



**Generation Interconnection
Feasibility Study Report
for
Queue Project AG1-120
GLIDDEN-CHERRY VALLEY 138 KV
71.16 MW Capacity / 118.6 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 118.6 MW with 71.16 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	AG1-120
Project Name	GLIDDEN-CHERRY VALLEY 138 KV
State	Illinois
County	DeKalb
Transmission Owner	ComEd
MFO	118.6
MWE	118.6
MWC	71.16
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

AG1-120 proposes a primary Point of Interconnection with the ComEd transmission system at a new proposed 138 kV substation, on 138kV transmission L15627 between ComEd's TSS 83 Glidden and TSS 156 Cherry Valley substations.

4.2 Secondary

AG1-120 proposes a secondary Point of Interconnection with the ComEd transmission system connecting into the existing Wayne 138kV substation.

5 Cost Summary

The AG1-120 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$ 21,000,000
Total System Network Upgrade Costs	\$ 92,700,000
Total Costs	\$ 113,700,000

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

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

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

6 Transmission Owner Scope of Work

6.1 Attachment Facilities

The two generator leads for AG1-120 will interconnect to the new proposed 138 kV substation, on 138kV transmission L15627 between ComEd's TSS 83 Glidden and TSS 156 Cherry Valley substations (see details in Direct Connection section below). The required Attachment Facilities are one 138 kV line MOD, one dead-end structure and one set of revenue-metering as shown in the one-line diagram.

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

6.2 Direct Connection Network Upgrades

In order to accommodate interconnection of AG1-120, a new 138 kV Interconnection Substation would need to be built looping in the 138 kV line L15627 between ComEd's TSS 83 Glidden and TSS 156 Cherry Valley substations, as shown in the one-line diagram below.

The scope of work includes installation of three 138 kV circuit breakers in "breaker-and-a-half" bus configuration and tie in the Interconnection Substation to the 138 kV L15627 between ComEd's TSS 83 Glidden and TSS 156 Cherry Valley substations, as shown in the one-line diagram below.

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

ComEd would design, engineer and construct the tie in of the Interconnection Substation to 138 kV Line 15627. The preliminary cost estimate for Direct Connection Network Upgrade is given in the following tables.

For Option to Build Direct Connection cost estimates:

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

For ComEd building the interconnecting substation cost estimates:

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

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

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

6.3 Non-Direct Connection Cost Estimate

Scope of Work	Cost Estimate
Relay/communications/SCADA upgrades at TSS 83 Glidden	\$1,000,000
Relay/communications/SCADA upgrades at TDC 390 S. Pecatonica	\$1,000,000
Total Cost Estimate (see notes below on cost estimate)	\$2,000,000

6.4 Notes on Cost Estimate:

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

7 Schedule

See Sections 6 and 11.

8 Transmission Owner Analysis

See Sections 6 and 11.

9 Interconnection Customer Requirements

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

10 Revenue Metering and SCADA Requirements

10.1 PJM Requirements

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

10.2 Meteorological Data Reporting Requirements

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

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

10.3 Interconnected Transmission Owner Requirements

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

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

11 Summer Peak - Load Flow Analysis - Primary POI

The Queue Project AG1-120 was evaluated as a 118.6 MW (Capacity 71.2 MW) injection tapping the Glidden to Cherry Valley 138 kV in the ComEd area. Project AG1-120 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-120 was studied with a commercial probability of 53%. Potential network impacts were as follows:

11.1 Generation Deliverability

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

None

11.2 Multiple Facility Contingency

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC/D C	MW IMPACT
162040809	274749	AURORA EC;RP	345.0	CE	270731	ELECT JCT;4R	345.0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	99.7	100.22	DC	16.71

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
162316409	272027	MONTGOMER ;RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P2-2_167_PL-138B_2	bus	275.0	101.63	107.41	DC	15.89
162422191	272027	MONTGOMER ;RT	138.0	CE	272203	OSWEGO ; R	138.0	CE	1	COMED_P4_167-38-TR81	breaker	264.0	105.78	111.8	DC	15.9
162316357	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	COMED_P2-2_111_EJ-138B_2	bus	331.0	119.83	128.61	DC	29.06
162422114	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	COMED_P4_111-38-TR82	breaker	309.0	128.36	137.77	DC	29.06
162422115	272728	WATERMAN ; B	138.0	CE	272445	SANDWICH ; R	138.0	CE	1	COMED_P4_111-38-L11106	breaker	331.0	119.83	128.61	DC	29.06
162970997	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	132.53	141.19	DC	28.65
162316399	272803	W PLANO ; R	138.0	CE	272251	PLANO; R	138.0	CE	1	COMED_P2-2_111_EJ-138B_2	bus	498.0	109.31	115.15	DC	29.06
162422149	272803	W PLANO ; R	138.0	CE	272251	PLANO; R	138.0	CE	1	COMED_P4_111-38-TR82	breaker	449.0	121.24	127.72	DC	29.06

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECTIONS LOADIN G %	POST PROJECTIONS LOADIN G %	AC/D C	MW IMPACT
162422150	272803	W PLANO ; R	138.0	CE	272251	PLANO; R	138.0	CE	1	COMED_P4_113-38-L11106_	breaker	498.0	109.14	114.81	DC	28.22
162971028	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	117.77	123.52	DC	28.65
162316384	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	116.34	122.18	DC	29.06
162422134	943120	AE2-341 TAP	138.0	CE	272803	W PLANO ; R	138.0	CE	1	COMED_P4_111-38-TR82_	breaker	449.0	129.04	135.51	DC	29.06
162422135	943120	AE2-341 TAP	138.0	CE	272803	W PLANO ; R	138.0	CE	1	COMED_P4_113-38-L11106_	breaker	498.0	116.17	121.84	DC	28.22
162971013	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	124.8	130.55	DC	28.65

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	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECTIONS LOADIN G %	POST PROJECTIONS LOADIN G %	AC/D C	MW IMPACT
168353050	270694	CHERRY VA; B	345.0	CE	924470	GARDEN PR; R	345.0	CE	1	COMED_P1-2_345-L18905_B-R-B	operation	1479.0	137.74	138.31	DC	18.48
168353054	270694	CHERRY VA; B	345.0	CE	924470	GARDEN PR; R	345.0	CE	1	Base Case	operation	1201.0	119.18	120.43	DC	14.95
168353344	270728	E FRANKFO; B	345.0	CE	274750	CRETE EC ;BP	345.0	CE	1	AEP_P1-2_#695_1681	operation	1399.0	115.72	115.74	DC	15.11
168353345	270728	E FRANKFO; B	345.0	CE	274750	CRETE EC ;BP	345.0	CE	1	COMED_P1-2_765-L11215_	operation	1399.0	115.72	115.74	DC	15.11
168353293	270847	PLANO ; R	345.0	CE	275208	PLANO ;4M	345.0	CE	1	COMED_P1-3_TR93_PLANO_B-S	operation	1379.0	115.63	115.78	DC	13.96
162574678	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	96.18	102.35	DC	29.82
162574634	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	110.12	118.09	DC	29.82

ID	FROM BUS#	FROM BUS	KV	FROM BUS AREA	TO BUS#	TO BUS	KV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC DC	MW IMPACT
162574563	272728	WATERMAN; B	138.0	CE	272445	SANDWICH; R	138.0	CE	1	COMED_P1-2_138-L11106_B-R-A	operation	309.0	126.63	136.06	DC	29.12
162574565	272728	WATERMAN; B	138.0	CE	272445	SANDWICH; R	138.0	CE	1	Base Case	operation	238.0	111.56	120.46	DC	21.17
162574579	272728	WATERMAN; B	138.0	CE	271560	GLIDDEN; BT	138.0	CE	1	COMED_P1-2_138-L14609_R-R-A	operation	321.0	134.42	135.78	DC	9.67
162574568	272730	WATERMAN; 3B	138.0	CE	272728	WATERMAN; B	138.0	CE	1	COMED_P1-2_138-L10714_R-R-A	operation	507.0	107.2	113.02	DC	29.48
162574573	272730	WATERMAN; 3B	138.0	CE	272728	WATERMAN; B	138.0	CE	1	Base Case	operation	487.0	99.96	104.11	DC	20.2
162574629	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	120.33	126.81	DC	29.12
162574630	272803	W PLANO; R	138.0	CE	272251	PLANO; R	138.0	CE	1	Base Case	operation	351.0	120.65	126.68	DC	21.17
162574559	272948	CHI WCTR	138.0	CE	271560	GLIDDEN; BT	138.0	CE	1	COMED_P2-1_113-L11323__	operation	386.0	129.1	139.17	DC	38.86
168353185	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	137.4	137.51	DC	11.8
168353186	274804	UNIV PK N; RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	AEP_P1-2_#695_1681	operation	971.0	137.4	137.51	DC	11.8
168353289	275208	PLANO; 4M	345.0	CE	270630	PLANO ;	765.0	CE	1	COMED_P1-3_TR93_PLANO_B-S	operation	1379.0	115.63	115.78	DC	13.96
169574918	924470	GARDEN PR; R	345.0	CE	270883	SILVER LK; R	345.0	CE	1	COMED_P1-2_345-L18905_B-R-B	operation	1479.0	162.89	163.46	DC	18.48
169574920	924470	GARDEN PR; R	345.0	CE	270883	SILVER LK; R	345.0	CE	1	Base Case	operation	1201.0	147.66	148.22	DC	14.95
162574606	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	128.12	134.61	DC	29.12
162574607	943120	AE2-341 TAP	138.0	CE	272803	W PLANO; R	138.0	CE	1	Base Case	operation	351.0	130.62	136.65	DC	21.17
169878317	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	AEP_P1-2_#695_1681	operation	971.0	148.36	148.71	DC	11.8
169878318	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P1-2_765-L11215__S	operation	971.0	148.36	148.71	DC	11.8

11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
162316399,162422149,162971028,162422150	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
162971013,162422134,162316384,162422135	5	AE2-341 TAP 138.0 kV - W PLANO ; R 138.0 kV Ckt 1		
162422191,162316409	2	MONTGOMER;R T 138.0 kV - OSWEGO ; R 138.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L14304 (1439) : Re-conductor the line. A preliminary estimate is \$1.5M with a construction timeline of 30 months. Upon completion the limit rating swill be 351/449/459/498 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$1,500,000 Time Estimate : 30.0 Months	\$1,500,000
162040809	1	AURORA EC;RP 345.0 kV - ELECT JCT;4R 345.0 kV Ckt 1	<u>ComEd</u> CE_NUN_11119_1 (1413) : In addition to CE_NUN_11119, this upgrade will require replacement of motor operated 345kV disconnect switches on L11119 at TSS 111 Electric Junction along with a new 345kV Circuit Breaker. A preliminary estimate is \$7.2M with estimated construction timeline of 30 months. Upon completion of the upgrade he ratings will be 1754/2246/2297/2488 MVA (SN/SLTE/SSTE/SLD). Project Type : FAC Cost : \$7,200,000 Time Estimate : 30.0 Months	\$7,200,000

ID	Idx	Facility	Upgrade Description	Cost
162316357,162970997,162422114,162422115	3	WATERMAN ; B 138.0 kV - SANDWICH ; R 138.0 kV Ckt 1	<u>ComEd</u> CE_NUN_L11301 (1387) : The upgrade will be to construct a new 138kV line that parallels the overloaded 138kV line. A preliminary estimate for the upgrade is \$50M. A preliminary estimate is 48 months subject to land availability for the new line and station expansion at the two substations. Note that the upgrade includes conductor work. The preliminary estimate does not include possible tower replacement/upgrades. These unknown costs will add to the estimate. This upgrade addresses the contingencies and does not change the line ratings. Project Type : CON Cost : \$50,000,000 Time Estimate : 48.0 Months <u>ComEd</u> 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 Cost : \$0	\$50,000,000
			TOTAL COST	\$92,700,000

11.6 Flow Gate Details - Primary POI

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

11.6.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162040809	274749	AURORA EC;RP	CE	270731	ELECT JCT;4R	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	99.7	100.22	DC	16.71

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

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

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

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

11.6.2 Index 2

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
162422191	272027	MONTGOMER;R T	CE	272203	OSWEG O ;R	CE	1	COMED_P4_167-38-TR81	breaker	264.0	105.78	111.8	DC	15.9

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

11.6.3 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
162970997	272728	WATERMAN ; B	CE	272445	SANDWICH ; R	CE	1	COMED_P7-1_138-L11106_B-R+_345-L15502_B-R-A	tower	331.0	132.53	141.19	DC	28.65

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
162422149	272803	W PLANO ; R	CE	272251	PLANO; R	CE	1	COMED_P4_111-38-TR82____	breaker	449.0	121.24	127.72	DC	29.06

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
162422134	943120	AE2-341 TAP	CE	272803	W PLANO ; R	CE	1	COMED_P4_111-38-TR82__	breaker	449.0	129.04	135.51	DC	29.06

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
AA2-030	Nelson	Active
AA2-123	Marengo 34kV	In Service
AB1-089	Byron-Wayne 345kV #1	Active
AB2-096	Silver Lake-Cherry Valley	Active
AC1-109	Aurora 345kV	In Service
AC2-156	Sandwich 34.5kV	Active
AD1-013	Twombly Road 138kV	Active
AD1-016	Marengo	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
AE2-321	Belvidere-Marengo 138 kV	Active
AE2-341	Sandwich-Plano	Active
AF1-012	Electric Junc-Nelson	Active
AF1-030	Plano-R 138 kV	Active
AF1-048	Belvidere-Marengo	Active
AF1-060	Lena 138 kV	Active
AF1-072	Rocky Road	Active
AF1-280	Nelson-Lee County	Active
AF1-281	Nelson-Lee County	Active
AF1-296	Garden Plain 138 kV	Active
AF1-314	Lena 138 kV	Active
AF1-330	Marengo	Active
AF1-331	Twombly Road	Active
AF2-027	Zion Energy Center 345 kV	Active
AF2-041	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

Queue Number	Project Name	Status
AF2-329	Sandwich-Plano 138 kV	Active
AF2-346	Electric Junction-Nelson 345 kV	Active
AF2-349	Garden Prairie-Silver Lake 345 kV	Active
AF2-363	Glidden 138 kV	Active
AF2-364	Wayne Red 138 kV	Active
AF2-366	Glidden-Waterman 138 kV	Active
AF2-392	Nelson-Dixon 138 kV	Active
AF2-393	Nelson-Dixon 138 kV	Active
AF2-394	Nelson-Dixon 138 kV	Active
AG1-044	Whiteside County	Active
AG1-119	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
AG1-423	Wayne 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
Y3-013	Zion Energy Center	In Service
Z1-073	Mendota Hills	In Service
Z1-106	West Chicago 34kV	In Service
Z1-108	McHenry 34kV	In Service
J1002	MISO	MISO
J1003	MISO	MISO
J1042	MISO	MISO
J1101	MISO	MISO
J1153	MISO	MISO
J1154	MISO	MISO
J1171	MISO	MISO
J1183	MISO	MISO
J1188	MISO	MISO
J703	MISO	MISO
J704	MISO	MISO
J760	MISO	MISO
J818	MISO	MISO
J831	MISO	MISO
J849	MISO	MISO
J850	MISO	MISO
J864	MISO	MISO
J870	MISO	MISO
J871	MISO	MISO
J878	MISO	MISO
J886	MISO	MISO
J928	MISO	MISO
J947	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_P1-2_345-L18905__B-R-B	CONTINGENCY 'COMED_P1-2_345-L18905__B-R-B' / CONTINGENCY # 141B TRIP BRANCH FROM BUS 962700 TO BUS 270916 CKT 1 / AG1-119 TAP 345 WAYNE ; B 345 END
COMED_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-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_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_P1-3_TR93_PLANO_B-S	CONTINGENCY 'COMED_P1-3_TR93_PLANO_B-S' / CONTINGENCY # 646 TRIP BRANCH FROM BUS 275207 TO BUS 270630 CKT 1 / PLANO ;3M 345 PLANO ; 765 TRIP BRANCH FROM BUS 275207 TO BUS 270846 CKT 1 / PLANO ;3M 345 PLANO ; B 345 TRIP BRANCH FROM BUS 275207 TO BUS 275307 CKT 1 / PLANO ;3M 345 PLANO ;3C 33 END
COMED_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_P2-1_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_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_P2-2_111_EJ-345B__2	CONTINGENCY 'COMED_P2-2_111_EJ-345B__2' / CONTINGENCY # 102 TRIP BRANCH FROM BUS 270730 TO BUS 270846 CKT 1 / ELECT JCT; B 345 PLANO ; B 345 TRIP BRANCH FROM BUS 270730 TO BUS 270916 CKT 1 / ELECT JCT; B 345 WAYNE ; B 345 TRIP BRANCH FROM BUS 270730 TO BUS 270928 CKT 1 / ELECT JCT; B 345 WOLFS ; B 345 TRIP BRANCH FROM BUS 270928 TO BUS 272794 TO BUS 275334 CKT 1 / WOLFS ; B 345 WOLFS ; B 138 WOLFS ;1C 34.5 DISCONNECT BUS 275239 / ELECT JCT;2M 138 END
COMED_P1-2_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 AG1-120 was evaluated as a 118.6 MW (Capacity 71.2 MW) injection at the Wayne 345 kV substation in the ComEd area. Project AG1-120 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-120 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 PROJE T LOADIN G %	POST PROJE T LOADIN G %	AC D C	MW IMPAC T
162041183	270730	ELECT JCT; B	345.0	CE	270812	LOMBARD ; B	345.0	CE	1	COMED_P7-1_345-L11723TR-N+_345-L15424TB-N	tower	1768.0	99.98	100.68	DC	13.19
174385412	270743	ESS W407K;9T	345.0	CE	274749	AURORA EC;RP	345.0	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	96.68	100.15	DC	51.02
174385404	270751	ESS W407M;9T	345.0	CE	270743	ESS W407K;9T	345.0	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	97.64	101.11	DC	51.02
174385402	270917	WAYNE ; R	345.0	CE	270751	ESS W407M;9T	345.0	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	97.65	101.11	DC	51.02

13.3 Contribution to Previously Identified Overloads

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

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJE T LOADIN G %	POST PROJE T LOADIN G %	AC D C	MW IMPAC T
174182000	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P4_112-65-BT4-5__	breaker	1091.0	144.86	144.87	DC	11.1
174526045	270728	E FRANKFO; B	345.0	CE	274750	CRETE EC;BP	345.0	CE	1	COMED_P4_112-65-BT4-5__	breaker	1399.0	115.82	115.83	DC	15.73
174526046	270728	E FRANKFO; B	345.0	CE	274750	CRETE EC;BP	345.0	CE	1	COMED_P4_112-65-BT3-4__	breaker	1399.0	115.81	115.82	DC	15.73

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
174526025	270730	ELECT JCT; B	345.0	CE	270846	PLANO ; B	345.0	CE	1	COMED_P4_11-45-L16703_	breaker	1341.0	104.81	106.12	DC	21.92
174385461	270731	ELECT JCT;4R	345.0	CE	270733	ELECT JCT;3R	345.0	CE	1	COMED_P4_11-45-L16704T	breaker	1656.0	101.31	103.41	DC	34.36
174182001	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_AC RE	345.0	NIPS	1	COMED_P4_12-65-BT4-5_	breaker	1091.0	144.86	144.87	DC	11.1
174385375	270926	WILTON ; B	345.0	CE	275232	WILTON ;3M	345.0	CE	1	COMED_P4_12-65-BT5-6_	breaker	1379.0	153.61	153.63	DC	18.18
174385368	270927	WILTON ; R	345.0	CE	275233	WILTON ;4M	345.0	CE	1	COMED_P4_12-65-BT2-3_	breaker	1379.0	156.84	156.87	DC	18.57
162040809	274749	AURORA EC;RP	345.0	CE	270731	ELECT JCT;4R	345.0	CE	1	COMED_P2-2_111_EJ-345B_2	bus	1479.0	100.76	104.2	DC	50.55
174385382	274749	AURORA EC;RP	345.0	CE	270731	ELECT JCT;4R	345.0	CE	1	COMED_P4_11-45-L16704T	breaker	1479.0	103.68	107.14	DC	50.81
174385383	274749	AURORA EC;RP	345.0	CE	270731	ELECT JCT;4R	345.0	CE	1	COMED_P4_11-45-L14321T	breaker	1479.0	100.75	104.2	DC	50.56
174385424	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P4_12-65-BT4-5_	breaker	971.0	137.38	137.49	DC	12.26
174385425	274804	UNIV PK N;RP	345.0	CE	960680	AF2-359 TAP	345.0	CE	1	COMED_P4_12-65-BT3-4_	breaker	971.0	137.38	137.49	DC	12.26
174385374	275232	WILTON ;3M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_12-65-BT5-6_	breaker	1379.0	153.61	153.63	DC	18.18
174385369	275233	WILTON ;4M	345.0	CE	270644	WILTON ;	765.0	CE	1	COMED_P4_12-65-BT2-3_	breaker	1379.0	156.84	156.87	DC	18.57

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
175400464	255112	17STJOHN	345.0	NIPS	270886	ST JOHN ; T	345.0	CE	1	COMED_P1-2_765-L11215_	operation	1091.0	144.84	144.85	DC	11.09
168353095	255113	17STILLWELL	345.0	NIPS	243219	OSDUMONT	345.0	AEP	1	COMED_P1-2_765-L11215_	operation	1409.0	163.03	163.08	DC	17.56
168353298	270731	ELECT JCT;4R	345.0	CE	270733	ELECT JCT;3R	345.0	CE	1	Base Case	operation	1334.0	98.54	100.22	DC	22.21

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC DC	MW IMPACT
168353285	270771	GREENACRE; T	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P1-2_765-L11215__S	operation	971.0	123.15	123.18	DC	10.03
175400461	270886	ST JOHN ; T	345.0	CE	255104	17GREEN_AC RE	345.0	NIPS	1	COMED_P1-2_765-L11215__S	operation	1091.0	144.84	144.85	DC	11.09
168353185	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	137.35	137.46	DC	12.25
169878318	960680	AF2-359 TAP	345.0	CE	243229	05OLIVE	345.0	AEP	1	COMED_P1-2_765-L11215__S	operation	971.0	148.32	148.68	DC	12.25

13.5 Flow Gate Details - Secondary POI

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

13.5.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
162041183	270730	ELECT JCT; B	CE	270812	LOMBARD ; B	CE	1	COMED_P7-1_345-L11723TR-N+_345-L15424TB-N	tower	1768.0	99.98	100.68	DC	13.19

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
272364	ESS H440N ;R	1.9057	Adder	2.24
274738	AURORA EC;3P	4.1331	50/50	4.1331
274740	AURORA EC;4P	4.1331	50/50	4.1331
274820	ELGIN EC ;2P	2.0848	50/50	2.0848
274859	EASYR;U1 E	6.9727	Adder	8.2
274860	EASYR;U2 E	6.9727	Adder	8.2
276167	Z1-106 E2	1.1563	50/50	1.1563
276168	Z1-106 E1	1.1649	50/50	1.1649
276170	Z1-108 E	1.1218	Adder	1.32
276591	L-013 2	3.3533	50/50	3.3533
290051	GSG-6; E	7.5547	Adder	8.89
290108	LEEDK;1U E	18.2291	Adder	21.45
293516	O-009 E1	5.1059	Adder	6.01
293517	O-009 E2	2.5934	Adder	3.05
293518	O-009 E3	2.8561	Adder	3.36
293715	O-029 E	5.4588	Adder	6.42
293716	O-029 E	2.9930	Adder	3.52
293717	O-029 E	2.7509	Adder	3.24
294763	P-046 E	4.9810	Adder	5.86
295109	WESTBROOK E	4.0447	Adder	4.76
295111	SUBLETTE E	1.6430	Adder	1.93
916221	Z1-073 E	3.9240	Adder	4.62
919581	AA2-030 C	12.0639	Adder	14.19
920272	AA2-123 E	1.2308	Adder	1.45
924472	AB2-096 CT1	9.6465	Adder	11.35
924473	AB2-096 CT2	9.6465	Adder	11.35
924474	AB2-096 CT3	9.6465	Adder	11.35
926331	AC1-110 1	2.5853	50/50	2.5853
926341	AC1-110 2	2.5853	50/50	2.5853
930482	AB1-089 CT	21.8223	Adder	25.67
930483	AB1-089 ST	17.3496	Adder	20.41
933431	AC2-156 C O1	0.6706	Adder	0.79
933432	AC2-156 E O1	1.0942	Adder	1.29
933911	AD1-013 C	1.3361	Adder	1.57
933912	AD1-013 E	2.1343	Adder	2.51
933931	AD1-016 C	0.4659	Adder	0.55
933932	AD1-016 E	0.7601	Adder	0.89
934432	AD1-067 E	0.3989	Adder	0.47
934701	AD1-098 C O1	4.9395	Adder	5.81
934702	AD1-098 E O1	3.6064	Adder	4.24

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
934971	AD1-129 C	0.4646	Adder	0.55
934972	AD1-129 E	0.3097	Adder	0.36
936791	AD2-102 C	6.2699	Adder	7.38
936792	AD2-102 E	4.1800	Adder	4.92
937001	AD2-134 C	1.9749	Adder	2.32
937002	AD2-134 E	8.1584	Adder	9.6
937311	AD2-172 C	1.3075	Adder	1.54
937312	AD2-172 E	1.8056	Adder	2.12
937531	AD2-214 C	2.5268	Adder	2.97
937532	AD2-214 E	1.6845	Adder	1.98
938861	AE1-114 C O1	2.2568	Adder	2.66
938862	AE1-114 E O1	7.6997	Adder	9.06
939051	AE1-134 1	0.9374	Adder	1.1
939061	AE1-134 2	0.9374	Adder	1.1
940501	AE2-035 C	1.3075	Adder	1.54
940502	AE2-035 E	1.8056	Adder	2.12
941131	AE2-107 C	4.9219	Adder	5.79
941132	AE2-107 E	3.2812	Adder	3.86
942991	AE2-321 C	4.1460	Adder	4.88
942992	AE2-321 E	2.0420	Adder	2.4
943121	AE2-341 C	8.6681	Adder	10.2
943122	AE2-341 E	4.2565	Adder	5.01
943411	AF1-012 C	11.8083	50/50	11.8083
943412	AF1-012 E	7.8722	50/50	7.8722
943591	AF1-030 C O1	5.7644	Adder	6.78
943592	AF1-030 E O1	2.8520	Adder	3.36
943801	AF1-048 C	1.9381	Adder	2.28
943802	AF1-048 E	1.2921	Adder	1.52
943921	AF1-060	0.6438	Adder	0.76
944041	AF1-072	1.3456	Adder	1.58
945351	AF1-200 FTIR	150.4679	Merchant Transmission	150.4679
946151	AF1-280 C O1	10.1277	Adder	11.91
946152	AF1-280 E O1	4.6572	Adder	5.48
946161	AF1-281 C O1	0.2218	Adder	0.26
946162	AF1-281 E O1	1.2567	Adder	1.48
946321	AF1-296 C O1	2.0793	Adder	2.45
946322	AF1-296 E O1	9.7348	Adder	11.45
946501	AF1-314 C	2.3231	Adder	2.73
946502	AF1-314 E	10.8765	Adder	12.8
946661	AF1-330 C	1.0093	Adder	1.19
946662	AF1-330 E	0.2215	Adder	0.26
946671	AF1-331	1.7352	Adder	2.04
955971	J1084	8.8305	PJM External (MISO)	8.8305
957333	AF2-027 BAT	3.6355	Merchant Transmission	3.6355
957471	AF2-041 C	27.9000	50/50	27.9000
957472	AF2-041 E	13.9500	50/50	13.9500
958911	AF2-182 C	13.3064	Adder	15.65
958912	AF2-182 E	8.8709	Adder	10.44
958921	AF2-183 C	2.3656	Adder	2.78
958922	AF2-183 E	3.5484	Adder	4.17
959081	AF2-199 C	9.3000	50/50	9.3000
959082	AF2-199 E	4.6500	50/50	4.6500

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
959091	AF2-200 C O1	18.6000	50/50	18.6000
959092	AF2-200 E O1	9.3000	50/50	9.3000
959101	AF2-201 C O1	3.2003	Adder	3.77
959102	AF2-201 E O1	9.1899	Adder	10.81
960381	AF2-329	4.4978	Adder	5.29
960551	AF2-346 C	5.0607	50/50	5.0607
960552	AF2-346 E	3.3738	50/50	3.3738
960581	AF2-349 C	11.0175	Adder	12.96
960582	AF2-349 E	7.3450	Adder	8.64
960721	AF2-363 C O1	3.8421	Adder	4.52
960722	AF2-363 E O1	2.5614	Adder	3.01
960731	AF2-364 C O1	4.1967	Adder	4.94
960732	AF2-364 E O1	2.7978	Adder	3.29
960751	AF2-366 C	5.1816	Adder	6.1
960752	AF2-366 E	3.4544	Adder	4.06
961011	AF2-392 C O1	2.5591	Adder	3.01
961012	AF2-392 E O1	11.9810	Adder	14.1
961021	AF2-393 O1	4.3620	Adder	5.13
961031	AF2-394 O1	2.9080	Adder	3.42
962012	AG1-044 E	0.0207	Adder	0.05
962691	AG1-118 C O2	21.0870	50/50	21.0870
962692	AG1-118 E O2	14.0580	50/50	14.0580
962701	AG1-119 C O2	20.0178	50/50	20.0178
962702	AG1-119 E O2	13.3452	50/50	13.3452
962711	AG1-120 C O2	7.9137	50/50	7.9137
962712	AG1-120 E O2	5.2758	50/50	5.2758
962781	AG1-127 C O2	3.0414	Adder	6.75
962782	AG1-127 E O2	2.0276	Adder	4.5
962791	AG1-128 C O2	2.3677	Adder	5.26
962792	AG1-128 E O2	11.0796	Adder	24.59
963681	AG1-220 C O2	3.3227	Adder	7.38
963682	AG1-220 E O2	2.2151	Adder	4.92
964461	AG1-309 FTIR	158.4451	Merchant Transmission	158.4451
965061	AG1-371	4.6500	50/50	4.6500
965071	AG1-372	3.1000	50/50	3.1000
965081	AG1-373	1.5500	50/50	1.5500
965551	AG1-423 C O2	5.0276	Adder	11.16
965552	AG1-423 E O2	3.3517	Adder	7.44
965661	AG1-434 C O2	1.6089	Adder	3.57
965662	AG1-434 E O2	7.5326	Adder	16.72
965931	AG1-462 C O2	5.4014	Adder	11.99
965932	AG1-462 E O2	3.6009	Adder	7.99
966441	AG1-513 C	0.1350	Adder	0.3
966442	AG1-513 E	0.2025	Adder	0.45
966521	AG1-521 C O2	3.0317	Adder	6.73
966522	AG1-521 E O2	0.7579	Adder	1.68
966651	AG1-535 O2	11.9918	50/50	11.9918
966821	AG1-553 C O2	7.6997	Adder	17.09
966822	AG1-553 E O2	1.9249	Adder	4.27
CBM-W2	CBM-W2	4.3994	Confirmed LTF	4.3994
NY	NY	0.1316	Confirmed LTF	0.1316
TVA	TVA	0.4494	Confirmed LTF	0.4494

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
O-066	O-066	1.5546	Confirmed LTF	1.5546
SIGE	SIGE	0.0177	Confirmed LTF	0.0177
CBM-S1	CBM-S1	0.0893	Confirmed LTF	0.0893
G-007	G-007	0.2415	Confirmed LTF	0.2415
HAMLET	HAMLET	0.0202	Confirmed LTF	0.0202
MEC	MEC	4.3459	Confirmed LTF	4.3459
GIBSON	GIBSON	0.0530	Confirmed LTF	0.0530
BLUEG	BLUEG	0.2864	Confirmed LTF	0.2864
TRIMBLE	TRIMBLE	0.0974	Confirmed LTF	0.0974
LAGN	LAGN	1.0972	Confirmed LTF	1.0972
CATAWBA	CATAWBA	0.0039	Confirmed LTF	0.0039
CBM-W1	CBM-W1	4.9070	Confirmed LTF	4.9070

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
174385412	270743	ESS W407K;9T	CE	274749	AURORA EC;RP	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	96.68	100.15	DC	51.02

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

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

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

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

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174385404	270751	ESS W407M;9T	CE	270743	ESS W407K;9T	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	97.64	101.11	DC	51.02

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

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

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

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

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174385402	270917	WAYNE ; R	CE	270751	ESS W407M;9T	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	97.65	101.11	DC	51.02

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

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

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

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

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174182000	255112	17STJOHN	NIPS	270886	ST JOHN ; T	CE	1	COMED_P4_112-65-BT4-5__	breaker	1091.0	144.86	144.87	DC	11.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	19.2483	50/50	19.2483
274655	BRAIDWOOD;2U	18.7382	50/50	18.7382
274658	DRESDEN ;2U	75.2473	Adder	88.53
274659	DRESDEN ;3U	69.4953	Adder	81.76
274687	WILL CNTY;4U	8.1886	50/50	8.1886
274704	KENDALL ;1C	2.8828	50/50	2.8828
274705	KENDALL ;1S	1.9276	50/50	1.9276
274706	KENDALL ;2C	2.8828	50/50	2.8828
274707	KENDALL ;2S	1.9276	50/50	1.9276
274751	CRETE EC ;1U	3.4609	50/50	3.4609
274752	CRETE EC ;2U	3.4609	50/50	3.4609
274753	CRETE EC ;3U	3.4609	50/50	3.4609
274754	CRETE EC ;4U	3.4609	50/50	3.4609
274861	TOP CROP ;1U	0.3057	50/50	0.3057
274862	TOP CROP ;2U	0.5832	50/50	0.5832
275149	KELLYCK ;1E	10.8837	Adder	12.8
276167	Z1-106 E2	0.7986	Adder	0.94
276168	Z1-106 E1	0.7986	Adder	0.94
276169	Z1-107 E	1.5715	Adder	1.85
276170	Z1-108 E	1.5749	Adder	1.85
276591	L-013 2	2.3159	Adder	2.72
290021	O50 E	12.6861	Adder	14.92
293061	N-015 E	9.8654	Adder	11.61
293644	O22 E1	8.5941	50/50	8.5941
293645	O22 E2	16.6827	50/50	16.6827
293799	PILOT HIL;1E	10.8837	Adder	12.8
294392	P-010 E	12.5291	Adder	14.74
915011	Y3-013 1	2.3746	Adder	2.79
915021	Y3-013 2	2.3746	Adder	2.79
915031	Y3-013 3	2.3746	Adder	2.79
918052	AA1-018 E OP	1.3780	Adder	1.62
920272	AA2-123 E	1.5446	Adder	1.82
926331	AC1-110 1	1.2022	Adder	1.41
926341	AC1-110 2	1.2022	Adder	1.41
927451	AC1-142A 1	2.7116	Adder	3.19
927461	AC1-142A 2	2.7129	Adder	3.19
930501	AB1-091 CT	23.9527	Adder	28.18
930502	AB1-091 ST	19.0433	Adder	22.4
930771	AB1-122 CT2	47.8633	Adder	56.31
933411	AC2-154 C	1.4771	Adder	1.74
933412	AC2-154 E	2.4100	Adder	2.84

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933431	AC2-156 C O1	0.6024	Adder	0.71
933432	AC2-156 E O1	0.9829	Adder	1.16
933931	AD1-016 C	0.5862	Adder	0.69
933932	AD1-016 E	0.9565	Adder	1.13
934111	AD1-039 2	4.6906	Adder	5.52
934721	AD1-100 C	12.1278	Adder	14.27
934722	AD1-100 E	56.5964	Adder	66.58
934871	AD1-116 C	0.5853	Adder	0.69
934872	AD1-116 E	0.9549	Adder	1.12
936371	AD2-047 C O1	2.6432	Adder	3.11
936372	AD2-047 E O1	12.9050	Adder	15.18
936461	AD2-060	1.5548	Adder	1.83
937401	AD2-194 1	5.0179	Adder	5.9
937411	AD2-194 2	5.0255	Adder	5.91
938511	AE1-070 1	5.9050	Adder	6.95
938521	AE1-070 2	5.3942	Adder	6.35
938851	AE1-113 C O1	5.2330	Adder	6.16
938852	AE1-113 E O1	18.5534	Adder	21.83
939351	AE1-166 C O1	3.4229	Adder	7.6
939352	AE1-166 E O1	3.1596	Adder	7.01
939631	AE1-193 C	18.9611	50/50	18.9611
939632	AE1-193 E	126.8938	50/50	126.8938
939641	AE1-194 C	18.9611	50/50	18.9611
939642	AE1-194 E	126.8938	50/50	126.8938
939651	AE1-195 C	18.9611	50/50	18.9611
939652	AE1-195 E	126.8938	50/50	126.8938
939681	AE1-198 C	56.3000	50/50	56.3000
939682	AE1-198 E	47.8404	50/50	47.8404
940752	AE2-062 E	0.0429	Adder	0.1
941551	AE2-152 C O1	3.9495	Adder	8.77
941552	AE2-152 E O1	2.6330	Adder	5.84
941561	AE2-153 C O1	2.9681	Adder	3.49
941562	AE2-153 E O1	13.8959	Adder	16.35
942421	AE2-255 C O1	1.9822	Adder	2.33
942422	AE2-255 E O1	5.9466	Adder	7.0
942991	AE2-321 C	5.1722	Adder	6.08
942992	AE2-321 E	2.5475	Adder	3.0
943121	AE2-341 C	8.0337	Adder	9.45
943122	AE2-341 E	3.9450	Adder	4.64
943591	AF1-030 C O1	5.3425	Adder	6.29
943592	AF1-030 E O1	2.6433	Adder	3.11
943801	AF1-048 C	2.4178	Adder	2.84
943802	AF1-048 E	1.6119	Adder	1.9
944041	AF1-072	1.3632	Adder	1.6
944911	AF1-156 C	7.5888	Adder	8.93
944912	AF1-156 E	5.0592	Adder	5.95
945351	AF1-200 FTIR	195.0344	Merchant Transmission	195.0344
946661	AF1-330 C	1.2666	Adder	1.49
946662	AF1-330 E	0.2780	Adder	0.33
957331	AF2-027 C	1.5830	Adder	1.86
957332	AF2-027 E	2.3746	Adder	2.79
957401	AF2-034 C	0.9201	Adder	1.08

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957402	AF2-034 E	0.7838	Adder	0.92
958011	AF2-095 C O1	10.5728	Adder	12.44
958012	AF2-095 E O1	4.9754	Adder	5.85
958021	AF2-096 C	27.9225	50/50	27.9225
958022	AF2-096 E	13.1400	50/50	13.1400
958481	AF2-142 C	6.9309	Adder	8.15
958482	AF2-142 E	4.6206	Adder	5.44
959351	AF2-226 C	2.1064	50/50	2.1064
959352	AF2-226 E	3.1596	50/50	3.1596
960281	AF2-319 C	2.1064	50/50	2.1064
960282	AF2-319 E	3.1596	50/50	3.1596
960381	AF2-329	4.1686	Adder	4.9
960591	AF2-350 C O1	4.6645	Adder	5.49
960592	AF2-350 E O1	3.1096	Adder	3.66
960601	AF2-351 C O1	0.6219	Adder	0.73
960602	AF2-351 E O1	0.9329	Adder	1.1
960731	AF2-364 C O1	3.8853	Adder	4.57
960732	AF2-364 E O1	2.5902	Adder	3.05
960751	AF2-366 C	4.3980	Adder	5.17
960752	AF2-366 E	2.9320	Adder	3.45
962691	AG1-118 C O2	7.4270	Adder	16.49
962692	AG1-118 E O2	4.9514	Adder	10.99
962701	AG1-119 C O2	7.5860	Adder	16.84
962702	AG1-119 E O2	5.0573	Adder	11.23
962711	AG1-120 C O2	2.9990	Adder	6.66
962712	AG1-120 E O2	1.9993	Adder	4.44
962781	AG1-127 C O2	2.5815	Adder	5.73
962782	AG1-127 E O2	1.7210	Adder	3.82
965141	AG1-379 C	5.7655	Adder	12.8
965142	AG1-379 E	2.6390	Adder	5.86
966081	AG1-477 C	0.6653	Adder	1.48
966082	AG1-477 E	0.1674	Adder	0.37
966091	AG1-478 C	0.6723	Adder	1.49
966092	AG1-478 E	0.1691	Adder	0.38
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.6653	Adder	1.48
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.1674	Adder	0.37
966441	AG1-513 C	0.1699	Adder	0.38
966442	AG1-513 E	0.2549	Adder	0.57
966651	AG1-535 O2	3.5980	Adder	7.99
WEC	WEC	2.7890	Confirmed LTF	2.7890
CALDERWOOD	CALDERWOOD	0.0025	Confirmed LTF	0.0025
CBM-W2	CBM-W2	14.6944	Confirmed LTF	14.6944
NY	NY	0.7864	Confirmed LTF	0.7864
TVA	TVA	1.0822	Confirmed LTF	1.0822
O-066	O-066	9.3749	Confirmed LTF	9.3749
SIGE	SIGE	0.1284	Confirmed LTF	0.1284
CHEOAH	CHEOAH	0.0100	Confirmed LTF	0.0100
CBM-S1	CBM-S1	0.1873	Confirmed LTF	0.1873
G-007	G-007	1.4616	Confirmed LTF	1.4616
HAMLET	HAMLET	0.3563	Confirmed LTF	0.3563
MEC	MEC	9.7406	Confirmed LTF	9.7406

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
GIBSON	GIBSON	0.0994	Confirmed LTF	0.0994
BLUEG	BLUEG	1.4287	Confirmed LTF	1.4287
TRIMBLE	TRIMBLE	0.4858	Confirmed LTF	0.4858
LAGN	LAGN	2.9085	Confirmed LTF	2.9085
CATAWBA	CATAWBA	0.1824	Confirmed LTF	0.1824
CBM-W1	CBM-W1	48.9438	Confirmed LTF	48.9438

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
174526046	270728	E FRANKFO; B	CE	274750	CRETE EC ;BP	CE	1	COMED_P4_112-65-BT3-4__	breaker	1399.0	115.81	115.82	DC	15.73

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

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

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

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

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
174526025	270730	ELECT JCT; B	CE	270846	PLANO ; B	CE	1	COMED_P4_111-45-L16703_	breaker	1341.0	104.81	106.12	DC	21.92

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

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

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

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

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

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174385461	270731	ELECT JCT;4R	CE	270733	ELECT JCT;3R	CE	1	COMED_P4_111-45-L16704T	breaker	1656.0	101.31	103.41	DC	34.36

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

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

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

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

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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
174182001	270886	ST JOHN ; T	CE	255104	17GREEN_ACRE	NIPS	1	COMED_P4_112-65-BT4-5__	breaker	1091.0	144.86	144.87	DC	11.1

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
274654	BRAIDWOOD;1U	19.2483	50/50	19.2483
274655	BRAIDWOOD;2U	18.7382	50/50	18.7382
274658	DRESDEN ;2U	75.2473	Adder	88.53
274659	DRESDEN ;3U	69.4953	Adder	81.76
274687	WILL CNTY;4U	8.1886	50/50	8.1886
274704	KENDALL ;1C	2.8828	50/50	2.8828
274705	KENDALL ;1S	1.9276	50/50	1.9276
274706	KENDALL ;2C	2.8828	50/50	2.8828
274707	KENDALL ;2S	1.9276	50/50	1.9276
274751	CRETE EC ;1U	3.4609	50/50	3.4609
274752	CRETE EC ;2U	3.4609	50/50	3.4609
274753	CRETE EC ;3U	3.4609	50/50	3.4609
274754	CRETE EC ;4U	3.4609	50/50	3.4609
274861	TOP CROP ;1U	0.3057	50/50	0.3057
274862	TOP CROP ;2U	0.5832	50/50	0.5832
275149	KELLYCK ;1E	10.8837	Adder	12.8
276167	Z1-106 E2	0.7986	Adder	0.94
276168	Z1-106 E1	0.7986	Adder	0.94
276169	Z1-107 E	1.5715	Adder	1.85
276170	Z1-108 E	1.5749	Adder	1.85
276591	L-013 2	2.3159	Adder	2.72
290021	O50 E	12.6861	Adder	14.92
293061	N-015 E	9.8654	Adder	11.61
293644	O22 E1	8.5941	50/50	8.5941
293645	O22 E2	16.6827	50/50	16.6827
293799	PILOT HIL;1E	10.8837	Adder	12.8
294392	P-010 E	12.5291	Adder	14.74
915011	Y3-013 1	2.3746	Adder	2.79
915021	Y3-013 2	2.3746	Adder	2.79
915031	Y3-013 3	2.3746	Adder	2.79
918052	AA1-018 E OP	1.3780	Adder	1.62
920272	AA2-123 E	1.5446	Adder	1.82
926331	AC1-110 1	1.2022	Adder	1.41
926341	AC1-110 2	1.2022	Adder	1.41
927451	AC1-142A 1	2.7116	Adder	3.19
927461	AC1-142A 2	2.7129	Adder	3.19
930501	AB1-091 CT	23.9527	Adder	28.18
930502	AB1-091 ST	19.0433	Adder	22.4
930771	AB1-122 CT2	47.8633	Adder	56.31
933411	AC2-154 C	1.4771	Adder	1.74
933412	AC2-154 E	2.4100	Adder	2.84

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
933431	AC2-156 C O1	0.6024	Adder	0.71
933432	AC2-156 E O1	0.9829	Adder	1.16
933931	AD1-016 C	0.5862	Adder	0.69
933932	AD1-016 E	0.9565	Adder	1.13
934111	AD1-039 2	4.6906	Adder	5.52
934721	AD1-100 C	12.1278	Adder	14.27
934722	AD1-100 E	56.5964	Adder	66.58
934871	AD1-116 C	0.5853	Adder	0.69
934872	AD1-116 E	0.9549	Adder	1.12
936371	AD2-047 C O1	2.6432	Adder	3.11
936372	AD2-047 E O1	12.9050	Adder	15.18
936461	AD2-060	1.5548	Adder	1.83
937401	AD2-194 1	5.0179	Adder	5.9
937411	AD2-194 2	5.0255	Adder	5.91
938511	AE1-070 1	5.9050	Adder	6.95
938521	AE1-070 2	5.3942	Adder	6.35
938851	AE1-113 C O1	5.2330	Adder	6.16
938852	AE1-113 E O1	18.5534	Adder	21.83
939351	AE1-166 C O1	3.4229	Adder	7.6
939352	AE1-166 E O1	3.1596	Adder	7.01
939631	AE1-193 C	18.9611	50/50	18.9611
939632	AE1-193 E	126.8938	50/50	126.8938
939641	AE1-194 C	18.9611	50/50	18.9611
939642	AE1-194 E	126.8938	50/50	126.8938
939651	AE1-195 C	18.9611	50/50	18.9611
939652	AE1-195 E	126.8938	50/50	126.8938
939681	AE1-198 C	56.3000	50/50	56.3000
939682	AE1-198 E	47.8404	50/50	47.8404
940752	AE2-062 E	0.0429	Adder	0.1
941551	AE2-152 C O1	3.9495	Adder	8.77
941552	AE2-152 E O1	2.6330	Adder	5.84
941561	AE2-153 C O1	2.9681	Adder	3.49
941562	AE2-153 E O1	13.8959	Adder	16.35
942421	AE2-255 C O1	1.9822	Adder	2.33
942422	AE2-255 E O1	5.9466	Adder	7.0
942991	AE2-321 C	5.1722	Adder	6.08
942992	AE2-321 E	2.5475	Adder	3.0
943121	AE2-341 C	8.0337	Adder	9.45
943122	AE2-341 E	3.9450	Adder	4.64
943591	AF1-030 C O1	5.3425	Adder	6.29
943592	AF1-030 E O1	2.6433	Adder	3.11
943801	AF1-048 C	2.4178	Adder	2.84
943802	AF1-048 E	1.6119	Adder	1.9
944041	AF1-072	1.3632	Adder	1.6
944911	AF1-156 C	7.5888	Adder	8.93
944912	AF1-156 E	5.0592	Adder	5.95
945351	AF1-200 FTIR	195.0344	Merchant Transmission	195.0344
946661	AF1-330 C	1.2666	Adder	1.49
946662	AF1-330 E	0.2780	Adder	0.33
957331	AF2-027 C	1.5830	Adder	1.86
957332	AF2-027 E	2.3746	Adder	2.79
957401	AF2-034 C	0.9201	Adder	1.08

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
957402	AF2-034 E	0.7838	Adder	0.92
958011	AF2-095 C O1	10.5728	Adder	12.44
958012	AF2-095 E O1	4.9754	Adder	5.85
958021	AF2-096 C	27.9225	50/50	27.9225
958022	AF2-096 E	13.1400	50/50	13.1400
958481	AF2-142 C	6.9309	Adder	8.15
958482	AF2-142 E	4.6206	Adder	5.44
959351	AF2-226 C	2.1064	50/50	2.1064
959352	AF2-226 E	3.1596	50/50	3.1596
960281	AF2-319 C	2.1064	50/50	2.1064
960282	AF2-319 E	3.1596	50/50	3.1596
960381	AF2-329	4.1686	Adder	4.9
960591	AF2-350 C O1	4.6645	Adder	5.49
960592	AF2-350 E O1	3.1096	Adder	3.66
960601	AF2-351 C O1	0.6219	Adder	0.73
960602	AF2-351 E O1	0.9329	Adder	1.1
960731	AF2-364 C O1	3.8853	Adder	4.57
960732	AF2-364 E O1	2.5902	Adder	3.05
960751	AF2-366 C	4.3980	Adder	5.17
960752	AF2-366 E	2.9320	Adder	3.45
962691	AG1-118 C O2	7.4270	Adder	16.49
962692	AG1-118 E O2	4.9514	Adder	10.99
962701	AG1-119 C O2	7.5860	Adder	16.84
962702	AG1-119 E O2	5.0573	Adder	11.23
962711	AG1-120 C O2	2.9990	Adder	6.66
962712	AG1-120 E O2	1.9993	Adder	4.44
962781	AG1-127 C O2	2.5815	Adder	5.73
962782	AG1-127 E O2	1.7210	Adder	3.82
965141	AG1-379 C	5.7655	Adder	12.8
965142	AG1-379 E	2.6390	Adder	5.86
966081	AG1-477 C	0.6653	Adder	1.48
966082	AG1-477 E	0.1674	Adder	0.37
966091	AG1-478 C	0.6723	Adder	1.49
966092	AG1-478 E	0.1691	Adder	0.38
966101	AG1-479 C (Withdrawn : 12/03/2020)	0.6653	Adder	1.48
966102	AG1-479 E (Withdrawn : 12/03/2020)	0.1674	Adder	0.37
966441	AG1-513 C	0.1699	Adder	0.38
966442	AG1-513 E	0.2549	Adder	0.57
966651	AG1-535 O2	3.5980	Adder	7.99
WEC	WEC	2.7890	Confirmed LTF	2.7890
CALDERWOOD	CALDERWOOD	0.0025	Confirmed LTF	0.0025
CBM-W2	CBM-W2	14.6944	Confirmed LTF	14.6944
NY	NY	0.7864	Confirmed LTF	0.7864
TVA	TVA	1.0822	Confirmed LTF	1.0822
O-066	O-066	9.3749	Confirmed LTF	9.3749
SIGE	SIGE	0.1284	Confirmed LTF	0.1284
CHEOAH	CHEOAH	0.0100	Confirmed LTF	0.0100
CBM-S1	CBM-S1	0.1873	Confirmed LTF	0.1873
G-007	G-007	1.4616	Confirmed LTF	1.4616
HAMLET	HAMLET	0.3563	Confirmed LTF	0.3563
MEC	MEC	9.7406	Confirmed LTF	9.7406

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
GIBSON	GIBSON	0.0994	Confirmed LTF	0.0994
BLUEG	BLUEG	1.4287	Confirmed LTF	1.4287
TRIMBLE	TRIMBLE	0.4858	Confirmed LTF	0.4858
LAGN	LAGN	2.9085	Confirmed LTF	2.9085
CATAWBA	CATAWBA	0.1824	Confirmed LTF	0.1824
CBM-W1	CBM-W1	48.9438	Confirmed LTF	48.9438

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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
174385375	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	153.61	153.63	DC	18.18

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

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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
174385368	270927	WILTON ; R	CE	275233	WILTON ;4M	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	156.84	156.87	DC	18.57

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
174385382	274749	AURORA EC;RP	CE	270731	ELECT JCT;4R	CE	1	COMED_P4_111-45-L16704T	breaker	1479.0	103.68	107.14	DC	50.81

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

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

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

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

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174385425	274804	UNIV PK N;RP	CE	960680	AF2-359 TAP	CE	1	COMED_P4_112-65-BT3-4__	breaker	971.0	137.38	137.49	DC	12.26

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

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

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

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

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ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
174385374	275232	WILTON ;3M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	153.61	153.63	DC	18.18

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

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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
174385369	275233	WILTON ;4M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	156.84	156.87	DC	18.57

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

13.6 Contingency Descriptions - Secondary POI

Contingency Name	Contingency Definition
COMED_P4_111-45-L14321T	CONTINGENCY 'COMED_P4_111-45-L14321T' / 2454 OPEN BRANCH FROM BUS 270730 TO BUS 270928 CKT 1 / 270730 ELECT JCT; B 345 270928 WOLFS ; B 345 1 OPEN THREEWINDING AT BUS 270928 TO BUS 272794 TO BUS 275334 CKT 1/ OPEN THREEWINDING AT BUS 272794 TO BUS 270928 TO BUS 275334 CKT 1/ OPEN THREEWINDING AT BUS 275334 TO BUS 270928 TO BUS 272794 CKT 1/ OPEN BRANCH FROM BUS 270730 TO BUS 270846 CKT 1 / 270730 ELECT JCT; B 345 270846 PLANO ; B 345 1 OPEN BRANCH FROM BUS 270730 TO BUS 270916 CKT 1 / 270730 ELECT JCT; B 345 270916 WAYNE ; B 345 1 OPEN BRANCH FROM BUS 270730 TO BUS 275239 CKT 1 / 270730 ELECT JCT; B 345 275239 ELECT JCT;2M 138 1 OPEN BRANCH FROM BUS 275239 TO BUS 271390 CKT 1 / 275239 ELECT JCT;2M 138 271390 ELECT JCT; B 138 1 OPEN BRANCH FROM BUS 275339 TO BUS 275239 CKT 1 / 275339 ELECT JCT;2C 34.5 275239 ELECT JCT;2M 138 1 END
COMED_P4_111-45-L16704T	CONTINGENCY 'COMED_P4_111-45-L16704T' / 1647 OPEN BRANCH FROM BUS 270730 TO BUS 270846 CKT 1 / 270730 ELECT JCT; B 345 270846 PLANO ; B 345 1 OPEN BRANCH FROM BUS 272250 TO BUS 272278 CKT 2 / 272250 PLANO ; B 138 272278 PLANO;1I 138 2 OPEN THREEWINDING AT BUS 270846 TO BUS 272278 TO BUS 275354 CKT 1/ OPEN THREEWINDING AT BUS 272278 TO BUS 270846 TO BUS 275354 CKT 1/ OPEN THREEWINDING AT BUS 275354 TO BUS 270846 TO BUS 272278 CKT 1/ OPEN BRANCH FROM BUS 270730 TO BUS 270916 CKT 1 / 270730 ELECT JCT; B 345 270916 WAYNE ; B 345 1 OPEN BRANCH FROM BUS 270730 TO BUS 270928 CKT 1 / 270730 ELECT JCT; B 345 270928 WOLFS ; B 345 1 OPEN THREEWINDING AT BUS 270928 TO BUS 272794 TO BUS 275334 CKT 1/ OPEN THREEWINDING AT BUS 272794 TO BUS 270928 TO BUS 275334 CKT 1/ OPEN THREEWINDING AT BUS 275334 TO BUS 270928 TO BUS 272794 CKT 1/ OPEN BRANCH FROM BUS 270730 TO BUS 275239 CKT 1 / 270730 ELECT JCT; B 345 275239 ELECT JCT;2M 138 1 OPEN BRANCH FROM BUS 275239 TO BUS 271390 CKT 1 / 275239 ELECT JCT;2M 138 271390 ELECT JCT; B 138 1 OPEN BRANCH FROM BUS 275339 TO BUS 275239 CKT 1 / 275339 ELECT JCT;2C 34.5 275239 ELECT JCT;2M 138 1 END

Contingency Name	Contingency Definition
COMED_P4_111-45-L16703_	CONTINGENCY 'COMED_P4_111-45-L16703_' / 3238 OPEN BRANCH FROM BUS 270846 TO BUS 270847 CKT 1 / 270846 PLANO ; B 345 270847 PLANO ; R 345 1 OPEN BRANCH FROM BUS 270733 TO BUS 270847 CKT 1 / 270733 ELECT JCT;3R 345 270847 PLANO ; R 345 1 OPEN BRANCH FROM BUS 270717 TO BUS 270731 CKT 1 / 270717 DRESDEN ; R 345 270731 ELECT JCT;4R 345 1 OPEN BRANCH FROM BUS 270731 TO BUS 270733 CKT 1 / 270731 ELECT JCT;4R 345 270733 ELECT JCT;3R 345 1 OPEN BRANCH FROM BUS 270731 TO BUS 274749 CKT 1 / 270731 ELECT JCT;4R 345 274749 AURORA EC;RP 345 1 OPEN BRANCH FROM BUS 270731 TO BUS 275184 CKT 1 / 270731 ELECT JCT;4R 345 275184 ELECT JCT;4M 138 1 OPEN BRANCH FROM BUS 275184 TO BUS 271393 CKT 1 / 275184 ELECT JCT;4M 138 271393 ELECT JCT;4R 138 1 OPEN BRANCH FROM BUS 275284 TO BUS 275184 CKT 1 / 275284 ELECT JCT;4C 34.5 275184 ELECT JCT;4M 138 1 END
COMED_P7-1_345-L11723TR-N+_345-L15424TB-N	CONTINGENCY 'COMED_P7-1_345-L11723TR-N+_345-L15424TB-N' / CONTINGENCY # 76 TRIP BRANCH FROM BUS 270807 TO BUS 274817 CKT 1 / LIBERTYVI; R 345 ZION EC ;RP 345 TRIP BRANCH FROM BUS 270857 TO BUS 270807 CKT 1 / P HTS 117; R 345 LIBERTYVI; R 345 TRIP BRANCH FROM BUS 275211 TO BUS 270857 CKT 1 / P HTS 117;1M 138 P HTS 117; R 345 TRIP BRANCH FROM BUS 275211 TO BUS 272273 CKT 1 / P HTS 117;1M 138 P HTS 117; R 138 TRIP BRANCH FROM BUS 275211 TO BUS 275311 CKT 1 / P HTS 117;1M 138 P HTS 117;1C 34.5 TRIP BRANCH FROM BUS 270806 TO BUS 270856 CKT 1 / LIBERTYVI; B 345 P HTS 117; B 345 TRIP BRANCH FROM BUS 270806 TO BUS 270940 CKT 1 / LIBERTYVI; B 345 ZION STA ; B 345 TRIP BRANCH FROM BUS 270806 TO BUS 271917 TO BUS 275295 CKT 1 / LIBERTYVI; B 345 LIBERTYVI; R 138 LIBERTYVI;3C 34.5 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_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_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
Base Case	
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

14 Affected Systems

14.1 MISO

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

Attachment 1: One Line Diagram