



**Generation Interconnection
Feasibility Study Report
for
Queue Project AG1-521
DIXON-MCGIRR ROAD 138 KV
80 MW Capacity / 100 MW Energy**

January 2021

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1 Introduction

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

2 Preface

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

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

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

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

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

3 General

The Interconnection Customer (IC), has proposed a Solar generating facility located in Lee County, Illinois. The installed facilities will have a total capability of 100 MW with 80 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is October 30, 2023. This study does not imply a TO commitment to this in-service date.

Queue Number	AG1-521
Project Name	DIXON-MCGIRR ROAD 138 KV
State	Illinois
County	Lee
Transmission Owner	ComEd
MFO	100
MWE	100
MWC	80
Fuel	Solar
Basecase Study Year	2024

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

4 Point of Interconnection

4.1 Primary

AG1-521 proposes a primary Point of Interconnection with the ComEd transmission system at a new proposed 138 kV substation tapping line L10714 between ComEd's TSS 107 Dixon and TSS 169 McGirr Road substations.

4.2 Secondary

AG1-521 proposes a secondary Point of Interconnection with the ComEd transmission system at a new proposed 138 kV substation tapping line L10714 between ComEd's TSS 107 Dixon and TSS 176 Stillman Valley substations.

5 Cost Summary

The AG1-521 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$ 22,000,000
Total System Network Upgrade Costs	\$ 146,850,000
Total Costs	\$ 168,850,000

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

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

6 Transmission Owner Scope of Work

6.1 Attachment Facilities

The two generator leads for AG1-521 will interconnect to the new proposed 138 kV substation, on 138kV transmission L10714 between ComEd's TSS 107 Dixon and TSS 169 McGirr Road substations (see details in Direct Connection section below). The required Attachment Facilities are one 138 kV line MOD, one dead-end structure and one set of revenue-metering as shown in the one-line diagram.

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

6.2 Direct Connection Network Upgrades

In order to accommodate interconnection of AG1-521, a new 138 kV Interconnection Substation would need to be built looping in the 138 kV line L10714 between ComEd's TSS 107 Dixon and TSS 169 McGirr Road substations, as shown in the one-line diagram below.

The scope of work includes installation of three 138 kV circuit breakers in "breaker-and-a-half" bus configuration and tie in the Interconnection Substation to the 138 kV L10714 between ComEd's TSS 107 Dixon and TSS 169 McGirr Road substations, 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 the tie in of the Interconnection Substation to 138 kV Line 10714. The preliminary cost estimate for Direct Connection Network Upgrade is given in the following tables.

For Option to Build Direct Connection cost estimates:

Scope of Work	Cost Estimate
Installation of a new 138 kV substation as described above	N/A
Transmission line tie in work (foundations, structures, conductors)	\$3,000,000
ComEd oversight and testing	\$1,500,000
Total Cost Estimate (see notes below on cost estimate)	\$4,500,000

For ComEd building the interconnecting substation cost estimates:

Scope of Work	Cost Estimate
Installation of a new 138 kV substation as described above	\$ 15,000,000
Transmission line tie in work (foundations, structures, conductors)	\$ 3,000,000
Total Cost Estimate (see notes below on cost estimate)	\$ 18,000,000

Normally it takes about 24-months to engineer, design, procure material and construct 138 V facilities after ISA/ICSA are signed.

The total preliminary cost estimate for Non-Direct Connection work is given in the following table below:

6.3 Non-Direct Connection Cost Estimate

Scope of Work	Cost Estimate
Relay/communications/SCADA upgrades at TSS 107 Dixon	\$1,000,000
Relay/communications/SCADA upgrades at TSS 169 McGirr Road	\$1,000,000
Total Cost Estimate (see notes below on cost estimate)	\$2,000,000

6.4 Notes on Cost Estimate:

- 1) These estimates are Order-of-Magnitude estimates of the costs that ComEd would bill to the customer for this interconnection. These estimates are based on a one-line electrical diagram of the project and the information provided by the 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 generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Section 8 of Attachment O.

10.2 Meteorological Data Reporting Requirements

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

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

10.3 Interconnected Transmission Owner Requirements

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

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

11 Summer Peak - Load Flow Analysis - Primary POI

The Queue Project AG1-521 was evaluated as a 100.0 MW (Capacity 80.0 MW) injection tapping the Dixon to McGirr Road 138 kV line in the ComEd area. Project AG1-521 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-521 was studied with a commercial probability of 53%. Potential network impacts were as follows:

11.1 Generation Deliverability

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

None

11.2 Multiple Facility Contingency

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

None

11.3 Contribution to Previously Identified Overloads

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC/D C	MW IMPA CT
162385569	271428	ESS H452 ;RT	138.0	CE	272730	WATERMAN ;3B	138.0	CE	1	COMED_P2-2_107_DX-138R_23	bus	538.0	154.04	165.79	DC	63.2
163050631	271428	ESS H452 ;RT	138.0	CE	272730	WATERMAN ;3B	138.0	CE	1	COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-A	tower	538.0	154.04	165.78	DC	63.2
162526410	271560	GLIDDEN ;BT	138.0	CE	272522	SUGAR GRV; B	138.0	CE	1	COMED_P4_167-38-L14609_	breaker	538.0	126.45	128.6	DC	11.57
162385564	271680	HAUMESSER; B	138.0	CE	272756	W DEKALB ;3T	138.0	CE	1	COMED_P2-2_107_DX-138R_23	bus	471.0	154.03	167.45	DC	63.2
162526321	271680	HAUMESSER; B	138.0	CE	272756	W DEKALB ;3T	138.0	CE	1	COMED_P4_107-38-L15508_	breaker	471.0	154.09	167.51	DC	63.2
163050626	271680	HAUMESSER; B	138.0	CE	272756	W DEKALB ;3T	138.0	CE	1	COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-A	tower	471.0	154.05	167.46	DC	63.2
162272288	271835	KEWANEE ;23	138.0	CE	348962	4KEEMIN	138.0	AMIL	1	COMED_P2-2_074_KE-138_1	bus	223.0	120.13	120.79	DC	2.78
162526336	272002	MCGIRR RD;	138.0	CE	272365	ESS H440 ;RT	138.0	CE	1	COMED_P4_155-45-BT2-34_	breaker	449.0	155.38	160.45	DC	22.79
162526337	272002	MCGIRR RD;	138.0	CE	272365	ESS H440 ;RT	138.0	CE	1	COMED_P4_155-45-BT34-5_	breaker	449.0	154.86	159.89	DC	22.56

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 PROJECTIONS LOADIN G %	POST PROJECTIONS LOADIN G %	AC/D C	MW IMPACT
162385601	272027	MONTGOMER ;RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P2-2_167_PL-138B_2	bus	275.0	144.18	145.23	DC	6.42
162526351	272027	MONTGOMER ;RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P4_167-38-TR81	breaker	264.0	150.12	151.22	DC	6.43
162526352	272027	MONTGOMER ;RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P4_167-38-L14302	breaker	275.0	136.78	137.89	DC	6.76
163050694	272444	SANDWICH ; B	138.0	CE	943120	AE2-341 TAP	138.0	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	tower	498.0	125.98	128.55	DC	12.79
162385651	272445	SANDWICH ; R	138.0	CE	272444	SANDWICH ; B	138.0	CE	1	COMED_P2-2_111_EJ-138B_2	bus	498.0	119.24	121.64	DC	11.97
162526385	272445	SANDWICH ; R	138.0	CE	272444	SANDWICH ; B	138.0	CE	1	COMED_P4_111-38-TR82	breaker	449.0	132.25	134.92	DC	11.97
162526386	272445	SANDWICH ; R	138.0	CE	272444	SANDWICH ; B	138.0	CE	1	COMED_P4_111-38-L11106	breaker	498.0	119.24	121.64	DC	11.97
163050679	272445	SANDWICH ; R	138.0	CE	272444	SANDWICH ; B	138.0	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	tower	498.0	128.69	131.26	DC	12.79
162526401	272522	SUGAR GRV; B	138.0	CE	272114	N AURORA ; B	138.0	CE	1	COMED_P4_167-38-L14609	breaker	498.0	126.0	128.32	DC	11.57
162385549	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	COMED_P2-2_111_EJ-138B_2	bus	331.0	185.22	188.84	DC	11.97
162526274	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	COMED_P4_111-38-TR82	breaker	309.0	198.41	202.28	DC	11.97
162526275	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	COMED_P4_111-38-L11106	breaker	331.0	185.22	188.84	DC	11.97
163050605	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	tower	331.0	199.4	203.26	DC	12.79
162385591	272803	W PLANO ; R	138.0	CE	272251	PLANO; R	138.0	CE	1	COMED_P2-2_111_EJ-138B_2	bus	498.0	152.78	155.18	DC	11.97
162526309	272803	W PLANO ; R	138.0	CE	272251	PLANO; R	138.0	CE	1	COMED_P4_111-38-TR82	breaker	449.0	169.45	172.12	DC	11.97
162526310	272803	W PLANO ; R	138.0	CE	272251	PLANO; R	138.0	CE	1	COMED_P4_113-38-L11106	breaker	498.0	153.04	155.44	DC	11.97
163050636	272803	W PLANO ; R	138.0	CE	272251	PLANO; R	138.0	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	tower	498.0	162.21	164.78	DC	12.79
162385576	943120	AE2-341 TAP	138.0	CE	272803	W PLANO ; R	138.0	CE	1	COMED_P2-2_111_EJ-138B_2	bus	498.0	159.8	162.21	DC	11.97
162526294	943120	AE2-341 TAP	138.0	CE	272803	W PLANO ; R	138.0	CE	1	COMED_P4_111-38-TR82	breaker	449.0	177.24	179.91	DC	11.97
162526295	943120	AE2-341 TAP	138.0	CE	272803	W PLANO ; R	138.0	CE	1	COMED_P4_113-38-L11106	breaker	498.0	160.07	162.47	DC	11.97

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
163050621	943120	AE2-341 TAP	138.0	CE	272803	W PLANO ; R	138.0	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	tower	498.0	169.24	171.81	DC	12.79
162272507	946150	AF1-280 TAP	345.0	CE	274768	LEE CO EC;BP	345.0	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	tower	1768.0	121.8	122.96	DC	20.43
162272508	946150	AF1-280 TAP	345.0	CE	274768	LEE CO EC;BP	345.0	CE	1	COMED_P7-1_345-L15502_B-R+_345-L16703_R-S-A	tower	1768.0	121.78	122.9	DC	19.81

11.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
168569694	270828	NELSON ; B	345.0	CE	946150	AF1-280 TAP	345.0	CE	1	COMED_P1-2_345-L15502_B-R-D	operation	1479.0	128.92	130.26	DC	19.93
168569741	270828	NELSON ; B	345.0	CE	943410	AF1-012 TAP	345.0	CE	1	COMED_P1-2_345-L18905_B-R-B	operation	1656.0	129.19	129.67	DC	17.5
168569743	270828	NELSON ; B	345.0	CE	943410	AF1-012 TAP	345.0	CE	1	Base Case	operation	1334.0	125.18	125.72	DC	15.66
168569935	270916	WAYNE ; B	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	COMED_P1-2_345-L15502_B-R-D	operation	1479.0	99.75	100.0	DC	8.39
162707020	271428	ESS H452 ;RT	138.0	CE	272730	WATERMAN ;3B	138.0	CE	1	Base Case	operation	376.0	177.99	181.64	DC	13.73
162707021	271428	ESS H452 ;RT	138.0	CE	272730	WATERMAN ;3B	138.0	CE	1	COMED_P1-2_138-L8315_R-R	operation	483.0	170.2	174.19	DC	19.3

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/D C	MW IMPACT
162707030	271499	FREEPORT ;RT	138.0	CE	272599	ESS B427 ;4T	138.0	CE	1	COMED_P1-2_138-L17121_R-R	operation	181.0	179.25	180.51	DC	5.05
162707031	271499	FREEPORT ;RT	138.0	CE	272599	ESS B427 ;4T	138.0	CE	1	COMED_P2-1_119-L17121	operation	181.0	179.25	180.51	DC	5.05
162707110	271560	GLIDDEN ;BT	138.0	CE	272522	SUGAR GRV; B	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	483.0	140.76	143.15	DC	11.57
162707115	271560	GLIDDEN ;BT	138.0	CE	272522	SUGAR GRV; B	138.0	CE	1	Base Case	operation	376.0	113.4	114.36	DC	7.96
162707169	271560	GLIDDEN ;BT	138.0	CE	272728	WATERMAN ; B	138.0	CE	1	COMED_P2-1_113-L11323	operation	321.0	117.98	118.98	DC	7.18
162707209	271581	ESS B200 ; R	138.0	CE	271193	CHERRY VA; R	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	449.0	102.89	103.64	DC	7.43
162707200	271586	ESS W541 ; B	138.0	CE	271390	ELECT JCT; B	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	449.0	103.54	105.84	DC	10.31
162707055	271680	HAUMESSE R; B	138.0	CE	272756	W DEKALB ;3T	138.0	CE	1	COMED_P1-2_138-L8315_R-R	operation	452.0	168.98	173.25	DC	19.3
162707060	271680	HAUMESSE R; B	138.0	CE	272756	W DEKALB ;3T	138.0	CE	1	Base Case	operation	438.0	134.57	137.71	DC	13.73
168569908	271835	KEWANEE ;23	138.0	CE	348962	4KEEMIN	138.0	AMIL	1	COMED_P1-2_138-L7405_R-S	operation	223.0	104.36	105.14	DC	3.28
162707186	271897	LANCASTER ; R	138.0	CE	271499	FREEPORT ;RT	138.0	CE	1	COMED_P2-1_119-L17121	operation	317.0	111.27	111.99	DC	5.02
162707187	271897	LANCASTER ; R	138.0	CE	271499	FREEPORT ;RT	138.0	CE	1	COMED_P1-2_138-L17121_R-R	operation	317.0	111.27	111.99	DC	5.02
162707090	271898	LANCASTER ;BT	138.0	CE	271897	LANCASTER ; R	138.0	CE	1	COMED_P1-2_138-L11904_B-R-A	operation	321.0	154.73	155.68	DC	6.71
162707025	272002	MCGIRR RD;	138.0	CE	272365	ESS H440 ;RT	138.0	CE	1	Base Case	operation	351.0	175.54	181.64	DC	21.41
162707026	272002	MCGIRR RD;	138.0	CE	272365	ESS H440 ;RT	138.0	CE	1	COMED_P1-2_345-L15502_B-R-A	operation	449.0	151.17	156.13	DC	22.29
162707195	272114	N AURORA ; B	138.0	CE	271586	ESS W541 ; B	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	449.0	105.19	107.49	DC	10.31

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 PROJECTIONS T LOADING %	POST PROJECTIONS T LOADING %	AC/D C	MW IMPACT
162706986	272362	ESS H445 ;3B	138.0	CE	272757	W DEKALB ;7T	138.0	CE	1	COMED_P2-1_094-L11323	operation	298.0	199.97	205.35	DC	16.04
162707185	272362	ESS H445 ;3B	138.0	CE	272516	STEWARDS ; B	138.0	CE	1	COMED_P2-1_186-L16914	operation	196.699996948	112.36	114.29	DC	8.45
162706953	272363	ESS H440 ; R	138.0	CE	272364	ESS H440N ;R	138.0	CE	1	COMED_P2-1_186-L16914	operation	196.699996948	240.16	249.17	DC	17.73
162706959	272364	ESS H440N ;R	138.0	CE	272362	ESS H445 ;3B	138.0	CE	1	COMED_P2-1_186-L16914	operation	196.699996948	238.34	247.35	DC	17.73
162706946	272365	ESS H440 ;RT	138.0	CE	272363	ESS H440 ; R	138.0	CE	1	COMED_P2-1_186-L16914	operation	196.699996948	262.33	271.34	DC	17.73
162707131	272365	ESS H440 ;RT	138.0	CE	272516	STEWARDS ; B	138.0	CE	1	COMED_P1-2_138-L10714_R-R-A	operation	449.0	117.56	134.34	DC	75.38
162707132	272365	ESS H440 ;RT	138.0	CE	272516	STEWARDS ; B	138.0	CE	1	Base Case	operation	351.0	126.42	131.05	DC	16.25
162707149	272444	SANDWICH ; B	138.0	CE	943120	AE2-341 TAP	138.0	CE	1	COMED_P1-2_138-L11106_B-R-A	operation	449.0	123.41	126.07	DC	11.96
162707151	272444	SANDWICH ; B	138.0	CE	943120	AE2-341 TAP	138.0	CE	1	Base Case	operation	351.0	110.27	111.38	DC	8.66
162707136	272445	SANDWICH ; R	138.0	CE	272444	SANDWICH ; B	138.0	CE	1	COMED_P1-2_138-L11106_B-R-A	operation	449.0	131.2	133.86	DC	11.96
162707138	272445	SANDWICH ; R	138.0	CE	272444	SANDWICH ; B	138.0	CE	1	Base Case	operation	351.0	114.12	115.23	DC	8.66
162707102	272516	STEWARDS ; B	138.0	CE	272362	ESS H445 ;3B	138.0	CE	1	COMED_P2-1_094-L11323	operation	196.699996948	145.08	146.69	DC	7.02
162707154	272516	STEWARDS ; B	138.0	CE	271680	HAUMESSER ; B	138.0	CE	1	COMED_P1-2_138-L8315_R-R	operation	449.0	120.06	124.36	DC	19.32
162707156	272516	STEWARDS ; B	138.0	CE	271680	HAUMESSER ; B	138.0	CE	1	Base Case	operation	351.0	107.43	111.35	DC	13.75
162707066	272522	SUGAR GRV ; B	138.0	CE	272114	N AURORA ; B	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	374.0	167.69	170.78	DC	11.57
162707071	272522	SUGAR GRV ; B	138.0	CE	272114	N AURORA ; B	138.0	CE	1	Base Case	operation	330.0	113.24	114.33	DC	7.96
162706995	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	COMED_P1-2_138-L11106_B-R-A	operation	309.0	196.86	200.73	DC	11.96
162706997	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	Base Case	operation	238.0	176.84	178.48	DC	8.66

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 PROJECTIONS LOAD %	POST PROJECTIONS LOAD %	ACDC	MW IMPACT
162707011	272728	WATERMAN ; B	138.0	CE	271560	GLIDDEN ; BT	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	321.0	184.47	185.86	DC	9.96
162707016	272728	WATERMAN ; B	138.0	CE	271560	GLIDDEN ; BT	138.0	CE	1	Base Case	operation	292.0	101.52	102.38	DC	5.6
162707000	272730	WATERMAN ; 3B	138.0	CE	272728	WATERMAN ; B	138.0	CE	1	COMED_P1-2_138-L10714_R-R-A	operation	507.0	177.16	189.21	DC	61.11
162707005	272730	WATERMAN ; 3B	138.0	CE	272728	WATERMAN ; B	138.0	CE	1	Base Case	operation	487.0	149.9	152.83	DC	14.26
162707164	272730	WATERMAN ; 3B	138.0	CE	960750	AF2-366 TAP	138.0	CE	1	COMED_P2-1_113-L11323	operation	480.0	118.67	121.05	DC	11.44
162707006	272756	W DEKALB ; 3T	138.0	CE	271428	ESS H452 ; RT	138.0	CE	1	COMED_P1-2_138-L8315_R-R	operation	452.0	181.87	186.14	DC	19.3
162707007	272756	W DEKALB ; 3T	138.0	CE	271428	ESS H452 ; RT	138.0	CE	1	Base Case	operation	376.0	178.02	181.67	DC	13.73
162706980	272757	W DEKALB ; 7T	138.0	CE	271558	GLIDDEN ; B	138.0	CE	1	COMED_P2-1_094-L11323	operation	264.0	216.03	222.1	DC	16.04
162706985	272757	W DEKALB ; 7T	138.0	CE	271558	GLIDDEN ; B	138.0	CE	1	Base Case	operation	208.0	99.13	100.79	DC	7.66
162707061	272803	W PLANO ; R	138.0	CE	272251	PLANO ; R	138.0	CE	1	COMED_P1-2_138-L11106_B-R-A	operation	449.0	168.65	171.32	DC	11.96
162707062	272803	W PLANO ; R	138.0	CE	272251	PLANO ; R	138.0	CE	1	Base Case	operation	351.0	164.91	166.03	DC	8.66
162706991	272948	CHI W CTR	138.0	CE	271560	GLIDDEN ; BT	138.0	CE	1	COMED_P2-1_113-L11323	operation	386.0	198.04	201.74	DC	14.29
168569682	274768	LEE CO EC; BP	345.0	CE	270678	BYRON ; B	345.0	CE	1	COMED_P1-2_345-L15502_B-R-D	operation	1726.0	139.51	140.02	DC	19.56
162707079	934700	AD1-098 TAP	138.0	CE	966520	AG1-521 TAP	138.0	CE	1	Base Case	operation	351.0	103.59	106.65	DC	10.72
162707038	943120	AE2-341 TAP	138.0	CE	272803	W PLANO ; R	138.0	CE	1	COMED_P1-2_138-L11106_B-R-A	operation	449.0	176.45	179.11	DC	11.96
162707039	943120	AE2-341 TAP	138.0	CE	272803	W PLANO ; R	138.0	CE	1	Base Case	operation	351.0	174.89	176.0	DC	8.66
169799074	943410	AF1-012 TAP	345.0	CE	965660	AG1-434 TAP	345.0	CE	1	Base Case	operation	1334.0	137.56	138.09	DC	15.66
169799075	943410	AF1-012 TAP	345.0	CE	965660	AG1-434 TAP	345.0	CE	1	COMED_P1-2_345-L18905_B-R-A	operation	1656.0	136.83	137.31	DC	17.5
168569638	946150	AF1-280 TAP	345.0	CE	274768	LEE CO EC; BP	345.0	CE	1	COMED_P1-2_345-L15502_B-R-D	operation	1479.0	145.1	146.45	DC	19.93

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/D C	MW IMPACT
168569640	946150	AF1-280 TAP	345.0	CE	274768	LEE CO EC;BP	345.0	CE	1	Base Case	operation	1201.0	108.78	109.87	DC	13.18
170075877	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	Base Case	operation	1334.0	156.75	157.28	DC	15.66
170075878	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	COMED_P1-2_345-L18905_B-R-B	operation	1656.0	152.03	152.5	DC	17.5
162707121	960750	AF2-366 TAP	138.0	CE	272948	CHI W CTR	138.0	CE	1	COMED_P2-1_113-L11323	operation	480.0	135.28	137.66	DC	11.44
162707216	961010	AF2-392 TAP	138.0	CE	272094	NELSON ; B	138.0	CE	1	COMED_P1-2_138-L16914_R-R	operation	440.0	92.86	100.41	DC	33.21
162707217	961010	AF2-392 TAP	138.0	CE	272094	NELSON ; B	138.0	CE	1	COMED_P2-1_169-L16914	operation	440.0	92.86	100.41	DC	33.21
170075896	965660	AG1-434 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	Base Case	operation	1334.0	144.94	145.47	DC	15.66
170075897	965660	AG1-434 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	COMED_P1-2_345-L18905_B-R-A	operation	1656.0	142.54	143.02	DC	17.5
162707033	966520	AG1-521 TAP	138.0	CE	271333	DIXON ; R	138.0	CE	1	COMED_P2-1_169-L16914	operation	449.0	158.2	180.47	DC	99.98
162707034	966520	AG1-521 TAP	138.0	CE	271333	DIXON ; R	138.0	CE	1	COMED_P1-2_138-L16914_R-R	operation	449.0	158.2	180.47	DC	99.98
162707037	966520	AG1-521 TAP	138.0	CE	271333	DIXON ; R	138.0	CE	1	Base Case	operation	351.0	103.45	125.83	DC	78.57

11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
162385564,163 050626,162526 321	3	HAUMESSER; B 138.0 kV - W DEKALB ;3T 138.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L11323 (1452) : The post contingency flow for this event exceeds the rating therefore an upgrade is required. The upgrade will be to reconductor the line. Potential tower replacement may be required due to the increase in conductor to address this post flow overload. A preliminary estimate for this upgrade is \$2.3M (Note- this estimate does not include tower replacement which is very possible. This detail will be determined during the Facility Study Phase). A preliminary construction timeline of 30 months is subject to potential tower replacements unknown at this time. Upon completion of this upgrade the new ratings will be 487/534/612/722/830 MVA (SN/SSTE/SLTE/SLD/ALDR). Project Type : FAC Cost : \$2,300,000 Time Estimate : 30.0 Months	\$2,300,000
163050631,162 385569	1	ESS H452 ;RT 138.0 kV - WATERMAN ;3B 138.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L11323_1 (1453) : The post contingency flow for this event exceeds the rating therefore an upgrade is required. The upgrade will be to reconductor the line. Potential tower replacement may be required due to the increase in conductor to address this post flow overload. A preliminary estimate for this upgrade is \$4.6M (Note- this estimate does not include tower replacement which is very possible. This detail will be determined during the Facility Study Phase). A preliminary construction timeline of 30-36 months is subject to potential tower replacements unknown at this time. Upon completion of this upgrade the new ratings will be 533/690/735/834/959 MVA (SN/SSTE/SLTE/SLD/ALDR). Project Type : FAC Cost : \$5,400,000 Time Estimate : 30-36 Months	\$5,400,000
162526410	2	GLIDDEN ;BT 138.0 kV - SUGAR GRV; B 138.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L14609_1 (1451) : The post contingency flow exceeds the rating of the line ALDR rating. The resolution will be a new 138kV line from TSS 167 Plano to AE2-341 Interconnection Substation. Convert TSS 167 Plano 138kV bus to a breaker and 1/2 bus configuration, install ~3.5 miles of new 138kV conductor and towers from AE2-341 to TSS 167 Plano, expand AE2-341 Interconnection substation for new line. A preliminary estimate for this project is \$34M, which assumes land availability for the station expansions and new 138kV easement requirements. If the assumptions are not valid then additional costs will be incurred. The Facility Study Phase will provide more details. A minimum construction timeline of 48	\$75,000,000

ID	Idx	Facility	Upgrade Description	Cost
162526401	9	SUGAR GRV; B 138.0 kV - N AURORA ; B 138.0 kV Ckt 1	months pending prior assumptions being valid. This upgrade does not change the ratings of the overloaded line rather it addresses the post contingency flow. Project Type : CON Cost : \$34,000,000 Time Estimate : 30.0 Months CE_NUN_L14609_NEW LINE (1455) : The post contingency flow exceeds the rating of the line ALDR rating. The resolution will be a new 138kV line from TSS 146 Sandwich to AE2-341 Interconnection Substation. Convert TSS 146 Sandwich to a breaker and 1/2 configuration, install ~6.3 miles of new 138kV conductor and towers from TSS 146 Sandwich to AE2-341 station, expand AE2-341 Interconnection substation for new line. A preliminary estimate for this project is \$41M, which assumes land availability for the station expansions and new 138kV easement requirements. If the assumptions are not valid then additional costs will be incurred. The Facility Study Phase will provide more details. A minimum construction timeline of 48 months pending prior assumptions being valid. This upgrade does not change the ratings of the overloaded line rather it addresses the post contingency flow. Project Type : CON Cost : \$41,000,000 Time Estimate : 48.0 Months	
162385576,162 526294,162526 295,163050621	12	AE2-341 TAP 138.0 kV - W PLANO ; R 138.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L14609_1 (1451) : The post contingency flow exceeds the rating of the line ALDR rating. The resolution will be a new 138kV line from TSS 167 Plano to AE2-341 Interconnection Substation. Convert TSS 167 Plano 138kV bus to a breaker and 1/2 bus configuration, install ~3.5 miles of new 138kV conductor and towers from AE2-341 to TSS 167 Plano, expand AE2-341 Interconnection substation for new line. A preliminary estimate for this project is \$34M, which assumes land availability for the station expansions and new 138kV easement requirements. If the assumptions are not valid then additional costs will be incurred. The Facility Study Phase will provide more details. A minimum construction timeline of 48 months pending prior assumptions being valid. This upgrade does not change the ratings of the overloaded line rather it addresses the post contingency flow. Project Type : CON Cost : \$34,000,000 Time Estimate : 30.0 Months	\$34,000,000
162385591,162 526310,162526 309,163050636	11	W PLANO ; R 138.0 kV - PLANO; R 138.0 kV Ckt 1		

ID	Idx	Facility	Upgrade Description	Cost
163050694	7	SANDWICH ; B 138.0 kV - AE2-341 TAP 138.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L14609_NEW LINE (1455) : The post contingency flow exceeds the rating of the line ALDR rating. The resolution will be a new 138kV line from TSS 146 Sandwich to AE2-341 Interconnection Substation. Convert TSS 146 Sandwich to a breaker and 1/2 configuration, install ~6.3 miles of new 138kV conductor and towers from TSS 146 Sandwich to AE2-341 station, expand AE2-341 Interconnection substation for new line. A preliminary estimate for this project is \$41M, which assumes land availability for the station expansions and new 138kV easement requirements. If the assumptions are not valid then additional costs will be incurred. The Facility Study Phase will provide more details. A minimum construction timeline of 48 months pending prior assumptions being valid. This upgrade does not change the ratings of the overloaded line rather it addresses the post contingency flow. Project Type : CON Cost : \$41,000,000 Time Estimate : 48.0 Months	\$41,000,000
162526337,162526336	5	MCGIRR RD; 138.0 kV - ESS H440 ;RT 138.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L16914_1 (1402) : Re-conductor the line, possible tower replacement is require and will be determined during the Facility Study phase. A preliminary estimate for the re-conductor work (no including potential tower work) is \$750K. An estimated construction timeline of 24-30 months not including tower work. Upon completion of the upgrade the ratings will be 487/534/612/772/887 MVA (SN/SLTE/SSTE/SLD/ALDR). Project Type : FAC Cost : \$750,000 Time Estimate : 24-30 Months	\$750,000
162526385,162526386,163050679,162385651	8	SANDWICH ; R 138.0 kV - SANDWICH ; B 138.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L11301_Z1 (1444) : The upgrade will be to re-conductor the line segment. A preliminary estimate for the upgrade is \$600K. A preliminary estimate is 30 months. Upon completion of the upgrade the ratings will be 487/534/612/722 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$600,000 Time Estimate : 30.0 Months	\$600,000

ID	Idx	Facility	Upgrade Description	Cost
162385549,163 050605,162526 274,162526275	10	WATERMAN ; B 138.0 kV - SANDWICH ; R 138.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L11301 (1387) : The upgrade will be to construct a new 138kV line that parallels the overloaded 138kV line. A preliminary estimate for the upgrade is \$50M. A preliminary estimate is 48 months subject to land availability for the new line and station expansion at the two substations. Note that the upgrade includes conductor work. The preliminary estimate does not include possible tower replacement/upgrades. These unknown costs will add to the estimate. This upgrade addresses the contingencies and does not change the line ratings. Project Type : CON Cost : \$50,000,000 Time Estimate : 48.0 Months S1552 (1456) : PJM model appears to not have the PJM Supplemental Upgrade-S1552-Expand Glidden substation from a straight bus to a ring bus. Based on this upgrade the contingency would be invalid. Project Type : CON	\$50,000,000
162272508,162 272507	13	AF1-280 TAP 345.0 kV - LEE CO EC;BP 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
162272288	4	KEWANEE ;23 138.0 kV - 4KEEMIN 138.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L7411 (1438) : Mitigate sag on the line. A preliminary estimate is \$2.8M with a construction timeline of 30 months. Upon completion the limit rating swill be 210/268/269/280/322 MVA (SN/SLTE/SSTE/SLD/ALDR). Project Type : FAC Cost : \$2,800,000 Time Estimate : 30.0 Months	\$2,800,000
162385601,162 526351,162526 352	6	MONTGOMER;R T 138.0 kV - OSWEGO ; R 138.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L14304 (1439) : Re-conductor the line. A preliminary estimate is \$1.5M with a construction timeline of 30 months. Upon completion the limit rating swill be 351/449/459/498 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$1,500,000 Time Estimate : 30.0 Months	\$1,500,000
			TOTAL COST	\$146,850,000

11.6 Flow Gate Details - Primary POI

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

11.6.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
163050631	271428	ESS H452 ;RT	CE	272730	WATERMAN ;3B	CE	1	COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-A	tower	538.0	154.04	165.78	DC	63.2

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	12.2720	50/50	12.2720
274850	MENDOTA H;RU	1.3261	50/50	1.3261
274855	GSG-6 ;RU	2.1836	50/50	2.1836
274872	LEE DEKAL;1U	5.2455	50/50	5.2455
290051	GSG-6; E	55.3614	50/50	55.3614
290108	LEEDK;1U E	166.2400	50/50	166.2400
295108	WESTBROOK C	0.7079	50/50	0.7079
295109	WESTBROOK E	29.6399	50/50	29.6399
916221	Z1-073 E	28.7551	50/50	28.7551
933911	AD1-013 C	8.0553	50/50	8.0553
933912	AD1-013 E	12.8675	50/50	12.8675
934431	AD1-067 C	0.1097	50/50	0.1097
934432	AD1-067 E	2.9229	50/50	2.9229
934701	AD1-098 C O1	36.5284	50/50	36.5284
934702	AD1-098 E O1	26.6696	50/50	26.6696
937001	AD2-134 C	14.4723	50/50	14.4723
937002	AD2-134 E	59.7853	50/50	59.7853
941131	AE2-107 C	44.8848	50/50	44.8848
941132	AE2-107 E	29.9232	50/50	29.9232
946671	AF1-331	10.4614	50/50	10.4614
962791	AG1-128 C O1	32.7366	50/50	32.7366
962792	AG1-128 E O1	153.1920	50/50	153.1920
963681	AG1-220 C O1	78.5772	50/50	78.5772
963682	AG1-220 E O1	52.3848	50/50	52.3848
966521	AG1-521 C O1	50.5592	50/50	50.5592
966522	AG1-521 E O1	12.6398	50/50	12.6398
WEC	WEC	0.0306	Confirmed LTF	0.0306
CALDERWOOD	CALDERWOOD	0.0134	Confirmed LTF	0.0134
NY	NY	0.0227	Confirmed LTF	0.0227
PRAIRIE	PRAIRIE	0.0181	Confirmed LTF	0.0181
O-066	O-066	0.2692	Confirmed LTF	0.2692
SIGE	SIGE	0.0006	Confirmed LTF	0.0006
CHEOAH	CHEOAH	0.0140	Confirmed LTF	0.0140
COTTONWOOD	COTTONWOOD	0.0147	Confirmed LTF	0.0147
G-007	G-007	0.0420	Confirmed LTF	0.0420
HAMLET	HAMLET	0.0191	Confirmed LTF	0.0191
MEC	MEC	0.1224	Confirmed LTF	0.1224
GIBSON	GIBSON	0.0191	Confirmed LTF	0.0191
BLUEG	BLUEG	0.0660	Confirmed LTF	0.0660

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
TRIMBLE	TRIMBLE	0.0217	Confirmed LTF	0.0217
CATAWBA	CATAWBA	0.0112	Confirmed LTF	0.0112
CBM-W1	CBM-W1	0.6309	Confirmed LTF	0.6309

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
162526410	271560	GLIDDEN ;BT	CE	272522	SUGAR GRV; B	CE	1	COMED_P4_167-38-L14609_	breaker	538.0	126.45	128.6	DC	11.57

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	6.8702	50/50	6.8702
274850	MENDOTA H;RU	0.6310	50/50	0.6310
274855	GSG-6 ;RU	1.0390	50/50	1.0390
274872	LEE DEKAL;1U	2.3058	50/50	2.3058
290051	GSG-6; E	26.3413	50/50	26.3413
290108	LEEDK;1U E	73.0740	50/50	73.0740
295108	WESTBROOK C	0.3368	50/50	0.3368
295109	WESTBROOK E	14.1028	50/50	14.1028
295111	SUBLETTE E	1.3899	Adder	1.64
916221	Z1-073 E	13.6819	50/50	13.6819
933431	AC2-156 C O1	3.0693	50/50	3.0693
933432	AC2-156 E O1	5.0079	50/50	5.0079
933911	AD1-013 C	4.8813	50/50	4.8813
933912	AD1-013 E	7.7975	50/50	7.7975
934431	AD1-067 C	0.0522	50/50	0.0522
934432	AD1-067 E	1.3907	50/50	1.3907
934701	AD1-098 C O1	16.6522	50/50	16.6522
934702	AD1-098 E O1	12.1578	50/50	12.1578
937001	AD2-134 C	6.8860	50/50	6.8860
937002	AD2-134 E	28.4462	50/50	28.4462
941131	AE2-107 C	19.7300	50/50	19.7300
941132	AE2-107 E	13.1533	50/50	13.1533
943121	AE2-341 C	40.6263	50/50	40.6263
943122	AE2-341 E	19.9497	50/50	19.9497
943591	AF1-030 C O1	27.0169	50/50	27.0169
943592	AF1-030 E O1	13.3671	50/50	13.3671
946671	AF1-331	6.3394	50/50	6.3394
960381	AF2-329	21.0804	50/50	21.0804
960721	AF2-363 C O1	12.0918	50/50	12.0918
960722	AF2-363 E O1	8.0612	50/50	8.0612
960751	AF2-366 C	22.0016	50/50	22.0016
960752	AF2-366 E	14.6677	50/50	14.6677
962711	AG1-120 C O1	17.8910	50/50	17.8910
962712	AG1-120 E O1	11.9274	50/50	11.9274
962781	AG1-127 C	24.2131	50/50	24.2131
962782	AG1-127 E	16.1421	50/50	16.1421
962791	AG1-128 C O1	15.5763	50/50	15.5763
962792	AG1-128 E O1	72.8897	50/50	72.8897
963681	AG1-220 C O1	33.9804	50/50	33.9804
963682	AG1-220 E O1	22.6536	50/50	22.6536
966521	AG1-521 C O1	9.2568	50/50	9.2568
966522	AG1-521 E O1	2.3142	50/50	2.3142

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
WEC	WEC	0.2429	Confirmed LTF	0.2429
CBM-W2	CBM-W2	2.0250	Confirmed LTF	2.0250
NY	NY	0.0448	Confirmed LTF	0.0448
TVA	TVA	0.2156	Confirmed LTF	0.2156
O-066	O-066	0.5317	Confirmed LTF	0.5317
SIGE	SIGE	0.0077	Confirmed LTF	0.0077
CBM-S2	CBM-S2	0.1670	Confirmed LTF	0.1670
CBM-S1	CBM-S1	0.0448	Confirmed LTF	0.0448
G-007	G-007	0.0819	Confirmed LTF	0.0819
MEC	MEC	1.9068	Confirmed LTF	1.9068
GIBSON	GIBSON	0.0109	Confirmed LTF	0.0109
BLUEG	BLUEG	0.0885	Confirmed LTF	0.0885
TRIMBLE	TRIMBLE	0.0306	Confirmed LTF	0.0306
LAGN	LAGN	0.5110	Confirmed LTF	0.5110
CBM-W1	CBM-W1	9.2953	Confirmed LTF	9.2953

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
163050626	271680	HAUMESSER; B	CE	272756	W DEKALB ;3T	CE	1	COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-A	tower	471.0	154.05	167.46	DC	63.2

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	12.2720	50/50	12.2720
274850	MENDOTA H;RU	1.3261	50/50	1.3261
274855	GSG-6 ;RU	2.1836	50/50	2.1836
274872	LEE DEKAL;1U	5.2455	50/50	5.2455
290051	GSG-6; E	55.3614	50/50	55.3614
290108	LEEDK;1U E	166.2400	50/50	166.2400
295108	WESTBROOK C	0.7079	50/50	0.7079
295109	WESTBROOK E	29.6399	50/50	29.6399
916221	Z1-073 E	28.7551	50/50	28.7551
933911	AD1-013 C	8.0553	50/50	8.0553
933912	AD1-013 E	12.8675	50/50	12.8675
934431	AD1-067 C	0.1097	50/50	0.1097
934432	AD1-067 E	2.9229	50/50	2.9229
934701	AD1-098 C O1	36.5284	50/50	36.5284
934702	AD1-098 E O1	26.6696	50/50	26.6696
937001	AD2-134 C	14.4723	50/50	14.4723
937002	AD2-134 E	59.7853	50/50	59.7853
941131	AE2-107 C	44.8848	50/50	44.8848
941132	AE2-107 E	29.9232	50/50	29.9232
946671	AF1-331	10.4614	50/50	10.4614
962791	AG1-128 C O1	32.7366	50/50	32.7366
962792	AG1-128 E O1	153.1920	50/50	153.1920
966521	AG1-521 C O1	50.5592	50/50	50.5592
966522	AG1-521 E O1	12.6398	50/50	12.6398
WEC	WEC	0.0306	Confirmed LTF	0.0306
CALDERWOOD	CALDERWOOD	0.0134	Confirmed LTF	0.0134
NY	NY	0.0227	Confirmed LTF	0.0227
PRAIRIE	PRAIRIE	0.0181	Confirmed LTF	0.0181
O-066	O-066	0.2692	Confirmed LTF	0.2692
SIGE	SIGE	0.0006	Confirmed LTF	0.0006
CHEOAH	CHEOAH	0.0140	Confirmed LTF	0.0140
COTTONWOOD	COTTONWOOD	0.0147	Confirmed LTF	0.0147
G-007	G-007	0.0420	Confirmed LTF	0.0420
HAMLET	HAMLET	0.0191	Confirmed LTF	0.0191
MEC	MEC	0.1224	Confirmed LTF	0.1224
GIBSON	GIBSON	0.0191	Confirmed LTF	0.0191
BLUEG	BLUEG	0.0660	Confirmed LTF	0.0660
TRIMBLE	TRIMBLE	0.0217	Confirmed LTF	0.0217
CATAWBA	CATAWBA	0.0112	Confirmed LTF	0.0112

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-W1	CBM-W1	0.6309	Confirmed LTF	0.6309

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
162272288	271835	KEWANEE ;23	CE	348962	4KEEMIN	AMIL	1	COMED_P2-2_074_KE-138__1	bus	223.0	120.13	120.79	DC	2.78

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274848	CAMPGROVE;RU	1.1605	50/50	1.1605
274877	BISHOP HL;1U	1.0518	50/50	1.0518
274878	BISHOP HL;2U	1.0518	50/50	1.0518
293771	O-035 E	3.8465	Adder	4.53
294401	BSHIL;1U E	26.6664	50/50	26.6664
294410	BSHIL;2U E	26.6664	50/50	26.6664
916211	Z1-072 E	2.9108	Adder	3.42
926821	AC1-168 C O1	0.7701	Adder	0.91
926822	AC1-168 E O1	5.1678	Adder	6.08
926841	AC1-171 C O1	0.8222	Adder	0.97
926842	AC1-171 E O1	5.4919	Adder	6.46
927202	AC1-214 E O1	3.9244	Adder	4.62
934051	AD1-031 C O1	8.8722	50/50	8.8722
934052	AD1-031 E O1	14.4756	50/50	14.4756
946541	AF1-318 C O1	3.4321	Adder	4.04
946542	AF1-318 E O1	16.0684	Adder	18.9
953201	J715 C	1.2620	PJM External (MISO)	1.2620
953202	J715 E	6.8280	PJM External (MISO)	6.8280
957751	AF2-069 C	0.1429	Adder	0.17
957752	AF2-069 E	0.4613	Adder	0.54
957761	AF2-070 C	0.2014	Adder	0.24
957762	AF2-070 E	0.9779	Adder	1.15
958341	AF2-128 C O1	0.9097	Adder	1.07
958342	AF2-128 E O1	4.2591	Adder	5.01
961022	AF2-393 BAT	3.4446	Merchant Transmission	3.4446
961032	AF2-394 BAT	2.2964	Merchant Transmission	2.2964
961651	AG1-005 C O1	5.1681	Adder	11.47
961652	AG1-005 E O1	3.4454	Adder	7.65
962013	AG1-044 BAT	0.0232	Merchant Transmission	0.0232
962721	AG1-121 C O1	11.2312	50/50	11.2312
962722	AG1-121 E O1	52.5419	50/50	52.5419
965671	AG1-435 C O1	9.1805	50/50	9.1805
965672	AG1-435 E O1	42.9815	50/50	42.9815
966523	AG1-521 BAT	1.4753	Merchant Transmission	1.4753
990901	L-005 E	35.0821	50/50	35.0821
LGEE	LGEE	0.0829	Confirmed LTF	0.0829
CPLE	CPLE	0.0485	Confirmed LTF	0.0485
G-007A	G-007A	0.2302	Confirmed LTF	0.2302
VFT	VFT	0.6192	Confirmed LTF	0.6192
CBM-W2	CBM-W2	0.3136	Confirmed LTF	0.3136
TVA	TVA	0.0140	Confirmed LTF	0.0140

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
SIGE	SIGE	0.0064	Confirmed LTF	0.0064
CBM-S2	CBM-S2	0.6473	Confirmed LTF	0.6473
CBM-S1	CBM-S1	0.0122	Confirmed LTF	0.0122
CBM-N	CBM-N	0.1152	Confirmed LTF	0.1152
COTTONWOOD	COTTONWOOD	0.2247	Confirmed LTF	0.2247

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
162526336	272002	MCGIRR RD;	CE	272365	ESS H440 ;RT	CE	1	COMED_P4_155-45-BT2-34_	breaker	449.0	155.38	160.45	DC	22.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	-6.4825	Adder	-7.63
274850	MENDOTA H;RU	1.3019	50/50	1.3019
274855	GSG-6 ;RU	2.1437	50/50	2.1437
290051	GSG-6; E	54.3505	50/50	54.3505
293516	O-009 E1	4.8402	Adder	5.69
293517	O-009 E2	2.4585	Adder	2.89
293518	O-009 E3	2.7074	Adder	3.19
293715	O-029 E	5.1748	Adder	6.09
293716	O-029 E	2.8372	Adder	3.34
293717	O-029 E	2.6077	Adder	3.07
295108	WESTBROOK C	0.6950	50/50	0.6950
295109	WESTBROOK E	29.0986	50/50	29.0986
295110	SUBLETTE C	0.0679	50/50	0.0679
295111	SUBLETTE E	3.0680	50/50	3.0680
916221	Z1-073 E	28.2300	50/50	28.2300
934431	AD1-067 C	0.1077	50/50	0.1077
934432	AD1-067 E	2.8695	50/50	2.8695
934701	AD1-098 C O1	34.3170	50/50	34.3170
934702	AD1-098 E O1	25.0550	50/50	25.0550
937001	AD2-134 C	14.2081	50/50	14.2081
937002	AD2-134 E	58.6936	50/50	58.6936
938861	AE1-114 C O1	2.1802	Adder	2.56
938862	AE1-114 E O1	7.4384	Adder	8.75
961011	AF2-392 C O1	3.5795	50/50	3.5795
961012	AF2-392 E O1	16.7585	50/50	16.7585
961021	AF2-393 O1	6.1014	50/50	6.1014
961031	AF2-394 O1	4.0676	50/50	4.0676
962012	AG1-044 E	0.0182	Adder	0.04
962791	AG1-128 C O1	32.1388	50/50	32.1388
962792	AG1-128 E O1	150.3947	50/50	150.3947
966521	AG1-521 C O1	18.2328	50/50	18.2328
966522	AG1-521 E O1	4.5582	50/50	4.5582
WEC	WEC	0.0983	Confirmed LTF	0.0983
CPL	CPL	0.0232	Confirmed LTF	0.0232
CBM-W2	CBM-W2	3.2077	Confirmed LTF	3.2077
NY	NY	0.0376	Confirmed LTF	0.0376
TVA	TVA	0.3584	Confirmed LTF	0.3584
O-066	O-066	0.4307	Confirmed LTF	0.4307
SIGE	SIGE	0.0112	Confirmed LTF	0.0112
CBM-S2	CBM-S2	0.6890	Confirmed LTF	0.6890
CBM-S1	CBM-S1	0.0787	Confirmed LTF	0.0787

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
G-007	G-007	0.0672	Confirmed LTF	0.0672
MEC	MEC	2.5885	Confirmed LTF	2.5885
BLUEG	BLUEG	0.0382	Confirmed LTF	0.0382
TRIMBLE	TRIMBLE	0.0156	Confirmed LTF	0.0156
LAGN	LAGN	0.7613	Confirmed LTF	0.7613
CBM-W1	CBM-W1	9.2532	Confirmed LTF	9.2532

11.6.6 Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
162526351	272027	MONTGOMER;R T	CE	272203	OSWEG O ;R	CE	1	COMED_P4_167-38-TR81__	breaker	264.0	150.12	151.22	DC	6.43

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	3.7462	50/50	3.7462
274850	MENDOTA H;RU	0.3457	50/50	0.3457
274855	GSG-6 ;RU	0.5692	50/50	0.5692
274872	LEE DEKAL;1U	1.2742	50/50	1.2742
290051	GSG-6; E	14.4312	50/50	14.4312
290108	LEEDK;1U E	40.3820	50/50	40.3820
295108	WESTBROOK C	0.1845	50/50	0.1845
295109	WESTBROOK E	7.7263	50/50	7.7263
916221	Z1-073 E	7.4957	50/50	7.4957
933431	AC2-156 C O1	3.8328	50/50	3.8328
933432	AC2-156 E O1	6.2536	50/50	6.2536
933911	AD1-013 C	2.6560	50/50	2.6560
933912	AD1-013 E	4.2428	50/50	4.2428
934431	AD1-067 C	0.0286	50/50	0.0286
934432	AD1-067 E	0.7619	50/50	0.7619
934701	AD1-098 C O1	9.1266	50/50	9.1266
934702	AD1-098 E O1	6.6634	50/50	6.6634
937001	AD2-134 C	3.7725	50/50	3.7725
937002	AD2-134 E	15.5844	50/50	15.5844
941131	AE2-107 C	10.9031	50/50	10.9031
941132	AE2-107 E	7.2688	50/50	7.2688
943121	AE2-341 C	60.6145	50/50	60.6145
943122	AE2-341 E	29.7650	50/50	29.7650
943591	AF1-030 C O1	40.3093	50/50	40.3093
943592	AF1-030 E O1	19.9437	50/50	19.9437
946671	AF1-331	3.4494	50/50	3.4494
960381	AF2-329	31.4521	50/50	31.4521
960721	AF2-363 C O1	6.4488	50/50	6.4488
960722	AF2-363 E O1	4.2992	50/50	4.2992
960751	AF2-366 C	11.7200	50/50	11.7200
960752	AF2-366 E	7.8133	50/50	7.8133
962711	AG1-120 C O1	9.5397	50/50	9.5397
962712	AG1-120 E O1	6.3598	50/50	6.3598
962781	AG1-127 C	12.8176	50/50	12.8176
962782	AG1-127 E	8.5451	50/50	8.5451
962791	AG1-128 C O1	8.5335	50/50	8.5335
962792	AG1-128 E O1	39.9330	50/50	39.9330
963681	AG1-220 C O1	18.8064	50/50	18.8064
963682	AG1-220 E O1	12.5376	50/50	12.5376
966521	AG1-521 C O1	2.3163	Adder	5.14
966522	AG1-521 E O1	0.5791	Adder	1.29
WEC	WEC	0.1673	Confirmed LTF	0.1673

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
CBM-W2	CBM-W2	1.1827	Confirmed LTF	1.1827
NY	NY	0.0282	Confirmed LTF	0.0282
TVA	TVA	0.1246	Confirmed LTF	0.1246
O-066	O-066	0.3365	Confirmed LTF	0.3365
SIGE	SIGE	0.0044	Confirmed LTF	0.0044
CBM-S2	CBM-S2	0.0731	Confirmed LTF	0.0731
CBM-S1	CBM-S1	0.0258	Confirmed LTF	0.0258
G-007	G-007	0.0525	Confirmed LTF	0.0525
HAMLET	HAMLET	0.0006	Confirmed LTF	0.0006
MEC	MEC	1.1488	Confirmed LTF	1.1488
GIBSON	GIBSON	0.0087	Confirmed LTF	0.0087
BLUEG	BLUEG	0.0590	Confirmed LTF	0.0590
TRIMBLE	TRIMBLE	0.0200	Confirmed LTF	0.0200
LAGN	LAGN	0.3028	Confirmed LTF	0.3028
CBM-W1	CBM-W1	5.7482	Confirmed LTF	5.7482

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
163050694	272444	SANDWICH ; B	CE	943120	AE2-341 TAP	CE	1	COMED_P7-1_138-L11106_B-R_+ 345-L15502_B-R-A	tower	498.0	125.98	128.55	DC	12.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	7.0400	50/50	7.0400
274850	MENDOTA H;RU	0.6552	50/50	0.6552
274855	GSG-6 ;RU	1.0788	50/50	1.0788
274872	LEE DEKAL;1U	2.4413	50/50	2.4413
290051	GSG-6; E	27.3522	50/50	27.3522
290108	LEEDK;1U E	77.3680	50/50	77.3680
295108	WESTBROOK C	0.3498	50/50	0.3498
295109	WESTBROOK E	14.6441	50/50	14.6441
295111	SUBLETTE E	1.6297	Adder	1.92
916221	Z1-073 E	14.2069	50/50	14.2069
933431	AC2-156 C O1	5.4960	50/50	5.4960
933432	AC2-156 E O1	8.9672	50/50	8.9672
933911	AD1-013 C	4.9727	50/50	4.9727
933912	AD1-013 E	7.9433	50/50	7.9433
934431	AD1-067 C	0.0542	50/50	0.0542
934432	AD1-067 E	1.4441	50/50	1.4441
934701	AD1-098 C O1	17.3221	50/50	17.3221
934702	AD1-098 E O1	12.6469	50/50	12.6469
937001	AD2-134 C	7.1503	50/50	7.1503
937002	AD2-134 E	29.5379	50/50	29.5379
938861	AE1-114 C O1	1.8161	Adder	2.14
938862	AE1-114 E O1	6.1960	Adder	7.29
941131	AE2-107 C	20.8894	50/50	20.8894
941132	AE2-107 E	13.9262	50/50	13.9262
946671	AF1-331	6.4580	50/50	6.4580
960382	AF2-329 BAT	9.1240	50/50	9.1240
960721	AF2-363 C O1	11.6264	50/50	11.6264
960722	AF2-363 E O1	7.7509	50/50	7.7509
960751	AF2-366 C	22.3353	50/50	22.3353
960752	AF2-366 E	14.8902	50/50	14.8902
961011	AF2-392 C O1	1.9645	Adder	2.31
961012	AF2-392 E O1	9.1977	Adder	10.82
961021	AF2-393 O1	3.3487	Adder	3.94
961031	AF2-394 O1	2.2324	Adder	2.63
962711	AG1-120 C O1	17.1930	50/50	17.1930
962712	AG1-120 E O1	11.4620	50/50	11.4620
962781	AG1-127 C	24.3859	50/50	24.3859
962782	AG1-127 E	16.2573	50/50	16.2573
962791	AG1-128 C O1	16.1740	50/50	16.1740

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
962792	AG1-128 E O1	75.6870	50/50	75.6870
963681	AG1-220 C O1	36.1008	50/50	36.1008
963682	AG1-220 E O1	24.0672	50/50	24.0672
966521	AG1-521 C O1	10.2336	50/50	10.2336
966522	AG1-521 E O1	2.5584	50/50	2.5584
WEC	WEC	0.3600	Confirmed LTF	0.3600
CBM-W2	CBM-W2	3.0643	Confirmed LTF	3.0643
NY	NY	0.0664	Confirmed LTF	0.0664
TVA	TVA	0.3262	Confirmed LTF	0.3262
O-066	O-066	0.7807	Confirmed LTF	0.7807
SIGE	SIGE	0.0118	Confirmed LTF	0.0118
CBM-S2	CBM-S2	0.2714	Confirmed LTF	0.2714
CBM-S1	CBM-S1	0.0680	Confirmed LTF	0.0680
G-007	G-007	0.1218	Confirmed LTF	0.1218
MEC	MEC	2.8300	Confirmed LTF	2.8300
GIBSON	GIBSON	0.0131	Confirmed LTF	0.0131
BLUEG	BLUEG	0.1285	Confirmed LTF	0.1285
TRIMBLE	TRIMBLE	0.0445	Confirmed LTF	0.0445
LAGN	LAGN	0.7665	Confirmed LTF	0.7665
CBM-W1	CBM-W1	13.3751	Confirmed LTF	13.3751

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
162526385	272445	SANDWICH	CE	272444	SANDWICH	CE	1	COMED_P4_111-38-TR82	breaker	449.0	132.25	134.92	DC	11.97

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	6.9337	50/50	6.9337
274850	MENDOTA H;RU	0.6414	50/50	0.6414
274855	GSG-6 ;RU	1.0562	50/50	1.0562
274872	LEE DEKAL;1U	2.3761	50/50	2.3761
290051	GSG-6; E	26.7776	50/50	26.7776
290108	LEEDK;1U E	75.3020	50/50	75.3020
295108	WESTBROOK C	0.3424	50/50	0.3424
295109	WESTBROOK E	14.3364	50/50	14.3364
295111	SUBLETTE E	1.4626	Adder	1.72
916221	Z1-073 E	13.9084	50/50	13.9084
933431	AC2-156 C O1	1.6480	50/50	1.6480
933432	AC2-156 E O1	2.6888	50/50	2.6888
933911	AD1-013 C	4.9108	50/50	4.9108
933912	AD1-013 E	7.8444	50/50	7.8444
934431	AD1-067 C	0.0531	50/50	0.0531
934432	AD1-067 E	1.4138	50/50	1.4138
934701	AD1-098 C O1	16.9366	50/50	16.9366
934702	AD1-098 E O1	12.3654	50/50	12.3654
937001	AD2-134 C	7.0001	50/50	7.0001
937002	AD2-134 E	28.9173	50/50	28.9173
938861	AE1-114 C O1	1.6328	Adder	1.92
938862	AE1-114 E O1	5.5709	Adder	6.55
941131	AE2-107 C	20.3315	50/50	20.3315
941132	AE2-107 E	13.5544	50/50	13.5544
946671	AF1-331	6.3776	50/50	6.3776
960382	AF2-329 BAT	9.3720	50/50	9.3720
960721	AF2-363 C O1	11.7866	50/50	11.7866
960722	AF2-363 E O1	7.8577	50/50	7.8577
960751	AF2-366 C	21.4260	50/50	21.4260
960752	AF2-366 E	14.2840	50/50	14.2840
961011	AF2-392 C O1	1.6800	Adder	1.98
961012	AF2-392 E O1	7.8655	Adder	9.25
961021	AF2-393 O1	2.8637	Adder	3.37
961031	AF2-394 O1	1.9091	Adder	2.25
962711	AG1-120 C O1	17.4342	50/50	17.4342
962712	AG1-120 E O1	11.6228	50/50	11.6228
962781	AG1-127 C	23.3505	50/50	23.3505
962782	AG1-127 E	15.5670	50/50	15.5670
962791	AG1-128 C O1	15.8342	50/50	15.8342
962792	AG1-128 E O1	74.0968	50/50	74.0968
963681	AG1-220 C O1	35.0982	50/50	35.0982
963682	AG1-220 E O1	23.3988	50/50	23.3988

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966521	AG1-521 C O1	9.5752	50/50	9.5752
966522	AG1-521 E O1	2.3938	50/50	2.3938
WEC	WEC	0.3452	Confirmed LTF	0.3452
CBM-W2	CBM-W2	2.3386	Confirmed LTF	2.3386
NY	NY	0.0581	Confirmed LTF	0.0581
TVA	TVA	0.2450	Confirmed LTF	0.2450
O-066	O-066	0.6865	Confirmed LTF	0.6865
SIGE	SIGE	0.0093	Confirmed LTF	0.0093
CBM-S2	CBM-S2	0.1148	Confirmed LTF	0.1148
CBM-S1	CBM-S1	0.0502	Confirmed LTF	0.0502
G-007	G-007	0.1071	Confirmed LTF	0.1071
HAMLET	HAMLET	0.0029	Confirmed LTF	0.0029
MEC	MEC	2.2294	Confirmed LTF	2.2294
GIBSON	GIBSON	0.0158	Confirmed LTF	0.0158
BLUEG	BLUEG	0.1180	Confirmed LTF	0.1180
TRIMBLE	TRIMBLE	0.0406	Confirmed LTF	0.0406
LAGN	LAGN	0.5915	Confirmed LTF	0.5915
CBM-W1	CBM-W1	11.2721	Confirmed LTF	11.2721

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
162526401	272522	SUGAR GRV; B	CE	272114	N AURORA ; B	CE	1	COMED_P4_167-38-L14609_	breaker	498.0	126.0	128.32	DC	11.57

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	6.8702	50/50	6.8702
274850	MENDOTA H;RU	0.6310	50/50	0.6310
274855	GSG-6 ;RU	1.0390	50/50	1.0390
274872	LEE DEKAL;1U	2.3058	50/50	2.3058
290051	GSG-6; E	26.3413	50/50	26.3413
290108	LEEDK;1U E	73.0740	50/50	73.0740
295108	WESTBROOK C	0.3368	50/50	0.3368
295109	WESTBROOK E	14.1028	50/50	14.1028
295111	SUBLETTE E	1.3899	Adder	1.64
916221	Z1-073 E	13.6819	50/50	13.6819
933431	AC2-156 C O1	3.0693	50/50	3.0693
933432	AC2-156 E O1	5.0079	50/50	5.0079
933911	AD1-013 C	4.8813	50/50	4.8813
933912	AD1-013 E	7.7975	50/50	7.7975
934431	AD1-067 C	0.0522	50/50	0.0522
934432	AD1-067 E	1.3907	50/50	1.3907
934701	AD1-098 C O1	16.6522	50/50	16.6522
934702	AD1-098 E O1	12.1578	50/50	12.1578
937001	AD2-134 C	6.8860	50/50	6.8860
937002	AD2-134 E	28.4462	50/50	28.4462
941131	AE2-107 C	19.7300	50/50	19.7300
941132	AE2-107 E	13.1533	50/50	13.1533
943121	AE2-341 C	40.6263	50/50	40.6263
943122	AE2-341 E	19.9497	50/50	19.9497
943591	AF1-030 C O1	27.0169	50/50	27.0169
943592	AF1-030 E O1	13.3671	50/50	13.3671
946671	AF1-331	6.3394	50/50	6.3394
960381	AF2-329	21.0804	50/50	21.0804
960721	AF2-363 C O1	12.0918	50/50	12.0918
960722	AF2-363 E O1	8.0612	50/50	8.0612
960751	AF2-366 C	22.0016	50/50	22.0016
960752	AF2-366 E	14.6677	50/50	14.6677
962711	AG1-120 C O1	17.8910	50/50	17.8910
962712	AG1-120 E O1	11.9274	50/50	11.9274
962781	AG1-127 C	24.2131	50/50	24.2131
962782	AG1-127 E	16.1421	50/50	16.1421
962791	AG1-128 C O1	15.5763	50/50	15.5763
962792	AG1-128 E O1	72.8897	50/50	72.8897
963681	AG1-220 C O1	33.9804	50/50	33.9804
963682	AG1-220 E O1	22.6536	50/50	22.6536
966521	AG1-521 C O1	9.2568	50/50	9.2568

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966522	AG1-521 E O1	2.3142	50/50	2.3142
WEC	WEC	0.2429	Confirmed LTF	0.2429
CBM-W2	CBM-W2	2.0250	Confirmed LTF	2.0250
NY	NY	0.0448	Confirmed LTF	0.0448
TVA	TVA	0.2156	Confirmed LTF	0.2156
O-066	O-066	0.5317	Confirmed LTF	0.5317
SIGE	SIGE	0.0077	Confirmed LTF	0.0077
CBM-S2	CBM-S2	0.1670	Confirmed LTF	0.1670
CBM-S1	CBM-S1	0.0448	Confirmed LTF	0.0448
G-007	G-007	0.0819	Confirmed LTF	0.0819
MEC	MEC	1.9068	Confirmed LTF	1.9068
GIBSON	GIBSON	0.0109	Confirmed LTF	0.0109
BLUEG	BLUEG	0.0885	Confirmed LTF	0.0885
TRIMBLE	TRIMBLE	0.0306	Confirmed LTF	0.0306
LAGN	LAGN	0.5110	Confirmed LTF	0.5110
CBM-W1	CBM-W1	9.2953	Confirmed LTF	9.2953

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
163050605	272728	WATERMAN ; B	CE	272445	SANDWICH ; R	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	tower	331.0	199.4	203.26	DC	12.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	7.0400	50/50	7.0400
274850	MENDOTA H;RU	0.6552	50/50	0.6552
274855	GSG-6 ;RU	1.0788	50/50	1.0788
274872	LEE DEKAL;1U	2.4413	50/50	2.4413
290051	GSG-6; E	27.3522	50/50	27.3522
290108	LEEDK;1U E	77.3680	50/50	77.3680
295108	WESTBROOK C	0.3498	50/50	0.3498
295109	WESTBROOK E	14.6441	50/50	14.6441
295111	SUBLETTE E	1.6297	Adder	1.92
916221	Z1-073 E	14.2069	50/50	14.2069
933911	AD1-013 C	4.9727	50/50	4.9727
933912	AD1-013 E	7.9433	50/50	7.9433
934431	AD1-067 C	0.0542	50/50	0.0542
934432	AD1-067 E	1.4441	50/50	1.4441
934701	AD1-098 C O1	17.3221	50/50	17.3221
934702	AD1-098 E O1	12.6469	50/50	12.6469
937001	AD2-134 C	7.1503	50/50	7.1503
937002	AD2-134 E	29.5379	50/50	29.5379
938861	AE1-114 C O1	1.8161	Adder	2.14
938862	AE1-114 E O1	6.1960	Adder	7.29
941131	AE2-107 C	20.8894	50/50	20.8894
941132	AE2-107 E	13.9262	50/50	13.9262
946671	AF1-331	6.4580	50/50	6.4580
960382	AF2-329 BAT	9.1240	50/50	9.1240
960721	AF2-363 C O1	11.6264	50/50	11.6264
960722	AF2-363 E O1	7.7509	50/50	7.7509
960751	AF2-366 C	22.3353	50/50	22.3353
960752	AF2-366 E	14.8902	50/50	14.8902
961011	AF2-392 C O1	1.9645	Adder	2.31
961012	AF2-392 E O1	9.1977	Adder	10.82
961021	AF2-393 O1	3.3487	Adder	3.94
961031	AF2-394 O1	2.2324	Adder	2.63
962711	AG1-120 C O1	17.1930	50/50	17.1930
962712	AG1-120 E O1	11.4620	50/50	11.4620
962781	AG1-127 C	24.3859	50/50	24.3859
962782	AG1-127 E	16.2573	50/50	16.2573
962791	AG1-128 C O1	16.1740	50/50	16.1740
962792	AG1-128 E O1	75.6870	50/50	75.6870
963681	AG1-220 C O1	36.1008	50/50	36.1008

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
963682	AG1-220 E O1	24.0672	50/50	24.0672
966521	AG1-521 C O1	10.2336	50/50	10.2336
966522	AG1-521 E O1	2.5584	50/50	2.5584
WEC	WEC	0.3600	Confirmed LTF	0.3600
CBM-W2	CBM-W2	3.0643	Confirmed LTF	3.0643
NY	NY	0.0664	Confirmed LTF	0.0664
TVA	TVA	0.3262	Confirmed LTF	0.3262
O-066	O-066	0.7807	Confirmed LTF	0.7807
SIGE	SIGE	0.0118	Confirmed LTF	0.0118
CBM-S2	CBM-S2	0.2714	Confirmed LTF	0.2714
CBM-S1	CBM-S1	0.0680	Confirmed LTF	0.0680
G-007	G-007	0.1218	Confirmed LTF	0.1218
MEC	MEC	2.8300	Confirmed LTF	2.8300
GIBSON	GIBSON	0.0131	Confirmed LTF	0.0131
BLUEG	BLUEG	0.1285	Confirmed LTF	0.1285
TRIMBLE	TRIMBLE	0.0445	Confirmed LTF	0.0445
LAGN	LAGN	0.7665	Confirmed LTF	0.7665
CBM-W1	CBM-W1	13.3751	Confirmed LTF	13.3751

11.6.11 Index 11

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162526309	272803	W PLANO ; R	CE	272251	PLANO; R	CE	1	COMED_P4_111-38-TR82__	breaker	449.0	169.45	172.12	DC	11.97

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	6.9351	50/50	6.9351
274850	MENDOTA H;RU	0.6415	50/50	0.6415
274855	GSG-6 ;RU	1.0564	50/50	1.0564
274872	LEE DEKAL;1U	2.3765	50/50	2.3765
290051	GSG-6; E	26.7828	50/50	26.7828
290108	LEEDK;1U E	75.3160	50/50	75.3160
295108	WESTBROOK C	0.3425	50/50	0.3425
295109	WESTBROOK E	14.3392	50/50	14.3392
916221	Z1-073 E	13.9112	50/50	13.9112
933431	AC2-156 C O1	5.4439	50/50	5.4439
933432	AC2-156 E O1	8.8821	50/50	8.8821
933911	AD1-013 C	4.9117	50/50	4.9117
933912	AD1-013 E	7.8459	50/50	7.8459
934431	AD1-067 C	0.0531	50/50	0.0531
934432	AD1-067 E	1.4140	50/50	1.4140
934701	AD1-098 C O1	16.9400	50/50	16.9400
934702	AD1-098 E O1	12.3680	50/50	12.3680
937001	AD2-134 C	7.0014	50/50	7.0014
937002	AD2-134 E	28.9230	50/50	28.9230
941131	AE2-107 C	20.3353	50/50	20.3353
941132	AE2-107 E	13.5569	50/50	13.5569
943121	AE2-341 C	82.5353	50/50	82.5353
943122	AE2-341 E	40.5292	50/50	40.5292
943591	AF1-030 C O1	54.8868	50/50	54.8868
943592	AF1-030 E O1	27.1562	50/50	27.1562
946671	AF1-331	6.3788	50/50	6.3788
960381	AF2-329	42.8264	50/50	42.8264
960721	AF2-363 C O1	11.7890	50/50	11.7890
960722	AF2-363 E O1	7.8593	50/50	7.8593
960751	AF2-366 C	21.4299	50/50	21.4299
960752	AF2-366 E	14.2866	50/50	14.2866
962711	AG1-120 C O1	17.4370	50/50	17.4370
962712	AG1-120 E O1	11.6247	50/50	11.6247
962781	AG1-127 C	23.3555	50/50	23.3555
962782	AG1-127 E	15.5704	50/50	15.5704
962791	AG1-128 C O1	15.8373	50/50	15.8373
962792	AG1-128 E O1	74.1114	50/50	74.1114
963681	AG1-220 C O1	35.1054	50/50	35.1054
963682	AG1-220 E O1	23.4036	50/50	23.4036
966521	AG1-521 C O1	9.5776	50/50	9.5776
966522	AG1-521 E O1	2.3944	50/50	2.3944

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
WEC	WEC	0.3456	Confirmed LTF	0.3456
CBM-W2	CBM-W2	2.3386	Confirmed LTF	2.3386
NY	NY	0.0581	Confirmed LTF	0.0581
TVA	TVA	0.2450	Confirmed LTF	0.2450
O-066	O-066	0.6865	Confirmed LTF	0.6865
SIGE	SIGE	0.0093	Confirmed LTF	0.0093
CBM-S2	CBM-S2	0.1148	Confirmed LTF	0.1148
CBM-S1	CBM-S1	0.0502	Confirmed LTF	0.0502
G-007	G-007	0.1071	Confirmed LTF	0.1071
HAMLET	HAMLET	0.0029	Confirmed LTF	0.0029
MEC	MEC	2.2294	Confirmed LTF	2.2294
GIBSON	GIBSON	0.0158	Confirmed LTF	0.0158
BLUEG	BLUEG	0.1180	Confirmed LTF	0.1180
TRIMBLE	TRIMBLE	0.0406	Confirmed LTF	0.0406
LAGN	LAGN	0.5915	Confirmed LTF	0.5915
CBM-W1	CBM-W1	11.2721	Confirmed LTF	11.2721

11.6.12 Index 12

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162526294	943120	AE2-341 TAP	CE	272803	W PLANO ; R	CE	1	COMED_P4_111-38-TR82__	breaker	449.0	177.24	179.91	DC	11.97

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	6.9351	50/50	6.9351
274850	MENDOTA H;RU	0.6415	50/50	0.6415
274855	GSG-6 ;RU	1.0564	50/50	1.0564
274872	LEE DEKAL;1U	2.3765	50/50	2.3765
290051	GSG-6; E	26.7828	50/50	26.7828
290108	LEEDK;1U E	75.3160	50/50	75.3160
295108	WESTBROOK C	0.3425	50/50	0.3425
295109	WESTBROOK E	14.3392	50/50	14.3392
916221	Z1-073 E	13.9112	50/50	13.9112
933431	AC2-156 C O1	5.4439	50/50	5.4439
933432	AC2-156 E O1	8.8821	50/50	8.8821
933911	AD1-013 C	4.9117	50/50	4.9117
933912	AD1-013 E	7.8459	50/50	7.8459
934431	AD1-067 C	0.0531	50/50	0.0531
934432	AD1-067 E	1.4140	50/50	1.4140
934701	AD1-098 C O1	16.9400	50/50	16.9400
934702	AD1-098 E O1	12.3680	50/50	12.3680
937001	AD2-134 C	7.0014	50/50	7.0014
937002	AD2-134 E	28.9230	50/50	28.9230
941131	AE2-107 C	20.3353	50/50	20.3353
941132	AE2-107 E	13.5569	50/50	13.5569
943121	AE2-341 C	82.5353	50/50	82.5353
943122	AE2-341 E	40.5292	50/50	40.5292
943591	AF1-030 C O1	54.8868	50/50	54.8868
943592	AF1-030 E O1	27.1562	50/50	27.1562
946671	AF1-331	6.3788	50/50	6.3788
960381	AF2-329	42.8264	50/50	42.8264
960721	AF2-363 C O1	11.7890	50/50	11.7890
960722	AF2-363 E O1	7.8593	50/50	7.8593
960751	AF2-366 C	21.4299	50/50	21.4299
960752	AF2-366 E	14.2866	50/50	14.2866
962711	AG1-120 C O1	17.4370	50/50	17.4370
962712	AG1-120 E O1	11.6247	50/50	11.6247
962781	AG1-127 C	23.3555	50/50	23.3555
962782	AG1-127 E	15.5704	50/50	15.5704
962791	AG1-128 C O1	15.8373	50/50	15.8373
962792	AG1-128 E O1	74.1114	50/50	74.1114
963681	AG1-220 C O1	35.1054	50/50	35.1054
963682	AG1-220 E O1	23.4036	50/50	23.4036
966521	AG1-521 C O1	9.5776	50/50	9.5776
966522	AG1-521 E O1	2.3944	50/50	2.3944

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
WEC	WEC	0.3456	Confirmed LTF	0.3456
CBM-W2	CBM-W2	2.3386	Confirmed LTF	2.3386
NY	NY	0.0581	Confirmed LTF	0.0581
TVA	TVA	0.2450	Confirmed LTF	0.2450
O-066	O-066	0.6865	Confirmed LTF	0.6865
SIGE	SIGE	0.0093	Confirmed LTF	0.0093
CBM-S2	CBM-S2	0.1148	Confirmed LTF	0.1148
CBM-S1	CBM-S1	0.0502	Confirmed LTF	0.0502
G-007	G-007	0.1071	Confirmed LTF	0.1071
HAMLET	HAMLET	0.0029	Confirmed LTF	0.0029
MEC	MEC	2.2294	Confirmed LTF	2.2294
GIBSON	GIBSON	0.0158	Confirmed LTF	0.0158
BLUEG	BLUEG	0.1180	Confirmed LTF	0.1180
TRIMBLE	TRIMBLE	0.0406	Confirmed LTF	0.0406
LAGN	LAGN	0.5915	Confirmed LTF	0.5915
CBM-W1	CBM-W1	11.2721	Confirmed LTF	11.2721

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
162272508	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	121.78	122.9	DC	19.81

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

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

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

11.7 Queue Dependencies

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

Queue Number	Project Name	Status
AA1-146	Nelson	Active
AA2-030	Nelson	Active
AA2-123	Marengo 34kV	In Service
AC1-033	Kewanee	Active
AC1-168	Kewanee-Streator	Active
AC1-171	Powerton	Active
AC1-214	Crescent Ridge	In Service
AC2-156	Sandwich 34.5kV	Active
AD1-013	Twombly Road 138kV	Active
AD1-031	Kewanee 138 kV	Active
AD1-067	Mendota Hills	In Service
AD1-098	Dixon-McGirr	Active
AD2-134	Shady Oaks	Active
AD2-214	Rock Falls-Garden Plains	Active
AE1-114	Maryland-Lancaster 138 kV	Active
AE1-134	Nelson 345 kV	Active
AE2-107	Haumesser Road 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
AF1-280	Nelson-Lee County	Active
AF1-281	Nelson-Lee County	Active
AF1-296	Garden Plain 138 kV	Active
AF1-318	Crescent Ridge-Corbin	Active
AF1-331	Twombley Road	Active
AF2-041	Nelson-Electric Junction 345 kV	Active
AF2-069	Crescent Ridge 138 kV	Active
AF2-070	Crescent Ridge 138 kV	Active
AF2-128	Crescent Ridge-Corbin 138 kV	Active
AF2-182	Nelson-Lee County 345 kV II	Active
AF2-183	Nelson-Lee County 345 kV	Active
AF2-199	Nelson-Electric Junction 345 kV	Active
AF2-200	Nelson-Electric Junction 345 kV	Active
AF2-329	Sandwich-Plano 138 kV	Active
AF2-346	Electric Junction-Nelson 345 kV	Active
AF2-363	Glidden 138 kV	Active
AF2-366	Glidden-Waterman 138 kV	Active
AF2-392	Nelson-Dixon 138 kV	Active

Queue Number	Project Name	Status
AF2-393	Nelson-Dixon 138 kV	Active
AF2-394	Nelson-Dixon 138 kV	Active
AG1-005	Corbin-Crescent Ridge 138 kV	Active
AG1-044	Whiteside County	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
AG1-309	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
AG1-434	Electric Junction-Nelson 345 kV	Active
AG1-435	Kewanee-Hennepin 138 kV	Active
AG1-462	Quad Cities-Sterling Steel 345 kV	Active
AG1-521	Dixon-McGirr Road 138 kV	Active
AG1-553	Cordova 345 kV	Active
Z1-072	Crescent Ridge	In Service
Z1-073	Mendota Hills	In Service
J1084	MISO	MISO
J1131	MISO	MISO
J504	MISO	MISO
J514	MISO	MISO
J530	MISO	MISO
J715	MISO	MISO
J844	MISO	MISO
J952	MISO	MISO
J963	MISO	MISO
J981	MISO	MISO

11.8 Contingency Descriptions - Primary POI

Contingency Name	Contingency Definition
COMED_P2-2_107_DX-138R_23	CONTINGENCY 'COMED_P2-2_107_DX-138R_23' / CONTINGENCY # 91 MOVE 100 PERCENT LOAD FROM BUS 271333 TO BUS 271332 / DIXON ; R 138 DIXON ; B 138 DISCONNECT BUS 271333 / DIXON ; R 138 END
COMED_P2-2_111_EJ-138B__2	CONTINGENCY 'COMED_P2-2_111_EJ-138B__2' / CONTINGENCY # 98 TRIP BRANCH FROM BUS 271390 TO BUS 271586 CKT 1 / ELECT JCT; B 138 ESS W541 ; B 138 TRIP BRANCH FROM BUS 271390 TO BUS 272724 CKT 1 / ELECT JCT; B 138 WARRENVIL;BT 138 TRIP BRANCH FROM BUS 271390 TO BUS 275239 CKT 1 / ELECT JCT; B 138 ELECT JCT;2M 138 MOVE 100 PERCENT LOAD FROM BUS 271586 TO BUS 271587 / ESS W541 ; B 138 ESS W541 ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272522 TO BUS 272523 / SUGAR GRV; B 138 SUGAR GRV; R 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 / N AURORA ; B 138 N AURORA ; R 138 DISCONNECT BUS 271560 / GLIDDEN ;BT 138 DISCONNECT BUS 272522 / SUGAR GRV; B 138 REMOVE SWSHUNT FROM BUS 271390 / ELECT JCT; B 138 END
COMED_P4_167-38-TR81__	CONTINGENCY 'COMED_P4_167-38-TR81__' / CONTINGENCY # 676 TRIP BRANCH FROM BUS 270846 TO BUS 270730 CKT 1 / PLANO ; B 345 ELECT JCT; B 345 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 2 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 1 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 270846 TO BUS 272278 TO BUS 275354 CKT 1 / PLANO ; B 345 PLANO;1I 138 PLANO;1C 34.5 DISCONNECT BUS 272250 / PLANO ; B 138 END

Contingency Name	Contingency Definition
COMED_P4_113-38-L11106_	CONTINGENCY 'COMED_P4_113-38-L11106_' / CONTINGENCY # 417 TRIP BRANCH FROM BUS 271390 TO BUS 271586 CKT 1 / ELECT JCT; B 138 ESS W541 ; B 138 TRIP BRANCH FROM BUS 272948 TO BUS 271558 CKT 1 / CHI W CTR 138 GLIDDEN ; B 138 TRIP BRANCH FROM BUS 271560 TO BUS 272948 CKT 1 / GLIDDEN ;BT 138 CHI W CTR 138 TRIP BRANCH FROM BUS 271560 TO BUS 272728 CKT 1 / GLIDDEN ;BT 138 WATERMAN ; B 138 TRIP BRANCH FROM BUS 271586 TO BUS 272114 CKT 1 / ESS W541 ; B 138 N AURORA ; B 138 TRIP BRANCH FROM BUS 272114 TO BUS 272522 CKT 1 / N AURORA ; B 138 SUGAR GRV; B 138 TRIP BRANCH FROM BUS 272522 TO BUS 271560 CKT 1 / SUGAR GRV; B 138 GLIDDEN ;BT 138 MOVE 100 PERCENT LOAD FROM BUS 271586 TO BUS 271587 / ESS W541 ; B 138 ESS W541 ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272522 TO BUS 272523 / SUGAR GRV; B 138 SUGAR GRV; R 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 / N AURORA ; B 138 N AURORA ; R 138 TRIP BRANCH FROM BUS 272728 TO BUS 271430 CKT 1 / WATERMAN ; B 138 ESS H452 ; B 138 CLOSE LINE FROM BUS 271430 TO BUS 271428 CKT 1 / ESS H452 ; B 138 ESS H452 ;RT 138 END
COMED_P1-2_138-L17121_R-R	CONTINGENCY 'COMED_P1-2_138-L17121_R-R' / CONTINGENCY # 386 TRIP BRANCH FROM BUS 272240 TO BUS 271897 CKT 1 / PECATONIC; B 138 LANCASTER; R 138 TRIP BRANCH FROM BUS 272747 TO BUS 272240 CKT 1 / WEMPLETOW; R 138 PECATONIC; B 138 MOVE 100 PERCENT LOAD FROM BUS 272240 TO BUS 272746 / PECATONIC; B 138 WEMPLETOW; B 138 END
Base Case	

Contingency Name	Contingency Definition
COMED_P4_111-38-TR82___	CONTINGENCY 'COMED_P4_111-38-TR82___' / CONTINGENCY # 395 TRIP BRANCH FROM BUS 271390 TO BUS 271586 CKT 1 / ELECT JCT; B 138 ESS W541 ; B 138 TRIP BRANCH FROM BUS 271390 TO BUS 272724 CKT 1 / ELECT JCT; B 138 WARRENVIL;BT 138 TRIP BRANCH FROM BUS 271390 TO BUS 275239 CKT 1 / ELECT JCT; B 138 ELECT JCT;2M 138 MOVE 100 PERCENT LOAD FROM BUS 271586 TO BUS 271587 / ESS W541 ; B 138 ESS W541 ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272522 TO BUS 272523 / SUGAR GRV; B 138 SUGAR GRV; R 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 / N AURORA ; B 138 N AURORA ; R 138 DISCONNECT BUS 271560 / GLIDDEN ;BT 138 DISCONNECT BUS 272522 / SUGAR GRV; B 138 REMOVE SWSHUNT FROM BUS 271390 / ELECT JCT; B 138 TRIP BRANCH FROM BUS 275239 TO BUS 270730 CKT 1 / ELECT JCT;2M 138 ELECT JCT; B 345 TRIP BRANCH FROM BUS 275239 TO BUS 275339 CKT 1 / ELECT JCT;2M 138 ELECT JCT;2C 34.5 END
COMED_P1-2_138-L11106_B-R-A	CONTINGENCY 'COMED_P1-2_138-L11106_B-R-A' / CONTINGENCY # 190 TRIP BRANCH FROM BUS 271390 TO BUS 271586 CKT 1 / ELECT JCT; B 138 ESS W541 ; B 138 TRIP BRANCH FROM BUS 271560 TO BUS 272522 CKT 1 / GLIDDEN ;BT 138 SUGAR GRV; B 138 TRIP BRANCH FROM BUS 271560 TO BUS 272728 CKT 1 / GLIDDEN ;BT 138 WATERMAN ; B 138 TRIP BRANCH FROM BUS 271586 TO BUS 272114 CKT 1 / ESS W541 ; B 138 N AURORA ; B 138 TRIP BRANCH FROM BUS 272114 TO BUS 272522 CKT 1 / N AURORA ; B 138 SUGAR GRV; B 138 TRIP BRANCH FROM BUS 272522 TO BUS 271560 CKT 1 / SUGAR GRV; B 138 GLIDDEN ;BT 138 MOVE 100 PERCENT LOAD FROM BUS 271586 TO BUS 271587 / ESS W541 ; B 138 ESS W541 ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272522 TO BUS 272523 / SUGAR GRV; B 138 SUGAR GRV; R 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 / N AURORA ; B 138 N AURORA ; R 138 END
COMED_P1-2_345-L15502_B-R-A	CONTINGENCY 'COMED_P1-2_345-L15502_B-R-A' / CONTINGENCY # 347 TRIP BRANCH FROM BUS 270828 TO BUS 943410 CKT 1 / NELSON ; B 345 AF1-012 TAP 345 END
COMED_P1-2_345-L15502_B-R-D	CONTINGENCY 'COMED_P1-2_345-L15502_B-R-D' / CONTINGENCY # 347 TRIP BRANCH FROM BUS 957470 TO BUS 270730 CKT 1 / AF2-041 TAP 345 ELECT JCT; B 345 END

Contingency Name	Contingency Definition
COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	CONTINGENCY 'COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A' / CONTINGENCY # 58 TRIP BRANCH FROM BUS 271390 TO BUS 271586 CKT 1 / ELECT JCT; B 138 ESS W541 ; B 138 TRIP BRANCH FROM BUS 271560 TO BUS 272948 CKT 1 / GLIDDEN ;BT 138 CHI W CTR 138 TRIP BRANCH FROM BUS 272948 TO BUS 271558 CKT 1 / CHI W CTR 138 GLIDDEN ; B 138 TRIP BRANCH FROM BUS 271560 TO BUS 272728 CKT 1 / GLIDDEN ;BT 138 WATERMAN ; B 138 TRIP BRANCH FROM BUS 271586 TO BUS 272114 CKT 1 / ESS W541 ; B 138 N AURORA ; B 138 TRIP BRANCH FROM BUS 272114 TO BUS 272522 CKT 1 / N AURORA ; B 138 SUGAR GRV; B 138 TRIP BRANCH FROM BUS 272522 TO BUS 271560 CKT 1 / SUGAR GRV; B 138 GLIDDEN ;BT 138 MOVE 100 PERCENT LOAD FROM BUS 271586 TO BUS 271587 / ESS W541 ; B 138 ESS W541 ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272522 TO BUS 272523 / SUGAR GRV; B 138 SUGAR GRV; R 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 / N AURORA ; B 138 N AURORA ; R 138 TRIP BRANCH FROM BUS 957470 TO BUS 270730 CKT 1 / AF2-041 TAP 345 ELECT JCT; B 345 END
COMED_P4_111-38-L11106_	CONTINGENCY 'COMED_P4_111-38-L11106_' / CONTINGENCY # 391 TRIP BRANCH FROM BUS 271390 TO BUS 271586 CKT 1 / ELECT JCT; B 138 ESS W541 ; B 138 TRIP BRANCH FROM BUS 271560 TO BUS 272948 CKT 1 / GLIDDEN ;BT 138 CHI W CTR 138 TRIP BRANCH FROM BUS 271560 TO BUS 272728 CKT 1 / GLIDDEN ;BT 138 WATERMAN ; B 138 TRIP BRANCH FROM BUS 271586 TO BUS 272114 CKT 1 / ESS W541 ; B 138 N AURORA ; B 138 TRIP BRANCH FROM BUS 272114 TO BUS 272522 CKT 1 / N AURORA ; B 138 SUGAR GRV; B 138 TRIP BRANCH FROM BUS 272522 TO BUS 271560 CKT 1 / SUGAR GRV; B 138 GLIDDEN ;BT 138 MOVE 100 PERCENT LOAD FROM BUS 271586 TO BUS 271587 / ESS W541 ; B 138 ESS W541 ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272522 TO BUS 272523 / SUGAR GRV; B 138 SUGAR GRV; R 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 / N AURORA ; B 138 N AURORA ; R 138 TRIP BRANCH FROM BUS 271390 TO BUS 272724 CKT 1 / ELECT JCT; B 138 WARRENVIL;BT 138 TRIP BRANCH FROM BUS 271390 TO BUS 275239 CKT 1 / ELECT JCT; B 138 ELECT JCT;2M 138 DISCONNECT BUS 271560 / GLIDDEN ;BT 138 DISCONNECT BUS 272522 / SUGAR GRV; B 138 REMOVE SWSHUNT FROM BUS 271390 / ELECT JCT; B 138 END

Contingency Name	Contingency Definition
COMED_P1-2_138-L16914_R-R	CONTINGENCY 'COMED_P1-2_138-L16914_R-R' / CONTINGENCY # 380 TRIP BRANCH FROM BUS 272002 TO BUS 272365 CKT 1 / MCGIRR RD; 138 ESS H440 ;RT 138 TRIP BRANCH FROM BUS 272365 TO BUS 272363 CKT 1 / ESS H440 ;RT 138 ESS H440 ; R 138 TRIP BRANCH FROM BUS 272365 TO BUS 272516 CKT 1 / ESS H440 ;RT 138 STEWARD ; B 138 END
COMED_P2-2_074_KE-138__1	CONTINGENCY 'COMED_P2-2_074_KE-138__1' / CONTINGENCY # 55 DISCONNECT BUS 271836 / KEWANEE ;11 138 DISCONNECT BUS 271837 / KEWANEE ;12 138 DISCONNECT BUS 271838 / KEWANEE ;13 138 END
COMED_P4_167-38-L14302_	CONTINGENCY 'COMED_P4_167-38-L14302_' / CONTINGENCY # 673 TRIP BRANCH FROM BUS 271116 TO BUS 272250 CKT 1 / BRISTOL ; B 138 PLANO ; B 138 TRIP BRANCH FROM BUS 272024 TO BUS 271182 CKT 1 / MONTGOMER; B 138 ESS W507 ; B 138 TRIP BRANCH FROM BUS 272026 TO BUS 271116 CKT 1 / MONTGOMER;BT 138 BRISTOL ; B 138 TRIP BRANCH FROM BUS 272026 TO BUS 272024 CKT 1 / MONTGOMER;BT 138 MONTGOMER; B 138 TRIP BRANCH FROM BUS 272202 TO BUS 272026 CKT 1 / OSWEGO ; B 138 MONTGOMER;BT 138 TRIP BRANCH FROM BUS 272794 TO BUS 272202 CKT 1 / WOLFS ; B 138 OSWEGO ; B 138 MOVE 100 PERCENT LOAD FROM BUS 271116 TO BUS 271117 / BRISTOL ; B 138 BRISTOL ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272202 TO BUS 272203 / OSWEGO ; B 138 OSWEGO ; R 138 CLOSE LINE FROM BUS 271182 TO BUS 271183 CKT 1 / ESS W507 ; B 138 ESS W507 ; R 138 CLOSE LINE FROM BUS 272024 TO BUS 272025 CKT 1 / MONTGOMER; B 138 MONTGOMER; R 138 DISCONNECT BUS 272250 / PLANO ; B 138 END
COMED_P2-1_094-L11323__	CONTINGENCY 'COMED_P2-1_094-L11323__' / CONTINGENCY # 111 TRIP BRANCH FROM BUS 271680 TO BUS 272756 CKT 1 / HAUMESSER; B 138 W DEKALB ;3T 138 END

Contingency Name	Contingency Definition
COMED_P1-2_138-L7405__R-S	CONTINGENCY 'COMED_P1-2_138-L7405__R-S' / CONTINGENCY # 526 TRIP BRANCH FROM BUS 271836 TO BUS 272110 CKT 1 / KEWANEE ;11 138 NORMANDY ; B 138 TRIP BRANCH FROM BUS 272110 TO BUS 272505 CKT 1 / NORMANDY ; B 138 SCHAUFF R; R 138 MOVE 100 PERCENT LOAD FROM BUS 272110 TO BUS 272111 / NORMANDY ; B 138 NORMANDY ; R 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_P4_155-45-BT2-34_	CONTINGENCY 'COMED_P4_155-45-BT2-34_' / CONTINGENCY # 636 TRIP BRANCH FROM BUS 270828 TO BUS 943410 CKT 1 / NELSON ; B 345 AF1-012 TAP 345 TRIP BRANCH FROM BUS 270828 TO BUS 272094 TO BUS 275341 CKT 1 / NELSON ; B 345 NELSON ; B 138 NELSON ;1C 34.5 END
COMED_P1-2_138-L11904_B-R-A	CONTINGENCY 'COMED_P1-2_138-L11904_B-R-A' / CONTINGENCY # 242 TRIP BRANCH FROM BUS 271398 TO BUS 271396 CKT 1 / ELEROY ;BT 138 ELEROY ; B 138 TRIP BRANCH FROM BUS 271398 TO BUS 946500 CKT 1 / ELEROY ;BT 138 AF1-314 TAP 138 MOVE 100 PERCENT LOAD FROM BUS 271396 TO BUS 271397 / ELEROY ; B 138 ELEROY ; R 138 TRIP BRANCH FROM BUS 271498 TO BUS 271398 CKT 1 / FREEPORT ;BT 138 ELEROY ;BT 138 TRIP BRANCH FROM BUS 271498 TO BUS 271494 CKT 1 / FREEPORT ;BT 138 FREEPORT ;2R 138 TRIP BRANCH FROM BUS 271498 TO BUS 271897 CKT 1 / FREEPORT ;BT 138 LANCASTER; R 138 TRIP BRANCH FROM BUS 271494 TO BUS 274184 CKT 7 / FREEPORT ;2R 138 FREEPORT; 34.5 MOVE 100 PERCENT LOAD FROM BUS 271494 TO BUS 271495 / FREEPORT ;2R 138 FREEPORT ;5R 138 END
COMED_P2-2_167_PL-138B__2	CONTINGENCY 'COMED_P2-2_167_PL-138B__2' / CONTINGENCY # 169 DISCONNECT BUS 272250 / PLANO ; B 138 END

Contingency Name	Contingency Definition
COMED_P2-1_119-L17121__	CONTINGENCY 'COMED_P2-1_119-L17121__' TRIP BRANCH FROM BUS 272240 TO BUS 271897 CKT 1 LANCASTER; R 138 END / CONTINGENCY # 165 / PECATONIC; B 138
COMED_P2-1_186-L16914__	CONTINGENCY 'COMED_P2-1_186-L16914__' TRIP BRANCH FROM BUS 272365 TO BUS 272516 CKT 1 STEWART ; B 138 END / CONTINGENCY # 256 / ESS H440 ;RT 138
COMED_P1-2_138-L8315__R-R	CONTINGENCY 'COMED_P1-2_138-L8315__R-R' TRIP BRANCH FROM BUS 271558 TO BUS 272757 CKT 1 ;7T 138 TRIP BRANCH FROM BUS 272757 TO BUS 272362 CKT 1 H445 ;3B 138 TRIP BRANCH FROM BUS 272757 TO BUS 272761 CKT 1 DEKALB ;7R 138 MOVE 100 PERCENT LOAD FROM BUS 272761 TO BUS 272759 DEKALB ;4R 138 END / CONTINGENCY # 552 / GLIDDEN ; B 138 W DEKALB / W DEKALB ;7T 138 ESS / W DEKALB ;7T 138 W / W DEKALB ;7R 138 W
COMED_P4_167-38-L14609__	CONTINGENCY 'COMED_P4_167-38-L14609__' TRIP BRANCH FROM BUS 272251 TO BUS 272803 CKT 1 138 TRIP BRANCH FROM BUS 272803 TO BUS 943120 CKT 1 TAP 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271116 BRISTOL ; B 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271117 BRISTOL ; R 138 MOVE 50 PERCENT LOAD FROM BUS 272803 TO BUS 272444 SANDWICH ; B 138 DISCONNECT BUS 272251 END / CONTINGENCY # 675 / PLANO; R 138 W PLANO ; R / W PLANO ; R 138 AE2-341 / W PLANO ; R 138 / W PLANO ; R 138 / W PLANO ; R 138 / PLANO; R 138
COMED_P1-2_345-L18905__B-R-B	CONTINGENCY 'COMED_P1-2_345-L18905__B-R-B' TRIP BRANCH FROM BUS 962700 TO BUS 270916 CKT 1 B 345 END / CONTINGENCY # 141B / AG1-119 TAP 345 WAYNE ;
COMED_P2-1_113-L11323__	CONTINGENCY 'COMED_P2-1_113-L11323__' TRIP BRANCH FROM BUS 272730 TO BUS 272728 CKT 1 WATERMAN ; B 138 END / CONTINGENCY # 140 / WATERMAN ;3B 138
COMED_P1-2_345-L18905__B-R-A	CONTINGENCY 'COMED_P1-2_345-L18905__B-R-A' TRIP BRANCH FROM BUS 930480 TO BUS 962700 CKT 1 TAP 345 END / CONTINGENCY # 141B / AB1-089 ; B 345 AG1-119

Contingency Name	Contingency Definition
COMED_P1-2_138-L10714_R-R-A	CONTINGENCY 'COMED_P1-2_138-L10714_R-R-A' / CONTINGENCY # 171 TRIP BRANCH FROM BUS 271333 TO BUS 966520 CKT 1 / DIXON ; R 138 AG1-521 TAP 138 END
COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-A	CONTINGENCY 'COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-A' / CONTINGENCY # 39 TRIP BRANCH FROM BUS 271333 TO BUS 966520 CKT 1 / DIXON ; R 138 AG1-521 TAP 138 TRIP BRANCH FROM BUS 272517 TO BUS 271333 CKT 1 / STILLMAN ;RT 138 DIXON ; R 138 END
COMED_P4_107-38-L15508_	CONTINGENCY 'COMED_P4_107-38-L15508_' / CONTINGENCY # 366 TRIP BRANCH FROM BUS 271331 TO BUS 271333 CKT 1 / DIXON ;8R 138 DIXON ; R 138 TRIP BRANCH FROM BUS 272097 TO BUS 271331 CKT 1 / NELSON ;RT 138 DIXON ;8R 138 TRIP BRANCH FROM BUS 272097 TO BUS 272095 CKT 1 / NELSON ;RT 138 NELSON ; R 138 TRIP BRANCH FROM BUS 272505 TO BUS 272097 CKT 1 / SCHAUFF R; R 138 NELSON ;RT 138 MOVE 100 PERCENT LOAD FROM BUS 271331 TO BUS 271330 / DIXON ;8R 138 DIXON ;7B 138 MOVE 100 PERCENT LOAD FROM BUS 271333 TO BUS 271332 / DIXON ; R 138 DIXON ; B 138 DISCONNECT BUS 271333 / DIXON ; R 138 END
COMED_P1-2_138-L14609_R-R-A	CONTINGENCY 'COMED_P1-2_138-L14609_R-R-A' / CONTINGENCY # 316 TRIP BRANCH FROM BUS 272251 TO BUS 272803 CKT 1 / PLANO; R 138 W PLANO ; R 138 TRIP BRANCH FROM BUS 272803 TO BUS 943120 CKT 1 / W PLANO ; R 138 AE2-341 TAP 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271116 / W PLANO ; R 138 BRISTOL ; B 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271117 / W PLANO ; R 138 BRISTOL ; R 138 MOVE 50 PERCENT LOAD FROM BUS 272803 TO BUS 272445 / W PLANO ; R 138 SANDWICH ; R 138 END
COMED_P4_155-45-BT34-5_	CONTINGENCY 'COMED_P4_155-45-BT34-5_' / CONTINGENCY # 637 TRIP BRANCH FROM BUS 270828 TO BUS 270890 CKT 1 / NELSON ; B 345 ESS H471 ; 345 TRIP BRANCH FROM BUS 270828 TO BUS 943410 CKT 1 / NELSON ; B 345 AF1-012 TAP 345 END

Contingency Name	Contingency Definition
COMED_P2-1_169-L16914__	CONTINGENCY 'COMED_P2-1_169-L16914__' / CONTINGENCY # 234 TRIP BRANCH FROM BUS 272002 TO BUS 272365 CKT 1 / MCGIRR RD; 138 ESS H440 ;RT 138 END

12 Short Circuit Analysis - Primary POI

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

13 Summer Peak - Load Flow Analysis - Secondary POI

The Queue Project AG1-521 was evaluated as a 100.0 MW (Capacity 80.0 MW) injection tapping the Dixon to Stillman 138 kV line in the ComEd area. Project AG1-521 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-521 was studied with a commercial probability of 53%. Potential network impacts were as follows:

13.1 Generation Deliverability

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

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
162706958	272363	ESS H440 ; R	138.0	CE	272364	ESS H440 N ; R	138.0	CE	1	COMED_P2-1_186-L16914_	single	196.699996948	98.94	102.65	DC	7.28
162706964	272364	ESS H440 N ; R	138.0	CE	272362	ESS H445 ; 3B	138.0	CE	1	COMED_P2-1_186-L16914_	single	196.699996948	97.12	100.82	DC	7.28

13.2 Multiple Facility Contingency

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADIN G %	POST PROJE CT LOADIN G %	AC/D C	MW IMPAC T
162272695	270743	ESS W407K;9 T	345.0	CE	274749	AURORA EC; RP	345.0	CE	1	COMED_P7-1_345-L13821_R-R+_345-L18502AB-N	tower	1768.0	99.98	100.31	DC	13.11
162526508	271331	DIXON ; 8R	138.0	CE	272097	NELSON ; RT	138.0	CE	1	COMED_P4_155-38-TR84_	breaker	440.0	94.79	104.65	DC	43.4
162526500	271333	DIXON ; R	138.0	CE	271331	DIXON ; 8R	138.0	CE	1	COMED_P4_155-38-TR84_	breaker	449.0	96.63	106.3	DC	43.4
162385667	275165	CHERRY VA; 1M	138.0	CE	271193	CHERRY VA; R	138.0	CE	1	COMED_P2-2_156_CV-138R_2	bus	530.0	99.23	100.23	DC	5.27
162526439	275165	CHERRY VA; 1M	138.0	CE	271193	CHERRY VA; R	138.0	CE	1	COMED_P4_156-38-L15622_	breaker	530.0	99.22	100.21	DC	5.27

13.3 Contribution to Previously Identified Overloads

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
1622723 68	27082 8	NELSON ; B	345. 0	CE	94341 0	AF1-012 TAP	345. 0	CE	1	COMED_P2-2_156_CV-345R_10	bus	1656. 0	107.09	107.57	DC	17.26
1622723 69	27082 8	NELSON ; B	345. 0	CE	94341 0	AF1-012 TAP	345. 0	CE	1	COMED_P2-2_900_EL-345B_10	bus	1656. 0	105.31	105.78	DC	17.05
1685697 46	27082 8	NELSON ; B	345. 0	CE	94341 0	AF1-012 TAP	345. 0	CE	1	Base Case	single	1334. 0	108.39	109.41	DC	13.65
1711113 40	27082 8	NELSON ; B	345. 0	CE	94615 0	AF1-280 TAP	345. 0	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R	tower	1768. 0	105.71	106.91	DC	21.13
1711113 49	27082 8	NELSON ; B	345. 0	CE	94341 0	AF1-012 TAP	345. 0	CE	1	COMED_P7-1_138-L11323_R-R+_138-L11305_B-R-A	tower	1912. 0	100.04	100.5	DC	19.17
1743360 52	27082 8	NELSON ; B	345. 0	CE	94341 0	AF1-012 TAP	345. 0	CE	1	COMED_P4_1 44-45-BT7-8	breaker	1656. 0	130.26	130.78	DC	19.17
1713352 03	27149 9	FREEPORT ;RT	138. 0	CE	27259 9	ESS B427 ;4T	138. 0	CE	1	COMED_P2-2_171_WP-138R_12	bus	193.0	168.16	169.35	DC	5.07
1777532 12	27149 9	FREEPORT ;RT	138. 0	CE	27259 9	ESS B427 ;4T	138. 0	CE	1	COMED_P4_1 71-38-TR84	breaker	181.0	179.31	180.58	DC	5.07
1777532 13	27149 9	FREEPORT ;RT	138. 0	CE	27259 9	ESS B427 ;4T	138. 0	CE	1	COMED_P4_1 71-38-L17121	breaker	193.0	170.81	171.99	DC	5.07
1777532 14	27149 9	FREEPORT ;RT	138. 0	CE	27259 9	ESS B427 ;4T	138. 0	CE	1	COMED_P4_1 71-38-L15625	breaker	193.0	168.91	170.1	DC	5.07
1777533 14	27156 0	GLIDDEN ;BT	138. 0	CE	96269 0	AG1-118 TAP	138. 0	CE	1	COMED_P4_1 67-38-L14609	breaker	538.0	124.91	125.49	DC	6.92
1625264 89	27158 6	ESS W541 ; B	138. 0	CE	27139 0	ELECT JCT; B	138. 0	CE	1	COMED_P4_1 67-38-L14609	breaker	498.0	115.68	116.23	DC	6.11
1743361 97	27183 5	KEWANEE ;23	138. 0	CE	34896 2	4KEEMIN	138. 0	AMI L	1	COMED_P4_1 87-38-BT5-6	breaker	223.0	107.55	108.37	DC	3.45
1713353 22	27189 7	LANCASTE R; R	138. 0	CE	27149 9	FREEPORT ;RT	138. 0	CE	1	COMED_P2-2_171_WP-138R_12	bus	336.0	105.04	105.71	DC	5.05
1777533 33	27189 7	LANCASTE R; R	138. 0	CE	27149 9	FREEPORT ;RT	138. 0	CE	1	COMED_P4_1 71-38-TR84	breaker	317.0	111.33	112.05	DC	5.05
1777533 34	27189 7	LANCASTE R; R	138. 0	CE	27149 9	FREEPORT ;RT	138. 0	CE	1	COMED_P4_1 71-38-L17121	breaker	336.0	106.53	107.2	DC	5.05
1777533 35	27189 7	LANCASTE R; R	138. 0	CE	27149 9	FREEPORT ;RT	138. 0	CE	1	COMED_P4_1 71-38-L15625	breaker	336.0	105.45	106.12	DC	5.04
1625263 36	27200 2	MCGIRR RD;	138. 0	CE	27236 5	ESS H440 ;RT	138. 0	CE	1	COMED_P4_1 55-45-BT2-34	breaker	449.0	178.22	181.01	DC	12.55
1625263 37	27200 2	MCGIRR RD;	138. 0	CE	27236 5	ESS H440 ;RT	138. 0	CE	1	COMED_P4_1 55-45-BT34-5	breaker	449.0	177.77	180.52	DC	12.32
1625264 80	27211 4	N AURORA ; B	138. 0	CE	27158 6	ESS W541 ; B	138. 0	CE	1	COMED_P4_1 67-38-L14609	breaker	498.0	117.14	117.7	DC	6.11
1625264 22	27236 5	ESS H440 ;RT	138. 0	CE	27251 6	STEWART ; B	138. 0	CE	1	COMED_P4_1 55-45-BT34-5	breaker	449.0	134.69	135.66	DC	9.62
1625264 23	27236 5	ESS H440 ;RT	138. 0	CE	27251 6	STEWART ; B	138. 0	CE	1	COMED_P4_1 55-45-BT2-34	breaker	449.0	134.34	135.32	DC	9.79
1625264 01	27252 2	SUGAR GRV; B	138. 0	CE	27211 4	N AURORA ; B	138. 0	CE	1	COMED_P4_1 67-38-L14609	breaker	498.0	153.02	153.64	DC	6.92

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC DC	MW IMPACT
162385556	272730	WATERMAN;3B	138.0	CE	272728	WATERMAN; B	138.0	CE	1	COMED_P2-2_156_CV-138R_1	bus	539.0	194.19	196.47	DC	12.27
177575544	272730	WATERMAN;3B	138.0	CE	272728	WATERMAN; B	138.0	CE	1	COMED_P1-2_345-L18905_B-R-B	single	507.0	109.7	111.37	DC	8.48
177575545	272730	WATERMAN;3B	138.0	CE	272728	WATERMAN; B	138.0	CE	1	COMED_P1-2_345-L18905_B-R-A	single	507.0	108.52	110.19	DC	8.48
162526437	275165	CHERRYVA;1M	138.0	CE	271193	CHERRYVA; R	138.0	CE	1	COMED_P4_156-38-TR83_	breaker	480.0	109.57	110.67	DC	5.27
171111034	943410	AF1-012 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	COMED_P2-2_156_CV-345R_10	bus	1656.0	114.49	114.97	DC	17.26
171111035	943410	AF1-012 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	COMED_P2-2_900_EL-345B_10	bus	1656.0	113.78	114.25	DC	17.05
171111307	943410	AF1-012 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	COMED_P7-1_138-L11323_R-R+_138-L11305_B-R-A	tower	1912.0	107.36	107.82	DC	19.17
174336016	943410	AF1-012 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	COMED_P4_144-45-BT7-8_	breaker	1656.0	141.17	141.7	DC	19.17
175591688	943410	AF1-012 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	Base Case	single	1334.0	112.85	113.87	DC	13.65
162272508	946150	AF1-280 TAP	345.0	CE	274768	LEE CO EC;BP	345.0	CE	1	COMED_P7-1_345-L15502_B-R+_345-L16703_R-S-A	tower	1768.0	119.27	120.44	DC	20.67
171111247	946150	AF1-280 TAP	345.0	CE	274768	LEE CO EC;BP	345.0	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R	tower	1768.0	119.3	120.5	DC	21.13
162272243	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	COMED_P2-2_156_CV-345R_10	bus	1656.0	124.69	125.16	DC	17.26
162272244	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	COMED_P2-2_900_EL-345B_10	bus	1656.0	121.71	122.17	DC	17.05
162272504	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	COMED_P7-1_138-L18706_R-S+_138-L7405_R-S	tower	1912.0	112.79	113.24	DC	19.13
170075879	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	Base Case	single	1334.0	127.44	128.45	DC	13.65
171111261	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-A	tower	1912.0	112.06	113.19	DC	21.85
174335991	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	COMED_P4_144-45-BT7-8_	breaker	1656.0	147.96	148.48	DC	19.17
177753262	962690	AG1-118 TAP	138.0	CE	272522	SUGAR GRV; B	138.0	CE	1	COMED_P4_167-38-L14609_	breaker	538.0	151.44	152.02	DC	6.92

13.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
168569694	270828	NELSON ; B	345.0	CE	946150	AF1-280 TAP	345.0	CE	1	COMED_P1-2_345-L15502_B-R-D	operation	1479.0	125.91	127.31	DC	20.81
168569743	270828	NELSON ; B	345.0	CE	943410	AF1-012 TAP	345.0	CE	1	Base Case	operation	1334.0	129.62	130.2	DC	17.06
162707265	271331	DIXON ;8R	138.0	CE	272097	NELSON ;RT	138.0	CE	1	COMED_P1-2_138-L16914_R-R	operation	440.0	95.73	103.45	DC	33.99
162707262	271333	DIXON ; R	138.0	CE	271331	DIXON ;8R	138.0	CE	1	COMED_P1-2_138-L16914_R-R	operation	449.0	97.53	105.1	DC	33.99
162707020	271428	ESS H452 ;RT	138.0	CE	272730	WATERMAN ;3B	138.0	CE	1	Base Case	operation	376.0	172.35	173.25	DC	7.51
162707021	271428	ESS H452 ;RT	138.0	CE	272730	WATERMAN ;3B	138.0	CE	1	COMED_P1-2_138-L8315_R-R	operation	483.0	169.55	171.63	DC	10.04
162707030	271499	FREEPORT ;RT	138.0	CE	272599	ESS B427 ;4T	138.0	CE	1	COMED_P1-2_138-L17121_R-R	operation	181.0	179.24	180.54	DC	5.23
162707031	271499	FREEPORT ;RT	138.0	CE	272599	ESS B427 ;4T	138.0	CE	1	COMED_P2-1_119-L17121	operation	181.0	179.24	180.54	DC	5.23
177575731	271558	GLIDDEN ; B	138.0	CE	960750	AF2-366 TAP	138.0	CE	1	COMED_P2-1_094-L11323	operation	480.0	114.51	115.18	DC	7.15
177575673	271560	GLIDDEN ;BT	138.0	CE	962690	AG1-118 TAP	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	483.0	139.06	139.71	DC	6.92
162707200	271586	ESS W541 ; B	138.0	CE	271390	ELECT JCT; B	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	449.0	128.22	128.83	DC	6.11

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 PROJECTIONS LOADING %	POST PROJECTIONS LOADING %	AC/D C	MW IMPACT
162707055	271680	HAUMESSE R; B	138.0	CE	272756	W DEKALB ;3T	138.0	CE	1	COMED_P1-2_138-L8315_R-R	operation	452.0	192.97	195.19	DC	10.04
162707060	271680	HAUMESSE R; B	138.0	CE	272756	W DEKALB ;3T	138.0	CE	1	Base Case	operation	438.0	154.3	155.07	DC	7.51
175591877	271835	KEWANEE ;23	138.0	CE	348962	4KEEMIN	138.0	AMIL	1	COMED_P1-2_138-L98105_R-S-D	operation	223.0	107.0	107.59	DC	2.5
162707220	271836	KEWANEE ;11	138.0	CE	272110	NORMANDY ; B	138.0	CE	1	COMED_P1-2_138-L7411_R-S	operation	214.0	99.22	100.06	DC	3.41
162707186	271897	LANCASTER ; R	138.0	CE	271499	FREEPORT ;RT	138.0	CE	1	COMED_P2-1_119-L17121	operation	317.0	111.26	112.0	DC	5.21
162707187	271897	LANCASTER ; R	138.0	CE	271499	FREEPORT ;RT	138.0	CE	1	COMED_P1-2_138-L17121_R-R	operation	317.0	111.26	112.0	DC	5.21
162707090	271898	LANCASTER ;BT	138.0	CE	271897	LANCASTER ; R	138.0	CE	1	COMED_P1-2_138-L11904_B-R-A	operation	321.0	154.72	155.7	DC	6.98
162707025	272002	MCGIRR RD;	138.0	CE	272365	ESS H440 ;RT	138.0	CE	1	Base Case	operation	351.0	210.32	213.47	DC	11.07
162707026	272002	MCGIRR RD;	138.0	CE	272365	ESS H440 ;RT	138.0	CE	1	COMED_P1-2_345-L15502_B-R-A	operation	449.0	177.7	180.38	DC	12.03
162707127	272002	MCGIRR RD;	138.0	CE	934700	AD1-098 TAP	138.0	CE	1	Base Case	operation	351.0	116.06	117.64	DC	5.55
162707195	272114	N AURORA ; B	138.0	CE	271586	ESS W541 ; B	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	449.0	129.87	130.48	DC	6.11
162706986	272362	ESS H445 ;3B	138.0	CE	272757	W DEKALB ;7T	138.0	CE	1	COMED_P2-1_094-L11323	operation	298.0	225.31	226.52	DC	7.97
162706953	272363	ESS H440 ; R	138.0	CE	272364	ESS H440N ;R	138.0	CE	1	COMED_P2-1_186-L16914	operation	196.699996948	290.65	292.74	DC	9.1
162706959	272364	ESS H440N ;R	138.0	CE	272362	ESS H445 ;3B	138.0	CE	1	COMED_P2-1_186-L16914	operation	196.699996948	288.83	290.92	DC	9.1
162706946	272365	ESS H440 ;RT	138.0	CE	272363	ESS H440 ; R	138.0	CE	1	COMED_P2-1_186-L16914	operation	196.699996948	312.87	314.96	DC	9.1
162707132	272365	ESS H440 ;RT	138.0	CE	272516	STEWARDS ; B	138.0	CE	1	Base Case	operation	351.0	153.82	154.93	DC	8.62
162707134	272365	ESS H440 ;RT	138.0	CE	272516	STEWARDS ; B	138.0	CE	1	COMED_P1-2_138-L8315_R-R	operation	449.0	134.32	135.27	DC	9.44

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
162707151	272444	SANDWICH ; B	138.0	CE	943120	AE2-341 TAP	138.0	CE	1	Base Case	operation	351.0	129.23	129.92	DC	5.35
177575653	272444	SANDWICH ; B	138.0	CE	943120	AE2-341 TAP	138.0	CE	1	COMED_P1-2_138-L11106_B-R-AA	operation	449.0	151.16	151.9	DC	7.37
162707138	272445	SANDWICH ; R	138.0	CE	272444	SANDWICH ; B	138.0	CE	1	Base Case	operation	351.0	133.06	133.75	DC	5.35
177575632	272445	SANDWICH ; R	138.0	CE	272444	SANDWICH ; B	138.0	CE	1	COMED_P1-2_138-L11106_B-R-AA	operation	449.0	158.92	159.66	DC	7.37
162707154	272516	STEWART ; B	138.0	CE	271680	HAUMESSER ; B	138.0	CE	1	COMED_P1-2_138-L8315_R-R	operation	449.0	144.39	146.63	DC	10.06
162707156	272516	STEWART ; B	138.0	CE	271680	HAUMESSER ; B	138.0	CE	1	Base Case	operation	351.0	131.96	132.93	DC	7.54
162707066	272522	SUGAR GRV ; B	138.0	CE	272114	N AURORA ; B	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	374.0	203.66	204.49	DC	6.92
162706997	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	Base Case	operation	238.0	204.76	205.77	DC	5.35
162707011	272728	WATERMAN ; B	138.0	CE	271560	GLIDDEN ; BT	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	321.0	209.24	210.21	DC	6.92
177575513	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	COMED_P1-2_138-L11106_B-R-AA	operation	309.0	237.13	238.2	DC	7.37
162707005	272730	WATERMAN ; 3B	138.0	CE	272728	WATERMAN ; B	138.0	CE	1	Base Case	operation	487.0	177.16	178.08	DC	9.97
177575538	272730	WATERMAN ; 3B	138.0	CE	272728	WATERMAN ; B	138.0	CE	1	COMED_P1-2_138-L15627_R-R-AA	operation	507.0	204.66	206.77	DC	10.69
162707006	272756	W DEKALB ; 3T	138.0	CE	271428	ESS H452 ; RT	138.0	CE	1	COMED_P1-2_138-L8315_R-R	operation	452.0	181.18	183.4	DC	10.04
162707007	272756	W DEKALB ; 3T	138.0	CE	271428	ESS H452 ; RT	138.0	CE	1	Base Case	operation	376.0	172.35	173.25	DC	7.51
162706980	272757	W DEKALB ; 7T	138.0	CE	271558	GLIDDEN ; B	138.0	CE	1	COMED_P2-1_094-L11323	operation	264.0	244.67	246.03	DC	7.97
168569682	274768	LEE CO EC ; BP	345.0	CE	270678	BYRON ; B	345.0	CE	1	COMED_P1-2_345-L15502_B-R-D	operation	1726.0	138.23	138.76	DC	20.44
177575568	934700	AD1-098 TAP	138.0	CE	271333	DIXON ; R	138.0	CE	1	Base Case	operation	351.0	127.19	128.77	DC	5.55
175591687	943410	AF1-012 TAP	345.0	CE	957470	AF2-041 TAP	345.0	CE	1	Base Case	operation	1334.0	140.14	140.72	DC	17.06

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/D C	MW IMPACT
168569638	946150	AF1-280 TAP	345.0	CE	274768	LEE CO EC;BP	345.0	CE	1	COMED_P1-2_345-L15502_B-R-D	operation	1479.0	142.08	143.49	DC	20.81
170075877	957470	AF2-041 TAP	345.0	CE	270730	ELECT JCT; B	345.0	CE	1	Base Case	operation	1334.0	149.98	150.55	DC	17.06
177575692	960750	AF2-366 TAP	138.0	CE	272730	WATERMAN ;3B	138.0	CE	1	COMED_P2-1_094-L11323_	operation	480.0	132.9	133.57	DC	7.15
162707217	961010	AF2-392 TAP	138.0	CE	272094	NELSON ; B	138.0	CE	1	COMED_P2-1_169-L16914_	operation	440.0	108.0	115.09	DC	31.21
177575618	962690	AG1-118 TAP	138.0	CE	272522	SUGAR GRV; B	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	483.0	168.61	169.26	DC	6.92

13.5 Flow Gate Details - Secondary POI

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

13.5.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162706958	272363	ESS H440 ; R	CE	272364	ESS H440N ;R	CE	1	COMED_P2-1_186-L16914__	single	196.7	98.94	102.65	DC	7.28

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

13.5.2 Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162706964	272364	ESS H440N ;R	CE	272362	ESS H445 ;3B	CE	1	COMED_P2-1_186-L16914__	single	196.7	97.12	100.82	DC	7.28

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	13.4312	80/20	13.4312
274850	MENDOTA H;RU	1.0643	80/20	1.0643
274855	GSG-6 ;RU	1.7525	80/20	1.7525
295108	WESTBROOK C	0.5682	80/20	0.5682
295110	SUBLETTE C	0.0494	80/20	0.0494
934431	AD1-067 C	0.0880	80/20	0.0880
934701	AD1-098 C O1	28.0162	80/20	28.0162
937001	AD2-134 C	11.6153	80/20	11.6153
938861	AE1-114 C O1	1.7622	80/20	1.7622
961011	AF2-392 C O1	2.3676	80/20	2.3676
961021	AF2-393 O1	4.0356	80/20	4.0356
961031	AF2-394 O1	2.6904	80/20	2.6904
962791	AG1-128 C O2	26.2740	80/20	26.2740
965661	AG1-434 C O2	17.8541	80/20	17.8541
966521	AG1-521 C O2	7.2840	80/20	7.2840
WEC	WEC	0.0435	Confirmed LTF	0.0435
CPLE	CPLE	0.0143	Confirmed LTF	0.0143
CBM-W2	CBM-W2	1.9085	Confirmed LTF	1.9085
NY	NY	0.0221	Confirmed LTF	0.0221
TVA	TVA	0.2128	Confirmed LTF	0.2128
SIGE	SIGE	0.0068	Confirmed LTF	0.0068
CBM-S2	CBM-S2	0.4072	Confirmed LTF	0.4072
CBM-S1	CBM-S1	0.0467	Confirmed LTF	0.0467
MEC	MEC	1.5207	Confirmed LTF	1.5207
BLUEG	BLUEG	0.0208	Confirmed LTF	0.0208
TRIMBLE	TRIMBLE	0.0089	Confirmed LTF	0.0089
LAGN	LAGN	0.4498	Confirmed LTF	0.4498
CBM-W1	CBM-W1	5.2014	Confirmed LTF	5.2014

13.5.3 Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162272695	270743	ESS W407K;9T	CE	274749	AURORA EC;RP	CE	1	COMED_P7-1_345-L13821_R-R+_345-L18502AB-N	tower	1768.0	99.98	100.31	DC	13.11

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.0370	Adder	2.4
274693	ROCKY RD ;1P	4.4299	50/50	4.4299
274695	ROCKY RD ;2P	4.4740	50/50	4.4740
274696	ROCKY RD ;4P	4.5752	50/50	4.5752
274697	ROCKY RD ;3P	1.2154	50/50	1.2154
274818	ELGIN EC ;1P	5.3303	50/50	5.3303
274820	ELGIN EC ;2P	5.3303	50/50	5.3303
274821	ELGIN EC ;4P	5.1072	50/50	5.1072
274859	EASYR;U1 E	12.6782	Adder	14.92
274860	EASYR;U2 E	12.6782	Adder	14.92
276167	Z1-106 E2	1.2566	Adder	1.48
276168	Z1-106 E1	1.2667	Adder	1.49
276170	Z1-108 E	4.3598	Adder	5.13
276591	L-013 2	3.6443	Adder	4.29
290051	GSG-6; E	8.0730	Adder	9.5
290108	LEEDK;1U E	16.9150	Adder	19.9
293516	O-009 E1	7.2196	Adder	8.49
293517	O-009 E2	3.6670	Adder	4.31
293518	O-009 E3	4.0383	Adder	4.75
293715	O-029 E	7.7185	Adder	9.08
293716	O-029 E	4.2319	Adder	4.98
293717	O-029 E	3.8896	Adder	4.58
294763	P-046 E	11.6443	Adder	13.7
295109	WESTBROOK E	4.3222	Adder	5.08
295111	SUBLETTE E	2.4518	Adder	2.88
916221	Z1-073 E	4.1931	Adder	4.93
919581	AA2-030 C	16.9014	Adder	19.88
920272	AA2-123 E	4.0166	Adder	4.73
924472	AB2-096 CT1	30.7291	Adder	36.15
924473	AB2-096 CT2	30.7291	Adder	36.15
924474	AB2-096 CT3	30.7291	Adder	36.15
926331	AC1-110 1	1.4061	Adder	1.65
926341	AC1-110 2	1.4061	Adder	1.65
930482	AB1-089 CT	58.3750	Adder	68.68
930483	AB1-089 ST	46.4104	Adder	54.6
933911	AD1-013 C	1.4297	Adder	1.68
933912	AD1-013 E	2.2838	Adder	2.69
933931	AD1-016 C	1.5196	Adder	1.79
933932	AD1-016 E	2.4793	Adder	2.92

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934432	AD1-067 E	0.4262	Adder	0.5
934701	AD1-098 C O1	5.3758	Adder	6.32
934702	AD1-098 E O1	3.9249	Adder	4.62
934971	AD1-129 C	1.3653	Adder	1.61
934972	AD1-129 E	0.9102	Adder	1.07
936791	AD2-102 C	18.0897	Adder	21.28
936792	AD2-102 E	12.0598	Adder	14.19
937001	AD2-134 C	2.1104	Adder	2.48
937002	AD2-134 E	8.7181	Adder	10.26
937311	AD2-172 C	3.0566	Adder	3.6
937312	AD2-172 E	4.2211	Adder	4.97
937531	AD2-214 C	3.7586	Adder	4.42
937532	AD2-214 E	2.5057	Adder	2.95
938861	AE1-114 C O1	4.4113	Adder	5.19
938862	AE1-114 E O1	15.0503	Adder	17.71
939051	AE1-134 1	1.3134	Adder	1.55
939061	AE1-134 2	1.3134	Adder	1.55
940501	AE2-035 C	3.0566	Adder	3.6
940502	AE2-035 E	4.2211	Adder	4.97
941131	AE2-107 C	4.5671	Adder	5.37
941132	AE2-107 E	3.0447	Adder	3.58
942991	AE2-321 C	13.3633	Adder	15.72
942992	AE2-321 E	6.5819	Adder	7.74
943411	AF1-012 C	11.0563	Adder	13.01
943412	AF1-012 E	7.3709	Adder	8.67
943801	AF1-048 C	6.2469	Adder	7.35
943802	AF1-048 E	4.1646	Adder	4.9
943921	AF1-060	1.5050	Adder	1.77
944041	AF1-072	4.8007	50/50	4.8007
946151	AF1-280 C O1	17.0634	Adder	20.07
946152	AF1-280 E O1	7.8467	Adder	9.23
946161	AF1-281 C O1	0.3737	Adder	0.44
946162	AF1-281 E O1	2.1174	Adder	2.49
946321	AF1-296 C O1	3.1975	Adder	3.76
946322	AF1-296 E O1	14.9698	Adder	17.61
946501	AF1-314 C	5.4309	Adder	6.39
946502	AF1-314 E	25.4265	Adder	29.91
946661	AF1-330 C	3.2936	Adder	3.87
946662	AF1-330 E	0.7230	Adder	0.85
946671	AF1-331	1.8567	Adder	2.18
952431	J760	3.7989	PJM External (MISO)	3.7989
953681	J818	11.9453	PJM External (MISO)	11.9453
953901	J850	20.4425	PJM External (MISO)	20.4425
953921	J855 C	1.1154	PJM External (MISO)	1.1154
953922	J855 E	6.0346	PJM External (MISO)	6.0346
954001	J864	3.6980	PJM External (MISO)	3.6980
954061	J870	14.7320	PJM External (MISO)	14.7320
954071	J871	7.3660	PJM External (MISO)	7.3660
956581	J1154	6.0150	PJM External (MISO)	6.0150
956901	J1188	4.6110	PJM External (MISO)	4.6110
957471	AF2-041 C	18.1351	Adder	21.34
957472	AF2-041 E	9.0675	Adder	10.67

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
958911	AF2-182 C	22.4191	Adder	26.38
958912	AF2-182 E	14.9461	Adder	17.58
958921	AF2-183 C	3.9856	Adder	4.69
958922	AF2-183 E	5.9784	Adder	7.03
959081	AF2-199 C	6.0450	Adder	7.11
959082	AF2-199 E	3.0225	Adder	3.56
959091	AF2-200 C O1	12.0901	Adder	14.22
959092	AF2-200 E O1	6.0450	Adder	7.11
959101	AF2-201 C O1	7.4815	Adder	8.8
959102	AF2-201 E O1	21.4838	Adder	25.28
960551	AF2-346 C	4.7384	Adder	5.57
960552	AF2-346 E	3.1589	Adder	3.72
960581	AF2-349 C	35.0967	Adder	41.29
960582	AF2-349 E	23.3978	Adder	27.53
960721	AF2-363 C O1	5.9826	Adder	7.04
960722	AF2-363 E O1	3.9884	Adder	4.69
960731	AF2-364 C O1	10.8260	Adder	12.74
960732	AF2-364 E O1	7.2173	Adder	8.49
960751	AF2-366 C	4.9996	Adder	5.88
960752	AF2-366 E	3.3331	Adder	3.92
961011	AF2-392 C O1	3.7328	Adder	4.39
961012	AF2-392 E O1	17.4764	Adder	20.56
961021	AF2-393 O1	6.3628	Adder	7.49
961031	AF2-394 O1	4.2418	Adder	4.99
962012	AG1-044 E	0.0296	Adder	0.07
962691	AG1-118 C O2	7.5235	Adder	16.7
962692	AG1-118 E O2	5.0157	Adder	11.13
962701	AG1-119 C O2	63.7308	50/50	63.7308
962702	AG1-119 E O2	42.4872	50/50	42.4872
962711	AG1-120 C O2	25.1949	50/50	25.1949
962712	AG1-120 E O2	16.7966	50/50	16.7966
962781	AG1-127 C O2	2.9346	Adder	6.51
962782	AG1-127 E O2	1.9564	Adder	4.34
962791	AG1-128 C O2	2.5301	Adder	5.62
962792	AG1-128 E O2	11.8396	Adder	26.28
963681	AG1-220 C O2	7.1011	Adder	15.76
963682	AG1-220 E O2	4.7340	Adder	10.51
964461	AG1-309 FTIR	405.0871	Merchant Transmission	405.0871
965061	AG1-371	1.6019	Adder	3.56
965071	AG1-372	1.0680	Adder	2.37
965081	AG1-373	0.5340	Adder	1.19
965551	AG1-423 C O2	14.2340	Adder	31.6
965552	AG1-423 E O2	9.4893	Adder	21.06
965661	AG1-434 C O2	1.7193	Adder	3.82
965662	AG1-434 E O2	8.0494	Adder	17.87
965931	AG1-462 C O2	8.1341	Adder	18.06
965932	AG1-462 E O2	5.4228	Adder	12.04
966521	AG1-521 C O2	4.7245	Adder	10.49
966522	AG1-521 E O2	1.1811	Adder	2.62
966651	AG1-535 O2	7.0060	Adder	15.55
966821	AG1-553 C O2	11.6577	Adder	25.88
966822	AG1-553 E O2	2.9144	Adder	6.47

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
WEC	WEC	1.7549	Confirmed LTF	1.7549
CBM-W2	CBM-W2	7.0874	Confirmed LTF	7.0874
NY	NY	0.3318	Confirmed LTF	0.3318
TVA	TVA	0.6846	Confirmed LTF	0.6846
O-066	O-066	3.9572	Confirmed LTF	3.9572
SIGE	SIGE	0.0285	Confirmed LTF	0.0285
CBM-S1	CBM-S1	0.1201	Confirmed LTF	0.1201
G-007	G-007	0.6174	Confirmed LTF	0.6174
HAMLET	HAMLET	0.1213	Confirmed LTF	0.1213
MEC	MEC	9.3354	Confirmed LTF	9.3354
GIBSON	GIBSON	0.2151	Confirmed LTF	0.2151
BLUEG	BLUEG	0.8663	Confirmed LTF	0.8663
TRIMBLE	TRIMBLE	0.2872	Confirmed LTF	0.2872
LAGN	LAGN	2.0738	Confirmed LTF	2.0738
CATAWBA	CATAWBA	0.0570	Confirmed LTF	0.0570
CBM-W1	CBM-W1	52.5750	Confirmed LTF	52.5750

13.5.4 Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162526508	271331	DIXON ;8R	CE	272097	NELSON ;RT	CE	1	COMED_P4_155-38-TR84__	breaker	440.0	94.79	104.65	DC	43.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	4.3529	50/50	4.3529
274850	MENDOTA H;RU	0.4487	50/50	0.4487
274855	GSG-6 ;RU	0.7389	50/50	0.7389
274856	ECOGROVE ;U1	0.4266	50/50	0.4266
274872	LEE DEKAL;1U	0.9690	50/50	0.9690
276162	X1-087	0.3069	50/50	0.3069
290051	GSG-6; E	18.7341	50/50	18.7341
290108	LEEDK;1U E	30.7080	50/50	30.7080
294763	P-046 E	11.1496	50/50	11.1496
295108	WESTBROOK C	0.2396	50/50	0.2396
295109	WESTBROOK E	10.0300	50/50	10.0300
295110	SUBLETTE C	0.2326	50/50	0.2326
295111	SUBLETTE E	10.5040	50/50	10.5040
916221	Z1-073 E	9.7306	50/50	9.7306
933431	AC2-156 C O1	0.3932	Adder	0.46
933432	AC2-156 E O1	0.6415	Adder	0.75
933911	AD1-013 C	2.9439	50/50	2.9439
933912	AD1-013 E	4.7025	50/50	4.7025
934431	AD1-067 C	0.0371	50/50	0.0371
934432	AD1-067 E	0.9891	50/50	0.9891
934701	AD1-098 C O1	13.1455	50/50	13.1455
934702	AD1-098 E O1	9.5975	50/50	9.5975
937001	AD2-134 C	4.8974	50/50	4.8974
937002	AD2-134 E	20.2312	50/50	20.2312
937311	AD2-172 C	2.9268	50/50	2.9268
937312	AD2-172 E	4.0417	50/50	4.0417
938861	AE1-114 C O1	8.1216	50/50	8.1216
938862	AE1-114 E O1	27.7089	50/50	27.7089
940501	AE2-035 C	2.9268	50/50	2.9268
940502	AE2-035 E	4.0417	50/50	4.0417
941131	AE2-107 C	8.2912	50/50	8.2912
941132	AE2-107 E	5.5274	50/50	5.5274
943921	AF1-060	1.4411	50/50	1.4411
946501	AF1-314 C	5.2002	50/50	5.2002
946502	AF1-314 E	24.3463	50/50	24.3463
946671	AF1-331	3.8232	50/50	3.8232
959101	AF2-201 C O1	7.1636	50/50	7.1636
959102	AF2-201 E O1	20.5710	50/50	20.5710
960721	AF2-363 C O1	4.8884	50/50	4.8884
960722	AF2-363 E O1	3.2589	50/50	3.2589
960751	AF2-366 C	6.9410	50/50	6.9410
960752	AF2-366 E	4.6273	50/50	4.6273

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
961011	AF2-392 C O1	16.1881	50/50	16.1881
961012	AF2-392 E O1	75.7899	50/50	75.7899
961021	AF2-393 O1	27.5934	50/50	27.5934
961031	AF2-394 O1	18.3956	50/50	18.3956
962013	AG1-044 BAT	0.0964	50/50	0.0964
962691	AG1-118 C O2	19.3140	50/50	19.3140
962692	AG1-118 E O2	12.8760	50/50	12.8760
962781	AG1-127 C O2	7.6870	50/50	7.6870
962782	AG1-127 E O2	5.1247	50/50	5.1247
962791	AG1-128 C O2	11.0779	50/50	11.0779
962792	AG1-128 E O2	51.8397	50/50	51.8397
963681	AG1-220 C O2	2.9436	Adder	6.53
963682	AG1-220 E O2	1.9624	Adder	4.36
965661	AG1-434 C O2	7.5279	50/50	7.5279
965662	AG1-434 E O2	35.2441	50/50	35.2441
966521	AG1-521 C O2	34.7168	50/50	34.7168
966522	AG1-521 E O2	8.6792	50/50	8.6792
990901	L-005 E	-6.5780	Adder	-7.74
WEC	WEC	0.2741	Confirmed LTF	0.2741
CALDERWOOD	CALDERWOOD	0.0895	Confirmed LTF	0.0895
NY	NY	0.0177	Confirmed LTF	0.0177
PRAIRIE	PRAIRIE	1.1959	Confirmed LTF	1.1959
O-066	O-066	0.2355	Confirmed LTF	0.2355
CHEOAH	CHEOAH	0.0891	Confirmed LTF	0.0891
COTTONWOOD	COTTONWOOD	0.7707	Confirmed LTF	0.7707
G-007	G-007	0.0367	Confirmed LTF	0.0367
HAMLET	HAMLET	0.0670	Confirmed LTF	0.0670
GIBSON	GIBSON	0.0715	Confirmed LTF	0.0715
BLUEG	BLUEG	0.1389	Confirmed LTF	0.1389
TRIMBLE	TRIMBLE	0.0417	Confirmed LTF	0.0417
CATAWBA	CATAWBA	0.0441	Confirmed LTF	0.0441

13.5.5 Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162526500	271333	DIXON ; R	CE	271331	DIXON ;8R	CE	1	COMED_P4_155-38-TR84__	breaker	449.0	96.63	106.3	DC	43.4

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	4.3529	50/50	4.3529
274850	MENDOTA H;RU	0.4487	50/50	0.4487
274855	GSG-6 ;RU	0.7389	50/50	0.7389
274856	ECOGROVE ;U1	0.4266	50/50	0.4266
274872	LEE DEKAL;1U	0.9690	50/50	0.9690
276162	X1-087	0.3069	50/50	0.3069
290051	GSG-6; E	18.7341	50/50	18.7341
290108	LEEDK;1U E	30.7080	50/50	30.7080
294763	P-046 E	11.1496	50/50	11.1496
295108	WESTBROOK C	0.2396	50/50	0.2396
295109	WESTBROOK E	10.0300	50/50	10.0300
295110	SUBLETTE C	0.2326	50/50	0.2326
295111	SUBLETTE E	10.5040	50/50	10.5040
916221	Z1-073 E	9.7306	50/50	9.7306
933431	AC2-156 C O1	0.3932	Adder	0.46
933432	AC2-156 E O1	0.6415	Adder	0.75
933911	AD1-013 C	2.9439	50/50	2.9439
933912	AD1-013 E	4.7025	50/50	4.7025
934431	AD1-067 C	0.0371	50/50	0.0371
934432	AD1-067 E	0.9891	50/50	0.9891
934701	AD1-098 C O1	13.1455	50/50	13.1455
934702	AD1-098 E O1	9.5975	50/50	9.5975
937001	AD2-134 C	4.8974	50/50	4.8974
937002	AD2-134 E	20.2312	50/50	20.2312
937311	AD2-172 C	2.9268	50/50	2.9268
937312	AD2-172 E	4.0417	50/50	4.0417
938861	AE1-114 C O1	8.1216	50/50	8.1216
938862	AE1-114 E O1	27.7089	50/50	27.7089
940501	AE2-035 C	2.9268	50/50	2.9268
940502	AE2-035 E	4.0417	50/50	4.0417
941131	AE2-107 C	8.2912	50/50	8.2912
941132	AE2-107 E	5.5274	50/50	5.5274
943921	AF1-060	1.4411	50/50	1.4411
946501	AF1-314 C	5.2002	50/50	5.2002
946502	AF1-314 E	24.3463	50/50	24.3463
946671	AF1-331	3.8232	50/50	3.8232
959101	AF2-201 C O1	7.1636	50/50	7.1636
959102	AF2-201 E O1	20.5710	50/50	20.5710
960721	AF2-363 C O1	4.8884	50/50	4.8884
960722	AF2-363 E O1	3.2589	50/50	3.2589
960751	AF2-366 C	6.9410	50/50	6.9410
960752	AF2-366 E	4.6273	50/50	4.6273

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
961011	AF2-392 C O1	16.1881	50/50	16.1881
961012	AF2-392 E O1	75.7899	50/50	75.7899
961021	AF2-393 O1	27.5934	50/50	27.5934
961031	AF2-394 O1	18.3956	50/50	18.3956
962013	AG1-044 BAT	0.0964	50/50	0.0964
962691	AG1-118 C O2	19.3140	50/50	19.3140
962692	AG1-118 E O2	12.8760	50/50	12.8760
962781	AG1-127 C O2	7.6870	50/50	7.6870
962782	AG1-127 E O2	5.1247	50/50	5.1247
962791	AG1-128 C O2	11.0779	50/50	11.0779
962792	AG1-128 E O2	51.8397	50/50	51.8397
963681	AG1-220 C O2	2.9436	Adder	6.53
963682	AG1-220 E O2	1.9624	Adder	4.36
965661	AG1-434 C O2	7.5279	50/50	7.5279
965662	AG1-434 E O2	35.2441	50/50	35.2441
966521	AG1-521 C O2	34.7168	50/50	34.7168
966522	AG1-521 E O2	8.6792	50/50	8.6792
990901	L-005 E	-6.5780	Adder	-7.74
WEC	WEC	0.2741	Confirmed LTF	0.2741
CALDERWOOD	CALDERWOOD	0.0895	Confirmed LTF	0.0895
NY	NY	0.0177	Confirmed LTF	0.0177
PRAIRIE	PRAIRIE	1.1959	Confirmed LTF	1.1959
O-066	O-066	0.2355	Confirmed LTF	0.2355
CHEOAH	CHEOAH	0.0891	Confirmed LTF	0.0891
COTTONWOOD	COTTONWOOD	0.7707	Confirmed LTF	0.7707
G-007	G-007	0.0367	Confirmed LTF	0.0367
HAMLET	HAMLET	0.0670	Confirmed LTF	0.0670
GIBSON	GIBSON	0.0715	Confirmed LTF	0.0715
BLUEG	BLUEG	0.1389	Confirmed LTF	0.1389
TRIMBLE	TRIMBLE	0.0417	Confirmed LTF	0.0417
CATAWBA	CATAWBA	0.0441	Confirmed LTF	0.0441

13.5.6 Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162526437	275165	CHERRY VA;1M	CE	271193	CHERRY VA; R	CE	1	COMED_P4_156-38-TR83	breaker	480.0	109.57	110.67	DC	5.27

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	-3.0999	Adder	-3.65
920273	AA2-123 BAT	2.3992	50/50	2.3992
924472	AB2-096 CT1	8.4676	Adder	9.96
924473	AB2-096 CT2	8.4676	Adder	9.96
924474	AB2-096 CT3	8.4676	Adder	9.96
936791	AD2-102 C	5.6161	Adder	6.61
936792	AD2-102 E	3.7441	Adder	4.4
943803	AF1-048 BAT	11.4438	50/50	11.4438
960581	AF2-349 C	9.6711	Adder	11.38
960582	AF2-349 E	6.4474	Adder	7.59
964461	AG1-309 FTIR	119.8819	Merchant Transmission	119.8819
966523	AG1-521 BAT	5.2710	50/50	5.2710
WEC	WEC	0.4054	Confirmed LTF	0.4054
CBM-W2	CBM-W2	0.7795	Confirmed LTF	0.7795
NY	NY	0.0404	Confirmed LTF	0.0404
TVA	TVA	0.0756	Confirmed LTF	0.0756
O-066	O-066	0.4846	Confirmed LTF	0.4846
SIGE	SIGE	0.0030	Confirmed LTF	0.0030
CBM-S1	CBM-S1	0.0129	Confirmed LTF	0.0129
G-007	G-007	0.0745	Confirmed LTF	0.0745
HAMLET	HAMLET	0.0156	Confirmed LTF	0.0156
MEC	MEC	1.1298	Confirmed LTF	1.1298
GIBSON	GIBSON	0.0284	Confirmed LTF	0.0284
BLUEG	BLUEG	0.1094	Confirmed LTF	0.1094
TRIMBLE	TRIMBLE	0.0362	Confirmed LTF	0.0362
LAGN	LAGN	0.2502	Confirmed LTF	0.2502
CATAWBA	CATAWBA	0.0077	Confirmed LTF	0.0077
CBM-W1	CBM-W1	10.1645	Confirmed LTF	10.1645

13.5.7 Index 7

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174336052	270828	NELSON ; B	CE	943410	AF1-012 TAP	CE	1	COMED_P4_144-45-BT7-8__	breaker	1656.0	130.26	130.78	DC	19.17

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

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

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

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
17111340	270828	NELSON ; B	CE	946150	AF1-280 TAP	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R	tower	1768.0	105.71	106.91	DC	21.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274662	QUAD CITI;1U	37.4294	50/50	37.4294
274663	QUAD CITI;2U	37.5404	50/50	37.5404
274699	CORDOVA ;1C	6.6018	50/50	6.6018
274700	CORDOVA ;2C	6.6018	50/50	6.6018
274701	CORDOVA ;1S	7.4271	50/50	7.4271
274715	NELSON EC;1C	10.2222	50/50	10.2222
274716	NELSON EC;1S	7.4586	50/50	7.4586
274717	NELSON EC;2C	10.3012	50/50	10.3012
274718	NELSON EC;2S	7.5254	50/50	7.5254
274848	CAMPGROVE;RU	0.4525	50/50	0.4525
274849	CRESCENT ;1U	0.1643	50/50	0.1643
274851	PROVIDENC;RU	0.1692	50/50	0.1692
274877	BISHOP HL;1U	0.3944	50/50	0.3944
274878	BISHOP HL;2U	0.3944	50/50	0.3944
276156	O-029 C	0.4685	50/50	0.4685
276157	O-029 C	0.5065	50/50	0.5065
276158	O-029 C	0.9244	50/50	0.9244
293513	O-009 C1	0.8653	50/50	0.8653
293514	O-009 C2	0.4390	50/50	0.4390
293515	O-009 C3	0.4854	50/50	0.4854
293516	O-009 E1	21.9498	50/50	21.9498
293517	O-009 E2	11.1488	50/50	11.1488
293518	O-009 E3	12.2779	50/50	12.2779
293715	O-029 E	23.4668	50/50	23.4668
293716	O-029 E	12.8665	50/50	12.8665
293717	O-029 E	11.8257	50/50	11.8257
293771	O-035 E	6.1657	50/50	6.1657
294401	BSHIL;1U E	9.9984	50/50	9.9984
294410	BSHIL;2U E	9.9984	50/50	9.9984
295110	SUBLETTE C	0.1193	50/50	0.1193
295111	SUBLETTE E	5.3890	50/50	5.3890
916211	Z1-072 E	4.6659	50/50	4.6659
919221	AA1-146	9.5359	50/50	9.5359
919581	AA2-030 C	60.4419	50/50	60.4419
920273	AA2-123 BAT	2.3106	50/50	2.3106
925581	AC1-033 C	1.6375	50/50	1.6375
925582	AC1-033 E	10.9625	50/50	10.9625
927201	AC1-214 C O1	0.3122	50/50	0.3122
927202	AC1-214 E O1	6.2907	50/50	6.2907
934051	AD1-031 C O1	3.3261	50/50	3.3261

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934052	AD1-031 E O1	5.4267	50/50	5.4267
937531	AD2-214 C	11.3759	50/50	11.3759
937532	AD2-214 E	7.5839	50/50	7.5839
939051	AE1-134 1	4.6968	50/50	4.6968
939061	AE1-134 2	4.6968	50/50	4.6968
943411	AF1-012 C	40.4197	50/50	40.4197
943412	AF1-012 E	26.9465	50/50	26.9465
943803	AF1-048 BAT	5.9649	50/50	5.9649
946163	AF1-281 BAT	10.2724	50/50	10.2724
946321	AF1-296 C O1	9.4072	50/50	9.4072
946322	AF1-296 E O1	44.0420	50/50	44.0420
951381	J504	5.2940	PJM External (MISO)	5.2940
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	16.1362	PJM External (MISO)	16.1362
954792	J952 E	7.3040	PJM External (MISO)	7.3040
954901	J963	1.3110	PJM External (MISO)	1.3110
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	69.2820	50/50	69.2820
957472	AF2-041 E	34.6410	50/50	34.6410
957751	AF2-069 C	0.2291	50/50	0.2291
957752	AF2-069 E	0.7395	50/50	0.7395
957761	AF2-070 C	0.3229	50/50	0.3229
957762	AF2-070 E	1.5675	50/50	1.5675
958923	AF2-183 BAT	41.0896	50/50	41.0896
959081	AF2-199 C	23.0940	50/50	23.0940
959082	AF2-199 E	11.5470	50/50	11.5470
959091	AF2-200 C O1	46.1880	50/50	46.1880
959092	AF2-200 E O1	23.0940	50/50	23.0940
960551	AF2-346 C	17.3228	50/50	17.3228
960552	AF2-346 E	11.5485	50/50	11.5485
961011	AF2-392 C O1	10.1996	50/50	10.1996
961012	AF2-392 E O1	47.7524	50/50	47.7524
961021	AF2-393 O1	17.3856	50/50	17.3856
961031	AF2-394 O1	11.5904	50/50	11.5904
962012	AG1-044 E	0.1737	50/50	0.1737
962721	AG1-121 C O2	5.4054	50/50	5.4054
962722	AG1-121 E O2	25.2876	50/50	25.2876
964462	AG1-309 NFTW	514.7730	50/50	514.7730
965061	AG1-371	11.5470	50/50	11.5470
965071	AG1-372	7.6980	50/50	7.6980
965081	AG1-373	3.8490	50/50	3.8490
965671	AG1-435 C O2	3.6661	50/50	3.6661
965672	AG1-435 E O2	17.1639	50/50	17.1639
965931	AG1-462 C O2	49.0140	50/50	49.0140
965932	AG1-462 E O2	32.6760	50/50	32.6760
966521	AG1-521 C O2	16.9064	50/50	16.9064
966522	AG1-521 E O2	4.2266	50/50	4.2266

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966821	AG1-553 C O2	69.6432	50/50	69.6432
966822	AG1-553 E O2	17.4108	50/50	17.4108
990901	L-005 E	13.6772	50/50	13.6772
LGEE	LGEE	0.3902	Confirmed LTF	0.3902
CPL	CPL	0.6074	Confirmed LTF	0.6074
G-007A	G-007A	0.7960	Confirmed LTF	0.7960
VFT	VFT	2.1350	Confirmed LTF	2.1350
CBM-W2	CBM-W2	24.4339	Confirmed LTF	24.4339
TVA	TVA	3.0114	Confirmed LTF	3.0114
SIGE	SIGE	0.0646	Confirmed LTF	0.0646
CBM-S2	CBM-S2	11.1604	Confirmed LTF	11.1604
CBM-S1	CBM-S1	0.7117	Confirmed LTF	0.7117
CBM-N	CBM-N	0.3960	Confirmed LTF	0.3960
MEC	MEC	15.7629	Confirmed LTF	15.7629
LAGN	LAGN	5.4600	Confirmed LTF	5.4600
CBM-W1	CBM-W1	27.2409	Confirmed LTF	27.2409

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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
177753212	271499	FREEPORT ;RT	CE	272599	ESS B427 ;4T	CE	1	COMED_P4_171-38-TR84____	breaker	181.0	179.31	180.58	DC	5.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274856	ECOGROVE ;U1	1.6093	50/50	1.6093
294763	P-046 E	42.0640	50/50	42.0640
295111	SUBLETTE E	1.0919	Adder	1.28
937311	AD2-172 C	11.0418	50/50	11.0418
937312	AD2-172 E	15.2482	50/50	15.2482
938861	AE1-114 C O1	11.2533	50/50	11.2533
938862	AE1-114 E O1	38.3937	50/50	38.3937
940501	AE2-035 C	11.0418	50/50	11.0418
940502	AE2-035 E	15.2482	50/50	15.2482
943921	AF1-060	5.4368	50/50	5.4368
946501	AF1-314 C	19.6186	50/50	19.6186
946502	AF1-314 E	91.8510	50/50	91.8510
959101	AF2-201 C O1	27.0261	50/50	27.0261
959102	AF2-201 E O1	77.6081	50/50	77.6081
966521	AG1-521 C O2	1.8290	Adder	4.06
966522	AG1-521 E O2	0.4573	Adder	1.02
LGEE	LGEE	0.0214	Confirmed LTF	0.0214
CPLE	CPLE	0.0280	Confirmed LTF	0.0280
G-007A	G-007A	0.0503	Confirmed LTF	0.0503
VFT	VFT	0.1354	Confirmed LTF	0.1354
CBM-W2	CBM-W2	0.9766	Confirmed LTF	0.9766
TVA	TVA	0.1204	Confirmed LTF	0.1204
SIGE	SIGE	0.0027	Confirmed LTF	0.0027
CBM-S2	CBM-S2	0.5011	Confirmed LTF	0.5011
CBM-S1	CBM-S1	0.0293	Confirmed LTF	0.0293
CBM-N	CBM-N	0.0252	Confirmed LTF	0.0252
MEC	MEC	0.5291	Confirmed LTF	0.5291
LAGN	LAGN	0.2047	Confirmed LTF	0.2047

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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
177753314	271560	GLIDDEN ;BT	CE	962690	AG1-118 TAP	CE	1	COMED_P4_167-38-L14609_	breaker	538.0	124.91	125.49	DC	6.92

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

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

13.5.11 Index 11

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162526489	271586	ESS W541 ; B	CE	271390	ELECT JCT; B	CE	1	COMED_P4_167-38-L14609_	breaker	498.0	115.68	116.23	DC	6.11

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

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

13.5.12 Index 12

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174336197	271835	KEWANEE ;23	CE	348962	4KEEMIN	AMIL	1	COMED_P4_187-38-BT5-6	breaker	223.0	107.55	108.37	DC	3.45

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274848	CAMPGROVE;RU	0.6549	50/50	0.6549
274849	CRESCENT ;1U	0.2449	50/50	0.2449
274851	PROVIDENC;RU	0.2522	50/50	0.2522
274877	BISHOP HL;1U	0.5858	50/50	0.5858
274878	BISHOP HL;2U	0.5858	50/50	0.5858
293771	O-035 E	9.1890	50/50	9.1890
294401	BSHIL;1U E	14.8512	50/50	14.8512
294410	BSHIL;2U E	14.8512	50/50	14.8512
916211	Z1-072 E	6.9539	50/50	6.9539
925581	AC1-033 C	2.4263	50/50	2.4263
925582	AC1-033 E	16.2429	50/50	16.2429
926821	AC1-168 C O1	0.8281	Adder	0.97
926822	AC1-168 E O1	5.5570	Adder	6.54
926841	AC1-171 C O1	0.5341	Adder	0.63
926842	AC1-171 E O1	3.5673	Adder	4.2
927201	AC1-214 C O1	0.4653	50/50	0.4653
927202	AC1-214 E O1	9.3753	50/50	9.3753
934051	AD1-031 C O1	4.9577	50/50	4.9577
934052	AD1-031 E O1	8.0889	50/50	8.0889
946541	AF1-318 C O1	5.9848	50/50	5.9848
946542	AF1-318 E O1	28.0198	50/50	28.0198
953201	J715 C	1.5595	PJM External (MISO)	1.5595
953202	J715 E	8.4375	PJM External (MISO)	8.4375
957751	AF2-069 C	0.3415	50/50	0.3415
957752	AF2-069 E	1.1021	50/50	1.1021
957761	AF2-070 C	0.4812	50/50	0.4812
957762	AF2-070 E	2.3361	50/50	2.3361
958341	AF2-128 C O1	1.4654	50/50	1.4654
958342	AF2-128 E O1	6.8607	50/50	6.8607
961022	AF2-393 BAT	4.0434	Merchant Transmission	4.0434
961032	AF2-394 BAT	2.6956	Merchant Transmission	2.6956
961651	AG1-005 C O1	16.5540	50/50	16.5540
961652	AG1-005 E O1	11.0360	50/50	11.0360
962013	AG1-044 BAT	0.0275	Merchant Transmission	0.0275
962721	AG1-121 C O2	8.0559	50/50	8.0559
962722	AG1-121 E O2	37.6874	50/50	37.6874
965671	AG1-435 C O2	5.4637	50/50	5.4637
965672	AG1-435 E O2	25.5803	50/50	25.5803
966523	AG1-521 BAT	1.8301	Merchant Transmission	1.8301
990901	L-005 E	19.7966	50/50	19.7966
LGEE	LGEE	0.0924	Confirmed LTF	0.0924
CPL	CPL	0.0607	Confirmed LTF	0.0607

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
G-007A	G-007A	0.2637	Confirmed LTF	0.2637
VFT	VFT	0.7095	Confirmed LTF	0.7095
CBM-W2	CBM-W2	0.6541	Confirmed LTF	0.6541
TVA	TVA	0.0518	Confirmed LTF	0.0518
SIGE	SIGE	0.0067	Confirmed LTF	0.0067
CBM-S2	CBM-S2	0.8456	Confirmed LTF	0.8456
CBM-S1	CBM-S1	0.0217	Confirmed LTF	0.0217
CBM-N	CBM-N	0.1320	Confirmed LTF	0.1320
COTTONWOOD	COTTONWOOD	0.1575	Confirmed LTF	0.1575

13.5.13 Index 13

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
177753333	271897	LANCASTER; R	CE	271499	FREEPORT ;RT	CE	1	COMED_P4_171-38-TR84	breaker	317.0	111.33	112.05	DC	5.05

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274856	ECOGROVE ;U1	1.5967	50/50	1.5967
294763	P-046 E	41.7344	50/50	41.7344
295111	SUBLETTE E	1.0862	Adder	1.28
937311	AD2-172 C	10.9553	50/50	10.9553
937312	AD2-172 E	15.1287	50/50	15.1287
938861	AE1-114 C O1	11.1962	50/50	11.1962
938862	AE1-114 E O1	38.1988	50/50	38.1988
940501	AE2-035 C	10.9553	50/50	10.9553
940502	AE2-035 E	15.1287	50/50	15.1287
943921	AF1-060	5.3942	50/50	5.3942
946501	AF1-314 C	19.4649	50/50	19.4649
946502	AF1-314 E	91.1312	50/50	91.1312
959101	AF2-201 C O1	26.8144	50/50	26.8144
959102	AF2-201 E O1	77.0000	50/50	77.0000
966521	AG1-521 C O2	1.8197	Adder	4.04
966522	AG1-521 E O2	0.4549	Adder	1.01
LGEE	LGEE	0.0214	Confirmed LTF	0.0214
CPLE	CPLE	0.0287	Confirmed LTF	0.0287
G-007A	G-007A	0.0527	Confirmed LTF	0.0527
VFT	VFT	0.1419	Confirmed LTF	0.1419
CBM-W2	CBM-W2	0.9677	Confirmed LTF	0.9677
TVA	TVA	0.1204	Confirmed LTF	0.1204
SIGE	SIGE	0.0026	Confirmed LTF	0.0026
CBM-S2	CBM-S2	0.5011	Confirmed LTF	0.5011
CBM-S1	CBM-S1	0.0293	Confirmed LTF	0.0293
CBM-N	CBM-N	0.0264	Confirmed LTF	0.0264
MEC	MEC	0.5275	Confirmed LTF	0.5275
LAGN	LAGN	0.2047	Confirmed LTF	0.2047
CBM-W1	CBM-W1	0.0140	Confirmed LTF	0.0140

13.5.14 Index 14

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162526336	272002	MCGIRR RD;	CE	272365	ESS H440 ;RT	CE	1	COMED_P4_155-45-BT2-34_	breaker	449.0	178.22	181.01	DC	12.55

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

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

13.5.15 Index 15

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162526480	272114	N AURORA ; B	CE	271586	ESS W541 ; B	CE	1	COMED_P4_167-38-L14609_	breaker	498.0	117.14	117.7	DC	6.11

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

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

13.5.16 Index 16

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162526423	272365	ESS H440 ;RT	CE	272516	STEWART ; B	CE	1	COMED_P4_155-45-BT2-34_	breaker	449.0	134.34	135.32	DC	9.79

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	3.5761	50/50	3.5761
274850	MENDOTA H;RU	0.9878	50/50	0.9878
274855	GSG-6 ;RU	1.6265	50/50	1.6265
290051	GSG-6; E	41.2386	50/50	41.2386
293516	O-009 E1	3.7963	Adder	4.47
293517	O-009 E2	1.9282	Adder	2.27
293518	O-009 E3	2.1235	Adder	2.5
293715	O-029 E	4.0587	Adder	4.77
293716	O-029 E	2.2253	Adder	2.62
293717	O-029 E	2.0453	Adder	2.41
295108	WESTBROOK C	0.5273	50/50	0.5273
295109	WESTBROOK E	22.0786	50/50	22.0786
295110	SUBLETTE C	0.0526	50/50	0.0526
295111	SUBLETTE E	2.3774	50/50	2.3774
916221	Z1-073 E	21.4196	50/50	21.4196
934431	AD1-067 C	0.0817	50/50	0.0817
934432	AD1-067 E	2.1773	50/50	2.1773
934701	AD1-098 C O1	26.0447	50/50	26.0447
934702	AD1-098 E O1	19.0153	50/50	19.0153
937001	AD2-134 C	10.7804	50/50	10.7804
937002	AD2-134 E	44.5339	50/50	44.5339
938861	AE1-114 C O1	1.7432	Adder	2.05
938862	AE1-114 E O1	5.9476	Adder	7.0
960382	AF2-329 BAT	3.0192	Merchant Transmission	3.0192
961011	AF2-392 C O1	2.3721	Adder	2.79
961012	AF2-392 E O1	11.1055	Adder	13.07
961021	AF2-393 O1	4.0433	Adder	4.76
961031	AF2-394 O1	2.6955	Adder	3.17
962012	AG1-044 E	0.0143	Adder	0.03
962791	AG1-128 C O2	24.3854	50/50	24.3854
962792	AG1-128 E O2	114.1122	50/50	114.1122
965661	AG1-434 C O2	16.5708	50/50	16.5708
965662	AG1-434 E O2	77.5812	50/50	77.5812
966521	AG1-521 C O2	3.5283	Adder	7.83
966522	AG1-521 E O2	0.8821	Adder	1.96
WEC	WEC	0.1074	Confirmed LTF	0.1074
CPL	CPL	0.0184	Confirmed LTF	0.0184
CBM-W2	CBM-W2	2.6253	Confirmed LTF	2.6253
NY	NY	0.0315	Confirmed LTF	0.0315
TVA	TVA	0.2926	Confirmed LTF	0.2926
O-066	O-066	0.3634	Confirmed LTF	0.3634

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
SIGE	SIGE	0.0092	Confirmed LTF	0.0092
CBM-S2	CBM-S2	0.5533	Confirmed LTF	0.5533
CBM-S1	CBM-S1	0.0642	Confirmed LTF	0.0642
G-007	G-007	0.0567	Confirmed LTF	0.0567
MEC	MEC	2.1356	Confirmed LTF	2.1356
BLUEG	BLUEG	0.0347	Confirmed LTF	0.0347
TRIMBLE	TRIMBLE	0.0139	Confirmed LTF	0.0139
LAGN	LAGN	0.6247	Confirmed LTF	0.6247
CBM-W1	CBM-W1	8.0054	Confirmed LTF	8.0054

13.5.17 Index 17

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162526401	272522	SUGAR GRV; B	CE	272114	N AURORA ; B	CE	1	COMED_P4_167-38-L14609_	breaker	498.0	153.02	153.64	DC	6.92

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

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

13.5.18 Index 18

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162385556	272730	WATERMAN ;3B	CE	272728	WATERMAN ; B	CE	1	COMED_P2-2_156_CV-138R__1	bus	539.0	194.19	196.47	DC	12.27

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	12.7578	50/50	12.7578
274850	MENDOTA H;RU	1.1633	50/50	1.1633
274855	GSG-6 ;RU	1.9154	50/50	1.9154
274872	LEE DEKAL;1U	4.2054	50/50	4.2054
276162	X1-087	0.1859	50/50	0.1859
290051	GSG-6; E	48.5628	50/50	48.5628
290108	LEEDK;1U E	133.2760	50/50	133.2760
295108	WESTBROOK C	0.6210	50/50	0.6210
295109	WESTBROOK E	26.0000	50/50	26.0000
295110	SUBLETTE C	0.0620	50/50	0.0620
295111	SUBLETTE E	2.7982	50/50	2.7982
916221	Z1-073 E	25.2238	50/50	25.2238
933911	AD1-013 C	9.0932	50/50	9.0932
933912	AD1-013 E	14.5256	50/50	14.5256
934431	AD1-067 C	0.0962	50/50	0.0962
934432	AD1-067 E	2.5640	50/50	2.5640
934701	AD1-098 C O1	30.6704	50/50	30.6704
934702	AD1-098 E O1	22.3926	50/50	22.3926
937001	AD2-134 C	12.6951	50/50	12.6951
937002	AD2-134 E	52.4434	50/50	52.4434
941131	AE2-107 C	35.9845	50/50	35.9845
941132	AE2-107 E	23.9897	50/50	23.9897
946671	AF1-331	11.8094	50/50	11.8094
960721	AF2-363 C O1	33.6654	50/50	33.6654
960722	AF2-363 E O1	22.4436	50/50	22.4436
960751	AF2-366 C	40.5880	50/50	40.5880
960752	AF2-366 E	27.0586	50/50	27.0586
962781	AG1-127 C O2	44.9504	50/50	44.9504
962782	AG1-127 E O2	29.9670	50/50	29.9670
962791	AG1-128 C O2	28.7164	50/50	28.7164
962792	AG1-128 E O2	134.3793	50/50	134.3793
963681	AG1-220 C O2	62.0388	50/50	62.0388
963682	AG1-220 E O2	41.3592	50/50	41.3592
965661	AG1-434 C O2	19.5138	50/50	19.5138
965662	AG1-434 E O2	91.3602	50/50	91.3602
966521	AG1-521 C O2	9.8184	50/50	9.8184
966522	AG1-521 E O2	2.4546	50/50	2.4546
WEC	WEC	0.1452	Confirmed LTF	0.1452
CPLE	CPLE	0.0014	Confirmed LTF	0.0014
CBM-W2	CBM-W2	2.5536	Confirmed LTF	2.5536
NY	NY	0.0487	Confirmed LTF	0.0487

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
TVA	TVA	0.2744	Confirmed LTF	0.2744
O-066	O-066	0.5653	Confirmed LTF	0.5653
SIGE	SIGE	0.0098	Confirmed LTF	0.0098
CBM-S2	CBM-S2	0.3132	Confirmed LTF	0.3132
CBM-S1	CBM-S1	0.0581	Confirmed LTF	0.0581
G-007	G-007	0.0882	Confirmed LTF	0.0882
MEC	MEC	2.2310	Confirmed LTF	2.2310
GIBSON	GIBSON	0.0033	Confirmed LTF	0.0033
BLUEG	BLUEG	0.0833	Confirmed LTF	0.0833
TRIMBLE	TRIMBLE	0.0295	Confirmed LTF	0.0295
LAGN	LAGN	0.6195	Confirmed LTF	0.6195
CBM-W1	CBM-W1	8.6924	Confirmed LTF	8.6924

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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
174336016	943410	AF1-012 TAP	CE	957470	AF2-041 TAP	CE	1	COMED_P4_144-45-BT7-8__	breaker	1656.0	141.17	141.7	DC	19.17

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

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

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

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
171111247	946150	AF1-280 TAP	CE	274768	LEE CO EC;BP	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R	tower	1768.0	119.3	120.5	DC	21.13

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274662	QUAD CITI;1U	37.4294	50/50	37.4294
274663	QUAD CITI;2U	37.5404	50/50	37.5404
274699	CORDOVA ;1C	6.6018	50/50	6.6018
274700	CORDOVA ;2C	6.6018	50/50	6.6018
274701	CORDOVA ;1S	7.4271	50/50	7.4271
274715	NELSON EC;1C	10.2222	50/50	10.2222
274716	NELSON EC;1S	7.4586	50/50	7.4586
274717	NELSON EC;2C	10.3012	50/50	10.3012
274718	NELSON EC;2S	7.5254	50/50	7.5254
274848	CAMPGROVE;RU	0.4525	50/50	0.4525
274849	CRESCENT ;1U	0.1643	50/50	0.1643
274851	PROVIDENC;RU	0.1692	50/50	0.1692
274877	BISHOP HL;1U	0.3944	50/50	0.3944
274878	BISHOP HL;2U	0.3944	50/50	0.3944
276156	O-029 C	0.4685	50/50	0.4685
276157	O-029 C	0.5065	50/50	0.5065
276158	O-029 C	0.9244	50/50	0.9244
293513	O-009 C1	0.8653	50/50	0.8653
293514	O-009 C2	0.4390	50/50	0.4390
293515	O-009 C3	0.4854	50/50	0.4854
293516	O-009 E1	21.9498	50/50	21.9498
293517	O-009 E2	11.1488	50/50	11.1488
293518	O-009 E3	12.2779	50/50	12.2779
293715	O-029 E	23.4668	50/50	23.4668
293716	O-029 E	12.8665	50/50	12.8665
293717	O-029 E	11.8257	50/50	11.8257
293771	O-035 E	6.1657	50/50	6.1657
294401	BSHIL;1U E	9.9984	50/50	9.9984
294410	BSHIL;2U E	9.9984	50/50	9.9984
295110	SUBLETTE C	0.1193	50/50	0.1193
295111	SUBLETTE E	5.3890	50/50	5.3890
916211	Z1-072 E	4.6659	50/50	4.6659
919221	AA1-146	9.5359	50/50	9.5359
919581	AA2-030 C	60.4419	50/50	60.4419
920273	AA2-123 BAT	2.3106	50/50	2.3106
925581	AC1-033 C	1.6375	50/50	1.6375
925582	AC1-033 E	10.9625	50/50	10.9625
927201	AC1-214 C O1	0.3122	50/50	0.3122
927202	AC1-214 E O1	6.2907	50/50	6.2907
934051	AD1-031 C O1	3.3261	50/50	3.3261

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934052	AD1-031 E O1	5.4267	50/50	5.4267
937531	AD2-214 C	11.3759	50/50	11.3759
937532	AD2-214 E	7.5839	50/50	7.5839
939051	AE1-134 1	4.6968	50/50	4.6968
939061	AE1-134 2	4.6968	50/50	4.6968
943411	AF1-012 C	40.4197	50/50	40.4197
943412	AF1-012 E	26.9465	50/50	26.9465
943803	AF1-048 BAT	5.9649	50/50	5.9649
946151	AF1-280 C O1	66.6341	50/50	66.6341
946152	AF1-280 E O1	30.6419	50/50	30.6419
946161	AF1-281 C O1	1.4591	50/50	1.4591
946162	AF1-281 E O1	8.2685	50/50	8.2685
946321	AF1-296 C O1	9.4072	50/50	9.4072
946322	AF1-296 E O1	44.0420	50/50	44.0420
951381	J504	5.2940	PJM External (MISO)	5.2940
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	16.1362	PJM External (MISO)	16.1362
954792	J952 E	7.3040	PJM External (MISO)	7.3040
954901	J963	1.3110	PJM External (MISO)	1.3110
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	69.2820	50/50	69.2820
957472	AF2-041 E	34.6410	50/50	34.6410
957751	AF2-069 C	0.2291	50/50	0.2291
957752	AF2-069 E	0.7395	50/50	0.7395
957761	AF2-070 C	0.3229	50/50	0.3229
957762	AF2-070 E	1.5675	50/50	1.5675
958911	AF2-182 C	87.5484	50/50	87.5484
958912	AF2-182 E	58.3656	50/50	58.3656
958921	AF2-183 C	15.5642	50/50	15.5642
958922	AF2-183 E	23.3462	50/50	23.3462
959081	AF2-199 C	23.0940	50/50	23.0940
959082	AF2-199 E	11.5470	50/50	11.5470
959091	AF2-200 C O1	46.1880	50/50	46.1880
959092	AF2-200 E O1	23.0940	50/50	23.0940
960551	AF2-346 C	17.3228	50/50	17.3228
960552	AF2-346 E	11.5485	50/50	11.5485
961011	AF2-392 C O1	10.1996	50/50	10.1996
961012	AF2-392 E O1	47.7524	50/50	47.7524
961021	AF2-393 O1	17.3856	50/50	17.3856
961031	AF2-394 O1	11.5904	50/50	11.5904
962012	AG1-044 E	0.1737	50/50	0.1737
962721	AG1-121 C O2	5.4054	50/50	5.4054
962722	AG1-121 E O2	25.2876	50/50	25.2876
964462	AG1-309 NFTW	514.7730	50/50	514.7730
965061	AG1-371	11.5470	50/50	11.5470
965071	AG1-372	7.6980	50/50	7.6980
965081	AG1-373	3.8490	50/50	3.8490

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
965671	AG1-435 C O2	3.6661	50/50	3.6661
965672	AG1-435 E O2	17.1639	50/50	17.1639
965931	AG1-462 C O2	49.0140	50/50	49.0140
965932	AG1-462 E O2	32.6760	50/50	32.6760
966521	AG1-521 C O2	16.9064	50/50	16.9064
966522	AG1-521 E O2	4.2266	50/50	4.2266
966821	AG1-553 C O2	69.6432	50/50	69.6432
966822	AG1-553 E O2	17.4108	50/50	17.4108
990901	L-005 E	13.6772	50/50	13.6772
LGEE	LGEE	0.3902	Confirmed LTF	0.3902
CPLE	CPLE	0.6074	Confirmed LTF	0.6074
G-007A	G-007A	0.7960	Confirmed LTF	0.7960
VFT	VFT	2.1350	Confirmed LTF	2.1350
CBM-W2	CBM-W2	24.4339	Confirmed LTF	24.4339
TVA	TVA	3.0114	Confirmed LTF	3.0114
SIGE	SIGE	0.0646	Confirmed LTF	0.0646
CBM-S2	CBM-S2	11.1604	Confirmed LTF	11.1604
CBM-S1	CBM-S1	0.7117	Confirmed LTF	0.7117
CBM-N	CBM-N	0.3960	Confirmed LTF	0.3960
MEC	MEC	15.7629	Confirmed LTF	15.7629
LAGN	LAGN	5.4600	Confirmed LTF	5.4600
CBM-W1	CBM-W1	27.2409	Confirmed LTF	27.2409

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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
174335991	957470	AF2-041 TAP	CE	270730	ELECT JCT; B	CE	1	COMED_P4_144-45-BT7-8__	breaker	1656.0	147.96	148.48	DC	19.17

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

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

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

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
177753262	962690	AG1-118 TAP	CE	272522	SUGAR GRV; B	CE	1	COMED_P4_167-38-L14609_	breaker	538.0	151.44	152.02	DC	6.92

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

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

13.6 Contingency Descriptions - Secondary POI

Contingency Name	Contingency Definition
COMED_P4_156-38-TR83____	CONTINGENCY 'COMED_P4_156-38-TR83____' / CONTINGENCY # 652 TRIP BRANCH FROM BUS 275167 TO BUS 270695 CKT 1 / CHERRY VA;3M 138 CHERRY VA; R 345 TRIP BRANCH FROM BUS 275167 TO BUS 271193 CKT 1 / CHERRY VA;3M 138 CHERRY VA; R 138 TRIP BRANCH FROM BUS 275167 TO BUS 275267 CKT 1 / CHERRY VA;3M 138 CHERRY VA;3C 34.5 TRIP BRANCH FROM BUS 271193 TO BUS 271097 CKT 1 / CHERRY VA; R 138 BLACKHAWK;RT 138 END
COMED_P1-2_138-L17121_R-R	CONTINGENCY 'COMED_P1-2_138-L17121_R-R' / CONTINGENCY # 386 TRIP BRANCH FROM BUS 272240 TO BUS 271897 CKT 1 / PECATONIC; B 138 LANCASTER; R 138 TRIP BRANCH FROM BUS 272747 TO BUS 272240 CKT 1 / WEMPLETOW; R 138 PECATONIC; B 138 MOVE 100 PERCENT LOAD FROM BUS 272240 TO BUS 272746 / PECATONIC; B 138 WEMPLETOW; B 138 END
COMED_P1-2_138-L15627_R-R-AA	CONTINGENCY 'COMED_P1-2_138-L15627_R-R-AA' / CONTINGENCY # 363 TRIP BRANCH FROM BUS 271193 TO BUS 963680 CKT 1 / CHERRY VA; R 138 AG1-220 TAP 138 END

Contingency Name	Contingency Definition
COMED_P4_144-45-BT7-8__	CONTINGENCY 'COMED_P4_144-45-BT7-8__' / 1570 OPEN BRANCH FROM BUS 270900 TO BUS 270916 CKT 1 / 270900 TOLLWAY ; B 345 270916 WAYNE ; B 345 1 OPEN BRANCH FROM BUS 270916 TO BUS 275228 CKT 1 / 270916 WAYNE ; B 345 275228 WAYNE ;1M 138 1 OPEN BRANCH FROM BUS 275228 TO BUS 272740 CKT 1 / 275228 WAYNE ;1M 138 272740 WAYNE ; B 138 1 OPEN BRANCH FROM BUS 275328 TO BUS 275228 CKT 1 / 275328 WAYNE ;1C 34.5 275228 WAYNE ;1M 138 1 OPEN BRANCH FROM BUS 270916 TO BUS 965550 CKT 1 / 270916 WAYNE ; B 345 965550 AG1-423 TAP 345 1 END
COMED_P1-2_138-L14609_R-R-A	CONTINGENCY 'COMED_P1-2_138-L14609_R-R-A' / CONTINGENCY # 316 TRIP BRANCH FROM BUS 272251 TO BUS 272803 CKT 1 / PLANO; R 138 W PLANO ; R 138 TRIP BRANCH FROM BUS 272803 TO BUS 943120 CKT 1 / W PLANO ; R 138 AE2-341 TAP 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271116 / W PLANO ; R 138 BRISTOL ; B 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271117 / W PLANO ; R 138 BRISTOL ; R 138 MOVE 50 PERCENT LOAD FROM BUS 272803 TO BUS 272445 / W PLANO ; R 138 SANDWICH ; R 138 END
COMED_P7-1_345-L13821_R-R_+345-L18502AB-N	CONTINGENCY 'COMED_P7-1_345-L13821_R-R_+345-L18502AB-N' / CONTINGENCY # 127 TRIP BRANCH FROM BUS 270883 TO BUS 270807 CKT 1 / SILVER LK; R 345 LIBERTYVI; R 345 TRIP BRANCH FROM BUS 270900 TO BUS 270806 CKT 1 / TOLLWAY ; B 345 LIBERTYVI; B 345 END
COMED_P1-2_138-L8315__R-R	CONTINGENCY 'COMED_P1-2_138-L8315__R-R' / CONTINGENCY # 552 TRIP BRANCH FROM BUS 271558 TO BUS 272757 CKT 1 / GLIDDEN ; B 138 W DEKALB ;7T 138 TRIP BRANCH FROM BUS 272757 TO BUS 272362 CKT 1 / W DEKALB ;7T 138 ESS H445 ;3B 138 TRIP BRANCH FROM BUS 272757 TO BUS 272761 CKT 1 / W DEKALB ;7T 138 W DEKALB ;7R 138 MOVE 100 PERCENT LOAD FROM BUS 272761 TO BUS 272759 / W DEKALB ;7R 138 W DEKALB ;4R 138 END

Contingency Name	Contingency Definition
COMED_P4_171-38-L15625_	CONTINGENCY 'COMED_P4_171-38-L15625_' / CONTINGENCY # 690 TRIP BRANCH FROM BUS 270978 TO BUS 271188 CKT 1 / ALPINE ; B 138 CHARLES ; B 138 TRIP BRANCH FROM BUS 270980 TO BUS 270978 CKT 1 / ALPINE ;BT 138 ALPINE ; B 138 TRIP BRANCH FROM BUS 271007 TO BUS 272439 CKT 1 / ARGYLE ; R 138 SAND PARK;RT 138 TRIP BRANCH FROM BUS 271192 TO BUS 270980 CKT 1 / CHERRY VA; B 138 ALPINE ;BT 138 TRIP BRANCH FROM BUS 271386 TO BUS 271007 CKT 1 / E ROCKFOR;BT 138 ARGYLE ; R 138 TRIP BRANCH FROM BUS 272379 TO BUS 272377 CKT 1 / ROSCOE BE;RT 138 ROSCOE BE; R 138 TRIP BRANCH FROM BUS 272379 TO BUS 272747 CKT 1 / ROSCOE BE;RT 138 WEMPLETOW; R 138 MOVE 100 PERCENT LOAD FROM BUS 271007 TO BUS 271006 / ARGYLE ; R 138 ARGYLE ; B 138 MOVE 100 PERCENT LOAD FROM BUS 271188 TO BUS 271189 / CHARLES ; B 138 CHARLES ; R 138 MOVE 100 PERCENT LOAD FROM BUS 271388 TO BUS 271389 / E ROCKFOR; B 138 E ROCKFOR; R 138 MOVE 100 PERCENT LOAD FROM BUS 271639 TO BUS 271638 / HARLEM ; R 138 HARLEM ; B 138 MOVE 100 PERCENT LOAD FROM BUS 272437 TO BUS 272436 / SAND PARK;3B 138 SAND PARK;1B 138 CLOSE LINE FROM BUS 270978 TO BUS 270979 CKT 1 / ALPINE ; B 138 ALPINE ; R 138 CLOSE LINE FROM BUS 272376 TO BUS 272377 CKT 1 / ROSCOE BE; B 138 ROSCOE BE; R 138 DISCONNECT BUS 272747 / WEMPLETOW; R 138 END
COMED_P2-2_156_CV-345R_10	CONTINGENCY 'COMED_P2-2_156_CV-345R_10' / CONTINGENCY # 166 TRIP BRANCH FROM BUS 270695 TO BUS 270694 CKT 1 / CHERR COMED_P2-2_VA; R 345 CHERR COMED_P2-2_VA; B 345 TRIP BRANCH FROM BUS 275167 TO BUS 270695 CKT 1 / CHERR COMED_P2-2_VA;3M 138 CHERR COMED_P2-2_VA; R 345 TRIP BRANCH FROM BUS 275167 TO BUS 271193 CKT 1 / CHERR COMED_P2-2_VA;3M 138 CHERR COMED_P2-2_VA; R 138 TRIP BRANCH FROM BUS 275167 TO BUS 275267 CKT 1 / CHERR COMED_P2-2_VA;3M 138 CHERR COMED_P2-2_VA;3C 34.5 END
COMED_P2-2_171_WP-138R_12	CONTINGENCY 'COMED_P2-2_171_WP-138R_12' / CONTINGENCY # 173 DISCONNECT BUS 272747 / WEMPLETOW; R 138 END
COMED_P1-2_345-L15502_B-R-A	CONTINGENCY 'COMED_P1-2_345-L15502_B-R-A' / CONTINGENCY # 347 TRIP BRANCH FROM BUS 270828 TO BUS 943410 CKT 1 / NELSON ; B 345 AF1-012 TAP 345 END

Contingency Name	Contingency Definition
COMED_P4_155-38-TR84____	CONTINGENCY 'COMED_P4_155-38-TR84____' / CONTINGENCY # 634 TRIP BRANCH FROM BUS 275204 TO BUS 270828 CKT 1 / NELSON ;4M 138 NELSON ; B 345 TRIP BRANCH FROM BUS 275204 TO BUS 272094 CKT 1 / NELSON ;4M 138 NELSON ; B 138 TRIP BRANCH FROM BUS 275204 TO BUS 275304 CKT 1 / NELSON ;4M 138 NELSON ;4C 34.5 TRIP BRANCH FROM BUS 272094 TO BUS 961010 CKT 1 / NELSON ; B 138 AF2-392 TAP 138 TRIP BRANCH FROM BUS 272094 TO BUS 272396 CKT 1 / NELSON ; B 138 ROCK FALL;8T 138 END
COMED_P1-2_345-L15502_B-R-D	CONTINGENCY 'COMED_P1-2_345-L15502_B-R-D' / 1387 OPEN BRANCH FROM BUS 270730 TO BUS 957470 CKT 1 / 270730 ELECT JCT; B 345 957470 AF2-041 TAP 345 1 END
COMED_P7-1_138-L18706_R-S_+_138-L7405__R-S	CONTINGENCY 'COMED_P7-1_138-L18706_R-S_+_138-L7405__R-S' / CONTINGENCY # 181 TRIP BRANCH FROM BUS 272505 TO BUS 272111 CKT 1 / SCHAUFF R; R 138 NORMANDY ; R 138 TRIP BRANCH FROM BUS 348962 TO BUS 272111 CKT 1 / 4KEEMIN 138 NORMANDY ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272111 TO BUS 272110 / NORMANDY ; R 138 NORMANDY ; B 138 TRIP BRANCH FROM BUS 271836 TO BUS 272110 CKT 1 / KEWANEE ;11 138 NORMANDY ; B 138 TRIP BRANCH FROM BUS 272110 TO BUS 272505 CKT 1 / NORMANDY ; B 138 SCHAUFF R; R 138 END
COMED_P4_156-38-L15622__	CONTINGENCY 'COMED_P4_156-38-L15622__' / CONTINGENCY # 644 TRIP BRANCH FROM BUS 271097 TO BUS 271095 CKT 1 / BLACKHAWK;RT 138 BLACKHAWK; R 138 TRIP BRANCH FROM BUS 271097 TO BUS 272433 CKT 1 / BLACKHAWK;RT 138 SABROOKE ; R 138 TRIP BRANCH FROM BUS 271193 TO BUS 271097 CKT 1 / CHERRY VA; R 138 BLACKHAWK;RT 138 MOVE 100 PERCENT LOAD FROM BUS 271095 TO BUS 271094 / BLACKHAWK; R 138 BLACKHAWK; B 138 TRIP BRANCH FROM BUS 271193 TO BUS 275167 CKT 1 / CHERRY VA; R 138 CHERRY VA;3M 138 END

Contingency Name	Contingency Definition
COMED_P4_171-38-TR84__	CONTINGENCY 'COMED_P4_171-38-TR84__' / CONTINGENCY # 694 TRIP BRANCH FROM BUS 275231 TO BUS 270918 CKT 1 / WEMPLETOW;4M 138 WEMPLETOW; B 345 TRIP BRANCH FROM BUS 275231 TO BUS 272747 CKT 1 / WEMPLETOW;4M 138 WEMPLETOW; R 138 TRIP BRANCH FROM BUS 275231 TO BUS 275331 CKT 1 / WEMPLETOW;4M 138 WEMPLETOW;4C 34.5 DISCONNECT BUS 272747 / WEMPLETOW; R 138 END
COMED_P1-2_138-L16914_R-R	CONTINGENCY 'COMED_P1-2_138-L16914_R-R' / CONTINGENCY # 380 TRIP BRANCH FROM BUS 272002 TO BUS 272365 CKT 1 / MCGIRR RD; 138 ESS H440 ;RT 138 TRIP BRANCH FROM BUS 272365 TO BUS 272363 CKT 1 / ESS H440 ;RT 138 ESS H440 ; R 138 TRIP BRANCH FROM BUS 272365 TO BUS 272516 CKT 1 / ESS H440 ;RT 138 STEWARD ; B 138 END
COMED_P7-1_138-L11323_R-R+_138-L11305_B-R-A	CONTINGENCY 'COMED_P7-1_138-L11323_R-R+_138-L11305_B-R-A' / CONTINGENCY # 64 TRIP BRANCH FROM BUS 271680 TO BUS 272756 CKT 1 / HAUMESSER; B 138 W DEKALB ;3T 138 TRIP BRANCH FROM BUS 272730 TO BUS 960750 CKT 1 / WATERMAN ;3B 138 AF2- 366 TAP 138 TRIP BRANCH FROM BUS 272730 TO BUS 272728 CKT 1 / WATERMAN ;3B 138 WATERMAN ; B 138 TRIP BRANCH FROM BUS 272756 TO BUS 272759 CKT 1 / W DEKALB ;3T 138 W DEKALB ;4R 138 MOVE 100 PERCENT LOAD FROM BUS 272759 TO BUS 272761 / W DEKALB ;4R 138 W DEKALB ;7R 138 DISCONNECT BUS 271428 / ESS H452 ;RT 138 TRIP BRANCH FROM BUS 272728 TO BUS 271430 CKT 1 / WATERMAN ; B 138 ESS H452 ; B 138 END
COMED_P2-2_156_CV-138R__1	CONTINGENCY 'COMED_P2-2_156_CV-138R__1' / CONTINGENCY # 163 TRIP BRANCH FROM BUS 271193 TO BUS 271387 CKT 1 / CHERR COMED_P2-2_VA; R 138 E ROCKFOR;RT 138 TRIP BRANCH FROM BUS 271193 TO BUS 963680 CKT 1 / CHERR COMED_P2-2_VA; R 138 AG1-220 TAP 138 TRIP BRANCH FROM BUS 271193 TO BUS 272517 CKT 1 / CHERR COMED_P2-2_VA; R 138 STILLMAN ;RT 138 TRIP BRANCH FROM BUS 271193 TO BUS 275165 CKT 1 / CHERR COMED_P2-2_VA; R 138 CHERR COMED_P2-2_VA;1M 138 REMOVE SWSHUNT FROM BUS 271193 / CHERR COMED_P2-2_VA; R 138 END

Contingency Name	Contingency Definition
COMED_P2-2_156_CV-138R__2	CONTINGENCY 'COMED_P2-2_156_CV-138R__2' / CONTINGENCY # 164 TRIP BRANCH FROM BUS 271193 TO BUS 271097 CKT 1 / CHERR COMED_P2-2_VA; R 138 BLACKHAWK;RT 138 TRIP BRANCH FROM BUS 271193 TO BUS 275167 CKT 1 / CHERR COMED_P2-2_VA; R 138 CHERR COMED_P2-2_VA;3M 138 END
COMED_P2-1_094-L11323__	CONTINGENCY 'COMED_P2-1_094-L11323__' / CONTINGENCY # 111 TRIP BRANCH FROM BUS 271680 TO BUS 272756 CKT 1 / HAUMESSER; B 138 W DEKALB ;3T 138 END
COMED_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_P4_187-38-BT5-6__	CONTINGENCY 'COMED_P4_187-38-BT5-6__' / 1330 OPEN BRANCH FROM BUS 271836 TO BUS 272110 CKT 1 / 271836 KEWANEE ;11 138 272110 NORMANDY ; B 138 1 OPEN BRANCH FROM BUS 272110 TO BUS 272505 CKT 1 / 272110 NORMANDY ; B 138 272505 SCHAUFF R; R 138 1 OPEN BRANCH FROM BUS 272505 TO BUS 272719 CKT 1 / 272505 SCHAUFF R; R 138 272719 WALNUT RG; 138 1 OPEN BRANCH FROM BUS 272719 TO BUS 274399 CKT 1 / 272719 WALNUT RG; 138 274399 WALNUT RG; 34.5 1 OPEN BRANCH FROM BUS 274399 TO BUS 293513 CKT 1 / 274399 WALNUT RG; 34.5 293513 O-009 C1 0.69 1 OPEN BRANCH FROM BUS 274399 TO BUS 293514 CKT 1 / 274399 WALNUT RG; 34.5 293514 O-009 C2 0.60 1 OPEN BRANCH FROM BUS 274399 TO BUS 293515 CKT 1 / 274399 WALNUT RG; 34.5 293515 O-009 C3 0.57 1 OPEN BRANCH FROM BUS 293513 TO BUS 293516 CKT 1 / 293513 O-009 C1 0.69 293516 O-009 E1 0.69 1 OPEN BRANCH FROM BUS 293514 TO BUS 293517 CKT 1 / 293514 O-009 C2 0.60 293517 O-009 E2 0.60 1 OPEN BRANCH FROM BUS 293515 TO BUS 293518 CKT 1 / 293515 O-009 C3 0.57 293518 O-009 E3 0.57 1 MOVE 100.00 PERCENT LOAD FROM BUS 272110 TO BUS 272111 / FROM 272110 NORMANDY ; B 138 TO 272111 NORMANDY ; R 138 . LOAD=6.53 REMOVE MACHINE W1 FROM BUS 293513 /* 293513 O-009 C1 0.69 DEFAULT DISPATCH REMOVE MACHINE W1 FROM BUS 293514 /* 293514 O-009 C2 0.60 DEFAULT DISPATCH REMOVE MACHINE W1 FROM BUS 293515 /* 293515 O-009 C3 0.57 DEFAULT DISPATCH END

Contingency Name	Contingency Definition
COMED_P7-1_138-L11106_B-R+_345-L15502_B-R	CONTINGENCY 'COMED_P7-1_138-L11106_B-R+_345-L15502_B-R' / CONTINGENCY # 58 TRIP BRANCH FROM BUS 271390 TO BUS 271586 CKT 1 / ELECT JCT; B 138 ESS W541 ; B 138 TRIP BRANCH FROM BUS 271560 TO BUS 272728 CKT 1 / GLIDDEN ;BT 138 WATERMAN ; B 138 TRIP BRANCH FROM BUS 271586 TO BUS 272114 CKT 1 / ESS W541 ; B 138 N AURORA ; B 138 TRIP BRANCH FROM BUS 272114 TO BUS 272522 CKT 1 / N AURORA ; B 138 SUGAR GRV; B 138 TRIP BRANCH FROM BUS 272522 TO BUS 962690 CKT 1 / SUGAR GRV; B 138 AG1-118 TAP 138 MOVE 100 PERCENT LOAD FROM BUS 271586 TO BUS 271587 / ESS W541 ; B 138 ESS W541 ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272522 TO BUS 272523 / SUGAR GRV; B 138 SUGAR GRV; R 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 / N AURORA ; B 138 N AURORA ; R 138 TRIP BRANCH FROM BUS 957470 TO BUS 270730 CKT 1 / AF2-041 TAP 345 ELECT JCT; B 345 END
COMED_P1-2_138-L11106_B-R-AA	CONTINGENCY 'COMED_P1-2_138-L11106_B-R-AA' / CONTINGENCY # 190 TRIP BRANCH FROM BUS 271390 TO BUS 271586 CKT 1 / ELECT JCT; B 138 ESS W541 ; B 138 TRIP BRANCH FROM BUS 271586 TO BUS 272114 CKT 1 / ESS W541 ; B 138 N AURORA ; B 138 TRIP BRANCH FROM BUS 272114 TO BUS 272522 CKT 1 / N AURORA ; B 138 SUGAR GRV; B 138 TRIP BRANCH FROM BUS 962690 TO BUS 272522 CKT 1 / AG1-118 TAP 138 SUGAR GRV; B 138 MOVE 100 PERCENT LOAD FROM BUS 271586 TO BUS 271587 / ESS W541 ; B 138 ESS W541 ; R 138 MOVE 100 PERCENT LOAD FROM BUS 272522 TO BUS 272523 / SUGAR GRV; B 138 SUGAR GRV; R 138 CLOSE LINE FROM BUS 272114 TO BUS 272115 CKT 1 / N AURORA ; B 138 N AURORA ; R 138 END
COMED_P4_155-45-BT2-34_	CONTINGENCY 'COMED_P4_155-45-BT2-34_' / CONTINGENCY # 636 TRIP BRANCH FROM BUS 270828 TO BUS 943410 CKT 1 / NELSON ; B 345 AF1-012 TAP 345 TRIP BRANCH FROM BUS 270828 TO BUS 272094 TO BUS 275341 CKT 1 / NELSON ; B 345 NELSON ; B 138 NELSON ;1C 34.5 END

Contingency Name	Contingency Definition
COMED_P1-2_138-L11904_B-R-A	CONTINGENCY 'COMED_P1-2_138-L11904_B-R-A' / CONTINGENCY # 242 TRIP BRANCH FROM BUS 271398 TO BUS 271396 CKT 1 / ELEROY ;BT 138 ELEROY ; B 138 TRIP BRANCH FROM BUS 271398 TO BUS 946500 CKT 1 / ELEROY ;BT 138 AF1-314 TAP 138 MOVE 100 PERCENT LOAD FROM BUS 271396 TO BUS 271397 / ELEROY ; B 138 ELEROY ; R 138 TRIP BRANCH FROM BUS 271498 TO BUS 271398 CKT 1 / FREEPORT ;BT 138 ELEROY ;BT 138 TRIP BRANCH FROM BUS 271498 TO BUS 271494 CKT 1 / FREEPORT ;BT 138 FREEPORT ;2R 138 TRIP BRANCH FROM BUS 271498 TO BUS 271897 CKT 1 / FREEPORT ;BT 138 LANCASTER; R 138 TRIP BRANCH FROM BUS 271494 TO BUS 274184 CKT 7 / FREEPORT ;2R 138 FREEPORT; 34.5 MOVE 100 PERCENT LOAD FROM BUS 271494 TO BUS 271495 / FREEPORT ;2R 138 FREEPORT ;5R 138 END
COMED_P2-1_119-L17121__	CONTINGENCY 'COMED_P2-1_119-L17121__' / CONTINGENCY # 165 TRIP BRANCH FROM BUS 272240 TO BUS 271897 CKT 1 / PECATONIC; B 138 LANCASTER; R 138 END
COMED_P2-1_186-L16914__	CONTINGENCY 'COMED_P2-1_186-L16914__' / CONTINGENCY # 256 TRIP BRANCH FROM BUS 272365 TO BUS 272516 CKT 1 / ESS H440 ;RT 138 STEWARD ; B 138 END
Base Case	
COMED_P4_167-38-L14609_	CONTINGENCY 'COMED_P4_167-38-L14609_' / CONTINGENCY # 675 TRIP BRANCH FROM BUS 272251 TO BUS 272803 CKT 1 / PLANO; R 138 W PLANO ; R 138 TRIP BRANCH FROM BUS 272803 TO BUS 943120 CKT 1 / W PLANO ; R 138 AE2-341 TAP 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271116 / W PLANO ; R 138 BRISTOL ; B 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271117 / W PLANO ; R 138 BRISTOL ; R 138 MOVE 50 PERCENT LOAD FROM BUS 272803 TO BUS 272444 / W PLANO ; R 138 SANDWICH ; B 138 DISCONNECT BUS 272251 / PLANO; R 138 END
COMED_P1-2_345-L18905__B-R-B	CONTINGENCY 'COMED_P1-2_345-L18905__B-R-B' / 1087 OPEN BRANCH FROM BUS 270916 TO BUS 965550 CKT 1 / 270916 WAYNE ; B 345 965550 AG1-423 TAP 345 1 END

Contingency Name	Contingency Definition
COMED_P1-2_345-L18905__B-R-A	CONTINGENCY 'COMED_P1-2_345-L18905__B-R-A' / CONTINGENCY # 141B TRIP BRANCH FROM BUS 930480 TO BUS 965550 CKT 1 / AB1-089 ; B 345 AG1-423 TAP 345 END
COMED_P1-2_138-L98105_R-S-D	CONTINGENCY 'COMED_P1-2_138-L98105_R-S-D' / 1146 OPEN BRANCH FROM BUS 348935 TO BUS 958340 CKT 1 / 348935 4CORBIN 138 958340 AF2-128 TAP 138 1 END
COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-A	CONTINGENCY 'COMED_P7-1_138-L10714_R-R+_138-L10721_R-R-A' / CONTINGENCY # 39 TRIP BRANCH FROM BUS 934700 TO BUS 272002 CKT 1 / AD1-098 TAP 138 MCGIRR RD; 138 TRIP BRANCH FROM BUS 272517 TO BUS 966520 CKT 1 / STILLMAN ;RT 138 AG1-521 TAP 138 END
COMED_P1-2_138-L7411__R-S	CONTINGENCY 'COMED_P1-2_138-L7411__R-S' / CONTINGENCY # 527 TRIP BRANCH FROM BUS 271835 TO BUS 348962 CKT 1 / KEWANEE ;23 138 4KEEMIN 138 END
COMED_P4_155-45-BT34-5_	CONTINGENCY 'COMED_P4_155-45-BT34-5_' / 1522 OPEN BRANCH FROM BUS 270828 TO BUS 270890 CKT 1 / 270828 NELSON ; B 345 270890 ESS H471 ; 345 1 OPEN BRANCH FROM BUS 270828 TO BUS 943410 CKT 1 / 270828 NELSON ; B 345 943410 AF1-012 TAP 345 1 END
COMED_P4_171-38-L17121_	CONTINGENCY 'COMED_P4_171-38-L17121_' / CONTINGENCY # 693 TRIP BRANCH FROM BUS 272240 TO BUS 271897 CKT 1 / PECATONIC; B 138 LANCASTER; R 138 TRIP BRANCH FROM BUS 272747 TO BUS 272240 CKT 1 / WEMPLETOW; R 138 PECATONIC; B 138 MOVE 100 PERCENT LOAD FROM BUS 272240 TO BUS 272746 / PECATONIC; B 138 WEMPLETOW; B 138 DISCONNECT BUS 272747 / WEMPLETOW; R 138 END
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_P2-1_169-L16914__	CONTINGENCY 'COMED_P2-1_169-L16914__' / CONTINGENCY # 234 TRIP BRANCH FROM BUS 272002 TO BUS 272365 CKT 1 / MCGIRR RD; 138 ESS H440 ;RT 138 END

14 Affected Systems

14.1 MISO

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

Attachment 1: One Line Diagram