



**Generation Interconnection
Feasibility Study Report
for
Queue Project AG1-127
GLIDDEN-WATERMAN 138 KV
63.06 MW Capacity / 105.1 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 DeKalb County, Illinois. The installed facilities will have a total capability of 105.1 MW with 63.06 MW of this output being recognized

by PJM as Capacity. The proposed in-service date for this project is December 29, 2023. This study does not imply a TO commitment to this in-service date.

Queue Number	AG1-127
Project Name	GLIDDEN-WATERMAN 138 KV
State	Illinois
County	DeKalb
Transmission Owner	ComEd
MFO	105.1
MWE	105.1
MWC	63.06
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

AG1-127 proposes a primary Point of Interconnection with the ComEd transmission system by tying into the 138kV bus at a new substation on 138kV lines 11323 and 11106 between Glidden and Waterman.

4.2 Secondary

AG1-127 proposes a secondary Point of Interconnection with the ComEd transmission system by tapping the Glidden to Waterman 138kV 11106 line.

5 Cost Summary

The AG1-127 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$ 4,000,000
Total System Network Upgrade Costs	\$ 107,100,000
Total Costs	\$ 111,100,000

This cost excludes a Federal Income Tax Gross Up charges. This tax may or may not be charged based on whether this project meets the eligibility requirements of IRS Notice 2016-36, 2016-25 I.R.B. (6/20/2016). If at

a future date it is determined that the Federal Income Tax Gross charge is required, the Transmission Owner shall be reimbursed by the Interconnection Customer for such taxes.

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

6 Transmission Owner Scope of Work

6.1 Attachment Facilities

The AG1-127 generator lead would interconnect to the 138kV bus at a new substation on 138kV lines 11323 and 11106. The required Attachment Facilities are one 138kV motor-operated disconnect, a dead-end structure and revenue metering as shown in the one-line diagram.

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

6.2 Non-Direct Connection Network Upgrades

To accommodate the interconnection of AG1-127, the 138kV breaker and a half bus switchgear at the new 138kV substation would be expanded to create a line position for the IC's generator lead.

The scope of work includes the installation of one 138 kV circuit breaker at this Interconnection Substation to create a line position for the IC's generator lead, as shown in the one-line diagram below.

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

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

Scope of Work	Cost Estimate
Installation of one 138kV circuit breaker at a new substation on 138kV lines 11323 and 11106, and relay/protection work	\$3,000,000
Total Cost Estimate (see notes below on cost estimate)	\$3,000,000

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

6.3 Notes on Cost Estimate:

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

7 Schedule

See Sections 6 and 11.

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 AG1-127 was evaluated as a 105.1 MW (Capacity 63.06 MW) injection tapping the two 138 kV lines between Waterman and Glidden in the ComEd area. Project AG1-127 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-127 was studied with a commercial probability of 53%. Potential network impacts were as follows:

11.1 Generation Deliverability

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

None

11.2 Multiple Facility Contingency

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADING %	POST PROJE CT LOADING %	AC DC	MW IMPACT
162424152	272027	MONTGOMERY RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P4_167-38-L14302_	breaker	275.0	98.07	106.24	DC	22.48

11.3 Contribution to Previously Identified Overloads

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
162045224	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	104.89	105.33	DC	15.3
162317711	272027	MONTGOMER ; RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P2-2_167_PL-138B_2	bus	275.0	107.41	115.17	DC	21.35
162424151	272027	MONTGOMER ; RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P4_167-38-TR81	breaker	264.0	111.8	119.89	DC	21.36
162317659	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	COMED_P2-2_111_EJ-138B_2	bus	331.0	128.61	140.37	DC	38.93
162424074	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	COMED_P4_111-38-TR82	breaker	309.0	137.77	150.37	DC	38.93
162424075	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	COMED_P4_111-38-L11106	breaker	331.0	128.61	140.37	DC	38.93
162972495	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	141.19	153.47	DC	40.64
162317701	272803	W PLANO ; R	138.0	CE	272251	PLANO; R	138.0	CE	1	COMED_P2-2_111_EJ-138B_2	bus	498.0	115.15	122.97	DC	38.93
162424109	272803	W PLANO ; R	138.0	CE	272251	PLANO; R	138.0	CE	1	COMED_P4_111-38-TR82	breaker	449.0	127.72	136.38	DC	38.93
162424110	272803	W PLANO ; R	138.0	CE	272251	PLANO; R	138.0	CE	1	COMED_P4_113-38-L11106	breaker	498.0	114.81	122.9	DC	40.3
162972526	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	123.52	131.68	DC	40.64
162317686	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	122.18	129.99	DC	38.93
162424094	943120	AE2-341 TAP	138.0	CE	272803	W PLANO ; R	138.0	CE	1	COMED_P4_111-38-TR82	breaker	449.0	135.51	144.18	DC	38.93
162424095	943120	AE2-341 TAP	138.0	CE	272803	W PLANO ; R	138.0	CE	1	COMED_P4_113-38-L11106	breaker	498.0	121.84	129.93	DC	40.3
162972511	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	130.55	138.71	DC	40.64

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
168357169	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	COMED_P1-2_765-L11215--S	operation	1409.0	162.94	162.99	DC	15.19
168357170	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	AEP_P1-2_#695_1681	operation	1409.0	162.94	162.99	DC	15.19
162577170	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	102.35	110.71	DC	40.36
162577126	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	118.09	128.89	DC	40.36
162577055	272728	WATERMAN; B	138.0	CE	272445	SANDWICH; R	138.0	CE	1	COMED_P1-2_138-L11106_B-R-A	operation	309.0	136.06	148.69	DC	39.03
162577057	272728	WATERMAN; B	138.0	CE	272445	SANDWICH; R	138.0	CE	1	Base Case	operation	238.0	120.46	132.36	DC	28.32
162577071	272728	WATERMAN; B	138.0	CE	271560	GLIDDEN;BT	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	321.0	135.78	139.22	DC	11.05
162577060	272730	WATERMAN;3B	138.0	CE	272728	WATERMAN; B	138.0	CE	1	COMED_P1-2_138-L10714_R-R-A	operation	507.0	113.02	120.42	DC	37.54
162577065	272730	WATERMAN;3B	138.0	CE	272728	WATERMAN; B	138.0	CE	1	Base Case	operation	487.0	104.11	109.27	DC	25.13
162577121	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	126.81	135.51	DC	39.03
162577122	272803	W PLANO; R	138.0	CE	272251	PLANO; R	138.0	CE	1	Base Case	operation	351.0	126.68	134.75	DC	28.32
162577051	272948	CHI W CTR	138.0	CE	271560	GLIDDEN;BT	138.0	CE	1	COMED_P2-1_113-L11323	operation	386.0	139.17	152.84	DC	52.76
168357259	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P1-2_765-L11215--S	operation	971.0	137.51	137.62	DC	10.58
168357260	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	AEP_P1-2_#695_1681	operation	971.0	137.51	137.62	DC	10.58
162577098	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	134.61	143.3	DC	39.03
162577099	943120	AE2-341 TAP	138.0	CE	272803	W PLANO; R	138.0	CE	1	Base Case	operation	351.0	136.65	144.72	DC	28.32
169882034	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P1-2_#695_1681	operation	971.0	148.71	149.02	DC	10.58

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
169882035	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P1-2_765-L11215__-S	operation	971.0	148.71	149.02	DC	10.58

11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
162045224	2	ELECT JCT; B 345.0 kV - LOMBARD ; B 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L11124_1 (1372) : ComEd 345kV L11124 SSTE rating is 1568 MVA. The upgrade will be to reconductor the line and station conductor. A preliminary estimate is \$15.3M with an estimated construction timeline of 30 months. Upon completion of the upgrade the ratings will be 1364/1726/1846/2221 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$14,600,000 Time Estimate : 30.0 Months CE_NUN_L11124_2 (1414) : In addition to CE_NUN_11124_1, the upgrade will be to replace 2-345kV Circuit Breakers and station conductor. A preliminary estimate is \$7M with an estimated construction timeline of 30 months. Upon completion of the upgrade the ratings will be 1461/1656/1909/1912 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$7,000,000 Time Estimate : 30.0 Months	\$21,600,000
162424110,162 972526,162424 109,162317701	4	W PLANO ; R 138.0 kV - 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
162424095,162 317686,162972 511,162424094	5	AE2-341 TAP 138.0 kV - W PLANO ; R 138.0 kV Ckt 1		
162317711,162 424151,162424 152	1	MONTGOMER;R T 138.0 kV - OSWEGO ; R 138.0 kV Ckt 1	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

ID	Idx	Facility	Upgrade Description	Cost
162424075,162424074,162972495,162317659	3	WATERMAN ; B 138.0 kV - SANDWICH ; R 138.0 kV Ckt 1	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
			TOTAL COST	\$107,100,000

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	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
162424151	272027	MONTGOMER;R T	CE	272203	OSWEG O ;R	CE	1	COMED_P4_167-38-TR81	breaker	264.0	111.8	119.89	DC	21.36

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

11.6.2 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
162045224	270730	ELECT JCT; B	CE	270812	LOMBARD ; B	CE	1	COMED_P2-2_111_EJ-345B__2	bus	1479.0	104.89	105.33	DC	15.3

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.7149	Adder	3.19
274715	NELSON EC;1C	4.6289	50/50	4.6289
274716	NELSON EC;1S	3.3775	50/50	3.3775
274717	NELSON EC;2C	4.6647	50/50	4.6647
274718	NELSON EC;2S	3.4077	50/50	3.4077
274738	AURORA EC;3P	6.5557	50/50	6.5557
274740	AURORA EC;4P	6.5557	50/50	6.5557
274859	EASYR;U1 E	11.4738	Adder	13.5
274860	EASYR;U2 E	11.4738	Adder	13.5
276167	Z1-106 E2	0.9450	Adder	1.11
276168	Z1-106 E1	0.9615	Adder	1.13
276591	L-013 2	2.7406	Adder	3.22
290051	GSG-6; E	10.8518	Adder	12.77
290108	LEEDK;1U E	24.9645	Adder	29.37
293516	O-009 E1	9.3681	Adder	11.02
293517	O-009 E2	4.7583	Adder	5.6
293518	O-009 E3	5.2401	Adder	6.16
293715	O-029 E	10.0155	Adder	11.78
293716	O-029 E	5.4913	Adder	6.46
293717	O-029 E	5.0472	Adder	5.94
294763	P-046 E	6.6912	Adder	7.87
295109	WESTBROOK E	5.8099	Adder	6.84
295111	SUBLETTE E	2.8430	Adder	3.34
916221	Z1-073 E	5.6365	Adder	6.63
919221	AA1-146	4.3181	50/50	4.3181
919581	AA2-030 C	27.3698	50/50	27.3698
926331	AC1-110 1	4.1006	50/50	4.1006
926341	AC1-110 2	4.1006	50/50	4.1006
930482	AB1-089 CT	20.6451	Adder	24.29
930483	AB1-089 ST	16.4136	Adder	19.31
933431	AC2-156 C O1	0.7045	Adder	0.83
933432	AC2-156 E O1	1.1494	Adder	1.35
933911	AD1-013 C	1.8970	Adder	2.23
933912	AD1-013 E	3.0303	Adder	3.57
934432	AD1-067 E	0.5729	Adder	0.67
934701	AD1-098 C O1	7.1627	Adder	8.43
934702	AD1-098 E O1	5.2295	Adder	6.15
934971	AD1-129 C	0.4259	Adder	0.5
934972	AD1-129 E	0.2839	Adder	0.33
936791	AD2-102 C	7.7245	Adder	9.09
936792	AD2-102 E	5.1496	Adder	6.06

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
937001	AD2-134 C	2.8368	Adder	3.34
937002	AD2-134 E	11.7190	Adder	13.79
937311	AD2-172 C	1.7564	Adder	2.07
937312	AD2-172 E	2.4256	Adder	2.85
937531	AD2-214 C	4.7969	Adder	5.64
937532	AD2-214 E	3.1980	Adder	3.76
938861	AE1-114 C O1	3.4501	Adder	4.06
938862	AE1-114 E O1	11.7709	Adder	13.85
939051	AE1-134 1	2.1268	50/50	2.1268
939061	AE1-134 2	2.1268	50/50	2.1268
940501	AE2-035 C	1.7564	Adder	2.07
940502	AE2-035 E	2.4256	Adder	2.85
941131	AE2-107 C	6.7404	Adder	7.93
941132	AE2-107 E	4.4936	Adder	5.29
943121	AE2-341 C	8.1679	Adder	9.61
943122	AE2-341 E	4.0109	Adder	4.72
943411	AF1-012 C	25.0351	50/50	25.0351
943412	AF1-012 E	16.6901	50/50	16.6901
943591	AF1-030 C O1	5.4317	Adder	6.39
943592	AF1-030 E O1	2.6875	Adder	3.16
943921	AF1-060	0.8648	Adder	1.02
946151	AF1-280 C O1	20.6870	50/50	20.6870
946152	AF1-280 E O1	9.5130	50/50	9.5130
946161	AF1-281 C O1	0.3850	Adder	0.45
946162	AF1-281 E O1	2.1819	Adder	2.57
946321	AF1-296 C O1	4.0063	Adder	4.71
946322	AF1-296 E O1	18.7565	Adder	22.07
946501	AF1-314 C	3.1208	Adder	3.67
946502	AF1-314 E	14.6109	Adder	17.19
946671	AF1-331	2.4636	Adder	2.9
954901	J963	0.6214	PJM External (MISO)	0.6214
955971	J1084	15.4350	PJM External (MISO)	15.4350
956411	J1131	8.1050	PJM External (MISO)	8.1050
957471	AF2-041 C	65.1690	50/50	65.1690
957472	AF2-041 E	32.5845	50/50	32.5845
958911	AF2-182 C	27.1800	50/50	27.1800
958912	AF2-182 E	18.1200	50/50	18.1200
958921	AF2-183 C	4.1072	Adder	4.83
958922	AF2-183 E	7.2480	50/50	7.2480
959081	AF2-199 C	21.7230	50/50	21.7230
959082	AF2-199 E	10.8615	50/50	10.8615
959091	AF2-200 C O1	43.4460	50/50	43.4460
959092	AF2-200 E O1	21.7230	50/50	21.7230
959101	AF2-201 C O1	4.2991	Adder	5.06
959102	AF2-201 E O1	12.3453	Adder	14.52
960381	AF2-329	4.2382	Adder	4.99
960551	AF2-346 C	10.7293	50/50	10.7293
960552	AF2-346 E	7.1529	50/50	7.1529
960721	AF2-363 C O1	4.9784	Adder	5.86
960722	AF2-363 E O1	3.3189	Adder	3.9
960751	AF2-366 C	7.0585	Adder	8.3
960752	AF2-366 E	4.7057	Adder	5.54

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
961011	AF2-392 C O1	5.4542	50/50	5.4542
961012	AF2-392 E O1	25.5358	50/50	25.5358
961021	AF2-393 O1	9.2970	50/50	9.2970
961031	AF2-394 O1	6.1980	50/50	6.1980
962012	AG1-044 E	0.0856	50/50	0.0856
962691	AG1-118 C O1	5.7655	Adder	12.8
962692	AG1-118 E O1	3.8437	Adder	8.53
962701	AG1-119 C	5.1589	Adder	11.45
962702	AG1-119 E	3.4393	Adder	7.63
962711	AG1-120 C O1	3.8687	Adder	8.59
962712	AG1-120 E O1	2.5791	Adder	5.72
962781	AG1-127 C	4.1360	Adder	9.18
962782	AG1-127 E	2.7573	Adder	6.12
962791	AG1-128 C O1	3.4010	Adder	7.55
962792	AG1-128 E O1	15.9150	Adder	35.33
963681	AG1-220 C O1	5.9638	Adder	13.24
963682	AG1-220 E O1	3.9758	Adder	8.83
964461	AG1-309 FTIR	181.5831	Merchant Transmission	181.5831
965061	AG1-371	10.8615	50/50	10.8615
965071	AG1-372	7.2410	50/50	7.2410
965081	AG1-373	3.6205	50/50	3.6205
965661	AG1-434 C O1	11.0972	50/50	11.0972
965662	AG1-434 E O1	51.9548	50/50	51.9548
965931	AG1-462 C O1	10.2198	Adder	22.69
965932	AG1-462 E O1	6.8132	Adder	15.12
966521	AG1-521 C O1	5.2802	Adder	11.72
966522	AG1-521 E O1	1.3201	Adder	2.93
966821	AG1-553 C O1	14.9890	Adder	33.27
966822	AG1-553 E O1	3.7472	Adder	8.32
WEC	WEC	0.2019	Confirmed LTF	0.2019
CPL	CPL	0.0020	Confirmed LTF	0.0020
CBM-W2	CBM-W2	10.4742	Confirmed LTF	10.4742
NY	NY	0.2052	Confirmed LTF	0.2052
TVA	TVA	1.1368	Confirmed LTF	1.1368
O-066	O-066	2.4093	Confirmed LTF	2.4093
SIGE	SIGE	0.0384	Confirmed LTF	0.0384
CBM-S2	CBM-S2	1.2424	Confirmed LTF	1.2424
CBM-S1	CBM-S1	0.2398	Confirmed LTF	0.2398
G-007	G-007	0.3748	Confirmed LTF	0.3748
MEC	MEC	9.5864	Confirmed LTF	9.5864
GIBSON	GIBSON	0.0339	Confirmed LTF	0.0339
BLUEG	BLUEG	0.3802	Confirmed LTF	0.3802
TRIMBLE	TRIMBLE	0.1336	Confirmed LTF	0.1336
LAGN	LAGN	2.6005	Confirmed LTF	2.6005
CBM-W1	CBM-W1	33.9424	Confirmed LTF	33.9424

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
162972495	272728	WATERMAN ; B	CE	272445	SANDWICH ; R	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	tower	331.0	141.19	153.47	DC	40.64

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

11.6.4 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
162424109	272803	W PLANO ; R	CE	272251	PLANO; R	CE	1	COMED_P4_111-38-TR82__	breaker	449.0	127.72	136.38	DC	38.93

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

11.6.5 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
162424094	943120	AE2-341 TAP	CE	272803	W PLANO ; R	CE	1	COMED_P4_111-38-TR82__	breaker	449.0	135.51	144.18	DC	38.93

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

11.7 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
AB1-089	Byron-Wayne 345kV #1	Active
AC1-110	Aurora 138kV	Active
AC2-156	Sandwich 34.5kV	Active
AD1-013	Twombly Road 138kV	Active
AD1-067	Mendota Hills	In Service
AD1-098	Dixon-McGirr	Active
AD1-129	Belvidere 34 kV	Active
AD2-102	Wempletown 345 kV	Active
AD2-134	Shady Oaks	Active
AD2-172	Lena 138kV	Active
AD2-214	Rock Falls-Garden Plains	Active
AE1-114	Maryland-Lancaster 138 kV	Active
AE1-134	Nelson 345 kV	Active
AE2-035	Lena 138 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
AF1-060	Lena 138 kV	Active
AF1-280	Nelson-Lee County	Active
AF1-281	Nelson-Lee County	Active
AF1-296	Garden Plain 138 kV	Active
AF1-314	Lena 138 kV	Active
AF1-331	Twombley Road	Active
AF2-041	Nelson-Electric Junction 345 kV	Active
AF2-182	Nelson-Lee County 345 kV II	Active
AF2-183	Nelson-Lee County 345 kV	Active
AF2-199	Nelson-Electric Junction 345 kV	Active
AF2-200	Nelson-Electric Junction 345 kV	Active
AF2-201	Lena-Ecogrove 138 kV	Active
AF2-329	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
AF2-393	Nelson-Dixon 138 kV	Active
AF2-394	Nelson-Dixon 138 kV	Active

Queue Number	Project Name	Status
AG1-044	Whiteside County	Active
AG1-118	Sugar Grove 138 kV	Active
AG1-119	Wayne-Byron 345 kV	Active
AG1-120	Glidden-Cherry Valley 138 kV	Active
AG1-127	Glidden-Waterman 138 kV	Active
AG1-128	Shady Oaks 138 kV	Active
AG1-220	West Dekalb 138 kV	Active
AG1-309	Byron 345 kV	Active
AG1-371	Nelson-Electric Junction 345 kV	Active
AG1-372	Nelson-Electric Junction 345 kV	Active
AG1-373	Nelson-Electric Junction 345 kV	Active
AG1-434	Electric Junction-Nelson 345 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
Z1-073	Mendota Hills	In Service
Z1-106	West Chicago 34kV	In Service
J1084	MISO	MISO
J1131	MISO	MISO
J963	MISO	MISO

11.8 Contingency Descriptions - Primary POI

Contingency Name	Contingency Definition
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_P2-1_113-L11323__	CONTINGENCY 'COMED_P2-1_113-L11323__' / CONTINGENCY # 140 TRIP BRANCH FROM BUS 272730 TO BUS 272728 CKT 1 / WATERMAN ;3B 138 WATERMAN ; 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-L14609_R-R-A	CONTINGENCY 'COMED_P1-2_138-L14609_R-R-A' / CONTINGENCY # 316 TRIP BRANCH FROM BUS 272251 TO BUS 272803 CKT 1 / PLANO; R 138 W PLANO ; R 138 TRIP BRANCH FROM BUS 272803 TO BUS 943120 CKT 1 / W PLANO ; R 138 AE2-341 TAP 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271116 / W PLANO ; R 138 BRISTOL ; B 138 MOVE 25 PERCENT LOAD FROM BUS 272803 TO BUS 271117 / W PLANO ; R 138 BRISTOL ; R 138 MOVE 50 PERCENT LOAD FROM BUS 272803 TO BUS 272445 / W PLANO ; R 138 SANDWICH ; R 138 END
AEP_P1-2_#695_1681	CONTINGENCY 'AEP_P1-2_#695_1681' OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 END

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-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_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_P2-2_167_PL-138B__2	CONTINGENCY 'COMED_P2-2_167_PL-138B__2' / CONTINGENCY # 169 DISCONNECT BUS 272250 / PLANO ; B 138 END
COMED_P1-2_765-L11215__S	CONTINGENCY 'COMED_P1-2_765-L11215__S' / CONTINGENCY # 199 TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTON ; 765 05DUMONT 765 REMOVE SHUNT 1 FROM BUS 270644 / WILTON ; 765 END
Base Case	

Contingency Name	Contingency Definition
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_P2-2_111_EJ-345B__2	CONTINGENCY 'COMED_P2-2_111_EJ-345B__2' / CONTINGENCY # 102 TRIP BRANCH FROM BUS 270730 TO BUS 270846 CKT 1 / ELECT JCT; B 345 PLANO ; B 345 TRIP BRANCH FROM BUS 270730 TO BUS 270916 CKT 1 / ELECT JCT; B 345 WAYNE ; B 345 TRIP BRANCH FROM BUS 270730 TO BUS 270928 CKT 1 / ELECT JCT; B 345 WOLFS ; B 345 TRIP BRANCH FROM BUS 270928 TO BUS 272794 TO BUS 275334 CKT 1 / WOLFS ; B 345 WOLFS ; B 138 WOLFS ;1C 34.5 DISCONNECT BUS 275239 / ELECT JCT;2M 138 END

Contingency Name	Contingency Definition
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

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 AG1-127 was evaluated as a 105.1 MW (Capacity 63.1 MW) injection tapping the Glidden to Waterman 138 kV line in the ComEd area. Project AG1-127 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-127 was studied with a commercial probability of 53%. Potential network impacts were as follows:

13.1 Generation Deliverability

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

None

13.2 Multiple Facility Contingency

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
174526733	270730	ELECT JCT; B	345.0	CE	270846	PLANO ; B	345.0	CE	1	COMED_P4_111-45-L11120_	breaker	1341.0	99.98	100.27	DC	10.9

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 IMPACT
162045224	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	106.41	106.83	DC	15.08
174387587	270926	WILTON ; B	345.0	CE	275232	WILTON ;3M	345.0	CE	1	COMED_P4_112-65-BT5-6_	breaker	1379.0	153.63	153.65	DC	15.74
174387580	270927	WILTON ; R	345.0	CE	275233	WILTON ;4M	345.0	CE	1	COMED_P4_112-65-BT2-3_	breaker	1379.0	156.87	156.89	DC	16.07
162317711	272027	MONTGOMER ;RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P2-2_167_PL-138B_2	bus	275.0	123.7	131.59	DC	21.71
162424151	272027	MONTGOMER ;RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P4_167-38-TR81_	breaker	264.0	128.75	136.98	DC	21.72
162424152	272027	MONTGOMER ;RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P4_167-38-L14302_	breaker	275.0	115.21	123.52	DC	22.85
162317664	272730	WATERMAN ;3B	138.0	CE	272728	WATERMAN ; B	138.0	CE	1	COMED_P2-2_107_DX-138R_23	bus	539.0	114.97	127.96	DC	69.98

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
162317666	272730	WATERMAN ;3B	138.0	CE	272728	WATERMAN ; B	138.0	CE	1	COMED_P2-2_156_CV-138R_1	bus	539.0	110.28	124.18	DC	74.92
174387636	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P4_1 12-65-BT4-5	breaker	971.0	137.49	137.59	DC	10.58
174387637	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P4_1 12-65-BT3-4	breaker	971.0	137.49	137.59	DC	10.58
174387586	275232	WILTON ;3M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_1 12-65-BT5-6	breaker	1379.0	153.63	153.65	DC	15.74
174387581	275233	WILTON ;4M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_1 12-65-BT2-3	breaker	1379.0	156.87	156.89	DC	16.07
177642667	962690	AG1-118 TAP	138.0	CE	272522	SUGAR GRV; B	138.0	CE	1	COMED_P4_1 67-38-L14609	breaker	538.0	113.15	120.54	DC	39.74

13.4 Potential Congestion due to Local Energy Deliverability

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

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
168357169	255113	17STILLWELL	345.0	NIPS	243219	05DUMONT	345.0	AEP	1	COMED_P 1-2_765-L11215_-S	operation	1409.0	163.08	163.12	DC	15.18
177270168	271560	GLIDDEN ;BT	138.0	CE	962690	AG1-118 TAP	138.0	CE	1	COMED_P 1-2_138-L14609_R-R-A	operation	483.0	96.41	104.64	DC	39.75
177270148	272444	SANDWICH ; B	138.0	CE	943120	AE2-341 TAP	138.0	CE	1	COMED_P 1-2_138-L11106_B-R-AA	operation	449.0	104.02	113.09	DC	40.7
162577198	272445	SANDWICH ; R	138.0	CE	272444	SANDWICH ; B	138.0	CE	1	Base Case	operation	351.0	92.52	100.71	DC	28.73
177270127	272445	SANDWICH ; R	138.0	CE	272444	SANDWICH ; B	138.0	CE	1	COMED_P 1-2_138-L11106_B-R-AA	operation	449.0	111.79	120.85	DC	40.69
162577126	272522	SUGAR GRV; B	138.0	CE	272114	N AURORA ; B	138.0	CE	1	COMED_P 1-2_138-L14609_R-R-A	operation	374.0	148.58	159.21	DC	39.75
162577131	272522	SUGAR GRV; B	138.0	CE	272114	N AURORA ; B	138.0	CE	1	Base Case	operation	330.0	98.89	107.19	DC	27.37

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 DC	MW IMPACT
162577057	272728	WATERMAN; B	138.0	CE	272445	SANDWICH; R	138.0	CE	1	Base Case	operation	238.0	144.96	157.03	DC	28.74
162577071	272728	WATERMAN; B	138.0	CE	271560	GLIDDEN; BT	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	321.0	145.07	157.45	DC	39.75
162577076	272728	WATERMAN; B	138.0	CE	271560	GLIDDEN; BT	138.0	CE	1	Base Case	operation	292.0	92.91	102.29	DC	27.37
177270008	272728	WATERMAN; B	138.0	CE	272445	SANDWICH; R	138.0	CE	1	COMED_P1-2_138-L11106_B-R-AA	operation	309.0	168.63	181.81	DC	40.7
162577065	272730	WATERMAN; 3B	138.0	CE	272728	WATERMAN; B	138.0	CE	1	Base Case	operation	487.0	117.34	128.87	DC	56.11
177270033	272730	WATERMAN; 3B	138.0	CE	272728	WATERMAN; B	138.0	CE	1	COMED_P1-2_138-L15627_R-R-AA	operation	507.0	116.09	130.8	DC	74.6
162577122	272803	W PLANO; R	138.0	CE	272251	PLANO; R	138.0	CE	1	Base Case	operation	351.0	143.47	151.66	DC	28.74
177270064	272803	W PLANO; R	138.0	CE	272251	PLANO; R	138.0	CE	1	COMED_P1-2_138-L11106_B-R-AA	operation	449.0	149.42	158.48	DC	40.7
168357259	274804	UNIV PK N; RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P1-2_765-L11215__S	operation	971.0	137.46	137.56	DC	10.57
162577099	943120	AE2-341 TAP	138.0	CE	272803	W PLANO; R	138.0	CE	1	Base Case	operation	351.0	153.44	161.63	DC	28.74
177270051	943120	AE2-341 TAP	138.0	CE	272803	W PLANO; R	138.0	CE	1	COMED_P1-2_138-L11106_B-R-AA	operation	449.0	157.24	166.3	DC	40.7
169882035	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P1-2_765-L11215__S	operation	971.0	148.68	148.98	DC	10.57
177270113	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	125.96	134.19	DC	39.75
177270117	962690	AG1-118 TAP	138.0	CE	272522	SUGAR GRV; B	138.0	CE	1	Base Case	operation	376.0	100.84	108.12	DC	27.37

13.5 Flow Gate Details - Secondary POI

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

13.5.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174526733	270730	ELECT JCT; B	CE	270846	PLANO ; B	CE	1	COMED_P4_111-45-L11120_	breaker	1341.0	99.98	100.27	DC	10.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.0175	Adder	2.37
274658	DRESDEN ;2U	65.1442	Adder	76.64
274738	AURORA EC;3P	4.4194	50/50	4.4194
274740	AURORA EC;4P	4.4194	50/50	4.4194
274820	ELGIN EC ;2P	2.9992	50/50	2.9992
274859	EASYR;U1 E	10.7851	Adder	12.69
274860	EASYR;U2 E	10.7851	Adder	12.69
276167	Z1-106 E2	1.5751	50/50	1.5751
276168	Z1-106 E1	1.5795	50/50	1.5795
276170	Z1-108 E	2.3776	Adder	2.8
276591	L-013 2	4.5678	50/50	4.5678
290021	O50 E	8.8835	Adder	10.45
290051	GSG-6; E	8.0588	Adder	9.48
290108	LEEDK;1U E	17.5967	Adder	20.7
293516	O-009 E1	7.6359	Adder	8.98
293517	O-009 E2	3.8784	Adder	4.56
293518	O-009 E3	4.2712	Adder	5.02
293715	O-029 E	8.1636	Adder	9.6
293716	O-029 E	4.4760	Adder	5.27
293717	O-029 E	4.1139	Adder	4.84
294763	P-046 E	8.7264	Adder	10.27
295109	WESTBROOK E	4.3146	Adder	5.08
295111	SUBLETTE E	2.3580	Adder	2.77
915011	Y3-013 1	3.0393	Adder	3.58
915021	Y3-013 2	3.0393	Adder	3.58
915031	Y3-013 3	3.0393	Adder	3.58
916221	Z1-073 E	4.1858	Adder	4.92
919581	AA2-030 C	17.4192	Adder	20.49
920272	AA2-123 E	2.3297	Adder	2.74
924472	AB2-096 CT1	18.0873	Adder	21.28
924473	AB2-096 CT2	18.0873	Adder	21.28
924474	AB2-096 CT3	18.0873	Adder	21.28
926331	AC1-110 1	2.7644	50/50	2.7644
926341	AC1-110 2	2.7644	50/50	2.7644
927451	AC1-142A 1	1.7381	Adder	2.04
927461	AC1-142A 2	1.7400	Adder	2.05
930482	AB1-089 CT	36.1933	Adder	42.58
930483	AB1-089 ST	28.7751	Adder	33.85
930771	AB1-122 CT2	41.1772	Adder	48.44
933911	AD1-013 C	1.4107	Adder	1.66
933912	AD1-013 E	2.2535	Adder	2.65
933931	AD1-016 C	0.8849	Adder	1.04

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933932	AD1-016 E	1.4438	Adder	1.7
934111	AD1-039 2	4.0354	Adder	4.75
934432	AD1-067 E	0.4255	Adder	0.5
934701	AD1-098 C O1	5.3537	Adder	6.3
934702	AD1-098 E O1	3.9088	Adder	4.6
934971	AD1-129 C	0.8543	Adder	1.01
934972	AD1-129 E	0.5695	Adder	0.67
936791	AD2-102 C	13.1723	Adder	15.5
936792	AD2-102 E	8.7815	Adder	10.33
937001	AD2-134 C	2.1067	Adder	2.48
937002	AD2-134 E	8.7028	Adder	10.24
937311	AD2-172 C	2.2907	Adder	2.69
937312	AD2-172 E	3.1633	Adder	3.72
937531	AD2-214 C	3.9781	Adder	4.68
937532	AD2-214 E	2.6521	Adder	3.12
938851	AE1-113 C O1	3.6645	Adder	4.31
938852	AE1-113 E O1	12.9921	Adder	15.28
938861	AE1-114 C O1	3.6385	Adder	4.28
938862	AE1-114 E O1	12.4137	Adder	14.6
939051	AE1-134 1	1.3536	Adder	1.59
939061	AE1-134 2	1.3536	Adder	1.59
940501	AE2-035 C	2.2907	Adder	2.69
940502	AE2-035 E	3.1633	Adder	3.72
940752	AE2-062 E	0.0313	Adder	0.07
941131	AE2-107 C	4.7511	Adder	5.59
941132	AE2-107 E	3.1674	Adder	3.73
942421	AE2-255 C O1	1.3881	Adder	1.63
942422	AE2-255 E O1	4.1642	Adder	4.9
942991	AE2-321 C	7.7862	Adder	9.16
942992	AE2-321 E	3.8350	Adder	4.51
943411	AF1-012 C	13.0448	Adder	15.35
943412	AF1-012 E	8.6965	Adder	10.23
943801	AF1-048 C	3.6398	Adder	4.28
943802	AF1-048 E	2.4265	Adder	2.85
943921	AF1-060	1.1279	Adder	1.33
944041	AF1-072	2.1858	Adder	2.57
945352	AF1-200 NFTW	581.8050	50/50	581.8050
946151	AF1-280 C O1	15.3318	Adder	18.04
946152	AF1-280 E O1	7.0504	Adder	8.29
946161	AF1-281 C O1	0.3357	Adder	0.39
946162	AF1-281 E O1	1.9025	Adder	2.24
946321	AF1-296 C O1	3.4754	Adder	4.09
946322	AF1-296 E O1	16.2712	Adder	19.14
946501	AF1-314 C	4.0700	Adder	4.79
946502	AF1-314 E	19.0551	Adder	22.42
946661	AF1-330 C	1.9103	Adder	2.25
946662	AF1-330 E	0.4193	Adder	0.49
946671	AF1-331	1.8321	Adder	2.16
952381	J703	8.7928	PJM External (MISO)	8.7928
952391	J704	3.7606	PJM External (MISO)	3.7606
952431	J760	2.5254	PJM External (MISO)	2.5254
953151	J831	2.9904	PJM External (MISO)	2.9904

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
953491	J947	15.3280	PJM External (MISO)	15.3280
953681	J818	11.4521	PJM External (MISO)	11.4521
953891	J849	8.5875	PJM External (MISO)	8.5875
953901	J850	20.0400	PJM External (MISO)	20.0400
953921	J855 C	1.0241	PJM External (MISO)	1.0241
953922	J855 E	5.5409	PJM External (MISO)	5.5409
954001	J864	3.3986	PJM External (MISO)	3.3986
954061	J870	13.4840	PJM External (MISO)	13.4840
954071	J871	6.7420	PJM External (MISO)	6.7420
954141	J878	15.6260	PJM External (MISO)	15.6260
954191	J886	10.5870	PJM External (MISO)	10.5870
954691	J732	23.5553	PJM External (MISO)	23.5553
954741	J928 C	0.8573	PJM External (MISO)	0.8573
954742	J928 E	4.6383	PJM External (MISO)	4.6383
955091	J986	9.6580	PJM External (MISO)	9.6580
955221	J1000	3.1685	PJM External (MISO)	3.1685
955241	J1002	6.8132	PJM External (MISO)	6.8132
955251	J1003	3.6685	PJM External (MISO)	3.6685
955582	J1042 E	14.2794	PJM External (MISO)	14.2794
955971	J1084	10.0740	PJM External (MISO)	10.0740
956141	J1101	1.4116	PJM External (MISO)	1.4116
956571	J1153	11.0775	PJM External (MISO)	11.0775
956581	J1154	5.7645	PJM External (MISO)	5.7645
956731	J1171	7.3130	PJM External (MISO)	7.3130
956852	J1183 E	0.0927	PJM External (MISO)	0.0927
956901	J1188	3.8940	PJM External (MISO)	3.8940
957331	AF2-027 C	2.0262	Adder	2.38
957332	AF2-027 E	3.0393	Adder	3.58
957401	AF2-034 C	0.7256	Adder	0.85
957402	AF2-034 E	0.6181	Adder	0.73
957471	AF2-041 C	31.7394	50/50	31.7394
957472	AF2-041 E	15.8697	50/50	15.8697
958911	AF2-182 C	20.1440	Adder	23.7
958912	AF2-182 E	13.4293	Adder	15.8
958921	AF2-183 C	3.5812	Adder	4.21
958922	AF2-183 E	5.3717	Adder	6.32
959081	AF2-199 C	10.5798	50/50	10.5798
959082	AF2-199 E	5.2899	50/50	5.2899
959091	AF2-200 C O1	21.1596	50/50	21.1596
959092	AF2-200 E O1	10.5798	50/50	10.5798
959101	AF2-201 C O1	5.6067	Adder	6.6
959102	AF2-201 E O1	16.1003	Adder	18.94
960551	AF2-346 C	5.5906	Adder	6.58
960552	AF2-346 E	3.7271	Adder	4.38
960581	AF2-349 C	20.6581	Adder	24.3
960582	AF2-349 E	13.7720	Adder	16.2
960721	AF2-363 C O1	4.8177	Adder	5.67
960722	AF2-363 E O1	3.2118	Adder	3.78
960731	AF2-364 C O1	6.3408	Adder	7.46
960732	AF2-364 E O1	4.2272	Adder	4.97
960751	AF2-366 C	5.0204	Adder	5.91
960752	AF2-366 E	3.3470	Adder	3.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
961011	AF2-392 C O1	3.7038	Adder	4.36
961012	AF2-392 E O1	17.3405	Adder	20.4
961021	AF2-393 O1	6.3133	Adder	7.43
961031	AF2-394 O1	4.2089	Adder	4.95
962012	AG1-044 E	0.0304	Adder	0.07
962691	AG1-118 C O2	8.8696	Adder	19.69
962692	AG1-118 E O2	5.9131	Adder	13.13
962701	AG1-119 C O2	28.6992	50/50	28.6992
962702	AG1-119 E O2	19.1328	50/50	19.1328
962711	AG1-120 C O2	11.3458	50/50	11.3458
962712	AG1-120 E O2	7.5638	50/50	7.5638
962781	AG1-127 C O2	2.9468	Adder	6.54
962782	AG1-127 E O2	1.9645	Adder	4.36
962791	AG1-128 C O2	2.5256	Adder	5.61
962792	AG1-128 E O2	11.8188	Adder	26.23
963681	AG1-220 C O2	5.0710	Adder	11.26
963682	AG1-220 E O2	3.3806	Adder	7.5
964461	AG1-309 FTIR	274.0128	Merchant Transmission	274.0128
965061	AG1-371	5.2899	50/50	5.2899
965071	AG1-372	3.5266	50/50	3.5266
965081	AG1-373	1.7633	50/50	1.7633
965141	AG1-379 C	4.0373	Adder	8.96
965142	AG1-379 E	1.8480	Adder	4.1
965551	AG1-423 C O2	7.8760	Adder	17.48
965552	AG1-423 E O2	5.2507	Adder	11.66
965661	AG1-434 C O2	1.7163	Adder	3.81
965662	AG1-434 E O2	8.0353	Adder	17.84
965931	AG1-462 C O2	8.9540	Adder	19.88
965932	AG1-462 E O2	5.9693	Adder	13.25
966441	AG1-513 C	0.2410	Adder	0.53
966442	AG1-513 E	0.3615	Adder	0.8
966521	AG1-521 C O2	4.4073	Adder	9.78
966522	AG1-521 E O2	1.1018	Adder	2.45
966651	AG1-535 O2	14.5010	50/50	14.5010
966821	AG1-553 C O2	12.9303	Adder	28.7
966822	AG1-553 E O2	3.2326	Adder	7.18
WEC	WEC	3.6436	Confirmed LTF	3.6436
CBM-W2	CBM-W2	14.3360	Confirmed LTF	14.3360
NY	NY	0.4363	Confirmed LTF	0.4363
TVA	TVA	1.3818	Confirmed LTF	1.3818
O-066	O-066	5.1821	Confirmed LTF	5.1821
SIGE	SIGE	0.0778	Confirmed LTF	0.0778
CBM-S1	CBM-S1	0.2785	Confirmed LTF	0.2785
G-007	G-007	0.8074	Confirmed LTF	0.8074
HAMLET	HAMLET	0.0889	Confirmed LTF	0.0889
MEC	MEC	11.8237	Confirmed LTF	11.8237
GIBSON	GIBSON	0.0480	Confirmed LTF	0.0480
BLUEG	BLUEG	0.7986	Confirmed LTF	0.7986
TRIMBLE	TRIMBLE	0.2766	Confirmed LTF	0.2766
LAGN	LAGN	3.3460	Confirmed LTF	3.3460
CATAWBA	CATAWBA	0.0269	Confirmed LTF	0.0269
CBM-W1	CBM-W1	72.3152	Confirmed LTF	72.3152

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
162045224	270730	ELECT JCT; B	CE	270812	LOMBARD ; B	CE	1	COMED_P2-2_111_EJ-345B__2	bus	1479.0	106.41	106.83	DC	15.08

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	2.6904	Adder	3.17
274715	NELSON EC;1C	4.6241	50/50	4.6241
274716	NELSON EC;1S	3.3740	50/50	3.3740
274717	NELSON EC;2C	4.6598	50/50	4.6598
274718	NELSON EC;2S	3.4042	50/50	3.4042
274738	AURORA EC;3P	6.5641	50/50	6.5641
274740	AURORA EC;4P	6.5641	50/50	6.5641
274859	EASYR;U1 E	11.4558	Adder	13.48
274860	EASYR;U2 E	11.4558	Adder	13.48
276167	Z1-106 E2	0.9460	Adder	1.11
276168	Z1-106 E1	0.9625	Adder	1.13
276591	L-013 2	2.7433	Adder	3.23
290051	GSG-6; E	10.7982	Adder	12.7
290108	LEEDK;1U E	25.0852	Adder	29.51
293516	O-009 E1	9.3541	Adder	11.0
293517	O-009 E2	4.7512	Adder	5.59
293518	O-009 E3	5.2323	Adder	6.16
293715	O-029 E	10.0006	Adder	11.77
293716	O-029 E	5.4832	Adder	6.45
293717	O-029 E	5.0396	Adder	5.93
294763	P-046 E	6.6647	Adder	7.84
295109	WESTBROOK E	5.7812	Adder	6.8
295111	SUBLETTE E	2.8368	Adder	3.34
916221	Z1-073 E	5.6086	Adder	6.6
919221	AA1-146	4.3137	50/50	4.3137
919581	AA2-030 C	27.3416	50/50	27.3416
926331	AC1-110 1	4.1058	50/50	4.1058
926341	AC1-110 2	4.1058	50/50	4.1058
930482	AB1-089 CT	20.5774	Adder	24.21
930483	AB1-089 ST	16.3598	Adder	19.25
933431	AC2-156 C O1	0.7101	Adder	0.84
933432	AC2-156 E O1	1.1587	Adder	1.36
933911	AD1-013 C	1.8762	Adder	2.21
933912	AD1-013 E	2.9970	Adder	3.53
934432	AD1-067 E	0.5701	Adder	0.67
934701	AD1-098 C O1	7.1288	Adder	8.39
934702	AD1-098 E O1	5.2047	Adder	6.12
934971	AD1-129 C	0.4230	Adder	0.5
934972	AD1-129 E	0.2820	Adder	0.33
936791	AD2-102 C	7.6918	Adder	9.05
936792	AD2-102 E	5.1279	Adder	6.03

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
937001	AD2-134 C	2.8228	Adder	3.32
937002	AD2-134 E	11.6611	Adder	13.72
937311	AD2-172 C	1.7495	Adder	2.06
937312	AD2-172 E	2.4159	Adder	2.84
937531	AD2-214 C	4.7907	Adder	5.64
937532	AD2-214 E	3.1938	Adder	3.76
938861	AE1-114 C O1	3.4400	Adder	4.05
938862	AE1-114 E O1	11.7364	Adder	13.81
939051	AE1-134 1	2.1246	50/50	2.1246
939061	AE1-134 2	2.1246	50/50	2.1246
940501	AE2-035 C	1.7495	Adder	2.06
940502	AE2-035 E	2.4159	Adder	2.84
941131	AE2-107 C	6.7730	Adder	7.97
941132	AE2-107 E	4.5153	Adder	5.31
943121	AE2-341 C	8.2201	Adder	9.67
943122	AE2-341 E	4.0365	Adder	4.75
943411	AF1-012 C	25.0204	50/50	25.0204
943412	AF1-012 E	16.6803	50/50	16.6803
943591	AF1-030 C O1	5.4664	Adder	6.43
943592	AF1-030 E O1	2.7046	Adder	3.18
943921	AF1-060	0.8614	Adder	1.01
946151	AF1-280 C O1	17.5595	Adder	20.66
946152	AF1-280 E O1	8.0748	Adder	9.5
946161	AF1-281 C O1	0.3845	Adder	0.45
946162	AF1-281 E O1	2.1789	Adder	2.56
946321	AF1-296 C O1	4.0009	Adder	4.71
946322	AF1-296 E O1	18.7312	Adder	22.04
946501	AF1-314 C	3.1081	Adder	3.66
946502	AF1-314 E	14.5515	Adder	17.12
946671	AF1-331	2.4366	Adder	2.87
954792	J952 E	3.3664	PJM External (MISO)	3.3664
954901	J963	0.6207	PJM External (MISO)	0.6207
955971	J1084	15.4200	PJM External (MISO)	15.4200
956411	J1131	8.0970	PJM External (MISO)	8.0970
957471	AF2-041 C	65.1582	50/50	65.1582
957472	AF2-041 E	32.5791	50/50	32.5791
958911	AF2-182 C	23.0709	Adder	27.14
958912	AF2-182 E	15.3806	Adder	18.09
958921	AF2-183 C	4.1015	Adder	4.83
958922	AF2-183 E	6.1522	Adder	7.24
959081	AF2-199 C	21.7194	50/50	21.7194
959082	AF2-199 E	10.8597	50/50	10.8597
959091	AF2-200 C O1	43.4388	50/50	43.4388
959092	AF2-200 E O1	21.7194	50/50	21.7194
959101	AF2-201 C O1	4.2821	Adder	5.04
959102	AF2-201 E O1	12.2963	Adder	14.47
960381	AF2-329	4.2653	Adder	5.02
960551	AF2-346 C	10.7230	50/50	10.7230
960552	AF2-346 E	7.1487	50/50	7.1487
960721	AF2-363 C O1	4.8302	Adder	5.68
960722	AF2-363 E O1	3.2201	Adder	3.79
960751	AF2-366 C	6.9448	Adder	8.17

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
960752	AF2-366 E	4.6298	Adder	5.45
961011	AF2-392 C O1	4.6286	Adder	5.45
961012	AF2-392 E O1	25.4946	50/50	25.4946
961021	AF2-393 O1	9.2820	50/50	9.2820
961031	AF2-394 O1	5.2598	Adder	6.19
962012	AG1-044 E	0.0385	Adder	0.09
962691	AG1-118 C O2	29.3256	50/50	29.3256
962692	AG1-118 E O2	19.5504	50/50	19.5504
962781	AG1-127 C O2	4.0763	Adder	9.05
962782	AG1-127 E O2	2.7176	Adder	6.03
962791	AG1-128 C O2	3.3842	Adder	7.51
962792	AG1-128 E O2	15.8364	Adder	35.15
963681	AG1-220 C O2	3.8575	Adder	8.56
963682	AG1-220 E O2	2.5716	Adder	5.71
964461	AG1-309 FTIR	180.9726	Merchant Transmission	180.9726
965061	AG1-371	10.8597	50/50	10.8597
965071	AG1-372	7.2398	50/50	7.2398
965081	AG1-373	3.6199	50/50	3.6199
965551	AG1-423 C O2	3.4285	Adder	7.61
965552	AG1-423 E O2	2.2857	Adder	5.07
965661	AG1-434 C O2	2.2997	Adder	5.1
965662	AG1-434 E O2	10.7666	Adder	23.9
965931	AG1-462 C O2	10.5409	Adder	23.4
965932	AG1-462 E O2	7.0273	Adder	15.6
966521	AG1-521 C O2	5.1202	Adder	11.37
966522	AG1-521 E O2	1.2801	Adder	2.84
966651	AG1-535 O2	14.3727	50/50	14.3727
966821	AG1-553 C O2	15.0437	Adder	33.39
966822	AG1-553 E O2	3.7609	Adder	8.35
WEC	WEC	0.1985	Confirmed LTF	0.1985
CPLE	CPLE	0.0027	Confirmed LTF	0.0027
CBM-W2	CBM-W2	10.4653	Confirmed LTF	10.4653
NY	NY	0.2046	Confirmed LTF	0.2046
TVA	TVA	1.1354	Confirmed LTF	1.1354
O-066	O-066	2.4026	Confirmed LTF	2.4026
SIGE	SIGE	0.0383	Confirmed LTF	0.0383
CBM-S2	CBM-S2	1.2424	Confirmed LTF	1.2424
CBM-S1	CBM-S1	0.2394	Confirmed LTF	0.2394
G-007	G-007	0.3738	Confirmed LTF	0.3738
MEC	MEC	9.5705	Confirmed LTF	9.5705
GIBSON	GIBSON	0.0339	Confirmed LTF	0.0339
BLUEG	BLUEG	0.3784	Confirmed LTF	0.3784
TRIMBLE	TRIMBLE	0.1330	Confirmed LTF	0.1330
LAGN	LAGN	2.5970	Confirmed LTF	2.5970
CBM-W1	CBM-W1	33.8443	Confirmed LTF	33.8443

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
174387587	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	153.63	153.65	DC	15.74

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274658	DRESDEN ;2U	120.6764	Adder	141.97
274659	DRESDEN ;3U	116.6196	Adder	137.2
274771	LINCOLN ;2U	3.4563	50/50	3.4563
274772	LINCOLN ;3U	3.4563	50/50	3.4563
274773	LINCOLN ;4U	3.4563	50/50	3.4563
274774	LINCOLN ;5U	3.4563	50/50	3.4563
274775	LINCOLN ;6U	3.4563	50/50	3.4563
274776	LINCOLN ;7U	3.4563	50/50	3.4563
274777	LINCOLN ;8U	3.4563	50/50	3.4563
275149	KELLYCK ;1E	20.0491	Adder	23.59
276167	Z1-106 E2	1.3104	Adder	1.54
276168	Z1-106 E1	1.3104	Adder	1.54
276169	Z1-107 E	2.6814	Adder	3.15
276170	Z1-108 E	2.5779	Adder	3.03
276591	L-013 2	3.8000	Adder	4.47
290021	O50 E	20.6394	Adder	24.28
290108	LEEDK;1U E	25.3691	Adder	29.85
293061	N-015 E	16.5373	Adder	19.46
293644	O22 E1	10.8389	Adder	12.75
293645	O22 E2	21.0402	Adder	24.75
293777	CAYUG;1U E	17.1901	Adder	20.22
293778	CAYUG;2U E	17.1901	Adder	20.22
293799	PILOT HIL;1E	20.0491	Adder	23.59
294392	P-010 E	21.0023	Adder	24.71
910542	X3-005 E	0.7602	Adder	0.89
915011	Y3-013 1	3.8706	Adder	4.55
915021	Y3-013 2	3.8706	Adder	4.55
915031	Y3-013 3	3.8706	Adder	4.55
918052	AA1-018 E OP	17.3764	Adder	20.44
920272	AA2-123 E	2.5338	Adder	2.98
926331	AC1-110 1	1.9713	Adder	2.32
926341	AC1-110 2	1.9713	Adder	2.32
927451	AC1-142A 1	4.3411	Adder	5.11
927461	AC1-142A 2	4.3411	Adder	5.11
930501	AB1-091 CT	44.4493	Adder	52.29
930502	AB1-091 ST	35.3389	Adder	41.58
930761	AB1-122 CT1	47.2136	Adder	55.55
930771	AB1-122 CT2	76.7924	Adder	90.34
933411	AC2-154 C	2.7210	Adder	3.2
933412	AC2-154 E	4.4394	Adder	5.22
933431	AC2-156 C O1	0.9941	Adder	1.17
933432	AC2-156 E O1	1.6219	Adder	1.91

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933931	AD1-016 C	0.9618	Adder	1.13
933932	AD1-016 E	1.5693	Adder	1.85
934101	AD1-039 1	7.1243	Adder	8.38
934111	AD1-039 2	7.5257	Adder	8.85
934721	AD1-100 C	24.9926	Adder	29.4
934722	AD1-100 E	116.6319	Adder	137.21
934871	AD1-116 C	1.0120	Adder	1.19
934872	AD1-116 E	1.6511	Adder	1.94
935001	AD1-133 C O1	23.0709	Adder	27.14
935002	AD1-133 E O1	15.3806	Adder	18.09
936291	AD2-038 C O1	2.5509	Adder	3.0
936292	AD2-038 E O1	17.0714	Adder	20.08
936371	AD2-047 C O1	4.8691	Adder	5.73
936372	AD2-047 E O1	23.7725	Adder	27.97
936461	AD2-060	2.8642	Adder	3.37
936511	AD2-066 C O1	8.8657	Adder	10.43
936512	AD2-066 E O1	5.9105	Adder	6.95
937401	AD2-194 1	8.0820	Adder	9.51
937411	AD2-194 2	8.0830	Adder	9.51
938511	AE1-070 1	9.4975	Adder	11.17
938521	AE1-070 2	8.6881	Adder	10.22
938851	AE1-113 C O1	8.5137	Adder	10.02
938852	AE1-113 E O1	30.1851	Adder	35.51
939321	AE1-163 C O1	6.4099	Adder	7.54
939322	AE1-163 E O1	39.3753	Adder	46.32
939351	AE1-166 C O1	6.5352	Adder	14.51
939352	AE1-166 E O1	6.0324	Adder	13.39
939401	AE1-172 C O1	6.8559	Adder	8.07
939402	AE1-172 E O1	32.1677	Adder	37.84
940101	AE1-252 C O1	13.7731	Adder	16.2
940102	AE1-252 E O1	9.1820	Adder	10.8
940752	AE2-062 E	0.0716	Adder	0.16
941131	AE2-107 C	6.8497	Adder	8.06
941132	AE2-107 E	4.5664	Adder	5.37
941551	AE2-152 C O1	7.5406	Adder	16.74
941552	AE2-152 E O1	5.0270	Adder	11.16
941561	AE2-153 C O1	5.1525	Adder	6.06
941562	AE2-153 E O1	24.1232	Adder	28.38
942421	AE2-255 C O1	3.2249	Adder	3.79
942422	AE2-255 E O1	9.6747	Adder	11.38
942651	AE2-281 C O1	0.9157	Adder	1.08
942652	AE2-281 E O1	5.6250	Adder	6.62
942991	AE2-321 C	8.4850	Adder	9.98
942992	AE2-321 E	4.1792	Adder	4.92
943121	AE2-341 C	13.2635	Adder	15.6
943122	AE2-341 E	6.5131	Adder	7.66
943591	AF1-030 C O1	8.8203	Adder	10.38
943592	AF1-030 E O1	4.3640	Adder	5.13
943801	AF1-048 C	3.9664	Adder	4.67
943802	AF1-048 E	2.6443	Adder	3.11
944041	AF1-072	2.2326	Adder	2.63
944911	AF1-156 C	13.1741	Adder	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944912	AF1-156 E	8.7827	Adder	10.33
945351	AF1-200 FTIR	323.5650	Merchant Transmission	323.5650
946661	AF1-330 C	2.0778	Adder	2.44
946662	AF1-330 E	0.4561	Adder	0.54
957331	AF2-027 C	2.5804	Adder	3.04
957332	AF2-027 E	3.8706	Adder	4.55
957401	AF2-034 C	1.4518	Adder	1.71
957402	AF2-034 E	1.2367	Adder	1.45
958011	AF2-095 C O1	19.4774	Adder	22.91
958012	AF2-095 E O1	9.1659	Adder	10.78
958021	AF2-096 C	37.0643	Adder	43.61
958022	AF2-096 E	17.4420	Adder	20.52
958481	AF2-142 C	11.9837	Adder	14.1
958482	AF2-142 E	7.9892	Adder	9.4
958491	AF2-143 C	11.7733	Adder	13.85
958492	AF2-143 E	7.8489	Adder	9.23
959351	AF2-226 C	2.6566	Adder	3.13
959352	AF2-226 E	3.9849	Adder	4.69
960281	AF2-319 C	2.6566	Adder	3.13
960282	AF2-319 E	3.9849	Adder	4.69
960381	AF2-329	6.8822	Adder	8.1
960591	AF2-350 C O1	8.5925	Adder	10.11
960592	AF2-350 E O1	5.7283	Adder	6.74
960601	AF2-351 C O1	1.1457	Adder	1.35
960602	AF2-351 E O1	1.7185	Adder	2.02
960731	AF2-364 C O1	6.3699	Adder	7.49
960732	AF2-364 E O1	4.2466	Adder	5.0
960751	AF2-366 C	7.2468	Adder	8.53
960752	AF2-366 E	4.8312	Adder	5.68
961501	AF2-441 C O1	10.4156	Adder	12.25
961502	AF2-441 E O1	15.6233	Adder	18.38
962691	AG1-118 C O2	12.2316	Adder	27.15
962692	AG1-118 E O2	8.1544	Adder	18.1
962701	AG1-119 C O2	12.4327	Adder	27.6
962702	AG1-119 E O2	8.2885	Adder	18.4
962711	AG1-120 C O2	4.9151	Adder	10.91
962712	AG1-120 E O2	3.2767	Adder	7.27
962781	AG1-127 C O2	4.2536	Adder	9.44
962782	AG1-127 E O2	2.8357	Adder	6.29
964361	AG1-298 O2	35.1525	Adder	78.03
964581	AG1-321 C O2	9.2100	Adder	20.44
964582	AG1-321 E O2	5.3628	Adder	11.9
965141	AG1-379 C	9.3801	Adder	20.82
965142	AG1-379 E	4.2935	Adder	9.53
966081	AG1-477 C	1.1136	Adder	2.47
966082	AG1-477 E	0.2802	Adder	0.62
966091	AG1-478 C	1.1541	Adder	2.56
966092	AG1-478 E	0.2903	Adder	0.64
966101	AG1-479 C (Withdrawn : 12/03/2020)	1.1136	Adder	2.47
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.2802	Adder	0.62
966441	AG1-513 C	0.2796	Adder	0.62

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966442	AG1-513 E	0.4194	Adder	0.93
966651	AG1-535 O2	5.8990	Adder	13.09
WEC	WEC	4.5675	Confirmed LTF	4.5675
CBM-W2	CBM-W2	27.9642	Confirmed LTF	27.9642
NY	NY	1.3466	Confirmed LTF	1.3466
TVA	TVA	2.0930	Confirmed LTF	2.0930
O-066	O-066	16.1251	Confirmed LTF	16.1251
SIGE	SIGE	0.2641	Confirmed LTF	0.2641
CBM-S1	CBM-S1	0.3861	Confirmed LTF	0.3861
G-007	G-007	2.5137	Confirmed LTF	2.5137
HAMLET	HAMLET	0.5989	Confirmed LTF	0.5989
MEC	MEC	16.4700	Confirmed LTF	16.4700
BLUEG	BLUEG	2.1457	Confirmed LTF	2.1457
TRIMBLE	TRIMBLE	0.7440	Confirmed LTF	0.7440
LAGN	LAGN	5.2552	Confirmed LTF	5.2552
CATAWBA	CATAWBA	0.3024	Confirmed LTF	0.3024
CBM-W1	CBM-W1	91.1580	Confirmed LTF	91.1580

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
174387580	270927	WILTON ; R	CE	275233	WILTON ;4M	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	156.87	156.89	DC	16.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274658	DRESDEN ;2U	123.2540	Adder	145.0
274659	DRESDEN ;3U	119.0934	Adder	140.11
274771	LINCOLN ;2U	3.5496	50/50	3.5496
274772	LINCOLN ;3U	3.5496	50/50	3.5496
274773	LINCOLN ;4U	3.5496	50/50	3.5496
274774	LINCOLN ;5U	3.5496	50/50	3.5496
274775	LINCOLN ;6U	3.5496	50/50	3.5496
274776	LINCOLN ;7U	3.5496	50/50	3.5496
274777	LINCOLN ;8U	3.5496	50/50	3.5496
275149	KELLYCK ;1E	20.4680	Adder	24.08
276167	Z1-106 E2	1.3383	Adder	1.57
276168	Z1-106 E1	1.3382	Adder	1.57
276169	Z1-107 E	2.7385	Adder	3.22
276170	Z1-108 E	2.6328	Adder	3.1
276591	L-013 2	3.8811	Adder	4.57
290021	O50 E	21.0800	Adder	24.8
290108	LEEDK;1U E	25.9080	Adder	30.48
293061	N-015 E	16.8820	Adder	19.86
293644	O22 E1	11.0678	Adder	13.02
293645	O22 E2	21.4845	Adder	25.28
293777	CAYUG;1U E	17.5328	Adder	20.63
293778	CAYUG;2U E	17.5328	Adder	20.63
293799	PILOT HIL;1E	20.4680	Adder	24.08
294392	P-010 E	21.4402	Adder	25.22
910542	X3-005 E	0.7767	Adder	0.91
915011	Y3-013 1	3.9533	Adder	4.65
915021	Y3-013 2	3.9533	Adder	4.65
915031	Y3-013 3	3.9533	Adder	4.65
918052	AA1-018 E OP	17.7547	Adder	20.89
920272	AA2-123 E	2.5879	Adder	3.04
926331	AC1-110 1	2.0132	Adder	2.37
926341	AC1-110 2	2.0132	Adder	2.37
927451	AC1-142A 1	4.4344	Adder	5.22
927461	AC1-142A 2	4.4344	Adder	5.22
930501	AB1-091 CT	45.3739	Adder	53.38
930502	AB1-091 ST	36.0740	Adder	42.44
930761	AB1-122 CT1	48.2135	Adder	56.72
930771	AB1-122 CT2	78.4346	Adder	92.28
933411	AC2-154 C	2.7778	Adder	3.27
933412	AC2-154 E	4.5322	Adder	5.33
933431	AC2-156 C O1	1.0152	Adder	1.19
933432	AC2-156 E O1	1.6564	Adder	1.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933931	AD1-016 C	0.9823	Adder	1.16
933932	AD1-016 E	1.6027	Adder	1.89
934101	AD1-039 1	7.2752	Adder	8.56
934111	AD1-039 2	7.6866	Adder	9.04
934721	AD1-100 C	25.4885	Adder	29.99
934722	AD1-100 E	118.9464	Adder	139.94
934871	AD1-116 C	1.0340	Adder	1.22
934872	AD1-116 E	1.6870	Adder	1.98
935001	AD1-133 C O1	23.5513	Adder	27.71
935002	AD1-133 E O1	15.7009	Adder	18.47
936291	AD2-038 C O1	2.6061	Adder	3.07
936292	AD2-038 E O1	17.4407	Adder	20.52
936371	AD2-047 C O1	4.9708	Adder	5.85
936372	AD2-047 E O1	24.2692	Adder	28.55
936461	AD2-060	2.9240	Adder	3.44
936511	AD2-066 C O1	9.0533	Adder	10.65
936512	AD2-066 E O1	6.0355	Adder	7.1
937401	AD2-194 1	8.2554	Adder	9.71
937411	AD2-194 2	8.2564	Adder	9.71
938511	AE1-070 1	9.7013	Adder	11.41
938521	AE1-070 2	8.8745	Adder	10.44
938851	AE1-113 C O1	8.6955	Adder	10.23
938852	AE1-113 E O1	30.8295	Adder	36.27
939321	AE1-163 C O1	6.5486	Adder	7.7
939322	AE1-163 E O1	40.2273	Adder	47.33
939351	AE1-166 C O1	6.6669	Adder	14.8
939352	AE1-166 E O1	6.1541	Adder	13.66
939401	AE1-172 C O1	6.9919	Adder	8.23
939402	AE1-172 E O1	32.8056	Adder	38.59
940101	AE1-252 C O1	14.0462	Adder	16.52
940102	AE1-252 E O1	9.3641	Adder	11.02
940752	AE2-062 E	0.0732	Adder	0.16
941131	AE2-107 C	6.9952	Adder	8.23
941132	AE2-107 E	4.6634	Adder	5.49
941551	AE2-152 C O1	7.6926	Adder	17.08
941552	AE2-152 E O1	5.1284	Adder	11.38
941561	AE2-153 C O1	5.2587	Adder	6.19
941562	AE2-153 E O1	24.6205	Adder	28.97
942421	AE2-255 C O1	3.2938	Adder	3.88
942422	AE2-255 E O1	9.8813	Adder	11.63
942651	AE2-281 C O1	0.9355	Adder	1.1
942652	AE2-281 E O1	5.7468	Adder	6.76
942991	AE2-321 C	8.6655	Adder	10.19
942992	AE2-321 E	4.2681	Adder	5.02
943121	AE2-341 C	13.5456	Adder	15.94
943122	AE2-341 E	6.6516	Adder	7.83
943591	AF1-030 C O1	9.0080	Adder	10.6
943592	AF1-030 E O1	4.4569	Adder	5.24
943801	AF1-048 C	4.0508	Adder	4.77
943802	AF1-048 E	2.7005	Adder	3.18
944041	AF1-072	2.2801	Adder	2.68
944911	AF1-156 C	13.4456	Adder	15.82

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944912	AF1-156 E	8.9638	Adder	10.55
945351	AF1-200 FTIR	330.4026	Merchant Transmission	330.4026
946661	AF1-330 C	2.1221	Adder	2.5
946662	AF1-330 E	0.4658	Adder	0.55
957331	AF2-027 C	2.6355	Adder	3.1
957332	AF2-027 E	3.9533	Adder	4.65
957401	AF2-034 C	1.4828	Adder	1.74
957402	AF2-034 E	1.2631	Adder	1.49
958011	AF2-095 C O1	19.8832	Adder	23.39
958012	AF2-095 E O1	9.3568	Adder	11.01
958021	AF2-096 C	37.8272	Adder	44.5
958022	AF2-096 E	17.8010	Adder	20.94
958481	AF2-142 C	12.2446	Adder	14.41
958482	AF2-142 E	8.1631	Adder	9.6
958491	AF2-143 C	12.0281	Adder	14.15
958492	AF2-143 E	8.0187	Adder	9.43
959351	AF2-226 C	2.7127	Adder	3.19
959352	AF2-226 E	4.0690	Adder	4.79
960281	AF2-319 C	2.7127	Adder	3.19
960282	AF2-319 E	4.0690	Adder	4.79
960381	AF2-329	7.0287	Adder	8.27
960591	AF2-350 C O1	8.7720	Adder	10.32
960592	AF2-350 E O1	5.8480	Adder	6.88
960601	AF2-351 C O1	1.1696	Adder	1.38
960602	AF2-351 E O1	1.7544	Adder	2.06
960731	AF2-364 C O1	6.5057	Adder	7.65
960732	AF2-364 E O1	4.3371	Adder	5.1
960751	AF2-366 C	7.4012	Adder	8.71
960752	AF2-366 E	4.9341	Adder	5.8
961501	AF2-441 C O1	10.6359	Adder	12.51
961502	AF2-441 E O1	15.9538	Adder	18.77
962691	AG1-118 C O2	12.4919	Adder	27.73
962692	AG1-118 E O2	8.3279	Adder	18.49
962701	AG1-119 C O2	12.6979	Adder	28.19
962702	AG1-119 E O2	8.4653	Adder	18.79
962711	AG1-120 C O2	5.0199	Adder	11.14
962712	AG1-120 E O2	3.3466	Adder	7.43
962781	AG1-127 C O2	4.3442	Adder	9.64
962782	AG1-127 E O2	2.8962	Adder	6.43
964361	AG1-298 O2	35.8958	Adder	79.68
964581	AG1-321 C O2	9.3945	Adder	20.85
964582	AG1-321 E O2	5.4702	Adder	12.14
965141	AG1-379 C	9.5803	Adder	21.27
965142	AG1-379 E	4.3852	Adder	9.73
966081	AG1-477 C	1.1371	Adder	2.52
966082	AG1-477 E	0.2861	Adder	0.64
966091	AG1-478 C	1.1785	Adder	2.62
966092	AG1-478 E	0.2965	Adder	0.66
966101	AG1-479 C (Withdrawn : 12/03/2020)	1.1371	Adder	2.52
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.2861	Adder	0.64
966441	AG1-513 C	0.2856	Adder	0.63

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966442	AG1-513 E	0.4284	Adder	0.95
966651	AG1-535 O2	6.0246	Adder	13.37
WEC	WEC	4.6648	Confirmed LTF	4.6648
CBM-W2	CBM-W2	28.5376	Confirmed LTF	28.5376
NY	NY	1.3759	Confirmed LTF	1.3759
TVA	TVA	2.1350	Confirmed LTF	2.1350
O-066	O-066	16.4750	Confirmed LTF	16.4750
SIGE	SIGE	0.2695	Confirmed LTF	0.2695
CBM-S1	CBM-S1	0.3933	Confirmed LTF	0.3933
G-007	G-007	2.5683	Confirmed LTF	2.5683
HAMLET	HAMLET	0.6121	Confirmed LTF	0.6121
MEC	MEC	16.8164	Confirmed LTF	16.8164
BLUEG	BLUEG	2.1943	Confirmed LTF	2.1943
TRIMBLE	TRIMBLE	0.7607	Confirmed LTF	0.7607
LAGN	LAGN	5.3637	Confirmed LTF	5.3637
CATAWBA	CATAWBA	0.3094	Confirmed LTF	0.3094
CBM-W1	CBM-W1	93.0788	Confirmed LTF	93.0788

13.5.5 Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPACT
162424151	272027	MONTGOMER;R T	CE	272203	OSWEG O ;R	CE	1	COMED_P4_167-38-TR81	breaker	264.0	128.75	136.98	DC	21.72

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

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

13.5.6 Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162317664	272730	WATERMAN ;3B	CE	272728	WATERMAN ; B	CE	1	COMED_P2-2_107_DX-138R_23	bus	539.0	114.97	127.96	DC	69.98

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

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

13.5.7 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
174387637	274804	UNIV PK N;RP	CE	960680	AF2-359 TAP	CE	1	COMED_P4_112-65-BT3-4__	breaker	971.0	137.49	137.59	DC	10.58

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

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

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

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

13.5.8 Index 8

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174387586	275232	WILTON ;3M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	153.63	153.65	DC	15.74

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274658	DRESDEN ;2U	120.6764	Adder	141.97
274659	DRESDEN ;3U	116.6196	Adder	137.2
274771	LINCOLN ;2U	3.4563	50/50	3.4563
274772	LINCOLN ;3U	3.4563	50/50	3.4563
274773	LINCOLN ;4U	3.4563	50/50	3.4563
274774	LINCOLN ;5U	3.4563	50/50	3.4563
274775	LINCOLN ;6U	3.4563	50/50	3.4563
274776	LINCOLN ;7U	3.4563	50/50	3.4563
274777	LINCOLN ;8U	3.4563	50/50	3.4563
275149	KELLYCK ;1E	20.0491	Adder	23.59
276167	Z1-106 E2	1.3104	Adder	1.54
276168	Z1-106 E1	1.3104	Adder	1.54
276169	Z1-107 E	2.6814	Adder	3.15
276170	Z1-108 E	2.5779	Adder	3.03
276591	L-013 2	3.8000	Adder	4.47
290021	O50 E	20.6394	Adder	24.28
290108	LEEDK;1U E	25.3691	Adder	29.85
293061	N-015 E	16.5373	Adder	19.46
293644	O22 E1	10.8389	Adder	12.75
293645	O22 E2	21.0402	Adder	24.75
293777	CAYUG;1U E	17.1901	Adder	20.22
293778	CAYUG;2U E	17.1901	Adder	20.22
293799	PILOT HIL;1E	20.0491	Adder	23.59
294392	P-010 E	21.0023	Adder	24.71
910542	X3-005 E	0.7602	Adder	0.89
915011	Y3-013 1	3.8706	Adder	4.55
915021	Y3-013 2	3.8706	Adder	4.55
915031	Y3-013 3	3.8706	Adder	4.55
918052	AA1-018 E OP	17.3764	Adder	20.44
920272	AA2-123 E	2.5338	Adder	2.98
926331	AC1-110 1	1.9713	Adder	2.32
926341	AC1-110 2	1.9713	Adder	2.32
927451	AC1-142A 1	4.3411	Adder	5.11
927461	AC1-142A 2	4.3411	Adder	5.11
930501	AB1-091 CT	44.4493	Adder	52.29
930502	AB1-091 ST	35.3389	Adder	41.58
930761	AB1-122 CT1	47.2136	Adder	55.55
930771	AB1-122 CT2	76.7924	Adder	90.34
933411	AC2-154 C	2.7210	Adder	3.2
933412	AC2-154 E	4.4394	Adder	5.22
933431	AC2-156 C O1	0.9941	Adder	1.17
933432	AC2-156 E O1	1.6219	Adder	1.91

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933931	AD1-016 C	0.9618	Adder	1.13
933932	AD1-016 E	1.5693	Adder	1.85
934101	AD1-039 1	7.1243	Adder	8.38
934111	AD1-039 2	7.5257	Adder	8.85
934721	AD1-100 C	24.9926	Adder	29.4
934722	AD1-100 E	116.6319	Adder	137.21
934871	AD1-116 C	1.0120	Adder	1.19
934872	AD1-116 E	1.6511	Adder	1.94
935001	AD1-133 C O1	23.0709	Adder	27.14
935002	AD1-133 E O1	15.3806	Adder	18.09
936291	AD2-038 C O1	2.5509	Adder	3.0
936292	AD2-038 E O1	17.0714	Adder	20.08
936371	AD2-047 C O1	4.8691	Adder	5.73
936372	AD2-047 E O1	23.7725	Adder	27.97
936461	AD2-060	2.8642	Adder	3.37
936511	AD2-066 C O1	8.8657	Adder	10.43
936512	AD2-066 E O1	5.9105	Adder	6.95
937401	AD2-194 1	8.0820	Adder	9.51
937411	AD2-194 2	8.0830	Adder	9.51
938511	AE1-070 1	9.4975	Adder	11.17
938521	AE1-070 2	8.6881	Adder	10.22
938851	AE1-113 C O1	8.5137	Adder	10.02
938852	AE1-113 E O1	30.1851	Adder	35.51
939321	AE1-163 C O1	6.4099	Adder	7.54
939322	AE1-163 E O1	39.3753	Adder	46.32
939351	AE1-166 C O1	6.5352	Adder	14.51
939352	AE1-166 E O1	6.0324	Adder	13.39
939401	AE1-172 C O1	6.8559	Adder	8.07
939402	AE1-172 E O1	32.1677	Adder	37.84
940101	AE1-252 C O1	13.7731	Adder	16.2
940102	AE1-252 E O1	9.1820	Adder	10.8
940752	AE2-062 E	0.0716	Adder	0.16
941131	AE2-107 C	6.8497	Adder	8.06
941132	AE2-107 E	4.5664	Adder	5.37
941551	AE2-152 C O1	7.5406	Adder	16.74
941552	AE2-152 E O1	5.0270	Adder	11.16
941561	AE2-153 C O1	5.1525	Adder	6.06
941562	AE2-153 E O1	24.1232	Adder	28.38
942421	AE2-255 C O1	3.2249	Adder	3.79
942422	AE2-255 E O1	9.6747	Adder	11.38
942651	AE2-281 C O1	0.9157	Adder	1.08
942652	AE2-281 E O1	5.6250	Adder	6.62
942991	AE2-321 C	8.4850	Adder	9.98
942992	AE2-321 E	4.1792	Adder	4.92
943121	AE2-341 C	13.2635	Adder	15.6
943122	AE2-341 E	6.5131	Adder	7.66
943591	AF1-030 C O1	8.8203	Adder	10.38
943592	AF1-030 E O1	4.3640	Adder	5.13
943801	AF1-048 C	3.9664	Adder	4.67
943802	AF1-048 E	2.6443	Adder	3.11
944041	AF1-072	2.2326	Adder	2.63
944911	AF1-156 C	13.1741	Adder	15.5

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944912	AF1-156 E	8.7827	Adder	10.33
945351	AF1-200 FTIR	323.5650	Merchant Transmission	323.5650
946661	AF1-330 C	2.0778	Adder	2.44
946662	AF1-330 E	0.4561	Adder	0.54
957331	AF2-027 C	2.5804	Adder	3.04
957332	AF2-027 E	3.8706	Adder	4.55
957401	AF2-034 C	1.4518	Adder	1.71
957402	AF2-034 E	1.2367	Adder	1.45
958011	AF2-095 C O1	19.4774	Adder	22.91
958012	AF2-095 E O1	9.1659	Adder	10.78
958021	AF2-096 C	37.0643	Adder	43.61
958022	AF2-096 E	17.4420	Adder	20.52
958481	AF2-142 C	11.9837	Adder	14.1
958482	AF2-142 E	7.9892	Adder	9.4
958491	AF2-143 C	11.7733	Adder	13.85
958492	AF2-143 E	7.8489	Adder	9.23
959351	AF2-226 C	2.6566	Adder	3.13
959352	AF2-226 E	3.9849	Adder	4.69
960281	AF2-319 C	2.6566	Adder	3.13
960282	AF2-319 E	3.9849	Adder	4.69
960381	AF2-329	6.8822	Adder	8.1
960591	AF2-350 C O1	8.5925	Adder	10.11
960592	AF2-350 E O1	5.7283	Adder	6.74
960601	AF2-351 C O1	1.1457	Adder	1.35
960602	AF2-351 E O1	1.7185	Adder	2.02
960731	AF2-364 C O1	6.3699	Adder	7.49
960732	AF2-364 E O1	4.2466	Adder	5.0
960751	AF2-366 C	7.2468	Adder	8.53
960752	AF2-366 E	4.8312	Adder	5.68
961501	AF2-441 C O1	10.4156	Adder	12.25
961502	AF2-441 E O1	15.6233	Adder	18.38
962691	AG1-118 C O2	12.2316	Adder	27.15
962692	AG1-118 E O2	8.1544	Adder	18.1
962701	AG1-119 C O2	12.4327	Adder	27.6
962702	AG1-119 E O2	8.2885	Adder	18.4
962711	AG1-120 C O2	4.9151	Adder	10.91
962712	AG1-120 E O2	3.2767	Adder	7.27
962781	AG1-127 C O2	4.2536	Adder	9.44
962782	AG1-127 E O2	2.8357	Adder	6.29
964361	AG1-298 O2	35.1525	Adder	78.03
964581	AG1-321 C O2	9.2100	Adder	20.44
964582	AG1-321 E O2	5.3628	Adder	11.9
965141	AG1-379 C	9.3801	Adder	20.82
965142	AG1-379 E	4.2935	Adder	9.53
966081	AG1-477 C	1.1136	Adder	2.47
966082	AG1-477 E	0.2802	Adder	0.62
966091	AG1-478 C	1.1541	Adder	2.56
966092	AG1-478 E	0.2903	Adder	0.64
966101	AG1-479 C (Withdrawn : 12/03/2020)	1.1136	Adder	2.47
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.2802	Adder	0.62
966441	AG1-513 C	0.2796	Adder	0.62

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966442	AG1-513 E	0.4194	Adder	0.93
966651	AG1-535 O2	5.8990	Adder	13.09
WEC	WEC	4.5675	Confirmed LTF	4.5675
CBM-W2	CBM-W2	27.9642	Confirmed LTF	27.9642
NY	NY	1.3466	Confirmed LTF	1.3466
TVA	TVA	2.0930	Confirmed LTF	2.0930
O-066	O-066	16.1251	Confirmed LTF	16.1251
SIGE	SIGE	0.2641	Confirmed LTF	0.2641
CBM-S1	CBM-S1	0.3861	Confirmed LTF	0.3861
G-007	G-007	2.5137	Confirmed LTF	2.5137
HAMLET	HAMLET	0.5989	Confirmed LTF	0.5989
MEC	MEC	16.4700	Confirmed LTF	16.4700
BLUEG	BLUEG	2.1457	Confirmed LTF	2.1457
TRIMBLE	TRIMBLE	0.7440	Confirmed LTF	0.7440
LAGN	LAGN	5.2552	Confirmed LTF	5.2552
CATAWBA	CATAWBA	0.3024	Confirmed LTF	0.3024
CBM-W1	CBM-W1	91.1580	Confirmed LTF	91.1580

13.5.9 Index 9

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174387581	275233	WILTON ;4M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	156.87	156.89	DC	16.07

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274658	DRESDEN ;2U	123.2540	Adder	145.0
274659	DRESDEN ;3U	119.0934	Adder	140.11
274771	LINCOLN ;2U	3.5496	50/50	3.5496
274772	LINCOLN ;3U	3.5496	50/50	3.5496
274773	LINCOLN ;4U	3.5496	50/50	3.5496
274774	LINCOLN ;5U	3.5496	50/50	3.5496
274775	LINCOLN ;6U	3.5496	50/50	3.5496
274776	LINCOLN ;7U	3.5496	50/50	3.5496
274777	LINCOLN ;8U	3.5496	50/50	3.5496
275149	KELLYCK ;1E	20.4680	Adder	24.08
276167	Z1-106 E2	1.3383	Adder	1.57
276168	Z1-106 E1	1.3382	Adder	1.57
276169	Z1-107 E	2.7385	Adder	3.22
276170	Z1-108 E	2.6328	Adder	3.1
276591	L-013 2	3.8811	Adder	4.57
290021	O50 E	21.0800	Adder	24.8
290108	LEEDK;1U E	25.9080	Adder	30.48
293061	N-015 E	16.8820	Adder	19.86
293644	O22 E1	11.0678	Adder	13.02
293645	O22 E2	21.4845	Adder	25.28
293777	CAYUG;1U E	17.5328	Adder	20.63
293778	CAYUG;2U E	17.5328	Adder	20.63
293799	PILOT HIL;1E	20.4680	Adder	24.08
294392	P-010 E	21.4402	Adder	25.22
910542	X3-005 E	0.7767	Adder	0.91
915011	Y3-013 1	3.9533	Adder	4.65
915021	Y3-013 2	3.9533	Adder	4.65
915031	Y3-013 3	3.9533	Adder	4.65
918052	AA1-018 E OP	17.7547	Adder	20.89
920272	AA2-123 E	2.5879	Adder	3.04
926331	AC1-110 1	2.0132	Adder	2.37
926341	AC1-110 2	2.0132	Adder	2.37
927451	AC1-142A 1	4.4344	Adder	5.22
927461	AC1-142A 2	4.4344	Adder	5.22
930501	AB1-091 CT	45.3739	Adder	53.38
930502	AB1-091 ST	36.0740	Adder	42.44
930761	AB1-122 CT1	48.2135	Adder	56.72
930771	AB1-122 CT2	78.4346	Adder	92.28
933411	AC2-154 C	2.7778	Adder	3.27
933412	AC2-154 E	4.5322	Adder	5.33
933431	AC2-156 C O1	1.0152	Adder	1.19
933432	AC2-156 E O1	1.6564	Adder	1.95

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933931	AD1-016 C	0.9823	Adder	1.16
933932	AD1-016 E	1.6027	Adder	1.89
934101	AD1-039 1	7.2752	Adder	8.56
934111	AD1-039 2	7.6866	Adder	9.04
934721	AD1-100 C	25.4885	Adder	29.99
934722	AD1-100 E	118.9464	Adder	139.94
934871	AD1-116 C	1.0340	Adder	1.22
934872	AD1-116 E	1.6870	Adder	1.98
935001	AD1-133 C O1	23.5513	Adder	27.71
935002	AD1-133 E O1	15.7009	Adder	18.47
936291	AD2-038 C O1	2.6061	Adder	3.07
936292	AD2-038 E O1	17.4407	Adder	20.52
936371	AD2-047 C O1	4.9708	Adder	5.85
936372	AD2-047 E O1	24.2692	Adder	28.55
936461	AD2-060	2.9240	Adder	3.44
936511	AD2-066 C O1	9.0533	Adder	10.65
936512	AD2-066 E O1	6.0355	Adder	7.1
937401	AD2-194 1	8.2554	Adder	9.71
937411	AD2-194 2	8.2564	Adder	9.71
938511	AE1-070 1	9.7013	Adder	11.41
938521	AE1-070 2	8.8745	Adder	10.44
938851	AE1-113 C O1	8.6955	Adder	10.23
938852	AE1-113 E O1	30.8295	Adder	36.27
939321	AE1-163 C O1	6.5486	Adder	7.7
939322	AE1-163 E O1	40.2273	Adder	47.33
939351	AE1-166 C O1	6.6669	Adder	14.8
939352	AE1-166 E O1	6.1541	Adder	13.66
939401	AE1-172 C O1	6.9919	Adder	8.23
939402	AE1-172 E O1	32.8056	Adder	38.59
940101	AE1-252 C O1	14.0462	Adder	16.52
940102	AE1-252 E O1	9.3641	Adder	11.02
940752	AE2-062 E	0.0732	Adder	0.16
941131	AE2-107 C	6.9952	Adder	8.23
941132	AE2-107 E	4.6634	Adder	5.49
941551	AE2-152 C O1	7.6926	Adder	17.08
941552	AE2-152 E O1	5.1284	Adder	11.38
941561	AE2-153 C O1	5.2587	Adder	6.19
941562	AE2-153 E O1	24.6205	Adder	28.97
942421	AE2-255 C O1	3.2938	Adder	3.88
942422	AE2-255 E O1	9.8813	Adder	11.63
942651	AE2-281 C O1	0.9355	Adder	1.1
942652	AE2-281 E O1	5.7468	Adder	6.76
942991	AE2-321 C	8.6655	Adder	10.19
942992	AE2-321 E	4.2681	Adder	5.02
943121	AE2-341 C	13.5456	Adder	15.94
943122	AE2-341 E	6.6516	Adder	7.83
943591	AF1-030 C O1	9.0080	Adder	10.6
943592	AF1-030 E O1	4.4569	Adder	5.24
943801	AF1-048 C	4.0508	Adder	4.77
943802	AF1-048 E	2.7005	Adder	3.18
944041	AF1-072	2.2801	Adder	2.68
944911	AF1-156 C	13.4456	Adder	15.82

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
944912	AF1-156 E	8.9638	Adder	10.55
945351	AF1-200 FTIR	330.4026	Merchant Transmission	330.4026
946661	AF1-330 C	2.1221	Adder	2.5
946662	AF1-330 E	0.4658	Adder	0.55
957331	AF2-027 C	2.6355	Adder	3.1
957332	AF2-027 E	3.9533	Adder	4.65
957401	AF2-034 C	1.4828	Adder	1.74
957402	AF2-034 E	1.2631	Adder	1.49
958011	AF2-095 C O1	19.8832	Adder	23.39
958012	AF2-095 E O1	9.3568	Adder	11.01
958021	AF2-096 C	37.8272	Adder	44.5
958022	AF2-096 E	17.8010	Adder	20.94
958481	AF2-142 C	12.2446	Adder	14.41
958482	AF2-142 E	8.1631	Adder	9.6
958491	AF2-143 C	12.0281	Adder	14.15
958492	AF2-143 E	8.0187	Adder	9.43
959351	AF2-226 C	2.7127	Adder	3.19
959352	AF2-226 E	4.0690	Adder	4.79
960281	AF2-319 C	2.7127	Adder	3.19
960282	AF2-319 E	4.0690	Adder	4.79
960381	AF2-329	7.0287	Adder	8.27
960591	AF2-350 C O1	8.7720	Adder	10.32
960592	AF2-350 E O1	5.8480	Adder	6.88
960601	AF2-351 C O1	1.1696	Adder	1.38
960602	AF2-351 E O1	1.7544	Adder	2.06
960731	AF2-364 C O1	6.5057	Adder	7.65
960732	AF2-364 E O1	4.3371	Adder	5.1
960751	AF2-366 C	7.4012	Adder	8.71
960752	AF2-366 E	4.9341	Adder	5.8
961501	AF2-441 C O1	10.6359	Adder	12.51
961502	AF2-441 E O1	15.9538	Adder	18.77
962691	AG1-118 C O2	12.4919	Adder	27.73
962692	AG1-118 E O2	8.3279	Adder	18.49
962701	AG1-119 C O2	12.6979	Adder	28.19
962702	AG1-119 E O2	8.4653	Adder	18.79
962711	AG1-120 C O2	5.0199	Adder	11.14
962712	AG1-120 E O2	3.3466	Adder	7.43
962781	AG1-127 C O2	4.3442	Adder	9.64
962782	AG1-127 E O2	2.8962	Adder	6.43
964361	AG1-298 O2	35.8958	Adder	79.68
964581	AG1-321 C O2	9.3945	Adder	20.85
964582	AG1-321 E O2	5.4702	Adder	12.14
965141	AG1-379 C	9.5803	Adder	21.27
965142	AG1-379 E	4.3852	Adder	9.73
966081	AG1-477 C	1.1371	Adder	2.52
966082	AG1-477 E	0.2861	Adder	0.64
966091	AG1-478 C	1.1785	Adder	2.62
966092	AG1-478 E	0.2965	Adder	0.66
966101	AG1-479 C (Withdrawn : 12/03/2020)	1.1371	Adder	2.52
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.2861	Adder	0.64
966441	AG1-513 C	0.2856	Adder	0.63

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
966442	AG1-513 E	0.4284	Adder	0.95
966651	AG1-535 O2	6.0246	Adder	13.37
WEC	WEC	4.6648	Confirmed LTF	4.6648
CBM-W2	CBM-W2	28.5376	Confirmed LTF	28.5376
NY	NY	1.3759	Confirmed LTF	1.3759
TVA	TVA	2.1350	Confirmed LTF	2.1350
O-066	O-066	16.4750	Confirmed LTF	16.4750
SIGE	SIGE	0.2695	Confirmed LTF	0.2695
CBM-S1	CBM-S1	0.3933	Confirmed LTF	0.3933
G-007	G-007	2.5683	Confirmed LTF	2.5683
HAMLET	HAMLET	0.6121	Confirmed LTF	0.6121
MEC	MEC	16.8164	Confirmed LTF	16.8164
BLUEG	BLUEG	2.1943	Confirmed LTF	2.1943
TRIMBLE	TRIMBLE	0.7607	Confirmed LTF	0.7607
LAGN	LAGN	5.3637	Confirmed LTF	5.3637
CATAWBA	CATAWBA	0.3094	Confirmed LTF	0.3094
CBM-W1	CBM-W1	93.0788	Confirmed LTF	93.0788

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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
177642667	962690	AG1-118 TAP	CE	272522	SUGAR GRV; B	CE	1	COMED_P4_167-38-L14609_	breaker	538.0	113.15	120.54	DC	39.74

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

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

13.6 Contingency Descriptions - Secondary POI

Contingency Name	Contingency Definition
COMED_P2-2_107_DX-138R_23	CONTINGENCY 'COMED_P2-2_107_DX-138R_23' / CONTINGENCY # 91 MOVE 100 PERCENT LOAD FROM BUS 271333 TO BUS 271332 / DIXON ; R 138 DIXON ; B 138 DISCONNECT BUS 271333 / DIXON ; R 138 END
COMED_P4_167-38-TR81__	CONTINGENCY 'COMED_P4_167-38-TR81__' / CONTINGENCY # 676 TRIP BRANCH FROM BUS 270846 TO BUS 270730 CKT 1 / PLANO ; B 345 ELECT JCT; B 345 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 2 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 272250 TO BUS 272278 CKT 1 / PLANO ; B 138 PLANO;1I 138 TRIP BRANCH FROM BUS 270846 TO BUS 272278 TO BUS 275354 CKT 1 / PLANO ; B 345 PLANO;1I 138 PLANO;1C 34.5 DISCONNECT BUS 272250 / PLANO ; B 138 END
COMED_P4_112-65-BT3-4__	CONTINGENCY 'COMED_P4_112-65-BT3-4__' / 3130 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 OPEN BRANCH FROM BUS 270644 TO BUS 275232 CKT 1 / 270644 WILTON ; 765 275232 WILTON ;3M 345 1 OPEN BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / 275232 WILTON ;3M 345 270926 WILTON ; B 345 1 OPEN BRANCH FROM BUS 275332 TO BUS 275232 CKT 1 / 275332 WILTON ;3C 33.0 275232 WILTON ;3M 345 1 OPEN SHUNT FROM BUS 270644 CKT 1 /* 270644 WILTON ; 765 END

Contingency Name	Contingency Definition
COMED_P4_111-45-L11120_	CONTINGENCY 'COMED_P4_111-45-L11120_' / 1799 OPEN BRANCH FROM BUS 270733 TO BUS 270747 CKT 1 / 270733 ELECT JCT;3R 345 270747 ESS W407K;OT 345 1 OPEN BRANCH FROM BUS 270747 TO BUS 270753 CKT 1 / 270747 ESS W407K;OT 345 270753 ESS W407M;OT 345 1 OPEN BRANCH FROM BUS 270749 TO BUS 270753 CKT 1 / 270749 ESS W407M; R 345 270753 ESS W407M;OT 345 1 OPEN BRANCH FROM BUS 270753 TO BUS 270813 CKT 1 / 270753 ESS W407M;OT 345 270813 LOMBARD ; R 345 1 OPEN BRANCH FROM BUS 270731 TO BUS 270733 CKT 1 / 270731 ELECT JCT;4R 345 270733 ELECT JCT;3R 345 1 OPEN BRANCH FROM BUS 270733 TO BUS 270847 CKT 1 / 270733 ELECT JCT;3R 345 270847 PLANO ; R 345 1 OPEN BRANCH FROM BUS 270733 TO BUS 275183 CKT 1 / 270733 ELECT JCT;3R 345 275183 ELECT JCT;3M 138 1 OPEN BRANCH FROM BUS 275183 TO BUS 271391 CKT 1 / 275183 ELECT JCT;3M 138 271391 ELECT JCT;3R 138 1 OPEN BRANCH FROM BUS 275283 TO BUS 275183 CKT 1 / 275283 ELECT JCT;3C 34.5 275183 ELECT JCT;3M 138 1 MOVE 100.00 PERCENT LOAD FROM BUS 270749 TO BUS 270751 / FROM 270749 ESS W407M; R 345 TO 270751 ESS W407M;9T 345 . LOAD=18.00 END
COMED_P1-2_138-L15627_R-R-AA	CONTINGENCY 'COMED_P1-2_138-L15627_R-R-AA' / CONTINGENCY # 363 TRIP BRANCH FROM BUS 271193 TO BUS 963680 CKT 1 / CHERRY VA; R 138 AG1-220 TAP 138 END
COMED_P1-2_138-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_P1-2_765-L11215__S	CONTINGENCY 'COMED_P1-2_765-L11215__S' / 2294 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 OPEN SHUNT FROM BUS 270644 CKT 1 /* 270644 WILTON ; 765 END

Contingency Name	Contingency Definition
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_112-65-BT2-3__	CONTINGENCY 'COMED_P4_112-65-BT2-3__' / 2653 OPEN BRANCH FROM BUS 270607 TO BUS 270644 CKT 1 / 270607 COLLINS ; 765 270644 WILTON ; 765 1 OPEN BRANCH FROM BUS 270644 TO BUS 275232 CKT 1 / 270644 WILTON ; 765 275232 WILTON ;3M 345 1 OPEN BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / 275232 WILTON ;3M 345 270926 WILTON ; B 345 1 OPEN BRANCH FROM BUS 275332 TO BUS 275232 CKT 1 / 275332 WILTON ;3C 33.0 275232 WILTON ;3M 345 1 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
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
Base Case	

Contingency Name	Contingency Definition
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_P2-2_111_EJ-345B__2	CONTINGENCY 'COMED_P2-2_111_EJ-345B__2' / CONTINGENCY # 102 TRIP BRANCH FROM BUS 270730 TO BUS 270846 CKT 1 / ELECT JCT; B 345 PLANO ; B 345 TRIP BRANCH FROM BUS 270730 TO BUS 270916 CKT 1 / ELECT JCT; B 345 WAYNE ; B 345 TRIP BRANCH FROM BUS 270730 TO BUS 270928 CKT 1 / ELECT JCT; B 345 WOLFS ; B 345 TRIP BRANCH FROM BUS 270928 TO BUS 272794 TO BUS 275334 CKT 1 / WOLFS ; B 345 WOLFS ; B 138 WOLFS ;1C 34.5 DISCONNECT BUS 275239 / ELECT JCT;2M 138 END
COMED_P4_112-65-BT5-6__	CONTINGENCY 'COMED_P4_112-65-BT5-6__' / 2675 OPEN BRANCH FROM BUS 270607 TO BUS 270644 CKT 1 / 270607 COLLINS ; 765 270644 WILTON ; 765 1 OPEN BRANCH FROM BUS 270644 TO BUS 275233 CKT 1 / 270644 WILTON ; 765 275233 WILTON ;4M 345 1 OPEN BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / 275233 WILTON ;4M 345 270927 WILTON ; R 345 1 OPEN BRANCH FROM BUS 275333 TO BUS 275233 CKT 1 / 275333 WILTON ;4C 33.0 275233 WILTON ;4M 345 1 END

Contingency Name	Contingency Definition
COMED_P4_112-65-BT4-5__	CONTINGENCY 'COMED_P4_112-65-BT4-5__' / 2515 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 OPEN BRANCH FROM BUS 270644 TO BUS 275233 CKT 1 / 270644 WILTON ; 765 275233 WILTON ;4M 345 1 OPEN BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / 275233 WILTON ;4M 345 270927 WILTON ; R 345 1 OPEN BRANCH FROM BUS 275333 TO BUS 275233 CKT 1 / 275333 WILTON ;4C 33.0 275233 WILTON ;4M 345 1 OPEN SHUNT FROM BUS 270644 CKT 1 /* 270644 WILTON ; 765 END
COMED_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

14 Affected Systems

14.1 MISO

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

Attachment 1: One Line Diagram