



**Merchant Transmission Interconnection
Feasibility Study Report
for
PJM Merchant Transmission Request AG1-309
BYRON 345 KV
2035 MW Capacity / 2100 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 facility to the PJM network at a location specified by the Interconnection Customer. The Interconnection Customer may request the interconnection of the facility 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 facility 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 an interconnection may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another interconnection request, 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.

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

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

3 General

The Interconnection Customer (IC), has proposed a Merchant Transmission line located in DeKalb County, Illinois. The Interconnection Customer will install a 525 kV underground high voltage direct current (HVDC) transmission line origination from a new 345 kV Substation near Killdeer 345 kV Substation (Iowa) to ComEd's 345 kV Byron Substation. The IC requested 2035 MW of Firm (Capacity) injection rights (TIRs), and 2100 MWs of Non-Firm (Energy) withdrawal rights. The proposed in-service date for this project is January 31, 2025. This study does not imply a TO commitment to this in-service date.

Queue Number	AG1-309
Project Name	BYRON 345 KV
State	Illinois
County	DeKalb
Transmission Owner	ComEd
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

AG1-309 will interconnect with the ComEd transmission system at the Byron 345 kV substation.

5 Cost Summary

The AG1-309 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$ 25,000,000
Total System Network Upgrade Costs	\$ 717,262,560
Total Costs	\$ 742,262,560

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 two facility leads for AG1-309 will interconnect to the expanded Blue and Red 345kV buses at Station 6 Byron (see details in Direct Connection section below). The required Attachment Facilities are two 345kV circuit breakers, two 345kV line MODs, two dead-end structures and two sets of revenue-metering as shown in the one-line diagram.

Scope of Work	Cost Estimate
Installation of two 345kV circuit breakers, two 345kV line MOD, two BUS extensions, dead-end structure and two set of revenue metering (see notes below on cost estimate)	\$ 10,000,000

6.2 Non-Direct Connection Network Upgrades

In order to accommodate interconnection of AG1-309, Station 6 Byron would need to be expanded, as shown in the one-line diagram below.

The scope of work includes installation of three 345kV circuit breakers at Station 6 Byron to interconnect IC's generator leads, as shown in the one-line diagram below.

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

ComEd would design, engineer and construct expansion of Station 6 Byron.

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

Scope of Work	Cost Estimate
Expansion of red and blue ring busses at Station 6 Byron with three 345kV circuit breakers, bus work and line relocations as described above	\$15,000,000
Total Cost Estimate (see notes below on cost estimate)	\$ 15,000,000

Normally it takes about 24-months to engineer, design, procure material and construct 345kV facilities after ISA/ICSA are signed. However, it may take 30-months to align with Nuclear Plant outage window.

6.3 Notes on Cost Estimate:

- 1) These estimates are Order-of-Magnitude estimates of the costs that ComEd would bill to the customer for this interconnection. These estimates are based on a one-line electrical diagram of the project and the information provided by the Interconnection Customer.
- 2) There were no site visits performed for these estimates. There may be costs related to specific site related issues that are not identified in these estimates. The site reviews will be performed during the Facilities Study or during detailed engineering.
- 3) These estimates are not a guarantee of the maximum amount payable by the Interconnection Customer and the actual costs of ComEd's work may differ significantly from these estimates. Interconnection Customer will be responsible for paying actual costs of ComEd's work in accordance with Sections 212.1 and 217 of the PJM Open Access Transmission Tariff.

- 4) The Interconnection Customer is responsible for all engineering, procurement, testing and construction of all equipment on the Interconnection Customer's side of the POI.
- 5) These cost estimates do not include cost of acquiring right-of-way for the transmission line and purchasing any additional land, if needed, for the line terminations. The need and cost for acquiring property and associated legal costs will be investigation during Facilities Study for this project.

7 Schedule

See Sections 6 and 11.

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 facility. See PJM Manuals M-01 and M-14D, and PJM Tariff Section 8 of Attachment O.

10.2 Interconnected Transmission Owner Requirements

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

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

11 Summer Peak - Load Flow Analysis

The Queue Project AG1-309 was evaluated as a 2035.0 MW (Capacity 2035.0 MW) injection and 2100.0 MW withdrawal at the Byron 345 kV substation in the ComEd area. Project AG1-309 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-309 was studied with a commercial probability of 100%. Potential network impacts were as follows:

11.1 Generation Deliverability

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC D C	MW IMPAC T
168452727	270678	BYRON ; B	345.0	CE	930480	AB1-089 POI	345.0	CE	1	COMED_P1-2_345-L97104__R	single	2058.0	86.5	116.54	DC	616.16
168452728	270678	BYRON ; B	345.0	CE	930480	AB1-089 POI	345.0	CE	1	COMED_P1-2_345-L15616__R	single	2058.0	83.2	113.05	DC	616.16
168452729	270678	BYRON ; B	345.0	CE	930480	AB1-089 POI	345.0	CE	1	Base Case	single	1679.0	79.38	109.57	DC	505.53
168452883	270678	BYRON ; B	345.0	CE	270694	CHERRY VA; B	345.0	CE	1	COMED_P1-2_345-L0622__R-R	single	1441.0	79.39	110.35	DC	446.21
168452854	270679	BYRON ; R	345.0	CE	270695	CHERRY VA; R	345.0	CE	1	COMED_P1-2_345-L0621__B-R	single	1479.0	82.59	114.31	DC	469.25
168452856	270679	BYRON ; R	345.0	CE	270695	CHERRY VA; R	345.0	CE	1	COMED_P1-2_345-L18905__B-R-B	single	1479.0	77.75	107.1	DC	433.98
168452762	270828	NELSON ; B	345.0	CE	943410	AF1-012 TAP	345.0	CE	1	COMED_P1-2_345-L18905__B-R-B	single	1656.0	90.6	108.06	DC	289.05
168452763	270828	NELSON ; B	345.0	CE	943410	AF1-012 TAP	345.0	CE	1	COMED_P1-2_345-L18905__B-R-A	single	1656.0	89.09	106.55	DC	289.05
168452764	270828	NELSON ; B	345.0	CE	943410	AF1-012 TAP	345.0	CE	1	Base Case	single	1334.0	90.25	104.95	DC	196.15
168452830	270846	PLANO ; B	345.0	CE	275207	PLANO ;3M	345.0	CE	1	COMED_P1-3_TR94_PLANO__R-S	single	1379.0	96.05	107.93	DC	207.18
168452816	270847	PLANO ; R	345.0	CE	275208	PLANO ;4M	345.0	CE	1	COMED_P1-3_TR93_PLANO__B-S	single	1379.0	98.4	110.57	DC	212.21
168452786	274749	AURORA EC;RP	345.0	CE	270731	ELECT JCT;4R	345.0	CE	1	Base Case	single	1201.0	73.54	100.82	DC	326.31
168452673	274768	LEE CO EC;BP	345.0	CE	946150	AF1-280 TAP	345.0	CE	1	COMED_P1-2_345-L18905__B-R-B	single	1479.0	89.99	141.1	DC	755.9
168452674	274768	LEE CO EC;BP	345.0	CE	946150	AF1-280 TAP	345.0	CE	1	COMED_P1-2_345-L18905__B-R-A	single	1479.0	85.53	136.64	DC	755.9
168452834	275207	PLANO ;3M	345.0	CE	270630	PLANO ;	765.0	CE	1	COMED_P1-3_TR94_PLANO__R-S	single	1379.0	96.05	107.93	DC	207.18
168452812	275208	PLANO ;4M	345.0	CE	270630	PLANO ;	765.0	CE	1	COMED_P1-3_TR93_PLANO__B-S	single	1379.0	98.4	110.57	DC	212.21
169678026	930480	AB1-089 POI	345.0	CE	962700	AG1-119 TAP	345.0	CE	1	COMED_P1-2_345-L97104__R	single	2058.0	98.09	128.13	DC	616.16
169678027	930480	AB1-089 POI	345.0	CE	962700	AG1-119 TAP	345.0	CE	1	COMED_P1-2_345-L15616__R	single	2058.0	93.02	123.0	DC	616.16
169678074	943410	AF1-012 TAP	345.0	CE	965660	AG1-434 TAP	345.0	CE	1	COMED_P1-2_345-L18905__B-R-B	single	1656.0	94.13	111.59	DC	289.05
169678075	943410	AF1-012 TAP	345.0	CE	965660	AG1-434 TAP	345.0	CE	1	COMED_P1-2_345-L18905__B-R-A	single	1656.0	93.94	111.41	DC	289.05
168452613	946150	AF1-280 TAP	345.0	CE	270828	NELSON ; B	345.0	CE	1	Base Case	single	1201.0	88.33	137.08	DC	585.43

169969156	962700	AG1-119 TAP	345.0	CE	270916	WAYNE ; B	345.0	CE	1	COMED_P1-2_345-L15616__R	single	2058.0	97.8	127.77	DC	616.16
169969157	962700	AG1-119 TAP	345.0	CE	270916	WAYNE ; B	345.0	CE	1	Base Case	single	1679.0	96.62	126.8	DC	505.53
169969167	965660	AG1-434 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	COMED_P1-2_345-L18905__B-R-B	single	1656.0	94.05	111.52	DC	289.05
169969168	965660	AG1-434 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	COMED_P1-2_345-L18905__B-R-A	single	1656.0	93.87	111.33	DC	289.05
169969169	965660	AG1-434 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	Base Case	single	1334.0	94.93	109.64	DC	196.15

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 PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC D C	MW IMPAC T
162147631	270728	E FRANKFO; B	345.0	CE	270766	GOODING S;3B	345.0	CE	1	COMED_P 7-1_345-L16703_R-S+_345-L16704TB-S	tower	2488.0	77.54	100.86	DC	212.65
162147256	270730	ELECT JCT; B	345.0	CE	270846	PLANO ; B	345.0	CE	1	COMED_P 2-2_111_EJ-345R__4	bus	1341.0	95.32	115.27	DC	267.91
162147206	270743	ESS W407K;9T	345.0	CE	274749	AURORA EC;RP	345.0	CE	1	COMED_P 2-2_111_EJ-345B__2	bus	1479.0	94.08	125.38	DC	460.74
162147207	270743	ESS W407K;9T	345.0	CE	274749	AURORA EC;RP	345.0	CE	1	COMED_P 2-2_144_WN-345B__7	bus	1479.0	79.21	102.35	DC	341.15
162147319	270743	ESS W407K;9T	345.0	CE	270751	ESS W407M;9 T	345.0	CE	1	COMED_P 2-2_111_EJ-345B__2	bus	1479.0	66.51	108.26	DC	475.46
162147195	270751	ESS W407M;9 T	345.0	CE	270743	ESS W407K;9T	345.0	CE	1	COMED_P 2-2_111_EJ-345B__2	bus	1479.0	95.04	126.34	DC	460.74
162147196	270751	ESS W407M;9 T	345.0	CE	270743	ESS W407K;9T	345.0	CE	1	COMED_P 2-2_144_WN-345B__7	bus	1479.0	80.17	103.31	DC	341.15
162147320	270751	ESS W407M;9 T	345.0	CE	270917	WAYNE ; R	345.0	CE	1	COMED_P 2-2_111_EJ-345B__2	bus	1479.0	66.51	108.26	DC	475.46
162147200	270917	WAYNE ; R	345.0	CE	270751	ESS W407M;9 T	345.0	CE	1	COMED_P 2-2_111_EJ-345B__2	bus	1479.0	95.04	126.34	DC	460.74
162147201	270917	WAYNE ; R	345.0	CE	270751	ESS W407M;9 T	345.0	CE	1	COMED_P 2-2_144_WN-345B__7	bus	1479.0	80.17	103.31	DC	341.15
162147318	274749	AURORA EC;RP	345.0	CE	270743	ESS W407K;9T	345.0	CE	1	COMED_P 2-2_111_EJ-345B__2	bus	1479.0	67.47	109.22	DC	475.46

16214753 4	27476 8	LEE CO EC;BP	345. 0	CE	27067 8	BYRON B	345. 0	CE	1	COMED_P 7-1_345- L15502_B- R_+ 345- L16703_R- S-A	towe r	2084. 0	86.93	112.18	DC	528.38
16214753 5	27476 8	LEE CO EC;BP	345. 0	CE	27067 8	BYRON B	345. 0	CE	1	COMED_P 7-1_138- L11106_B- R_+ 345- L15502_B- R-A	towe r	2084. 0	87.05	112.03	DC	522.63
16214748 5	94615 0	AF1-280 TAP	345. 0	CE	27476 8	LEE CO EC;BP	345. 0	CE	1	COMED_P 7-1_138- L11106_B- R_+ 345- L15502_B- R-A	towe r	1768. 0	81.34	110.46	DC	514.79
16214748 6	94615 0	AF1-280 TAP	345. 0	CE	27476 8	LEE CO EC;BP	345. 0	CE	1	COMED_P 7-1_345- L15502_B- R_+ 345- L16703_R- S-A	towe r	1768. 0	81.1	110.54	DC	520.55

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	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	Ratin g MVA	PRE PROJEC T LOADI NG %	POST PROJEC T LOADI NG %	AC DC	MW IMPA CT
1684526 19	2551 13	17STILLW ELL	345. 0	NIPS	2432 19	05DUMO NT	345. 0	AEP	1	COMED_P1-2_765- L11215__S	single	1409 .0	177.62	177.82	DC	283.9 2
1684526 20	2551 13	17STILLW ELL	345. 0	NIPS	2432 19	05DUMO NT	345. 0	AEP	1	AEP_P1-2_#695_1681	single	1409 .0	177.62	177.82	DC	283.9 2
1684525 74	2706 94	CHERRY VA; B	345. 0	CE	9244 70	GARDEN PR; R	345. 0	CE	1	COMED_P1-2_345- L18905__B-R-B	single	1479 .0	118.56	153.82	DC	520.9 8
1684525 75	2706 94	CHERRY VA; B	345. 0	CE	9244 70	GARDEN PR; R	345. 0	CE	1	COMED_P1-2_345- L18905__B-R-A	single	1479 .0	115.51	150.78	DC	520.9 8
1684525 77	2706 94	CHERRY VA; B	345. 0	CE	9244 70	GARDEN PR; R	345. 0	CE	1	Base Case	single	1201 .0	103.9	134.04	DC	361.8
1684528 68	2707 28	E FRANKFO; B	345. 0	CE	2747 50	CRETE EC ;BP	345. 0	CE	1	COMED_P1-2_765- L11215__S	single	1399 .0	106.38	106.91	DC	253.4
1684528 69	2707 28	E FRANKFO; B	345. 0	CE	2747 50	CRETE EC ;BP	345. 0	CE	1	AEP_P1-2_#695_1681	single	1399 .0	106.38	106.91	DC	253.4
1621472 31	2707 30	ELECT JCT; B	345. 0	CE	2708 12	LOMBAR D ; B	345. 0	CE	1	COMED_P2-2_111_EJ- 345R_3	bus	1479 .0	114.98	123.29	DC	122.4 3
1621472 32	2707 30	ELECT JCT; B	345. 0	CE	2708 12	LOMBAR D ; B	345. 0	CE	1	COMED_P2-2_111_EJ- 345B_2	bus	1479 .0	107.2	118.79	DC	181.5 8
1621472 57	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	100.54	116.46	DC	273.9 3
1621475 44	2707 30	ELECT JCT; B	345. 0	CE	2708 12	LOMBAR D ; B	345. 0	CE	1	COMED_P7-1_345- L13821_R-R_+ 345- L18502AB-N	tower	1768 .0	102.91	111.97	DC	169.2 7
1684527 57	2707 30	ELECT JCT; B	345. 0	CE	2708 12	LOMBAR D ; B	345. 0	CE	1	Base Case	single	1201 .0	104.42	113.87	DC	113.7
1684527 58	2707 30	ELECT JCT; B	345. 0	CE	2708 12	LOMBAR D ; B	345. 0	CE	1	COMED_P2-1_111- L11120__	single	1479 .0	100.09	108.47	DC	124.3
1621471 90	2707 70	GOODING S; 4B	345. 0	CE	2707 66	GOODIN GS; 3B	345. 0	CE	1	COMED_P2- 2_116_GG-345R_2	bus	1802 .0	133.46	135.59	DC	162.1 5
1684528 09	2707 71	GREENAC RE; T	345. 0	CE	2432 29	05OLIVE	345. 0	AEP	1	AEP_P1-2_#695_1681	single	971. 0	103.59	106.92	DC	161.8
1684528 10	2707 71	GREENAC RE; T	345. 0	CE	2432 29	05OLIVE	345. 0	AEP	1	COMED_P1-2_765- L11215__S	single	971. 0	103.59	106.92	DC	161.8

162147171	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	101.45	132.61	DC	457.16
162147288	274750	CRETE EC;BP	345.0	CE	270728	E FRANKFO; B	345.0	CE	1	COMED_P2-2_900_EL-345B_10	bus	1399.0	102.89	114.8	DC	168.44
162147289	274750	CRETE EC;BP	345.0	CE	270728	E FRANKFO; B	345.0	CE	1	COMED_P2-2_900_EL-345R_3	bus	1399.0	102.01	113.91	DC	168.27
167378948	274750	CRETE EC;BP	345.0	CE	270728	E FRANKFO; B	345.0	CE	1	AEP_P4_#2982_05DU MONT	breaker	1399.0	101.57	113.49	DC	168.57
168452709	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P1-2_765-L11215__S	single	971.0	130.9	134.27	DC	197.48
168452710	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	AEP_P1-2_#695_1681	single	971.0	130.9	134.27	DC	197.48
169677863	924470	GARDEN PR; R	345.0	CE	270883	SILVER LK; R	345.0	CE	1	COMED_P1-2_345-L18905__B-R-B	single	1479.0	136.92	172.23	DC	520.98
169677864	924470	GARDEN PR; R	345.0	CE	270883	SILVER LK; R	345.0	CE	1	COMED_P1-2_345-L18905__B-R-A	single	1479.0	133.87	169.18	DC	520.98
169677865	924470	GARDEN PR; R	345.0	CE	270883	SILVER LK; R	345.0	CE	1	Base Case	single	1201.0	124.65	154.88	DC	361.8
168452610	946150	AF1-280 TAP	345.0	CE	270828	NELSON; B	345.0	CE	1	COMED_P1-2_345-L18905__B-R-B	single	1479.0	105.2	156.31	DC	755.9
168452611	946150	AF1-280 TAP	345.0	CE	270828	NELSON; B	345.0	CE	1	COMED_P1-2_345-L18905__B-R-A	single	1479.0	100.74	151.85	DC	755.9
169969149	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	COMED_P1-2_345-L18905__B-R-B	single	1656.0	104.67	122.06	DC	289.05
169969120	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P1-2_765-L11215__S	single	971.0	128.26	142.17	DC	197.48
169969121	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P1-2_#695_1681	single	971.0	128.26	142.17	DC	197.48
169969155	962700	AG1-119 TAP	345.0	CE	270916	WAYNE; B	345.0	CE	1	COMED_P1-2_345-L97104__R	single	2058.0	101.54	131.56	DC	616.16

11.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADING %	POST PROJE CT LOADING %	AC/DC	MW IMPACT
168183116	243212	05BENTON	345.0	AEP	243250	05BENTON	138.0	AEP	1	AEP_P1-2_#1242_1689	operation	521.0	120.57	136.13	DC	26.96
168452912	270644	WILTON;	765.0	CE	243206	05DUMONT	765.0	AEP	1	Base Case	operation	3555.0	107.26	107.56	DC	552.36
168452724	270678	BYRON; B	345.0	CE	930480	AB1-089 POI	345.0	CE	1	COMED_P1-2_345-L97104__R	operation	2058.0	103.32	133.4	DC	616.16
168452726	270678	BYRON; B	345.0	CE	930480	AB1-089 POI	345.0	CE	1	Base Case	operation	1679.0	93.2	123.43	DC	505.53
168452882	270678	BYRON; B	345.0	CE	270694	CHERRYVA; B	345.0	CE	1	COMED_P1-2_345-L0622__R-R	operation	1441.0	82.01	113.06	DC	446.21
168452853	270679	BYRON; R	345.0	CE	270695	CHERRYVA; R	345.0	CE	1	COMED_P1-2_345-L0621__B-R	operation	1479.0	84.26	116.09	DC	469.25

168452 572	2706 94	CHERRY VA; B	345 .0	CE	9244 70	GARDEN PR; R	345 .0	CE	1	COMED_P1-2_345- L18905__B-R-B	operati on	1479 .0	139.85	175.23	DC	520.9 8
168452 576	2706 94	CHERRY VA; B	345 .0	CE	9244 70	GARDEN PR; R	345 .0	CE	1	Base Case	operati on	1201 .0	121.95	152.22	DC	361.8
168452 928	2706 97	COLLINS ; R	345 .0	CE	2751 68	COLLINS ;2M	345 .0	CE	1	COMED_P1-2_765- L2315__S	operati on	1379 .0	104.45	104.98	DC	200.8 5
168452 824	2707 28	E FRANKF O; B	345 .0	CE	2707 66	GOODIN GS;3B	345 .0	CE	1	COMED_P1-2_345- L2002__B-S-A	operati on	1917 .0	113.71	120.9	DC	143.1 8
168452 825	2707 28	E FRANKF O; B	345 .0	CE	2707 66	GOODIN GS;3B	345 .0	CE	1	Base Case	operati on	1660 .0	104.28	113.7	DC	157.5 6
168452 755	2707 30	ELECT JCT; B	345 .0	CE	2708 12	LOMBAR D ; B	345 .0	CE	1	Base Case	operati on	1201 .0	117.97	127.47	DC	113.7
168452 756	2707 30	ELECT JCT; B	345 .0	CE	2708 12	LOMBAR D ; B	345 .0	CE	1	COMED_P2-1_111- L11120__	operati on	1479 .0	113.8	122.23	DC	124.3
168452 826	2707 30	ELECT JCT; B	345 .0	CE	2708 46	PLANO ; B	345 .0	CE	1	COMED_P1-2_345- L11119_R-N	operati on	1341 .0	92.61	112.62	DC	268.8 6
168452 819	2707 31	ELECT JCT;4R	345 .0	CE	2707 33	ELECT JCT;3R	345 .0	CE	1	COMED_P1-2_345- L16704TB-S	operati on	1656 .0	100.67	116.83	DC	265.1 2
168452 820	2707 31	ELECT JCT;4R	345 .0	CE	2707 33	ELECT JCT;3R	345 .0	CE	1	Base Case	operati on	1334 .0	97.47	112.09	DC	192.8 4
168452 873	2707 43	ESS W407K; 9T	345 .0	CE	2747 49	AURORA EC;RP	345 .0	CE	1	Base Case	operati on	1201 .0	78.93	106.52	DC	329.8 9
168452 858	2707 51	ESS W407M; 9T	345 .0	CE	2707 43	ESS W407K;9 T	345 .0	CE	1	Base Case	operati on	1201 .0	80.12	107.7	DC	329.8 9
168452 789	2707 70	GOODIN GS;4B	345 .0	CE	2707 66	GOODIN GS;3B	345 .0	CE	1	COMED_P2-1_076- L11613A__	operati on	1802 .0	121.81	125.46	DC	173.5 4
168452 791	2707 70	GOODIN GS;4B	345 .0	CE	2707 66	GOODIN GS;3B	345 .0	CE	1	Base Case	operati on	1560 .0	115.39	118.33	DC	152.9 3
168452 921	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	97.81	104.74	DC	227.6 6
168452 712	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	80.47	115.42	DC	516.8 7
168452 759	2708 28	NELSON ; B	345 .0	CE	9434 10	AF1-012 TAP	345 .0	CE	1	COMED_P1-2_345- L18905__B-R-B	operati on	1656 .0	105.94	123.53	DC	289.0 5
168452 761	2708 28	NELSON ; B	345 .0	CE	9434 10	AF1-012 TAP	345 .0	CE	1	Base Case	operati on	1334 .0	103.38	118.21	DC	196.1 5
168452 644	2708 46	PLANO ; B	345 .0	CE	2707 30	ELECT JCT; B	345 .0	CE	1	COMED_P1-2_345- L16703_R-S	operati on	1341 .0	101.95	146.76	DC	278.9 4
168452 829	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	113.71	118.56	DC	207.1 8
168452 693	2708 47	PLANO ; R	345 .0	CE	2707 33	ELECT JCT;3R	345 .0	CE	1	COMED_P1-2_345- L16704TB-S	operati on	1528 .0	101.54	139.04	DC	273.2 1
168452 815	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	116.48	121.44	DC	212.2 1
168452 695	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	115.61	129.11	DC	193.2 4
168452 880	2709 16	WAYNE ; B	345 .0	CE	2709 00	TOLLWA Y; B	345 .0	CE	1	COMED_P1-2_345- L11126_B-N	operati on	1201 .0	91.54	114.37	DC	273.9 5
168452 862	2709 17	WAYNE ; R	345 .0	CE	2707 51	ESS W407M; 9T	345 .0	CE	1	Base Case	operati on	1201 .0	80.12	107.7	DC	329.8 9
168452 784	2747 49	AUROR A EC;RP	345 .0	CE	2707 31	ELECT JCT;4R	345 .0	CE	1	Base Case	operati on	1201 .0	93.02	120.46	DC	326.3 1
168452 785	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	83.89	109.09	DC	368.8 6
168452 671	2747 68	LEE CO EC;BP	345 .0	CE	9461 50	AF1-280 TAP	345 .0	CE	1	COMED_P1-2_345- L18905__B-R-B	operati on	1479 .0	92.8	144.15	DC	755.9
168452 675	2747 68	LEE CO EC;BP	345 .0	CE	9461 50	AF1-280 TAP	345 .0	CE	1	Base Case	operati on	1201 .0	71.93	120.93	DC	585.4 3
168452 700	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	104.67	134.94	DC	524.6 9
168452 701	2747 68	LEE CO EC;BP	345 .0	CE	2706 78	BYRON ; B	345 .0	CE	1	Base Case	operati on	1334 .0	84.75	130.47	DC	611.9 4
168452 876	2748 17	ZION EC ;RP	345 .0	CE	2709 41	ZION STA ; R	345 .0	CE	1	COMED_P1-2_345- L2221__R-N	operati on	1201 .0	105.83	114.61	DC	103.0 1
168452 931	2751 68	COLLINS ;2M	345 .0	CE	2706 07	COLLINS ;	765 .0	CE	1	COMED_P1-2_765- L2315__S	operati on	1379 .0	104.45	104.98	DC	200.8 5

168452 833	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	113.71	118.56	DC	207.1 8
168452 811	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	116.48	121.44	DC	212.2 1
169677 860	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	165.01	200.38	DC	520.9 8
169677 862	9244 70	GARDEN PR; R	345 .0	CE	2708 83	SILVER LK; R	345 .0	CE	1	Base Case	operati on	1201 .0	149.74	180.03	DC	361.8
169678 024	9304 80	AB1-089 POI	345 .0	CE	9627 00	AG1-119 TAP	345 .0	CE	1	COMED_P1-2_345- L97104__R	operati on	2058 .0	115.71	145.79	DC	616.1 6
169678 025	9304 80	AB1-089 POI	345 .0	CE	9627 00	AG1-119 TAP	345 .0	CE	1	Base Case	operati on	1679 .0	107.93	138.16	DC	505.5 3
169678 072	9434 10	AF1-012 TAP	345 .0	CE	9656 60	AG1-434 TAP	345 .0	CE	1	Base Case	operati on	1334 .0	115.75	130.58	DC	196.1 5
169678 073	9434 10	AF1-012 TAP	345 .0	CE	9656 60	AG1-434 TAP	345 .0	CE	1	COMED_P1-2_345- L18905__B-R-A	operati on	1656 .0	113.17	130.76	DC	289.0 5
168452 608	9461 50	AF1-280 TAP	345 .0	CE	2708 28	NELSON ; B	345 .0	CE	1	COMED_P1-2_345- L18905__B-R-B	operati on	1479 .0	116.63	167.98	DC	755.9
168452 612	9461 50	AF1-280 TAP	345 .0	CE	2708 28	NELSON ; B	345 .0	CE	1	Base Case	operati on	1201 .0	98.56	147.56	DC	585.4 3
168452 656	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	96.65	131.6	DC	516.8 7
168452 658	9461 50	AF1-280 TAP	345 .0	CE	2747 68	LEE CO EC,BP	345 .0	CE	1	Base Case	operati on	1201 .0	50.04	100.34	DC	604.1 3
169969 146	9574 70	AF2-041 TAP	345 .0	CE	2707 30	ELECT JCT; B	345 .0	CE	1	Base Case	operati on	1334 .0	131.05	145.64	DC	196.1 5
169969 147	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	125.41	142.75	DC	289.0 5
169969 153	9627 00	AG1- 119 TAP	345 .0	CE	2709 16	WAYNE ; B	345 .0	CE	1	COMED_P1-2_345- L97104__R	operati on	2058 .0	121.96	152.01	DC	616.1 6
169969 154	9627 00	AG1- 119 TAP	345 .0	CE	2709 16	WAYNE ; B	345 .0	CE	1	Base Case	operati on	1679 .0	115.31	145.51	DC	505.5 3
169969 165	9656 60	AG1- 434 TAP	345 .0	CE	9574 70	AF2-041 TAP	345 .0	CE	1	Base Case	operati on	1334 .0	115.66	130.47	DC	196.1 5
169969 166	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	113.09	130.66	DC	289.0 5

11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
168452834	9	PLANO ;3M 345.0 kV - PLANO ; 765.0 kV Ckt 1	<u>ComEd</u> CE_NUN_TSS 167 TR. 93 (1427) : Install 3rd Auto Transformer at TSS 167 Plano. Expand existing 765kV Bus to Ring with addition of 2-765kV Bus Tie Circuit Breakers. Installation of 765kV-345kV Auto Transformer, Installation of 2-345kV Bus Tie Circuit Breakers, bus work for 765kV & 345kV. Relay scheme upgrades. Yard expansion requiring grading and ground grid expansions. Project Type : CON Cost : \$20,000,000 Time Estimate : 36.0 Months	\$20,000,000
168452830	5	PLANO ; B 345.0 kV - PLANO ;3M 345.0 kV Ckt 1		
168452610,168 452611,168452 613	13	AF1-280 TAP 345.0 kV - NELSON ; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L15501 (1448) : 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 CE_NUN_L15501_1 (1449) : To resolve the contingency issue, extend existing 345kV L15502. Extend the new tap into the AF1-280 Interconnection Substation. Install 2-345kV circuit breakers as part of the installation. Potential new line relay packages at TSS 155 Nelson & AF1-280 Station. No ratings change. This upgrade resolves the post contingency issue. A preliminary estimate for this upgrade is \$24M. Estimated construction timeline of 30-36 months pending easement access for the L15502 extension. Project Type : CON Cost : \$24,000,000 Time Estimate : 30-36 Months	\$32,500,000
168452674,168 452673	8	LEE CO EC;BP 345.0 kV - AF1- 280 TAP 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L15501 (1448) : 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
162147486,162 147485	25	AF1-280 TAP 345.0 kV - LEE CO EC;BP 345.0 kV Ckt 1		
162147631	16	E FRANKFO; B 345.0 kV - GOODINGS ;3B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L11601 (1415) : Upgrade the station conductor at both terminals. A preliminary estimate is \$2M with an estimated construction timeline of 30 months. Upon completion of the upgrade the ratings will be 1754/2246/2297/2488/2861 MVA (SN/SLTE/SSTE/SLD/ALDR). Project Type : FAC Cost : \$2,000,000 Time Estimate : 30.0 Months	\$2,000,000

168452856,168 452854	3	BYRON ; R 345.0 kV - CHERRY VA; R 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L0622 (1406) : ComEd SSTE rating is 1568 MVA. The upgrade will be to mitigate the sag on a portion of line and upgrade conductor on a separate portion of the line. A preliminary estimate for the two upgrades is \$9.5M with an estimated construction timeline of 30 months. Upon completion of the upgrades the rating limits will be 1649/1649/1676/1772 MVA. Project Type : FAC Cost : \$9,500,000 Time Estimate : 30.0 Months CE_NUN_L0622_1 (1407) : 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	\$13,700,000
168452575,168 452574,168452 577	27	CHERRY VA; B 345.0 kV - GARDEN PR; R 345.0 kV Ckt 1	<u>ComEd</u> ce-012 (1358) : L15616 SSTE rating is 1568 MVA. The post contingency flow for this event exceeds the rating therefore upgrades are required. Reconductor 26.7 miles of 2338 kcmil. Mitigate sag limits. Upgrade relay package. Replace station conductor at both line terminals. Replace 2-345 kV breakers and CT's at TSS 138 Silver Lake. A preliminary estimate for the upgrades is \$32.4M with an estimated construction timeline of 36 months. Upon completion of all upgrades the new ratings will be 1754/2246/2297/2488 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$32,400,000 Time Estimate : 36.0 Months CE_NUN_L15616_NEW LINE (1450) : L15616. Install a new 345kV line from the AB1-089 interconnection substation to TSS 144 Wayne station. The new line will parallel the path of existing L18901 but not share the same tower. The new line will potentially eliminate the post contingency flow (PJM to confirm). A preliminary estimate for this upgrade places the minimum at \$165M. The timeline and additional cost are subject to easement availability. A more thorough review would be completed during the Facility Study and Engineering portion of this project. Project Type : CON Cost : \$165,000,000 Time Estimate : Months	\$197,400,000

169677863,169 677865,169677 864	34	GARDEN PR; R 345.0 kV - SILVER LK; R 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L15616 (1410) : L15616.Re-conductor the line and upgrade 2-345kV Circuit Breakers at TSS 138 Silver Lake. A preliminary estimate is \$51.7M with an estimated construction timeline of 36 months. Upon completion the ratings will be 1560/1802/2083/2477 MVA (SN/SLTE/SSTE/SLD) Project Type : FAC Cost : \$51,700,000 Time Estimate : 36.0 Months CE_NUN_L15616_NEW LINE (1450) : L15616.Install a new 345kV line from the AB1-089 interconnection substation to TSS 144 Wayne station. The new line will parallel the path of existing L18901 but not share the same tower. The new line will potentially eliminate the post contingency flow (PJM to confirm). A preliminary estimate for this upgrade places the minimum at \$165M. The timeline and additional cost are subject to easement availability. A more thorough review would be completed during the Facility Study and Engineering portion of this project. Project Type : CON Cost : \$165,000,000 Time Estimate : Months	\$216,700,000
169678026,169 678027	11	AB1-089 TAP 345.0 kV - AG1- 119 TAP 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L0626_1 (1409) : The upgrade will be to install a new 345kV line from AB1-089 Interconnection Substation to TSS 144 Wayne. Additional facilities include 345kV Circuit Breaker installations at Wayne & AB1-089 Interconnection Substation. A preliminary estimate for the upgrade is \$156M with a 30-36 month construction timeline. The line ratings for L0626 remain the same. Project Type : CON Cost : \$156,000,000 Time Estimate : 30-36 Months	\$156,000,000
169969157,169 969156,169969 155	14	AG1-119 TAP 345.0 kV - WAYNE ; B 345.0 kV Ckt 1		
168452727,168 452728,168452 729	1	BYRON ; B 345.0 kV - AB1- 089 TAP 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L0626 (1408) : The upgrade will be to install a new 345kV line from Byron station to the interconnection substation for AB1-089. Additional facilities include 345kV Circuit Breaker installations at Byron & AB1-089 Interconnection Substation. A preliminary estimate for the upgrade is \$36M with a 30-36 month construction timeline. The line ratings for L0626 remain the same. Project Type : CON Cost : \$36,000,000 Time Estimate : 30-36 Months CE_NUN_L0626_1 (1409) : The upgrade will be to install a new 345kV line from AB1-089 Interconnection Substation to TSS 144 Wayne. Additional facilities include 345kV Circuit Breaker installations at Wayne & AB1-089 Interconnection Substation. A preliminary estimate for the upgrade is \$156M with a 30-36 month construction timeline. The line ratings for L0626 remain the same. Project Type : CON Cost : \$156,000,000 Time Estimate : 30-36 Months	\$192,000,000

168452816	6	PLANO ; R 345.0 kV - PLANO ;4M 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_TSS 167 TR. 94 (1428) : Install 3rd Auto Transformer at TSS 167 Plano. Expand existing 765kV Bus to Ring with addition of 2-765kV Bus Tie Circuit Breakers. Installation of 765kV-345kV Auto Transformer, Installation of 2-345kV Bus Tie Circuit Breakers, bus work for 765kV & 345kV. Relay scheme upgrades. Yard expansion requiring grading and ground grid expansions. Project Type : CON Cost : \$20,000,000 Time Estimate : 36.0 Months	\$20,000,000
168452812	10	PLANO ;4M 345.0 kV - PLANO ; 765.0 kV Ckt 1		
168452786,162 147171	7	AURORA EC;RP 345.0 kV - ELECT JCT;4R 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_11119 (1412) : Re-conductor the line and upgrade station conductor at TSS 111 Electric Junction. A preliminary estimate for the upgrade is \$1.5M 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 : \$1,500,000 Time Estimate : 30.0 Months CE_NUN_11119_1 (1413) : In addition to CE_NUN_11119, this upgrade 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	\$8,700,000
169678075,169 678074	12	AF1-012 TAP 345.0 kV - AG1- 434 TAP 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L15502_3 (1379) : 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	
169969149	35	AF2-041 TAP 345.0 kV - ELECT JCT; B 345.0 kV Ckt 1		\$22,300,000

162147206,162147207	18	ESS W407K;9T 345.0 kV - AURORA EC;RP 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L14419_1 (1338) : 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 (1422) : 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
162147319	19	ESS W407K;9T 345.0 kV - ESS W407M;9T 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L14419_1 (1338) : 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	\$1,100,000
162147318	23	AURORA EC;RP 345.0 kV - ESS W407K;9T 345.0 kV Ckt 1		
168452869,168452868	28	E FRANKFO; B 345.0 kV - CRETE EC ;BP 345.0 kV Ckt 1	<u>ComEd</u> ce-014 (1361) : L6607 SSTE rating is 1483 MVA. The post contingency flow for this event exceeds the rating therefore an upgrade is required. The upgrade will be to reconductor the line. A preliminary estimate is \$10.3 M with an estimated construction timeline of 30 months. Upon completion of the upgrades the rating swill be 1334/1726/1837/2084 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$10,300,000 Time Estimate : 30.0 Months	\$10,300,000
167378948,162147288,162147289	32	CRETE EC ;BP 345.0 kV - E FRANKFO; B 345.0 kV Ckt 1		

162147200,162147201	22	WAYNE ; R 345.0 kV - ESS W407M;9T 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L14419_2 (1340) : 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 CE_NUN_L14419_6 (1423) : 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	\$6,600,000
162147195,162147196	20	ESS W407M;9T 345.0 kV - ESS W407K;9T 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L14419_4 (1339) : 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 1334/1726/1837/2084 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$3,300,000 Time Estimate : 30.0 Months CE_NUN_L14419_6 (1423) : 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	\$6,600,000
162147320	21	ESS W407M;9T 345.0 kV - WAYNE ; R 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L14419_4 (1339) : 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 1334/1726/1837/2084 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$3,300,000 Time Estimate : 30.0 Months	\$3,300,000

168452883	2	BYRON ; B 345.0 kV - CHERRY VA; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L0621 (1317) : ComEd 345kV I0621 SSTE rating is 1585 MVA. The upgrade will be to reconductor the line, station conductor, relay scheme upgrade and replace a 3-345kV circuit breakers at Cherry Valley. A preliminary estimate for the upgrade is \$12.2 M with an estimated construction timeline of 24 months subject to outage coordination with Station 6 Byron Nuclear Station. Upon completion of the upgrade the ratings will be 1826/2070/2385/2390 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$23,400,000 Time Estimate : 30.0 Months	\$23,400,000
168452809,168 452810	31	GREENACRE; T 345.0 kV - 05OLIVE 345.0 kV Ckt 1	<u>AEP</u> AEP10042a (7) : A Sag Study will be required on the 40.64 miles of conductor to mitigate the overload. The new ratings after sag study will be: S/N: 971 MVA, S/E: 1419 MVA, Depending on the sag study results, the cost for this upgrade is expected to be between \$162,560 (no remediation required, just sag study) and \$81.28 million (complete line Reconductor/rebuild). Time Estimate: a) Sag Study: 6-12 months b) Rebuild: The standard time required for construction differs from state to state. An approximate construction time would be 24 to 36 months after signing an interconnection agreement. Project Type : FAC Cost : \$162,560 Time Estimate : 6-12 Months <u>NEXTERA</u> Facility owned by NEXTERA (1462) : Facility owned by NEXTERA. NEXTERA will not evaluate this violation until the impact study phase. Project Type : FAC Cost : \$0 Time Estimate : 0.0 Months	\$162,560
169969168,169 969169,169969 167	15	AG1-434 TAP 345.0 kV - AF2- 041 TAP 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L15502_2 (1378) : 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

168452758,162 147544,162147 231,168452757, 162147232	29	ELECT JCT; B 345.0 kV - LOMBARD ; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L11124 (1312) : ComEd 345kV L11124 SSTE rating is 1568 MVA. The upgrade will be to reconductor the line. A preliminary estimate is \$14.6M with 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 (1372) : ComEd 345kV L11124 SSTE rating is 1568 MVA. The upgrade will be to reconductor the line and station conductor. A preliminary estimate is \$15.3M with 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 (1414) : In addition to CE_NUN_11124_1, the upgrade will be to replace 2-345kV Circuit Breakers and station conductor. A preliminary estimate is \$7M with 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	\$35,400,000
162147257,162 147256	17	ELECT JCT; B 345.0 kV - PLANO ; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L16704 (1426) : 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
168452710,168 452709	33	UNIV PK N;RP 345.0 kV - AF2- 359 TAP 345.0 kV Ckt 1	<u>ComEd</u> Not a violation for ComEd portion (1461) : Not a violation for ComEd portion Project Type : FAC Cost : \$0 Time Estimate : 0.0 Months	\$0

169969120,169 969121	36	AF2-359 TAP 345.0 kV - 05OLIVE 345.0 kV Ckt 1	<u>AEP</u> n4057 (371) : A Sag Study will be required on the 40.64 miles of ACSR/PE 1414 62/19 conductor to mitigate the overload. The new ratings after sag study will be: S/N: 971 MVA, S/E: 1419 MVA, Depending on the sag study results, the cost for this upgrade is expected to be between \$162,560 (no remediation required, just sag study) and \$81.28 million (complete line Reconductor/rebuild). Time Estimate: a) Sag Study: 6-12 months b) Rebuild: The standard time required for construction differs from state to state. An approximate construction time would be 24 to 36 months after signing an interconnection agreement. Project Type : FAC Cost : \$162,440 Time Estimate : 6-12 Months Not a violation for ComEd portion (1461) : Not a violation for ComEd portion Project Type : FAC Cost : \$0 Time Estimate : 0.0 Months	\$162,440
168452762,168 452763,168452 764	4	NELSON ; B 345.0 kV - AF1- 012 TAP 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L15502 (1341) : ComEd 345kV L15502 SSTE rating is 1837 MVA. The upgrade will be to re-conductor a portion of the line, 1-345kV circuit breaker and associated switches and upgrade of station conductor. A preliminary estimate for the upgrade is \$25.4M with an estimated construction timeline of 30 months. Upon completion of the upgrade the ratings will be 2293/2293/2293/2436 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$25,400,000 Time Estimate : 30.0 Months	\$25,400,000
162147190	30	GOODINGS ;4B 345.0 kV - GOODINGS ;3B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_116BT3-4_1 (1429) : ComEd 345kV BT3-4 at TSS 116 SSTE rating is 2083 MVA. The upgrade will be to replace the station conductor at TSS 116. A preliminary estimate for the upgrade is \$1M. A preliminary construction timeline is 24 months. Upon completion of the upgrade the ratings will be 2236/2874/3009/3358 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$1,000,000 Time Estimate : 24.0 Months	\$1,000,000

168452619,168 452620	26	17STILLWELL 345.0 kV - 05DUMONT 345.0 kV Ckt 1	<u>AEP</u> n4790 (374) : PJM Network Upgrade n4790. Replace Dumont substation 2500A wavetrap. The network project had a projected in-service date of 06/01/2019 and an estimated cost of \$200,000. Project Type : FAC Cost : \$200,000 Time Estimate : N/A Months n5769.1 (377) : PJM Network Upgrade n5769.1. Perform engineering study for CT limits, and relay compliance trip limits at Dumont substation. The network project had a projected in-service date of 06/01/2021 and an estimated cost of \$25,000. Project Type : FAC Cost : \$0 Time Estimate : N/A Months n5769.2 (378) : PJM Network Upgrade n5769.2. Replace two Dumont 3000A Non-Oil breakers. The network project had a projected in-service date of 06/01/2021 and an estimated cost of \$2,000,000. Project Type : FAC Cost : \$0 Time Estimate : N/A Months n5769.3 (379) : PJM Network Upgrade n5769.3. Replace 11 jumpers/risers at Dumont substation. The network project had a projected in-service date of 06/01/2021 and an estimated cost of \$275,000. Project Type : FAC Cost : \$0 Time Estimate : N/A Months This Queue Project presently does not receive cost allocation for the Upgrades n4790, n5769.1, n5769.2, n5769.3 listed above. Note 1: as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc., this Queue Project could receive cost allocation. Note 2: Although this Queue Project may not have cost responsibility for this upgrade, the project may need this upgrade in-service to be deliverable to the PJM system. If this project comes into service prior to completion of the upgrade, this project will need an interim study. AEPI0066a (442) : Rebuild/Recondutor 8.6 miles of ACSR ` 954 ` 45/7 ` RAIL conductor to mitigate the overload Project Type : FAC Cost : \$17,200,000 Time Estimate : 24 - Months AEPI0066b (443) : Replace 4 Switches (3000A) at Dumont Project Type : FAC Cost : \$2,000,000 Time Estimate : 12-18 Months	\$19,200,000
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162147534,162 147535	24	LEE CO EC;BP 345.0 kV - BYRON ; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L0627 (1386) : 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 (1411) : 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 an estimated construction timeline of 30 months. Upon completion the ratings will be 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
			TOTAL COST	\$717,262,560

11.6 Flow Gate Details

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

11.6.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168452727	270678	BYRON ;B	CE	930480	AB1-089 POI	CE	1	COMED_P1-2_345-L97104__R	single	2058.0	86.5	116.54	DC	616.16

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.6492	Adder	1.94
274656	BYRON ;1U	55.8554	80/20	55.8554
274657	BYRON ;2U	54.4927	80/20	54.4927
274715	NELSON EC;1C	3.8106	80/20	3.8106
274716	NELSON EC;1S	2.7804	80/20	2.7804
274717	NELSON EC;2C	3.8400	80/20	3.8400
274718	NELSON EC;2S	2.8053	80/20	2.8053
274760	LEE CO EC;1U	2.7691	80/20	2.7691
274761	LEE CO EC;2U	2.7691	80/20	2.7691
274762	LEE CO EC;3U	2.7691	80/20	2.7691
274763	LEE CO EC;4U	2.7430	80/20	2.7430
274764	LEE CO EC;5U	2.7756	80/20	2.7756
274765	LEE CO EC;6U	2.7756	80/20	2.7756
274766	LEE CO EC;7U	2.7365	80/20	2.7365
274767	LEE CO EC;8U	2.7365	80/20	2.7365
274822	ROCKFORD ;11	4.2101	80/20	4.2101
274823	ROCKFORD ;21	4.3199	80/20	4.3199
274824	ROCKFORD ;12	4.1734	80/20	4.1734
274856	ECOGROVE ;U1	0.6187	80/20	0.6187
274857	BIG SKY ;U1	0.4958	80/20	0.4958
274858	BIG SKY ;U2	0.4958	80/20	0.4958
276162	X1-087	0.2926	80/20	0.2926
276590	R-018	0.2250	80/20	0.2250
919221	AA1-146	3.5547	80/20	3.5547
919581	AA2-030 C	19.1514	Adder	22.53
924472	AB2-096 CT1	40.9665	80/20	40.9665
924473	AB2-096 CT2	40.9665	80/20	40.9665
924474	AB2-096 CT3	40.9665	80/20	40.9665
926431	AC1-114	0.7016	80/20	0.7016
927511	AC1-113 1	0.3508	80/20	0.3508
927521	AC1-113 2	0.3508	80/20	0.3508
932881	AC2-115 1	0.7017	80/20	0.7017
932891	AC2-115 2	0.7017	80/20	0.7017
932921	AC2-116	0.2456	80/20	0.2456
933911	AD1-013 C	1.1467	Adder	1.35
933931	AD1-016 C	0.5607	Adder	0.66
934701	AD1-098 C O1	4.5460	Adder	5.35
934971	AD1-129 C	1.2409	80/20	1.2409
936791	AD2-102 C	28.5312	80/20	28.5312
937001	AD2-134 C	1.7480	Adder	2.06
937311	AD2-172 C	4.2452	80/20	4.2452

937531	AD2-214 C	4.2722	Adder	5.03
938861	AE1-114 C O1	5.9962	80/20	5.9962
939051	AE1-134 1	1.4882	Adder	1.75
939061	AE1-134 2	1.4882	Adder	1.75
940501	AE2-035 C	4.2452	80/20	4.2452
941131	AE2-107 C	3.3686	Adder	3.96
942991	AE2-321 C	4.6967	Adder	5.53
943411	AF1-012 C	10.3860	Adder	12.22
943801	AF1-048 C	2.1955	Adder	2.58
943921	AF1-060	2.0902	80/20	2.0902
946151	AF1-280 C O1	25.6546	80/20	25.6546
946161	AF1-281 C O1	0.5618	80/20	0.5618
946321	AF1-296 C O1	3.6588	Adder	4.3
946501	AF1-314 C	7.5426	80/20	7.5426
946661	AF1-330 C	1.1123	Adder	1.31
946671	AF1-331	1.4892	Adder	1.75
952431	J760	5.1087	PJM External (MISO)	5.1087
953681	J818	14.0567	PJM External (MISO)	14.0567
953901	J850	23.5025	PJM External (MISO)	23.5025
953921	J855 C	1.3558	PJM External (MISO)	1.3558
954001	J864	4.4797	PJM External (MISO)	4.4797
954061	J870	17.8940	PJM External (MISO)	17.8940
954071	J871	8.9470	PJM External (MISO)	8.9470
955221	J1000	4.0440	PJM External (MISO)	4.0440
955251	J1003	3.4190	PJM External (MISO)	3.4190
955971	J1084	12.2025	PJM External (MISO)	12.2025
956581	J1154	7.0792	PJM External (MISO)	7.0792
956901	J1188	5.7205	PJM External (MISO)	5.7205
958911	AF2-182 C	33.7068	80/20	33.7068
958921	AF2-183 C	5.9923	80/20	5.9923
959101	AF2-201 C O1	10.3905	80/20	10.3905
960551	AF2-346 C	4.4512	Adder	5.24
960581	AF2-349 C	46.7892	80/20	46.7892
960721	AF2-363 C O1	5.5936	Adder	6.58
960751	AF2-366 C	3.5143	Adder	4.13
961011	AF2-392 C O1	4.1649	Adder	4.9
961021	AF2-393 O1	7.0992	Adder	8.35
961031	AF2-394 O1	4.7328	Adder	5.57
962711	AG1-120 C O1	4.2630	Adder	9.46
962781	AG1-127 C	2.0991	Adder	4.66
962791	AG1-128 C O1	2.0956	Adder	4.65
963681	AG1-220 C O1	2.8483	Adder	6.32
964461	AG1-309 FTIR	616.1573	80/20	616.1573
965661	AG1-434 C O1	1.3295	Adder	2.95
965931	AG1-462 C O1	9.1088	Adder	20.22
966521	AG1-521 C O1	4.6791	Adder	10.39
966821	AG1-553 C O1	13.3596	Adder	29.66
WEC	WEC	1.1044	Confirmed LTF	1.1044
CBM-W2	CBM-W2	10.2502	Confirmed LTF	10.2502
NY	NY	0.3091	Confirmed LTF	0.3091
TVA	TVA	1.0626	Confirmed LTF	1.0626
SIGE	SIGE	0.0400	Confirmed LTF	0.0400
CBM-S1	CBM-S1	0.2105	Confirmed LTF	0.2105

HAMLET	HAMLET	0.0497	Confirmed LTF	0.0497
MEC	MEC	10.8545	Confirmed LTF	10.8545
GIBSON	GIBSON	0.1338	Confirmed LTF	0.1338
BLUEG	BLUEG	0.7031	Confirmed LTF	0.7031
TRIMBLE	TRIMBLE	0.2382	Confirmed LTF	0.2382
LAGN	LAGN	2.7230	Confirmed LTF	2.7230
CATAWBA	CATAWBA	0.0101	Confirmed LTF	0.0101
CBM-W1	CBM-W1	55.5613	Confirmed LTF	55.5613

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
168452883	270678	BYRON ; B	CE	270694	CHERRY VA; B	CE	1	COMED_P1-2_345-L0622__R-R	single	1441.0	79.39	110.35	DC	446.21

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	-0.9415	Adder	-1.11
274656	BYRON ;1U	40.5061	80/20	40.5061
274657	BYRON ;2U	39.4063	80/20	39.4063
274699	CORDOVA ;1C	1.2632	80/20	1.2632
274700	CORDOVA ;2C	1.2632	80/20	1.2632
274701	CORDOVA ;1S	1.4211	80/20	1.4211
274715	NELSON EC;1C	2.0321	80/20	2.0321
274716	NELSON EC;1S	1.4827	80/20	1.4827
274717	NELSON EC;2C	2.0478	80/20	2.0478
274718	NELSON EC;2S	1.4960	80/20	1.4960
274760	LEE CO EC;1U	1.7855	80/20	1.7855
274761	LEE CO EC;2U	1.7855	80/20	1.7855
274762	LEE CO EC;3U	1.7855	80/20	1.7855
274763	LEE CO EC;4U	1.7687	80/20	1.7687
274764	LEE CO EC;5U	1.7897	80/20	1.7897
274765	LEE CO EC;6U	1.7897	80/20	1.7897
274766	LEE CO EC;7U	1.7645	80/20	1.7645
274767	LEE CO EC;8U	1.7645	80/20	1.7645
274857	BIG SKY ;U1	0.3197	80/20	0.3197
274858	BIG SKY ;U2	0.3197	80/20	0.3197
919221	AA1-146	1.8956	80/20	1.8956
919581	AA2-030 C	12.0152	80/20	12.0152
930482	AB1-089 CT	55.6177	80/20	55.6177
930483	AB1-089 ST	44.2183	80/20	44.2183
939051	AE1-134 1	0.9337	80/20	0.9337
939061	AE1-134 2	0.9337	80/20	0.9337
943411	AF1-012 C	6.7399	80/20	6.7399
946151	AF1-280 C O1	15.8673	80/20	15.8673
946161	AF1-281 C O1	0.3475	80/20	0.3475
958911	AF2-182 C	20.8476	80/20	20.8476
958921	AF2-183 C	3.7062	80/20	3.7062
960551	AF2-346 C	2.8886	80/20	2.8886
962701	AG1-119 C	21.9240	80/20	21.9240
964461	AG1-309 FTIR	446.2145	80/20	446.2145
965931	AG1-462 C O1	9.0360	80/20	9.0360
966821	AG1-553 C O1	13.2528	80/20	13.2528
CALDERWOOD	CALDERWOOD	0.0328	Confirmed LTF	0.0328
CBM-W2	CBM-W2	1.5680	Confirmed LTF	1.5680
NY	NY	0.1598	Confirmed LTF	0.1598
TVA	TVA	0.0896	Confirmed LTF	0.0896
SIGE	SIGE	0.0125	Confirmed LTF	0.0125

CHEOAH	CHEOAH	0.0340	Confirmed LTF	0.0340
CBM-S1	CBM-S1	0.0042	Confirmed LTF	0.0042
HAMLET	HAMLET	0.0941	Confirmed LTF	0.0941
MEC	MEC	2.4566	Confirmed LTF	2.4566
GIBSON	GIBSON	0.1010	Confirmed LTF	0.1010
BLUEG	BLUEG	0.4132	Confirmed LTF	0.4132
TRIMBLE	TRIMBLE	0.1363	Confirmed LTF	0.1363
LAGN	LAGN	0.4322	Confirmed LTF	0.4322
CATAWBA	CATAWBA	0.0515	Confirmed LTF	0.0515

11.6.3 Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168452854	270679	BYRON ; R	CE	270695	CHERRY VA; R	CE	1	COMED_P1-2_345-L0621__B-R	single	1479.0	82.59	114.31	DC	469.25

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	-0.9993	Adder	-1.18
274656	BYRON ;1U	42.4345	80/20	42.4345
274657	BYRON ;2U	41.6016	80/20	41.6016
274662	QUAD CITI;1U	7.4790	80/20	7.4790
274663	QUAD CITI;2U	7.5040	80/20	7.5040
274699	CORDOVA ;1C	1.3202	80/20	1.3202
274700	CORDOVA ;2C	1.3202	80/20	1.3202
274701	CORDOVA ;1S	1.4852	80/20	1.4852
274715	NELSON EC;1C	2.1255	80/20	2.1255
274716	NELSON EC;1S	1.5509	80/20	1.5509
274717	NELSON EC;2C	2.1420	80/20	2.1420
274718	NELSON EC;2S	1.5648	80/20	1.5648
274760	LEE CO EC;1U	1.8695	80/20	1.8695
274761	LEE CO EC;2U	1.8695	80/20	1.8695
274762	LEE CO EC;3U	1.8695	80/20	1.8695
274763	LEE CO EC;4U	1.8519	80/20	1.8519
274764	LEE CO EC;5U	1.8739	80/20	1.8739
274765	LEE CO EC;6U	1.8739	80/20	1.8739
274766	LEE CO EC;7U	1.8475	80/20	1.8475
274767	LEE CO EC;8U	1.8475	80/20	1.8475
274857	BIG SKY ;U1	0.3347	80/20	0.3347
274858	BIG SKY ;U2	0.3347	80/20	0.3347
919221	AA1-146	1.9828	80/20	1.9828
919581	AA2-030 C	12.5678	80/20	12.5678
930482	AB1-089 CT	58.2712	80/20	58.2712
930483	AB1-089 ST	46.3279	80/20	46.3279
939051	AE1-134 1	0.9766	80/20	0.9766
939061	AE1-134 2	0.9766	80/20	0.9766
943411	AF1-012 C	7.0497	80/20	7.0497
946151	AF1-280 C O1	16.6099	80/20	16.6099
946161	AF1-281 C O1	0.3637	80/20	0.3637
955971	J1084	7.6440	PJM External (MISO)	7.6440
958911	AF2-182 C	21.8232	80/20	21.8232
958921	AF2-183 C	3.8797	80/20	3.8797
960551	AF2-346 C	3.0213	80/20	3.0213
962701	AG1-119 C	22.9734	80/20	22.9734
964461	AG1-309 FTIR	469.2507	80/20	469.2507
965661	AG1-434 C O1	1.8184	80/20	1.8184
965931	AG1-462 C O1	9.4428	80/20	9.4428
966821	AG1-553 C O1	13.8494	80/20	13.8494
CALDERWOOD	CALDERWOOD	0.0353	Confirmed LTF	0.0353

CBM-W2	CBM-W2	1.6218	Confirmed LTF	1.6218
NY	NY	0.1676	Confirmed LTF	0.1676
TVA	TVA	0.0910	Confirmed LTF	0.0910
SIGE	SIGE	0.0130	Confirmed LTF	0.0130
CHEOAH	CHEOAH	0.0365	Confirmed LTF	0.0365
CBM-S1	CBM-S1	0.0038	Confirmed LTF	0.0038
HAMLET	HAMLET	0.0993	Confirmed LTF	0.0993
MEC	MEC	2.5583	Confirmed LTF	2.5583
GIBSON	GIBSON	0.1065	Confirmed LTF	0.1065
BLUEG	BLUEG	0.4357	Confirmed LTF	0.4357
TRIMBLE	TRIMBLE	0.1430	Confirmed LTF	0.1430
LAGN	LAGN	0.4463	Confirmed LTF	0.4463
CATAWBA	CATAWBA	0.0546	Confirmed LTF	0.0546

11.6.4 Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168452762	270828	NELSON ; B	CE	943410	AF1-012 TAP	CE	1	COMED_P1-2_345-L18905_B-R-B	single	1656.0	90.6	108.06	DC	289.05

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
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
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
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
951511	J530 C	3.8900	PJM External (MISO)	3.8900
953921	J855 C	1.2293	PJM External (MISO)	1.2293
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
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
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
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
CBM-W1	CBM-W1	58.5615	Confirmed LTF	58.5615

11.6.5 Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168452830	270846	PLANO ; B	CE	275207	PLANO ;3M	CE	1	COMED_P1-3_TR94_PLANO_R-S	single	1379.0	96.05	107.93	DC	207.18

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.5804	80/20	2.5804
274658	DRESDEN ;2U	56.3914	Adder	66.34
274660	LASCO STA;1U	24.5983	80/20	24.5983
274661	LASCO STA;2U	24.7059	80/20	24.7059
274693	ROCKY RD ;1P	1.7863	80/20	1.7863
274695	ROCKY RD ;2P	1.8041	80/20	1.8041
274697	ROCKY RD ;3P	0.4901	80/20	0.4901
274737	AURORA EC;1P	2.9976	80/20	2.9976
274738	AURORA EC;3P	2.9756	80/20	2.9756
274739	AURORA EC;2P	2.9976	80/20	2.9976
274740	AURORA EC;4P	2.9756	80/20	2.9756
274741	AURORA EC;5P	0.7044	80/20	0.7044
274742	AURORA EC;6P	0.7044	80/20	0.7044
274743	AURORA EC;7P	0.7044	80/20	0.7044
274744	AURORA EC;8P	0.7044	80/20	0.7044
274745	AURORA EC;9P	0.7044	80/20	0.7044
274746	AURORA EC;0P	0.7044	80/20	0.7044
274818	ELGIN EC ;1P	2.2112	80/20	2.2112
274819	ELGIN EC ;3P	2.1932	80/20	2.1932
274820	ELGIN EC ;2P	2.2112	80/20	2.2112
274821	ELGIN EC ;4P	2.2097	80/20	2.2097
274847	GR RIDGE ;BU	0.5203	80/20	0.5203
274850	MENDOTA H;RU	0.2440	80/20	0.2440
274855	GSG-6 ;RU	0.4018	80/20	0.4018
274871	GR RIDGE ;2U	0.1937	80/20	0.1937
274872	LEE DEKAL;1U	0.7678	80/20	0.7678
295108	WESTBROOK C	0.1303	80/20	0.1303
915011	Y3-013 1	2.4544	Adder	2.89
915021	Y3-013 2	2.4544	Adder	2.89
915031	Y3-013 3	2.4544	Adder	2.89
919581	AA2-030 C	12.6150	Adder	14.84
924472	AB2-096 CT1	13.9064	Adder	16.36
924473	AB2-096 CT2	13.9064	Adder	16.36
924474	AB2-096 CT3	13.9064	Adder	16.36
925581	AC1-033 C	0.7985	Adder	0.94
926311	AC1-109 1	0.2959	80/20	0.2959
926321	AC1-109 2	0.2959	80/20	0.2959
926331	AC1-110 1	1.8612	80/20	1.8612
926341	AC1-110 2	1.8612	80/20	1.8612
926351	AC1-111 1	0.1167	80/20	0.1167
926361	AC1-111 2	0.1167	80/20	0.1167

926371	AC1-111 3	0.1167	80/20	0.1167
926381	AC1-111 4	0.1167	80/20	0.1167
926391	AC1-111 5	0.1167	80/20	0.1167
926401	AC1-111 6	0.1167	80/20	0.1167
926821	AC1-168 C O1	0.6845	Adder	0.81
927451	AC1-142A 1	1.7683	Adder	2.08
927461	AC1-142A 2	1.7696	Adder	2.08
930482	AB1-089 CT	27.1847	Adder	31.98
930483	AB1-089 ST	21.6129	Adder	25.43
930501	AB1-091 CT	15.4858	Adder	18.22
930502	AB1-091 ST	12.3118	Adder	14.48
930771	AB1-122 CT2	35.7472	Adder	42.06
933411	AC2-154 C	0.9675	Adder	1.14
933431	AC2-156 C O1	1.1088	80/20	1.1088
933911	AD1-013 C	1.8124	80/20	1.8124
933931	AD1-016 C	0.6812	Adder	0.8
934051	AD1-031 C O1	1.6216	Adder	1.91
934111	AD1-039 2	3.5032	Adder	4.12
934431	AD1-067 C	0.0202	80/20	0.0202
934701	AD1-098 C O1	6.6614	80/20	6.6614
934971	AD1-129 C	0.6633	Adder	0.78
936371	AD2-047 C O1	1.7314	Adder	2.04
936461	AD2-060	1.0185	Adder	1.2
936511	AD2-066 C O1	4.2643	Adder	5.02
936791	AD2-102 C	10.1194	Adder	11.91
937001	AD2-134 C	2.6633	80/20	2.6633
937311	AD2-172 C	1.7841	Adder	2.1
937401	AD2-194 1	2.9162	Adder	3.43
937411	AD2-194 2	2.9243	Adder	3.44
937531	AD2-214 C	3.0421	Adder	3.58
938511	AE1-070 1	3.4361	Adder	4.04
938521	AE1-070 2	3.1349	Adder	3.69
938851	AE1-113 C O1	3.5135	Adder	4.13
938861	AE1-114 C O1	2.8484	Adder	3.35
939051	AE1-134 1	0.9803	Adder	1.15
939061	AE1-134 2	0.9803	Adder	1.15
939351	AE1-166 C O1	2.1066	Adder	4.68
940501	AE2-035 C	1.7841	Adder	2.1
941131	AE2-107 C	6.5696	80/20	6.5696
941551	AE2-152 C O1	2.4307	Adder	5.4
941561	AE2-153 C O1	2.1492	Adder	2.53
942421	AE2-255 C O1	1.3309	Adder	1.57
942991	AE2-321 C	6.0236	Adder	7.09
943121	AE2-341 C	15.4200	80/20	15.4200
943411	AF1-012 C	8.8875	Adder	10.46
943591	AF1-030 C O1	10.2544	80/20	10.2544
943801	AF1-048 C	2.8158	Adder	3.31
943921	AF1-060	0.8785	Adder	1.03
944041	AF1-072	1.9359	80/20	1.9359
944911	AF1-156 C	5.4950	Adder	6.46
945351	AF1-200 FTIR	489.1937	80/20	489.1937
946151	AF1-280 C O1	11.2409	Adder	13.22
946161	AF1-281 C O1	0.2462	Adder	0.29

946321	AF1-296 C O1	2.6669	Adder	3.14
946501	AF1-314 C	3.1699	Adder	3.73
946541	AF1-318 C O1	3.1947	Adder	3.76
946661	AF1-330 C	1.4733	Adder	1.73
946671	AF1-331	2.3538	80/20	2.3538
952431	J760	1.9374	PJM External (MISO)	1.9374
954141	J878	12.1642	PJM External (MISO)	12.1642
957331	AF2-027 C	1.6362	Adder	1.92
957401	AF2-034 C	0.6583	Adder	0.77
957471	AF2-041 C	16.7260	Adder	19.68
957751	AF2-069 C	0.1337	Adder	0.16
957761	AF2-070 C	0.1884	Adder	0.22
958011	AF2-095 C O1	6.9256	Adder	8.15
958021	AF2-096 C	16.4058	Adder	19.3
958341	AF2-128 C O1	0.8458	Adder	1.0
958911	AF2-182 C	14.7691	Adder	17.38
958921	AF2-183 C	2.6256	Adder	3.09
959081	AF2-199 C	5.5753	Adder	6.56
959091	AF2-200 C O1	11.1506	Adder	13.12
959101	AF2-201 C O1	4.3668	Adder	5.14
960381	AF2-329	8.0012	80/20	8.0012
960551	AF2-346 C	3.8089	Adder	4.48
960581	AF2-349 C	15.8829	Adder	18.69
960591	AF2-350 C O1	3.0554	Adder	3.59
960601	AF2-351 C O1	0.4074	Adder	0.48
960721	AF2-363 C O1	5.6063	80/20	5.6063
960731	AF2-364 C O1	5.7011	80/20	5.7011
960751	AF2-366 C	7.0087	80/20	7.0087
961011	AF2-392 C O1	2.8550	Adder	3.36
961021	AF2-393 O1	4.8664	Adder	5.73
961031	AF2-394 O1	3.2443	Adder	3.82
961651	AG1-005 C O1	4.8086	Adder	10.67
962691	AG1-118 C O1	22.3020	80/20	22.3020
962701	AG1-119 C	8.7902	Adder	19.51
962711	AG1-120 C O1	8.1841	80/20	8.1841
962721	AG1-121 C O1	1.6958	Adder	3.76
962781	AG1-127 C	7.7469	80/20	7.7469
962791	AG1-128 C O1	6.0243	80/20	6.0243
963681	AG1-220 C O1	11.0403	80/20	11.0403
964461	AG1-309 FTIR	207.1834	Merchant Transmission	207.1834
965061	AG1-371	1.4775	Adder	3.28
965071	AG1-372	0.9850	Adder	2.19
965081	AG1-373	0.4925	Adder	1.09
965141	AG1-379 C	3.8711	Adder	8.59
965551	AG1-423 C O1	14.0556	80/20	14.0556
965661	AG1-434 C O1	1.6752	Adder	3.72
965671	AG1-435 C O1	1.1454	Adder	2.54
965931	AG1-462 C O1	6.6713	Adder	14.81
966081	AG1-477 C	0.5838	Adder	1.3
966091	AG1-478 C	0.4800	Adder	1.07
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.5838	Adder	1.3
966441	AG1-513 C	0.4930	80/20	0.4930
966521	AG1-521 C O1	3.6343	Adder	8.07

966821	AG1-553 C 01	9.7845	Adder	21.72
WEC	WEC	2.9109	Confirmed LTF	2.9109
CALDERWOOD	CALDERWOOD	0.0403	Confirmed LTF	0.0403
CBM-W2	CBM-W2	11.4957	Confirmed LTF	11.4957
NY	NY	0.6913	Confirmed LTF	0.6913
TVA	TVA	0.8176	Confirmed LTF	0.8176
SIGE	SIGE	0.1031	Confirmed LTF	0.1031
CHEOAH	CHEOAH	0.0465	Confirmed LTF	0.0465
CBM-S1	CBM-S1	0.1300	Confirmed LTF	0.1300
HAMLET	HAMLET	0.3448	Confirmed LTF	0.3448
MEC	MEC	9.4673	Confirmed LTF	9.4673
GIBSON	GIBSON	0.1431	Confirmed LTF	0.1431
BLUEG	BLUEG	1.3801	Confirmed LTF	1.3801
TRIMBLE	TRIMBLE	0.4663	Confirmed LTF	0.4663
LAGN	LAGN	2.4675	Confirmed LTF	2.4675
CATAWBA	CATAWBA	0.1809	Confirmed LTF	0.1809
CBM-W1	CBM-W1	55.3650	Confirmed LTF	55.3650

11.6.6 Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168452816	270847	PLANO ; R	CE	275208	PLANO ;4M	CE	1	COMED_P1-3_TR93_PLANO_B-S	single	1379.0	98.4	110.57	DC	212.21

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.6409	80/20	2.6409
274658	DRESDEN ;2U	57.7492	Adder	67.94
274660	LASCO STA;1U	25.2069	80/20	25.2069
274661	LASCO STA;2U	25.3188	80/20	25.3188
274693	ROCKY RD ;1P	1.8300	80/20	1.8300
274695	ROCKY RD ;2P	1.8482	80/20	1.8482
274697	ROCKY RD ;3P	0.5021	80/20	0.5021
274737	AURORA EC;1P	3.0751	80/20	3.0751
274738	AURORA EC;3P	3.0458	80/20	3.0458
274739	AURORA EC;2P	3.0751	80/20	3.0751
274740	AURORA EC;4P	3.0458	80/20	3.0458
274741	AURORA EC;5P	0.7220	80/20	0.7220
274742	AURORA EC;6P	0.7220	80/20	0.7220
274743	AURORA EC;7P	0.7220	80/20	0.7220
274744	AURORA EC;8P	0.7220	80/20	0.7220
274745	AURORA EC;9P	0.7220	80/20	0.7220
274746	AURORA EC;0P	0.7220	80/20	0.7220
274818	ELGIN EC ;1P	2.2650	80/20	2.2650
274819	ELGIN EC ;3P	2.2471	80/20	2.2471
274820	ELGIN EC ;2P	2.2650	80/20	2.2650
274821	ELGIN EC ;4P	2.2639	80/20	2.2639
274847	GR RIDGE ;BU	0.5331	80/20	0.5331
274850	MENDOTA H;RU	0.2498	80/20	0.2498
274855	GSG-6 ;RU	0.4113	80/20	0.4113
274871	GR RIDGE ;2U	0.1985	80/20	0.1985
274872	LEE DEKAL;1U	0.7858	80/20	0.7858
295108	WESTBROOK C	0.1333	80/20	0.1333
915011	Y3-013 1	2.5146	Adder	2.96
915021	Y3-013 2	2.5146	Adder	2.96
915031	Y3-013 3	2.5146	Adder	2.96
919581	AA2-030 C	12.9180	Adder	15.2
924472	AB2-096 CT1	14.2440	Adder	16.76
924473	AB2-096 CT2	14.2440	Adder	16.76
924474	AB2-096 CT3	14.2440	Adder	16.76
925581	AC1-033 C	0.8179	Adder	0.96
926311	AC1-109 1	0.3035	80/20	0.3035
926321	AC1-109 2	0.3035	80/20	0.3035
926331	AC1-110 1	1.9052	80/20	1.9052
926341	AC1-110 2	1.9052	80/20	1.9052
926351	AC1-111 1	0.1196	80/20	0.1196
926361	AC1-111 2	0.1196	80/20	0.1196

926371	AC1-111 3	0.1196	80/20	0.1196
926381	AC1-111 4	0.1196	80/20	0.1196
926391	AC1-111 5	0.1196	80/20	0.1196
926401	AC1-111 6	0.1196	80/20	0.1196
926821	AC1-168 C O1	0.7013	Adder	0.83
927451	AC1-142A 1	1.8118	Adder	2.13
927461	AC1-142A 2	1.8132	Adder	2.13
930482	AB1-089 CT	27.8462	Adder	32.76
930483	AB1-089 ST	22.1389	Adder	26.05
930501	AB1-091 CT	15.8686	Adder	18.67
930502	AB1-091 ST	12.6162	Adder	14.84
930771	AB1-122 CT2	36.6074	Adder	43.07
933411	AC2-154 C	0.9914	Adder	1.17
933431	AC2-156 C O1	1.1341	80/20	1.1341
933911	AD1-013 C	1.8549	80/20	1.8549
933931	AD1-016 C	0.6978	Adder	0.82
934051	AD1-031 C O1	1.6609	Adder	1.95
934111	AD1-039 2	3.5875	Adder	4.22
934431	AD1-067 C	0.0207	80/20	0.0207
934701	AD1-098 C O1	6.8181	80/20	6.8181
934971	AD1-129 C	0.6793	Adder	0.8
936371	AD2-047 C O1	1.7742	Adder	2.09
936461	AD2-060	1.0436	Adder	1.23
936511	AD2-066 C O1	4.3684	Adder	5.14
936791	AD2-102 C	10.3652	Adder	12.19
937001	AD2-134 C	2.7260	80/20	2.7260
937311	AD2-172 C	1.8271	Adder	2.15
937401	AD2-194 1	2.9876	Adder	3.51
937411	AD2-194 2	2.9957	Adder	3.52
937531	AD2-214 C	3.1153	Adder	3.67
938511	AE1-070 1	3.5200	Adder	4.14
938521	AE1-070 2	3.2116	Adder	3.78
938851	AE1-113 C O1	3.5994	Adder	4.23
938861	AE1-114 C O1	2.9169	Adder	3.43
939051	AE1-134 1	1.0038	Adder	1.18
939061	AE1-134 2	1.0038	Adder	1.18
939351	AE1-166 C O1	2.1586	Adder	4.79
940501	AE2-035 C	1.8271	Adder	2.15
941131	AE2-107 C	6.7235	80/20	6.7235
941551	AE2-152 C O1	2.4907	Adder	5.53
941561	AE2-153 C O1	2.2024	Adder	2.59
942421	AE2-255 C O1	1.3634	Adder	1.6
942991	AE2-321 C	6.1705	Adder	7.26
943121	AE2-341 C	15.7691	80/20	15.7691
943411	AF1-012 C	9.0990	Adder	10.7
943591	AF1-030 C O1	10.4866	80/20	10.4866
943801	AF1-048 C	2.8845	Adder	3.39
943921	AF1-060	0.8996	Adder	1.06
944041	AF1-072	1.9832	80/20	1.9832
944911	AF1-156 C	5.6312	Adder	6.62
945351	AF1-200 FTIR	501.3223	80/20	501.3223
946151	AF1-280 C O1	11.5111	Adder	13.54
946161	AF1-281 C O1	0.2521	Adder	0.3

946321	AF1-296 C O1	2.7310	Adder	3.21
946501	AF1-314 C	3.2464	Adder	3.82
946541	AF1-318 C O1	3.2723	Adder	3.85
946661	AF1-330 C	1.5093	Adder	1.78
946671	AF1-331	2.4090	80/20	2.4090
952431	J760	1.9842	PJM External (MISO)	1.9842
954141	J878	12.4629	PJM External (MISO)	12.4629
957331	AF2-027 C	1.6764	Adder	1.97
957401	AF2-034 C	0.6742	Adder	0.79
957471	AF2-041 C	17.1207	Adder	20.14
957751	AF2-069 C	0.1370	Adder	0.16
957761	AF2-070 C	0.1930	Adder	0.23
958011	AF2-095 C O1	7.0967	Adder	8.35
958021	AF2-096 C	16.8111	Adder	19.78
958341	AF2-128 C O1	0.8665	Adder	1.02
958911	AF2-182 C	15.1240	Adder	17.79
958921	AF2-183 C	2.6887	Adder	3.16
959081	AF2-199 C	5.7069	Adder	6.71
959091	AF2-200 C O1	11.4138	Adder	13.43
959101	AF2-201 C O1	4.4721	Adder	5.26
960381	AF2-329	8.1823	80/20	8.1823
960551	AF2-346 C	3.8996	Adder	4.59
960581	AF2-349 C	16.2685	Adder	19.14
960591	AF2-350 C O1	3.1309	Adder	3.68
960601	AF2-351 C O1	0.4175	Adder	0.49
960721	AF2-363 C O1	5.7392	80/20	5.7392
960731	AF2-364 C O1	5.8413	80/20	5.8413
960751	AF2-366 C	7.1727	80/20	7.1727
961011	AF2-392 C O1	2.9235	Adder	3.44
961021	AF2-393 O1	4.9832	Adder	5.86
961031	AF2-394 O1	3.3221	Adder	3.91
961651	AG1-005 C O1	4.9262	Adder	10.93
962691	AG1-118 C O1	22.8600	80/20	22.8600
962701	AG1-119 C	9.0042	Adder	19.99
962711	AG1-120 C O1	8.3784	80/20	8.3784
962721	AG1-121 C O1	1.7372	Adder	3.86
962781	AG1-127 C	7.9279	80/20	7.9279
962791	AG1-128 C O1	6.1663	80/20	6.1663
963681	AG1-220 C O1	11.2986	80/20	11.2986
964461	AG1-309 FTIR	212.2098	Merchant Transmission	212.2098
965061	AG1-371	1.5123	Adder	3.36
965071	AG1-372	1.0082	Adder	2.24
965081	AG1-373	0.5041	Adder	1.12
965141	AG1-379 C	3.9656	Adder	8.8
965551	AG1-423 C O1	14.4012	80/20	14.4012
965661	AG1-434 C O1	1.7147	Adder	3.81
965671	AG1-435 C O1	1.1731	Adder	2.6
965931	AG1-462 C O1	6.8318	Adder	15.16
966081	AG1-477 C	0.5981	Adder	1.33
966091	AG1-478 C	0.4917	Adder	1.09
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.5981	Adder	1.33
966441	AG1-513 C	0.5054	80/20	0.5054
966521	AG1-521 C O1	3.7208	Adder	8.26

966821	AG1-553 C 01	10.0200	Adder	22.24
WEC	WEC	2.9821	Confirmed LTF	2.9821
CALDERWOOD	CALDERWOOD	0.0413	Confirmed LTF	0.0413
CBM-W2	CBM-W2	11.7824	Confirmed LTF	11.7824
NY	NY	0.7084	Confirmed LTF	0.7084
TVA	TVA	0.8372	Confirmed LTF	0.8372
SIGE	SIGE	0.1055	Confirmed LTF	0.1055
CHEOAH	CHEOAH	0.0475	Confirmed LTF	0.0475
CBM-S1	CBM-S1	0.1330	Confirmed LTF	0.1330
HAMLET	HAMLET	0.3529	Confirmed LTF	0.3529
MEC	MEC	9.6977	Confirmed LTF	9.6977
GIBSON	GIBSON	0.1463	Confirmed LTF	0.1463
BLUEG	BLUEG	1.4131	Confirmed LTF	1.4131
TRIMBLE	TRIMBLE	0.4775	Confirmed LTF	0.4775
LAGN	LAGN	2.5270	Confirmed LTF	2.5270
CATAWBA	CATAWBA	0.1851	Confirmed LTF	0.1851
CBM-W1	CBM-W1	56.7109	Confirmed LTF	56.7109

11.6.7 Index 7

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162147171	274749	AURORA EC;RP	CE	270731	ELECT JCT;4R	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	101.45	132.61	DC	457.16

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

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
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
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

11.6.8 Index 8

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168452673	274768	LEE CO EC;BP	CE	946150	AF1-280 TAP	CE	1	COMED_P1-2_345-L18905_B-R-B	single	1479.0	89.99	141.1	DC	755.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274656	BYRON ;1U	68.5481	80/20	68.5481
274657	BYRON ;2U	66.8292	80/20	66.8292
274696	ROCKY RD ;4P	0.9336	80/20	0.9336
274760	LEE CO EC;1U	8.1137	80/20	8.1137
274761	LEE CO EC;2U	8.1137	80/20	8.1137
274762	LEE CO EC;3U	8.1137	80/20	8.1137
274763	LEE CO EC;4U	8.0372	80/20	8.0372
274764	LEE CO EC;5U	8.1328	80/20	8.1328
274765	LEE CO EC;6U	8.1328	80/20	8.1328
274766	LEE CO EC;7U	8.0181	80/20	8.0181
274767	LEE CO EC;8U	8.0181	80/20	8.0181
274822	ROCKFORD ;11	4.3395	80/20	4.3395
274823	ROCKFORD ;21	4.4512	80/20	4.4512
274824	ROCKFORD ;12	4.3017	80/20	4.3017
274856	ECOGROVE ;U1	0.4106	80/20	0.4106
274857	BIG SKY ;U1	1.4526	80/20	1.4526
274858	BIG SKY ;U2	1.4526	80/20	1.4526
276162	X1-087	0.1566	80/20	0.1566
276590	R-018	0.2322	80/20	0.2322
924472	AB2-096 CT1	33.6429	80/20	33.6429
924473	AB2-096 CT2	33.6429	80/20	33.6429
924474	AB2-096 CT3	33.6429	80/20	33.6429
926431	AC1-114	0.7229	80/20	0.7229
927511	AC1-113 1	0.3616	80/20	0.3616
927521	AC1-113 2	0.3616	80/20	0.3616
930482	AB1-089 CT	113.9256	80/20	113.9256
930483	AB1-089 ST	90.5754	80/20	90.5754
932881	AC2-115 1	0.7232	80/20	0.7232
932891	AC2-115 2	0.7232	80/20	0.7232
932921	AC2-116	0.2530	80/20	0.2530
933931	AD1-016 C	1.2029	80/20	1.2029
934971	AD1-129 C	1.5249	80/20	1.5249
936791	AD2-102 C	31.5708	80/20	31.5708
937311	AD2-172 C	2.8174	80/20	2.8174
940501	AE2-035 C	2.8174	80/20	2.8174
942991	AE2-321 C	10.2215	80/20	10.2215
943801	AF1-048 C	4.7782	80/20	4.7782
943921	AF1-060	1.3872	80/20	1.3872
946501	AF1-314 C	5.0058	80/20	5.0058
946661	AF1-330 C	2.5044	80/20	2.5044
952431	J760	6.3996	PJM External (MISO)	6.3996

953681	J818	18.7591	PJM External (MISO)	18.7591
953901	J850	35.9250	PJM External (MISO)	35.9250
955251	J1003	4.6985	PJM External (MISO)	4.6985
956581	J1154	9.4455	PJM External (MISO)	9.4455
956901	J1188	7.0115	PJM External (MISO)	7.0115
959101	AF2-201 C O1	6.8958	80/20	6.8958
960581	AF2-349 C	38.4246	80/20	38.4246
960721	AF2-363 C O1	5.6835	80/20	5.6835
962701	AG1-119 C	66.9240	80/20	66.9240
962711	AG1-120 C O1	8.1186	80/20	8.1186
964461	AG1-309 FTIR	755.9008	80/20	755.9008
WEC	WEC	2.1562	Confirmed LTF	2.1562
CALDERWOOD	CALDERWOOD	0.5542	Confirmed LTF	0.5542
NY	NY	0.3451	Confirmed LTF	0.3451
PRAIRIE	PRAIRIE	5.3701	Confirmed LTF	5.3701
CHEOAH	CHEOAH	0.5556	Confirmed LTF	0.5556
COTTONWOOD	COTTONWOOD	3.6771	Confirmed LTF	3.6771
HAMLET	HAMLET	0.5203	Confirmed LTF	0.5203
GIBSON	GIBSON	0.4838	Confirmed LTF	0.4838
BLUEG	BLUEG	1.3037	Confirmed LTF	1.3037
TRIMBLE	TRIMBLE	0.4101	Confirmed LTF	0.4101
CATAWBA	CATAWBA	0.3272	Confirmed LTF	0.3272
CBM-W1	CBM-W1	10.1224	Confirmed LTF	10.1224

11.6.9 Index 9

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168452834	275207	PLANO ;3M	CE	270630	PLANO ;	CE	1	COMED_P1-3_TR94_PLANO_R-S	single	1379.0	96.05	107.93	DC	207.18

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.5804	80/20	2.5804
274658	DRESDEN ;2U	56.3914	Adder	66.34
274660	LASCO STA;1U	24.5983	80/20	24.5983
274661	LASCO STA;2U	24.7059	80/20	24.7059
274693	ROCKY RD ;1P	1.7863	80/20	1.7863
274695	ROCKY RD ;2P	1.8041	80/20	1.8041
274697	ROCKY RD ;3P	0.4901	80/20	0.4901
274737	AURORA EC;1P	2.9976	80/20	2.9976
274738	AURORA EC;3P	2.9756	80/20	2.9756
274739	AURORA EC;2P	2.9976	80/20	2.9976
274740	AURORA EC;4P	2.9756	80/20	2.9756
274741	AURORA EC;5P	0.7044	80/20	0.7044
274742	AURORA EC;6P	0.7044	80/20	0.7044
274743	AURORA EC;7P	0.7044	80/20	0.7044
274744	AURORA EC;8P	0.7044	80/20	0.7044
274745	AURORA EC;9P	0.7044	80/20	0.7044
274746	AURORA EC;0P	0.7044	80/20	0.7044
274818	ELGIN EC ;1P	2.2112	80/20	2.2112
274819	ELGIN EC ;3P	2.1932	80/20	2.1932
274820	ELGIN EC ;2P	2.2112	80/20	2.2112
274821	ELGIN EC ;4P	2.2097	80/20	2.2097
274847	GR RIDGE ;BU	0.5203	80/20	0.5203
274850	MENDOTA H;RU	0.2440	80/20	0.2440
274855	GSG-6 ;RU	0.4018	80/20	0.4018
274871	GR RIDGE ;2U	0.1937	80/20	0.1937
274872	LEE DEKAL;1U	0.7678	80/20	0.7678
295108	WESTBROOK C	0.1303	80/20	0.1303
915011	Y3-013 1	2.4544	Adder	2.89
915021	Y3-013 2	2.4544	Adder	2.89
915031	Y3-013 3	2.4544	Adder	2.89
919581	AA2-030 C	12.6150	Adder	14.84
924472	AB2-096 CT1	13.9064	Adder	16.36
924473	AB2-096 CT2	13.9064	Adder	16.36
924474	AB2-096 CT3	13.9064	Adder	16.36
925581	AC1-033 C	0.7985	Adder	0.94
926311	AC1-109 1	0.2959	80/20	0.2959
926321	AC1-109 2	0.2959	80/20	0.2959
926331	AC1-110 1	1.8612	80/20	1.8612
926341	AC1-110 2	1.8612	80/20	1.8612
926351	AC1-111 1	0.1167	80/20	0.1167
926361	AC1-111 2	0.1167	80/20	0.1167

926371	AC1-111 3	0.1167	80/20	0.1167
926381	AC1-111 4	0.1167	80/20	0.1167
926391	AC1-111 5	0.1167	80/20	0.1167
926401	AC1-111 6	0.1167	80/20	0.1167
926821	AC1-168 C O1	0.6845	Adder	0.81
927451	AC1-142A 1	1.7683	Adder	2.08
927461	AC1-142A 2	1.7696	Adder	2.08
930482	AB1-089 CT	27.1847	Adder	31.98
930483	AB1-089 ST	21.6129	Adder	25.43
930501	AB1-091 CT	15.4858	Adder	18.22
930502	AB1-091 ST	12.3118	Adder	14.48
930771	AB1-122 CT2	35.7472	Adder	42.06
933411	AC2-154 C	0.9675	Adder	1.14
933431	AC2-156 C O1	1.1088	80/20	1.1088
933911	AD1-013 C	1.8124	80/20	1.8124
933931	AD1-016 C	0.6812	Adder	0.8
934051	AD1-031 C O1	1.6216	Adder	1.91
934111	AD1-039 2	3.5032	Adder	4.12
934431	AD1-067 C	0.0202	80/20	0.0202
934701	AD1-098 C O1	6.6614	80/20	6.6614
934971	AD1-129 C	0.6633	Adder	0.78
936371	AD2-047 C O1	1.7314	Adder	2.04
936461	AD2-060	1.0185	Adder	1.2
936511	AD2-066 C O1	4.2643	Adder	5.02
936791	AD2-102 C	10.1194	Adder	11.91
937001	AD2-134 C	2.6633	80/20	2.6633
937311	AD2-172 C	1.7841	Adder	2.1
937401	AD2-194 1	2.9162	Adder	3.43
937411	AD2-194 2	2.9243	Adder	3.44
937531	AD2-214 C	3.0421	Adder	3.58
938511	AE1-070 1	3.4361	Adder	4.04
938521	AE1-070 2	3.1349	Adder	3.69
938851	AE1-113 C O1	3.5135	Adder	4.13
938861	AE1-114 C O1	2.8484	Adder	3.35
939051	AE1-134 1	0.9803	Adder	1.15
939061	AE1-134 2	0.9803	Adder	1.15
939351	AE1-166 C O1	2.1066	Adder	4.68
940501	AE2-035 C	1.7841	Adder	2.1
941131	AE2-107 C	6.5696	80/20	6.5696
941551	AE2-152 C O1	2.4307	Adder	5.4
941561	AE2-153 C O1	2.1492	Adder	2.53
942421	AE2-255 C O1	1.3309	Adder	1.57
942991	AE2-321 C	6.0236	Adder	7.09
943121	AE2-341 C	15.4200	80/20	15.4200
943411	AF1-012 C	8.8875	Adder	10.46
943591	AF1-030 C O1	10.2544	80/20	10.2544
943801	AF1-048 C	2.8158	Adder	3.31
943921	AF1-060	0.8785	Adder	1.03
944041	AF1-072	1.9359	80/20	1.9359
944911	AF1-156 C	5.4950	Adder	6.46
945351	AF1-200 FTIR	489.1937	80/20	489.1937
946151	AF1-280 C O1	11.2409	Adder	13.22
946161	AF1-281 C O1	0.2462	Adder	0.29

946321	AF1-296 C O1	2.6669	Adder	3.14
946501	AF1-314 C	3.1699	Adder	3.73
946541	AF1-318 C O1	3.1947	Adder	3.76
946661	AF1-330 C	1.4733	Adder	1.73
946671	AF1-331	2.3538	80/20	2.3538
952431	J760	1.9374	PJM External (MISO)	1.9374
954141	J878	12.1642	PJM External (MISO)	12.1642
957331	AF2-027 C	1.6362	Adder	1.92
957401	AF2-034 C	0.6583	Adder	0.77
957471	AF2-041 C	16.7260	Adder	19.68
957751	AF2-069 C	0.1337	Adder	0.16
957761	AF2-070 C	0.1884	Adder	0.22
958011	AF2-095 C O1	6.9256	Adder	8.15
958021	AF2-096 C	16.4058	Adder	19.3
958341	AF2-128 C O1	0.8458	Adder	1.0
958911	AF2-182 C	14.7691	Adder	17.38
958921	AF2-183 C	2.6256	Adder	3.09
959081	AF2-199 C	5.5753	Adder	6.56
959091	AF2-200 C O1	11.1506	Adder	13.12
959101	AF2-201 C O1	4.3668	Adder	5.14
960381	AF2-329	8.0012	80/20	8.0012
960551	AF2-346 C	3.8089	Adder	4.48
960581	AF2-349 C	15.8829	Adder	18.69
960591	AF2-350 C O1	3.0554	Adder	3.59
960601	AF2-351 C O1	0.4074	Adder	0.48
960721	AF2-363 C O1	5.6063	80/20	5.6063
960731	AF2-364 C O1	5.7011	80/20	5.7011
960751	AF2-366 C	7.0087	80/20	7.0087
961011	AF2-392 C O1	2.8550	Adder	3.36
961021	AF2-393 O1	4.8664	Adder	5.73
961031	AF2-394 O1	3.2443	Adder	3.82
961651	AG1-005 C O1	4.8086	Adder	10.67
962691	AG1-118 C O1	22.3020	80/20	22.3020
962701	AG1-119 C	8.7902	Adder	19.51
962711	AG1-120 C O1	8.1841	80/20	8.1841
962721	AG1-121 C O1	1.6958	Adder	3.76
962781	AG1-127 C	7.7469	80/20	7.7469
962791	AG1-128 C O1	6.0243	80/20	6.0243
963681	AG1-220 C O1	11.0403	80/20	11.0403
964461	AG1-309 FTIR	207.1834	Merchant Transmission	207.1834
965061	AG1-371	1.4775	Adder	3.28
965071	AG1-372	0.9850	Adder	2.19
965081	AG1-373	0.4925	Adder	1.09
965141	AG1-379 C	3.8711	Adder	8.59
965551	AG1-423 C O1	14.0556	80/20	14.0556
965661	AG1-434 C O1	1.6752	Adder	3.72
965671	AG1-435 C O1	1.1454	Adder	2.54
965931	AG1-462 C O1	6.6713	Adder	14.81
966081	AG1-477 C	0.5838	Adder	1.3
966091	AG1-478 C	0.4800	Adder	1.07
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.5838	Adder	1.3
966441	AG1-513 C	0.4930	80/20	0.4930
966521	AG1-521 C O1	3.6343	Adder	8.07

966821	AG1-553 C 01	9.7845	Adder	21.72
WEC	WEC	2.9109	Confirmed LTF	2.9109
CALDERWOOD	CALDERWOOD	0.0403	Confirmed LTF	0.0403
CBM-W2	CBM-W2	11.4957	Confirmed LTF	11.4957
NY	NY	0.6913	Confirmed LTF	0.6913
TVA	TVA	0.8176	Confirmed LTF	0.8176
SIGE	SIGE	0.1031	Confirmed LTF	0.1031
CHEOAH	CHEOAH	0.0465	Confirmed LTF	0.0465
CBM-S1	CBM-S1	0.1300	Confirmed LTF	0.1300
HAMLET	HAMLET	0.3448	Confirmed LTF	0.3448
MEC	MEC	9.4673	Confirmed LTF	9.4673
GIBSON	GIBSON	0.1431	Confirmed LTF	0.1431
BLUEG	BLUEG	1.3801	Confirmed LTF	1.3801
TRIMBLE	TRIMBLE	0.4663	Confirmed LTF	0.4663
LAGN	LAGN	2.4675	Confirmed LTF	2.4675
CATAWBA	CATAWBA	0.1809	Confirmed LTF	0.1809
CBM-W1	CBM-W1	55.3650	Confirmed LTF	55.3650

11.6.10 Index 10

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168452812	275208	PLANO ;4M	CE	270630	PLANO ;	CE	1	COMED_P1-3_TR93_PLANO_B-S	single	1379.0	98.4	110.57	DC	212.21

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.6409	80/20	2.6409
274658	DRESDEN ;2U	57.7492	Adder	67.94
274660	LASCO STA;1U	25.2069	80/20	25.2069
274661	LASCO STA;2U	25.3188	80/20	25.3188
274693	ROCKY RD ;1P	1.8300	80/20	1.8300
274695	ROCKY RD ;2P	1.8482	80/20	1.8482
274697	ROCKY RD ;3P	0.5021	80/20	0.5021
274737	AURORA EC;1P	3.0751	80/20	3.0751
274738	AURORA EC;3P	3.0458	80/20	3.0458
274739	AURORA EC;2P	3.0751	80/20	3.0751
274740	AURORA EC;4P	3.0458	80/20	3.0458
274741	AURORA EC;5P	0.7220	80/20	0.7220
274742	AURORA EC;6P	0.7220	80/20	0.7220
274743	AURORA EC;7P	0.7220	80/20	0.7220
274744	AURORA EC;8P	0.7220	80/20	0.7220
274745	AURORA EC;9P	0.7220	80/20	0.7220
274746	AURORA EC;0P	0.7220	80/20	0.7220
274818	ELGIN EC ;1P	2.2650	80/20	2.2650
274819	ELGIN EC ;3P	2.2471	80/20	2.2471
274820	ELGIN EC ;2P	2.2650	80/20	2.2650
274821	ELGIN EC ;4P	2.2639	80/20	2.2639
274847	GR RIDGE ;BU	0.5331	80/20	0.5331
274850	MENDOTA H;RU	0.2498	80/20	0.2498
274855	GSG-6 ;RU	0.4113	80/20	0.4113
274871	GR RIDGE ;2U	0.1985	80/20	0.1985
274872	LEE DEKAL;1U	0.7858	80/20	0.7858
295108	WESTBROOK C	0.1333	80/20	0.1333
915011	Y3-013 1	2.5146	Adder	2.96
915021	Y3-013 2	2.5146	Adder	2.96
915031	Y3-013 3	2.5146	Adder	2.96
919581	AA2-030 C	12.9180	Adder	15.2
924472	AB2-096 CT1	14.2440	Adder	16.76
924473	AB2-096 CT2	14.2440	Adder	16.76
924474	AB2-096 CT3	14.2440	Adder	16.76
925581	AC1-033 C	0.8179	Adder	0.96
926311	AC1-109 1	0.3035	80/20	0.3035
926321	AC1-109 2	0.3035	80/20	0.3035
926331	AC1-110 1	1.9052	80/20	1.9052
926341	AC1-110 2	1.9052	80/20	1.9052
926351	AC1-111 1	0.1196	80/20	0.1196
926361	AC1-111 2	0.1196	80/20	0.1196

926371	AC1-111 3	0.1196	80/20	0.1196
926381	AC1-111 4	0.1196	80/20	0.1196
926391	AC1-111 5	0.1196	80/20	0.1196
926401	AC1-111 6	0.1196	80/20	0.1196
926821	AC1-168 C O1	0.7013	Adder	0.83
927451	AC1-142A 1	1.8118	Adder	2.13
927461	AC1-142A 2	1.8132	Adder	2.13
930482	AB1-089 CT	27.8462	Adder	32.76
930483	AB1-089 ST	22.1389	Adder	26.05
930501	AB1-091 CT	15.8686	Adder	18.67
930502	AB1-091 ST	12.6162	Adder	14.84
930771	AB1-122 CT2	36.6074	Adder	43.07
933411	AC2-154 C	0.9914	Adder	1.17
933431	AC2-156 C O1	1.1341	80/20	1.1341
933911	AD1-013 C	1.8549	80/20	1.8549
933931	AD1-016 C	0.6978	Adder	0.82
934051	AD1-031 C O1	1.6609	Adder	1.95
934111	AD1-039 2	3.5875	Adder	4.22
934431	AD1-067 C	0.0207	80/20	0.0207
934701	AD1-098 C O1	6.8181	80/20	6.8181
934971	AD1-129 C	0.6793	Adder	0.8
936371	AD2-047 C O1	1.7742	Adder	2.09
936461	AD2-060	1.0436	Adder	1.23
936511	AD2-066 C O1	4.3684	Adder	5.14
936791	AD2-102 C	10.3652	Adder	12.19
937001	AD2-134 C	2.7260	80/20	2.7260
937311	AD2-172 C	1.8271	Adder	2.15
937401	AD2-194 1	2.9876	Adder	3.51
937411	AD2-194 2	2.9957	Adder	3.52
937531	AD2-214 C	3.1153	Adder	3.67
938511	AE1-070 1	3.5200	Adder	4.14
938521	AE1-070 2	3.2116	Adder	3.78
938851	AE1-113 C O1	3.5994	Adder	4.23
938861	AE1-114 C O1	2.9169	Adder	3.43
939051	AE1-134 1	1.0038	Adder	1.18
939061	AE1-134 2	1.0038	Adder	1.18
939351	AE1-166 C O1	2.1586	Adder	4.79
940501	AE2-035 C	1.8271	Adder	2.15
941131	AE2-107 C	6.7235	80/20	6.7235
941551	AE2-152 C O1	2.4907	Adder	5.53
941561	AE2-153 C O1	2.2024	Adder	2.59
942421	AE2-255 C O1	1.3634	Adder	1.6
942991	AE2-321 C	6.1705	Adder	7.26
943121	AE2-341 C	15.7691	80/20	15.7691
943411	AF1-012 C	9.0990	Adder	10.7
943591	AF1-030 C O1	10.4866	80/20	10.4866
943801	AF1-048 C	2.8845	Adder	3.39
943921	AF1-060	0.8996	Adder	1.06
944041	AF1-072	1.9832	80/20	1.9832
944911	AF1-156 C	5.6312	Adder	6.62
945351	AF1-200 FTIR	501.3223	80/20	501.3223
946151	AF1-280 C O1	11.5111	Adder	13.54
946161	AF1-281 C O1	0.2521	Adder	0.3

946321	AF1-296 C O1	2.7310	Adder	3.21
946501	AF1-314 C	3.2464	Adder	3.82
946541	AF1-318 C O1	3.2723	Adder	3.85
946661	AF1-330 C	1.5093	Adder	1.78
946671	AF1-331	2.4090	80/20	2.4090
952431	J760	1.9842	PJM External (MISO)	1.9842
954141	J878	12.4629	PJM External (MISO)	12.4629
957331	AF2-027 C	1.6764	Adder	1.97
957401	AF2-034 C	0.6742	Adder	0.79
957471	AF2-041 C	17.1207	Adder	20.14
957751	AF2-069 C	0.1370	Adder	0.16
957761	AF2-070 C	0.1930	Adder	0.23
958011	AF2-095 C O1	7.0967	Adder	8.35
958021	AF2-096 C	16.8111	Adder	19.78
958341	AF2-128 C O1	0.8665	Adder	1.02
958911	AF2-182 C	15.1240	Adder	17.79
958921	AF2-183 C	2.6887	Adder	3.16
959081	AF2-199 C	5.7069	Adder	6.71
959091	AF2-200 C O1	11.4138	Adder	13.43
959101	AF2-201 C O1	4.4721	Adder	5.26
960381	AF2-329	8.1823	80/20	8.1823
960551	AF2-346 C	3.8996	Adder	4.59
960581	AF2-349 C	16.2685	Adder	19.14
960591	AF2-350 C O1	3.1309	Adder	3.68
960601	AF2-351 C O1	0.4175	Adder	0.49
960721	AF2-363 C O1	5.7392	80/20	5.7392
960731	AF2-364 C O1	5.8413	80/20	5.8413
960751	AF2-366 C	7.1727	80/20	7.1727
961011	AF2-392 C O1	2.9235	Adder	3.44
961021	AF2-393 O1	4.9832	Adder	5.86
961031	AF2-394 O1	3.3221	Adder	3.91
961651	AG1-005 C O1	4.9262	Adder	10.93
962691	AG1-118 C O1	22.8600	80/20	22.8600
962701	AG1-119 C	9.0042	Adder	19.99
962711	AG1-120 C O1	8.3784	80/20	8.3784
962721	AG1-121 C O1	1.7372	Adder	3.86
962781	AG1-127 C	7.9279	80/20	7.9279
962791	AG1-128 C O1	6.1663	80/20	6.1663
963681	AG1-220 C O1	11.2986	80/20	11.2986
964461	AG1-309 FTIR	212.2098	Merchant Transmission	212.2098
965061	AG1-371	1.5123	Adder	3.36
965071	AG1-372	1.0082	Adder	2.24
965081	AG1-373	0.5041	Adder	1.12
965141	AG1-379 C	3.9656	Adder	8.8
965551	AG1-423 C O1	14.4012	80/20	14.4012
965661	AG1-434 C O1	1.7147	Adder	3.81
965671	AG1-435 C O1	1.1731	Adder	2.6
965931	AG1-462 C O1	6.8318	Adder	15.16
966081	AG1-477 C	0.5981	Adder	1.33
966091	AG1-478 C	0.4917	Adder	1.09
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.5981	Adder	1.33
966441	AG1-513 C	0.5054	80/20	0.5054
966521	AG1-521 C O1	3.7208	Adder	8.26

966821	AG1-553 C 01	10.0200	Adder	22.24
WEC	WEC	2.9821	Confirmed LTF	2.9821
CALDERWOOD	CALDERWOOD	0.0413	Confirmed LTF	0.0413
CBM-W2	CBM-W2	11.7824	Confirmed LTF	11.7824
NY	NY	0.7084	Confirmed LTF	0.7084
TVA	TVA	0.8372	Confirmed LTF	0.8372
SIGE	SIGE	0.1055	Confirmed LTF	0.1055
CHEOAH	CHEOAH	0.0475	Confirmed LTF	0.0475
CBM-S1	CBM-S1	0.1330	Confirmed LTF	0.1330
HAMLET	HAMLET	0.3529	Confirmed LTF	0.3529
MEC	MEC	9.6977	Confirmed LTF	9.6977
GIBSON	GIBSON	0.1463	Confirmed LTF	0.1463
BLUEG	BLUEG	1.4131	Confirmed LTF	1.4131
TRIMBLE	TRIMBLE	0.4775	Confirmed LTF	0.4775
LAGN	LAGN	2.5270	Confirmed LTF	2.5270
CATAWBA	CATAWBA	0.1851	Confirmed LTF	0.1851
CBM-W1	CBM-W1	56.7109	Confirmed LTF	56.7109

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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
169678026	930480	AB1-089 POI	CE	962700	AG1-119 TAP	CE	1	COMED_P1-2_345-L97104__R	single	2058.0	98.09	128.13	DC	616.16

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.6492	Adder	1.94
274656	BYRON ;1U	55.8554	80/20	55.8554
274657	BYRON ;2U	54.4927	80/20	54.4927
274715	NELSON EC;1C	3.8106	80/20	3.8106
274717	NELSON EC;2C	3.8400	80/20	3.8400
274760	LEE CO EC;1U	2.7691	80/20	2.7691
274761	LEE CO EC;2U	2.7691	80/20	2.7691
274762	LEE CO EC;3U	2.7691	80/20	2.7691
274763	LEE CO EC;4U	2.7430	80/20	2.7430
274764	LEE CO EC;5U	2.7756	80/20	2.7756
274765	LEE CO EC;6U	2.7756	80/20	2.7756
274766	LEE CO EC;7U	2.7365	80/20	2.7365
274767	LEE CO EC;8U	2.7365	80/20	2.7365
274822	ROCKFORD ;11	4.2101	80/20	4.2101
274823	ROCKFORD ;21	4.3199	80/20	4.3199
274824	ROCKFORD ;12	4.1734	80/20	4.1734
274856	ECOGROVE ;U1	0.6187	80/20	0.6187
274857	BIG SKY ;U1	0.4958	80/20	0.4958
274858	BIG SKY ;U2	0.4958	80/20	0.4958
276162	X1-087	0.2926	80/20	0.2926
276590	R-018	0.2250	80/20	0.2250
919581	AA2-030 C	19.1514	Adder	22.53
924472	AB2-096 CT1	40.9665	80/20	40.9665
924473	AB2-096 CT2	40.9665	80/20	40.9665
924474	AB2-096 CT3	40.9665	80/20	40.9665
926431	AC1-114	0.7016	80/20	0.7016
927511	AC1-113 1	0.3508	80/20	0.3508
927521	AC1-113 2	0.3508	80/20	0.3508
930482	AB1-089 CT	123.8745	80/20	123.8745
930483	AB1-089 ST	98.4850	80/20	98.4850
932881	AC2-115 1	0.7017	80/20	0.7017
932891	AC2-115 2	0.7017	80/20	0.7017
932921	AC2-116	0.2456	80/20	0.2456
933911	AD1-013 C	1.1467	Adder	1.35
933931	AD1-016 C	0.5607	Adder	0.66
934701	AD1-098 C O1	4.5460	Adder	5.35
934971	AD1-129 C	1.2409	80/20	1.2409
936791	AD2-102 C	28.5312	80/20	28.5312
937001	AD2-134 C	1.7480	Adder	2.06
937311	AD2-172 C	4.2452	80/20	4.2452
937531	AD2-214 C	4.2722	Adder	5.03

938861	AE1-114 C O1	5.9962	80/20	5.9962
939051	AE1-134 1	1.4882	Adder	1.75
939061	AE1-134 2	1.4882	Adder	1.75
940501	AE2-035 C	4.2452	80/20	4.2452
941131	AE2-107 C	3.3686	Adder	3.96
942991	AE2-321 C	4.6967	Adder	5.53
943411	AF1-012 C	10.3860	Adder	12.22
943801	AF1-048 C	2.1955	Adder	2.58
943921	AF1-060	2.0902	80/20	2.0902
946151	AF1-280 C O1	25.6546	80/20	25.6546
946161	AF1-281 C O1	0.5618	80/20	0.5618
946321	AF1-296 C O1	3.6588	Adder	4.3
946501	AF1-314 C	7.5426	80/20	7.5426
946661	AF1-330 C	1.1123	Adder	1.31
946671	AF1-331	1.4892	Adder	1.75
952431	J760	5.1087	PJM External (MISO)	5.1087
953681	J818	14.0567	PJM External (MISO)	14.0567
953901	J850	23.5025	PJM External (MISO)	23.5025
953921	J855 C	1.3558	PJM External (MISO)	1.3558
954001	J864	4.4797	PJM External (MISO)	4.4797
954061	J870	17.8940	PJM External (MISO)	17.8940
954071	J871	8.9470	PJM External (MISO)	8.9470
955221	J1000	4.0440	PJM External (MISO)	4.0440
955251	J1003	3.4190	PJM External (MISO)	3.4190
955971	J1084	12.2025	PJM External (MISO)	12.2025
956411	J1131	6.4020	PJM External (MISO)	6.4020
956581	J1154	7.0792	PJM External (MISO)	7.0792
956901	J1188	5.7205	PJM External (MISO)	5.7205
957471	AF2-041 C	9.7951	Adder	11.52
958911	AF2-182 C	33.7068	80/20	33.7068
958921	AF2-183 C	5.9923	80/20	5.9923
959081	AF2-199 C	3.2650	Adder	3.84
959091	AF2-200 C O1	6.5300	Adder	7.68
959101	AF2-201 C O1	10.3905	80/20	10.3905
960551	AF2-346 C	4.4512	Adder	5.24
960581	AF2-349 C	46.7892	80/20	46.7892
960721	AF2-363 C O1	5.5936	Adder	6.58
960751	AF2-366 C	3.5143	Adder	4.13
961011	AF2-392 C O1	4.1649	Adder	4.9
961021	AF2-393 O1	7.0992	Adder	8.35
961031	AF2-394 O1	4.7328	Adder	5.57
962711	AG1-120 C O1	4.2630	Adder	9.46
962781	AG1-127 C	2.0991	Adder	4.66
962791	AG1-128 C O1	2.0956	Adder	4.65
963681	AG1-220 C O1	2.8483	Adder	6.32
964461	AG1-309 FTIR	616.1573	80/20	616.1573
965061	AG1-371	0.8652	Adder	1.92
965071	AG1-372	0.5768	Adder	1.28
965081	AG1-373	0.2884	Adder	0.64
965661	AG1-434 C O1	1.3295	Adder	2.95
965931	AG1-462 C O1	9.1088	Adder	20.22
966521	AG1-521 C O1	4.6791	Adder	10.39
966821	AG1-553 C O1	13.3596	Adder	29.66

WEC	WEC	1.1044	Confirmed LTF	1.1044
CBM-W2	CBM-W2	10.2502	Confirmed LTF	10.2502
NY	NY	0.3091	Confirmed LTF	0.3091
TVA	TVA	1.0626	Confirmed LTF	1.0626
SIGE	SIGE	0.0400	Confirmed LTF	0.0400
CBM-S1	CBM-S1	0.2105	Confirmed LTF	0.2105
HAMLET	HAMLET	0.0497	Confirmed LTF	0.0497
MEC	MEC	10.8545	Confirmed LTF	10.8545
GIBSON	GIBSON	0.1338	Confirmed LTF	0.1338
BLUEG	BLUEG	0.7031	Confirmed LTF	0.7031
TRIMBLE	TRIMBLE	0.2382	Confirmed LTF	0.2382
LAGN	LAGN	2.7230	Confirmed LTF	2.7230
CATAWBA	CATAWBA	0.0101	Confirmed LTF	0.0101
CBM-W1	CBM-W1	55.5613	Confirmed LTF	55.5613

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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
169678075	943410	AF1-012 TAP	CE	965660	AG1-434 TAP	CE	1	COMED_P1-2_345-L18905_B-R-A	single	1656.0	93.94	111.41	DC	289.05

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

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
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
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
CBM-W1	CBM-W1	58.5615	Confirmed LTF	58.5615

11.6.13 Index 13

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
168452610	946150	AF1-280 TAP	CE	270828	NELSON ; B	CE	1	COMED_P1-2_345-L18905_B-R-B	single	1479.0	105.2	156.31	DC	755.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274656	BYRON ;1U	68.5481	80/20	68.5481
274657	BYRON ;2U	66.8292	80/20	66.8292
274696	ROCKY RD ;4P	0.9336	80/20	0.9336
274760	LEE CO EC;1U	8.1137	80/20	8.1137
274761	LEE CO EC;2U	8.1137	80/20	8.1137
274762	LEE CO EC;3U	8.1137	80/20	8.1137
274763	LEE CO EC;4U	8.0372	80/20	8.0372
274764	LEE CO EC;5U	8.1328	80/20	8.1328
274765	LEE CO EC;6U	8.1328	80/20	8.1328
274766	LEE CO EC;7U	8.0181	80/20	8.0181
274767	LEE CO EC;8U	8.0181	80/20	8.0181
274822	ROCKFORD ;11	4.3395	80/20	4.3395
274823	ROCKFORD ;21	4.4512	80/20	4.4512
274824	ROCKFORD ;12	4.3017	80/20	4.3017
274856	ECOGROVE ;U1	0.4106	80/20	0.4106
274857	BIG SKY ;U1	1.4526	80/20	1.4526
274858	BIG SKY ;U2	1.4526	80/20	1.4526
276162	X1-087	0.1566	80/20	0.1566
276590	R-018	0.2322	80/20	0.2322
924472	AB2-096 CT1	33.6429	80/20	33.6429
924473	AB2-096 CT2	33.6429	80/20	33.6429
924474	AB2-096 CT3	33.6429	80/20	33.6429
926431	AC1-114	0.7229	80/20	0.7229
927511	AC1-113 1	0.3616	80/20	0.3616
927521	AC1-113 2	0.3616	80/20	0.3616
930482	AB1-089 CT	113.9256	80/20	113.9256
930483	AB1-089 ST	90.5754	80/20	90.5754
932881	AC2-115 1	0.7232	80/20	0.7232
932891	AC2-115 2	0.7232	80/20	0.7232
932921	AC2-116	0.2530	80/20	0.2530
933931	AD1-016 C	1.2029	80/20	1.2029
934971	AD1-129 C	1.5249	80/20	1.5249
936791	AD2-102 C	31.5708	80/20	31.5708
937311	AD2-172 C	2.8174	80/20	2.8174
940501	AE2-035 C	2.8174	80/20	2.8174
942991	AE2-321 C	10.2215	80/20	10.2215
943801	AF1-048 C	4.7782	80/20	4.7782
943921	AF1-060	1.3872	80/20	1.3872
946151	AF1-280 C O1	89.4692	80/20	89.4692
946161	AF1-281 C O1	1.9592	80/20	1.9592
946501	AF1-314 C	5.0058	80/20	5.0058

946661	AF1-330 C	2.5044	80/20	2.5044
952431	J760	6.3996	PJM External (MISO)	6.3996
953681	J818	18.7591	PJM External (MISO)	18.7591
953901	J850	35.9250	PJM External (MISO)	35.9250
956581	J1154	9.4455	PJM External (MISO)	9.4455
956901	J1188	7.0115	PJM External (MISO)	7.0115
958911	AF2-182 C	117.5508	80/20	117.5508
958921	AF2-183 C	20.8979	80/20	20.8979
959101	AF2-201 C O1	6.8958	80/20	6.8958
960581	AF2-349 C	38.4246	80/20	38.4246
960721	AF2-363 C O1	5.6835	80/20	5.6835
962701	AG1-119 C	66.9240	80/20	66.9240
962711	AG1-120 C O1	8.1186	80/20	8.1186
964461	AG1-309 FTIR	755.9008	80/20	755.9008
WEC	WEC	2.1562	Confirmed LTF	2.1562
CALDERWOOD	CALDERWOOD	0.5542	Confirmed LTF	0.5542
NY	NY	0.3451	Confirmed LTF	0.3451
PRAIRIE	PRAIRIE	5.3701	Confirmed LTF	5.3701
CHEOAH	CHEOAH	0.5556	Confirmed LTF	0.5556
COTTONWOOD	COTTONWOOD	3.6771	Confirmed LTF	3.6771
HAMLET	HAMLET	0.5203	Confirmed LTF	0.5203
GIBSON	GIBSON	0.4838	Confirmed LTF	0.4838
BLUEG	BLUEG	1.3037	Confirmed LTF	1.3037
TRIMBLE	TRIMBLE	0.4101	Confirmed LTF	0.4101
CATAWBA	CATAWBA	0.3272	Confirmed LTF	0.3272
CBM-W1	CBM-W1	10.1224	Confirmed LTF	10.1224

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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
169969155	962700	AG1-119 TAP	CE	270916	WAYNE ; B	CE	1	COMED_P1-2_345-L97104__-R	single	2058.0	101.54	131.56	DC	616.16

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.6492	Adder	1.94
274656	BYRON ;1U	55.8554	80/20	55.8554
274657	BYRON ;2U	54.4927	80/20	54.4927
274715	NELSON EC;1C	3.8106	80/20	3.8106
274717	NELSON EC;2C	3.8400	80/20	3.8400
274760	LEE CO EC;1U	2.7691	80/20	2.7691
274761	LEE CO EC;2U	2.7691	80/20	2.7691
274762	LEE CO EC;3U	2.7691	80/20	2.7691
274763	LEE CO EC;4U	2.7430	80/20	2.7430
274764	LEE CO EC;5U	2.7756	80/20	2.7756
274765	LEE CO EC;6U	2.7756	80/20	2.7756
274766	LEE CO EC;7U	2.7365	80/20	2.7365
274767	LEE CO EC;8U	2.7365	80/20	2.7365
274822	ROCKFORD ;11	4.2101	80/20	4.2101
274823	ROCKFORD ;21	4.3199	80/20	4.3199
274824	ROCKFORD ;12	4.1734	80/20	4.1734
274856	ECOGROVE ;U1	0.6187	80/20	0.6187
274857	BIG SKY ;U1	0.4958	80/20	0.4958
274858	BIG SKY ;U2	0.4958	80/20	0.4958
276162	X1-087	0.2926	80/20	0.2926
276590	R-018	0.2250	80/20	0.2250
919581	AA2-030 C	19.1514	Adder	22.53
924472	AB2-096 CT1	40.9665	80/20	40.9665
924473	AB2-096 CT2	40.9665	80/20	40.9665
924474	AB2-096 CT3	40.9665	80/20	40.9665
926431	AC1-114	0.7016	80/20	0.7016
927511	AC1-113 1	0.3508	80/20	0.3508
927521	AC1-113 2	0.3508	80/20	0.3508
930482	AB1-089 CT	123.8745	80/20	123.8745
930483	AB1-089 ST	98.4850	80/20	98.4850
932881	AC2-115 1	0.7017	80/20	0.7017
932891	AC2-115 2	0.7017	80/20	0.7017
932921	AC2-116	0.2456	80/20	0.2456
933911	AD1-013 C	1.1467	Adder	1.35
933931	AD1-016 C	0.5607	Adder	0.66
934701	AD1-098 C O1	4.5460	Adder	5.35
934971	AD1-129 C	1.2409	80/20	1.2409
936791	AD2-102 C	28.5312	80/20	28.5312
937001	AD2-134 C	1.7480	Adder	2.06
937311	AD2-172 C	4.2452	80/20	4.2452
937531	AD2-214 C	4.2722	Adder	5.03

938861	AE1-114 C O1	5.9962	80/20	5.9962
939051	AE1-134 1	1.4882	Adder	1.75
939061	AE1-134 2	1.4882	Adder	1.75
940501	AE2-035 C	4.2452	80/20	4.2452
941131	AE2-107 C	3.3686	Adder	3.96
942991	AE2-321 C	4.6967	Adder	5.53
943411	AF1-012 C	10.3860	Adder	12.22
943801	AF1-048 C	2.1955	Adder	2.58
943921	AF1-060	2.0902	80/20	2.0902
946151	AF1-280 C O1	25.6546	80/20	25.6546
946161	AF1-281 C O1	0.5618	80/20	0.5618
946321	AF1-296 C O1	3.6588	Adder	4.3
946501	AF1-314 C	7.5426	80/20	7.5426
946661	AF1-330 C	1.1123	Adder	1.31
946671	AF1-331	1.4892	Adder	1.75
952431	J760	5.1087	PJM External (MISO)	5.1087
953681	J818	14.0567	PJM External (MISO)	14.0567
953901	J850	23.5025	PJM External (MISO)	23.5025
953921	J855 C	1.3558	PJM External (MISO)	1.3558
954001	J864	4.4797	PJM External (MISO)	4.4797
954061	J870	17.8940	PJM External (MISO)	17.8940
954071	J871	8.9470	PJM External (MISO)	8.9470
955221	J1000	4.0440	PJM External (MISO)	4.0440
955251	J1003	3.4190	PJM External (MISO)	3.4190
955971	J1084	12.2025	PJM External (MISO)	12.2025
956581	J1154	7.0792	PJM External (MISO)	7.0792
956901	J1188	5.7205	PJM External (MISO)	5.7205
958911	AF2-182 C	33.7068	80/20	33.7068
958921	AF2-183 C	5.9923	80/20	5.9923
959101	AF2-201 C O1	10.3905	80/20	10.3905
960551	AF2-346 C	4.4512	Adder	5.24
960581	AF2-349 C	46.7892	80/20	46.7892
960721	AF2-363 C O1	5.5936	Adder	6.58
960751	AF2-366 C	3.5143	Adder	4.13
961011	AF2-392 C O1	4.1649	Adder	4.9
961021	AF2-393 O1	7.0992	Adder	8.35
961031	AF2-394 O1	4.7328	Adder	5.57
962701	AG1-119 C	101.2896	80/20	101.2896
962711	AG1-120 C O1	4.2630	Adder	9.46
962781	AG1-127 C	2.0991	Adder	4.66
962791	AG1-128 C O1	2.0956	Adder	4.65
963681	AG1-220 C O1	2.8483	Adder	6.32
964461	AG1-309 FTIR	616.1573	80/20	616.1573
965661	AG1-434 C O1	1.3295	Adder	2.95
965931	AG1-462 C O1	9.1088	Adder	20.22
966521	AG1-521 C O1	4.6791	Adder	10.39
966821	AG1-553 C O1	13.3596	Adder	29.66
WEC	WEC	1.1044	Confirmed LTF	1.1044
CBM-W2	CBM-W2	10.2502	Confirmed LTF	10.2502
NY	NY	0.3091	Confirmed LTF	0.3091
TVA	TVA	1.0626	Confirmed LTF	1.0626
SIGE	SIGE	0.0400	Confirmed LTF	0.0400
CBM-S1	CBM-S1	0.2105	Confirmed LTF	0.2105

HAMLET	HAMLET	0.0497	Confirmed LTF	0.0497
MEC	MEC	10.8545	Confirmed LTF	10.8545
GIBSON	GIBSON	0.1338	Confirmed LTF	0.1338
BLUEG	BLUEG	0.7031	Confirmed LTF	0.7031
TRIMBLE	TRIMBLE	0.2382	Confirmed LTF	0.2382
LAGN	LAGN	2.7230	Confirmed LTF	2.7230
CATAWBA	CATAWBA	0.0101	Confirmed LTF	0.0101
CBM-W1	CBM-W1	55.5613	Confirmed LTF	55.5613

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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
169969168	965660	AG1-434 TAP	CE	957470	AF2-041 TAP	CE	1	COMED_P1-2_345-L18905_B-R-A	single	1656.0	93.87	111.33	DC	289.05

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

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
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
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
162147631	270728	E FRANKFO; B	CE	270766	GOODINGS ;3B	CE	1	COMED_P7-1_345-L16703_R-S_+_345-L16704TB-S	tower	2488.0	77.54	100.86	DC	212.65

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	-1.9059	Adder	-2.24
274751	CRETE EC ;1U	4.4473	50/50	4.4473
274752	CRETE EC ;2U	4.4473	50/50	4.4473
274753	CRETE EC ;3U	4.4473	50/50	4.4473
274754	CRETE EC ;4U	4.4473	50/50	4.4473
276165	Z1-106 BAT2	1.0950	50/50	1.0950
276166	Z1-106 BAT1	1.0951	50/50	1.0951
276171	Z1-107 BAT	1.6328	Merchant Transmission	1.6328
276172	Z1-108 BAT	2.1868	50/50	2.1868
276591	L-013 2	-2.6992	Adder	-3.18
920273	AA2-123 BAT	2.1256	50/50	2.1256
939631	AE1-193 C	24.3653	50/50	24.3653
939632	AE1-193 E	163.0598	50/50	163.0598
939641	AE1-194 C	24.3653	50/50	24.3653
939642	AE1-194 E	163.0598	50/50	163.0598
939651	AE1-195 C	24.3653	50/50	24.3653
939652	AE1-195 E	163.0598	50/50	163.0598
939681	AE1-198 C	72.3461	50/50	72.3461
939682	AE1-198 E	61.4754	50/50	61.4754
941561	AE2-153 C O1	1.7692	Adder	2.08
941562	AE2-153 E O1	8.2829	Adder	9.74
943803	AF1-048 BAT	5.5426	50/50	5.5426
943922	AF1-060 BAT	1.0295	Merchant Transmission	1.0295
944911	AF1-156 C	4.5234	Adder	5.32
944912	AF1-156 E	3.0156	Adder	3.55
946163	AF1-281 BAT	1.9200	Merchant Transmission	1.9200
950351	J466	1.5744	PJM External (MISO)	1.5744
950791	J201 C	0.2120	PJM External (MISO)	0.2120
950792	J201 E	0.8478	PJM External (MISO)	0.8478
950871	J246 C	0.0746	PJM External (MISO)	0.0746
950872	J246 E	0.2984	PJM External (MISO)	0.2984
950942	J325 E	0.2093	PJM External (MISO)	0.2093
952161	J571	0.3561	PJM External (MISO)	0.3561
952201	J589 C	1.6782	PJM External (MISO)	1.6782
952202	J589 E	9.0798	PJM External (MISO)	9.0798
952312	J646 E	0.0830	PJM External (MISO)	0.0830
952401	J752 C	0.8202	PJM External (MISO)	0.8202
952402	J752 E	4.4378	PJM External (MISO)	4.4378
952611	J717 C	1.6685	PJM External (MISO)	1.6685
952612	J717 E	9.0269	PJM External (MISO)	9.0269

952761	J728 C	1.5517	PJM External (MISO)	1.5517
952762	J728 E	8.4061	PJM External (MISO)	8.4061
952881	J758	10.9500	PJM External (MISO)	10.9500
952971	J793	68.5854	PJM External (MISO)	68.5854
953071	J794 C	0.1045	PJM External (MISO)	0.1045
953072	J794 E	0.5656	PJM External (MISO)	0.5656
953161	J837 C	1.7300	PJM External (MISO)	1.7300
953162	J837 E	9.3596	PJM External (MISO)	9.3596
953171	J838 C	0.8646	PJM External (MISO)	0.8646
953172	J838 E	4.6774	PJM External (MISO)	4.6774
953271	J701 C	0.4019	PJM External (MISO)	0.4019
953272	J701 E	2.1745	PJM External (MISO)	2.1745
953291	J796	12.7363	PJM External (MISO)	12.7363
953321	J799	9.6428	PJM External (MISO)	9.6428
953361	J806	8.0520	PJM External (MISO)	8.0520
953771	J832	5.4070	PJM External (MISO)	5.4070
953781	J833	5.0970	PJM External (MISO)	5.0970
953871	J847	10.5948	PJM External (MISO)	10.5948
953941	J857	6.7760	PJM External (MISO)	6.7760
954111	J875	7.7835	PJM External (MISO)	7.7835
954171	J883 C	0.7520	PJM External (MISO)	0.7520
954172	J883 E	4.0688	PJM External (MISO)	4.0688
954421	J913 C	8.8672	PJM External (MISO)	8.8672
954591	J937	29.9867	PJM External (MISO)	29.9867
954751	J351	43.3363	PJM External (MISO)	43.3363
954941	J968 C	1.7291	PJM External (MISO)	1.7291
954942	J968 E	9.3549	PJM External (MISO)	9.3549
955071	J984 C	1.6963	PJM External (MISO)	1.6963
955072	J984 E	9.1777	PJM External (MISO)	9.1777
955141	J992	10.7780	PJM External (MISO)	10.7780
955181	J996	4.0880	PJM External (MISO)	4.0880
955591	J1043 C	1.0974	PJM External (MISO)	1.0974
955592	J1043 E	19.4459	PJM External (MISO)	19.4459
955741	J1058	58.2270	PJM External (MISO)	58.2270
955781	J1062	7.5105	PJM External (MISO)	7.5105
955821	J1067	16.1328	PJM External (MISO)	16.1328
955841	J1069 C	1.7291	PJM External (MISO)	1.7291
955842	J1069 E	9.3549	PJM External (MISO)	9.3549
955861	J1071	5.5310	PJM External (MISO)	5.5310
956011	J1088	7.9935	PJM External (MISO)	7.9935
956021	J1089	9.0525	PJM External (MISO)	9.0525
956031	J1090	4.7763	PJM External (MISO)	4.7763
956251	J1112	9.6285	PJM External (MISO)	9.6285
956741	J1172	2.6455	PJM External (MISO)	2.6455
956801	J1178	3.4775	PJM External (MISO)	3.4775
957333	AF2-027 BAT	5.5995	50/50	5.5995
957403	AF2-034 BAT	2.6262	50/50	2.6262
958021	AF2-096 C	30.9672	50/50	30.9672
958022	AF2-096 E	14.5728	50/50	14.5728
958923	AF2-183 BAT	7.6800	Merchant Transmission	7.6800
959353	AF2-226 BAT	8.0515	50/50	8.0515
960283	AF2-319 BAT	8.0515	50/50	8.0515
960382	AF2-329 BAT	5.5541	50/50	5.5541

961022	AF2-393 BAT	5.6346	Merchant Transmission	5.6346
961032	AF2-394 BAT	3.7564	Merchant Transmission	3.7564
961503	AF2-441 BAT	12.0520	Merchant Transmission	12.0520
962013	AG1-044 BAT	0.0273	Merchant Transmission	0.0273
964362	AG1-298 BAT	18.5685	Merchant Transmission	18.5685
964462	AG1-309 NFTW	212.6460	50/50	212.6460
965062	AG1-371 BAT	7.6688	50/50	7.6688
965072	AG1-372 BAT	5.1125	50/50	5.1125
965082	AG1-373 BAT	2.5563	50/50	2.5563
966083	AG1-477 BAT	0.2953	Merchant Transmission	0.2953
966093	AG1-478 BAT	0.3226	Merchant Transmission	0.3226
966103	AG1-479 BAT (Withdrawn : 12/03/2020)	0.2953	Merchant Transmission	0.2953
966443	AG1-513 BAT	1.0834	50/50	1.0834
966523	AG1-521 BAT	2.5437	Merchant Transmission	2.5437
966823	AG1-553 BAT	7.5391	Merchant Transmission	7.5391
990901	L-005 E	-7.7216	Adder	-9.08
LGEE	LGEE	0.3255	Confirmed LTF	0.3255
CPL	CPL	0.2245	Confirmed LTF	0.2245
G-007A	G-007A	2.1649	Confirmed LTF	2.1649
VFT	VFT	5.8308	Confirmed LTF	5.8308
CALDERWOOD	CALDERWOOD	0.1282	Confirmed LTF	0.1282
PRAIRIE	PRAIRIE	6.2560	Confirmed LTF	6.2560
CBM-S2	CBM-S2	1.5660	Confirmed LTF	1.5660
CHEOAH	CHEOAH	0.1231	Confirmed LTF	0.1231
CBM-N	CBM-N	1.0872	Confirmed LTF	1.0872
COTTONWOOD	COTTONWOOD	3.7926	Confirmed LTF	3.7926

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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
162147257	270730	ELECT JCT; B	CE	270846	PLANO ; B	CE	1	COMED_P2-2_111_EJ-345R_3	bus	1341.0	100.54	116.46	DC	273.93

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

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
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
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
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
162147206	270743	ESS W407K;9T	CE	274749	AURORA EC;RP	CE	1	COMED_P2-2_111_EJ-345B__2	bus	1479.0	94.08	125.38	DC	460.74

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

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
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
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
162147319	270743	ESS W407K;9T	CE	270751	ESS W407M;9T	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	66.51	108.26	DC	475.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	-1.9390	Adder	-2.28
274737	AURORA EC;1P	5.4408	50/50	5.4408
274739	AURORA EC;2P	5.4408	50/50	5.4408
276165	Z1-106 BAT2	1.6871	50/50	1.6871
276166	Z1-106 BAT1	1.6961	50/50	1.6961
276172	Z1-108 BAT	5.4366	50/50	5.4366
276591	L-013 2	-4.1587	Adder	-4.89
920273	AA2-123 BAT	5.0508	50/50	5.0508
926311	AC1-109 1	0.5370	50/50	0.5370
926321	AC1-109 2	0.5370	50/50	0.5370
943803	AF1-048 BAT	13.0845	50/50	13.0845
943922	AF1-060 BAT	1.9774	50/50	1.9774
945351	AF1-200 FTIR	155.5554	Merchant Transmission	155.5554
946163	AF1-281 BAT	3.1988	50/50	3.1988
950351	J466	1.7499	PJM External (MISO)	1.7499
950791	J201 C	0.2342	PJM External (MISO)	0.2342
950792	J201 E	0.9366	PJM External (MISO)	0.9366
950871	J246 C	0.0821	PJM External (MISO)	0.0821
950872	J246 E	0.3286	PJM External (MISO)	0.3286
950942	J325 E	0.2331	PJM External (MISO)	0.2331
951741	J474 C	1.1421	PJM External (MISO)	1.1421
951742	J474 E	6.1789	PJM External (MISO)	6.1789
952161	J571	0.3804	PJM External (MISO)	0.3804
952201	J589 C	1.8367	PJM External (MISO)	1.8367
952202	J589 E	9.9373	PJM External (MISO)	9.9373
952312	J646 E	0.0929	PJM External (MISO)	0.0929
952401	J752 C	0.9107	PJM External (MISO)	0.9107
952402	J752 E	4.9273	PJM External (MISO)	4.9273
952611	J717 C	1.8333	PJM External (MISO)	1.8333
952612	J717 E	9.9186	PJM External (MISO)	9.9186
952761	J728 C	1.7049	PJM External (MISO)	1.7049
952762	J728 E	9.2365	PJM External (MISO)	9.2365
952881	J758	11.8240	PJM External (MISO)	11.8240
952971	J793	76.7950	PJM External (MISO)	76.7950
953071	J794 C	0.1146	PJM External (MISO)	0.1146
953072	J794 E	0.6202	PJM External (MISO)	0.6202
953161	J837 C	1.8030	PJM External (MISO)	1.8030
953162	J837 E	9.7548	PJM External (MISO)	9.7548
953171	J838 C	0.9011	PJM External (MISO)	0.9011
953172	J838 E	4.8749	PJM External (MISO)	4.8749
953271	J701 C	0.4463	PJM External (MISO)	0.4463

953272	J701 E	2.4144	PJM External (MISO)	2.4144
953291	J796	14.0221	PJM External (MISO)	14.0221
953321	J799	10.9129	PJM External (MISO)	10.9129
953351	J805	10.5848	PJM External (MISO)	10.5848
953361	J806	8.7716	PJM External (MISO)	8.7716
953741	J826 C	0.8145	PJM External (MISO)	0.8145
953742	J826 E	4.4065	PJM External (MISO)	4.4065
953761	J829	12.7750	PJM External (MISO)	12.7750
953771	J832	5.8980	PJM External (MISO)	5.8980
953781	J833	5.7720	PJM External (MISO)	5.7720
953851	J845 C	0.9856	PJM External (MISO)	0.9856
953852	J845 E	5.3324	PJM External (MISO)	5.3324
953871	J847	5.3622	PJM External (MISO)	5.3622
953941	J857	7.3633	PJM External (MISO)	7.3633
954111	J875	8.7090	PJM External (MISO)	8.7090
954171	J883 C	0.7218	PJM External (MISO)	0.7218
954172	J883 E	3.9054	PJM External (MISO)	3.9054
954351	J903	5.3580	PJM External (MISO)	5.3580
954421	J913 C	9.2416	PJM External (MISO)	9.2416
954591	J937	31.9235	PJM External (MISO)	31.9235
954751	J351	42.9979	PJM External (MISO)	42.9979
954772	J515 E	21.1120	PJM External (MISO)	21.1120
954941	J968 C	1.8021	PJM External (MISO)	1.8021
954942	J968 E	9.7499	PJM External (MISO)	9.7499
955071	J984 C	1.8442	PJM External (MISO)	1.8442
955072	J984 E	9.9778	PJM External (MISO)	9.9778
955141	J992	11.6340	PJM External (MISO)	11.6340
955151	J993	10.7080	PJM External (MISO)	10.7080
955181	J996	4.6200	PJM External (MISO)	4.6200
955401	J1022 C	1.2217	PJM External (MISO)	1.2217
955402	J1022 E	6.6098	PJM External (MISO)	6.6098
955451	J1027	7.5915	PJM External (MISO)	7.5915
955461	J1028	7.5765	PJM External (MISO)	7.5765
955591	J1043 C	1.1866	PJM External (MISO)	1.1866
955592	J1043 E	21.0266	PJM External (MISO)	21.0266
955741	J1058	17.8200	PJM External (MISO)	17.8200
955781	J1062	8.6055	PJM External (MISO)	8.6055
955791	J1063	11.1740	PJM External (MISO)	11.1740
955821	J1067	14.0016	PJM External (MISO)	14.0016
955841	J1069 C	1.8021	PJM External (MISO)	1.8021
955842	J1069 E	9.7499	PJM External (MISO)	9.7499
955861	J1071	5.9480	PJM External (MISO)	5.9480
955891	J1074	10.0300	PJM External (MISO)	10.0300
956011	J1088	8.7990	PJM External (MISO)	8.7990
956021	J1089	9.9688	PJM External (MISO)	9.9688
956031	J1090	5.2668	PJM External (MISO)	5.2668
956251	J1112	8.8875	PJM External (MISO)	8.8875
956281	J1115 C	1.5978	PJM External (MISO)	1.5978
956282	J1115 E	8.6442	PJM External (MISO)	8.6442
956451	J1139	7.6650	PJM External (MISO)	7.6650
956561	J1152	10.6780	PJM External (MISO)	10.6780
956741	J1172	2.9255	PJM External (MISO)	2.9255
956801	J1178	3.8149	PJM External (MISO)	3.8149

956911	J1189	0.2527	PJM External (MISO)	0.2527
957333	AF2-027 BAT	7.5425	50/50	7.5425
958923	AF2-183 BAT	12.7952	50/50	12.7952
961022	AF2-393 BAT	7.9734	50/50	7.9734
961032	AF2-394 BAT	5.3156	50/50	5.3156
962013	AG1-044 BAT	0.0701	50/50	0.0701
962691	AG1-118 C O1	4.8062	Adder	10.67
962692	AG1-118 E O1	3.2041	Adder	7.11
964462	AG1-309 NFTW	475.4610	50/50	475.4610
965062	AG1-371 BAT	7.7602	50/50	7.7602
965072	AG1-372 BAT	5.1735	50/50	5.1735
965082	AG1-373 BAT	2.5867	50/50	2.5867
966523	AG1-521 BAT	6.4335	50/50	6.4335
966823	AG1-553 BAT	18.0658	50/50	18.0658
LGEE	LGEE	0.3525	Confirmed LTF	0.3525
CPL	CPL	0.2000	Confirmed LTF	0.2000
G-007A	G-007A	1.7622	Confirmed LTF	1.7622
VFT	VFT	4.7472	Confirmed LTF	4.7472
CALDERWOOD	CALDERWOOD	0.0810	Confirmed LTF	0.0810
PRAIRIE	PRAIRIE	4.0011	Confirmed LTF	4.0011
CBM-S2	CBM-S2	1.5556	Confirmed LTF	1.5556
CHEOAH	CHEOAH	0.0771	Confirmed LTF	0.0771
CBM-N	CBM-N	0.8844	Confirmed LTF	0.8844
COTTONWOOD	COTTONWOOD	3.4419	Confirmed LTF	3.4419

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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
162147195	270751	ESS W407M;9T	CE	270743	ESS W407K;9T	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	95.04	126.34	DC	460.74

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

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
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
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
162147320	270751	ESS W407M;9T	CE	270917	WAYNE ; R	CE	1	COMED_P2-2_111_EJ-345B__2	bus	1479.0	66.51	108.26	DC	475.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	-1.9390	Adder	-2.28
274737	AURORA EC;1P	5.4408	50/50	5.4408
274739	AURORA EC;2P	5.4408	50/50	5.4408
276165	Z1-106 BAT2	1.6871	50/50	1.6871
276166	Z1-106 BAT1	1.6961	50/50	1.6961
276172	Z1-108 BAT	5.4366	50/50	5.4366
276591	L-013 2	-4.1587	Adder	-4.89
920273	AA2-123 BAT	5.0508	50/50	5.0508
926311	AC1-109 1	0.5370	50/50	0.5370
926321	AC1-109 2	0.5370	50/50	0.5370
943803	AF1-048 BAT	13.0845	50/50	13.0845
943922	AF1-060 BAT	1.9774	50/50	1.9774
945351	AF1-200 FTIR	155.5554	Merchant Transmission	155.5554
946163	AF1-281 BAT	3.1988	50/50	3.1988
950351	J466	1.7499	PJM External (MISO)	1.7499
950791	J201 C	0.2342	PJM External (MISO)	0.2342
950792	J201 E	0.9366	PJM External (MISO)	0.9366
950871	J246 C	0.0821	PJM External (MISO)	0.0821
950872	J246 E	0.3286	PJM External (MISO)	0.3286
950942	J325 E	0.2331	PJM External (MISO)	0.2331
951741	J474 C	1.1421	PJM External (MISO)	1.1421
951742	J474 E	6.1789	PJM External (MISO)	6.1789
952161	J571	0.3804	PJM External (MISO)	0.3804
952201	J589 C	1.8367	PJM External (MISO)	1.8367
952202	J589 E	9.9373	PJM External (MISO)	9.9373
952312	J646 E	0.0929	PJM External (MISO)	0.0929
952401	J752 C	0.9107	PJM External (MISO)	0.9107
952402	J752 E	4.9273	PJM External (MISO)	4.9273
952611	J717 C	1.8333	PJM External (MISO)	1.8333
952612	J717 E	9.9186	PJM External (MISO)	9.9186
952761	J728 C	1.7049	PJM External (MISO)	1.7049
952762	J728 E	9.2365	PJM External (MISO)	9.2365
952881	J758	11.8240	PJM External (MISO)	11.8240
952971	J793	76.7950	PJM External (MISO)	76.7950
953071	J794 C	0.1146	PJM External (MISO)	0.1146
953072	J794 E	0.6202	PJM External (MISO)	0.6202
953161	J837 C	1.8030	PJM External (MISO)	1.8030
953162	J837 E	9.7548	PJM External (MISO)	9.7548
953171	J838 C	0.9011	PJM External (MISO)	0.9011
953172	J838 E	4.8749	PJM External (MISO)	4.8749
953271	J701 C	0.4463	PJM External (MISO)	0.4463

953272	J701 E	2.4144	PJM External (MISO)	2.4144
953291	J796	14.0221	PJM External (MISO)	14.0221
953321	J799	10.9129	PJM External (MISO)	10.9129
953351	J805	10.5848	PJM External (MISO)	10.5848
953361	J806	8.7716	PJM External (MISO)	8.7716
953741	J826 C	0.8145	PJM External (MISO)	0.8145
953742	J826 E	4.4065	PJM External (MISO)	4.4065
953761	J829	12.7750	PJM External (MISO)	12.7750
953771	J832	5.8980	PJM External (MISO)	5.8980
953781	J833	5.7720	PJM External (MISO)	5.7720
953851	J845 C	0.9856	PJM External (MISO)	0.9856
953852	J845 E	5.3324	PJM External (MISO)	5.3324
953871	J847	5.3622	PJM External (MISO)	5.3622
953941	J857	7.3633	PJM External (MISO)	7.3633
954111	J875	8.7090	PJM External (MISO)	8.7090
954171	J883 C	0.7218	PJM External (MISO)	0.7218
954172	J883 E	3.9054	PJM External (MISO)	3.9054
954351	J903	5.3580	PJM External (MISO)	5.3580
954421	J913 C	9.2416	PJM External (MISO)	9.2416
954591	J937	31.9235	PJM External (MISO)	31.9235
954751	J351	42.9979	PJM External (MISO)	42.9979
954772	J515 E	21.1120	PJM External (MISO)	21.1120
954941	J968 C	1.8021	PJM External (MISO)	1.8021
954942	J968 E	9.7499	PJM External (MISO)	9.7499
955071	J984 C	1.8442	PJM External (MISO)	1.8442
955072	J984 E	9.9778	PJM External (MISO)	9.9778
955141	J992	11.6340	PJM External (MISO)	11.6340
955151	J993	10.7080	PJM External (MISO)	10.7080
955181	J996	4.6200	PJM External (MISO)	4.6200
955401	J1022 C	1.2217	PJM External (MISO)	1.2217
955402	J1022 E	6.6098	PJM External (MISO)	6.6098
955451	J1027	7.5915	PJM External (MISO)	7.5915
955461	J1028	7.5765	PJM External (MISO)	7.5765
955591	J1043 C	1.1866	PJM External (MISO)	1.1866
955592	J1043 E	21.0266	PJM External (MISO)	21.0266
955741	J1058	17.8200	PJM External (MISO)	17.8200
955781	J1062	8.6055	PJM External (MISO)	8.6055
955791	J1063	11.1740	PJM External (MISO)	11.1740
955821	J1067	14.0016	PJM External (MISO)	14.0016
955841	J1069 C	1.8021	PJM External (MISO)	1.8021
955842	J1069 E	9.7499	PJM External (MISO)	9.7499
955861	J1071	5.9480	PJM External (MISO)	5.9480
955891	J1074	10.0300	PJM External (MISO)	10.0300
956011	J1088	8.7990	PJM External (MISO)	8.7990
956021	J1089	9.9688	PJM External (MISO)	9.9688
956031	J1090	5.2668	PJM External (MISO)	5.2668
956251	J1112	8.8875	PJM External (MISO)	8.8875
956281	J1115 C	1.5978	PJM External (MISO)	1.5978
956282	J1115 E	8.6442	PJM External (MISO)	8.6442
956451	J1139	7.6650	PJM External (MISO)	7.6650
956561	J1152	10.6780	PJM External (MISO)	10.6780
956741	J1172	2.9255	PJM External (MISO)	2.9255
956801	J1178	3.8149	PJM External (MISO)	3.8149

956911	J1189	0.2527	PJM External (MISO)	0.2527
957333	AF2-027 BAT	7.5425	50/50	7.5425
958923	AF2-183 BAT	12.7952	50/50	12.7952
961022	AF2-393 BAT	7.9734	50/50	7.9734
961032	AF2-394 BAT	5.3156	50/50	5.3156
962013	AG1-044 BAT	0.0701	50/50	0.0701
962691	AG1-118 C O1	4.8062	Adder	10.67
962692	AG1-118 E O1	3.2041	Adder	7.11
964462	AG1-309 NFTW	475.4610	50/50	475.4610
965062	AG1-371 BAT	7.7602	50/50	7.7602
965072	AG1-372 BAT	5.1735	50/50	5.1735
965082	AG1-373 BAT	2.5867	50/50	2.5867
966523	AG1-521 BAT	6.4335	50/50	6.4335
966823	AG1-553 BAT	18.0658	50/50	18.0658
LGEE	LGEE	0.3525	Confirmed LTF	0.3525
CPL	CPL	0.2000	Confirmed LTF	0.2000
G-007A	G-007A	1.7622	Confirmed LTF	1.7622
VFT	VFT	4.7472	Confirmed LTF	4.7472
CALDERWOOD	CALDERWOOD	0.0810	Confirmed LTF	0.0810
PRAIRIE	PRAIRIE	4.0011	Confirmed LTF	4.0011
CBM-S2	CBM-S2	1.5556	Confirmed LTF	1.5556
CHEOAH	CHEOAH	0.0771	Confirmed LTF	0.0771
CBM-N	CBM-N	0.8844	Confirmed LTF	0.8844
COTTONWOOD	COTTONWOOD	3.4419	Confirmed LTF	3.4419

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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
162147200	270917	WAYNE ; R	CE	270751	ESS W407M;9T	CE	1	COMED_P2-2_111_EJ-345B__2	bus	1479.0	95.04	126.34	DC	460.74

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

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
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
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
162147318	274749	AURORA EC;RP	CE	270743	ESS W407K;9T	CE	1	COMED_P2-2_111_EJ-345B__2	bus	1479.0	67.47	109.22	DC	475.46

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	-1.9390	Adder	-2.28
274737	AURORA EC;1P	5.4408	50/50	5.4408
274739	AURORA EC;2P	5.4408	50/50	5.4408
276165	Z1-106 BAT2	1.6871	50/50	1.6871
276166	Z1-106 BAT1	1.6961	50/50	1.6961
276172	Z1-108 BAT	5.4366	50/50	5.4366
276591	L-013 2	-4.1587	Adder	-4.89
920273	AA2-123 BAT	5.0508	50/50	5.0508
926311	AC1-109 1	0.5370	50/50	0.5370
926321	AC1-109 2	0.5370	50/50	0.5370
943803	AF1-048 BAT	13.0845	50/50	13.0845
943922	AF1-060 BAT	1.9774	50/50	1.9774
945351	AF1-200 FTIR	155.5554	Merchant Transmission	155.5554
946163	AF1-281 BAT	3.1988	50/50	3.1988
950351	J466	1.7499	PJM External (MISO)	1.7499
950791	J201 C	0.2342	PJM External (MISO)	0.2342
950792	J201 E	0.9366	PJM External (MISO)	0.9366
950871	J246 C	0.0821	PJM External (MISO)	0.0821
950872	J246 E	0.3286	PJM External (MISO)	0.3286
950942	J325 E	0.2331	PJM External (MISO)	0.2331
951741	J474 C	1.1421	PJM External (MISO)	1.1421
951742	J474 E	6.1789	PJM External (MISO)	6.1789
952161	J571	0.3804	PJM External (MISO)	0.3804
952201	J589 C	1.8367	PJM External (MISO)	1.8367
952202	J589 E	9.9373	PJM External (MISO)	9.9373
952312	J646 E	0.0929	PJM External (MISO)	0.0929
952401	J752 C	0.9107	PJM External (MISO)	0.9107
952402	J752 E	4.9273	PJM External (MISO)	4.9273
952611	J717 C	1.8333	PJM External (MISO)	1.8333
952612	J717 E	9.9186	PJM External (MISO)	9.9186
952761	J728 C	1.7049	PJM External (MISO)	1.7049
952762	J728 E	9.2365	PJM External (MISO)	9.2365
952881	J758	11.8240	PJM External (MISO)	11.8240
952971	J793	76.7950	PJM External (MISO)	76.7950
953071	J794 C	0.1146	PJM External (MISO)	0.1146
953072	J794 E	0.6202	PJM External (MISO)	0.6202
953161	J837 C	1.8030	PJM External (MISO)	1.8030
953162	J837 E	9.7548	PJM External (MISO)	9.7548
953171	J838 C	0.9011	PJM External (MISO)	0.9011
953172	J838 E	4.8749	PJM External (MISO)	4.8749
953271	J701 C	0.4463	PJM External (MISO)	0.4463

953272	J701 E	2.4144	PJM External (MISO)	2.4144
953291	J796	14.0221	PJM External (MISO)	14.0221
953321	J799	10.9129	PJM External (MISO)	10.9129
953351	J805	10.5848	PJM External (MISO)	10.5848
953361	J806	8.7716	PJM External (MISO)	8.7716
953741	J826 C	0.8145	PJM External (MISO)	0.8145
953742	J826 E	4.4065	PJM External (MISO)	4.4065
953761	J829	12.7750	PJM External (MISO)	12.7750
953771	J832	5.8980	PJM External (MISO)	5.8980
953781	J833	5.7720	PJM External (MISO)	5.7720
953851	J845 C	0.9856	PJM External (MISO)	0.9856
953852	J845 E	5.3324	PJM External (MISO)	5.3324
953871	J847	5.3622	PJM External (MISO)	5.3622
953941	J857	7.3633	PJM External (MISO)	7.3633
954111	J875	8.7090	PJM External (MISO)	8.7090
954171	J883 C	0.7218	PJM External (MISO)	0.7218
954172	J883 E	3.9054	PJM External (MISO)	3.9054
954351	J903	5.3580	PJM External (MISO)	5.3580
954421	J913 C	9.2416	PJM External (MISO)	9.2416
954591	J937	31.9235	PJM External (MISO)	31.9235
954751	J351	42.9979	PJM External (MISO)	42.9979
954772	J515 E	21.1120	PJM External (MISO)	21.1120
954941	J968 C	1.8021	PJM External (MISO)	1.8021
954942	J968 E	9.7499	PJM External (MISO)	9.7499
955071	J984 C	1.8442	PJM External (MISO)	1.8442
955072	J984 E	9.9778	PJM External (MISO)	9.9778
955141	J992	11.6340	PJM External (MISO)	11.6340
955151	J993	10.7080	PJM External (MISO)	10.7080
955181	J996	4.6200	PJM External (MISO)	4.6200
955401	J1022 C	1.2217	PJM External (MISO)	1.2217
955402	J1022 E	6.6098	PJM External (MISO)	6.6098
955451	J1027	7.5915	PJM External (MISO)	7.5915
955461	J1028	7.5765	PJM External (MISO)	7.5765
955591	J1043 C	1.1866	PJM External (MISO)	1.1866
955592	J1043 E	21.0266	PJM External (MISO)	21.0266
955741	J1058	17.8200	PJM External (MISO)	17.8200
955781	J1062	8.6055	PJM External (MISO)	8.6055
955791	J1063	11.1740	PJM External (MISO)	11.1740
955821	J1067	14.0016	PJM External (MISO)	14.0016
955841	J1069 C	1.8021	PJM External (MISO)	1.8021
955842	J1069 E	9.7499	PJM External (MISO)	9.7499
955861	J1071	5.9480	PJM External (MISO)	5.9480
955891	J1074	10.0300	PJM External (MISO)	10.0300
956011	J1088	8.7990	PJM External (MISO)	8.7990
956021	J1089	9.9688	PJM External (MISO)	9.9688
956031	J1090	5.2668	PJM External (MISO)	5.2668
956251	J1112	8.8875	PJM External (MISO)	8.8875
956281	J1115 C	1.5978	PJM External (MISO)	1.5978
956282	J1115 E	8.6442	PJM External (MISO)	8.6442
956451	J1139	7.6650	PJM External (MISO)	7.6650
956561	J1152	10.6780	PJM External (MISO)	10.6780
956741	J1172	2.9255	PJM External (MISO)	2.9255
956801	J1178	3.8149	PJM External (MISO)	3.8149

956911	J1189	0.2527	PJM External (MISO)	0.2527
957333	AF2-027 BAT	7.5425	50/50	7.5425
958923	AF2-183 BAT	12.7952	50/50	12.7952
961022	AF2-393 BAT	7.9734	50/50	7.9734
961032	AF2-394 BAT	5.3156	50/50	5.3156
962013	AG1-044 BAT	0.0701	50/50	0.0701
962691	AG1-118 C O1	4.8062	Adder	10.67
962692	AG1-118 E O1	3.2041	Adder	7.11
964462	AG1-309 NFTW	475.4610	50/50	475.4610
965062	AG1-371 BAT	7.7602	50/50	7.7602
965072	AG1-372 BAT	5.1735	50/50	5.1735
965082	AG1-373 BAT	2.5867	50/50	2.5867
966523	AG1-521 BAT	6.4335	50/50	6.4335
966823	AG1-553 BAT	18.0658	50/50	18.0658
LGEE	LGEE	0.3525	Confirmed LTF	0.3525
CPL	CPL	0.2000	Confirmed LTF	0.2000
G-007A	G-007A	1.7622	Confirmed LTF	1.7622
VFT	VFT	4.7472	Confirmed LTF	4.7472
CALDERWOOD	CALDERWOOD	0.0810	Confirmed LTF	0.0810
PRAIRIE	PRAIRIE	4.0011	Confirmed LTF	4.0011
CBM-S2	CBM-S2	1.5556	Confirmed LTF	1.5556
CHEOAH	CHEOAH	0.0771	Confirmed LTF	0.0771
CBM-N	CBM-N	0.8844	Confirmed LTF	0.8844
COTTONWOOD	COTTONWOOD	3.4419	Confirmed LTF	3.4419

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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
162147535	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	87.05	112.03	DC	522.63

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

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
CPL	CPL	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
162147486	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	81.1	110.54	DC	520.55

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

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
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
168452620	255113	17STILLWELL	NIPS	243219	05DUMONT	AEP	1	AEP_P1-2_#695_1681	single	1409.0	177.62	177.82	DC	283.92

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

927451	AC1-142A 1	4.2296	Adder	4.98
927461	AC1-142A 2	4.2299	Adder	4.98
930482	AB1-089 CT	36.7090	Adder	43.19
930483	AB1-089 ST	29.1851	Adder	34.34
930501	AB1-091 CT	43.0585	Adder	50.66
930502	AB1-091 ST	34.2332	Adder	40.27
930761	AB1-122 CT1	69.1239	Adder	81.32
930771	AB1-122 CT2	74.4513	Adder	87.59
933411	AC2-154 C	2.6515	Adder	3.12
933431	AC2-156 C O1	0.9584	Adder	1.13
933911	AD1-013 C	1.8666	Adder	2.2
933931	AD1-016 C	0.9291	Adder	1.09
934101	AD1-039 1	6.7741	Adder	7.97
934111	AD1-039 2	7.2962	Adder	8.58
934701	AD1-098 C O1	6.9602	Adder	8.19
934721	AD1-100 C	19.6248	Adder	23.09
934871	AD1-116 C	0.9691	Adder	1.14
934971	AD1-129 C	0.9053	Adder	1.07
936291	AD2-038 C O1	2.4422	Adder	2.87
936371	AD2-047 C O1	4.7448	Adder	5.58
936461	AD2-060	2.7911	Adder	3.28
936511	AD2-066 C O1	8.4936	Adder	9.99
937001	AD2-134 C	2.7648	Adder	3.25
937401	AD2-194 1	7.8061	Adder	9.18
937411	AD2-194 2	7.8091	Adder	9.19
938511	AE1-070 1	9.1757	Adder	10.79
938521	AE1-070 2	8.3915	Adder	9.87
938851	AE1-113 C O1	8.1962	Adder	9.64
939321	AE1-163 C O1	6.1367	Adder	7.22
939351	AE1-166 C O1	5.4715	Adder	12.15
939631	AE1-193 C	9.0820	Adder	10.68
939641	AE1-194 C	9.0820	Adder	10.68
939651	AE1-195 C	9.0820	Adder	10.68
939681	AE1-198 C	26.9665	Adder	31.73
941131	AE2-107 C	6.6027	Adder	7.77
941551	AE2-152 C O1	6.3133	Adder	14.01
941561	AE2-153 C O1	4.7585	Adder	5.6
942421	AE2-255 C O1	3.1046	Adder	3.65
942651	AE2-281 C O1	0.8767	Adder	1.03
942991	AE2-321 C	8.1974	Adder	9.64
943121	AE2-341 C	12.7897	Adder	15.05
943591	AF1-030 C O1	8.5053	Adder	10.01
943801	AF1-048 C	3.8320	Adder	4.51
944041	AF1-072	2.1578	Adder	2.54
944911	AF1-156 C	12.1666	Adder	14.31
945351	AF1-200 FTIR	309.5845	Merchant Transmission	309.5845
946661	AF1-330 C	2.0074	Adder	2.36
946671	AF1-331	2.4242	Adder	2.85
957331	AF2-027 C	2.5007	Adder	2.94
957371	AF2-031 C O1	1.5912	80/20	1.5912
957401	AF2-034 C	1.4134	Adder	1.66
957471	AF2-041 C	21.5057	Adder	25.3
958011	AF2-095 C O1	18.9804	Adder	22.33

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

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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
168452574	270694	CHERRY VA; B	CE	924470	GARDEN PR; R	CE	1	COMED_P1-2_345-L18905_B-R-B	single	1479.0	118.56	153.82	DC	520.98

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.8330	Adder	2.16
274656	BYRON ;1U	47.1816	80/20	47.1816
274657	BYRON ;2U	46.1202	80/20	46.1202
274662	QUAD CITI;1U	14.3801	80/20	14.3801
274663	QUAD CITI;2U	14.4212	80/20	14.4212
274700	CORDOVA ;2C	2.5251	80/20	2.5251
274701	CORDOVA ;1S	2.8407	80/20	2.8407
274715	NELSON EC;1C	3.3801	80/20	3.3801
274716	NELSON EC;1S	2.4663	80/20	2.4663
274717	NELSON EC;2C	3.4063	80/20	3.4063
274718	NELSON EC;2S	2.4884	80/20	2.4884
274760	LEE CO EC;1U	2.3883	80/20	2.3883
274761	LEE CO EC;2U	2.3883	80/20	2.3883
274762	LEE CO EC;3U	2.3883	80/20	2.3883
274763	LEE CO EC;4U	2.3658	80/20	2.3658
274764	LEE CO EC;5U	2.3939	80/20	2.3939
274765	LEE CO EC;6U	2.3939	80/20	2.3939
274766	LEE CO EC;7U	2.3601	80/20	2.3601
274767	LEE CO EC;8U	2.3601	80/20	2.3601
274822	ROCKFORD ;11	4.7229	80/20	4.7229
274823	ROCKFORD ;21	4.8469	80/20	4.8469
274824	ROCKFORD ;12	4.6818	80/20	4.6818
274856	ECOGROVE ;U1	0.6543	80/20	0.6543
274857	BIG SKY ;U1	0.4276	80/20	0.4276
274858	BIG SKY ;U2	0.4276	80/20	0.4276
276156	O-029 C	0.1885	80/20	0.1885
276157	O-029 C	0.2037	80/20	0.2037
276158	O-029 C	0.3718	80/20	0.3718
276162	X1-087	0.3256	80/20	0.3256
276590	R-018	0.2553	80/20	0.2553
293513	O-009 C1	0.3480	80/20	0.3480
293514	O-009 C2	0.1766	80/20	0.1766
293515	O-009 C3	0.1952	80/20	0.1952
295110	SUBLETTE C	0.0679	80/20	0.0679
919221	AA1-146	3.1532	80/20	3.1532
919581	AA2-030 C	19.9861	80/20	19.9861
926431	AC1-114	0.7872	80/20	0.7872
927511	AC1-113 1	0.3936	80/20	0.3936
927521	AC1-113 2	0.3936	80/20	0.3936
930482	AB1-089 CT	78.4047	80/20	78.4047
930483	AB1-089 ST	62.3348	80/20	62.3348

932881	AC2-115 1	0.7871	80/20	0.7871
932891	AC2-115 2	0.7871	80/20	0.7871
932921	AC2-116	0.2755	80/20	0.2755
933911	AD1-013 C	1.2814	Adder	1.51
933931	AD1-016 C	0.4443	Adder	0.52
934701	AD1-098 C O1	5.8095	80/20	5.8095
934971	AD1-129 C	1.3325	80/20	1.3325
936791	AD2-102 C	28.4124	80/20	28.4124
937001	AD2-134 C	1.9179	Adder	2.26
937311	AD2-172 C	4.4892	80/20	4.4892
937531	AD2-214 C	4.5574	80/20	4.5574
938861	AE1-114 C O1	6.1414	80/20	6.1414
939051	AE1-134 1	1.5531	80/20	1.5531
939061	AE1-134 2	1.5531	80/20	1.5531
940501	AE2-035 C	4.4892	80/20	4.4892
941131	AE2-107 C	3.8937	Adder	4.58
943411	AF1-012 C	10.9525	80/20	10.9525
943921	AF1-060	2.2104	80/20	2.2104
946151	AF1-280 C O1	22.2748	80/20	22.2748
946161	AF1-281 C O1	0.4878	80/20	0.4878
946321	AF1-296 C O1	3.8861	80/20	3.8861
946501	AF1-314 C	7.9762	80/20	7.9762
946671	AF1-331	1.6641	Adder	1.96
952431	J760	5.1186	PJM External (MISO)	5.1186
953681	J818	13.1403	PJM External (MISO)	13.1403
953901	J850	21.7525	PJM External (MISO)	21.7525
953921	J855 C	1.2775	PJM External (MISO)	1.2775
954001	J864	4.2268	PJM External (MISO)	4.2268
954061	J870	16.8860	PJM External (MISO)	16.8860
954071	J871	8.4430	PJM External (MISO)	8.4430
955221	J1000	3.7820	PJM External (MISO)	3.7820
955971	J1084	11.0760	PJM External (MISO)	11.0760
956581	J1154	6.6187	PJM External (MISO)	6.6187
956901	J1188	5.5035	PJM External (MISO)	5.5035
958911	AF2-182 C	29.2662	80/20	29.2662
958921	AF2-183 C	5.2029	80/20	5.2029
959101	AF2-201 C O1	10.9878	80/20	10.9878
960551	AF2-346 C	4.6939	80/20	4.6939
960721	AF2-363 C O1	7.7099	80/20	7.7099
960751	AF2-366 C	4.1928	Adder	4.93
961011	AF2-392 C O1	4.5764	80/20	4.5764
961021	AF2-393 O1	7.8006	80/20	7.8006
961031	AF2-394 O1	5.2004	80/20	5.2004
962701	AG1-119 C	46.0494	80/20	46.0494
962711	AG1-120 C O1	11.0882	80/20	11.0882
962781	AG1-127 C	2.5017	Adder	5.55
962791	AG1-128 C O1	2.2993	Adder	5.1
963681	AG1-220 C O1	3.3316	Adder	7.4
964461	AG1-309 FTIR	520.9803	80/20	520.9803
965661	AG1-434 C O1	1.2169	Adder	2.7
965931	AG1-462 C O1	18.0414	80/20	18.0414
966521	AG1-521 C O1	10.2112	80/20	10.2112
966821	AG1-553 C O1	26.4607	80/20	26.4607

WEC	WEC	0.4867	Confirmed LTF	0.4867
CBM-W2	CBM-W2	9.3632	Confirmed LTF	9.3632
NY	NY	0.2616	Confirmed LTF	0.2616
TVA	TVA	0.9814	Confirmed LTF	0.9814
SIGE	SIGE	0.0358	Confirmed LTF	0.0358
CBM-S2	CBM-S2	0.1357	Confirmed LTF	0.1357
CBM-S1	CBM-S1	0.1972	Confirmed LTF	0.1972
HAMLET	HAMLET	0.0295	Confirmed LTF	0.0295
MEC	MEC	9.6881	Confirmed LTF	9.6881
GIBSON	GIBSON	0.1048	Confirmed LTF	0.1048
BLUEG	BLUEG	0.5816	Confirmed LTF	0.5816
TRIMBLE	TRIMBLE	0.1976	Confirmed LTF	0.1976
LAGN	LAGN	2.4640	Confirmed LTF	2.4640
CATAWBA	CATAWBA	0.0003	Confirmed LTF	0.0003
CBM-W1	CBM-W1	47.1493	Confirmed LTF	47.1493

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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
168452869	270728	E FRANKFO; B	CE	274750	CRETE EC ;BP	CE	1	AEP_P1- 2_#695_1681	single	1399.0	106.38	106.91	DC	253.4

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

930483	AB1-089 ST	26.0606	Adder	30.66
930761	AB1-122 CT1	61.5581	Adder	72.42
930771	AB1-122 CT2	80.1895	80/20	80.1895
933431	AC2-156 C O1	0.8510	Adder	1.0
933911	AD1-013 C	1.6619	Adder	1.96
933931	AD1-016 C	0.8308	Adder	0.98
934101	AD1-039 1	6.0327	Adder	7.1
934111	AD1-039 2	7.8586	80/20	7.8586
934701	AD1-098 C O1	6.1963	Adder	7.29
934721	AD1-100 C	20.0310	80/20	20.0310
934871	AD1-116 C	0.8176	Adder	0.96
934971	AD1-129 C	0.8087	Adder	0.95
936291	AD2-038 C O1	2.1004	Adder	2.47
936511	AD2-066 C O1	7.4891	Adder	8.81
937001	AD2-134 C	2.4613	Adder	2.9
937401	AD2-194 1	8.4090	80/20	8.4090
937411	AD2-194 2	8.4240	80/20	8.4240
938511	AE1-070 1	9.8982	80/20	9.8982
938521	AE1-070 2	9.0397	80/20	9.0397
938851	AE1-113 C O1	7.4445	Adder	8.76
939321	AE1-163 C O1	5.2779	Adder	6.21
939351	AE1-166 C O1	10.7110	80/20	10.7110
941131	AE2-107 C	5.8775	Adder	6.91
941551	AE2-152 C O1	12.3588	80/20	12.3588
941561	AE2-153 C O1	4.9132	80/20	4.9132
942421	AE2-255 C O1	2.8199	Adder	3.32
942651	AE2-281 C O1	0.7540	Adder	0.89
942991	AE2-321 C	7.3289	Adder	8.62
943121	AE2-341 C	11.3463	Adder	13.35
943591	AF1-030 C O1	7.5454	Adder	8.88
943801	AF1-048 C	3.4260	Adder	4.03
944041	AF1-072	1.9309	Adder	2.27
944911	AF1-156 C	12.5622	80/20	12.5622
945351	AF1-200 FTIR	275.5390	80/20	275.5390
946661	AF1-330 C	1.7948	Adder	2.11
946671	AF1-331	2.1583	Adder	2.54
957331	AF2-027 C	2.2442	Adder	2.64
957401	AF2-034 C	1.5473	80/20	1.5473
957471	AF2-041 C	19.2107	Adder	22.6
958021	AF2-096 C	40.8485	80/20	40.8485
958481	AF2-142 C	9.6826	Adder	11.39
958491	AF2-143 C	9.6941	Adder	11.4
959081	AF2-199 C	6.4036	Adder	7.53
959091	AF2-200 C O1	12.8071	Adder	15.07
959351	AF2-226 C	3.0642	80/20	3.0642
960281	AF2-319 C	3.0642	80/20	3.0642
960381	AF2-329	5.8875	Adder	6.93
960581	AF2-349 C	19.4953	Adder	22.94
960721	AF2-363 C O1	5.2864	Adder	6.22
960731	AF2-364 C O1	5.5014	Adder	6.47
960751	AF2-366 C	6.2294	Adder	7.33
962691	AG1-118 C O1	10.8182	Adder	24.01
962701	AG1-119 C	10.3755	Adder	23.03

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

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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
162147231	270730	ELECT JCT; B	CE	270812	LOMBARD ; B	CE	1	COMED_P2-2_111_EJ-345R__3	bus	1479.0	114.98	123.29	DC	122.43

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

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
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
162147190	270770	GOODINGS ;4B	CE	270766	GOODINGS ;3B	CE	1	COMED_P2-2_116_GG-345R_2	bus	1802.0	133.46	135.59	DC	162.15

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274658	DRESDEN ;2U	125.5093	Adder	147.66
274659	DRESDEN ;3U	88.4181	Adder	104.02
274728	ELWOOD EC;5P	4.8763	50/50	4.8763
274730	ELWOOD EC;6P	4.8763	50/50	4.8763
274732	ELWOOD EC;7P	4.8763	50/50	4.8763
274734	ELWOOD EC;8P	4.8763	50/50	4.8763
274735	ELWOOD EC;4P	4.8495	50/50	4.8495
274736	ELWOOD EC;9P	4.8763	50/50	4.8763
274859	EASYR;U1 E	6.4864	Adder	7.63
274860	EASYR;U2 E	6.4864	Adder	7.63
274861	TOP CROP ;1U	0.8659	50/50	0.8659
274862	TOP CROP ;2U	1.6517	50/50	1.6517
276170	Z1-108 E	1.3850	Adder	1.63
290021	O50 E	20.9222	Adder	24.61
293516	O-009 E1	5.5906	Adder	6.58
293517	O-009 E2	2.8396	Adder	3.34
293518	O-009 E3	3.1272	Adder	3.68
293644	O22 E1	24.3388	50/50	24.3388
293645	O22 E2	47.2460	50/50	47.2460
293715	O-029 E	5.9770	Adder	7.03
293716	O-029 E	3.2771	Adder	3.86
293717	O-029 E	3.0120	Adder	3.54
293771	O-035 E	4.0437	Adder	4.76
294401	BSHIL;1U E	5.6583	Adder	6.66
294410	BSHIL;2U E	5.6583	Adder	6.66
294763	P-046 E	5.3938	Adder	6.35
915011	Y3-013 1	2.1346	Adder	2.51
915021	Y3-013 2	2.1346	Adder	2.51
915031	Y3-013 3	2.1346	Adder	2.51
916211	Z1-072 E	3.0601	Adder	3.6
918052	AA1-018 E OP	15.5606	Adder	18.31
919581	AA2-030 C	10.5906	Adder	12.46
920272	AA2-123 E	1.3699	Adder	1.61
924472	AB2-096 CT1	10.7623	Adder	12.66
924473	AB2-096 CT2	10.7623	Adder	12.66
924474	AB2-096 CT3	10.7623	Adder	12.66
925581	AC1-033 C	0.9265	Adder	1.09
925582	AC1-033 E	6.2029	Adder	7.3
926331	AC1-110 1	1.0124	Adder	1.19
926341	AC1-110 2	1.0124	Adder	1.19
926841	AC1-171 C O1	0.8140	Adder	0.96

926842	AC1-171 E O1	5.4369	Adder	6.4
927091	AC1-204 GEN1	18.0386	50/50	18.0386
927093	AC1-204 GEN2	18.1380	50/50	18.1380
927202	AC1-214 E O1	4.1257	Adder	4.85
927451	AC1-142A 1	3.1900	Adder	3.75
927461	AC1-142A 2	3.2145	Adder	3.78
930482	AB1-089 CT	20.8066	Adder	24.48
930483	AB1-089 ST	16.5420	Adder	19.46
930761	AB1-122 CT1	59.0166	Adder	69.43
930771	AB1-122 CT2	79.7982	Adder	93.88
933931	AD1-016 C	0.5205	Adder	0.61
933932	AD1-016 E	0.8492	Adder	1.0
934051	AD1-031 C O1	1.8812	Adder	2.21
934052	AD1-031 E O1	3.0692	Adder	3.61
934101	AD1-039 1	5.7836	Adder	6.8
934111	AD1-039 2	7.8202	Adder	9.2
934871	AD1-116 C	0.9062	Adder	1.07
934872	AD1-116 E	1.4786	Adder	1.74
934971	AD1-129 C	0.5100	Adder	0.6
934972	AD1-129 E	0.3400	Adder	0.4
935001	AD1-133 C O1	12.6271	Adder	14.86
935002	AD1-133 E O1	8.4181	Adder	9.9
936291	AD2-038 C O1	2.3512	Adder	2.77
936292	AD2-038 E O1	15.7347	Adder	18.51
936511	AD2-066 C O1	5.4794	Adder	6.45
936512	AD2-066 E O1	3.6529	Adder	4.3
936791	AD2-102 C	6.6703	Adder	7.85
936792	AD2-102 E	4.4469	Adder	5.23
937311	AD2-172 C	1.4159	Adder	1.67
937312	AD2-172 E	1.9552	Adder	2.3
937401	AD2-194 1	10.4509	Adder	12.3
937411	AD2-194 2	12.3630	50/50	12.3630
938511	AE1-070 1	14.5265	50/50	14.5265
938521	AE1-070 2	11.2347	Adder	13.22
938851	AE1-113 C O1	8.6304	Adder	10.15
938852	AE1-113 E O1	30.5988	Adder	36.0
939051	AE1-134 1	0.8230	Adder	0.97
939061	AE1-134 2	0.8230	Adder	0.97
939321	AE1-163 C O1	5.9081	Adder	6.95
939322	AE1-163 E O1	36.2923	Adder	42.7
939683	AE1-198 BAT	25.5403	50/50	25.5403
940501	AE2-035 C	1.4159	Adder	1.67
940502	AE2-035 E	1.9552	Adder	2.3
942421	AE2-255 C O1	3.2691	Adder	3.85
942422	AE2-255 E O1	9.8073	Adder	11.54
942651	AE2-281 C O1	0.8440	Adder	0.99
942652	AE2-281 E O1	5.1846	Adder	6.1
942991	AE2-321 C	4.5856	Adder	5.39
942992	AE2-321 E	2.2586	Adder	2.66
943411	AF1-012 C	7.1462	Adder	8.41
943412	AF1-012 E	4.7642	Adder	5.6
943801	AF1-048 C	2.1436	Adder	2.52
943802	AF1-048 E	1.4291	Adder	1.68

943921	AF1-060	0.6971	Adder	0.82
944041	AF1-072	1.1848	Adder	1.39
946151	AF1-280 C O1	9.2520	Adder	10.88
946152	AF1-280 E O1	4.2545	Adder	5.01
946161	AF1-281 C O1	0.2026	Adder	0.24
946162	AF1-281 E O1	1.1481	Adder	1.35
946501	AF1-314 C	2.5156	Adder	2.96
946502	AF1-314 E	11.7778	Adder	13.86
946661	AF1-330 C	1.1233	Adder	1.32
946662	AF1-330 E	0.2466	Adder	0.29
957331	AF2-027 C	1.4231	Adder	1.67
957332	AF2-027 E	2.1346	Adder	2.51
957401	AF2-034 C	1.5982	Adder	1.88
957402	AF2-034 E	1.3615	Adder	1.6
957471	AF2-041 C	12.4603	Adder	14.66
957472	AF2-041 E	6.2302	Adder	7.33
957751	AF2-069 C	0.1503	Adder	0.18
957752	AF2-069 E	0.4850	Adder	0.57
957761	AF2-070 C	0.2117	Adder	0.25
957762	AF2-070 E	1.0280	Adder	1.21
958023	AF2-096 BAT	7.3275	Merchant Transmission	7.3275
958481	AF2-142 C	10.7314	Adder	12.63
958482	AF2-142 E	7.1543	Adder	8.42
958491	AF2-143 C	10.8515	Adder	12.77
958492	AF2-143 E	7.2344	Adder	8.51
958911	AF2-182 C	12.1558	Adder	14.3
958912	AF2-182 E	8.1039	Adder	9.53
958921	AF2-183 C	2.1610	Adder	2.54
958922	AF2-183 E	3.2416	Adder	3.81
959081	AF2-199 C	4.1534	Adder	4.89
959082	AF2-199 E	2.0767	Adder	2.44
959091	AF2-200 C O1	8.3069	Adder	9.77
959092	AF2-200 E O1	4.1534	Adder	4.89
959101	AF2-201 C O1	3.4655	Adder	4.08
959102	AF2-201 E O1	9.9515	Adder	11.71
959351	AF2-226 C	5.9654	50/50	5.9654
959352	AF2-226 E	8.9481	50/50	8.9481
960281	AF2-319 C	5.9654	50/50	5.9654
960282	AF2-319 E	8.9481	50/50	8.9481
960551	AF2-346 C	3.0627	Adder	3.6
960552	AF2-346 E	2.0418	Adder	2.4
960581	AF2-349 C	12.2920	Adder	14.46
960582	AF2-349 E	8.1947	Adder	9.64
960731	AF2-364 C O1	3.3220	Adder	3.91
960732	AF2-364 E O1	2.2146	Adder	2.61
962012	AG1-044 E	0.0201	Adder	0.04
962701	AG1-119 C	6.5042	Adder	14.44
962702	AG1-119 E	4.3362	Adder	9.63
964461	AG1-309 FTIR	162.1488	Merchant Transmission	162.1488
965061	AG1-371	1.1007	Adder	2.44
965071	AG1-372	0.7338	Adder	1.63
965081	AG1-373	0.3669	Adder	0.81
965141	AG1-379 C	9.5086	Adder	21.11

965142	AG1-379 E	4.3523	Adder	9.66
965551	AG1-423 C O1	4.3697	Adder	9.7
965552	AG1-423 E O1	2.9131	Adder	6.47
965661	AG1-434 C O1	1.2832	Adder	2.85
965662	AG1-434 E O1	6.0077	Adder	13.34
965671	AG1-435 C O1	1.2773	Adder	2.84
965672	AG1-435 E O1	5.9802	Adder	13.27
990901	L-005 E	8.9864	Adder	10.57
WEC	WEC	2.5455	Confirmed LTF	2.5455
CBM-W2	CBM-W2	16.1907	Confirmed LTF	16.1907
NY	NY	0.5065	Confirmed LTF	0.5065
TVA	TVA	1.4644	Confirmed LTF	1.4644
O-066	O-066	5.9830	Confirmed LTF	5.9830
SIGE	SIGE	0.0971	Confirmed LTF	0.0971
CBM-S1	CBM-S1	0.2956	Confirmed LTF	0.2956
G-007	G-007	0.9324	Confirmed LTF	0.9324
HAMLET	HAMLET	0.1126	Confirmed LTF	0.1126
MEC	MEC	9.8613	Confirmed LTF	9.8613
GIBSON	GIBSON	0.0082	Confirmed LTF	0.0082
BLUEG	BLUEG	0.8211	Confirmed LTF	0.8211
TRIMBLE	TRIMBLE	0.2860	Confirmed LTF	0.2860
LAGN	LAGN	3.3110	Confirmed LTF	3.3110
CATAWBA	CATAWBA	0.0382	Confirmed LTF	0.0382
CBM-W1	CBM-W1	43.9527	Confirmed LTF	43.9527

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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
168452810	270771	GREENACRE; T	CE	243229	05OLIVE	AEP	1	COMED_P1-2_765-L11215__-S	single	971.0	103.59	106.92	DC	161.8

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

926341	AC1-110 2	1.0881	Adder	1.28
927451	AC1-142A 1	2.4325	Adder	2.86
927461	AC1-142A 2	2.4330	Adder	2.86
930482	AB1-089 CT	20.9316	Adder	24.63
930483	AB1-089 ST	16.6414	Adder	19.58
930501	AB1-091 CT	23.5933	Adder	27.76
930502	AB1-091 ST	18.7576	Adder	22.07
930761	AB1-122 CT1	39.3395	Adder	46.28
930771	AB1-122 CT2	42.8731	Adder	50.44
933411	AC2-154 C	1.4499	Adder	1.71
933431	AC2-156 C O1	0.5463	Adder	0.64
933911	AD1-013 C	1.0636	Adder	1.25
933931	AD1-016 C	0.5303	Adder	0.62
934101	AD1-039 1	3.8553	Adder	4.54
934111	AD1-039 2	4.2016	Adder	4.94
934701	AD1-098 C O1	3.9648	Adder	4.66
934721	AD1-100 C	11.1333	Adder	13.1
934871	AD1-116 C	0.5410	Adder	0.64
934971	AD1-129 C	0.5163	Adder	0.61
936291	AD2-038 C O1	1.3722	Adder	1.61
936371	AD2-047 C O1	2.5946	Adder	3.05
936461	AD2-060	1.5263	Adder	1.8
936511	AD2-066 C O1	4.8180	Adder	5.67
937001	AD2-134 C	1.5753	Adder	1.85
937401	AD2-194 1	4.4931	Adder	5.29
937411	AD2-194 2	4.4967	Adder	5.29
938511	AE1-070 1	5.2836	Adder	6.22
938521	AE1-070 2	4.8301	Adder	5.68
938851	AE1-113 C O1	4.7001	Adder	5.53
939321	AE1-163 C O1	3.4482	Adder	4.06
939351	AE1-166 C O1	3.1189	Adder	6.92
939631	AE1-193 C	10.9987	80/20	10.9987
939641	AE1-194 C	10.9987	80/20	10.9987
939651	AE1-195 C	10.9987	80/20	10.9987
939681	AE1-198 C	32.6575	80/20	32.6575
941131	AE2-107 C	3.7629	Adder	4.43
941551	AE2-152 C O1	3.5988	Adder	7.99
941561	AE2-153 C O1	2.7108	Adder	3.19
942421	AE2-255 C O1	1.7803	Adder	2.09
942651	AE2-281 C O1	0.4926	Adder	0.58
942991	AE2-321 C	4.6784	Adder	5.5
943121	AE2-341 C	7.2897	Adder	8.58
943591	AF1-030 C O1	4.8477	Adder	5.7
943801	AF1-048 C	2.1870	Adder	2.57
944041	AF1-072	1.2326	Adder	1.45
944911	AF1-156 C	6.9309	Adder	8.15
945351	AF1-200 FTIR	176.7398	Merchant Transmission	176.7398
946661	AF1-330 C	1.1456	Adder	1.35
946671	AF1-331	1.3812	Adder	1.62
957331	AF2-027 C	1.4297	Adder	1.68
957371	AF2-031 C O1	0.7610	80/20	0.7610
957401	AF2-034 C	0.8189	Adder	0.96
957471	AF2-041 C	12.2630	Adder	14.43

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

11.6.32 Index 32

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
162147288	274750	CRETE EC ;BP	CE	270728	E FRANKFO; B	CE	1	COMED_P2-2_900_EL-345B_10	bus	1399.0	102.89	114.8	DC	168.44

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	-1.5110	Adder	-1.78
274751	CRETE EC ;1U	6.2851	50/50	6.2851
274752	CRETE EC ;2U	6.2851	50/50	6.2851
274753	CRETE EC ;3U	6.2851	50/50	6.2851
274754	CRETE EC ;4U	6.2851	50/50	6.2851
276165	Z1-106 BAT2	0.8503	Merchant Transmission	0.8503
276166	Z1-106 BAT1	0.8503	Merchant Transmission	0.8503
276171	Z1-107 BAT	1.6616	Merchant Transmission	1.6616
276172	Z1-108 BAT	1.6966	Merchant Transmission	1.6966
276591	L-013 2	-2.0960	Adder	-2.47
920273	AA2-123 BAT	1.6616	Merchant Transmission	1.6616
939631	AE1-193 C	34.4337	50/50	34.4337
939632	AE1-193 E	230.4412	50/50	230.4412
939641	AE1-194 C	34.4337	50/50	34.4337
939642	AE1-194 E	230.4412	50/50	230.4412
939651	AE1-195 C	34.4337	50/50	34.4337
939652	AE1-195 E	230.4412	50/50	230.4412
939681	AE1-198 C	102.2417	50/50	102.2417
939682	AE1-198 E	86.8790	50/50	86.8790
943803	AF1-048 BAT	4.3342	Merchant Transmission	4.3342
943922	AF1-060 BAT	0.8215	Merchant Transmission	0.8215
953871	J847	13.5387	PJM External (MISO)	13.5387
955741	J1058	76.7940	PJM External (MISO)	76.7940
957333	AF2-027 BAT	4.3165	Merchant Transmission	4.3165
957403	AF2-034 BAT	1.9588	Merchant Transmission	1.9588
958023	AF2-096 BAT	8.6062	50/50	8.6062
959353	AF2-226 BAT	5.4995	50/50	5.4995
960283	AF2-319 BAT	5.4995	50/50	5.4995
960382	AF2-329 BAT	4.3154	Merchant Transmission	4.3154
964462	AG1-309 NFTW	168.4410	Merchant Transmission	168.4410
965062	AG1-371 BAT	3.2019	Merchant Transmission	3.2019
965072	AG1-372 BAT	2.1346	Merchant Transmission	2.1346
965082	AG1-373 BAT	1.0673	Merchant Transmission	1.0673
966083	AG1-477 BAT	0.4544	Merchant Transmission	0.4544
966093	AG1-478 BAT	0.4541	Merchant Transmission	0.4541
966103	AG1-479 BAT (Withdrawn : 12/03/2020)	0.4544	Merchant Transmission	0.4544
966443	AG1-513 BAT	0.4497	Merchant Transmission	0.4497
LGEE	LGEE	0.4002	Confirmed LTF	0.4002
CPLE	CPLE	0.3440	Confirmed LTF	0.3440
G-007A	G-007A	2.6301	Confirmed LTF	2.6301
VFT	VFT	7.0821	Confirmed LTF	7.0821

CALDERWOOD	CALDERWOOD	0.0472	Confirmed LTF	0.0472
PRAIRIE	PRAIRIE	6.2147	Confirmed LTF	6.2147
CBM-S2	CBM-S2	3.3721	Confirmed LTF	3.3721
CHEOAH	CHEOAH	0.0415	Confirmed LTF	0.0415
CBM-N	CBM-N	1.3200	Confirmed LTF	1.3200
COTTONWOOD	COTTONWOOD	3.2886	Confirmed LTF	3.2886

11.6.33 Index 33

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
168452710	274804	UNIV PK N;RP	CE	960680	AF2-359 TAP	CE	1	AEP_P1-2_#695_1681	single	971.0	130.9	134.27	DC	197.48

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

933411	AC2-154 C	1.7460	Adder	2.05
933431	AC2-156 C O1	0.6683	Adder	0.79
933911	AD1-013 C	1.2991	Adder	1.53
933931	AD1-016 C	0.6476	Adder	0.76
934101	AD1-039 1	4.7165	Adder	5.55
934111	AD1-039 2	5.0719	Adder	5.97
934701	AD1-098 C O1	4.8418	Adder	5.7
934721	AD1-100 C	13.4627	Adder	15.84
934871	AD1-116 C	0.8580	80/20	0.8580
934971	AD1-129 C	0.6304	Adder	0.74
936291	AD2-038 C O1	1.7986	Adder	2.12
936371	AD2-047 C O1	3.1244	Adder	3.68
936461	AD2-060	1.8379	Adder	2.16
936511	AD2-066 C O1	5.9456	Adder	6.99
937001	AD2-134 C	1.9237	Adder	2.26
937401	AD2-194 1	5.4830	Adder	6.45
937411	AD2-194 2	5.4800	Adder	6.45
938511	AE1-070 1	6.4389	Adder	7.58
938521	AE1-070 2	5.8942	Adder	6.93
938851	AE1-113 C O1	5.6998	Adder	6.71
939321	AE1-163 C O1	4.5194	Adder	5.32
939351	AE1-166 C O1	3.7940	Adder	8.42
941131	AE2-107 C	4.5969	Adder	5.41
941551	AE2-152 C O1	4.3776	Adder	9.72
941561	AE2-153 C O1	3.8942	80/20	3.8942
942421	AE2-255 C O1	2.1590	Adder	2.54
942651	AE2-281 C O1	0.6456	Adder	0.76
942991	AE2-321 C	5.7132	Adder	6.72
943121	AE2-341 C	8.9213	Adder	10.5
943591	AF1-030 C O1	5.9327	Adder	6.98
943801	AF1-048 C	2.6707	Adder	3.14
944041	AF1-072	1.5057	Adder	1.77
944911	AF1-156 C	9.9567	80/20	9.9567
945351	AF1-200 FTIR	215.8321	Merchant Transmission	215.8321
946661	AF1-330 C	1.3992	Adder	1.65
946671	AF1-331	1.6871	Adder	1.98
957331	AF2-027 C	1.7466	Adder	2.05
957401	AF2-034 C	0.9732	Adder	1.14
957471	AF2-041 C	14.9466	Adder	17.58
958011	AF2-095 C O1	12.4952	Adder	14.7
958021	AF2-096 C	28.2565	80/20	28.2565
958481	AF2-142 C	10.1601	80/20	10.1601
958491	AF2-143 C	8.3010	Adder	9.77
959081	AF2-199 C	4.9822	Adder	5.86
959091	AF2-200 C O1	9.9644	Adder	11.72
959351	AF2-226 C	1.7017	Adder	2.0
960281	AF2-319 C	1.7017	Adder	2.0
960381	AF2-329	4.6291	Adder	5.45
960581	AF2-349 C	15.1960	Adder	17.88
960591	AF2-350 C O1	5.5131	Adder	6.49
960601	AF2-351 C O1	0.7351	Adder	0.86
960721	AF2-363 C O1	4.1294	Adder	4.86
960731	AF2-364 C O1	4.2946	Adder	5.05

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

11.6.34 Index 34

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
169677863	924470	GARDEN PR; R	CE	270883	SILVER LK; R	CE	1	COMED_P1-2_345-L18905_B-R-B	single	1479.0	136.92	172.23	DC	520.98

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.8330	Adder	2.16
274656	BYRON ;1U	47.1816	80/20	47.1816
274657	BYRON ;2U	46.1202	80/20	46.1202
274715	NELSON EC;1C	3.3801	80/20	3.3801
274717	NELSON EC;2C	3.4063	80/20	3.4063
274760	LEE CO EC;1U	2.3883	80/20	2.3883
274761	LEE CO EC;2U	2.3883	80/20	2.3883
274762	LEE CO EC;3U	2.3883	80/20	2.3883
274763	LEE CO EC;4U	2.3658	80/20	2.3658
274764	LEE CO EC;5U	2.3939	80/20	2.3939
274765	LEE CO EC;6U	2.3939	80/20	2.3939
274766	LEE CO EC;7U	2.3601	80/20	2.3601
274767	LEE CO EC;8U	2.3601	80/20	2.3601
274822	ROCKFORD ;11	4.7229	80/20	4.7229
274823	ROCKFORD ;21	4.8469	80/20	4.8469
274824	ROCKFORD ;12	4.6818	80/20	4.6818
274856	ECOGROVE ;U1	0.6543	80/20	0.6543
274857	BIG SKY ;U1	0.4276	80/20	0.4276
274858	BIG SKY ;U2	0.4276	80/20	0.4276
276162	X1-087	0.3256	80/20	0.3256
276590	R-018	0.2553	80/20	0.2553
295110	SUBLETTE C	0.0679	80/20	0.0679
919581	AA2-030 C	16.9882	Adder	19.99
924472	AB2-096 CT1	78.2862	80/20	78.2862
924473	AB2-096 CT2	78.2862	80/20	78.2862
924474	AB2-096 CT3	78.2862	80/20	78.2862
926431	AC1-114	0.7872	80/20	0.7872
927511	AC1-113 1	0.3936	80/20	0.3936
927521	AC1-113 2	0.3936	80/20	0.3936
930482	AB1-089 CT	78.4047	80/20	78.4047
930483	AB1-089 ST	62.3348	80/20	62.3348
932881	AC2-115 1	0.7871	80/20	0.7871
932891	AC2-115 2	0.7871	80/20	0.7871
932921	AC2-116	0.2755	80/20	0.2755
933911	AD1-013 C	1.2814	Adder	1.51
933931	AD1-016 C	0.4443	Adder	0.52
934701	AD1-098 C O1	4.9381	Adder	5.81
934971	AD1-129 C	1.3325	80/20	1.3325
936791	AD2-102 C	28.4124	80/20	28.4124
937001	AD2-134 C	1.9179	Adder	2.26
937311	AD2-172 C	4.4892	80/20	4.4892

937531	AD2-214 C	3.8738	Adder	4.56
938861	AE1-114 C O1	6.1414	80/20	6.1414
939051	AE1-134 1	1.3201	Adder	1.55
939061	AE1-134 2	1.3201	Adder	1.55
940501	AE2-035 C	4.4892	80/20	4.4892
941131	AE2-107 C	3.8937	Adder	4.58
943411	AF1-012 C	9.3097	Adder	10.95
943921	AF1-060	2.2104	80/20	2.2104
946151	AF1-280 C O1	22.2748	80/20	22.2748
946161	AF1-281 C O1	0.4878	80/20	0.4878
946321	AF1-296 C O1	3.3031	Adder	3.89
946501	AF1-314 C	7.9762	80/20	7.9762
946671	AF1-331	1.6641	Adder	1.96
952431	J760	5.1186	PJM External (MISO)	5.1186
953681	J818	13.1403	PJM External (MISO)	13.1403
953901	J850	21.7525	PJM External (MISO)	21.7525
953921	J855 C	1.2775	PJM External (MISO)	1.2775
954001	J864	4.2268	PJM External (MISO)	4.2268
954061	J870	16.8860	PJM External (MISO)	16.8860
954071	J871	8.4430	PJM External (MISO)	8.4430
955221	J1000	3.7820	PJM External (MISO)	3.7820
955971	J1084	11.0760	PJM External (MISO)	11.0760
956581	J1154	6.6187	PJM External (MISO)	6.6187
956901	J1188	5.5035	PJM External (MISO)	5.5035
958911	AF2-182 C	29.2662	80/20	29.2662
958921	AF2-183 C	5.2029	80/20	5.2029
959101	AF2-201 C O1	10.9878	80/20	10.9878
960551	AF2-346 C	3.9899	Adder	4.69
960581	AF2-349 C	89.4132	80/20	89.4132
960721	AF2-363 C O1	7.7099	80/20	7.7099
960751	AF2-366 C	4.1928	Adder	4.93
961011	AF2-392 C O1	4.5764	80/20	4.5764
961021	AF2-393 O1	7.8006	80/20	7.8006
961031	AF2-394 O1	5.2004	80/20	5.2004
962701	AG1-119 C	46.0494	80/20	46.0494
962711	AG1-120 C O1	11.0882	80/20	11.0882
962781	AG1-127 C	2.5017	Adder	5.55
962791	AG1-128 C O1	2.2993	Adder	5.1
963681	AG1-220 C O1	3.3316	Adder	7.4
964461	AG1-309 FTIR	520.9803	80/20	520.9803
965661	AG1-434 C O1	1.2169	Adder	2.7
965931	AG1-462 C O1	8.1277	Adder	18.04
966521	AG1-521 C O1	10.2112	80/20	10.2112
966821	AG1-553 C O1	11.9206	Adder	26.46
WEC	WEC	0.4867	Confirmed LTF	0.4867
CBM-W2	CBM-W2	9.3632	Confirmed LTF	9.3632
NY	NY	0.2616	Confirmed LTF	0.2616
TVA	TVA	0.9814	Confirmed LTF	0.9814
SIGE	SIGE	0.0358	Confirmed LTF	0.0358
CBM-S2	CBM-S2	0.1357	Confirmed LTF	0.1357
CBM-S1	CBM-S1	0.1972	Confirmed LTF	0.1972
HAMLET	HAMLET	0.0295	Confirmed LTF	0.0295
MEC	MEC	9.6881	Confirmed LTF	9.6881

GIBSON	GIBSON	0.1048	Confirmed LTF	0.1048
BLUEG	BLUEG	0.5816	Confirmed LTF	0.5816
TRIMBLE	TRIMBLE	0.1976	Confirmed LTF	0.1976
LAGN	LAGN	2.4640	Confirmed LTF	2.4640
CATAWBA	CATAWBA	0.0003	Confirmed LTF	0.0003
CBM-W1	CBM-W1	47.1493	Confirmed LTF	47.1493

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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
169969149	957470	AF2-041 TAP	CE	270730	ELECT JCT; B	CE	1	COMED_P1-2_345-L18905_B-R-B	single	1656.0	104.67	122.06	DC	289.05

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

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
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
169969121	960680	AF2-359 TAP	CE	243229	05OLIVE	AEP	1	AEP_P1-2_#695_1681	single	971.0	128.26	142.17	DC	197.48

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

933431	AC2-156 C O1	0.6683	Adder	0.79
933911	AD1-013 C	1.2991	Adder	1.53
933931	AD1-016 C	0.6476	Adder	0.76
934101	AD1-039 1	4.7165	Adder	5.55
934111	AD1-039 2	5.0719	Adder	5.97
934701	AD1-098 C O1	4.8418	Adder	5.7
934721	AD1-100 C	13.4627	Adder	15.84
934871	AD1-116 C	0.8580	80/20	0.8580
934971	AD1-129 C	0.6304	Adder	0.74
936291	AD2-038 C O1	1.7986	Adder	2.12
936371	AD2-047 C O1	3.1244	Adder	3.68
936461	AD2-060	1.8379	Adder	2.16
936511	AD2-066 C O1	5.9456	Adder	6.99
937001	AD2-134 C	1.9237	Adder	2.26
937401	AD2-194 1	5.4830	Adder	6.45
937411	AD2-194 2	5.4800	Adder	6.45
938511	AE1-070 1	6.4389	Adder	7.58
938521	AE1-070 2	5.8942	Adder	6.93
938851	AE1-113 C O1	5.6998	Adder	6.71
939321	AE1-163 C O1	4.5194	Adder	5.32
939351	AE1-166 C O1	3.7940	Adder	8.42
941131	AE2-107 C	4.5969	Adder	5.41
941551	AE2-152 C O1	4.3776	Adder	9.72
941561	AE2-153 C O1	3.8942	80/20	3.8942
942421	AE2-255 C O1	2.1590	Adder	2.54
942651	AE2-281 C O1	0.6456	Adder	0.76
942991	AE2-321 C	5.7132	Adder	6.72
943121	AE2-341 C	8.9213	Adder	10.5
943591	AF1-030 C O1	5.9327	Adder	6.98
943801	AF1-048 C	2.6707	Adder	3.14
944041	AF1-072	1.5057	Adder	1.77
944911	AF1-156 C	9.9567	80/20	9.9567
945351	AF1-200 FTIR	215.8321	Merchant Transmission	215.8321
946661	AF1-330 C	1.3992	Adder	1.65
946671	AF1-331	1.6871	Adder	1.98
957331	AF2-027 C	1.7466	Adder	2.05
957401	AF2-034 C	0.9732	Adder	1.14
957471	AF2-041 C	14.9466	Adder	17.58
958011	AF2-095 C O1	12.4952	Adder	14.7
958021	AF2-096 C	28.2565	80/20	28.2565
958481	AF2-142 C	10.1601	80/20	10.1601
958491	AF2-143 C	8.3010	Adder	9.77
959081	AF2-199 C	4.9822	Adder	5.86
959091	AF2-200 C O1	9.9644	Adder	11.72
959351	AF2-226 C	1.7017	Adder	2.0
960281	AF2-319 C	1.7017	Adder	2.0
960381	AF2-329	4.6291	Adder	5.45
960581	AF2-349 C	15.1960	Adder	17.88
960591	AF2-350 C O1	5.5131	Adder	6.49
960601	AF2-351 C O1	0.7351	Adder	0.86
960681	AF2-359 C	64.1422	80/20	64.1422
960721	AF2-363 C O1	4.1294	Adder	4.86
960731	AF2-364 C O1	4.2946	Adder	5.05

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

11.7 Queue Dependencies

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

Queue Number	Project Name	Status
AA1-018	Powerton-Goodings Grove	In Service
AA1-146	Nelson	Active
AA2-030	Nelson	Active
AA2-123	Marengo 34kV	In Service
AB1-089	Byron-Wayne 345kV #1	Active
AB1-091	Davis Creek 345kV	Active
AB1-122	Kendall-Tazewell & Dresden-Mole Creek	Engineering and Procurement
AB2-096	Silver Lake-Cherry Valley	Active
AC1-033	Kewanee	Active
AC1-109	Aurora 345kV	In Service
AC1-110	Aurora 138kV	Active
AC1-111	Aurora 138kV	In Service
AC1-113	Rockford	Partially in Service - Under Construction
AC1-114	Rockford II	Partially in Service - Under Construction
AC1-142A	Joliet	In Service
AC1-168	Kewanee-Streator	Active
AC1-171	Powerton	Active
AC1-204	Elwood	Under Construction
AC1-214	Crescent Ridge	In Service
AC2-115	Rockford	Partially in Service - Under Construction
AC2-116	Rockford II	Partially in Service - Under Construction
AC2-154	Davis Creek 138kV	Active
AC2-156	Sandwich 34.5kV	Active
AD1-013	Twombly Road 138kV	Active
AD1-016	Marengo	Active
AD1-031	Kewanee 138 kV	Active
AD1-039	Kendall-Tazewell & Dresden-Mole Creek	Active
AD1-067	Mendota Hills	In Service
AD1-098	Dixon-McGirr	Active
AD1-100	Loretto-Wilton & Braidwood-Davis Creek	Active
AD1-116	Nevada 345 kV	Active
AD1-129	Belvidere 34 kV	Active
AD1-133	Pontiac MidPoint-Dresden	Active
AD2-038	Powerton	Active
AD2-047	Davis Creek 138 kV	Active
AD2-060	Davis Creek 138kV	Active
AD2-066	Mazon-Crescent Ridge	Active
AD2-102	Wempletown 345 kV	Active
AD2-134	Shady Oaks	Active

AD2-172	Lena 138kV	Active
AD2-194	Elwood	Active
AD2-214	Rock Falls-Garden Plains	Active
AE1-070	Elwood 345 kV	Active
AE1-113	Mole Creek 345 kV	Active
AE1-114	Maryland-Lancaster 138 kV	Active
AE1-134	Nelson 345 kV	Active
AE1-163	Powerton-Nevada 345 kV	Active
AE1-166	Loretto-Wilton & Braidwood-Davis Creek	Active
AE1-193	Crete 345 kV	Active
AE1-194	Crete 345 kV	Active
AE1-195	Crete 345 kV	Active
AE1-198	Crete 345 kV	Active
AE2-035	Lena 138 kV	Active
AE2-062	Romeoville 12 kV	Engineering and Procurement
AE2-107	Haumesser Road 138 kV	Active
AE2-152	Loretto-Wilton & Braidwood-Davis Creek	Active
AE2-153	Braidwood-Davis Creek	Active
AE2-255	Molecreek 345 kV	Active
AE2-281	Powerton-Nevada 345 kV	Active
AE2-321	Belvidere-Marengo 138 kV	Active
AE2-341	Sandwich-Plano	Active
AF1-012	Electric Junc-Nelson	Active
AF1-030	Plano-R 138 kV	Active
AF1-048	Belvidere-Marengo	Active
AF1-060	Lena 138 kV	Active
AF1-072	Rocky Road	Active
AF1-156	Braidwood-Davis Creek	Active
AF1-200	Plano 345 kV	Active
AF1-280	Nelson-Lee County	Active
AF1-281	Nelson-Lee County	Active
AF1-296	Garden Plain 138 kV	Active
AF1-314	Lena 138 kV	Active
AF1-318	Crescent Ridge-Corbin	Active
AF1-330	Marengo	Active
AF1-331	Twombly Road	Active
AF2-027	Zion Energy Center 345 kV	Active
AF2-031	River E.C.	Active
AF2-034	Kendall	Active
AF2-041	Nelson-Electric Junction 345 kV	Active
AF2-069	Crescent Ridge 138 kV	Active
AF2-070	Crescent Ridge 138 kV	Active
AF2-095	Wilmington-Davis Creek	Active
AF2-096	Braidwood-East Frankfort 345 kV	Active
AF2-128	Crescent Ridge-Corbin 138 kV	Active
AF2-142	Nevada 345 kV	Active
AF2-143	Powerton-Nevada 345 kV	Active
AF2-182	Nelson-Lee County 345 kV II	Active
AF2-183	Nelson-Lee County 345 kV	Active
AF2-199	Nelson-Electric Junction 345 kV	Active
AF2-200	Nelson-Electric Junction 345 kV	Active
AF2-201	Lena-Ecogrove 138 kV	Active
AF2-226	Katydid Road 345 kV	Active

AF2-319	Katydid Road 345 kV	Active
AF2-329	Sandwich-Plano 138 kV	Active
AF2-346	Electric Junction-Nelson 345 kV	Active
AF2-349	Garden Prairie-Silver Lake 345 kV	Active
AF2-350	Kensington 138 kV	Active
AF2-351	Kensington 138 kV	Active
AF2-359	Olive-University Park 345 kV	Active
AF2-363	Glidden 138 kV	Active
AF2-364	Wayne Red 138 kV	Active
AF2-366	Glidden-Waterman 138 kV	Active
AF2-392	Nelson-Dixon 138 kV	Active
AF2-393	Nelson-Dixon 138 kV	Active
AF2-394	Nelson-Dixon 138 kV	Active
AF2-441	Burnham 138kV	Active
AG1-005	Corbin-Crescent Ridge 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
AG1-121	Crescent Ridge 138 kV	Active
AG1-127	Glidden-Waterman 138 kV	Active
AG1-128	Shady Oaks 138 kV	Active
AG1-220	West Dekalb 138 kV	Active
AG1-298	Calumet-Burnham 345 kV	Active
AG1-309	Byron 345 kV	Active
AG1-371	Nelson-Electric Junction 345 kV	Active
AG1-372	Nelson-Electric Junction 345 kV	Active
AG1-373	Nelson-Electric Junction 345 kV	Active
AG1-379	Minonk 345 kV	Active
AG1-423	Wayne 345 kV	Active
AG1-434	Electric Junction-Nelson 345 kV	Active
AG1-435	Kewanee-Hennepin 138 kV	Active
AG1-436	Olive-University Park 345 kV	Active
AG1-447	Olive-University Park 345 kV	Active
AG1-448	Olive-University Park 345 kV	Active
AG1-462	Quad Cities-Sterling Steel 345 kV	Active
AG1-477	Grundy County 34.5 kV	Active
AG1-478	Will County 34.5 kV	Active
AG1-479	Grundy County 34.5 kV II	Withdrawn
AG1-512	University Park North 345 kV	Active
AG1-513	Aurora 138 kV	Active
AG1-521	Dixon-McGirr Road 138 kV	Active
AG1-535	Franklin Park 138 kV	Active
AG1-553	Cordova 345 kV	Active
W3-134	South Joliet 34.5kV	Under Construction
W4-082	Libertyville 12kV	In Service
X1-087	Stillman Valley	In Service
X3-005	Wildwood 12kV	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
Z1-107	Joliet 34kV	In Service

Z1-108	McHenry 34kV	In Service
J1000	MISO	MISO
J1002	MISO	MISO
J1003	MISO	MISO
J1022	MISO	MISO
J1027	MISO	MISO
J1028	MISO	MISO
J1042	MISO	MISO
J1043	MISO	MISO
J1058	MISO	MISO
J1062	MISO	MISO
J1063	MISO	MISO
J1067	MISO	MISO
J1069	MISO	MISO
J1071	MISO	MISO
J1074	MISO	MISO
J1084	MISO	MISO
J1088	MISO	MISO
J1089	MISO	MISO
J1090	MISO	MISO
J1101	MISO	MISO
J1112	MISO	MISO
J1115	MISO	MISO
J1131	MISO	MISO
J1139	MISO	MISO
J1152	MISO	MISO
J1153	MISO	MISO
J1154	MISO	MISO
J1171	MISO	MISO
J1172	MISO	MISO
J1178	MISO	MISO
J1181	MISO	MISO
J1183	MISO	MISO
J1188	MISO	MISO
J1189	MISO	MISO
J201	MISO	MISO
J246	MISO	MISO
J325	MISO	MISO
J351	MISO	MISO
J466	MISO	MISO
J474	MISO	MISO
J504	MISO	MISO
J514	MISO	MISO
J515	MISO	MISO
J530	MISO	MISO
J571	MISO	MISO
J589	MISO	MISO
J646	MISO	MISO
J701	MISO	MISO
J703	MISO	MISO
J704	MISO	MISO
J717	MISO	MISO
J728	MISO	MISO

J732	MISO	MISO
J752	MISO	MISO
J758	MISO	MISO
J760	MISO	MISO
J793	MISO	MISO
J794	MISO	MISO
J796	MISO	MISO
J799	MISO	MISO
J805	MISO	MISO
J806	MISO	MISO
J818	MISO	MISO
J826	MISO	MISO
J829	MISO	MISO
J831	MISO	MISO
J832	MISO	MISO
J833	MISO	MISO
J837	MISO	MISO
J838	MISO	MISO
J844	MISO	MISO
J845	MISO	MISO
J847	MISO	MISO
J849	MISO	MISO
J850	MISO	MISO
J855	MISO	MISO
J857	MISO	MISO
J864	MISO	MISO
J870	MISO	MISO
J871	MISO	MISO
J873	MISO	MISO
J875	MISO	MISO
J878	MISO	MISO
J883	MISO	MISO
J886	MISO	MISO
J903	MISO	MISO
J913	MISO	MISO
J928	MISO	MISO
J937	MISO	MISO
J947	MISO	MISO
J952	MISO	MISO
J959	MISO	MISO
J963	MISO	MISO
J968	MISO	MISO
J981	MISO	MISO
J984	MISO	MISO
J986	MISO	MISO
J992	MISO	MISO
J993	MISO	MISO
J996	MISO	MISO

11.8 Contingency Descriptions

Contingency Name	Contingency Definition
COMED_P1-2_765-L2315__-S	CONTINGENCY 'COMED_P1-2_765-L2315__-S' / CONTINGENCY # 452 TRIP BRANCH FROM BUS 270607 TO BUS 270630 CKT 1 / COLLINS ; 765 PLANO ; 765 END
COMED_P1-2_345-L2002__B-S-A	CONTINGENCY 'COMED_P1-2_345-L2002__B-S-A' / CONTINGENCY # 436 TRIP BRANCH FROM BUS 270670 TO BUS 270671 CKT 1 / BRAIDWOOD; B 345 BRAIDWOOD; R 345 TRIP BRANCH FROM BUS 270670 TO BUS 934730 CKT 1 / BRAIDWOOD; B 345 AD1- 100 TAP 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_P1-2_345-L0621__B-R	CONTINGENCY 'COMED_P1-2_345-L0621__B-R' / CONTINGENCY # 138 TRIP BRANCH FROM BUS 270678 TO BUS 270694 CKT 1 / BYRON ; B 345 CHERRY VA; B 345 END
AEP_P4_#2982_05DUMONT	CONTINGENCY '"AEP_P4_#2982_05DUMONT' 765_A1" / 1503 OPEN BRANCH FROM BUS 243205 TO BUS 243206 CKT 1 / 243205 05COOK 765 243206 05DUMONT 765 1 OPEN BRANCH FROM BUS 243206 TO BUS 243219 CKT 3 / 243206 05DUMONT 765 243219 05DUMONT 345 3 END
COMED_P1-2_345-L15616__-R	CONTINGENCY 'COMED_P1-2_345-L15616__-R' / CONTINGENCY # 356 TRIP BRANCH FROM BUS 270694 TO BUS 924470 CKT 1 / CHERRY VA; B 345 GARDEN PR 345 END

COMED_P1-2_345-L15502_B-R-D	CONTINGENCY 'COMED_P1-2_345-L15502_B-R-D' TRIP BRANCH FROM BUS 957470 TO BUS 270730 CKT 1 JCT; B 345 END	/ CONTINGENCY # 347 / AF2-041 TAP 345 ELECT
COMED_P1-2_345-L13821_R-R	CONTINGENCY 'COMED_P1-2_345-L13821_R-R' TRIP BRANCH FROM BUS 270883 TO BUS 270807 CKT 1 R 345 END	/ CONTINGENCY # 300 / SILVER LK; R 345 LIBERTYVI;
COMED_P2-1_111-L11120__	CONTINGENCY 'COMED_P2-1_111-L11120__' TRIP BRANCH FROM BUS 270733 TO BUS 270747 CKT 1 W407K;OT 345 END	/ CONTINGENCY # 134 / ELECT JCT;3R 345 ESS
COMED_P1-2_345-L2221__R-N	CONTINGENCY 'COMED_P1-2_345-L2221__R-N' TRIP BRANCH FROM BUS 270941 TO BUS 699432 CKT 1 345 END	/ CONTINGENCY # 446 / ZION STA ; R 345 PLS PR1
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' TRIP BRANCH FROM BUS 271390 TO BUS 271586 CKT 1 ; B 138 TRIP BRANCH FROM BUS 271560 TO BUS 272948 CKT 1 CTR 138 TRIP BRANCH FROM BUS 272948 TO BUS 271558 CKT 1 138 TRIP BRANCH FROM BUS 271560 TO BUS 272728 CKT 1 WATERMAN ; B 138 TRIP BRANCH FROM BUS 271586 TO BUS 272114 CKT 1 AURORA ; B 138 TRIP BRANCH FROM BUS 272114 TO BUS 272522 CKT 1 GRV; B 138 TRIP BRANCH FROM BUS 272522 TO BUS 271560 CKT 1 GLIDDEN ;BT 138 MOVE 100 PERCENT LOAD FROM BUS 271586 TO BUS 271587 W541 ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272522 TO BUS 272523 SUGAR GRV; R 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 AURORA ; R 138 TRIP BRANCH FROM BUS 957470 TO BUS 270730 CKT 1 JCT; B 345 END	/ CONTINGENCY # 58 / ELECT JCT; B 138 ESS W541 / GLIDDEN ;BT 138 CHI W / CHI W CTR 138 GLIDDEN ; B / GLIDDEN ;BT 138 / ESS W541 ; B 138 N / N AURORA ; B 138 SUGAR / SUGAR GRV; B 138 / ESS W541 ; B 138 ESS / SUGAR GRV; B 138 / N AURORA ; B 138 N / AF2-041 TAP 345 ELECT

COMED_P7-1_345-L16703_R-S+_345-L16704TB-S	CONTINGENCY 'COMED_P7-1_345-L16703_R-S+_345-L16704TB-S' / CONTINGENCY # 153 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 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_P1-2_345-L0622__R-R	CONTINGENCY 'COMED_P1-2_345-L0622__R-R' / CONTINGENCY # 139 TRIP BRANCH FROM BUS 270679 TO BUS 270695 CKT 1 / BYRON ; R 345 CHERRY VA; R 345 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
COMED_P2-2_900_EL-345R__3	CONTINGENCY 'COMED_P2-2_900_EL-345R__3' / CONTINGENCY # 201 DISCONNECT BUS 274757 / ELWOOD EC;1P 345 END
COMED_P2-2_111_EJ-345R__3	CONTINGENCY 'COMED_P2-2_111_EJ-345R__3' / CONTINGENCY # 103 DISCONNECT BUS 270733 / ELECT JCT;3R 345 DISCONNECT BUS 275183 / ELECT JCT;3M 138 END
COMED_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

AEP_P1-2_#695_1681	CONTINGENCY 'AEP_P1-2_#695_1681' OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 END
COMED_P1-2_765-L11215__S	CONTINGENCY 'COMED_P1-2_765-L11215__S' / CONTINGENCY # 199 TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTON ; 765 05DUMONT 765 REMOVE SHUNT 1 FROM BUS 270644 / WILTON ; 765 END
COMED_P1-2_345-L11126_B-N	CONTINGENCY 'COMED_P1-2_345-L11126_B-N' / CONTINGENCY # 197 TRIP BRANCH FROM BUS 270730 TO BUS 270916 CKT 1 / ELECT JCT; B 345 WAYNE ; B 345 TRIP BRANCH FROM BUS 270916 TO BUS 270917 CKT 1 / WAYNE ; B 345 WAYNE ; R 345 END
COMED_P2-2_116_GG-345R_2	CONTINGENCY 'COMED_P2-2_116_GG-345R_2' / CONTINGENCY # 118 DISCONNECT BUS 270769 / GOODINGS ;2R 345 END
COMED_P1-3_TR94_PLANO_R-S	CONTINGENCY 'COMED_P1-3_TR94_PLANO_R-S' / CONTINGENCY # 648 TRIP BRANCH FROM BUS 275208 TO BUS 270630 CKT 1 / PLANO ;4M 345 PLANO ; 765 TRIP BRANCH FROM BUS 275208 TO BUS 270847 CKT 1 / PLANO ;4M 345 PLANO ; R 345 TRIP BRANCH FROM BUS 275208 TO BUS 275308 CKT 1 / PLANO ;4M 345 PLANO ;4C 33 END
AEP_P1-2_#1242_1689	CONTINGENCY 'AEP_P1-2_#1242_1689' OPEN BRANCH FROM BUS 243212 TO BUS 243215 CKT 1 / 243212 05BENTON 345 243215 05COOK 345 1 END
Base Case	
COMED_P2-2_900_EL-345B_10	CONTINGENCY 'COMED_P2-2_900_EL-345B_10' / CONTINGENCY # 200 DISCONNECT BUS 274758 / ELWOOD EC;2P 345 END
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' TRIP BRANCH FROM BUS 930480 TO BUS 962700 CKT 1 TAP 345 END	/ CONTINGENCY # 141B / AB1-089 ; B 345 AG1-119
COMED_P2-1_076-L11613A_	CONTINGENCY 'COMED_P2-1_076-L11613A_' TRIP BRANCH FROM BUS 270666 TO BUS 270664 CKT 1 B 345 TRIP BRANCH FROM BUS 275181 TO BUS 270664 CKT 1 B 345 TRIP BRANCH FROM BUS 275181 TO BUS 271100 CKT 1 B 138 TRIP BRANCH FROM BUS 275181 TO BUS 275281 CKT 1 ISLA;4C 34.5 END	/ CONTINGENCY # 85 / BLUE ISL ;BT 345 BLUE ISL ; / BLUE ISL ;4M 138 BLUE ISL ; / BLUE ISL ;4M 138 BLUE ISL ; / BLUE ISL ;4M 138 BLUE
COMED_P1-2_345-L16704TB-S	CONTINGENCY 'COMED_P1-2_345-L16704TB-S' TRIP BRANCH FROM BUS 270846 TO BUS 270730 CKT 1 345 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 2 138 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 1 138 TRIP BRANCH FROM BUS 270846 TO BUS 272278 TO BUS 275354 CKT 1 PLANO;1I 138 PLANO;1C 34.5 END	/ CONTINGENCY # 378 / PLANO ; B 345 ELECT JCT; B / PLANO ; B 138 PLANO;1I / PLANO ; B 138 PLANO;1I / PLANO ; B 345
COMED_P1-2_345-L97104__R	CONTINGENCY 'COMED_P1-2_345-L97104__R' TRIP BRANCH FROM BUS 924470 TO BUS 270883 CKT 1 R 345 END	/ CONTINGENCY # 356B / GARDEN PR 345 SILVER LK;
COMED_P1-3_TR93_PLANO_B-S	CONTINGENCY 'COMED_P1-3_TR93_PLANO_B-S' TRIP BRANCH FROM BUS 275207 TO BUS 270630 CKT 1 765 TRIP BRANCH FROM BUS 275207 TO BUS 270846 CKT 1 345 TRIP BRANCH FROM BUS 275207 TO BUS 275307 CKT 1 33 END	/ CONTINGENCY # 646 / PLANO ;3M 345 PLANO ; / PLANO ;3M 345 PLANO ; B / PLANO ;3M 345 PLANO ;3C
COMED_P1-2_345-L16703_R-S	CONTINGENCY 'COMED_P1-2_345-L16703_R-S' TRIP BRANCH FROM BUS 270846 TO BUS 270847 CKT 1 345 TRIP BRANCH FROM BUS 270847 TO BUS 270733 CKT 1 JCT;3R 345 END	/ CONTINGENCY # 377 / PLANO ; B 345 PLANO ; R / PLANO ; R 345 ELECT

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

12 Short Circuit Analysis

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

13 Affected Systems

None

Attachment 1: One Line Diagram