220 C O2	5.4882	Adder	12.18
963682	AG1-220 E O2	3.6588	Adder	8.12
964461	AG1-309 FTIR	312.8406	Merchant Transmission	312.8406
965061	AG1-371	0.9443	Adder	2.1
965071	AG1-372	0.6295	Adder	1.4
965081	AG1-373	0.3148	Adder	0.7
965551	AG1-423 C O2	11.4137	Adder	25.34
965552	AG1-423 E O2	7.6091	Adder	16.89
965661	AG1-434 C O2	1.5342	Adder	3.41
965662	AG1-434 E O2	7.1830	Adder	15.94
965931	AG1-462 C O2	7.1311	Adder	15.83
965932	AG1-462 E O2	4.7540	Adder	10.55

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966441	AG1-513 C	0.1473	Adder	0.33
966442	AG1-513 E	0.2209	Adder	0.49
966521	AG1-521 C O2	3.7806	Adder	8.39
966522	AG1-521 E O2	0.9451	Adder	2.1
966651	AG1-535 O2	5.8293	Adder	12.94
966821	AG1-553 C O2	10.3507	Adder	22.98
966822	AG1-553 E O2	2.5877	Adder	5.74
WEC	WEC	2.5559	Confirmed LTF	2.5559
CBM-W2	CBM-W2	14.3987	Confirmed LTF	14.3987
NY	NY	0.3943	Confirmed LTF	0.3943
TVA	TVA	1.3818	Confirmed LTF	1.3818
O-066	O-066	4.6639	Confirmed LTF	4.6639
SIGE	SIGE	0.0827	Confirmed LTF	0.0827
CBM-S1	CBM-S1	0.2858	Confirmed LTF	0.2858
G-007	G-007	0.7266	Confirmed LTF	0.7266
HAMLET	HAMLET	0.0578	Confirmed LTF	0.0578
MEC	MEC	10.1791	Confirmed LTF	10.1791
BLUEG	BLUEG	0.6059	Confirmed LTF	0.6059
TRIMBLE	TRIMBLE	0.2143	Confirmed LTF	0.2143
LAGN	LAGN	3.1517	Confirmed LTF	3.1517
CATAWBA	CATAWBA	0.0091	Confirmed LTF	0.0091
CBM-W1	CBM-W1	57.0894	Confirmed LTF	57.0894

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
174302518	270828	NELSON ; B	CE	943410	AF1-012 TAP	CE	1	COMED_P4_144-45-BT7-8__	breaker	1656.0	128.18	128.64	DC	16.81

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.4642	Adder	1.72
274715	NELSON EC;1C	6.9788	50/50	6.9788
274716	NELSON EC;1S	5.0921	50/50	5.0921
274717	NELSON EC;2C	7.0327	50/50	7.0327
274718	NELSON EC;2S	5.1377	50/50	5.1377
274762	LEE CO EC;3U	2.8860	50/50	2.8860
274764	LEE CO EC;5U	2.8928	50/50	2.8928
274765	LEE CO EC;6U	2.8928	50/50	2.8928
274859	EASYR;U1 E	17.5815	Adder	20.68
274860	EASYR;U2 E	17.5815	Adder	20.68
290051	GSG-6; E	6.2599	Adder	7.36
293516	O-009 E1	13.5821	Adder	15.98
293517	O-009 E2	6.8987	Adder	8.12
293518	O-009 E3	7.5973	Adder	8.94
293715	O-029 E	14.5208	Adder	17.08
293716	O-029 E	7.9615	Adder	9.37
293717	O-029 E	7.3175	Adder	8.61
294401	BSHIL;1U E	5.9058	Adder	6.95
294410	BSHIL;2U E	5.9058	Adder	6.95
294763	P-046 E	9.3690	Adder	11.02
295109	WESTBROOK E	3.3515	Adder	3.94
295111	SUBLETTE E	3.8316	Adder	4.51
916221	Z1-073 E	3.2514	Adder	3.83
919221	AA1-146	6.5102	50/50	6.5102
919581	AA2-030 C	41.2643	50/50	41.2643
925581	AC1-033 C	0.9673	Adder	1.14
925582	AC1-033 E	6.4757	Adder	7.62
930482	AB1-089 CT	37.3158	Adder	43.9
930483	AB1-089 ST	29.6676	Adder	34.9
933911	AD1-013 C	0.9944	Adder	1.17
933912	AD1-013 E	1.5885	Adder	1.87
934051	AD1-031 C O1	1.9648	Adder	2.31
934052	AD1-031 E O1	3.2057	Adder	3.77
934432	AD1-067 E	0.3305	Adder	0.39
934701	AD1-098 C O1	4.4374	Adder	5.22
934702	AD1-098 E O1	3.2398	Adder	3.81
934971	AD1-129 C	0.5157	Adder	0.61
934972	AD1-129 E	0.3438	Adder	0.4
936791	AD2-102 C	11.9136	Adder	14.02
936792	AD2-102 E	7.9424	Adder	9.34
937001	AD2-134 C	1.6364	Adder	1.93

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
937002	AD2-134 E	6.7601	Adder	7.95
937311	AD2-172 C	2.4594	Adder	2.89
937312	AD2-172 E	3.3963	Adder	4.0
937531	AD2-214 C	7.1136	Adder	8.37
937532	AD2-214 E	4.7424	Adder	5.58
938861	AE1-114 C O1	4.7835	Adder	5.63
938862	AE1-114 E O1	16.3203	Adder	19.2
939051	AE1-134 1	3.2065	50/50	3.2065
939061	AE1-134 2	3.2065	50/50	3.2065
940501	AE2-035 C	2.4594	Adder	2.89
940502	AE2-035 E	3.3963	Adder	4.0
943921	AF1-060	1.2109	Adder	1.42
946151	AF1-280 C O1	31.5168	50/50	31.5168
946152	AF1-280 E O1	14.4931	50/50	14.4931
946161	AF1-281 C O1	0.6901	50/50	0.6901
946162	AF1-281 E O1	3.9108	50/50	3.9108
946321	AF1-296 C O1	5.9977	Adder	7.06
946322	AF1-296 E O1	28.0798	Adder	33.04
946501	AF1-314 C	4.3697	Adder	5.14
946502	AF1-314 E	20.4582	Adder	24.07
946671	AF1-331	1.2915	Adder	1.52
951381	J504	4.2190	PJM External (MISO)	4.2190
951421	J514	2.5083	PJM External (MISO)	2.5083
951511	J530 C	3.8905	PJM External (MISO)	3.8905
951512	J530 E	15.5620	PJM External (MISO)	15.5620
953921	J855 C	1.2390	PJM External (MISO)	1.2390
953922	J855 E	6.7030	PJM External (MISO)	6.7030
954091	J873 C	2.4617	PJM External (MISO)	2.4617
954092	J873 E	13.3183	PJM External (MISO)	13.3183
954792	J952 E	4.9480	PJM External (MISO)	4.9480
954861	J959 C	1.8250	PJM External (MISO)	1.8250
954862	J959 E	9.8735	PJM External (MISO)	9.8735
954901	J963	0.9148	PJM External (MISO)	0.9148
955051	J981 C	2.7097	PJM External (MISO)	2.7097
955052	J981 E	14.6603	PJM External (MISO)	14.6603
955221	J1000	4.1695	PJM External (MISO)	4.1695
955971	J1084	22.7715	PJM External (MISO)	22.7715
956411	J1131	11.9140	PJM External (MISO)	11.9140
958911	AF2-182 C	41.4090	50/50	41.4090
958912	AF2-182 E	27.6060	50/50	27.6060
958921	AF2-183 C	7.3616	50/50	7.3616
958922	AF2-183 E	11.0424	50/50	11.0424
959101	AF2-201 C O1	6.0196	Adder	7.08
959102	AF2-201 E O1	17.2859	Adder	20.34
961011	AF2-392 C O1	7.7447	50/50	7.7447
961012	AF2-392 E O1	36.2593	50/50	36.2593
961021	AF2-393 O1	13.2012	50/50	13.2012
961031	AF2-394 O1	8.8008	50/50	8.8008
962012	AG1-044 E	0.1252	50/50	0.1252
962791	AG1-128 C O2	1.9618	Adder	4.35
962792	AG1-128 E O2	9.1805	Adder	20.38
963681	AG1-220 C O2	3.7597	Adder	8.35

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963682	AG1-220 E O2	2.5065	Adder	5.56
964461	AG1-309 FTIR	291.4731	Merchant Transmission	291.4731
965062	AG1-371 BAT	33.6810	50/50	33.6810
965072	AG1-372 BAT	22.4540	50/50	22.4540
965082	AG1-373 BAT	11.2270	50/50	11.2270
965551	AG1-423 C O2	7.7409	Adder	17.18
965552	AG1-423 E O2	5.1606	Adder	11.46
965661	AG1-434 C O2	1.3331	Adder	2.96
965662	AG1-434 E O2	6.2416	Adder	13.85
965931	AG1-462 C O2	15.9901	Adder	35.49
965932	AG1-462 E O2	10.6601	Adder	23.66
966521	AG1-521 C O2	6.9074	Adder	15.33
966522	AG1-521 E O2	1.7269	Adder	3.83
966821	AG1-553 C O2	22.8314	Adder	50.68
966822	AG1-553 E O2	5.7078	Adder	12.67
990901	L-005 E	7.9883	Adder	9.4
WEC	WEC	0.9267	Confirmed LTF	0.9267
CPLE	CPLE	0.0833	Confirmed LTF	0.0833
CBM-W2	CBM-W2	17.1405	Confirmed LTF	17.1405
NY	NY	0.2500	Confirmed LTF	0.2500
TVA	TVA	1.9110	Confirmed LTF	1.9110
O-066	O-066	2.9074	Confirmed LTF	2.9074
SIGE	SIGE	0.0590	Confirmed LTF	0.0590
CBM-S2	CBM-S2	3.1216	Confirmed LTF	3.1216
CBM-S1	CBM-S1	0.4131	Confirmed LTF	0.4131
G-007	G-007	0.4526	Confirmed LTF	0.4526
MEC	MEC	14.9859	Confirmed LTF	14.9859
BLUEG	BLUEG	0.3819	Confirmed LTF	0.3819
TRIMBLE	TRIMBLE	0.1402	Confirmed LTF	0.1402
LAGN	LAGN	4.2157	Confirmed LTF	4.2157
CBM-W1	CBM-W1	59.5149	Confirmed LTF	59.5149

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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
177728714	271428	ESS H452 ;RT	CE	272730	WATERMAN ;3B	CE	1	COMED_P4_107-38-L15508_	breaker	538.0	130.79	154.56	DC	127.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	12.5376	50/50	12.5376
274850	MENDOTA H;RU	1.3417	50/50	1.3417
274855	GSG-6 ;RU	2.2092	50/50	2.2092
274872	LEE DEKAL;1U	5.2135	50/50	5.2135
290051	GSG-6; E	56.0114	50/50	56.0114
290108	LEEDK;1U E	165.2240	50/50	165.2240
295108	WESTBROOK C	0.7162	50/50	0.7162
295109	WESTBROOK E	29.9879	50/50	29.9879
916221	Z1-073 E	29.0927	50/50	29.0927
933911	AD1-013 C	8.2747	50/50	8.2747
933912	AD1-013 E	13.2181	50/50	13.2181
934431	AD1-067 C	0.1110	50/50	0.1110
934432	AD1-067 E	2.9572	50/50	2.9572
934701	AD1-098 C O1	36.9573	50/50	36.9573
934702	AD1-098 E O1	26.9827	50/50	26.9827
937001	AD2-134 C	14.6423	50/50	14.6423
937002	AD2-134 E	60.4872	50/50	60.4872
941131	AE2-107 C	44.6105	50/50	44.6105
941132	AE2-107 E	29.7403	50/50	29.7403
946671	AF1-331	10.7464	50/50	10.7464
962791	AG1-128 C O2	33.1209	50/50	33.1209
962792	AG1-128 E O2	154.9906	50/50	154.9906
965661	AG1-434 C O2	22.5069	50/50	22.5069
965662	AG1-434 E O2	105.3731	50/50	105.3731
WEC	WEC	0.0558	Confirmed LTF	0.0558
CALDERWOOD	CALDERWOOD	0.0124	Confirmed LTF	0.0124
NY	NY	0.0254	Confirmed LTF	0.0254
O-066	O-066	0.3096	Confirmed LTF	0.3096
SIGE	SIGE	0.0010	Confirmed LTF	0.0010
CHEOAH	CHEOAH	0.0125	Confirmed LTF	0.0125
G-007	G-007	0.0483	Confirmed LTF	0.0483
HAMLET	HAMLET	0.0196	Confirmed LTF	0.0196
MEC	MEC	0.2304	Confirmed LTF	0.2304
GIBSON	GIBSON	0.0207	Confirmed LTF	0.0207
BLUEG	BLUEG	0.0729	Confirmed LTF	0.0729
TRIMBLE	TRIMBLE	0.0239	Confirmed LTF	0.0239
LAGN	LAGN	0.0158	Confirmed LTF	0.0158
CATAWBA	CATAWBA	0.0112	Confirmed LTF	0.0112
CBM-W1	CBM-W1	1.3179	Confirmed LTF	1.3179

13.5.14 Index 14

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
177728771	271560	GLIDDEN ;BT	CE	962690	AG1-118 TAP	CE	1	COMED_P4_167-38-L14609_	breaker	538.0	113.78	124.91	DC	59.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	6.7652	50/50	6.7652
274850	MENDOTA H;RU	0.6282	50/50	0.6282
274855	GSG-6 ;RU	1.0345	50/50	1.0345
274872	LEE DEKAL;1U	2.3560	50/50	2.3560
290051	GSG-6; E	26.2274	50/50	26.2274
290108	LEEDK;1U E	74.6660	50/50	74.6660
295108	WESTBROOK C	0.3354	50/50	0.3354
295109	WESTBROOK E	14.0419	50/50	14.0419
295111	SUBLETTE E	1.3682	Adder	1.61
916221	Z1-073 E	13.6227	50/50	13.6227
933431	AC2-156 C O1	3.1776	50/50	3.1776
933432	AC2-156 E O1	5.1846	50/50	5.1846
933911	AD1-013 C	4.7829	50/50	4.7829
933912	AD1-013 E	7.6403	50/50	7.6403
934431	AD1-067 C	0.0520	50/50	0.0520
934432	AD1-067 E	1.3847	50/50	1.3847
934701	AD1-098 C O1	16.5782	50/50	16.5782
934702	AD1-098 E O1	12.1038	50/50	12.1038
937001	AD2-134 C	6.8563	50/50	6.8563
937002	AD2-134 E	28.3232	50/50	28.3232
941131	AE2-107 C	20.1598	50/50	20.1598
941132	AE2-107 E	13.4399	50/50	13.4399
943121	AE2-341 C	42.0599	50/50	42.0599
943122	AE2-341 E	20.6536	50/50	20.6536
943591	AF1-030 C O1	27.9702	50/50	27.9702
943592	AF1-030 E O1	13.8388	50/50	13.8388
946671	AF1-331	6.2116	50/50	6.2116
960381	AF2-329	21.8243	50/50	21.8243
960721	AF2-363 C O1	11.1619	50/50	11.1619
960722	AF2-363 E O1	7.4413	50/50	7.4413
960751	AF2-366 C	21.5324	50/50	21.5324
960752	AF2-366 E	14.3550	50/50	14.3550
962781	AG1-127 C O2	23.8468	50/50	23.8468
962782	AG1-127 E O2	15.8978	50/50	15.8978
962791	AG1-128 C O2	15.5089	50/50	15.5089
962792	AG1-128 E O2	72.5746	50/50	72.5746
963681	AG1-220 C O2	10.9503	50/50	10.9503
963682	AG1-220 E O2	7.3002	50/50	7.3002
965661	AG1-434 C O2	10.5389	50/50	10.5389
965662	AG1-434 E O2	49.3411	50/50	49.3411
965521	AG1-521 C O2	2.4932	Adder	5.53

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

13.5.15 Index 15

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162503809	271586	ESS W541 ; B	CE	271390	ELECT JCT; B	CE	1	COMED_P4_167-38-L14609_	breaker	498.0	104.87	115.68	DC	53.82

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	6.0819	50/50	6.0819
274850	MENDOTA H;RU	0.5647	50/50	0.5647
274855	GSG-6 ;RU	0.9298	50/50	0.9298
274872	LEE DEKAL;1U	2.1198	50/50	2.1198
290051	GSG-6; E	23.5740	50/50	23.5740
290108	LEEDK;1U E	67.1800	50/50	67.1800
295108	WESTBROOK C	0.3014	50/50	0.3014
295109	WESTBROOK E	12.6213	50/50	12.6213
295111	SUBLETTE E	1.2078	Adder	1.42
916221	Z1-073 E	12.2445	50/50	12.2445
933431	AC2-156 C O1	2.8603	50/50	2.8603
933432	AC2-156 E O1	4.6667	50/50	4.6667
933911	AD1-013 C	4.3001	50/50	4.3001
933912	AD1-013 E	6.8691	50/50	6.8691
934431	AD1-067 C	0.0467	50/50	0.0467
934432	AD1-067 E	1.2446	50/50	1.2446
934701	AD1-098 C O1	14.8974	50/50	14.8974
934702	AD1-098 E O1	10.8766	50/50	10.8766
937001	AD2-134 C	6.1626	50/50	6.1626
937002	AD2-134 E	25.4578	50/50	25.4578
941131	AE2-107 C	18.1386	50/50	18.1386
941132	AE2-107 E	12.0924	50/50	12.0924
943121	AE2-341 C	37.8598	50/50	37.8598
943122	AE2-341 E	18.5912	50/50	18.5912
943591	AF1-030 C O1	25.1771	50/50	25.1771
943592	AF1-030 E O1	12.4569	50/50	12.4569
946671	AF1-331	5.5846	50/50	5.5846
960381	AF2-329	19.6449	50/50	19.6449
960721	AF2-363 C O1	10.0298	50/50	10.0298
960722	AF2-363 E O1	6.6865	50/50	6.6865
960751	AF2-366 C	19.3767	50/50	19.3767
960752	AF2-366 E	12.9178	50/50	12.9178
962691	AG1-118 C O2	77.1516	50/50	77.1516
962692	AG1-118 E O2	51.4344	50/50	51.4344
962781	AG1-127 C O2	21.4593	50/50	21.4593
962782	AG1-127 E O2	14.3062	50/50	14.3062
962791	AG1-128 C O2	13.9399	50/50	13.9399
962792	AG1-128 E O2	65.2323	50/50	65.2323
963681	AG1-220 C O2	9.8091	50/50	9.8091
963682	AG1-220 E O2	6.5394	50/50	6.5394
965661	AG1-434 C O2	9.4727	50/50	9.4727

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965662	AG1-434 E O2	44.3493	50/50	44.3493
966521	AG1-521 C O2	2.2017	Adder	4.89
966522	AG1-521 E O2	0.5504	Adder	1.22
WEC	WEC	0.1953	Confirmed LTF	0.1953
CBM-W2	CBM-W2	1.7024	Confirmed LTF	1.7024
NY	NY	0.0371	Confirmed LTF	0.0371
TVA	TVA	0.1806	Confirmed LTF	0.1806
O-066	O-066	0.4375	Confirmed LTF	0.4375
SIGE	SIGE	0.0066	Confirmed LTF	0.0066
CBM-S2	CBM-S2	0.1462	Confirmed LTF	0.1462
CBM-S1	CBM-S1	0.0376	Confirmed LTF	0.0376
G-007	G-007	0.0683	Confirmed LTF	0.0683
MEC	MEC	1.5668	Confirmed LTF	1.5668
GIBSON	GIBSON	0.0076	Confirmed LTF	0.0076
BLUEG	BLUEG	0.0712	Confirmed LTF	0.0712
TRIMBLE	TRIMBLE	0.0245	Confirmed LTF	0.0245
LAGN	LAGN	0.4253	Confirmed LTF	0.4253
CBM-W1	CBM-W1	7.5988	Confirmed LTF	7.5988

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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
162503656	272002	MCGIRR RD;	CE	272365	ESS H440 ;RT	CE	1	COMED_P4_155-45-BT2-34_	breaker	449.0	150.6	178.22	DC	123.99

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	-6.4982	Adder	-7.64
274850	MENDOTA H;RU	1.3008	50/50	1.3008
274855	GSG-6 ;RU	2.1420	50/50	2.1420
290051	GSG-6; E	54.3059	50/50	54.3059
295108	WESTBROOK C	0.6944	50/50	0.6944
295109	WESTBROOK E	29.0747	50/50	29.0747
295110	SUBLETTE C	0.0678	50/50	0.0678
295111	SUBLETTE E	3.0625	50/50	3.0625
916221	Z1-073 E	28.2068	50/50	28.2068
934431	AD1-067 C	0.1076	50/50	0.1076
934432	AD1-067 E	2.8672	50/50	2.8672
934701	AD1-098 C O1	34.2881	50/50	34.2881
934702	AD1-098 E O1	25.0339	50/50	25.0339
937001	AD2-134 C	14.1964	50/50	14.1964
937002	AD2-134 E	58.6454	50/50	58.6454
938861	AE1-114 C O1	2.1733	Adder	2.56
938862	AE1-114 E O1	7.4147	Adder	8.72
961011	AF2-392 C O1	3.5721	50/50	3.5721
961012	AF2-392 E O1	16.7239	50/50	16.7239
961021	AF2-393 O1	6.0888	50/50	6.0888
961031	AF2-394 O1	4.0592	50/50	4.0592
962012	AG1-044 E	0.0182	Adder	0.04
962791	AG1-128 C O2	32.1124	50/50	32.1124
962792	AG1-128 E O2	150.2710	50/50	150.2710
965661	AG1-434 C O2	21.8215	50/50	21.8215
965662	AG1-434 E O2	102.1645	50/50	102.1645
966521	AG1-521 C O2	10.0416	50/50	10.0416
966522	AG1-521 E O2	2.5104	50/50	2.5104
WEC	WEC	0.0964	Confirmed LTF	0.0964
CPL	CPL	0.0239	Confirmed LTF	0.0239
CBM-W2	CBM-W2	3.1987	Confirmed LTF	3.1987
NY	NY	0.0371	Confirmed LTF	0.0371
TVA	TVA	0.3570	Confirmed LTF	0.3570
O-066	O-066	0.4307	Confirmed LTF	0.4307
SIGE	SIGE	0.0112	Confirmed LTF	0.0112
CBM-S2	CBM-S2	0.6890	Confirmed LTF	0.6890
CBM-S1	CBM-S1	0.0783	Confirmed LTF	0.0783
G-007	G-007	0.0662	Confirmed LTF	0.0662
MEC	MEC	2.5774	Confirmed LTF	2.5774
BLUEG	BLUEG	0.0382	Confirmed LTF	0.0382
TRIMBLE	TRIMBLE	0.0156	Confirmed LTF	0.0156

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
LAGN	LAGN	0.7577	Confirmed LTF	0.7577
CBM-W1	CBM-W1	9.1831	Confirmed LTF	9.1831

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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
162503800	272114	N AURORA ; B	CE	271586	ESS W541 ; B	CE	1	COMED_P4_167-38-L14609_	breaker	498.0	106.34	117.14	DC	53.82

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	6.0819	50/50	6.0819
274850	MENDOTA H;RU	0.5647	50/50	0.5647
274855	GSG-6 ;RU	0.9298	50/50	0.9298
274872	LEE DEKAL;1U	2.1198	50/50	2.1198
290051	GSG-6; E	23.5740	50/50	23.5740
290108	LEEDK;1U E	67.1800	50/50	67.1800
295108	WESTBROOK C	0.3014	50/50	0.3014
295109	WESTBROOK E	12.6213	50/50	12.6213
295111	SUBLETTE E	1.2078	Adder	1.42
916221	Z1-073 E	12.2445	50/50	12.2445
933431	AC2-156 C O1	2.8603	50/50	2.8603
933432	AC2-156 E O1	4.6667	50/50	4.6667
933911	AD1-013 C	4.3001	50/50	4.3001
933912	AD1-013 E	6.8691	50/50	6.8691
934431	AD1-067 C	0.0467	50/50	0.0467
934432	AD1-067 E	1.2446	50/50	1.2446
934701	AD1-098 C O1	14.8974	50/50	14.8974
934702	AD1-098 E O1	10.8766	50/50	10.8766
937001	AD2-134 C	6.1626	50/50	6.1626
937002	AD2-134 E	25.4578	50/50	25.4578
941131	AE2-107 C	18.1386	50/50	18.1386
941132	AE2-107 E	12.0924	50/50	12.0924
943121	AE2-341 C	37.8598	50/50	37.8598
943122	AE2-341 E	18.5912	50/50	18.5912
943591	AF1-030 C O1	25.1771	50/50	25.1771
943592	AF1-030 E O1	12.4569	50/50	12.4569
946671	AF1-331	5.5846	50/50	5.5846
960381	AF2-329	19.6449	50/50	19.6449
960721	AF2-363 C O1	10.0298	50/50	10.0298
960722	AF2-363 E O1	6.6865	50/50	6.6865
960751	AF2-366 C	19.3767	50/50	19.3767
960752	AF2-366 E	12.9178	50/50	12.9178
962691	AG1-118 C O2	77.1516	50/50	77.1516
962692	AG1-118 E O2	51.4344	50/50	51.4344
962781	AG1-127 C O2	21.4593	50/50	21.4593
962782	AG1-127 E O2	14.3062	50/50	14.3062
962791	AG1-128 C O2	13.9399	50/50	13.9399
962792	AG1-128 E O2	65.2323	50/50	65.2323
963681	AG1-220 C O2	9.8091	50/50	9.8091
963682	AG1-220 E O2	6.5394	50/50	6.5394
965661	AG1-434 C O2	9.4727	50/50	9.4727

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965662	AG1-434 E O2	44.3493	50/50	44.3493
966521	AG1-521 C O2	2.2017	Adder	4.89
966522	AG1-521 E O2	0.5504	Adder	1.22
WEC	WEC	0.1953	Confirmed LTF	0.1953
CBM-W2	CBM-W2	1.7024	Confirmed LTF	1.7024
NY	NY	0.0371	Confirmed LTF	0.0371
TVA	TVA	0.1806	Confirmed LTF	0.1806
O-066	O-066	0.4375	Confirmed LTF	0.4375
SIGE	SIGE	0.0066	Confirmed LTF	0.0066
CBM-S2	CBM-S2	0.1462	Confirmed LTF	0.1462
CBM-S1	CBM-S1	0.0376	Confirmed LTF	0.0376
G-007	G-007	0.0683	Confirmed LTF	0.0683
MEC	MEC	1.5668	Confirmed LTF	1.5668
GIBSON	GIBSON	0.0076	Confirmed LTF	0.0076
BLUEG	BLUEG	0.0712	Confirmed LTF	0.0712
TRIMBLE	TRIMBLE	0.0245	Confirmed LTF	0.0245
LAGN	LAGN	0.4253	Confirmed LTF	0.4253
CBM-W1	CBM-W1	7.5988	Confirmed LTF	7.5988

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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
162503766	272251	PLANO; R	CE	271117	BRISTOL ; R	CE	1	COMED_P4_167-38-TR81__	breaker	449.0	113.85	121.59	DC	34.76

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	3.9261	50/50	3.9261
274850	MENDOTA H;RU	0.3647	50/50	0.3647
274855	GSG-6 ;RU	0.6005	50/50	0.6005
274872	LEE DEKAL;1U	1.3648	50/50	1.3648
290051	GSG-6; E	15.2249	50/50	15.2249
290108	LEEDK;1U E	43.2540	50/50	43.2540
295108	WESTBROOK C	0.1947	50/50	0.1947
295109	WESTBROOK E	8.1512	50/50	8.1512
916221	Z1-073 E	7.9079	50/50	7.9079
933431	AC2-156 C O1	4.0839	50/50	4.0839
933432	AC2-156 E O1	6.6633	50/50	6.6633
933911	AD1-013 C	2.7754	50/50	2.7754
933912	AD1-013 E	4.4334	50/50	4.4334
934431	AD1-067 C	0.0302	50/50	0.0302
934432	AD1-067 E	0.8038	50/50	0.8038
934701	AD1-098 C O1	9.6277	50/50	9.6277
934702	AD1-098 E O1	7.0293	50/50	7.0293
937001	AD2-134 C	3.9800	50/50	3.9800
937002	AD2-134 E	16.4415	50/50	16.4415
941131	AE2-107 C	11.6786	50/50	11.6786
941132	AE2-107 E	7.7857	50/50	7.7857
943121	AE2-341 C	64.4766	50/50	64.4766
943122	AE2-341 E	31.6614	50/50	31.6614
943591	AF1-030 C O1	42.8775	50/50	42.8775
943592	AF1-030 E O1	21.2145	50/50	21.2145
946671	AF1-331	3.6044	50/50	3.6044
960381	AF2-329	33.4560	50/50	33.4560
960721	AF2-363 C O1	6.5026	50/50	6.5026
960722	AF2-363 E O1	4.3350	50/50	4.3350
960751	AF2-366 C	12.4733	50/50	12.4733
960752	AF2-366 E	8.3155	50/50	8.3155
962691	AG1-118 C O2	38.9538	50/50	38.9538
962692	AG1-118 E O2	25.9692	50/50	25.9692
962781	AG1-127 C O2	13.8139	50/50	13.8139
962782	AG1-127 E O2	9.2093	50/50	9.2093
962791	AG1-128 C O2	9.0028	50/50	9.0028
962792	AG1-128 E O2	42.1291	50/50	42.1291
963681	AG1-220 C O2	2.9099	Adder	6.46
963682	AG1-220 E O2	1.9399	Adder	4.31
965661	AG1-434 C O2	6.1178	50/50	6.1178
965662	AG1-434 E O2	28.6422	50/50	28.6422
WEC	WEC	0.1723	Confirmed LTF	0.1723

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-W2	CBM-W2	1.2275	Confirmed LTF	1.2275
NY	NY	0.0293	Confirmed LTF	0.0293
TVA	TVA	0.1302	Confirmed LTF	0.1302
O-066	O-066	0.3432	Confirmed LTF	0.3432
SIGE	SIGE	0.0046	Confirmed LTF	0.0046
CBM-S2	CBM-S2	0.0835	Confirmed LTF	0.0835
CBM-S1	CBM-S1	0.0270	Confirmed LTF	0.0270
G-007	G-007	0.0535	Confirmed LTF	0.0535
MEC	MEC	1.1933	Confirmed LTF	1.1933
GIBSON	GIBSON	0.0087	Confirmed LTF	0.0087
BLUEG	BLUEG	0.0608	Confirmed LTF	0.0608
TRIMBLE	TRIMBLE	0.0206	Confirmed LTF	0.0206
LAGN	LAGN	0.3150	Confirmed LTF	0.3150
CBM-W1	CBM-W1	5.9305	Confirmed LTF	5.9305

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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
162678115	272365	ESS H440 ;RT	CE	272363	ESS H440 ; R	CE	1	COMED_P2-1_186-L16914__	single	196.7	112.08	121.16	DC	17.85

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	-7.2835	Adder	-8.57
274850	MENDOTA H;RU	1.0643	80/20	1.0643
274855	GSG-6 ;RU	1.7525	80/20	1.7525
295108	WESTBROOK C	0.5682	80/20	0.5682
295110	SUBLETTE C	0.0494	80/20	0.0494
934431	AD1-067 C	0.0880	80/20	0.0880
934701	AD1-098 C O1	28.0162	80/20	28.0162
937001	AD2-134 C	11.6153	80/20	11.6153
938861	AE1-114 C O1	1.7622	80/20	1.7622
961011	AF2-392 C O1	2.3676	80/20	2.3676
961021	AF2-393 O1	4.0356	80/20	4.0356
961031	AF2-394 O1	2.6904	80/20	2.6904
962791	AG1-128 C O2	26.2740	80/20	26.2740
965661	AG1-434 C O2	17.8541	80/20	17.8541
966521	AG1-521 C O2	7.2840	80/20	7.2840
WEC	WEC	0.0435	Confirmed LTF	0.0435
CPLE	CPLE	0.0143	Confirmed LTF	0.0143
CBM-W2	CBM-W2	1.9085	Confirmed LTF	1.9085
NY	NY	0.0221	Confirmed LTF	0.0221
TVA	TVA	0.2128	Confirmed LTF	0.2128
SIGE	SIGE	0.0068	Confirmed LTF	0.0068
CBM-S2	CBM-S2	0.4072	Confirmed LTF	0.4072
CBM-S1	CBM-S1	0.0467	Confirmed LTF	0.0467
MEC	MEC	1.5207	Confirmed LTF	1.5207
BLUEG	BLUEG	0.0208	Confirmed LTF	0.0208
TRIMBLE	TRIMBLE	0.0089	Confirmed LTF	0.0089
LAGN	LAGN	0.4498	Confirmed LTF	0.4498
CBM-W1	CBM-W1	5.2014	Confirmed LTF	5.2014

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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
162503721	272522	SUGAR GRV; B	CE	272114	N AURORA ; B	CE	1	COMED_P4_167-38-L14609_	breaker	498.0	140.99	153.02	DC	59.88

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

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

13.5.21 Index 21

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162503624	272728	WATERMAN ; B	CE	271560	GLIDDEN ;BT	CE	1	COMED_P4_167-38-L14609_	breaker	344.0	177.95	195.36	DC	59.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	6.7652	50/50	6.7652
274850	MENDOTA H;RU	0.6282	50/50	0.6282
274855	GSG-6 ;RU	1.0345	50/50	1.0345
274872	LEE DEKAL;1U	2.3560	50/50	2.3560
290051	GSG-6; E	26.2274	50/50	26.2274
290108	LEEDK;1U E	74.6660	50/50	74.6660
295108	WESTBROOK C	0.3354	50/50	0.3354
295109	WESTBROOK E	14.0419	50/50	14.0419
295111	SUBLETTE E	1.3682	Adder	1.61
916221	Z1-073 E	13.6227	50/50	13.6227
933431	AC2-156 C O1	3.1776	50/50	3.1776
933432	AC2-156 E O1	5.1846	50/50	5.1846
933911	AD1-013 C	4.7829	50/50	4.7829
933912	AD1-013 E	7.6403	50/50	7.6403
934431	AD1-067 C	0.0520	50/50	0.0520
934432	AD1-067 E	1.3847	50/50	1.3847
934701	AD1-098 C O1	16.5782	50/50	16.5782
934702	AD1-098 E O1	12.1038	50/50	12.1038
937001	AD2-134 C	6.8563	50/50	6.8563
937002	AD2-134 E	28.3232	50/50	28.3232
941131	AE2-107 C	20.1598	50/50	20.1598
941132	AE2-107 E	13.4399	50/50	13.4399
943121	AE2-341 C	42.0599	50/50	42.0599
943122	AE2-341 E	20.6536	50/50	20.6536
943591	AF1-030 C O1	27.9702	50/50	27.9702
943592	AF1-030 E O1	13.8388	50/50	13.8388
946671	AF1-331	6.2116	50/50	6.2116
960381	AF2-329	21.8243	50/50	21.8243
960721	AF2-363 C O1	11.1619	50/50	11.1619
960722	AF2-363 E O1	7.4413	50/50	7.4413
960751	AF2-366 C	21.5324	50/50	21.5324
960752	AF2-366 E	14.3550	50/50	14.3550
962781	AG1-127 C O2	23.8468	50/50	23.8468
962782	AG1-127 E O2	15.8978	50/50	15.8978
962791	AG1-128 C O2	15.5089	50/50	15.5089
962792	AG1-128 E O2	72.5746	50/50	72.5746
963681	AG1-220 C O2	10.9503	50/50	10.9503
963682	AG1-220 E O2	7.3002	50/50	7.3002
965661	AG1-434 C O2	10.5389	50/50	10.5389
965662	AG1-434 E O2	49.3411	50/50	49.3411
966521	AG1-521 C O2	2.4932	Adder	5.53
966522	AG1-521 E O2	0.6233	Adder	1.38

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
WEC	WEC	0.2287	Confirmed LTF	0.2287
CBM-W2	CBM-W2	1.9533	Confirmed LTF	1.9533
NY	NY	0.0431	Confirmed LTF	0.0431
TVA	TVA	0.2086	Confirmed LTF	0.2086
O-066	O-066	0.5048	Confirmed LTF	0.5048
SIGE	SIGE	0.0073	Confirmed LTF	0.0073
CBM-S2	CBM-S2	0.1670	Confirmed LTF	0.1670
CBM-S1	CBM-S1	0.0437	Confirmed LTF	0.0437
G-007	G-007	0.0788	Confirmed LTF	0.0788
MEC	MEC	1.8385	Confirmed LTF	1.8385
GIBSON	GIBSON	0.0098	Confirmed LTF	0.0098
BLUEG	BLUEG	0.0851	Confirmed LTF	0.0851
TRIMBLE	TRIMBLE	0.0295	Confirmed LTF	0.0295
LAGN	LAGN	0.4935	Confirmed LTF	0.4935
CBM-W1	CBM-W1	8.8887	Confirmed LTF	8.8887

13.5.22 Index 22

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
162370488	272730	WATERMAN ;3B	CE	272728	WATERMAN ; B	CE	1	COMED_P2-2_107_DX-138R_23	bus	539.0	170.74	195.81	DC	135.12

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	14.6414	50/50	14.6414
274850	MENDOTA H;RU	1.4176	50/50	1.4176
274855	GSG-6 ;RU	2.3343	50/50	2.3343
274872	LEE DEKAL;1U	4.4342	50/50	4.4342
290051	GSG-6; E	59.1817	50/50	59.1817
290108	LEEDK;1U E	140.5280	50/50	140.5280
295108	WESTBROOK C	0.7568	50/50	0.7568
295109	WESTBROOK E	31.6852	50/50	31.6852
916221	Z1-073 E	30.7393	50/50	30.7393
933911	AD1-013 C	10.1763	50/50	10.1763
933912	AD1-013 E	16.2557	50/50	16.2557
934431	AD1-067 C	0.1173	50/50	0.1173
934432	AD1-067 E	3.1246	50/50	3.1246
934701	AD1-098 C O1	39.0497	50/50	39.0497
934702	AD1-098 E O1	28.5103	50/50	28.5103
937001	AD2-134 C	15.4710	50/50	15.4710
937002	AD2-134 E	63.9108	50/50	63.9108
941131	AE2-107 C	37.9426	50/50	37.9426
941132	AE2-107 E	25.2950	50/50	25.2950
946671	AF1-331	13.2160	50/50	13.2160
960721	AF2-363 C O1	20.0708	50/50	20.0708
960722	AF2-363 E O1	13.3805	50/50	13.3805
960751	AF2-366 C	37.9141	50/50	37.9141
960752	AF2-366 E	25.2760	50/50	25.2760
962781	AG1-127 C O2	41.9891	50/50	41.9891
962782	AG1-127 E O2	27.9928	50/50	27.9928
962791	AG1-128 C O2	34.9956	50/50	34.9956
962792	AG1-128 E O2	163.7630	50/50	163.7630
963681	AG1-220 C O2	19.1061	50/50	19.1061
963682	AG1-220 E O2	12.7374	50/50	12.7374
965661	AG1-434 C O2	23.7808	50/50	23.7808
965662	AG1-434 E O2	111.3372	50/50	111.3372
WEC	WEC	0.3550	Confirmed LTF	0.3550
CBM-W2	CBM-W2	1.2186	Confirmed LTF	1.2186
NY	NY	0.0608	Confirmed LTF	0.0608
TVA	TVA	0.1120	Confirmed LTF	0.1120
O-066	O-066	0.7201	Confirmed LTF	0.7201
SIGE	SIGE	0.0058	Confirmed LTF	0.0058
CBM-S1	CBM-S1	0.0190	Confirmed LTF	0.0190
G-007	G-007	0.1123	Confirmed LTF	0.1123
HAMLET	HAMLET	0.0243	Confirmed LTF	0.0243

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
MEC	MEC	1.5048	Confirmed LTF	1.5048
GIBSON	GIBSON	0.0344	Confirmed LTF	0.0344
BLUEG	BLUEG	0.1510	Confirmed LTF	0.1510
TRIMBLE	TRIMBLE	0.0501	Confirmed LTF	0.0501
LAGN	LAGN	0.3430	Confirmed LTF	0.3430
CATAWBA	CATAWBA	0.0116	Confirmed LTF	0.0116
CBM-W1	CBM-W1	9.3513	Confirmed LTF	9.3513

13.5.23 Index 23

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
177728679	272756	W DEKALB ;3T	CE	271428	ESS H452 ;RT	CE	1	COMED_P4_107-38-L15508_	breaker	471.0	149.4	176.55	DC	127.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	12.5376	50/50	12.5376
274850	MENDOTA H;RU	1.3417	50/50	1.3417
274855	GSG-6 ;RU	2.2092	50/50	2.2092
274872	LEE DEKAL;1U	5.2135	50/50	5.2135
290051	GSG-6; E	56.0114	50/50	56.0114
290108	LEEDK;1U E	165.2240	50/50	165.2240
295108	WESTBROOK C	0.7162	50/50	0.7162
295109	WESTBROOK E	29.9879	50/50	29.9879
916221	Z1-073 E	29.0927	50/50	29.0927
933911	AD1-013 C	8.2747	50/50	8.2747
933912	AD1-013 E	13.2181	50/50	13.2181
934431	AD1-067 C	0.1110	50/50	0.1110
934432	AD1-067 E	2.9572	50/50	2.9572
934701	AD1-098 C O1	36.9573	50/50	36.9573
934702	AD1-098 E O1	26.9827	50/50	26.9827
937001	AD2-134 C	14.6423	50/50	14.6423
937002	AD2-134 E	60.4872	50/50	60.4872
941131	AE2-107 C	44.6105	50/50	44.6105
941132	AE2-107 E	29.7403	50/50	29.7403
946671	AF1-331	10.7464	50/50	10.7464
962791	AG1-128 C O2	33.1209	50/50	33.1209
962792	AG1-128 E O2	154.9906	50/50	154.9906
965661	AG1-434 C O2	22.5069	50/50	22.5069
965662	AG1-434 E O2	105.3731	50/50	105.3731
WEC	WEC	0.0558	Confirmed LTF	0.0558
CALDERWOOD	CALDERWOOD	0.0124	Confirmed LTF	0.0124
NY	NY	0.0254	Confirmed LTF	0.0254
O-066	O-066	0.3096	Confirmed LTF	0.3096
SIGE	SIGE	0.0010	Confirmed LTF	0.0010
CHEOAH	CHEOAH	0.0125	Confirmed LTF	0.0125
G-007	G-007	0.0483	Confirmed LTF	0.0483
HAMLET	HAMLET	0.0196	Confirmed LTF	0.0196
MEC	MEC	0.2304	Confirmed LTF	0.2304
GIBSON	GIBSON	0.0207	Confirmed LTF	0.0207
BLUEG	BLUEG	0.0729	Confirmed LTF	0.0729
TRIMBLE	TRIMBLE	0.0239	Confirmed LTF	0.0239
LAGN	LAGN	0.0158	Confirmed LTF	0.0158
CATAWBA	CATAWBA	0.0112	Confirmed LTF	0.0112
CBM-W1	CBM-W1	1.3179	Confirmed LTF	1.3179

13.5.24 Index 24

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
174477338	274749	AURORA EC;RP	CE	270731	ELECT JCT;4R	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	145.52	146.23	DC	23.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.1729	Adder	2.56
274693	ROCKY RD ;1P	4.9600	50/50	4.9600
274695	ROCKY RD ;2P	5.0093	50/50	5.0093
274697	ROCKY RD ;3P	1.3608	50/50	1.3608
274737	AURORA EC;1P	18.5238	50/50	18.5238
274739	AURORA EC;2P	18.5238	50/50	18.5238
274818	ELGIN EC ;1P	6.1443	50/50	6.1443
274820	ELGIN EC ;2P	6.1443	50/50	6.1443
274859	EASYR;U1 E	14.0988	Adder	16.59
274860	EASYR;U2 E	14.0988	Adder	16.59
276167	Z1-106 E2	1.4556	Adder	1.71
276168	Z1-106 E1	1.4634	Adder	1.72
276170	Z1-108 E	4.6378	Adder	5.46
276591	L-013 2	4.2213	Adder	4.97
290051	GSG-6; E	8.6113	Adder	10.13
290108	LEEDK;1U E	17.8466	Adder	21.0
293516	O-009 E1	7.8186	Adder	9.2
293517	O-009 E2	3.9712	Adder	4.67
293518	O-009 E3	4.3734	Adder	5.15
293715	O-029 E	8.3589	Adder	9.83
293716	O-029 E	4.5831	Adder	5.39
293717	O-029 E	4.2123	Adder	4.96
294763	P-046 E	13.1682	Adder	15.49
295109	WESTBROOK E	4.6104	Adder	5.42
295111	SUBLETTE E	2.6673	Adder	3.14
915011	Y3-013 1	3.8582	Adder	4.54
915021	Y3-013 2	3.8582	Adder	4.54
915031	Y3-013 3	3.8582	Adder	4.54
916221	Z1-073 E	4.4728	Adder	5.26
919581	AA2-030 C	18.2039	Adder	21.42
920272	AA2-123 E	4.3216	Adder	5.08
924472	AB2-096 CT1	32.6528	Adder	38.42
924473	AB2-096 CT2	32.6528	Adder	38.42
924474	AB2-096 CT3	32.6528	Adder	38.42
926311	AC1-109 1	1.8282	50/50	1.8282
926321	AC1-109 2	1.8282	50/50	1.8282
926331	AC1-110 1	1.2325	Adder	1.45
926341	AC1-110 2	1.2325	Adder	1.45
930482	AB1-089 CT	68.0087	Adder	80.01
930483	AB1-089 ST	54.0696	Adder	63.61
933911	AD1-013 C	1.5254	Adder	1.79
933912	AD1-013 E	2.4366	Adder	2.87

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933931	AD1-016 C	1.6383	Adder	1.93
933932	AD1-016 E	2.6730	Adder	3.14
934432	AD1-067 E	0.4546	Adder	0.53
934701	AD1-098 C O1	5.7413	Adder	6.75
934702	AD1-098 E O1	4.1918	Adder	4.93
934971	AD1-129 C	1.4998	Adder	1.76
934972	AD1-129 E	0.9999	Adder	1.18
936791	AD2-102 C	21.4455	Adder	25.23
936792	AD2-102 E	14.2970	Adder	16.82
937001	AD2-134 C	2.2511	Adder	2.65
937002	AD2-134 E	9.2994	Adder	10.94
937311	AD2-172 C	3.4567	Adder	4.07
937312	AD2-172 E	4.7735	Adder	5.62
937531	AD2-214 C	4.1730	Adder	4.91
937532	AD2-214 E	2.7820	Adder	3.27
938861	AE1-114 C O1	4.9228	Adder	5.79
938862	AE1-114 E O1	16.7955	Adder	19.76
939051	AE1-134 1	1.4146	Adder	1.66
939061	AE1-134 2	1.4146	Adder	1.66
940501	AE2-035 C	3.4567	Adder	4.07
940502	AE2-035 E	4.7735	Adder	5.62
941131	AE2-107 C	4.8186	Adder	5.67
941132	AE2-107 E	3.2124	Adder	3.78
942991	AE2-321 C	14.3793	Adder	16.92
942992	AE2-321 E	7.0823	Adder	8.33
943411	AF1-012 C	11.2223	Adder	13.2
943412	AF1-012 E	7.4815	Adder	8.8
943801	AF1-048 C	6.7218	Adder	7.91
943802	AF1-048 E	4.4812	Adder	5.27
943921	AF1-060	1.7020	Adder	2.0
944041	AF1-072	5.3752	50/50	5.3752
946151	AF1-280 C O1	18.8160	Adder	22.14
946152	AF1-280 E O1	8.6526	Adder	10.18
946161	AF1-281 C O1	0.4120	Adder	0.48
946162	AF1-281 E O1	2.3348	Adder	2.75
946321	AF1-296 C O1	3.6217	Adder	4.26
946322	AF1-296 E O1	16.9560	Adder	19.95
946501	AF1-314 C	6.1416	Adder	7.23
946502	AF1-314 E	28.7541	Adder	33.83
946661	AF1-330 C	3.5437	Adder	4.17
946662	AF1-330 E	0.7779	Adder	0.92
946671	AF1-331	1.9810	Adder	2.33
952381	J703	12.2771	PJM External (MISO)	12.2771
952391	J704	5.2484	PJM External (MISO)	5.2484
952431	J760	4.4730	PJM External (MISO)	4.4730
953151	J831	4.1888	PJM External (MISO)	4.1888
953491	J947	21.0560	PJM External (MISO)	21.0560
953681	J818	18.0409	PJM External (MISO)	18.0409
953891	J849	11.9925	PJM External (MISO)	11.9925
953901	J850	32.1175	PJM External (MISO)	32.1175
954001	J864	4.8880	PJM External (MISO)	4.8880
954061	J870	19.0080	PJM External (MISO)	19.0080

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
954071	J871	9.5040	PJM External (MISO)	9.5040
954141	J878	22.0320	PJM External (MISO)	22.0320
954191	J886	14.8170	PJM External (MISO)	14.8170
954741	J928 C	1.1973	PJM External (MISO)	1.1973
954742	J928 E	6.4775	PJM External (MISO)	6.4775
955241	J1002	9.8525	PJM External (MISO)	9.8525
955251	J1003	5.4920	PJM External (MISO)	5.4920
955582	J1042 E	21.6846	PJM External (MISO)	21.6846
956141	J1101	1.9756	PJM External (MISO)	1.9756
956571	J1153	15.5265	PJM External (MISO)	15.5265
956581	J1154	9.0818	PJM External (MISO)	9.0818
956731	J1171	10.5520	PJM External (MISO)	10.5520
956852	J1183 E	0.1295	PJM External (MISO)	0.1295
956901	J1188	6.2940	PJM External (MISO)	6.2940
957331	AF2-027 C	2.5721	Adder	3.03
957332	AF2-027 E	3.8582	Adder	4.54
957471	AF2-041 C	16.0925	Adder	18.93
957472	AF2-041 E	8.0463	Adder	9.47
958911	AF2-182 C	24.7217	Adder	29.08
958912	AF2-182 E	16.4812	Adder	19.39
958921	AF2-183 C	4.3950	Adder	5.17
958922	AF2-183 E	6.5925	Adder	7.76
959081	AF2-199 C	5.3642	Adder	6.31
959082	AF2-199 E	2.6821	Adder	3.16
959091	AF2-200 C O1	10.7284	Adder	12.62
959092	AF2-200 E O1	5.3642	Adder	6.31
959101	AF2-201 C O1	8.4606	Adder	9.95
959102	AF2-201 E O1	24.2953	Adder	28.58
960551	AF2-346 C	4.8096	Adder	5.66
960552	AF2-346 E	3.2064	Adder	3.77
960581	AF2-349 C	37.2938	Adder	43.88
960582	AF2-349 E	24.8625	Adder	29.25
960721	AF2-363 C O1	6.5331	Adder	7.69
960722	AF2-363 E O1	4.3554	Adder	5.12
960731	AF2-364 C O1	12.8511	Adder	15.12
960732	AF2-364 E O1	8.5674	Adder	10.08
960751	AF2-366 C	5.2934	Adder	6.23
960752	AF2-366 E	3.5289	Adder	4.15
961011	AF2-392 C O1	4.0500	Adder	4.76
961012	AF2-392 E O1	18.9612	Adder	22.31
961021	AF2-393 O1	6.9034	Adder	8.12
961031	AF2-394 O1	4.6022	Adder	5.41
962012	AG1-044 E	0.0321	Adder	0.07
962691	AG1-118 C O2	7.6930	Adder	17.08
962692	AG1-118 E O2	5.1287	Adder	11.38
962701	AG1-119 C O2	77.1156	50/50	77.1156
962702	AG1-119 E O2	51.4104	50/50	51.4104
962711	AG1-120 C O2	30.4864	50/50	30.4864
962712	AG1-120 E O2	20.3242	50/50	20.3242
962781	AG1-127 C O2	3.1070	Adder	6.9
962782	AG1-127 E O2	2.0714	Adder	4.6
962791	AG1-128 C O2	2.6988	Adder	5.99

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962792	AG1-128 E O2	12.6291	Adder	28.03
963681	AG1-220 C O2	7.8596	Adder	17.45
963682	AG1-220 E O2	5.2398	Adder	11.63
964461	AG1-309 FTIR	464.2242	Merchant Transmission	464.2242
965061	AG1-371	1.4215	Adder	3.16
965071	AG1-372	0.9477	Adder	2.1
965081	AG1-373	0.4738	Adder	1.05
965551	AG1-423 C O2	37.5240	50/50	37.5240
965552	AG1-423 E O2	25.0160	50/50	25.0160
965661	AG1-434 C O2	1.8339	Adder	4.07
965662	AG1-434 E O2	8.5861	Adder	19.06
965931	AG1-462 C O2	9.1632	Adder	20.34
965932	AG1-462 E O2	6.1088	Adder	13.56
966521	AG1-521 C O2	5.1523	Adder	11.44
966522	AG1-521 E O2	1.2881	Adder	2.86
966651	AG1-535 O2	7.6003	Adder	16.87
966821	AG1-553 C O2	13.1800	Adder	29.26
966822	AG1-553 E O2	3.2950	Adder	7.31
WEC	WEC	4.7241	Confirmed LTF	4.7241
CALDERWOOD	CALDERWOOD	0.0025	Confirmed LTF	0.0025
CBM-W2	CBM-W2	8.7987	Confirmed LTF	8.7987
NY	NY	0.5237	Confirmed LTF	0.5237
TVA	TVA	0.7770	Confirmed LTF	0.7770
O-066	O-066	6.2656	Confirmed LTF	6.2656
SIGE	SIGE	0.0426	Confirmed LTF	0.0426
CHEOAH	CHEOAH	0.0070	Confirmed LTF	0.0070
CBM-S1	CBM-S1	0.1208	Confirmed LTF	0.1208
G-007	G-007	0.9775	Confirmed LTF	0.9775
HAMLET	HAMLET	0.2368	Confirmed LTF	0.2368
MEC	MEC	12.3068	Confirmed LTF	12.3068
GIBSON	GIBSON	0.3402	Confirmed LTF	0.3402
BLUEG	BLUEG	1.3714	Confirmed LTF	1.3714
TRIMBLE	TRIMBLE	0.4541	Confirmed LTF	0.4541
LAGN	LAGN	2.6390	Confirmed LTF	2.6390
CATAWBA	CATAWBA	0.1207	Confirmed LTF	0.1207
CBM-W1	CBM-W1	87.1343	Confirmed LTF	87.1343

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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
162222092	274750	CRETE EC ;BP	CE	255112	17STJOHN	NIPS	1	COMED_P7-1_345-L2002__B-S+_345-L2004__R-S-B	tower	1399.0	152.46	152.48	DC	16.46

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

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

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

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

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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
174477381	274804	UNIV PK N;RP	CE	960680	AF2-359 TAP	CE	1	COMED_P4_112-65-BT3-4__	breaker	971.0	138.22	138.4	DC	19.76

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

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

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

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

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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
174302482	943410	AF1-012 TAP	CE	957470	AF2-041 TAP	CE	1	COMED_P4_144-45-BT7-8__	breaker	1656.0	139.09	139.55	DC	16.81

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.4642	Adder	1.72
274715	NELSON EC;1C	6.9788	50/50	6.9788
274716	NELSON EC;1S	5.0921	50/50	5.0921
274717	NELSON EC;2C	7.0327	50/50	7.0327
274718	NELSON EC;2S	5.1377	50/50	5.1377
274762	LEE CO EC;3U	2.8860	50/50	2.8860
274764	LEE CO EC;5U	2.8928	50/50	2.8928
274765	LEE CO EC;6U	2.8928	50/50	2.8928
274859	EASYR;U1 E	17.5815	Adder	20.68
274860	EASYR;U2 E	17.5815	Adder	20.68
290051	GSG-6; E	6.2599	Adder	7.36
293516	O-009 E1	13.5821	Adder	15.98
293517	O-009 E2	6.8987	Adder	8.12
293518	O-009 E3	7.5973	Adder	8.94
293715	O-029 E	14.5208	Adder	17.08
293716	O-029 E	7.9615	Adder	9.37
293717	O-029 E	7.3175	Adder	8.61
294401	BSHIL;1U E	5.9058	Adder	6.95
294410	BSHIL;2U E	5.9058	Adder	6.95
294763	P-046 E	9.3690	Adder	11.02
295109	WESTBROOK E	3.3515	Adder	3.94
295111	SUBLETTE E	3.8316	Adder	4.51
916221	Z1-073 E	3.2514	Adder	3.83
919221	AA1-146	6.5102	50/50	6.5102
919581	AA2-030 C	41.2643	50/50	41.2643
924472	AB2-096 CT1	9.8219	Adder	11.56
924473	AB2-096 CT2	9.8219	Adder	11.56
924474	AB2-096 CT3	9.8219	Adder	11.56
925581	AC1-033 C	0.9673	Adder	1.14
925582	AC1-033 E	6.4757	Adder	7.62
930482	AB1-089 CT	37.3158	Adder	43.9
930483	AB1-089 ST	29.6676	Adder	34.9
933911	AD1-013 C	0.9944	Adder	1.17
933912	AD1-013 E	1.5885	Adder	1.87
934051	AD1-031 C O1	1.9648	Adder	2.31
934052	AD1-031 E O1	3.2057	Adder	3.77
934432	AD1-067 E	0.3305	Adder	0.39
934701	AD1-098 C O1	4.4374	Adder	5.22
934702	AD1-098 E O1	3.2398	Adder	3.81
934971	AD1-129 C	0.5157	Adder	0.61
934972	AD1-129 E	0.3438	Adder	0.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
936791	AD2-102 C	11.9136	Adder	14.02
936792	AD2-102 E	7.9424	Adder	9.34
937001	AD2-134 C	1.6364	Adder	1.93
937002	AD2-134 E	6.7601	Adder	7.95
937311	AD2-172 C	2.4594	Adder	2.89
937312	AD2-172 E	3.3963	Adder	4.0
937531	AD2-214 C	7.1136	Adder	8.37
937532	AD2-214 E	4.7424	Adder	5.58
938861	AE1-114 C O1	4.7835	Adder	5.63
938862	AE1-114 E O1	16.3203	Adder	19.2
939051	AE1-134 1	3.2065	50/50	3.2065
939061	AE1-134 2	3.2065	50/50	3.2065
940501	AE2-035 C	2.4594	Adder	2.89
940502	AE2-035 E	3.3963	Adder	4.0
943411	AF1-012 C	37.9249	50/50	37.9249
943412	AF1-012 E	25.2833	50/50	25.2833
943921	AF1-060	1.2109	Adder	1.42
946151	AF1-280 C O1	31.5168	50/50	31.5168
946152	AF1-280 E O1	14.4931	50/50	14.4931
946161	AF1-281 C O1	0.6901	50/50	0.6901
946162	AF1-281 E O1	3.9108	50/50	3.9108
946321	AF1-296 C O1	5.9977	Adder	7.06
946322	AF1-296 E O1	28.0798	Adder	33.04
946501	AF1-314 C	4.3697	Adder	5.14
946502	AF1-314 E	20.4582	Adder	24.07
946671	AF1-331	1.2915	Adder	1.52
951381	J504	4.2190	PJM External (MISO)	4.2190
951421	J514	2.5083	PJM External (MISO)	2.5083
951511	J530 C	3.8905	PJM External (MISO)	3.8905
951512	J530 E	15.5620	PJM External (MISO)	15.5620
952431	J760	2.1561	PJM External (MISO)	2.1561
953921	J855 C	1.2390	PJM External (MISO)	1.2390
953922	J855 E	6.7030	PJM External (MISO)	6.7030
954061	J870	14.7880	PJM External (MISO)	14.7880
954071	J871	7.3940	PJM External (MISO)	7.3940
954091	J873 C	2.4617	PJM External (MISO)	2.4617
954092	J873 E	13.3183	PJM External (MISO)	13.3183
954792	J952 E	4.9480	PJM External (MISO)	4.9480
954861	J959 C	1.8250	PJM External (MISO)	1.8250
954862	J959 E	9.8735	PJM External (MISO)	9.8735
954901	J963	0.9148	PJM External (MISO)	0.9148
955051	J981 C	2.7097	PJM External (MISO)	2.7097
955052	J981 E	14.6603	PJM External (MISO)	14.6603
955221	J1000	4.1695	PJM External (MISO)	4.1695
955971	J1084	22.7715	PJM External (MISO)	22.7715
956411	J1131	11.9140	PJM External (MISO)	11.9140
956831	J1181 C	2.3494	PJM External (MISO)	2.3494
956832	J1181 E	12.7106	PJM External (MISO)	12.7106
958911	AF2-182 C	41.4090	50/50	41.4090
958912	AF2-182 E	27.6060	50/50	27.6060
958921	AF2-183 C	7.3616	50/50	7.3616
958922	AF2-183 E	11.0424	50/50	11.0424

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959101	AF2-201 C O1	6.0196	Adder	7.08
959102	AF2-201 E O1	17.2859	Adder	20.34
960551	AF2-346 C	16.2535	50/50	16.2535
960552	AF2-346 E	10.8357	50/50	10.8357
960581	AF2-349 C	11.2180	Adder	13.2
960582	AF2-349 E	7.4786	Adder	8.8
960721	AF2-363 C O1	3.0629	Adder	3.6
960722	AF2-363 E O1	2.0419	Adder	2.4
961011	AF2-392 C O1	7.7447	50/50	7.7447
961012	AF2-392 E O1	36.2593	50/50	36.2593
961021	AF2-393 O1	13.2012	50/50	13.2012
961031	AF2-394 O1	8.8008	50/50	8.8008
962012	AG1-044 E	0.1252	50/50	0.1252
962791	AG1-128 C O2	1.9618	Adder	4.35
962792	AG1-128 E O2	9.1805	Adder	20.38
963681	AG1-220 C O2	3.7597	Adder	8.35
963682	AG1-220 E O2	2.5065	Adder	5.56
964461	AG1-309 FTIR	291.4731	Merchant Transmission	291.4731
965062	AG1-371 BAT	33.6810	50/50	33.6810
965072	AG1-372 BAT	22.4540	50/50	22.4540
965082	AG1-373 BAT	11.2270	50/50	11.2270
965551	AG1-423 C O2	7.7409	Adder	17.18
965552	AG1-423 E O2	5.1606	Adder	11.46
965661	AG1-434 C O2	1.3331	Adder	2.96
965662	AG1-434 E O2	6.2416	Adder	13.85
965931	AG1-462 C O2	15.9901	Adder	35.49
965932	AG1-462 E O2	10.6601	Adder	23.66
966521	AG1-521 C O2	6.9074	Adder	15.33
966522	AG1-521 E O2	1.7269	Adder	3.83
966821	AG1-553 C O2	22.8314	Adder	50.68
966822	AG1-553 E O2	5.7078	Adder	12.67
990901	L-005 E	7.9883	Adder	9.4
WEC	WEC	0.9267	Confirmed LTF	0.9267
CPL	CPL	0.0833	Confirmed LTF	0.0833
CBM-W2	CBM-W2	17.1405	Confirmed LTF	17.1405
NY	NY	0.2500	Confirmed LTF	0.2500
TVA	TVA	1.9110	Confirmed LTF	1.9110
O-066	O-066	2.9074	Confirmed LTF	2.9074
SIGE	SIGE	0.0590	Confirmed LTF	0.0590
CBM-S2	CBM-S2	3.1216	Confirmed LTF	3.1216
CBM-S1	CBM-S1	0.4131	Confirmed LTF	0.4131
G-007	G-007	0.4526	Confirmed LTF	0.4526
MEC	MEC	14.9859	Confirmed LTF	14.9859
BLUEG	BLUEG	0.3819	Confirmed LTF	0.3819
TRIMBLE	TRIMBLE	0.1402	Confirmed LTF	0.1402
LAGN	LAGN	4.2157	Confirmed LTF	4.2157
CBM-W1	CBM-W1	59.5149	Confirmed LTF	59.5149

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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
174302457	957470	AF2-041 TAP	CE	270730	ELECT JCT; B	CE	1	COMED_P4_144-45-BT7-8__	breaker	1656.0	145.91	146.36	DC	16.81

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274715	NELSON EC;1C	6.9788	50/50	6.9788
274716	NELSON EC;1S	5.0921	50/50	5.0921
274717	NELSON EC;2C	7.0327	50/50	7.0327
274718	NELSON EC;2S	5.1377	50/50	5.1377
274765	LEE CO EC;6U	2.8928	50/50	2.8928
274859	EASYR;U1 E	17.5815	Adder	20.68
274860	EASYR;U2 E	17.5815	Adder	20.68
290051	GSG-6; E	6.2599	Adder	7.36
293516	O-009 E1	13.5821	Adder	15.98
293517	O-009 E2	6.8987	Adder	8.12
293518	O-009 E3	7.5973	Adder	8.94
293715	O-029 E	14.5208	Adder	17.08
293716	O-029 E	7.9615	Adder	9.37
293717	O-029 E	7.3175	Adder	8.61
294401	BSHIL;1U E	5.9058	Adder	6.95
294410	BSHIL;2U E	5.9058	Adder	6.95
294763	P-046 E	9.3690	Adder	11.02
295109	WESTBROOK E	3.3515	Adder	3.94
295111	SUBLETTE E	3.8316	Adder	4.51
916221	Z1-073 E	3.2514	Adder	3.83
919221	AA1-146	6.5102	50/50	6.5102
919581	AA2-030 C	41.2643	50/50	41.2643
925581	AC1-033 C	0.9673	Adder	1.14
925582	AC1-033 E	6.4757	Adder	7.62
930482	AB1-089 CT	37.3158	Adder	43.9
930483	AB1-089 ST	29.6676	Adder	34.9
934051	AD1-031 C O1	1.9648	Adder	2.31
934052	AD1-031 E O1	3.2057	Adder	3.77
934432	AD1-067 E	0.3305	Adder	0.39
934701	AD1-098 C O1	4.4374	Adder	5.22
934702	AD1-098 E O1	3.2398	Adder	3.81
934971	AD1-129 C	0.5157	Adder	0.61
934972	AD1-129 E	0.3438	Adder	0.4
936791	AD2-102 C	11.9136	Adder	14.02
936792	AD2-102 E	7.9424	Adder	9.34
937001	AD2-134 C	1.6364	Adder	1.93
937002	AD2-134 E	6.7601	Adder	7.95
937311	AD2-172 C	2.4594	Adder	2.89
937312	AD2-172 E	3.3963	Adder	4.0
937531	AD2-214 C	7.1136	Adder	8.37
937532	AD2-214 E	4.7424	Adder	5.58

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
938861	AE1-114 C O1	4.7835	Adder	5.63
938862	AE1-114 E O1	16.3203	Adder	19.2
939051	AE1-134 1	3.2065	50/50	3.2065
939061	AE1-134 2	3.2065	50/50	3.2065
940501	AE2-035 C	2.4594	Adder	2.89
940502	AE2-035 E	3.3963	Adder	4.0
943411	AF1-012 C	37.9249	50/50	37.9249
943412	AF1-012 E	25.2833	50/50	25.2833
943921	AF1-060	1.2109	Adder	1.42
946151	AF1-280 C O1	31.5168	50/50	31.5168
946152	AF1-280 E O1	14.4931	50/50	14.4931
946161	AF1-281 C O1	0.6901	50/50	0.6901
946162	AF1-281 E O1	3.9108	50/50	3.9108
946321	AF1-296 C O1	5.9977	Adder	7.06
946322	AF1-296 E O1	28.0798	Adder	33.04
946501	AF1-314 C	4.3697	Adder	5.14
946502	AF1-314 E	20.4582	Adder	24.07
951381	J504	4.2190	PJM External (MISO)	4.2190
951421	J514	2.5083	PJM External (MISO)	2.5083
953921	J855 C	1.2390	PJM External (MISO)	1.2390
953922	J855 E	6.7030	PJM External (MISO)	6.7030
954091	J873 C	2.4617	PJM External (MISO)	2.4617
954092	J873 E	13.3183	PJM External (MISO)	13.3183
954792	J952 E	4.9480	PJM External (MISO)	4.9480
954901	J963	0.9148	PJM External (MISO)	0.9148
955051	J981 C	2.7097	PJM External (MISO)	2.7097
955052	J981 E	14.6603	PJM External (MISO)	14.6603
955221	J1000	4.1695	PJM External (MISO)	4.1695
955971	J1084	22.7715	PJM External (MISO)	22.7715
956411	J1131	11.9140	PJM External (MISO)	11.9140
957471	AF2-041 C	99.1656	50/50	99.1656
957472	AF2-041 E	49.5828	50/50	49.5828
958911	AF2-182 C	41.4090	50/50	41.4090
958912	AF2-182 E	27.6060	50/50	27.6060
958921	AF2-183 C	7.3616	50/50	7.3616
958922	AF2-183 E	11.0424	50/50	11.0424
959081	AF2-199 C	33.0552	50/50	33.0552
959082	AF2-199 E	16.5276	50/50	16.5276
959091	AF2-200 C O1	66.1104	50/50	66.1104
959092	AF2-200 E O1	33.0552	50/50	33.0552
959101	AF2-201 C O1	6.0196	Adder	7.08
959102	AF2-201 E O1	17.2859	Adder	20.34
960551	AF2-346 C	16.2535	50/50	16.2535
960552	AF2-346 E	10.8357	50/50	10.8357
961011	AF2-392 C O1	7.7447	50/50	7.7447
961012	AF2-392 E O1	36.2593	50/50	36.2593
961021	AF2-393 O1	13.2012	50/50	13.2012
961031	AF2-394 O1	8.8008	50/50	8.8008
962012	AG1-044 E	0.1252	50/50	0.1252
962791	AG1-128 C O2	1.9618	Adder	4.35
962792	AG1-128 E O2	9.1805	Adder	20.38
963681	AG1-220 C O2	3.7597	Adder	8.35

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963682	AG1-220 E O2	2.5065	Adder	5.56
964461	AG1-309 FTIR	291.4731	Merchant Transmission	291.4731
965061	AG1-371	16.5276	50/50	16.5276
965071	AG1-372	11.0184	50/50	11.0184
965081	AG1-373	5.5092	50/50	5.5092
965551	AG1-423 C O2	7.7409	Adder	17.18
965552	AG1-423 E O2	5.1606	Adder	11.46
965661	AG1-434 C O2	1.3331	Adder	2.96
965662	AG1-434 E O2	6.2416	Adder	13.85
965931	AG1-462 C O2	15.9901	Adder	35.49
965932	AG1-462 E O2	10.6601	Adder	23.66
966521	AG1-521 C O2	6.9074	Adder	15.33
966522	AG1-521 E O2	1.7269	Adder	3.83
966821	AG1-553 C O2	22.8314	Adder	50.68
966822	AG1-553 E O2	5.7078	Adder	12.67
WEC	WEC	0.9267	Confirmed LTF	0.9267
CPL	CPL	0.0833	Confirmed LTF	0.0833
CBM-W2	CBM-W2	17.1405	Confirmed LTF	17.1405
NY	NY	0.2500	Confirmed LTF	0.2500
TVA	TVA	1.9110	Confirmed LTF	1.9110
O-066	O-066	2.9074	Confirmed LTF	2.9074
SIGE	SIGE	0.0590	Confirmed LTF	0.0590
CBM-S2	CBM-S2	3.1216	Confirmed LTF	3.1216
CBM-S1	CBM-S1	0.4131	Confirmed LTF	0.4131
G-007	G-007	0.4526	Confirmed LTF	0.4526
MEC	MEC	14.9859	Confirmed LTF	14.9859
BLUEG	BLUEG	0.3819	Confirmed LTF	0.3819
TRIMBLE	TRIMBLE	0.1402	Confirmed LTF	0.1402
LAGN	LAGN	4.2157	Confirmed LTF	4.2157
CBM-W1	CBM-W1	59.5149	Confirmed LTF	59.5149

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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
177728719	962690	AG1-118 TAP	CE	272522	SUGAR GRV; B	CE	1	COMED_P4_167-38-L14609_	breaker	538.0	140.31	151.44	DC	59.88

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

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

13.6 Contingency Descriptions - Secondary POI

Contingency Name	Contingency Definition
COMED_P2-2_107-DX-138R_23	CONTINGENCY 'COMED_P2-2_107-DX-138R_23' / CONTINGENCY # 91 MOVE 100 PERCENT LOAD FROM BUS 271333 TO BUS 271332 / DIXON ; R 138 DIXON ; B 138 DISCONNECT BUS 271333 / DIXON ; R 138 END
COMED_P4_167-38-TR81____	CONTINGENCY 'COMED_P4_167-38-TR81____' / CONTINGENCY # 676 TRIP BRANCH FROM BUS 270846 TO BUS 270730 CKT 1 / PLANO ; B 345 ELECT JCT; B 345 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 2 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 1 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 270846 TO BUS 272278 TO BUS 275354 CKT 1 / PLANO ; B 345 PLANO;1I 138 PLANO;1C 34.5 DISCONNECT BUS 272250 / PLANO ; B 138 END

Contingency Name	Contingency Definition
COMED_P2-2_120_LO-345R__2	CONTINGENCY 'COMED_P2-2_120_LO-345R__2' / CONTINGENCY # 130 TRIP BRANCH FROM BUS 270813 TO BUS 270753 CKT 1 / LOMBARD ; R 345 ESS W407M;OT 345 TRIP BRANCH FROM BUS 270813 TO BUS 270781 CKT 1 / LOMBARD ; R 345 ITASCA ; R 345 TRIP BRANCH FROM BUS 270813 TO BUS 270809 CKT 1 / LOMBARD ; R 345 LISLE ; R 345 DISCONNECT BUS 275198 / LOMBARD ;2M 138 END
COMED_P4_111-45-L16704T	CONTINGENCY 'COMED_P4_111-45-L16704T' / 1647 OPEN BRANCH FROM BUS 270730 TO BUS 270846 CKT 1 / 270730 ELECT JCT; B 345 270846 PLANO ; B 345 1 OPEN BRANCH FROM BUS 272250 TO BUS 272278 CKT 2 / 272250 PLANO ; B 138 272278 PLANO;1I 138 2 OPEN THREEWINDING AT BUS 270846 TO BUS 272278 TO BUS 275354 CKT 1/ OPEN THREEWINDING AT BUS 272278 TO BUS 270846 TO BUS 275354 CKT 1/ OPEN THREEWINDING AT BUS 275354 TO BUS 270846 TO BUS 272278 CKT 1/ OPEN BRANCH FROM BUS 270730 TO BUS 270916 CKT 1 / 270730 ELECT JCT; B 345 270916 WAYNE ; B 345 1 OPEN BRANCH FROM BUS 270730 TO BUS 270928 CKT 1 / 270730 ELECT JCT; B 345 270928 WOLFS ; B 345 1 OPEN THREEWINDING AT BUS 270928 TO BUS 272794 TO BUS 275334 CKT 1/ OPEN THREEWINDING AT BUS 272794 TO BUS 270928 TO BUS 275334 CKT 1/ OPEN THREEWINDING AT BUS 275334 TO BUS 270928 TO BUS 272794 CKT 1/ OPEN BRANCH FROM BUS 270730 TO BUS 275239 CKT 1 / 270730 ELECT JCT; B 345 275239 ELECT JCT;2M 138 1 OPEN BRANCH FROM BUS 275239 TO BUS 271390 CKT 1 / 275239 ELECT JCT;2M 138 271390 ELECT JCT; B 138 1 OPEN BRANCH FROM BUS 275339 TO BUS 275239 CKT 1 / 275339 ELECT JCT;2C 34.5 275239 ELECT JCT;2M 138 1 END
COMED_P4_144-45-BT7-8__	CONTINGENCY 'COMED_P4_144-45-BT7-8__' / 1570 OPEN BRANCH FROM BUS 270900 TO BUS 270916 CKT 1 / 270900 TOLLWAY ; B 345 270916 WAYNE ; B 345 1 OPEN BRANCH FROM BUS 270916 TO BUS 275228 CKT 1 / 270916 WAYNE ; B 345 275228 WAYNE ;1M 138 1 OPEN BRANCH FROM BUS 275228 TO BUS 272740 CKT 1 / 275228 WAYNE ;1M 138 272740 WAYNE ; B 138 1 OPEN BRANCH FROM BUS 275328 TO BUS 275228 CKT 1 / 275328 WAYNE ;1C 34.5 275228 WAYNE ;1M 138 1 OPEN BRANCH FROM BUS 270916 TO BUS 965550 CKT 1 / 270916 WAYNE ; B 345 965550 AG1-423 TAP 345 1 END
COMED_P1-2_765-L2315__-S	CONTINGENCY 'COMED_P1-2_765-L2315__-S' / 2979 OPEN BRANCH FROM BUS 270607 TO BUS 270630 CKT 1 / 270607 COLLINS ; 765 270630 PLANO ; 765 1 END

Contingency Name	Contingency Definition
COMED_P1-2_138-L14609_R-R-A	CONTINGENCY 'COMED_P1-2_138-L14609_R-R-A' / CONTINGENCY # 316 TRIP BRANCH FROM BUS 272251 TO BUS 272803 CKT 1 / PLANO; R 138 W PLANO ; R 138 TRIP BRANCH FROM BUS 272803 TO BUS 943120 CKT 1 / W PLANO ; R 138 AE2-341 TAP 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271116 / W PLANO ; R 138 BRISTOL ; B 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271117 / W PLANO ; R 138 BRISTOL ; R 138 MOVE 50 PERCENT LOAD FROM BUS 272803 TO BUS 272445 / W PLANO ; R 138 SANDWICH ; R 138 END
AEP_P2-2_#672_05EUGENE 345_1	CONTINGENCY 'AEP_P2-2_#672_05EUGENE 345_1' OPEN BRANCH FROM BUS 963840 TO BUS 243221 CKT 1 / 963840 AG1-237 TAP 345 243221 05EUGENE 345 1 END
COMED_P7-1_345-L13821_R-R+_345-L18502AB-N	CONTINGENCY 'COMED_P7-1_345-L13821_R-R+_345-L18502AB-N' / CONTINGENCY # 127 TRIP BRANCH FROM BUS 270883 TO BUS 270807 CKT 1 / SILVER LK; R 345 LIBERTYVI; R 345 TRIP BRANCH FROM BUS 270900 TO BUS 270806 CKT 1 / TOLLWAY ; B 345 LIBERTYVI; B 345 END
COMED_P1-2_138-L8315__R-R	CONTINGENCY 'COMED_P1-2_138-L8315__R-R' / CONTINGENCY # 552 TRIP BRANCH FROM BUS 271558 TO BUS 272757 CKT 1 / GLIDDEN ; B 138 W DEKALB ;7T 138 TRIP BRANCH FROM BUS 272757 TO BUS 272362 CKT 1 / W DEKALB ;7T 138 ESS H445 ;3B 138 TRIP BRANCH FROM BUS 272757 TO BUS 272761 CKT 1 / W DEKALB ;7T 138 W DEKALB ;7R 138 MOVE 100 PERCENT LOAD FROM BUS 272761 TO BUS 272759 / W DEKALB ;7R 138 W DEKALB ;4R 138 END

Contingency Name	Contingency Definition
COMED_P4_107-38-L15508_	CONTINGENCY 'COMED_P4_107-38-L15508_' / CONTINGENCY # 366 TRIP BRANCH FROM BUS 271331 TO BUS 271333 CKT 1 / DIXON ;8R 138 DIXON ; R 138 TRIP BRANCH FROM BUS 272097 TO BUS 271331 CKT 1 / NELSON ;RT 138 DIXON ;8R 138 TRIP BRANCH FROM BUS 272097 TO BUS 272095 CKT 1 / NELSON ;RT 138 NELSON ; R 138 TRIP BRANCH FROM BUS 272505 TO BUS 272097 CKT 1 / SCHAUFF R; R 138 NELSON ;RT 138 MOVE 100 PERCENT LOAD FROM BUS 271331 TO BUS 271330 / DIXON ;8R 138 DIXON ;7B 138 MOVE 100 PERCENT LOAD FROM BUS 271333 TO BUS 271332 / DIXON ; R 138 DIXON ; B 138 DISCONNECT BUS 271333 / DIXON ; R 138 END
COMED_P4_112-65-BT3-4__	CONTINGENCY 'COMED_P4_112-65-BT3-4__' / 3130 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 OPEN BRANCH FROM BUS 270644 TO BUS 275232 CKT 1 / 270644 WILTON ; 765 275232 WILTON ;3M 345 1 OPEN BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / 275232 WILTON ;3M 345 270926 WILTON ; B 345 1 OPEN BRANCH FROM BUS 275332 TO BUS 275232 CKT 1 / 275332 WILTON ;3C 33.0 275232 WILTON ;3M 345 1 OPEN SHUNT FROM BUS 270644 CKT 1 /* 270644 WILTON ; 765 END
COMED_P1-2_345-L11124_B-N	CONTINGENCY 'COMED_P1-2_345-L11124_B-N' / 2498 OPEN BRANCH FROM BUS 270730 TO BUS 270812 CKT 1 / 270730 ELECT JCT; B 345 270812 LOMBARD ; B 345 1 END
COMED_P4_111-45-L14321T	CONTINGENCY 'COMED_P4_111-45-L14321T' / 2454 OPEN BRANCH FROM BUS 270730 TO BUS 270928 CKT 1 / 270730 ELECT JCT; B 345 270928 WOLFS ; B 345 1 OPEN THREEWINDING AT BUS 270928 TO BUS 272794 TO BUS 275334 CKT 1/ OPEN THREEWINDING AT BUS 272794 TO BUS 270928 TO BUS 275334 CKT 1/ OPEN THREEWINDING AT BUS 275334 TO BUS 270928 TO BUS 272794 CKT 1/ OPEN BRANCH FROM BUS 270730 TO BUS 270846 CKT 1 / 270730 ELECT JCT; B 345 270846 PLANO ; B 345 1 OPEN BRANCH FROM BUS 270730 TO BUS 270916 CKT 1 / 270730 ELECT JCT; B 345 270916 WAYNE ; B 345 1 OPEN BRANCH FROM BUS 270730 TO BUS 275239 CKT 1 / 270730 ELECT JCT; B 345 275239 ELECT JCT;2M 138 1 OPEN BRANCH FROM BUS 275239 TO BUS 271390 CKT 1 / 275239 ELECT JCT;2M 138 271390 ELECT JCT; B 138 1 OPEN BRANCH FROM BUS 275339 TO BUS 275239 CKT 1 / 275339 ELECT JCT;2C 34.5 275239 ELECT JCT;2M 138 1 END

Contingency Name	Contingency Definition
COMED_P1-2_345-L15502_B-R-A	CONTINGENCY 'COMED_P1-2_345-L15502_B-R-A' / CONTINGENCY # 347 TRIP BRANCH FROM BUS 270828 TO BUS 943410 CKT 1 / NELSON ; B 345 AF1-012 TAP 345 END
COMED_P2-2_113_WM-138B__2	CONTINGENCY 'COMED_P2-2_113_WM-138B__2' / CONTINGENCY # 106 TRIP BRANCH FROM BUS 272728 TO BUS 272445 CKT 1 / WATERMAN ; B 138 SANDWICH ; R 138 TRIP BRANCH FROM BUS 272728 TO BUS 272730 CKT 1 / WATERMAN ; B 138 WATERMAN ;3B 138 MOVE 100 PERCENT LOAD FROM BUS 272728 TO BUS 271558 / WATERMAN ; B 138 GLIDDEN ; B 138 REMOVE SWSHUNT FROM BUS 272728 / WATERMAN ; B 138 END
COMED_P4_143-38-TR81__	CONTINGENCY 'COMED_P4_143-38-TR81__' / CONTINGENCY # 556 TRIP BRANCH FROM BUS 270928 TO BUS 270730 CKT 1 / WOLFS ; B 345 ELECT JCT; B 345 TRIP BRANCH FROM BUS 270928 TO BUS 272794 TO BUS 275334 CKT 1 / WOLFS ; B 345 WOLFS ; B 138 WOLFS ;1C 34.5 TRIP BRANCH FROM BUS 272794 TO BUS 271496 CKT 1 / WOLFS ; B 138 FRONTENAC; B 138 TRIP BRANCH FROM BUS 272794 TO BUS 272202 CKT 1 / WOLFS ; B 138 OSWEGO ; B 138 DISCONNECT BUS 275334 / WOLFS ;1C 34.5 END
COMED_P1-2_345-L13821_R-R	CONTINGENCY 'COMED_P1-2_345-L13821_R-R' / 2310 OPEN BRANCH FROM BUS 270807 TO BUS 270883 CKT 1 / 270807 LIBERTYVI; R 345 270883 SILVER LK; R 345 1 END
COMED_P1-2_138-L15627_R-R-AA	CONTINGENCY 'COMED_P1-2_138-L15627_R-R-AA' / CONTINGENCY # 363 TRIP BRANCH FROM BUS 271193 TO BUS 963680 CKT 1 / CHERRY VA; R 138 AG1-220 TAP 138 END
COMED_P1-2_138-L16914_R-R	CONTINGENCY 'COMED_P1-2_138-L16914_R-R' / CONTINGENCY # 380 TRIP BRANCH FROM BUS 272002 TO BUS 272365 CKT 1 / MCGIRR RD; 138 ESS H440 ;RT 138 TRIP BRANCH FROM BUS 272365 TO BUS 272363 CKT 1 / ESS H440 ;RT 138 ESS H440 ; R 138 TRIP BRANCH FROM BUS 272365 TO BUS 272516 CKT 1 / ESS H440 ;RT 138 STEWARD ; B 138 END

Contingency Name	Contingency Definition
COMED_P7-1_138-L11323_R-R+_138-L11305_B-R-A	CONTINGENCY 'COMED_P7-1_138-L11323_R-R+_138-L11305_B-R-A' / CONTINGENCY # 64 TRIP BRANCH FROM BUS 271680 TO BUS 272756 CKT 1 / HAUMESSER; B 138 W DEKALB ;3T 138 TRIP BRANCH FROM BUS 272730 TO BUS 960750 CKT 1 / WATERMAN ;3B 138 AF2- 366 TAP 138 TRIP BRANCH FROM BUS 272730 TO BUS 272728 CKT 1 / WATERMAN ;3B 138 WATERMAN ; B 138 TRIP BRANCH FROM BUS 272756 TO BUS 272759 CKT 1 / W DEKALB ;3T 138 W DEKALB ;4R 138 MOVE 100 PERCENT LOAD FROM BUS 272759 TO BUS 272761 / W DEKALB ;4R 138 W DEKALB ;7R 138 DISCONNECT BUS 271428 / ESS H452 ;RT 138 TRIP BRANCH FROM BUS 272728 TO BUS 271430 CKT 1 / WATERMAN ; B 138 ESS H452 ; B 138 END
COMED_P2-2_156_CV-138R__1	CONTINGENCY 'COMED_P2-2_156_CV-138R__1' / CONTINGENCY # 163 TRIP BRANCH FROM BUS 271193 TO BUS 271387 CKT 1 / CHERR COMED_P2-2_VA; R 138 E ROCKFOR;RT 138 TRIP BRANCH FROM BUS 271193 TO BUS 963680 CKT 1 / CHERR COMED_P2-2_VA; R 138 AG1-220 TAP 138 TRIP BRANCH FROM BUS 271193 TO BUS 272517 CKT 1 / CHERR COMED_P2-2_VA; R 138 STILLMAN ;RT 138 TRIP BRANCH FROM BUS 271193 TO BUS 275165 CKT 1 / CHERR COMED_P2-2_VA; R 138 CHERR COMED_P2-2_VA;1M 138 REMOVE SWSHUNT FROM BUS 271193 / CHERR COMED_P2-2_VA; R 138 END
COMED_P4_167-38-L14302_	CONTINGENCY 'COMED_P4_167-38-L14302_' / CONTINGENCY # 673 TRIP BRANCH FROM BUS 271116 TO BUS 272250 CKT 1 / BRISTOL ; B 138 PLANO ; B 138 TRIP BRANCH FROM BUS 272024 TO BUS 271182 CKT 1 / MONTGOMER; B 138 ESS W507 ; B 138 TRIP BRANCH FROM BUS 272026 TO BUS 271116 CKT 1 / MONTGOMER;BT 138 BRISTOL ; B 138 TRIP BRANCH FROM BUS 272026 TO BUS 272024 CKT 1 / MONTGOMER;BT 138 MONTGOMER; B 138 TRIP BRANCH FROM BUS 272202 TO BUS 272026 CKT 1 / OSWEGO ; B 138 MONTGOMER;BT 138 TRIP BRANCH FROM BUS 272794 TO BUS 272202 CKT 1 / WOLFS ; B 138 OSWEGO ; B 138 MOVE 100 PERCENT LOAD FROM BUS 271116 TO BUS 271117 / BRISTOL ; B 138 BRISTOL ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272202 TO BUS 272203 / OSWEGO ; B 138 OSWEGO ; R 138 CLOSE LINE FROM BUS 271182 TO BUS 271183 CKT 1 / ESS W507 ; B 138 ESS W507 ; R 138 CLOSE LINE FROM BUS 272024 TO BUS 272025 CKT 1 / MONTGOMER; B 138 MONTGOMER; R 138 DISCONNECT BUS 272250 / PLANO ; B 138 END

Contingency Name	Contingency Definition
COMED_P2-1_094-L11323__	CONTINGENCY 'COMED_P2-1_094-L11323__' / CONTINGENCY # 111 TRIP BRANCH FROM BUS 271680 TO BUS 272756 CKT 1 / HAUMESSER; B 138 W DEKALB ;3T 138 END
COMED_P4_112-65-BT4-5__	CONTINGENCY 'COMED_P4_112-65-BT4-5__' / 2515 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 OPEN BRANCH FROM BUS 270644 TO BUS 275233 CKT 1 / 270644 WILTON ; 765 275233 WILTON ;4M 345 1 OPEN BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / 275233 WILTON ;4M 345 270927 WILTON ; R 345 1 OPEN BRANCH FROM BUS 275333 TO BUS 275233 CKT 1 / 275333 WILTON ;4C 33.0 275233 WILTON ;4M 345 1 OPEN SHUNT FROM BUS 270644 CKT 1 /* 270644 WILTON ; 765 END
COMED_P2-2_144_WN-345B__7	CONTINGENCY 'COMED_P2-2_144_WN-345B__7' / CONTINGENCY # 147 TRIP BRANCH FROM BUS 270916 TO BUS 270900 CKT 1 / WAYNE ; B 345 TOLLWA COMED_P2-2_ ; B 345 DISCONNECT BUS 275228 / WAYNE ;1M 138 END
COMED_P4_111-45-L16703__	CONTINGENCY 'COMED_P4_111-45-L16703__' / 3238 OPEN BRANCH FROM BUS 270846 TO BUS 270847 CKT 1 / 270846 PLANO ; B 345 270847 PLANO ; R 345 1 OPEN BRANCH FROM BUS 270733 TO BUS 270847 CKT 1 / 270733 ELECT JCT;3R 345 270847 PLANO ; R 345 1 OPEN BRANCH FROM BUS 270717 TO BUS 270731 CKT 1 / 270717 DRESDEN ; R 345 270731 ELECT JCT;4R 345 1 OPEN BRANCH FROM BUS 270731 TO BUS 270733 CKT 1 / 270731 ELECT JCT;4R 345 270733 ELECT JCT;3R 345 1 OPEN BRANCH FROM BUS 270731 TO BUS 274749 CKT 1 / 270731 ELECT JCT;4R 345 274749 AURORA EC;RP 345 1 OPEN BRANCH FROM BUS 270731 TO BUS 275184 CKT 1 / 270731 ELECT JCT;4R 345 275184 ELECT JCT;4M 138 1 OPEN BRANCH FROM BUS 275184 TO BUS 271393 CKT 1 / 275184 ELECT JCT;4M 138 271393 ELECT JCT;4R 138 1 OPEN BRANCH FROM BUS 275284 TO BUS 275184 CKT 1 / 275284 ELECT JCT;4C 34.5 275184 ELECT JCT;4M 138 1 END
COMED_P2-2_111_EJ-345R__3	CONTINGENCY 'COMED_P2-2_111_EJ-345R__3' / CONTINGENCY # 103 DISCONNECT BUS 270733 / ELECT JCT;3R 345 DISCONNECT BUS 275183 / ELECT JCT;3M 138 END

Contingency Name	Contingency Definition
COMED_P2-2_111_EJ-345R__4	CONTINGENCY 'COMED_P2-2_111_EJ-345R__4' / CONTINGENCY # 104 DISCONNECT BUS 270731 / ELECT JCT;4R 345 DISCONNECT BUS 275184 / ELECT JCT;4M 138 END
COMED_P1-2_765-L11215__S	CONTINGENCY 'COMED_P1-2_765-L11215__S' / 2294 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 OPEN SHUNT FROM BUS 270644 CKT 1 /* 270644 WILTON ; 765 END
COMED_P1-2_138-L11106_B-R-AA	CONTINGENCY 'COMED_P1-2_138-L11106_B-R-AA' / CONTINGENCY # 190 TRIP BRANCH FROM BUS 271390 TO BUS 271586 CKT 1 / ELECT JCT; B 138 ESS W541 ; B 138 TRIP BRANCH FROM BUS 271586 TO BUS 272114 CKT 1 / ESS W541 ; B 138 N AURORA ; B 138 TRIP BRANCH FROM BUS 272114 TO BUS 272522 CKT 1 / N AURORA ; B 138 SUGAR GRV; B 138 TRIP BRANCH FROM BUS 962690 TO BUS 272522 CKT 1 / AG1-118 TAP 138 SUGAR GRV; B 138 MOVE 100 PERCENT LOAD FROM BUS 271586 TO BUS 271587 / ESS W541 ; B 138 ESS W541 ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272522 TO BUS 272523 / SUGAR GRV; B 138 SUGAR GRV; R 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 / N AURORA ; B 138 N AURORA ; R 138 END
COMED_P4_155-45-BT2-34_	CONTINGENCY 'COMED_P4_155-45-BT2-34_' / CONTINGENCY # 636 TRIP BRANCH FROM BUS 270828 TO BUS 943410 CKT 1 / NELSON ; B 345 AF1-012 TAP 345 TRIP BRANCH FROM BUS 270828 TO BUS 272094 TO BUS 275341 CKT 1 / NELSON ; B 345 NELSON ; B 138 NELSON ;1C 34.5 END
COMED_P7-1_345-L2002__B-S+_345-L2004__R-S-B	CONTINGENCY 'COMED_P7-1_345-L2002__B-S+_345-L2004__R-S-B' / MODIFY TRIP BRANCH FROM BUS 270670 TO BUS 270671 CKT 1 / BRAID; B 345 BRAID; R 345 TRIP BRANCH FROM BUS 270670 TO BUS 934730 CKT 1 / BRAID; B 345 AD1-100 TAP 345 TRIP BRANCH FROM BUS 941560 TO BUS 270711 CKT 1 / AE2-153 TAP 345 DAVIS; R 345 END
COMED_P2-2_167_PL-138B__2	CONTINGENCY 'COMED_P2-2_167_PL-138B__2' / CONTINGENCY # 169 DISCONNECT BUS 272250 / PLANO ; B 138 END

Contingency Name	Contingency Definition
COMED_P2-1_186-L16914__	CONTINGENCY 'COMED_P2-1_186-L16914__' TRIP BRANCH FROM BUS 272365 TO BUS 272516 CKT 1 STEWART ; B 138 END / CONTINGENCY # 256 / ESS H440 ;RT 138
Base Case	
COMED_P2-2_103_LS-345B__2	CONTINGENCY 'COMED_P2-2_103_LS-345B__2' TRIP BRANCH FROM BUS 270808 TO BUS 270810 CKT 1 DISCONNECT BUS 275197 END / CONTINGENCY # 86 / LISLE ; B 345 LOCKPORT ; B 345 / LISLE ;2M 138
COMED_P4_167-38-L14609__	CONTINGENCY 'COMED_P4_167-38-L14609__' TRIP BRANCH FROM BUS 272251 TO BUS 272803 CKT 1 TRIP BRANCH FROM BUS 272803 TO BUS 943120 CKT 1 TAP 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271116 BRISTOL ; B 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271117 BRISTOL ; R 138 MOVE 50 PERCENT LOAD FROM BUS 272803 TO BUS 272444 SANDWICH ; B 138 DISCONNECT BUS 272251 END / CONTINGENCY # 675 / PLANO; R 138 W PLANO ; R 138 / W PLANO ; R 138 AE2-341 / W PLANO ; R 138 / W PLANO ; R 138 / W PLANO ; R 138 / PLANO; R 138
COMED_P1-2_345-L18905__B-R-B	CONTINGENCY 'COMED_P1-2_345-L18905__B-R-B' OPEN BRANCH FROM BUS 270916 TO BUS 965550 CKT 1 965550 AG1-423 TAP 345 1 END / 1087 / 270916 WAYNE ; B 345
COMED_P2-1_113-L11323__	CONTINGENCY 'COMED_P2-1_113-L11323__' TRIP BRANCH FROM BUS 272730 TO BUS 272728 CKT 1 WATERMAN ; B 138 END / CONTINGENCY # 140 / WATERMAN ;3B 138
COMED_P1-2_345-L18905__B-R-A	CONTINGENCY 'COMED_P1-2_345-L18905__B-R-A' TRIP BRANCH FROM BUS 930480 TO BUS 965550 CKT 1 TAP 345 END / CONTINGENCY # 141B / AB1-089 ; B 345 AG1-423

Contingency Name	Contingency Definition
COMED_P7-1_138-L11104_R-R+_345-L16704TB-S	CONTINGENCY 'COMED_P7-1_138-L11104_R-R+_345-L16704TB-S' / CONTINGENCY # 57 TRIP BRANCH FROM BUS 271391 TO BUS 271587 CKT 1 / ELECT JCT;3R 138 ESS W541 ; R 138 TRIP BRANCH FROM BUS 271587 TO BUS 272115 CKT 1 / ESS W541 ; R 138 N AURORA ; R 138 TRIP BRANCH FROM BUS 272115 TO BUS 272523 CKT 1 / N AURORA ; R 138 SUGAR GRV; R 138 MOVE 100 PERCENT LOAD FROM BUS 271587 TO BUS 271586 / ESS W541 ; R 138 ESS W541 ; B 138 MOVE 100 PERCENT LOAD FROM BUS 272523 TO BUS 272522 / SUGAR GRV; R 138 SUGAR GRV; B 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 / N AURORA ; B 138 N AURORA ; R 138 TRIP BRANCH FROM BUS 270846 TO BUS 270730 CKT 1 / PLANO ; B 345 ELECT JCT; B 345 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 2 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 1 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 270846 TO BUS 272278 TO BUS 275354 CKT 1 / PLANO ; B 345 PLANO;1I 138 PLANO;1C 34.5 END
COMED_P7-1_345-L6607__B-S+_345-L97008_R-S-A	CONTINGENCY 'COMED_P7-1_345-L6607__B-S+_345-L97008_R-S-A' / CONTINGENCY # 214 TRIP BRANCH FROM BUS 270728 TO BUS 274750 CKT 1 / E FRANKFO; B 345 CRETE EC ;BP 345 TRIP BRANCH FROM BUS 274804 TO BUS 960680 CKT 1 / UNIV PK N;RP 345 AF2-359 TAP 345 END

Contingency Name	Contingency Definition
COMED_P4_111-45-L11120_	CONTINGENCY 'COMED_P4_111-45-L11120_' / 1799 OPEN BRANCH FROM BUS 270733 TO BUS 270747 CKT 1 / 270733 ELECT JCT;3R 345 270747 ESS W407K;0T 345 1 OPEN BRANCH FROM BUS 270747 TO BUS 270753 CKT 1 / 270747 ESS W407K;0T 345 270753 ESS W407M;0T 345 1 OPEN BRANCH FROM BUS 270749 TO BUS 270753 CKT 1 / 270749 ESS W407M; R 345 270753 ESS W407M;0T 345 1 OPEN BRANCH FROM BUS 270753 TO BUS 270813 CKT 1 / 270753 ESS W407M;0T 345 270813 LOMBARD ; R 345 1 OPEN BRANCH FROM BUS 270731 TO BUS 270733 CKT 1 / 270731 ELECT JCT;4R 345 270733 ELECT JCT;3R 345 1 OPEN BRANCH FROM BUS 270733 TO BUS 270847 CKT 1 / 270733 ELECT JCT;3R 345 270847 PLANO ; R 345 1 OPEN BRANCH FROM BUS 270733 TO BUS 275183 CKT 1 / 270733 ELECT JCT;3R 345 275183 ELECT JCT;3M 138 1 OPEN BRANCH FROM BUS 275183 TO BUS 271391 CKT 1 / 275183 ELECT JCT;3M 138 271391 ELECT JCT;3R 138 1 OPEN BRANCH FROM BUS 275283 TO BUS 275183 CKT 1 / 275283 ELECT JCT;3C 34.5 275183 ELECT JCT;3M 138 1 MOVE 100.00 PERCENT LOAD FROM BUS 270749 TO BUS 270751 / FROM 270749 ESS W407M; R 345 TO 270751 ESS W407M;9T 345 . LOAD=18.00 END
COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-A	CONTINGENCY 'COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-A' / CONTINGENCY # 39 TRIP BRANCH FROM BUS 934700 TO BUS 272002 CKT 1 / AD1-098 TAP 138 MCGIRR RD; 138 TRIP BRANCH FROM BUS 272517 TO BUS 966520 CKT 1 / STILLMAN ;RT 138 AG1-521 TAP 138 END
COMED_P7-1_345-L94507_B-S+_345-L97008_R-S	CONTINGENCY 'COMED_P7-1_345-L94507_B-S+_345-L97008_R-S' / CONTINGENCY # 237 TRIP BRANCH FROM BUS 274750 TO BUS 255112 CKT 1 / CRETE EC ;BP 345 17STJOHN 345 TRIP BRANCH FROM BUS 274804 TO BUS 960680 CKT 1 / UNIV PK N;RP 345 AF2-359 TAP 345 END
EXT_P12:345:MEC:CORDOVA:SUB 39	CONTINGENCY 'EXT_P12:345:MEC:CORDOVA:SUB 39' / 1561 OPEN BRANCH FROM BUS 636600 TO BUS 636605 CKT 1 / 636600 SB 39 3 345 636605 MECCORD3 345 1 END
COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-B	CONTINGENCY 'COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-B' / CONTINGENCY # 39 TRIP BRANCH FROM BUS 934700 TO BUS 272002 CKT 1 / AD1-098 TAP 138 MCGIRR RD; 138 TRIP BRANCH FROM BUS 966520 TO BUS 271333 CKT 1 / AG1-521 TAP 138 DIXON ; R 138 END

Contingency Name	Contingency Definition
COMED_P4_155-45-BT34-5_	CONTINGENCY 'COMED_P4_155-45-BT34-5_' / 1522 OPEN BRANCH FROM BUS 270828 TO BUS 270890 CKT 1 / 270828 NELSON ; B 345 270890 ESS H471 ; 345 1 OPEN BRANCH FROM BUS 270828 TO BUS 943410 CKT 1 / 270828 NELSON ; B 345 943410 AF1-012 TAP 345 1 END
COMED_P2-2_111_EJ-345B__2	CONTINGENCY 'COMED_P2-2_111_EJ-345B__2' / CONTINGENCY # 102 TRIP BRANCH FROM BUS 270730 TO BUS 270846 CKT 1 / ELECT JCT; B 345 PLANO ; B 345 TRIP BRANCH FROM BUS 270730 TO BUS 270916 CKT 1 / ELECT JCT; B 345 WAYNE ; B 345 TRIP BRANCH FROM BUS 270730 TO BUS 270928 CKT 1 / ELECT JCT; B 345 WOLFS ; B 345 TRIP BRANCH FROM BUS 270928 TO BUS 272794 TO BUS 275334 CKT 1 / WOLFS ; B 345 WOLFS ; B 138 WOLFS ;1C 34.5 DISCONNECT BUS 275239 / ELECT JCT;2M 138 END
COMED_P1-2_345-L11119_R-N	CONTINGENCY 'COMED_P1-2_345-L11119_R-N' / 2697 OPEN BRANCH FROM BUS 270731 TO BUS 274749 CKT 1 / 270731 ELECT JCT;4R 345 274749 AURORA EC;RP 345 1 END
COMED_P2-1_169-L16914__	CONTINGENCY 'COMED_P2-1_169-L16914__' / CONTINGENCY # 234 TRIP BRANCH FROM BUS 272002 TO BUS 272365 CKT 1 / MCGIRR RD; 138 ESS H440 ;RT 138 END

14 Affected Systems

14.1 MISO

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

Attachment 1: One Line Diagram