



**Generation Interconnection
Feasibility Study Report
for
Queue Project AE1-002
WILTON CENTER-LORETTO
0 MW Capacity / 100 MW Energy**

June, 2019

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.

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.

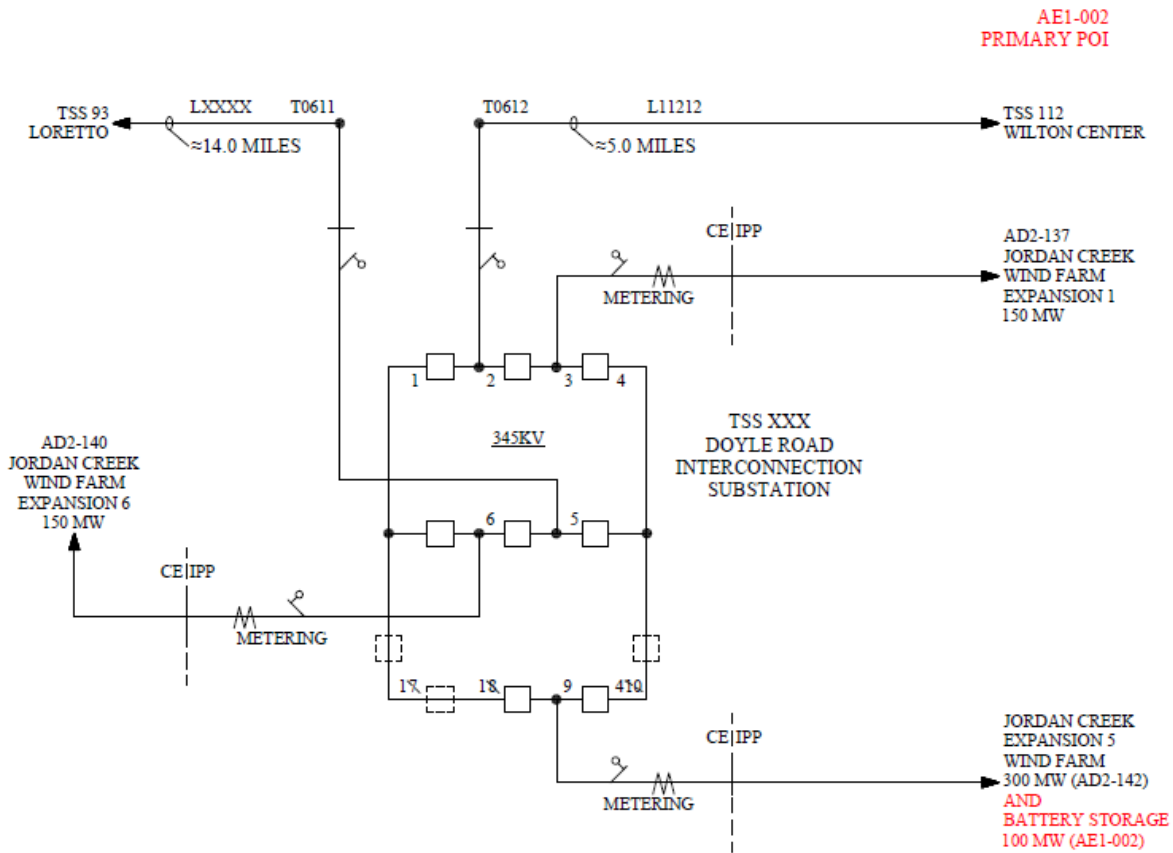
The Feasibility Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned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

General

Queue Number	AE1-002
Project Name	WILTON CENTER-LORETTO
State	None
County	Will
Transmission Owner	ComEd
MFO	100
MWE	100
MWC	0
Fuel	Storage
Basecase Study Year	2022

Primary Point of Interconnection

Queue Position AE1-002, proposes to add a 100 MW battery storage facility, to the primary POI of a prior queue position AD2-142, a 300MW wind farm, using the same generator lead. At the time of issuing this report, AD2-142 has been withdrawn at the request of the Interconnection Customer. Attachment Facilities and Non-Direct Network Upgrades required to interconnect this project included in the scope of the AD2-137 project (also now withdrawn) are now the responsibility of this project, should the Interconnection Customer proceed to the next stage.



Cost Summary

Addition of a battery storage facility behind the meter will require review and possible upgrade of SCADA, Communication, relays and metering. The estimated cost is \$200,000. ComEd would take approximately 12-months to review and possibly upgrade SCADA, Communication, relays and metering after the ISA / ICSA are signed.

Transmission Owner Scope of Work

Attachment Facilities

Attachment Facilities and Non-Direct Network Upgrades required to interconnect this project included in the scope of the AD2-137 project (also now withdrawn) are now the responsibility of this project, should the Interconnection Customer proceed to the next stage.

Direct Connection Cost Estimate

Addition of a battery storage facility behind the meter will require review and possible upgrade of SCADA, Communication, relays and metering. The estimated cost is \$200,000. ComEd would take approximately 12-months to review and possibly upgrade SCADA, Communication, relays and metering after the ISA / ICSA are signed.

Non-Direct Connection Cost Estimate

Non-Direct Network Upgrades required to interconnect this project included in the scope of the AD2-137 project (also now withdrawn) are now the responsibility of this project, should the Interconnection Customer proceed to the next stage.

Interconnection Customer Requirements

Exelon Utilities Transmission Bus Configuration Design Philosophy, ComEd Interconnection Guidelines, and Exelon Utilities Transmission Facility Interconnection Requirements shall apply. They are available on the PJM website. To the extent that these Applicable Technical Requirements and Standards conflict with the terms and conditions of the Tariff, the Tariff shall control.

Revenue Metering and SCADA 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.

Network Impacts

The Queue Project AE1-002 was evaluated as a 100 MW (Capacity 0 MW) injection at the AD2-137 tap bus which is a tap of the Wilton to Loretto 345 kV line in the ComEd area. Project AE1-002 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AE1-002 was studied with a commercial probability of 53%. Potential network impacts were as follows:

Summer Peak Load Flow

Generation Deliverability

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

None

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	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
4071	275232	WILTON ;3M	CE	270926	WILTON ; B	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	98.49	100.14	DC	27.26
4076	932800	AC2-104 TAP	AEP	242928	05MARYSV	AEP	1	AEP_P4_#7334_05JEFRSO765_A2	breaker	4571.0	99.94	100.14	DC	26.63

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	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
4058	243219	05DUMONT	AEP	255113	17STILLWELL	NIPS	1	COMED_P4_023-65-BT4-5__	breaker	1409.0	102.65	103.58	DC	16.01
3790	255113	17STILLWELL	NIPS	243219	05DUMONT	AEP	1	AEP_P4_#2978_05DUMONT765_B	breaker	1409.0	163.46	164.04	DC	15.5
3801	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	156.61	157.66	DC	27.26
3808	270927	WILTON ; R	CE	275233	WILTON ;4M	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	152.91	153.98	DC	27.76
3969	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	AEP_P4_#2978_05DUMONT765_B	breaker	971.0	118.58	119.14	DC	10.23
3970	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	COMED_P4_023-65-BT2-3__	breaker	971.0	117.34	117.9	DC	10.31
3971	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	COMED_P4_112-65-BT3-4__	breaker	971.0	117.34	117.9	DC	10.31
3972	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	COMED_P4_112-65-BT4-5__	breaker	971.0	117.34	117.9	DC	10.31
3973	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	COMED_P4_023-65-BT4-5__	breaker	971.0	117.33	117.9	DC	10.32
3800	275232	WILTON ;3M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	156.61	157.66	DC	27.26
3810	275233	WILTON ;4M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	152.91	153.98	DC	27.76
4068	275233	WILTON ;4M	CE	270927	WILTON ; R	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	101.26	102.93	DC	27.76
4519	934720	AD1-100 TAP	CE	937030	AD2-137 TAP	CE	1	COMED_P7_345-L17704AR-S+_345-L17907TB-S-A	tower	1846.0	132.98	134.58	DC	29.67
4520	934720	AD1-100 TAP	CE	937030	AD2-137 TAP	CE	1	COMED_P7_345-L2001_B-S+_345-L2003_R-S	tower	1846.0	132.63	134.19	DC	28.8

450 2	93703 0	AD2-137 TAP	CE	27092 6	WILTON ; B	CE	1	COMED_P7_345- L17704AR-S_+ 345- L17907TB-S-A	tower	1846. 0	138.0	141.81	DC	70.33
450 3	93703 0	AD2-137 TAP	CE	27092 6	WILTON ; B	CE	1	COMED_P7_345-L2001__B- S_+ 345-L2003__R-S	tower	1846. 0	136.58	140.43	DC	71.21

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	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
4450	243219	05DUMONT	AEP	255113	17STILLWELL	NIPS	1	AEP_P1- 2_#695A	operation	1409.0	102.65	103.57	DC	15.95
4189	255113	17STILLWELL	NIPS	243219	05DUMONT	AEP	1	AEP_P1- 2_#695A	operation	1409.0	159.96	160.56	DC	15.95
4466	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P1- 2_765- L11216__-S	operation	1379.0	98.31	98.97	DC	17.16
4465	270927	WILTON ; R	CE	275233	WILTON ;4M	CE	1	COMED_P1- 2_765- L11216__-S	operation	1379.0	98.6	99.29	DC	17.85
4369	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	AEP_P1- 2_#695A	operation	971.0	117.32	117.89	DC	10.32
4229	934720	AD1-100 TAP	CE	937030	AD2-137 TAP	CE	1	COMED_P1- 2_345- L8014__- S-B	operation	1528.0	148.96	150.95	DC	30.45
4234	934720	AD1-100 TAP	CE	937030	AD2-137 TAP	CE	1	Base Case	operation	1364.0	131.32	133.55	DC	30.43
4206	937030	AD2-137 TAP	CE	270926	WILTON ; B	CE	1	COMED_P1- 2_345- L8014__- S-B	operation	1528.0	151.87	156.42	DC	69.55
4211	937030	AD2-137 TAP	CE	270926	WILTON ; B	CE	1	Base Case	operation	1364.0	137.0	142.1	DC	69.57

System Reinforcements

ID	Index	Facility	Upgrade Description	Cost
3810	9	WILTON ;4M 345.0 kV - WILTON ; 765.0 kV Ckt 1	<u>CE</u> Description: PJM Network Upgrade (n5145): Reconfigure Wilton 765kV bus thereby allowing for 765kV L11216 (currently on Bus 6) to be relocated to Bus 8. Along with this line relocation, installation of 2-765kV BT CB's (6-8 & 8-2). Time Estimate : 24-30 Months Cost : \$11,000,000	\$11,000,000
4071	1	WILTON ;3M 345.0 kV - WILTON ; B 345.0 kV Ckt 1		
3801	5	WILTON ; B 345.0 kV - WILTON ;3M 345.0 kV Ckt 1		
3800	8	WILTON ;3M 345.0 kV - WILTON ; 765.0 kV Ckt 1		
3808	6	WILTON ; R 345.0 kV - WILTON ;4M 345.0 kV Ckt 1		
4068	10	WILTON ;4M 345.0 kV - WILTON ; R 345.0 kV Ckt 1		
3790	4	17STILLWELL 345.0 kV - 05DUMONT 345.0 kV Ckt 1	<u>AEP</u> Description : a) Reconductor / rebuild 8.58 miles of conductor, Estimated Cost : \$17.16 million b) Replace Dumont Wavetrap , estimated Cost : \$200k. c) An Engineering study will need to be conducted to determine if the CT Thermal Limits (Dumont) can be adjusted to mitigate the overload. Estimated Cost: \$25,000. d) Replace two Dumont Breakers , Estimated Cost: \$2.4 million e) Replace 11 Dumont risers , Estimated Cost : \$175,000 f) Replace four Dumont Switches , Estimated Cost : \$2,000,000. Time Estimate: a) Sag Study: 6-12 months b) Rebuild: The standard time required for construction differs from state to state. An approximate construction time would be 24 to 36 months after signing an interconnection agreement. Time Estimate : 24-36 Months Cost : \$21,985,000 <u>NIPS</u> Description : The external (i.e. Non-PJM) Transmission Owner, NIPS, will not evaluate this violation until the impact study phase.	\$21,985,000
4058	3	05DUMONT 345.0 kV - 17STILLWELL 345.0 kV Ckt 1		
4520,4519	11	AD1-100 TAP 345.0 kV - AD2-137 TAP 345.0 kV Ckt 1	<u>CE</u> Description: No Violation. ComEd 345kV L11212 ALDR rating is 2554 MVA.	\$0

ID	Index	Facility	Upgrade Description	Cost
3969,3970,3971,3972,3973	7	UNIV PK N;RP 345.0 kV - 05OLIVE 345.0 kV Ckt 1	<u>AEP</u> Description : Replace ACSR/PE 1414 62/19 - Conductor Section 1. A Sag Study will be required on the 40.64 miles of conductor to mitigate the overload. The new ratings after sag study will be: S/N: 971 MVA, S/E: 1419 MVA, Depending on the sag study results, the cost for this upgrade is expected to be between \$162,560 (no remediation required, just sag study) and \$81.28 million (complete line Reconductor/rebuild). Time Estimate: a) Sag Study: 6-12 months b) Rebuild: The standard time required for construction differs from state to state. An approximate construction time would be 24 to 36 months after signing an interconnection agreement. Time Estimate : 24-36 Months Cost : \$81,280,000 <u>CE</u> Description : The upgrade will be to mitigate the line sag. Note that there may be additional 345kV line tower costs as a result of this upgrade. This estimate does not include potential tower work. The tower costs will be determined during the Facility Study Time Estimate : 30.0 Months Cost : \$13,800,000	\$95,080,000
4076	2	AC2-104 TAP 765.0 kV - 05MARYSV 765.0 kV Ckt 1	<u>AEP</u> Description : Replace three 3000A Wavetraps Time Estimate : 24-36 Months Cost : \$675,000	\$675,000
4502,4503	12	AD2-137 TAP 345.0 kV - WILTON ; B 345.0 kV Ckt 1	<u>CE</u> Description : The upgrade will be to replace two 345kV Circuit Breakers at TSS 112 Wilton Center. Time Estimate : 24-30 Months Cost : \$6,000,000	\$6,000,000
			TOTAL COST	\$134,740,000

Affected Systems

MISO

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

Flow Gate Details

The following appendices contain additional information about each flowgate presented in the body of the report. For each appendix, a description of the flowgate and its contingency was included for convenience. However, the intent of the appendix section is to provide more information on which projects/generators have contributions to the flowgate in question. Although this information is not used "as is" for cost allocation purposes, it can be used to gauge other generators impact. It should be noted the generator contributions presented in the appendices sections are full contributions, whereas in the body of the report, those contributions take into consideration the commercial probability of each project.

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
4071	275232	WILTON ;3M	CE	270926	WILTON ; B	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	98.49	100.14	DC	27.26

Bus #	Bus	MW Impact
916502	Z1-106 E1	1.55
916504	Z1-106 E2	1.55
916512	Z1-107 E	3.18
916522	Z1-108 E	3.06
920272	AA2-123 E	3.0
938012	AE1-002 E O1	27.26
950031	J301 C	1.81
950032	J301 E	7.25
950041	J308 C	5.4
950042	J308 E	21.59
950121	J392	34.81
950161	J401	1.32
950241	J419	8.9
950281	J431 C	1.11
950282	J431 E	4.44
950302	J453 E	0.91
950311	G934 C	2.73
950312	G934 E	10.92
950351	J466	2.7
950361	J469	0.16
950791	J201 C	0.36
950792	J201 E	1.44
950871	J246 C	0.13
950872	J246 E	0.51
950942	J325 E	0.36
950951	J327 C	2.69
950952	J327 E	8.08
950981	J333	9.08
951011	J340 C	1.8
951012	J340 E	5.39
951051	J354 C	0.93
951052	J354 E	2.8
951531	J533 C	3.63
951532	J533 E	14.53
951571	J538 C	2.68
951572	J538 E	10.72
951581	J540	4.42
951731	J446 C	2.29
951732	J446 E	12.38
951811	J513 C	1.02
951812	J513 E	5.49

Bus #	Bus	MW Impact
951941	J602 C	2.82
951942	J602 E	15.24
952161	J571	0.58
952201	J589 C	2.83
952202	J589 E	15.29
952312	J646 E	0.14
952401	J752 C	1.4
952402	J752 E	7.59
952471	J708	20.07
952611	J717 C	2.82
952612	J717 E	15.27
952761	J728 C	2.63
952762	J728 E	14.21
952801	J754 C	2.81
952802	J754 E	15.2
952811	J759	4.1
952821	J762	11.64
952861	J783 C	3.91
952862	J783 E	0.16
952881	J758	18.07
952941	J921 C	2.1
952942	J921 E	11.34
952961	J203 C	2.8
952962	J203 E	15.13
952971	J793	118.37
952981	J579 C	2.84
952982	J579 E	15.38
953071	J794 C	0.18
953072	J794 E	0.95
953101	J714 C	1.91
953102	J714 E	10.32
953161	J837 C	2.24
953162	J837 E	12.12
953171	J838 C	2.24
953172	J838 E	12.12
953271	J701 C	0.69
953272	J701 E	3.72
953291	J796	21.59
953321	J799	16.83
953351	J805	13.39
953361	J806	13.43
953381	J809	9.05
953421	J841	63.4
953501	J478 C	2.26
953502	J478 E	12.2
953541	J632 C	2.88
953542	J632 E	15.59
953751	J827	20.01
953771	J832	9.07
953781	J833	8.9
953811	J839	8.96
953831	J842 C	1.74

Bus #	Bus	MW Impact
953832	J842 E	9.43
953841	J843 C	1.77
953842	J843 E	9.6
953861	J846	12.53
953931	J856	4.54
953941	J857	11.27
954011	J865	7.16
954111	J875	13.4
954171	J883 C	0.77
954172	J883 E	4.19
954231	J890 C	1.42
954232	J890 E	7.66
954351	J903	6.95
954381	J906 C	1.43
954382	J906 E	7.71
954421	J913	14.35
954431	J914	2.74
954541	J931 C	2.14
954542	J931 E	11.58
954581	J936	48.4
954591	J937	48.74
954711	J851 C	0.57
954712	J851 E	3.11
954751	J351	46.33
AC1-056	AC1-056	6.74
AD2-098	AD2-098	1.03
AE1-080A	AE1-080A	30.43
BAYOU	BAYOU	2.77
BIG_CAJUN1	BIG_CAJUN1	3.77
BIG_CAJUN2	BIG_CAJUN2	7.62
CBM-N	CBM-N	1.94
CBM-S2	CBM-S2	1.64
CHOCTAW	CHOCTAW	1.9
COFFEEN	COFFEEN	3.13
COTTONWOOD	COTTONWOOD	11.62
CPL	CPL	0.9
DUCKCREEK	DUCKCREEK	14.05
EDWARDS	EDWARDS	6.92
FARMERCITY	FARMERCITY	3.08
G-007A	G-007A	6.0
GIBSON	GIBSON	0.01
IPL	IPL	0.72
LGEE	LGEE	0.99
MECS	MECS	11.76
NEWTON	NEWTON	4.44
NYISO	NYISO	8.4
O-066A	O-066A	2.81
PRAIRIE	PRAIRIE	12.59
SMITHLAND	SMITHLAND	0.46
TATANKA	TATANKA	6.8
TILTON	TILTON	2.18
TVA	TVA	2.0

Bus #	Bus	MW Impact
UNIONPOWER	UNIONPOWER	1.72
VFT	VFT	16.16

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
4076	932800	AC2-104 TAP	AEP	242928	05MARYSV	AEP	1	AEP_P4_#7334_05JEFRSO 765_A2	breaker	4571.0	99.94	100.14	DC	26.63

Bus #	Bus	MW Impact
243440	05CKG1	47.55
243441	05CKG2	59.08
246397	05ELKHART HY	1.01
246416	05TWIN BRCH1	0.22
246422	05MAYFLWER	0.3
246431	05BUCHANAN	1.1
246536	05MOTTVILL	0.42
247643	Z2-116 C	0.06
247906	05MDL-1G E	39.97
247907	05MDL-2G E	19.82
247912	05MDL-3G E	20.72
247913	05MDL-4G E	20.02
247943	T-127 E	20.02
247969	Z2-116 E	0.35
270859	PWR VTR EC;R	24.95
274722	S-055 E	22.81
274774	LINCOLN ;5U	3.55
274775	LINCOLN ;6U	3.55
274776	LINCOLN ;7U	3.55
274777	LINCOLN ;8U	3.55
274888	PILOT HIL;1E	36.6
274890	CAYUG;1U E	29.9
274891	CAYUG;2U E	29.9
275149	KEMPTON ;1E	36.6
290021	O50 E	40.04
290051	GSG-6; E	21.75
290108	LEEDK;1U E	50.13
293061	N-015 E	31.02
293644	O22 E1	20.72
293645	O22 E2	40.22
294392	P-010 E	39.4
294763	P-046 E	12.37
295109	WESTBROOK E	11.64
909145	X2-052	31.97
910542	X3-005 E	1.48
914641	Y2-103	91.26
915011	Y3-013 1	7.6
915021	Y3-013 2	7.6
915031	Y3-013 3	7.6
916221	Z1-073 E	11.22

Bus #	Bus	MW Impact
916502	Z1-106 E1	2.56
916504	Z1-106 E2	2.56
916512	Z1-107 E	5.18
916522	Z1-108 E	5.07
917702	Z2-113 E	0.6
917711	Z2-114 C	0.12
917712	Z2-114 E	0.68
918052	AA1-018 E	33.12
920211	AA2-116	269.83
920272	AA2-123 E	5.02
924471	AB2-096	87.34
925302	AB2-191 E	2.88
925881	AC1-067 O1	287.92
926311	AC1-109 1	3.86
926321	AC1-109 2	3.86
926331	AC1-110 1	3.85
926341	AC1-110 2	3.85
926351	AC1-111 1	1.54
926361	AC1-111 2	1.54
926371	AC1-111 3	1.54
926381	AC1-111 4	1.54
926391	AC1-111 5	1.54
926401	AC1-111 6	1.54
926431	AC1-114	4.95
926581	AC1-141	24.7
927091	AC1-204 1	144.27
927101	AC1-204 2	144.27
927451	AC1-142A 1	8.3
927461	AC1-142A 2	8.3
927511	AC1-113 1	2.47
927521	AC1-113 2	2.47
930042	AB1-006 E	43.55
930391	AB1-080	1.89
930481	AB1-089	136.41
930501	AB1-091 O1	144.02
930741	AB1-122 1O1	147.57
930751	AB1-122 2O1	147.79
932601	AC2-080 C O1	6.69
932602	AC2-080 E O1	44.79
932801	AC2-104 C	36.08
932802	AC2-104 E	241.45
932881	AC2-115 1	4.95
932891	AC2-115 2	4.95
932921	AC2-116	1.73
932931	AC2-117	12.09
933281	AC2-140 C	11.36
933282	AC2-140 E	0.6
933411	AC2-154 C	4.97
933412	AC2-154 E	8.11
933431	AC2-156 C O1	1.95
933432	AC2-156 E O1	3.18
933911	AD1-013 C	3.83

Bus #	Bus	MW Impact
933912	AD1-013 E	6.11
933931	AD1-016 C	1.91
933932	AD1-016 E	3.11
934101	AD1-039 1	14.46
934111	AD1-039 2	14.48
934401	AD1-064 C O1	6.6
934402	AD1-064 E O1	30.92
934431	AD1-067 C	0.27
934432	AD1-067 E	1.15
934651	AD1-096 C	1.87
934652	AD1-096 E	3.05
934701	AD1-098 C O1	14.33
934702	AD1-098 E O1	10.46
934721	AD1-100 C	39.06
934722	AD1-100 E	182.27
934771	AD1-104 C	29.08
934772	AD1-104 E	194.61
934871	AD1-116 C	1.93
934872	AD1-116 E	3.15
934971	AD1-129 C	1.87
934972	AD1-129 E	1.25
935001	AD1-133 C O1	45.11
935002	AD1-133 E O1	30.07
936141	AD2-020 C O1	16.43
936142	AD2-020 E O1	10.11
936291	AD2-038 C O1	4.86
936292	AD2-038 E O1	32.53
936371	AD2-047 C O1	4.44
936372	AD2-047 E O1	47.85
936461	AD2-060	5.23
936511	AD2-066 C O1	17.47
936512	AD2-066 E O1	11.65
936631	AD2-079 C O1	3.24
936632	AD2-079 E O1	2.16
936781	AD2-101 C	9.23
936782	AD2-101 E	43.2
936791	AD2-102 C	25.07
936792	AD2-102 E	24.09
936961	AD2-130	1.12
936981	AD2-132 C	9.06
936982	AD2-132 E	42.42
937001	AD2-134 C	5.68
937002	AD2-134 E	23.48
937031	AD2-137 C O1	7.03
937032	AD2-137 E O1	32.92
937041	AD2-138 C	9.06
937042	AD2-138 E	42.42
937051	AD2-140 C O1	7.07
937052	AD2-140 E O1	33.08
937061	AD2-141 C O1	7.03
937062	AD2-141 E O1	33.12
937071	AD2-142 C O1	14.13

Bus #	Bus	MW Impact
937072	AD2-142 E O1	66.16
937121	AD2-148 C O1	6.9
937122	AD2-148 E O1	32.32
937131	AD2-149 C O1	6.9
937132	AD2-149 E O1	32.32
937141	AD2-150 C O1	6.9
937142	AD2-150 E O1	32.32
937181	AD2-155 C O1	6.9
937182	AD2-155 E O1	32.32
937311	AD2-172 C	5.15
937312	AD2-172 E	7.11
937321	AD2-175 C	32.17
937322	AD2-175 E	21.44
937331	AD2-176 C O1	15.06
937332	AD2-176 E O1	10.04
937401	AD2-194 1	15.51
937411	AD2-194 2	15.51
938012	AE1-002 E O1	14.12
938261	AE1-039	0.21
938511	AE1-070 1	18.23
938521	AE1-070 2	16.68
AB2-013	AB2-013	35.76
AE1-033	AE1-033	38.01
AE1-042	AE1-042	11.11
CARR	CARR	2.31
CATAWBA	CATAWBA	0.58
CBM-S1	CBM-S1	20.51
CBM-W1	CBM-W1	113.08
CBM-W2	CBM-W2	296.38
CIN	CIN	40.11
G-007	G-007	6.71
HAMLET	HAMLET	2.61
IPL	IPL	25.2
LGEE	LGEE	4.98
MEC	MEC	93.13
MECS	MECS	52.67
O-066	O-066	22.56
RENSSELAER	RENSSELAER	1.83
WEC	WEC	16.48
Z1-043	Z1-043	62.88

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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
4058	243219	05DUMONT	AEP	255113	17STILLWELL	NIPS	1	COMED_P4_023-65-BT4-5__	breaker	1409.0	102.65	103.58	DC	16.01

Bus #	Bus	MW Impact
916502	Z1-106 E1	1.5
916504	Z1-106 E2	1.5
916512	Z1-107 E	3.13
916522	Z1-108 E	2.95
920272	AA2-123 E	2.9
938012	AE1-002 E O1	16.01
950031	J301 C	1.96
950032	J301 E	7.83
950041	J308 C	5.81
950042	J308 E	23.23
950121	J392	38.42
950161	J401	1.26
950241	J419	9.45
950302	J453 E	0.88
950311	G934 C	3.01
950312	G934 E	12.05
950351	J466	2.91
950361	J469	0.18
950791	J201 C	0.39
950792	J201 E	1.57
950871	J246 C	0.14
950872	J246 E	0.55
950942	J325 E	0.39
950951	J327 C	2.91
950952	J327 E	8.72
951011	J340 C	1.94
951012	J340 E	5.81
951051	J354 C	1.01
951052	J354 E	3.02
951531	J533 C	4.0
951532	J533 E	15.98
951571	J538 C	2.87
951572	J538 E	11.47
951581	J540	4.89
951731	J446 C	1.94
951732	J446 E	10.51
951941	J602 C	3.07
951942	J602 E	16.6
952161	J571	0.64
952201	J589 C	3.1
952202	J589 E	16.77

Bus #	Bus	MW Impact
952312	J646 E	0.15
952401	J752 C	1.52
952402	J752 E	8.21
952471	J708	19.34
952611	J717 C	3.08
952612	J717 E	16.68
952761	J728 C	2.87
952762	J728 E	15.53
952811	J759	3.96
952821	J762	11.29
952861	J783 C	3.77
952862	J783 E	0.16
952881	J758	19.88
952941	J921 C	2.34
952942	J921 E	12.65
952961	J203 C	3.01
952962	J203 E	16.29
952971	J793	127.06
952981	J579 C	3.2
952982	J579 E	17.31
953071	J794 C	0.19
953072	J794 E	1.04
953101	J714 C	1.65
953102	J714 E	8.92
953161	J837 C	1.74
953162	J837 E	9.44
953171	J838 C	1.74
953172	J838 E	9.44
953271	J701 C	0.74
953272	J701 E	4.03
953291	J796	23.54
953321	J799	17.88
953351	J805	12.86
953361	J806	14.69
953381	J809	10.12
953421	J841	69.12
953501	J478 C	1.98
953502	J478 E	10.7
953541	J632 C	3.25
953542	J632 E	17.61
953751	J827	15.48
953771	J832	9.98
953781	J833	9.45
953811	J839	9.64
953831	J842 C	1.67
953832	J842 E	9.05
953841	J843 C	1.7
953842	J843 E	9.19
953861	J846	13.44
953931	J856	4.37
953941	J857	12.36
954011	J865	7.69

Bus #	Bus	MW Impact
954111	J875	14.35
954231	J890 C	1.56
954232	J890 E	8.43
954351	J903	6.68
954381	J906 C	1.59
954382	J906 E	8.6
954421	J913	11.18
954431	J914	3.05
954541	J931 C	2.39
954542	J931 E	12.93
954581	J936	53.54
954591	J937	54.87
954711	J851 C	0.56
954712	J851 E	3.01
AC1-056	AC1-056	6.36
AD2-098	AD2-098	1.0
AE1-080A	AE1-080A	29.15
BAYOU	BAYOU	2.74
BIG_CAJUN1	BIG_CAJUN1	3.75
BIG_CAJUN2	BIG_CAJUN2	7.57
CALDERWOOD	CALDERWOOD	0.01
CANNELTON	CANNELTON	0.01
CBM-N	CBM-N	1.83
CBM-S2	CBM-S2	1.41
CHILHOWEE	CHILHOWEE	0.0
CHOCTAW	CHOCTAW	1.92
COFFEEN	COFFEEN	2.93
COTTONWOOD	COTTONWOOD	11.46
CPL	CPL	0.8
DUCKCREEK	DUCKCREEK	13.31
EDWARDS	EDWARDS	6.56
ELMERSMITH	ELMERSMITH	0.09
FARMERCITY	FARMERCITY	2.95
G-007A	G-007A	5.67
GIBSON	GIBSON	0.08
IPL	IPL	0.15
LGEE	LGEE	0.76
MECS	MECS	14.18
NEWTON	NEWTON	4.48
NYISO	NYISO	7.96
O-066A	O-066A	2.65
PRAIRIE	PRAIRIE	12.11
SMITHLAND	SMITHLAND	0.47
TATANKA	TATANKA	6.53
TILTON	TILTON	2.27
TVA	TVA	2.11
UNIONPOWER	UNIONPOWER	1.71
VFT	VFT	15.25

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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
3790	255113	17STILLWEL L	NIPS	243219	05DUMON T	AEP	1	AEP_P4_#2978_05DUMON T 765_B	breaker	1409.0	163.46	164.04	DC	15.5

Bus #	Bus	MW Impact
270859	PWR VTR EC;R	13.98
274722	S-055 E	13.0
274724	RIVER EC ;11	5.35
274788	SE CHICAG;5U	1.28
274789	SE CHICAG;6U	1.28
274790	SE CHICAG;7U	1.28
274791	SE CHICAG;8U	1.28
274795	SE CHICAG;2U	1.26
274832	U4-027	12.51
274859	EASYR;U1 E	12.73
274860	EASYR;U2 E	12.73
274888	PILOT HIL;1E	22.41
274890	CAYUG;1U E	15.82
274891	CAYUG;2U E	15.82
275149	KEMPTON ;1E	22.41
290021	O50 E	22.41
290051	GSG-6; E	12.08
290108	LEEDK;1U E	28.04
293061	N-015 E	17.61
293516	O-009 E1	10.5
293517	O-009 E2	5.33
293518	O-009 E3	5.87
293644	O22 E1	12.0
293645	O22 E2	23.29
293715	O-029 E	11.32
293716	O-029 E	6.21
293717	O-029 E	5.7
293771	O-035 E	7.4
294392	P-010 E	22.36
294401	BSHIL;1U E	9.9
294410	BSHIL;2U E	9.9
294763	P-046 E	10.84
295109	WESTBROOK E	6.47
295111	SUBLETTE E	3.0
296125	R-030 C3	4.12
296128	R-030 E3	16.5
296271	R-030 C2	4.08
296272	R-030 E2	16.3
296308	R-030 C1	4.08
296309	R-030 E1	16.3
910542	X3-005 E	1.0

Bus #	Bus	MW Impact
914641	Y2-103	52.01
915011	Y3-013 1	4.33
915021	Y3-013 2	4.33
915031	Y3-013 3	4.33
916211	Z1-072 E	5.6
916221	Z1-073 E	6.23
916502	Z1-106 E1	1.46
916504	Z1-106 E2	1.46
916512	Z1-107 E	3.05
916522	Z1-108 E	2.87
917502	Z2-087 E	21.33
918052	AA1-018 E	18.82
919221	AA1-146	20.37
919581	AA2-030	20.37
919621	AA2-039 C	2.41
919622	AA2-039 E	16.15
920272	AA2-123 E	2.82
924041	AB2-047 C O1	3.94
924042	AB2-047 E O1	26.39
924471	AB2-096	48.94
925161	AB2-173	3.63
925302	AB2-191 E	1.6
925581	AC1-033 C	1.62
925582	AC1-033 E	10.86
925881	AC1-067 O1	199.38
926311	AC1-109 1	2.2
926321	AC1-109 2	2.2
926331	AC1-110 1	2.19
926341	AC1-110 2	2.19
926351	AC1-111 1	0.88
926361	AC1-111 2	0.88
926371	AC1-111 3	0.88
926381	AC1-111 4	0.88
926391	AC1-111 5	0.88
926401	AC1-111 6	0.88
926431	AC1-114	2.75
926821	AC1-168 C O1	1.33
926822	AC1-168 E O1	8.89
927091	AC1-204 1	83.59
927101	AC1-204 2	83.56
927201	AC1-214 C O1	2.37
927202	AC1-214 E O1	7.55
927451	AC1-142A 1	4.85
927461	AC1-142A 2	4.85
927511	AC1-113 1	1.38
927521	AC1-113 2	1.38
927531	AC1-185 1	0.8
927541	AC1-185 2	0.8
927551	AC1-185 3	0.8
927561	AC1-185 4	0.8
927571	AC1-185 5	0.8
927581	AC1-185 6	0.8

Bus #	Bus	MW Impact
927591	AC1-185 7	0.8
927601	AC1-185 8	0.8
930481	AB1-089	75.99
930501	AB1-091 O1	88.96
930741	AB1-122 1O1	82.76
930751	AB1-122 2O1	85.3
932881	AC2-115 1	2.75
932891	AC2-115 2	2.75
932921	AC2-116	0.96
932931	AC2-117	5.84
933341	AC2-147 C	1.01
933342	AC2-147 E	1.65
933411	AC2-154 C	3.04
933412	AC2-154 E	4.96
933431	AC2-156 C O1	1.1
933432	AC2-156 E O1	1.8
933911	AD1-013 C	2.13
933912	AD1-013 E	3.4
933931	AD1-016 C	1.07
933932	AD1-016 E	1.75
934051	AD1-031 C O1	3.29
934052	AD1-031 E O1	5.37
934101	AD1-039 1	8.11
934111	AD1-039 2	8.36
934401	AD1-064 C O1	3.7
934402	AD1-064 E O1	17.33
934431	AD1-067 C	0.15
934432	AD1-067 E	0.64
934651	AD1-096 C	1.03
934652	AD1-096 E	1.68
934701	AD1-098 C O1	7.95
934702	AD1-098 E O1	5.8
934721	AD1-100 C	22.52
934722	AD1-100 E	105.11
934871	AD1-116 C	1.1
934872	AD1-116 E	1.79
934881	AD1-117 C	6.22
934882	AD1-117 E	4.14
934971	AD1-129 C	1.04
934972	AD1-129 E	0.7
935001	AD1-133 C O1	24.17
935002	AD1-133 E O1	16.11
936291	AD2-038 C O1	2.7
936292	AD2-038 E O1	18.1
936371	AD2-047 C O1	2.72
936372	AD2-047 E O1	29.29
936461	AD2-060	3.2
936511	AD2-066 C O1	9.72
936512	AD2-066 E O1	6.48
936781	AD2-101 C	5.9
936782	AD2-101 E	27.64
936791	AD2-102 C	13.91

Bus #	Bus	MW Impact
936792	AD2-102 E	13.36
936961	AD2-130	0.66
937001	AD2-134 C	3.16
937002	AD2-134 E	13.04
937031	AD2-137 C O1	4.09
937032	AD2-137 E O1	19.16
937051	AD2-140 C O1	4.13
937052	AD2-140 E O1	19.32
937061	AD2-141 C O1	4.1
937062	AD2-141 E O1	19.34
937071	AD2-142 C O1	8.25
937072	AD2-142 E O1	38.64
937121	AD2-148 C O1	4.23
937122	AD2-148 E O1	19.81
937131	AD2-149 C O1	4.23
937132	AD2-149 E O1	19.81
937141	AD2-150 C O1	4.23
937142	AD2-150 E O1	19.81
937181	AD2-155 C O1	4.23
937182	AD2-155 E O1	19.81
937311	AD2-172 C	2.85
937312	AD2-172 E	3.93
937321	AD2-175 C	19.71
937322	AD2-175 E	13.14
937331	AD2-176 C O1	8.47
937332	AD2-176 E O1	5.65
937401	AD2-194 1	8.99
937411	AD2-194 2	8.99
937531	AD2-214 C	5.12
937532	AD2-214 E	2.41
938012	AE1-002 E O1	8.21
938511	AE1-070 1	10.56
938521	AE1-070 2	9.66
951721	J643	25.73
952581	J740 C	4.3
952582	J740 E	23.28
953871	J847	13.1
954751	J351	434.55
990901	L-005 E	14.55
AB2-013	AB2-013	18.69
AE1-033	AE1-033	20.94
BLUEG	BLUEG	0.77
CARR	CARR	0.88
CATAWBA	CATAWBA	0.2
CBM-S1	CBM-S1	4.14
CBM-W1	CBM-W1	36.18
CBM-W2	CBM-W2	83.33
CIN	CIN	3.45
DEARBORN	DEARBORN	3.95
G-007	G-007	2.44
HAMLET	HAMLET	0.89
IPL	IPL	1.21

Bus #	Bus	MW Impact
MEC	MEC	44.97
O-066	O-066	8.23
RENSSELAER	RENSSELAER	0.7
TRIMBLE	TRIMBLE	0.13
WEC	WEC	9.24
Z1-043	Z1-043	33.09

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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
3801	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	156.61	157.66	DC	27.26

Bus #	Bus	MW Impact
270859	PWR VTR EC;R	14.87
274722	S-055 E	13.8
274772	LINCOLN ;3U	3.78
274773	LINCOLN ;4U	3.78
274774	LINCOLN ;5U	3.78
274775	LINCOLN ;6U	3.78
274776	LINCOLN ;7U	3.78
274777	LINCOLN ;8U	3.78
274832	U4-027	13.38
274859	EASYR;U1 E	13.52
274860	EASYR;U2 E	13.52
274888	PILOT HIL;1E	23.54
274890	CAYUG;1U E	20.36
274891	CAYUG;2U E	20.36
275149	KEMPTON ;1E	23.54
290021	O50 E	23.84
290051	GSG-6; E	12.85
290108	LEEDK;1U E	29.85
290261	S-027 E	20.53
290265	S-028 E	20.53
293061	N-015 E	19.5
293516	O-009 E1	11.19
293517	O-009 E2	5.68
293518	O-009 E3	6.26
293644	O22 E1	12.6
293645	O22 E2	24.46
293715	O-029 E	12.03
293716	O-029 E	6.6
293717	O-029 E	6.06
293771	O-035 E	7.95
294392	P-010 E	24.76
294401	BSHIL;1U E	10.61
294410	BSHIL;2U E	10.61
294763	P-046 E	11.52
295109	WESTBROOK E	6.88
295111	SUBLETTE E	3.19
296125	R-030 C3	5.01
296128	R-030 E3	20.04
296271	R-030 C2	4.95
296272	R-030 E2	19.8
296308	R-030 C1	4.95

Bus #	Bus	MW Impact
296309	R-030 E1	19.8
910542	X3-005 E	0.9
914641	Y2-103	55.21
915011	Y3-013 1	4.6
915021	Y3-013 2	4.6
915031	Y3-013 3	4.6
916211	Z1-072 E	6.01
916221	Z1-073 E	6.63
916502	Z1-106 E1	1.55
916504	Z1-106 E2	1.55
916512	Z1-107 E	3.18
916522	Z1-108 E	3.06
917502	Z2-087 E	25.9
918052	AA1-018 E	20.2
919221	AA1-146	21.63
919581	AA2-030	21.63
919621	AA2-039 C	2.59
919622	AA2-039 E	17.31
920272	AA2-123 E	3.0
924041	AB2-047 C O1	4.78
924042	AB2-047 E O1	31.96
924471	AB2-096	52.03
925161	AB2-173	3.86
925302	AB2-191 E	1.7
925581	AC1-033 C	1.74
925582	AC1-033 E	11.64
925881	AC1-067 O1	167.74
926311	AC1-109 1	2.35
926321	AC1-109 2	2.35
926331	AC1-110 1	2.33
926341	AC1-110 2	2.33
926351	AC1-111 1	0.94
926361	AC1-111 2	0.94
926371	AC1-111 3	0.94
926381	AC1-111 4	0.94
926391	AC1-111 5	0.94
926401	AC1-111 6	0.94
926431	AC1-114	2.92
926821	AC1-168 C O1	1.43
926822	AC1-168 E O1	9.63
927091	AC1-204 1	89.24
927101	AC1-204 2	89.24
927201	AC1-214 C O1	2.55
927202	AC1-214 E O1	8.11
927451	AC1-142A 1	5.14
927461	AC1-142A 2	5.14
927511	AC1-113 1	1.46
927521	AC1-113 2	1.46
927531	AC1-185 1	0.84
927541	AC1-185 2	0.84
927551	AC1-185 3	0.84
927561	AC1-185 4	0.84

Bus #	Bus	MW Impact
927571	AC1-185 5	0.84
927581	AC1-185 6	0.84
927591	AC1-185 7	0.84
927601	AC1-185 8	0.84
930481	AB1-089	80.8
930501	AB1-091 O1	91.89
930741	AB1-122 1O1	89.69
930751	AB1-122 2O1	90.62
932881	AC2-115 1	2.92
932891	AC2-115 2	2.92
932921	AC2-116	1.02
932931	AC2-117	6.55
933341	AC2-147 C	1.07
933342	AC2-147 E	1.75
933411	AC2-154 C	3.19
933412	AC2-154 E	5.21
933431	AC2-156 C O1	1.18
933432	AC2-156 E O1	1.92
933911	AD1-013 C	2.26
933912	AD1-013 E	3.61
933931	AD1-016 C	1.14
933932	AD1-016 E	1.86
934051	AD1-031 C O1	3.53
934052	AD1-031 E O1	5.76
934101	AD1-039 1	8.79
934111	AD1-039 2	8.88
934401	AD1-064 C O1	3.94
934402	AD1-064 E O1	18.43
934431	AD1-067 C	0.16
934432	AD1-067 E	0.68
934651	AD1-096 C	1.1
934652	AD1-096 E	1.79
934701	AD1-098 C O1	8.46
934702	AD1-098 E O1	6.17
934721	AD1-100 C	29.61
934722	AD1-100 E	138.19
934871	AD1-116 C	1.18
934872	AD1-116 E	1.92
934881	AD1-117 C	6.61
934882	AD1-117 E	4.4
934971	AD1-129 C	1.11
934972	AD1-129 E	0.74
935001	AD1-133 C O1	27.54
935002	AD1-133 E O1	18.36
936291	AD2-038 C O1	2.89
936292	AD2-038 E O1	19.36
936371	AD2-047 C O1	2.86
936372	AD2-047 E O1	30.76
936461	AD2-060	3.36
936511	AD2-066 C O1	10.39
936512	AD2-066 E O1	6.93
936781	AD2-101 C	5.96

Bus #	Bus	MW Impact
936782	AD2-101 E	27.88
936791	AD2-102 C	14.77
936792	AD2-102 E	14.19
936961	AD2-130	0.69
937001	AD2-134 C	3.36
937002	AD2-134 E	13.88
937031	AD2-137 C O1	7.2
937032	AD2-137 E O1	33.69
937051	AD2-140 C O1	7.56
937052	AD2-140 E O1	35.37
937061	AD2-141 C O1	7.51
937062	AD2-141 E O1	35.42
937071	AD2-142 C O1	15.11
937072	AD2-142 E O1	70.75
937121	AD2-148 C O1	4.64
937122	AD2-148 E O1	21.71
937131	AD2-149 C O1	4.64
937132	AD2-149 E O1	21.71
937141	AD2-150 C O1	4.64
937142	AD2-150 E O1	21.71
937161	AD2-153 C O1	3.4
937162	AD2-153 E O1	15.94
937171	AD2-154 C O1	3.4
937172	AD2-154 E O1	15.94
937181	AD2-155 C O1	4.64
937182	AD2-155 E O1	21.71
937311	AD2-172 C	3.02
937312	AD2-172 E	4.18
937321	AD2-175 C	21.61
937322	AD2-175 E	14.41
937331	AD2-176 C O1	9.01
937332	AD2-176 E O1	6.01
937401	AD2-194 1	9.6
937411	AD2-194 2	9.6
937531	AD2-214 C	5.43
937532	AD2-214 E	2.56
938012	AE1-002 E O1	14.45
938511	AE1-070 1	11.28
938521	AE1-070 2	10.32
990901	L-005 E	15.61
AB2-013	AB2-013	19.94
AE1-033	AE1-033	22.19
BLUEG	BLUEG	7.55
CALDERWOOD	CALDERWOOD	0.06
CANNELTON	CANNELTON	0.07
CARR	CARR	0.94
CATAWBA	CATAWBA	0.36
CBM-S1	CBM-S1	2.05
CBM-W1	CBM-W1	37.66
CBM-W2	CBM-W2	72.51
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.02

Bus #	Bus	MW Impact
CIN	CIN	0.12
DEARBORN	DEARBORN	2.85
ELMERSMITH	ELMERSMITH	0.04
G-007	G-007	2.63
HAMLET	HAMLET	1.39
MEC	MEC	46.86
O-066	O-066	8.85
RENSSELAER	RENSSELAER	0.74
SANTEETLA	SANTEETLA	0.02
TRIMBLE	TRIMBLE	0.9
WEC	WEC	9.79
Z1-043	Z1-043	35.65

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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
3808	270927	WILTON	CE	275233	WILTON	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	152.91	153.98	DC	27.76

Bus #	Bus	MW Impact
270859	PWR VTR EC;R	15.18
274722	S-055 E	14.1
274772	LINCOLN ;3U	3.88
274773	LINCOLN ;4U	3.88
274774	LINCOLN ;5U	3.88
274775	LINCOLN ;6U	3.88
274776	LINCOLN ;7U	3.88
274777	LINCOLN ;8U	3.88
274832	U4-027	13.66
274859	EASYR;U1 E	13.8
274860	EASYR;U2 E	13.8
274888	PILOT HIL;1E	24.03
274890	CAYUG;1U E	20.77
274891	CAYUG;2U E	20.77
275149	KEMPTON ;1E	24.03
290021	O50 E	24.35
290051	GSG-6; E	13.12
290108	LEEDK;1U E	30.49
290261	S-027 E	20.95
290265	S-028 E	20.95
293061	N-015 E	19.91
293516	O-009 E1	11.42
293517	O-009 E2	5.8
293518	O-009 E3	6.39
293644	O22 E1	12.87
293645	O22 E2	24.98
293715	O-029 E	12.29
293716	O-029 E	6.74
293717	O-029 E	6.19
293771	O-035 E	8.11
294392	P-010 E	25.28
294401	BSHIL;1U E	10.84
294410	BSHIL;2U E	10.84
294763	P-046 E	11.77
295109	WESTBROOK E	7.03
295111	SUBLETTE E	3.26
296125	R-030 C3	5.11
296128	R-030 E3	20.44
296271	R-030 C2	5.05
296272	R-030 E2	20.2
296308	R-030 C1	5.05

Bus #	Bus	MW Impact
296309	R-030 E1	20.2
910542	X3-005 E	0.92
914641	Y2-103	56.39
915011	Y3-013 1	4.7
915021	Y3-013 2	4.7
915031	Y3-013 3	4.7
916211	Z1-072 E	6.14
916221	Z1-073 E	6.77
916502	Z1-106 E1	1.59
916504	Z1-106 E2	1.59
916512	Z1-107 E	3.24
916522	Z1-108 E	3.12
917502	Z2-087 E	26.42
918052	AA1-018 E	20.64
919221	AA1-146	22.09
919581	AA2-030	22.09
919621	AA2-039 C	2.64
919622	AA2-039 E	17.68
920272	AA2-123 E	3.07
924041	AB2-047 C O1	4.87
924042	AB2-047 E O1	32.61
924471	AB2-096	53.14
925161	AB2-173	3.94
925302	AB2-191 E	1.74
925581	AC1-033 C	1.77
925582	AC1-033 E	11.88
925881	AC1-067 O1	171.47
926311	AC1-109 1	2.4
926321	AC1-109 2	2.4
926331	AC1-110 1	2.38
926341	AC1-110 2	2.38
926351	AC1-111 1	0.96
926361	AC1-111 2	0.96
926371	AC1-111 3	0.96
926381	AC1-111 4	0.96
926391	AC1-111 5	0.96
926401	AC1-111 6	0.96
926431	AC1-114	2.99
926821	AC1-168 C O1	1.47
926822	AC1-168 E O1	9.83
927091	AC1-204 1	91.15
927101	AC1-204 2	91.15
927201	AC1-214 C O1	2.6
927202	AC1-214 E O1	8.28
927451	AC1-142A 1	5.25
927461	AC1-142A 2	5.25
927511	AC1-113 1	1.49
927521	AC1-113 2	1.49
927531	AC1-185 1	0.86
927541	AC1-185 2	0.86
927551	AC1-185 3	0.86
927561	AC1-185 4	0.86

Bus #	Bus	MW Impact
927571	AC1-185 5	0.86
927581	AC1-185 6	0.86
927591	AC1-185 7	0.86
927601	AC1-185 8	0.86
930481	AB1-089	82.52
930501	AB1-091 O1	93.82
930741	AB1-122 1O1	91.59
930751	AB1-122 2O1	92.55
932881	AC2-115 1	2.99
932891	AC2-115 2	2.99
932921	AC2-116	1.05
932931	AC2-117	6.69
933341	AC2-147 C	1.1
933342	AC2-147 E	1.79
933411	AC2-154 C	3.26
933412	AC2-154 E	5.32
933431	AC2-156 C O1	1.2
933432	AC2-156 E O1	1.96
933911	AD1-013 C	2.31
933912	AD1-013 E	3.69
933931	AD1-016 C	1.17
933932	AD1-016 E	1.9
934051	AD1-031 C O1	3.6
934052	AD1-031 E O1	5.88
934101	AD1-039 1	8.98
934111	AD1-039 2	9.07
934401	AD1-064 C O1	4.02
934402	AD1-064 E O1	18.83
934431	AD1-067 C	0.16
934432	AD1-067 E	0.69
934651	AD1-096 C	1.12
934652	AD1-096 E	1.83
934701	AD1-098 C O1	8.64
934702	AD1-098 E O1	6.31
934721	AD1-100 C	30.2
934722	AD1-100 E	140.93
934871	AD1-116 C	1.2
934872	AD1-116 E	1.96
934881	AD1-117 C	6.75
934882	AD1-117 E	4.5
934971	AD1-129 C	1.13
934972	AD1-129 E	0.76
935001	AD1-133 C O1	28.11
935002	AD1-133 E O1	18.74
936291	AD2-038 C O1	2.96
936292	AD2-038 E O1	19.78
936371	AD2-047 C O1	2.92
936372	AD2-047 E O1	31.4
936461	AD2-060	3.43
936511	AD2-066 C O1	10.61
936512	AD2-066 E O1	7.08
936781	AD2-101 C	6.08

Bus #	Bus	MW Impact
936782	AD2-101 E	28.46
936791	AD2-102 C	15.08
936792	AD2-102 E	14.49
936961	AD2-130	0.71
937001	AD2-134 C	3.43
937002	AD2-134 E	14.17
937031	AD2-137 C O1	7.33
937032	AD2-137 E O1	34.31
937051	AD2-140 C O1	7.7
937052	AD2-140 E O1	36.03
937061	AD2-141 C O1	7.65
937062	AD2-141 E O1	36.07
937071	AD2-142 C O1	15.39
937072	AD2-142 E O1	72.05
937121	AD2-148 C O1	4.73
937122	AD2-148 E O1	22.16
937131	AD2-149 C O1	4.73
937132	AD2-149 E O1	22.16
937141	AD2-150 C O1	4.73
937142	AD2-150 E O1	22.16
937161	AD2-153 C O1	3.47
937162	AD2-153 E O1	16.26
937171	AD2-154 C O1	3.47
937172	AD2-154 E O1	16.26
937181	AD2-155 C O1	4.73
937182	AD2-155 E O1	22.16
937311	AD2-172 C	3.09
937312	AD2-172 E	4.27
937321	AD2-175 C	22.05
937322	AD2-175 E	14.7
937331	AD2-176 C O1	9.2
937332	AD2-176 E O1	6.13
937401	AD2-194 1	9.8
937411	AD2-194 2	9.8
937531	AD2-214 C	5.55
937532	AD2-214 E	2.61
938012	AE1-002 E O1	14.71
938511	AE1-070 1	11.52
938521	AE1-070 2	10.54
990901	L-005 E	15.94
AB2-013	AB2-013	20.36
AE1-033	AE1-033	22.67
BLUEG	BLUEG	7.71
CALDERWOOD	CALDERWOOD	0.06
CANNELTON	CANNELTON	0.07
CARR	CARR	0.96
CATAWBA	CATAWBA	0.37
CBM-S1	CBM-S1	2.09
CBM-W1	CBM-W1	38.46
CBM-W2	CBM-W2	74.02
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.02

Bus #	Bus	MW Impact
CIN	CIN	0.12
DEARBORN	DEARBORN	2.91
ELMERSMITH	ELMERSMITH	0.04
G-007	G-007	2.68
HAMLET	HAMLET	1.42
MEC	MEC	47.84
O-066	O-066	9.03
RENSSELAER	RENSSELAER	0.76
SANTEETLA	SANTEETLA	0.02
TRIMBLE	TRIMBLE	0.92
WEC	WEC	9.99
Z1-043	Z1-043	36.4

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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
3969	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	AEP_P4_#2978_05DUMONT 765_B	breaker	971.0	118.58	119.14	DC	10.23

Bus #	Bus	MW Impact
270859	PWR VTR EC;R	9.83
274722	S-055 E	9.18
274808	UNIV PK N;4U	1.82
274809	UNIV PK N;5U	1.82
274811	UNIV PK N;7U	1.82
274812	UNIV PK N;8U	1.82
274814	UNIV PK N;0U	1.82
274815	UNIV PK N;XU	1.82
274832	U4-027	8.65
274859	EASYR;U1 E	8.88
274860	EASYR;U2 E	8.88
274888	PILOT HIL;1E	14.94
274890	CAYUG;1U E	10.74
274891	CAYUG;2U E	10.74
275149	KEMPTON ;1E	14.94
290021	O50 E	15.68
290051	GSG-6; E	8.46
290108	LEEDK;1U E	19.69
293061	N-015 E	12.65
293516	O-009 E1	7.29
293517	O-009 E2	3.7
293518	O-009 E3	4.08
293644	O22 E1	7.91
293645	O22 E2	15.36
293715	O-029 E	7.87
293716	O-029 E	4.32
293717	O-029 E	3.97
293771	O-035 E	5.11
294392	P-010 E	16.07
294401	BSHIL;1U E	6.84
294410	BSHIL;2U E	6.84
294763	P-046 E	7.59
295109	WESTBROOK E	4.53
295111	SUBLETTE E	2.09
910542	X3-005 E	0.52
914641	Y2-103	36.73
915011	Y3-013 1	3.06
915021	Y3-013 2	3.06
915031	Y3-013 3	3.06
916211	Z1-072 E	3.87

Bus #	Bus	MW Impact
916221	Z1-073 E	4.37
916502	Z1-106 E1	1.03
916504	Z1-106 E2	1.03
916512	Z1-107 E	2.18
916522	Z1-108 E	2.03
918052	AA1-018 E	14.35
919221	AA1-146	14.18
919581	AA2-030	14.18
919621	AA2-039 C	1.67
919622	AA2-039 E	11.15
920272	AA2-123 E	1.99
924471	AB2-096	34.41
925161	AB2-173	2.53
925302	AB2-191 E	1.12
925581	AC1-033 C	1.12
925582	AC1-033 E	7.49
925881	AC1-067 O1	98.12
926311	AC1-109 1	1.56
926321	AC1-109 2	1.56
926331	AC1-110 1	1.54
926341	AC1-110 2	1.54
926351	AC1-111 1	0.62
926361	AC1-111 2	0.62
926371	AC1-111 3	0.62
926381	AC1-111 4	0.62
926391	AC1-111 5	0.62
926401	AC1-111 6	0.62
926431	AC1-114	1.93
926821	AC1-168 C O1	0.92
926822	AC1-168 E O1	6.21
927091	AC1-204 1	59.39
927101	AC1-204 2	59.43
927201	AC1-214 C O1	1.64
927202	AC1-214 E O1	5.22
927451	AC1-142A 1	3.47
927461	AC1-142A 2	3.46
927511	AC1-113 1	0.97
927521	AC1-113 2	0.97
927531	AC1-185 1	0.56
927541	AC1-185 2	0.56
927551	AC1-185 3	0.56
927561	AC1-185 4	0.56
927571	AC1-185 5	0.56
927581	AC1-185 6	0.56
927591	AC1-185 7	0.56
927601	AC1-185 8	0.56
930481	AB1-089	53.33
930501	AB1-091 O1	57.76
930741	AB1-122 1O1	58.43
930751	AB1-122 2O1	59.91
932881	AC2-115 1	1.93
932891	AC2-115 2	1.93

Bus #	Bus	MW Impact
932921	AC2-116	0.68
932931	AC2-117	10.41
933341	AC2-147 C	0.7
933342	AC2-147 E	1.15
933411	AC2-154 C	2.03
933412	AC2-154 E	3.31
933431	AC2-156 C O1	0.78
933432	AC2-156 E O1	1.27
933911	AD1-013 C	1.49
933912	AD1-013 E	2.38
933931	AD1-016 C	0.76
933932	AD1-016 E	1.23
934051	AD1-031 C O1	2.27
934052	AD1-031 E O1	3.71
934101	AD1-039 1	5.73
934111	AD1-039 2	5.87
934401	AD1-064 C O1	2.6
934402	AD1-064 E O1	12.18
934431	AD1-067 C	0.11
934432	AD1-067 E	0.45
934651	AD1-096 C	0.72
934652	AD1-096 E	1.18
934701	AD1-098 C O1	5.57
934702	AD1-098 E O1	4.07
934721	AD1-100 C	15.62
934722	AD1-100 E	72.9
934871	AD1-116 C	0.84
934872	AD1-116 E	1.36
934881	AD1-117 C	4.34
934882	AD1-117 E	2.89
934971	AD1-129 C	0.73
934972	AD1-129 E	0.49
935001	AD1-133 C O1	16.74
935002	AD1-133 E O1	11.16
936291	AD2-038 C O1	1.98
936292	AD2-038 E O1	13.24
936371	AD2-047 C O1	1.81
936372	AD2-047 E O1	19.53
936461	AD2-060	2.13
936511	AD2-066 C O1	6.85
936512	AD2-066 E O1	4.57
936781	AD2-101 C	3.5
936782	AD2-101 E	16.39
936791	AD2-102 C	9.75
936792	AD2-102 E	9.37
936961	AD2-130	0.46
937001	AD2-134 C	2.21
937002	AD2-134 E	9.14
937031	AD2-137 C O1	2.7
937032	AD2-137 E O1	12.65
937051	AD2-140 C O1	2.7
937052	AD2-140 E O1	12.66

Bus #	Bus	MW Impact
937061	AD2-141 C O1	2.69
937062	AD2-141 E O1	12.67
937071	AD2-142 C O1	5.41
937072	AD2-142 E O1	25.32
937121	AD2-148 C O1	2.73
937122	AD2-148 E O1	12.79
937131	AD2-149 C O1	2.73
937132	AD2-149 E O1	12.79
937141	AD2-150 C O1	2.73
937142	AD2-150 E O1	12.79
937181	AD2-155 C O1	2.73
937182	AD2-155 E O1	12.79
937311	AD2-172 C	1.99
937312	AD2-172 E	2.75
937321	AD2-175 C	12.73
937322	AD2-175 E	8.49
937331	AD2-176 C O1	5.96
937332	AD2-176 E O1	3.97
937401	AD2-194 1	6.39
937411	AD2-194 2	6.39
937531	AD2-214 C	3.55
937532	AD2-214 E	1.67
938012	AE1-002 E O1	5.42
938511	AE1-070 1	7.5
938521	AE1-070 2	6.87
990901	L-005 E	10.0
AB2-013	AB2-013	12.9
AE1-033	AE1-033	14.65
BLUEG	BLUEG	4.21
CALDERWOOD	CALDERWOOD	0.03
CANNELTON	CANNELTON	0.05
CARR	CARR	0.6
CATAWBA	CATAWBA	0.22
CBM-S1	CBM-S1	1.35
CBM-W1	CBM-W1	22.13
CBM-W2	CBM-W2	44.14
CHEOAH	CHEOAH	0.03
CHILHOWEE	CHILHOWEE	0.01
DEARBORN	DEARBORN	2.59
ELMERSMITH	ELMERSMITH	0.03
G-007	G-007	1.67
GIBSON	GIBSON	0.02
HAMLET	HAMLET	0.83
MEC	MEC	30.27
O-066	O-066	5.63
RENSSELAER	RENSSELAER	0.47
SANTEETLA	SANTEETLA	0.01
TRIMBLE	TRIMBLE	0.5
WEC	WEC	6.49
Z1-043	Z1-043	22.96

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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
3800	275232	WILTON ;3M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	156.61	157.66	DC	27.26

Bus #	Bus	MW Impact
270859	PWR VTR EC;R	14.87
274722	S-055 E	13.8
274772	LINCOLN ;3U	3.78
274773	LINCOLN ;4U	3.78
274774	LINCOLN ;5U	3.78
274775	LINCOLN ;6U	3.78
274776	LINCOLN ;7U	3.78
274777	LINCOLN ;8U	3.78
274832	U4-027	13.38
274859	EASYR;U1 E	13.52
274860	EASYR;U2 E	13.52
274888	PILOT HIL;1E	23.54
274890	CAYUG;1U E	20.36
274891	CAYUG;2U E	20.36
275149	KEMPTON ;1E	23.54
290021	O50 E	23.84
290051	GSG-6; E	12.85
290108	LEEDK;1U E	29.85
290261	S-027 E	20.53
290265	S-028 E	20.53
293061	N-015 E	19.5
293516	O-009 E1	11.19
293517	O-009 E2	5.68
293518	O-009 E3	6.26
293644	O22 E1	12.6
293645	O22 E2	24.46
293715	O-029 E	12.03
293716	O-029 E	6.6
293717	O-029 E	6.06
293771	O-035 E	7.95
294392	P-010 E	24.76
294401	BSHIL;1U E	10.61
294410	BSHIL;2U E	10.61
294763	P-046 E	11.52
295109	WESTBROOK E	6.88
295111	SUBLETTE E	3.19
296125	R-030 C3	5.01
296128	R-030 E3	20.04
296271	R-030 C2	4.95
296272	R-030 E2	19.8
296308	R-030 C1	4.95

Bus #	Bus	MW Impact
296309	R-030 E1	19.8
910542	X3-005 E	0.9
914641	Y2-103	55.21
915011	Y3-013 1	4.6
915021	Y3-013 2	4.6
915031	Y3-013 3	4.6
916211	Z1-072 E	6.01
916221	Z1-073 E	6.63
916502	Z1-106 E1	1.55
916504	Z1-106 E2	1.55
916512	Z1-107 E	3.18
916522	Z1-108 E	3.06
917502	Z2-087 E	25.9
918052	AA1-018 E	20.2
919221	AA1-146	21.63
919581	AA2-030	21.63
919621	AA2-039 C	2.59
919622	AA2-039 E	17.31
920272	AA2-123 E	3.0
924041	AB2-047 C O1	4.78
924042	AB2-047 E O1	31.96
924471	AB2-096	52.03
925161	AB2-173	3.86
925302	AB2-191 E	1.7
925581	AC1-033 C	1.74
925582	AC1-033 E	11.64
925881	AC1-067 O1	167.74
926311	AC1-109 1	2.35
926321	AC1-109 2	2.35
926331	AC1-110 1	2.33
926341	AC1-110 2	2.33
926351	AC1-111 1	0.94
926361	AC1-111 2	0.94
926371	AC1-111 3	0.94
926381	AC1-111 4	0.94
926391	AC1-111 5	0.94
926401	AC1-111 6	0.94
926431	AC1-114	2.92
926821	AC1-168 C O1	1.43
926822	AC1-168 E O1	9.63
927091	AC1-204 1	89.24
927101	AC1-204 2	89.24
927201	AC1-214 C O1	2.55
927202	AC1-214 E O1	8.11
927451	AC1-142A 1	5.14
927461	AC1-142A 2	5.14
927511	AC1-113 1	1.46
927521	AC1-113 2	1.46
927531	AC1-185 1	0.84
927541	AC1-185 2	0.84
927551	AC1-185 3	0.84
927561	AC1-185 4	0.84

Bus #	Bus	MW Impact
927571	AC1-185 5	0.84
927581	AC1-185 6	0.84
927591	AC1-185 7	0.84
927601	AC1-185 8	0.84
930481	AB1-089	80.8
930501	AB1-091 O1	91.89
930741	AB1-122 1O1	89.69
930751	AB1-122 2O1	90.62
932881	AC2-115 1	2.92
932891	AC2-115 2	2.92
932921	AC2-116	1.02
932931	AC2-117	6.55
933341	AC2-147 C	1.07
933342	AC2-147 E	1.75
933411	AC2-154 C	3.19
933412	AC2-154 E	5.21
933431	AC2-156 C O1	1.18
933432	AC2-156 E O1	1.92
933911	AD1-013 C	2.26
933912	AD1-013 E	3.61
933931	AD1-016 C	1.14
933932	AD1-016 E	1.86
934051	AD1-031 C O1	3.53
934052	AD1-031 E O1	5.76
934101	AD1-039 1	8.79
934111	AD1-039 2	8.88
934401	AD1-064 C O1	3.94
934402	AD1-064 E O1	18.43
934431	AD1-067 C	0.16
934432	AD1-067 E	0.68
934651	AD1-096 C	1.1
934652	AD1-096 E	1.79
934701	AD1-098 C O1	8.46
934702	AD1-098 E O1	6.17
934721	AD1-100 C	29.61
934722	AD1-100 E	138.19
934871	AD1-116 C	1.18
934872	AD1-116 E	1.92
934881	AD1-117 C	6.61
934882	AD1-117 E	4.4
934971	AD1-129 C	1.11
934972	AD1-129 E	0.74
935001	AD1-133 C O1	27.54
935002	AD1-133 E O1	18.36
936291	AD2-038 C O1	2.89
936292	AD2-038 E O1	19.36
936371	AD2-047 C O1	2.86
936372	AD2-047 E O1	30.76
936461	AD2-060	3.36
936511	AD2-066 C O1	10.39
936512	AD2-066 E O1	6.93
936781	AD2-101 C	5.96

Bus #	Bus	MW Impact
936782	AD2-101 E	27.88
936791	AD2-102 C	14.77
936792	AD2-102 E	14.19
936961	AD2-130	0.69
937001	AD2-134 C	3.36
937002	AD2-134 E	13.88
937031	AD2-137 C O1	7.2
937032	AD2-137 E O1	33.69
937051	AD2-140 C O1	7.56
937052	AD2-140 E O1	35.37
937061	AD2-141 C O1	7.51
937062	AD2-141 E O1	35.42
937071	AD2-142 C O1	15.11
937072	AD2-142 E O1	70.75
937121	AD2-148 C O1	4.64
937122	AD2-148 E O1	21.71
937131	AD2-149 C O1	4.64
937132	AD2-149 E O1	21.71
937141	AD2-150 C O1	4.64
937142	AD2-150 E O1	21.71
937161	AD2-153 C O1	3.4
937162	AD2-153 E O1	15.94
937171	AD2-154 C O1	3.4
937172	AD2-154 E O1	15.94
937181	AD2-155 C O1	4.64
937182	AD2-155 E O1	21.71
937311	AD2-172 C	3.02
937312	AD2-172 E	4.18
937321	AD2-175 C	21.61
937322	AD2-175 E	14.41
937331	AD2-176 C O1	9.01
937332	AD2-176 E O1	6.01
937401	AD2-194 1	9.6
937411	AD2-194 2	9.6
937531	AD2-214 C	5.43
937532	AD2-214 E	2.56
938012	AE1-002 E O1	14.45
938511	AE1-070 1	11.28
938521	AE1-070 2	10.32
990901	L-005 E	15.61
AB2-013	AB2-013	19.94
AE1-033	AE1-033	22.19
BLUEG	BLUEG	7.55
CALDERWOOD	CALDERWOOD	0.06
CANNELTON	CANNELTON	0.07
CARR	CARR	0.94
CATAWBA	CATAWBA	0.36
CBM-S1	CBM-S1	2.05
CBM-W1	CBM-W1	37.66
CBM-W2	CBM-W2	72.51
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.02

Bus #	Bus	MW Impact
CIN	CIN	0.12
DEARBORN	DEARBORN	2.85
ELMERSMITH	ELMERSMITH	0.04
G-007	G-007	2.63
HAMLET	HAMLET	1.39
MEC	MEC	46.86
O-066	O-066	8.85
RENSSELAER	RENSSELAER	0.74
SANTEETLA	SANTEETLA	0.02
TRIMBLE	TRIMBLE	0.9
WEC	WEC	9.79
Z1-043	Z1-043	35.65

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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
3810	275233	WILTON ;4M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	152.91	153.98	DC	27.76

Bus #	Bus	MW Impact
270859	PWR VTR EC;R	15.18
274722	S-055 E	14.1
274772	LINCOLN ;3U	3.88
274773	LINCOLN ;4U	3.88
274774	LINCOLN ;5U	3.88
274775	LINCOLN ;6U	3.88
274776	LINCOLN ;7U	3.88
274777	LINCOLN ;8U	3.88
274832	U4-027	13.66
274859	EASYR;U1 E	13.8
274860	EASYR;U2 E	13.8
274888	PILOT HIL;1E	24.03
274890	CAYUG;1U E	20.77
274891	CAYUG;2U E	20.77
275149	KEMPTON ;1E	24.03
290021	O50 E	24.35
290051	GSG-6; E	13.12
290108	LEEDK;1U E	30.49
290261	S-027 E	20.95
290265	S-028 E	20.95
293061	N-015 E	19.91
293516	O-009 E1	11.42
293517	O-009 E2	5.8
293518	O-009 E3	6.39
293644	O22 E1	12.87
293645	O22 E2	24.98
293715	O-029 E	12.29
293716	O-029 E	6.74
293717	O-029 E	6.19
293771	O-035 E	8.11
294392	P-010 E	25.28
294401	BSHIL;1U E	10.84
294410	BSHIL;2U E	10.84
294763	P-046 E	11.77
295109	WESTBROOK E	7.03
295111	SUBLETTE E	3.26
296125	R-030 C3	5.11
296128	R-030 E3	20.44
296271	R-030 C2	5.05
296272	R-030 E2	20.2
296308	R-030 C1	5.05

Bus #	Bus	MW Impact
296309	R-030 E1	20.2
910542	X3-005 E	0.92
914641	Y2-103	56.39
915011	Y3-013 1	4.7
915021	Y3-013 2	4.7
915031	Y3-013 3	4.7
916211	Z1-072 E	6.14
916221	Z1-073 E	6.77
916502	Z1-106 E1	1.59
916504	Z1-106 E2	1.59
916512	Z1-107 E	3.24
916522	Z1-108 E	3.12
917502	Z2-087 E	26.42
918052	AA1-018 E	20.64
919221	AA1-146	22.09
919581	AA2-030	22.09
919621	AA2-039 C	2.64
919622	AA2-039 E	17.68
920272	AA2-123 E	3.07
924041	AB2-047 C O1	4.87
924042	AB2-047 E O1	32.61
924471	AB2-096	53.14
925161	AB2-173	3.94
925302	AB2-191 E	1.74
925581	AC1-033 C	1.77
925582	AC1-033 E	11.88
925881	AC1-067 O1	171.47
926311	AC1-109 1	2.4
926321	AC1-109 2	2.4
926331	AC1-110 1	2.38
926341	AC1-110 2	2.38
926351	AC1-111 1	0.96
926361	AC1-111 2	0.96
926371	AC1-111 3	0.96
926381	AC1-111 4	0.96
926391	AC1-111 5	0.96
926401	AC1-111 6	0.96
926431	AC1-114	2.99
926821	AC1-168 C O1	1.47
926822	AC1-168 E O1	9.83
927091	AC1-204 1	91.15
927101	AC1-204 2	91.15
927201	AC1-214 C O1	2.6
927202	AC1-214 E O1	8.28
927451	AC1-142A 1	5.25
927461	AC1-142A 2	5.25
927511	AC1-113 1	1.49
927521	AC1-113 2	1.49
927531	AC1-185 1	0.86
927541	AC1-185 2	0.86
927551	AC1-185 3	0.86
927561	AC1-185 4	0.86

Bus #	Bus	MW Impact
927571	AC1-185 5	0.86
927581	AC1-185 6	0.86
927591	AC1-185 7	0.86
927601	AC1-185 8	0.86
930481	AB1-089	82.52
930501	AB1-091 O1	93.82
930741	AB1-122 1O1	91.59
930751	AB1-122 2O1	92.55
932881	AC2-115 1	2.99
932891	AC2-115 2	2.99
932921	AC2-116	1.05
932931	AC2-117	6.69
933341	AC2-147 C	1.1
933342	AC2-147 E	1.79
933411	AC2-154 C	3.26
933412	AC2-154 E	5.32
933431	AC2-156 C O1	1.2
933432	AC2-156 E O1	1.96
933911	AD1-013 C	2.31
933912	AD1-013 E	3.69
933931	AD1-016 C	1.17
933932	AD1-016 E	1.9
934051	AD1-031 C O1	3.6
934052	AD1-031 E O1	5.88
934101	AD1-039 1	8.98
934111	AD1-039 2	9.07
934401	AD1-064 C O1	4.02
934402	AD1-064 E O1	18.83
934431	AD1-067 C	0.16
934432	AD1-067 E	0.69
934651	AD1-096 C	1.12
934652	AD1-096 E	1.83
934701	AD1-098 C O1	8.64
934702	AD1-098 E O1	6.31
934721	AD1-100 C	30.2
934722	AD1-100 E	140.93
934871	AD1-116 C	1.2
934872	AD1-116 E	1.96
934881	AD1-117 C	6.75
934882	AD1-117 E	4.5
934971	AD1-129 C	1.13
934972	AD1-129 E	0.76
935001	AD1-133 C O1	28.11
935002	AD1-133 E O1	18.74
936291	AD2-038 C O1	2.96
936292	AD2-038 E O1	19.78
936371	AD2-047 C O1	2.92
936372	AD2-047 E O1	31.4
936461	AD2-060	3.43
936511	AD2-066 C O1	10.61
936512	AD2-066 E O1	7.08
936781	AD2-101 C	6.08

Bus #	Bus	MW Impact
936782	AD2-101 E	28.46
936791	AD2-102 C	15.08
936792	AD2-102 E	14.49
936961	AD2-130	0.71
937001	AD2-134 C	3.43
937002	AD2-134 E	14.17
937031	AD2-137 C O1	7.33
937032	AD2-137 E O1	34.31
937051	AD2-140 C O1	7.7
937052	AD2-140 E O1	36.03
937061	AD2-141 C O1	7.65
937062	AD2-141 E O1	36.07
937071	AD2-142 C O1	15.39
937072	AD2-142 E O1	72.05
937121	AD2-148 C O1	4.73
937122	AD2-148 E O1	22.16
937131	AD2-149 C O1	4.73
937132	AD2-149 E O1	22.16
937141	AD2-150 C O1	4.73
937142	AD2-150 E O1	22.16
937161	AD2-153 C O1	3.47
937162	AD2-153 E O1	16.26
937171	AD2-154 C O1	3.47
937172	AD2-154 E O1	16.26
937181	AD2-155 C O1	4.73
937182	AD2-155 E O1	22.16
937311	AD2-172 C	3.09
937312	AD2-172 E	4.27
937321	AD2-175 C	22.05
937322	AD2-175 E	14.7
937331	AD2-176 C O1	9.2
937332	AD2-176 E O1	6.13
937401	AD2-194 1	9.8
937411	AD2-194 2	9.8
937531	AD2-214 C	5.55
937532	AD2-214 E	2.61
938012	AE1-002 E O1	14.71
938511	AE1-070 1	11.52
938521	AE1-070 2	10.54
990901	L-005 E	15.94
AB2-013	AB2-013	20.36
AE1-033	AE1-033	22.67
BLUEG	BLUEG	7.71
CALDERWOOD	CALDERWOOD	0.06
CANNELTON	CANNELTON	0.07
CARR	CARR	0.96
CATAWBA	CATAWBA	0.37
CBM-S1	CBM-S1	2.09
CBM-W1	CBM-W1	38.46
CBM-W2	CBM-W2	74.02
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.02

Bus #	Bus	MW Impact
CIN	CIN	0.12
DEARBORN	DEARBORN	2.91
ELMERSMITH	ELMERSMITH	0.04
G-007	G-007	2.68
HAMLET	HAMLET	1.42
MEC	MEC	47.84
O-066	O-066	9.03
RENSSELAER	RENSSELAER	0.76
SANTEETLA	SANTEETLA	0.02
TRIMBLE	TRIMBLE	0.92
WEC	WEC	9.99
Z1-043	Z1-043	36.4

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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
4068	275233	WILTON ;4M	CE	270927	WILTON ; R	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	101.26	102.93	DC	27.76

Bus #	Bus	MW Impact
916502	Z1-106 E1	1.59
916504	Z1-106 E2	1.59
916512	Z1-107 E	3.24
916522	Z1-108 E	3.12
920272	AA2-123 E	3.07
938012	AE1-002 E O1	27.76
950031	J301 C	1.85
950032	J301 E	7.41
950041	J308 C	5.51
950042	J308 E	22.05
950121	J392	35.55
950161	J401	1.35
950241	J419	9.09
950281	J431 C	1.13
950282	J431 E	4.54
950302	J453 E	0.93
950311	G934 C	2.79
950312	G934 E	11.15
950351	J466	2.75
950361	J469	0.17
950791	J201 C	0.37
950792	J201 E	1.47
950871	J246 C	0.13
950872	J246 E	0.52
950942	J325 E	0.37
950951	J327 C	2.75
950952	J327 E	8.25
950981	J333	9.28
950991	J334	9.13
951011	J340 C	1.83
951012	J340 E	5.5
951051	J354 C	0.95
951052	J354 E	2.86
951531	J533 C	3.71
951532	J533 E	14.83
951571	J538 C	2.74
951572	J538 E	10.95
951581	J540	4.52
951731	J446 C	2.34
951732	J446 E	12.64
951811	J513 C	1.04

Bus #	Bus	MW Impact
951812	J513 E	5.61
951941	J602 C	2.88
951942	J602 E	15.56
952161	J571	0.59
952201	J589 C	2.89
952202	J589 E	15.61
952312	J646 E	0.15
952401	J752 C	1.43
952402	J752 E	7.75
952471	J708	20.5
952611	J717 C	2.88
952612	J717 E	15.59
952761	J728 C	2.68
952762	J728 E	14.51
952801	J754 C	2.87
952802	J754 E	15.53
952811	J759	4.19
952821	J762	11.89
952861	J783 C	4.0
952862	J783 E	0.17
952881	J758	18.45
952941	J921 C	2.14
952942	J921 E	11.57
952961	J203 C	2.86
952962	J203 E	15.45
952971	J793	120.87
952981	J579 C	2.9
952982	J579 E	15.7
953071	J794 C	0.18
953072	J794 E	0.97
953101	J714 C	1.95
953102	J714 E	10.54
953161	J837 C	2.29
953162	J837 E	12.38
953171	J838 C	2.29
953172	J838 E	12.38
953271	J701 C	0.7
953272	J701 E	3.8
953291	J796	22.04
953321	J799	17.19
953351	J805	13.68
953361	J806	13.71
953381	J809	9.25
953421	J841	64.73
953501	J478 C	2.3
953502	J478 E	12.46
953541	J632 C	2.94
953542	J632 E	15.92
953751	J827	20.43
953771	J832	9.26
953781	J833	9.09
953811	J839	9.15

Bus #	Bus	MW Impact
953831	J842 C	1.78
953832	J842 E	9.63
953841	J843 C	1.81
953842	J843 E	9.8
953861	J846	12.79
953931	J856	4.64
953941	J857	11.51
954011	J865	7.31
954111	J875	13.68
954171	J883 C	0.79
954172	J883 E	4.28
954231	J890 C	1.45
954232	J890 E	7.82
954351	J903	7.1
954381	J906 C	1.46
954382	J906 E	7.88
954421	J913	14.66
954431	J914	2.8
954541	J931 C	2.19
954542	J931 E	11.82
954581	J936	49.42
954591	J937	49.77
954711	J851 C	0.59
954712	J851 E	3.18
954751	J351	47.29
AC1-056	AC1-056	6.88
AD2-098	AD2-098	1.05
AE1-080A	AE1-080A	31.07
BAYOU	BAYOU	2.83
BIG_CAJUN1	BIG_CAJUN1	3.85
BIG_CAJUN2	BIG_CAJUN2	7.78
CBM-N	CBM-N	1.98
CBM-S2	CBM-S2	1.68
CHOCTAW	CHOCTAW	1.94
COFFEEN	COFFEEN	3.19
COTTONWOOD	COTTONWOOD	11.86
CPL	CPL	0.91
DUCKCREEK	DUCKCREEK	14.34
EDWARDS	EDWARDS	7.07
FARMERCITY	FARMERCITY	3.15
G-007A	G-007A	6.13
GIBSON	GIBSON	0.01
IPL	IPL	0.73
LGEE	LGEE	1.01
MECS	MECS	12.01
NEWTON	NEWTON	4.53
NYISO	NYISO	8.58
O-066A	O-066A	2.87
PRAIRIE	PRAIRIE	12.85
SMITHLAND	SMITHLAND	0.47
TATANKA	TATANKA	6.95
TILTON	TILTON	2.22

Bus #	Bus	MW Impact
TVA	TVA	2.04
UNIONPOWER	UNIONPOWER	1.75
VFT	VFT	16.5

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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
4520	934720	AD1-100 TAP	CE	937030	AD2-137 TAP	CE	1	COMED_P7_345-L2001__B-S+_345-L2003__R-S	tower	1846.0	132.63	134.19	DC	28.8

Bus #	Bus	MW Impact
274654	BRAIDWOOD;1U	47.74
274655	BRAIDWOOD;2U	45.56
274660	LASCO STA;1U	29.98
274661	LASCO STA;2U	30.04
274847	GR RIDGE ;BU	0.65
274853	TWINGROVE;U1	1.03
274854	TWINGROVE;U2	1.03
274863	CAYUGA RI;1U	1.34
274864	CAYUGA RI;2U	1.34
274871	GR RIDGE ;2U	0.83
274881	PLEAS RDG;2U	0.84
274887	PILOT HIL;1U	0.84
274888	PILOT HIL;1E	19.51
274890	CAYUG;1U E	31.22
274891	CAYUG;2U E	31.22
275149	KEMPTON ;1E	19.51
276150	W2-048 E	1.4
290261	S-027 E	23.9
290265	S-028 E	23.9
293061	N-015 E	15.1
294392	P-010 E	19.17
296125	R-030 C3	6.13
296128	R-030 E3	24.51
296271	R-030 C2	6.05
296272	R-030 E2	24.22
296308	R-030 C1	6.05
296309	R-030 E1	24.22
905081	W4-005 C	0.99
905082	W4-005 E	38.61
909052	X2-022 E	19.46
917501	Z2-087 C	0.81
917502	Z2-087 E	31.66
924041	AB2-047 C O1	5.81
924042	AB2-047 E O1	38.89
924261	AB2-070 C O1	2.86
924262	AB2-070 E O1	19.16
925771	AC1-053 C	2.81
925772	AC1-053 E	18.8
926821	AC1-168 C O1	0.69
926822	AC1-168 E O1	4.62

Bus #	Bus	MW Impact
926841	AC1-171 C O1	0.6
926842	AC1-171 E O1	4.03
930501	AB1-091 O1	80.06
933411	AC2-154 C	2.65
933412	AC2-154 E	4.32
934721	AD1-100 C	52.15
934722	AD1-100 E	243.35
935001	AD1-133 C O1	18.22
935002	AD1-133 E O1	12.14
935141	AD1-148	5.08
936371	AD2-047 C O1	2.37
936372	AD2-047 E O1	25.48
936461	AD2-060	2.79
936771	AD2-100 C O1	10.79
936772	AD2-100 E O1	7.19
936781	AD2-101 C	4.42
936782	AD2-101 E	20.71
936972	AD2-131 E O1	2.27
937121	AD2-148 C O1	5.01
937122	AD2-148 E O1	23.47
937131	AD2-149 C O1	5.01
937132	AD2-149 E O1	23.47
937141	AD2-150 C O1	5.01
937142	AD2-150 E O1	23.47
937161	AD2-153 C O1	3.94
937162	AD2-153 E O1	18.43
937171	AD2-154 C O1	3.94
937172	AD2-154 E O1	18.43
937181	AD2-155 C O1	5.01
937182	AD2-155 E O1	23.47
937211	AD2-159 C	4.17
937212	AD2-159 E	19.53
937321	AD2-175 C	23.35
937322	AD2-175 E	15.57
938012	AE1-002 E O1	28.8
951001	J339	4.15
951741	J474 C	1.8
951742	J474 E	9.75
952321	J734	3.48
952651	J756 C	1.83
952652	J756 E	9.88
953741	J826 C	1.06
953742	J826 E	5.71
954181	J884	9.34
954721	J750 C	1.32
954722	J750 E	7.15
AB2-013	AB2-013	4.92
BLUEG	BLUEG	0.06
CARR	CARR	0.27
CBM-S1	CBM-S1	2.65
CBM-S2	CBM-S2	0.02
CBM-W1	CBM-W1	4.15

Bus #	Bus	MW Impact
CBM-W2	CBM-W2	47.91
CIN	CIN	2.55
DEARBORN	DEARBORN	1.31
G-007	G-007	0.75
HAMLET	HAMLET	0.09
IPL	IPL	1.1
LGEE	LGEE	0.02
MEC	MEC	12.56
O-066	O-066	2.54
RENSSELAER	RENSSELAER	0.22
TRIMBLE	TRIMBLE	0.04
WEC	WEC	0.87
Z1-043	Z1-043	15.26

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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
4502	937030	AD2-137 TAP	CE	270926	WILTON ; B	CE	1	COMED_P7_345-L17704AR-S_+_345-L17907TB-S-A	tower	1846.0	138.0	141.81	DC	70.33

Bus #	Bus	MW Impact
274654	BRAIDWOOD;1U	36.76
274655	BRAIDWOOD;2U	35.0
274660	LASCO STA;1U	23.11
274661	LASCO STA;2U	23.15
274847	GR RIDGE ;BU	0.52
274853	TWINGROVE;U1	1.0
274854	TWINGROVE;U2	1.0
274863	CAYUGA RI;1U	1.29
274864	CAYUGA RI;2U	1.29
274871	GR RIDGE ;2U	0.66
274881	PLEAS RDG;2U	1.01
274887	PILOT HIL;1U	1.01
274888	PILOT HIL;1E	23.46
274890	CAYUG;1U E	30.06
274891	CAYUG;2U E	30.06
275149	KEMPTON ;1E	23.46
276150	W2-048 E	1.37
290261	S-027 E	23.26
290265	S-028 E	23.26
293061	N-015 E	12.01
294392	P-010 E	15.26
296125	R-030 C3	5.95
296128	R-030 E3	23.79
296271	R-030 C2	5.88
296272	R-030 E2	23.51
296308	R-030 C1	5.88
296309	R-030 E1	23.51
905081	W4-005 C	0.97
905082	W4-005 E	37.7
909052	X2-022 E	19.09
917501	Z2-087 C	0.79
917502	Z2-087 E	30.72
924041	AB2-047 C O1	5.64
924042	AB2-047 E O1	37.76
924261	AB2-070 C O1	2.8
924262	AB2-070 E O1	18.76
925771	AC1-053 C	2.75
925772	AC1-053 E	18.42
925881	AC1-067 O1	185.63
930501	AB1-091 O1	94.0

Bus #	Bus	MW Impact
933411	AC2-154 C	3.18
933412	AC2-154 E	5.19
934721	AD1-100 C	48.95
934722	AD1-100 E	228.42
935001	AD1-133 C O1	18.23
935002	AD1-133 E O1	12.16
935141	AD1-148	4.99
936371	AD2-047 C O1	2.85
936372	AD2-047 E O1	30.63
936461	AD2-060	3.35
936771	AD2-100 C O1	10.65
936772	AD2-100 E O1	7.1
936781	AD2-101 C	8.14
936782	AD2-101 E	38.1
936972	AD2-131 E O1	2.24
937031	AD2-137 C O1	18.57
937032	AD2-137 E O1	86.93
937121	AD2-148 C O1	6.12
937122	AD2-148 E O1	28.63
937131	AD2-149 C O1	6.12
937132	AD2-149 E O1	28.63
937141	AD2-150 C O1	6.12
937142	AD2-150 E O1	28.63
937161	AD2-153 C O1	3.83
937162	AD2-153 E O1	17.94
937171	AD2-154 C O1	3.83
937172	AD2-154 E O1	17.94
937181	AD2-155 C O1	6.12
937182	AD2-155 E O1	28.63
937211	AD2-159 C	4.07
937212	AD2-159 E	19.07
937321	AD2-175 C	28.49
937322	AD2-175 E	19.0
938012	AE1-002 E O1	70.33
951741	J474 C	1.73
951742	J474 E	9.35
954181	J884	8.95
AB2-013	AB2-013	5.62
CARR	CARR	0.26
CBM-S1	CBM-S1	2.85
CBM-S2	CBM-S2	0.11
CBM-W1	CBM-W1	5.37
CBM-W2	CBM-W2	49.59
CIN	CIN	2.63
DEARBORN	DEARBORN	1.25
G-007	G-007	0.7
HAMLET	HAMLET	0.03
IPL	IPL	1.15
LGEE	LGEE	0.05
MEC	MEC	13.68
O-066	O-066	2.37
RENSSELAER	RENSSELAER	0.2

Bus #	Bus	MW Impact
TRIMBLE	TRIMBLE	0.02
WEC	WEC	1.21
Z1-043	Z1-043	14.76

Contingency Name	Contingency Definition
AEP_P1-2_#695A	CONTINGENCY 'AEP_P1-2_#695A' OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 END
COMED_P4_112-65-BT4-5__	CONTINGENCY 'COMED_P4_112-65-BT4-5__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 TRIP BRANCH FROM BUS 275233 TO BUS 270644 CKT 1 / WILTO;4M 345 WILTO; 765 TRIP BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / WILTO;4M 345 WILTO; R 345 TRIP BRANCH FROM BUS 275233 TO BUS 275333 CKT 1 / WILTO;4M 345 WILTO;4C 33 END
COMED_P7_345-L17704AR-S_+_345-L17907TB-S-A	CONTINGENCY 'COMED_P7_345-L17704AR-S_+_345-L17907TB-S-A' TRIP BRANCH FROM BUS 270675 TO BUS 925880 CKT 1 / BURNHAM ;1R 345 AC1-067 TAP 345 TRIP BRANCH FROM BUS 270662 TO BUS 936780 CKT 1 / BLOOM ; B 345 AD2-101 TAP 345 TRIP BRANCH FROM BUS 270662 TO BUS 271098 TO BUS 275258 CKT 1 / BLOOM ; B 345 BLOOM ; B 138 BLOOM ;4C 34.5 END
COMED_P1-2_345-L8014___-S-B	CONTINGENCY 'COMED_P1-2_345-L8014___-S-B' TRIP BRANCH FROM BUS 935000 TO BUS 270717 CKT 1 / AD1-133 TAP 345 DRESDEN ; R 345 END
COMED_P7_345-L2001__B-S_+_345-L2003__R-S	CONTINGENCY 'COMED_P7_345-L2001__B-S_+_345-L2003__R-S' TRIP BRANCH FROM BUS 270670 TO BUS 270728 CKT 1 / BRAID; B 345 E FRA; B 345 TRIP BRANCH FROM BUS 270728 TO BUS 270766 CKT 1 / E FRA; B 345 GOODI;3B 345 TRIP BRANCH FROM BUS 270728 TO BUS 274750 CKT 1 / E FRA; B 345 CRETE;BP 345 TRIP BRANCH FROM BUS 270671 TO BUS 270729 CKT 1 / BRAID; R 345 E FRA; R 345 END
COMED_P4_112-65-BT2-3__	CONTINGENCY 'COMED_P4_112-65-BT2-3__' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 / WILTO; 765 COLLI; 765 TRIP BRANCH FROM BUS 275232 TO BUS 270644 CKT 1 / WILTO;3M 345 WILTO; 765 TRIP BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / WILTO;3M 345 WILTO; B 345 TRIP BRANCH FROM BUS 275232 TO BUS 275332 CKT 1 / WILTO;3M 345 WILTO;3C 33 END
AEP_P4_#7334_05JEFRSO 765_A2	CONTINGENCY 'AEP_P4_#7334_05JEFRSO 765_A2' OPEN BRANCH FROM BUS 242924 TO BUS 243208 CKT 1 / 242924 05HANG R 765 243208 05JEFRSO 765 1 OPEN BRANCH FROM BUS 243208 TO BUS 242865 CKT 2 / 243208 05JEFRSO 765 242865 05JEFRSO 345 2 OPEN BRANCH FROM BUS 242865 TO BUS 248000 CKT Z1 / 242865 05JEFRSO 345 248000 06CLIFTY 345 Z1 END

Contingency Name	Contingency Definition
COMED_P4_112-65-BT3-4__	CONTINGENCY 'COMED_P4_112-65-BT3-4__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 TRIP BRANCH FROM BUS 275232 TO BUS 270644 CKT 1 / WILTO;3M 345 WILTO; 765 TRIP BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / WILTO;3M 345 WILTO; B 345 TRIP BRANCH FROM BUS 275232 TO BUS 275332 CKT 1 / WILTO;3M 345 WILTO;3C 33 END
COMED_P4_023-65-BT4-5__	CONTINGENCY 'COMED_P4_023-65-BT4-5__' TRIP BRANCH FROM BUS 275168 TO BUS 270607 CKT 1 / COLLI;2M 345 COLLI; 765 TRIP BRANCH FROM BUS 275168 TO BUS 270697 CKT 1 / COLLI;2M 345 COLLI; R 345 TRIP BRANCH FROM BUS 275168 TO BUS 275268 CKT 1 / COLLI;2M 345 COLLI;2C 33 TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 END
COMED_P1-2_765-L11216__-S	CONTINGENCY 'COMED_P1-2_765-L11216__-S' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 / WILTO; 765 COLLI; 765 END
Base Case	
COMED_P4_023-65-BT2-3__	CONTINGENCY 'COMED_P4_023-65-BT2-3__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 TRIP BRANCH FROM BUS 270607 TO BUS 270630 CKT 1 / COLLI; 765 PLANO; 765 END
COMED_P4_112-65-BT5-6__	CONTINGENCY 'COMED_P4_112-65-BT5-6__' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 / WILTO; 765 COLLI; 765 TRIP BRANCH FROM BUS 275233 TO BUS 270644 CKT 1 / WILTO;4M 345 WILTO; 765 TRIP BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / WILTO;4M 345 WILTO; R 345 TRIP BRANCH FROM BUS 275233 TO BUS 275333 CKT 1 / WILTO;4M 345 WILTO;4C 33 END
AEP_P4_#2978_05DUMONT 765_B	CONTINGENCY 'AEP_P4_#2978_05DUMONT 765_B' OPEN BRANCH FROM BUS 243206 TO BUS 243207 CKT 1 / 243206 05DUMONT 765 243207 05GRNTWN 765 1 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 END

Short Circuit

No issues identified

Secondary Point of Interconnection

AE1-002 will interconnect with the ComEd transmission system at the Wilton 345 kV substation.

Network Impacts

The Queue Project AE1-002 was evaluated as a 100 MW (Capacity 0 MW) injection at the Wilton 345 kV substation in the ComEd area. Project AE1-002 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AE1-002 was studied with a commercial probability of 53%. Potential network impacts were as follows:

Summer Peak Load Flow

Generation Deliverability

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

None

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	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
4108	275232	WILTON ;3M	CE	270926	WILTON ; B	CE	1	COMED_P4_112-65-BT5-6	breaker	1379.0	98.5	100.24	DC	28.62
4113	932800	AC2-104 TAP	AEP	242928	05MARYSV	AEP	1	AEP_P4_#7334_05JEFRSOT 765_A2	breaker	4571.0	99.93	100.14	DC	26.76

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	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
4095	243219	05DUMONT	AEP	255113	17STILLWELL	NIPS	1	COMED_P4_023-65-BT4-5	breaker	1409.0	102.66	103.59	DC	16.16
3830	255113	17STILLWELL	NIPS	243219	05DUMONT	AEP	1	AEP_P4_#2978_05DUMONT 765_B	breaker	1409.0	163.45	164.04	DC	15.63
3840	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P4_112-65-BT5-6	breaker	1379.0	156.6	158.68	DC	28.62
3848	270927	WILTON ; R	CE	275233	WILTON ;4M	CE	1	COMED_P4_112-65-BT2-3	breaker	1379.0	152.91	154.03	DC	29.15
400	27480	UNIV PK	CE	24322	05OLIVE	AEP	1	AEP_P4_#2978_05DUMONT	breaker	971.0	118.58	119.14	DC	10.24

6	4	N;RP		9				T 765_B	r					
4007	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	COMED_P4_023-65-BT2-3	breaker	971.0	117.34	117.9	DC	10.31
4008	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	COMED_P4_112-65-BT4-5	breaker	971.0	117.34	117.9	DC	10.32
4009	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	COMED_P4_112-65-BT3-4	breaker	971.0	117.34	117.9	DC	10.32
4010	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	COMED_P4_023-65-BT4-5	breaker	971.0	117.33	117.9	DC	10.33
3842	275232	WILTON ;3M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT5-6	breaker	1379.0	156.6	158.68	DC	28.62
3850	275233	WILTON ;4M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT2-3	breaker	1379.0	152.91	154.03	DC	29.15
4105	275233	WILTON ;4M	CE	270927	WILTON ; R	CE	1	COMED_P4_112-65-BT2-3	breaker	1379.0	101.26	103.02	DC	29.15
4539	934720	AD1-100 TAP	CE	937030	AD2-137 TAP	CE	1	COMED_P7_345-L17704AR-S_+345-L17907TB-S-A	tower	1846.0	132.97	134.22	DC	23.0
4540	934720	AD1-100 TAP	CE	937030	AD2-137 TAP	CE	1	COMED_P7_345-L2001__B-S_+345-L2003__R-S	tower	1846.0	132.63	133.84	DC	22.31
4522	937030	AD2-137 TAP	CE	270926	WILTON ; B	CE	1	COMED_P7_345-L17704AR-S_+345-L17907TB-S-A	tower	1846.0	138.0	139.24	DC	23.0
4523	937030	AD2-137 TAP	CE	270926	WILTON ; B	CE	1	COMED_P7_345-L2001__B-S_+345-L2003__R-S	tower	1846.0	136.58	137.78	DC	22.31

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	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
4473	243219	05DUMONT	AEP	255113	17STILLWELL	NIPS	1	AEP_P1-2_#695A	operation	1409.0	102.65	103.58	DC	16.1
4222	255113	17STILLWELL	NIPS	243219	05DUMONT	AEP	1	AEP_P1-2_#695A	operation	1409.0	159.96	160.57	DC	16.1
4488	270644	WILTON ;	CE	243206	05DUMONT	AEP	1	Base Case	operation	3555.0	98.71	99.25	DC	36.08
4487	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P1-2_765-L11216__S	operation	1379.0	98.3	99.61	DC	18.02
4489	270927	WILTON ; R	CE	275233	WILTON ;4M	CE	1	COMED_P1-2_765-L11216__S	operation	1379.0	98.6	99.33	DC	18.74
4391	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	AEP_P1-2_#695A	operation	971.0	117.32	117.89	DC	10.34
4262	934720	AD1-100 TAP	CE	937030	AD2-137 TAP	CE	1	COMED_P1-2_345-L8014__S-B	operation	1528.0	148.96	150.51	DC	23.7
4267	934720	AD1-100 TAP	CE	937030	AD2-137 TAP	CE	1	Base Case	operation	1364.0	131.31	133.03	DC	23.43
4250	937030	AD2-137 TAP	CE	270926	WILTON ; B	CE	1	COMED_P1-2_345-	operation	1528.0	151.87	153.42	DC	23.7

								L8014____- S-B						
4255	937030	AD2-137 TAP	CE	270926	WILTON ; B	CE	1	Base Case	operation	1364.0	137.0	138.72	DC	23.43

Flow Gate Details

The following appendices contain additional information about each flowgate presented in the body of the report. For each appendix, a description of the flowgate and its contingency was included for convenience. However, the intent of the appendix section is to provide more information on which projects/generators have contributions to the flowgate in question. Although this information is not used "as is" for cost allocation purposes, it can be used to gage other generators impact. It should be noted the generator contributions presented in the appendices sections are full contributions, whereas in the body of the report, those contributions take into consideration the commercial probability of each project.

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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
4108	275232	WILTON ;3M	CE	270926	WILTON ; B	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	98.5	100.24	DC	28.62

Bus #	Bus	MW Impact
916502	Z1-106 E1	1.55
916504	Z1-106 E2	1.55
916512	Z1-107 E	3.18
916522	Z1-108 E	3.06
920272	AA2-123 E	3.0
938012	AE1-002 E O2	28.62
950031	J301 C	1.81
950032	J301 E	7.25
950041	J308 C	5.4
950042	J308 E	21.59
950121	J392	34.81
950161	J401	1.32
950241	J419	8.9
950281	J431 C	1.11
950282	J431 E	4.44
950302	J453 E	0.91
950311	G934 C	2.73
950312	G934 E	10.92
950351	J466	2.7
950361	J469	0.16
950791	J201 C	0.36
950792	J201 E	1.44
950871	J246 C	0.13
950872	J246 E	0.51
950942	J325 E	0.36
950951	J327 C	2.69
950952	J327 E	8.08
950981	J333	9.08
951011	J340 C	1.8
951012	J340 E	5.39
951051	J354 C	0.93
951052	J354 E	2.8
951531	J533 C	3.63
951532	J533 E	14.53
951571	J538 C	2.68
951572	J538 E	10.72
951581	J540	4.42
951731	J446 C	2.29
951732	J446 E	12.38
951811	J513 C	1.02
951812	J513 E	5.49

Bus #	Bus	MW Impact
951941	J602 C	2.82
951942	J602 E	15.24
952161	J571	0.58
952201	J589 C	2.83
952202	J589 E	15.29
952312	J646 E	0.14
952401	J752 C	1.4
952402	J752 E	7.59
952471	J708	20.07
952611	J717 C	2.82
952612	J717 E	15.27
952761	J728 C	2.63
952762	J728 E	14.21
952801	J754 C	2.81
952802	J754 E	15.2
952811	J759	4.1
952821	J762	11.64
952861	J783 C	3.91
952862	J783 E	0.16
952881	J758	18.07
952941	J921 C	2.1
952942	J921 E	11.34
952961	J203 C	2.8
952962	J203 E	15.13
952971	J793	118.37
952981	J579 C	2.84
952982	J579 E	15.38
953071	J794 C	0.18
953072	J794 E	0.95
953101	J714 C	1.91
953102	J714 E	10.32
953161	J837 C	2.24
953162	J837 E	12.12
953171	J838 C	2.24
953172	J838 E	12.12
953271	J701 C	0.69
953272	J701 E	3.72
953291	J796	21.59
953321	J799	16.83
953351	J805	13.39
953361	J806	13.43
953381	J809	9.05
953421	J841	63.4
953501	J478 C	2.26
953502	J478 E	12.2
953541	J632 C	2.88
953542	J632 E	15.59
953751	J827	20.01
953771	J832	9.07
953781	J833	8.9
953811	J839	8.96
953831	J842 C	1.74

Bus #	Bus	MW Impact
953832	J842 E	9.43
953841	J843 C	1.77
953842	J843 E	9.6
953861	J846	12.53
953931	J856	4.54
953941	J857	11.27
954011	J865	7.16
954111	J875	13.4
954171	J883 C	0.77
954172	J883 E	4.19
954231	J890 C	1.42
954232	J890 E	7.66
954351	J903	6.95
954381	J906 C	1.43
954382	J906 E	7.71
954421	J913	14.35
954431	J914	2.74
954541	J931 C	2.14
954542	J931 E	11.58
954581	J936	48.4
954591	J937	48.74
954711	J851 C	0.57
954712	J851 E	3.11
954751	J351	46.33
AC1-056	AC1-056	6.74
AD2-098	AD2-098	1.03
AE1-080A	AE1-080A	30.43
BAYOU	BAYOU	2.77
BIG_CAJUN1	BIG_CAJUN1	3.77
BIG_CAJUN2	BIG_CAJUN2	7.62
CBM-N	CBM-N	1.94
CBM-S2	CBM-S2	1.64
CHOCTAW	CHOCTAW	1.9
COFFEEN	COFFEEN	3.13
COTTONWOOD	COTTONWOOD	11.62
CPL	CPL	0.9
DUCKCREEK	DUCKCREEK	14.05
EDWARDS	EDWARDS	6.92
FARMERCITY	FARMERCITY	3.08
G-007A	G-007A	6.0
GIBSON	GIBSON	0.01
IPL	IPL	0.72
LGEE	LGEE	0.99
MECS	MECS	11.76
NEWTON	NEWTON	4.44
NYISO	NYISO	8.4
O-066A	O-066A	2.81
PRAIRIE	PRAIRIE	12.59
SMITHLAND	SMITHLAND	0.46
TATANKA	TATANKA	6.8
TILTON	TILTON	2.18
TVA	TVA	2.0

Bus #	Bus	MW Impact
UNIONPOWER	UNIONPOWER	1.72
VFT	VFT	16.16

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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
4113	932800	AC2-104 TAP	AEP	242928	05MARYSV	AEP	1	AEP_P4_#7334_05JEFRSO 765_A2	breaker	4571.0	99.93	100.14	DC	26.76

Bus #	Bus	MW Impact
243440	05CKG1	47.55
243441	05CKG2	59.08
246397	05ELKHART HY	1.01
246416	05TWIN BRCH1	0.22
246422	05MAYFLWER	0.3
246431	05BUCHANAN	1.1
246536	05MOTTVILL	0.42
247643	Z2-116 C	0.06
247906	05MDL-1G E	39.97
247907	05MDL-2G E	19.82
247912	05MDL-3G E	20.72
247913	05MDL-4G E	20.02
247943	T-127 E	20.02
247969	Z2-116 E	0.35
270859	PWR VTR EC;R	24.95
274722	S-055 E	22.81
274774	LINCOLN ;5U	3.55
274775	LINCOLN ;6U	3.55
274776	LINCOLN ;7U	3.55
274777	LINCOLN ;8U	3.55
274888	PILOT HIL;1E	36.6
274890	CAYUG;1U E	29.9
274891	CAYUG;2U E	29.9
275149	KEMPTON ;1E	36.6
290021	O50 E	40.04
290051	GSG-6; E	21.75
290108	LEEDK;1U E	50.13
293061	N-015 E	31.02
293644	O22 E1	20.72
293645	O22 E2	40.22
294392	P-010 E	39.4
294763	P-046 E	12.37
295109	WESTBROOK E	11.64
909145	X2-052	31.97
910542	X3-005 E	1.48
914641	Y2-103	91.26
915011	Y3-013 1	7.6
915021	Y3-013 2	7.6
915031	Y3-013 3	7.6
916221	Z1-073 E	11.22

Bus #	Bus	MW Impact
916502	Z1-106 E1	2.56
916504	Z1-106 E2	2.56
916512	Z1-107 E	5.18
916522	Z1-108 E	5.07
917702	Z2-113 E	0.6
917711	Z2-114 C	0.12
917712	Z2-114 E	0.68
918052	AA1-018 E	33.12
920211	AA2-116	269.83
920272	AA2-123 E	5.02
924471	AB2-096	87.34
925302	AB2-191 E	2.88
925881	AC1-067 O1	287.92
926311	AC1-109 1	3.86
926321	AC1-109 2	3.86
926331	AC1-110 1	3.85
926341	AC1-110 2	3.85
926351	AC1-111 1	1.54
926361	AC1-111 2	1.54
926371	AC1-111 3	1.54
926381	AC1-111 4	1.54
926391	AC1-111 5	1.54
926401	AC1-111 6	1.54
926431	AC1-114	4.95
926581	AC1-141	24.7
927091	AC1-204 1	144.27
927101	AC1-204 2	144.27
927451	AC1-142A 1	8.3
927461	AC1-142A 2	8.3
927511	AC1-113 1	2.47
927521	AC1-113 2	2.47
930042	AB1-006 E	43.55
930391	AB1-080	1.89
930481	AB1-089	136.41
930501	AB1-091 O1	144.02
930741	AB1-122 1O1	147.57
930751	AB1-122 2O1	147.79
932601	AC2-080 C O1	6.69
932602	AC2-080 E O1	44.79
932801	AC2-104 C	36.08
932802	AC2-104 E	241.45
932881	AC2-115 1	4.95
932891	AC2-115 2	4.95
932921	AC2-116	1.73
932931	AC2-117	12.09
933281	AC2-140 C	11.36
933282	AC2-140 E	0.6
933411	AC2-154 C	4.97
933412	AC2-154 E	8.11
933431	AC2-156 C O1	1.95
933432	AC2-156 E O1	3.18
933911	AD1-013 C	3.83

Bus #	Bus	MW Impact
933912	AD1-013 E	6.11
933931	AD1-016 C	1.91
933932	AD1-016 E	3.11
934101	AD1-039 1	14.46
934111	AD1-039 2	14.48
934401	AD1-064 C O1	6.6
934402	AD1-064 E O1	30.92
934431	AD1-067 C	0.27
934432	AD1-067 E	1.15
934651	AD1-096 C	1.87
934652	AD1-096 E	3.05
934701	AD1-098 C O1	14.33
934702	AD1-098 E O1	10.46
934721	AD1-100 C	39.06
934722	AD1-100 E	182.27
934771	AD1-104 C	29.08
934772	AD1-104 E	194.6
934871	AD1-116 C	1.93
934872	AD1-116 E	3.15
934971	AD1-129 C	1.87
934972	AD1-129 E	1.25
935001	AD1-133 C O1	45.11
935002	AD1-133 E O1	30.07
936141	AD2-020 C O1	16.43
936142	AD2-020 E O1	10.11
936291	AD2-038 C O1	4.86
936292	AD2-038 E O1	32.53
936371	AD2-047 C O1	4.44
936372	AD2-047 E O1	47.85
936461	AD2-060	5.23
936511	AD2-066 C O1	17.47
936512	AD2-066 E O1	11.65
936631	AD2-079 C O1	3.24
936632	AD2-079 E O1	2.16
936781	AD2-101 C	9.23
936782	AD2-101 E	43.2
936791	AD2-102 C	25.07
936792	AD2-102 E	24.09
936961	AD2-130	1.12
936981	AD2-132 C	9.06
936982	AD2-132 E	42.42
937001	AD2-134 C	5.68
937002	AD2-134 E	23.48
937031	AD2-137 C O1	7.03
937032	AD2-137 E O1	32.92
937041	AD2-138 C	9.06
937042	AD2-138 E	42.42
937051	AD2-140 C O1	7.07
937052	AD2-140 E O1	33.08
937061	AD2-141 C O1	7.03
937062	AD2-141 E O1	33.12
937071	AD2-142 C O1	14.13

Bus #	Bus	MW Impact
937072	AD2-142 E O1	66.16
937121	AD2-148 C O1	6.9
937122	AD2-148 E O1	32.32
937131	AD2-149 C O1	6.9
937132	AD2-149 E O1	32.32
937141	AD2-150 C O1	6.9
937142	AD2-150 E O1	32.32
937181	AD2-155 C O1	6.9
937182	AD2-155 E O1	32.32
937311	AD2-172 C	5.15
937312	AD2-172 E	7.11
937321	AD2-175 C	32.17
937322	AD2-175 E	21.44
937331	AD2-176 C O1	15.06
937332	AD2-176 E O1	10.04
937401	AD2-194 1	15.51
937411	AD2-194 2	15.51
938012	AE1-002 E O2	14.18
938261	AE1-039	0.21
938511	AE1-070 1	18.23
938521	AE1-070 2	16.68
AB2-013	AB2-013	35.76
AE1-033	AE1-033	38.01
AE1-042	AE1-042	11.11
CARR	CARR	2.31
CATAWBA	CATAWBA	0.58
CBM-S1	CBM-S1	20.51
CBM-W1	CBM-W1	113.08
CBM-W2	CBM-W2	296.35
CIN	CIN	40.11
G-007	G-007	6.71
HAMLET	HAMLET	2.61
IPL	IPL	25.2
LGEE	LGEE	4.98
MEC	MEC	93.12
MECS	MECS	52.67
O-066	O-066	22.56
RENSSELAER	RENSSELAER	1.83
WEC	WEC	16.47
Z1-043	Z1-043	62.87

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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
4095	243219	05DUMONT	AEP	255113	17STILLWELL	NIPS	1	COMED_P4_023-65-BT4-5__	breaker	1409.0	102.66	103.59	DC	16.16

Bus #	Bus	MW Impact
916502	Z1-106 E1	1.5
916504	Z1-106 E2	1.5
916512	Z1-107 E	3.13
916522	Z1-108 E	2.95
920272	AA2-123 E	2.9
938012	AE1-002 E O2	16.16
950031	J301 C	1.96
950032	J301 E	7.83
950041	J308 C	5.81
950042	J308 E	23.23
950121	J392	38.42
950161	J401	1.26
950241	J419	9.45
950302	J453 E	0.88
950311	G934 C	3.01
950312	G934 E	12.05
950351	J466	2.91
950361	J469	0.18
950791	J201 C	0.39
950792	J201 E	1.57
950871	J246 C	0.14
950872	J246 E	0.55
950942	J325 E	0.39
950951	J327 C	2.91
950952	J327 E	8.72
951011	J340 C	1.94
951012	J340 E	5.81
951051	J354 C	1.01
951052	J354 E	3.02
951531	J533 C	4.0
951532	J533 E	15.98
951571	J538 C	2.87
951572	J538 E	11.47
951581	J540	4.89
951731	J446 C	1.94
951732	J446 E	10.51
951941	J602 C	3.07
951942	J602 E	16.6
952161	J571	0.64
952201	J589 C	3.1
952202	J589 E	16.77

Bus #	Bus	MW Impact
952312	J646 E	0.15
952401	J752 C	1.52
952402	J752 E	8.21
952471	J708	19.34
952611	J717 C	3.08
952612	J717 E	16.68
952761	J728 C	2.87
952762	J728 E	15.53
952811	J759	3.96
952821	J762	11.29
952861	J783 C	3.77
952862	J783 E	0.16
952881	J758	19.88
952941	J921 C	2.34
952942	J921 E	12.65
952961	J203 C	3.01
952962	J203 E	16.29
952971	J793	127.06
952981	J579 C	3.2
952982	J579 E	17.31
953071	J794 C	0.19
953072	J794 E	1.04
953101	J714 C	1.65
953102	J714 E	8.92
953161	J837 C	1.74
953162	J837 E	9.44
953171	J838 C	1.74
953172	J838 E	9.44
953271	J701 C	0.74
953272	J701 E	4.03
953291	J796	23.54
953321	J799	17.88
953351	J805	12.86
953361	J806	14.69
953381	J809	10.12
953421	J841	69.12
953501	J478 C	1.98
953502	J478 E	10.7
953541	J632 C	3.25
953542	J632 E	17.61
953751	J827	15.48
953771	J832	9.98
953781	J833	9.45
953811	J839	9.64
953831	J842 C	1.67
953832	J842 E	9.05
953841	J843 C	1.7
953842	J843 E	9.19
953861	J846	13.44
953931	J856	4.37
953941	J857	12.36
954011	J865	7.69

Bus #	Bus	MW Impact
954111	J875	14.35
954231	J890 C	1.56
954232	J890 E	8.43
954351	J903	6.68
954381	J906 C	1.59
954382	J906 E	8.6
954421	J913	11.18
954431	J914	3.05
954541	J931 C	2.39
954542	J931 E	12.93
954581	J936	53.54
954591	J937	54.87
954711	J851 C	0.56
954712	J851 E	3.01
AC1-056	AC1-056	6.36
AD2-098	AD2-098	1.0
AE1-080A	AE1-080A	29.15
BAYOU	BAYOU	2.74
BIG_CAJUN1	BIG_CAJUN1	3.75
BIG_CAJUN2	BIG_CAJUN2	7.57
CALDERWOOD	CALDERWOOD	0.01
CANNELTON	CANNELTON	0.01
CBM-N	CBM-N	1.83
CBM-S2	CBM-S2	1.41
CHILHOWEE	CHILHOWEE	0.0
CHOCTAW	CHOCTAW	1.92
COFFEEN	COFFEEN	2.93
COTTONWOOD	COTTONWOOD	11.46
CPL	CPL	0.8
DUCKCREEK	DUCKCREEK	13.31
EDWARDS	EDWARDS	6.56
ELMERSMITH	ELMERSMITH	0.09
FARMERCITY	FARMERCITY	2.95
G-007A	G-007A	5.67
GIBSON	GIBSON	0.08
IPL	IPL	0.15
LGEE	LGEE	0.76
MECS	MECS	14.18
NEWTON	NEWTON	4.48
NYISO	NYISO	7.96
O-066A	O-066A	2.65
PRAIRIE	PRAIRIE	12.11
SMITHLAND	SMITHLAND	0.47
TATANKA	TATANKA	6.53
TILTON	TILTON	2.27
TVA	TVA	2.11
UNIONPOWER	UNIONPOWER	1.71
VFT	VFT	15.25

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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
3830	255113	17STILLWEL L	NIPS	243219	05DUMON T	AEP	1	AEP_P4_#2978_05DUMON T 765_B	breaker	1409.0	163.45	164.04	DC	15.63

Bus #	Bus	MW Impact
270859	PWR VTR EC;R	13.98
274722	S-055 E	13.0
274724	RIVER EC ;11	5.35
274788	SE CHICAG;5U	1.28
274789	SE CHICAG;6U	1.28
274790	SE CHICAG;7U	1.28
274791	SE CHICAG;8U	1.28
274795	SE CHICAG;2U	1.26
274832	U4-027	12.51
274859	EASYR;U1 E	12.73
274860	EASYR;U2 E	12.73
274888	PILOT HIL;1E	22.41
274890	CAYUG;1U E	15.82
274891	CAYUG;2U E	15.82
275149	KEMPTON ;1E	22.41
290021	O50 E	22.41
290051	GSG-6; E	12.08
290108	LEEDK;1U E	28.04
293061	N-015 E	17.61
293516	O-009 E1	10.5
293517	O-009 E2	5.33
293518	O-009 E3	5.87
293644	O22 E1	12.0
293645	O22 E2	23.29
293715	O-029 E	11.32
293716	O-029 E	6.21
293717	O-029 E	5.7
293771	O-035 E	7.4
294392	P-010 E	22.36
294401	BSHIL;1U E	9.9
294410	BSHIL;2U E	9.9
294763	P-046 E	10.84
295109	WESTBROOK E	6.47
295111	SUBLETTE E	3.0
296125	R-030 C3	4.12
296128	R-030 E3	16.5
296271	R-030 C2	4.08
296272	R-030 E2	16.3
296308	R-030 C1	4.08
296309	R-030 E1	16.3
910542	X3-005 E	1.0

Bus #	Bus	MW Impact
914641	Y2-103	52.01
915011	Y3-013 1	4.33
915021	Y3-013 2	4.33
915031	Y3-013 3	4.33
916211	Z1-072 E	5.6
916221	Z1-073 E	6.23
916502	Z1-106 E1	1.46
916504	Z1-106 E2	1.46
916512	Z1-107 E	3.05
916522	Z1-108 E	2.87
917502	Z2-087 E	21.33
918052	AA1-018 E	18.82
919221	AA1-146	20.37
919581	AA2-030	20.37
919621	AA2-039 C	2.41
919622	AA2-039 E	16.15
920272	AA2-123 E	2.82
924041	AB2-047 C O1	3.94
924042	AB2-047 E O1	26.39
924471	AB2-096	48.94
925161	AB2-173	3.63
925302	AB2-191 E	1.6
925581	AC1-033 C	1.62
925582	AC1-033 E	10.86
925881	AC1-067 O1	199.38
926311	AC1-109 1	2.2
926321	AC1-109 2	2.2
926331	AC1-110 1	2.19
926341	AC1-110 2	2.19
926351	AC1-111 1	0.88
926361	AC1-111 2	0.88
926371	AC1-111 3	0.88
926381	AC1-111 4	0.88
926391	AC1-111 5	0.88
926401	AC1-111 6	0.88
926431	AC1-114	2.75
926821	AC1-168 C O1	1.33
926822	AC1-168 E O1	8.89
927091	AC1-204 1	83.59
927101	AC1-204 2	83.56
927201	AC1-214 C O1	2.37
927202	AC1-214 E O1	7.55
927451	AC1-142A 1	4.85
927461	AC1-142A 2	4.85
927511	AC1-113 1	1.38
927521	AC1-113 2	1.38
927531	AC1-185 1	0.8
927541	AC1-185 2	0.8
927551	AC1-185 3	0.8
927561	AC1-185 4	0.8
927571	AC1-185 5	0.8
927581	AC1-185 6	0.8

Bus #	Bus	MW Impact
927591	AC1-185 7	0.8
927601	AC1-185 8	0.8
930481	AB1-089	75.99
930501	AB1-091 O1	88.96
930741	AB1-122 1O1	82.76
930751	AB1-122 2O1	85.3
932881	AC2-115 1	2.75
932891	AC2-115 2	2.75
932921	AC2-116	0.96
932931	AC2-117	5.84
933341	AC2-147 C	1.01
933342	AC2-147 E	1.65
933411	AC2-154 C	3.04
933412	AC2-154 E	4.96
933431	AC2-156 C O1	1.1
933432	AC2-156 E O1	1.8
933911	AD1-013 C	2.13
933912	AD1-013 E	3.4
933931	AD1-016 C	1.07
933932	AD1-016 E	1.75
934051	AD1-031 C O1	3.29
934052	AD1-031 E O1	5.37
934101	AD1-039 1	8.11
934111	AD1-039 2	8.36
934401	AD1-064 C O1	3.7
934402	AD1-064 E O1	17.33
934431	AD1-067 C	0.15
934432	AD1-067 E	0.64
934651	AD1-096 C	1.03
934652	AD1-096 E	1.68
934701	AD1-098 C O1	7.95
934702	AD1-098 E O1	5.8
934721	AD1-100 C	22.52
934722	AD1-100 E	105.11
934871	AD1-116 C	1.1
934872	AD1-116 E	1.79
934881	AD1-117 C	6.22
934882	AD1-117 E	4.14
934971	AD1-129 C	1.04
934972	AD1-129 E	0.7
935001	AD1-133 C O1	24.17
935002	AD1-133 E O1	16.11
936291	AD2-038 C O1	2.7
936292	AD2-038 E O1	18.1
936371	AD2-047 C O1	2.72
936372	AD2-047 E O1	29.29
936461	AD2-060	3.2
936511	AD2-066 C O1	9.72
936512	AD2-066 E O1	6.48
936781	AD2-101 C	5.9
936782	AD2-101 E	27.64
936791	AD2-102 C	13.91

Bus #	Bus	MW Impact
936792	AD2-102 E	13.36
936961	AD2-130	0.66
937001	AD2-134 C	3.16
937002	AD2-134 E	13.04
937031	AD2-137 C O1	4.09
937032	AD2-137 E O1	19.16
937051	AD2-140 C O1	4.13
937052	AD2-140 E O1	19.32
937061	AD2-141 C O1	4.1
937062	AD2-141 E O1	19.34
937071	AD2-142 C O1	8.25
937072	AD2-142 E O1	38.64
937121	AD2-148 C O1	4.23
937122	AD2-148 E O1	19.81
937131	AD2-149 C O1	4.23
937132	AD2-149 E O1	19.81
937141	AD2-150 C O1	4.23
937142	AD2-150 E O1	19.81
937181	AD2-155 C O1	4.23
937182	AD2-155 E O1	19.81
937311	AD2-172 C	2.85
937312	AD2-172 E	3.93
937321	AD2-175 C	19.71
937322	AD2-175 E	13.14
937331	AD2-176 C O1	8.47
937332	AD2-176 E O1	5.65
937401	AD2-194 1	8.99
937411	AD2-194 2	8.99
937531	AD2-214 C	5.12
937532	AD2-214 E	2.41
938012	AE1-002 E O2	8.28
938511	AE1-070 1	10.56
938521	AE1-070 2	9.66
951721	J643	25.73
952581	J740 C	4.3
952582	J740 E	23.28
953871	J847	13.1
954751	J351	434.55
990901	L-005 E	14.55
AB2-013	AB2-013	18.69
AE1-033	AE1-033	20.94
BLUEG	BLUEG	0.77
CARR	CARR	0.88
CATAWBA	CATAWBA	0.2
CBM-S1	CBM-S1	4.14
CBM-W1	CBM-W1	36.18
CBM-W2	CBM-W2	83.33
CIN	CIN	3.45
DEARBORN	DEARBORN	3.95
G-007	G-007	2.44
HAMLET	HAMLET	0.89
IPL	IPL	1.21

Bus #	Bus	MW Impact
MEC	MEC	44.97
O-066	O-066	8.23
RENSSELAER	RENSSELAER	0.7
TRIMBLE	TRIMBLE	0.13
WEC	WEC	9.24
Z1-043	Z1-043	33.09

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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
3840	270926	WILTON ; B	CE	275232	WILTON ;3M	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	156.6	158.68	DC	28.62

Bus #	Bus	MW Impact
270859	PWR VTR EC;R	14.87
274722	S-055 E	13.8
274772	LINCOLN ;3U	3.78
274773	LINCOLN ;4U	3.78
274774	LINCOLN ;5U	3.78
274775	LINCOLN ;6U	3.78
274776	LINCOLN ;7U	3.78
274777	LINCOLN ;8U	3.78
274832	U4-027	13.38
274859	EASYR;U1 E	13.52
274860	EASYR;U2 E	13.52
274888	PILOT HIL;1E	23.54
274890	CAYUG;1U E	20.36
274891	CAYUG;2U E	20.36
275149	KEMPTON ;1E	23.54
290021	O50 E	23.84
290051	GSG-6; E	12.85
290108	LEEDK;1U E	29.85
290261	S-027 E	20.53
290265	S-028 E	20.53
293061	N-015 E	19.5
293516	O-009 E1	11.19
293517	O-009 E2	5.68
293518	O-009 E3	6.26
293644	O22 E1	12.6
293645	O22 E2	24.46
293715	O-029 E	12.03
293716	O-029 E	6.6
293717	O-029 E	6.06
293771	O-035 E	7.95
294392	P-010 E	24.76
294401	BSHIL;1U E	10.61
294410	BSHIL;2U E	10.61
294763	P-046 E	11.52
295109	WESTBROOK E	6.88
295111	SUBLETTE E	3.19
296125	R-030 C3	5.01
296128	R-030 E3	20.04
296271	R-030 C2	4.95
296272	R-030 E2	19.8
296308	R-030 C1	4.95

Bus #	Bus	MW Impact
296309	R-030 E1	19.8
910542	X3-005 E	0.9
914641	Y2-103	55.21
915011	Y3-013 1	4.6
915021	Y3-013 2	4.6
915031	Y3-013 3	4.6
916211	Z1-072 E	6.01
916221	Z1-073 E	6.63
916502	Z1-106 E1	1.55
916504	Z1-106 E2	1.55
916512	Z1-107 E	3.18
916522	Z1-108 E	3.06
917502	Z2-087 E	25.9
918052	AA1-018 E	20.2
919221	AA1-146	21.63
919581	AA2-030	21.63
919621	AA2-039 C	2.59
919622	AA2-039 E	17.31
920272	AA2-123 E	3.0
924041	AB2-047 C O1	4.78
924042	AB2-047 E O1	31.96
924471	AB2-096	52.03
925161	AB2-173	3.86
925302	AB2-191 E	1.7
925581	AC1-033 C	1.74
925582	AC1-033 E	11.64
925881	AC1-067 O1	167.74
926311	AC1-109 1	2.35
926321	AC1-109 2	2.35
926331	AC1-110 1	2.33
926341	AC1-110 2	2.33
926351	AC1-111 1	0.94
926361	AC1-111 2	0.94
926371	AC1-111 3	0.94
926381	AC1-111 4	0.94
926391	AC1-111 5	0.94
926401	AC1-111 6	0.94
926431	AC1-114	2.92
926821	AC1-168 C O1	1.43
926822	AC1-168 E O1	9.63
927091	AC1-204 1	89.24
927101	AC1-204 2	89.24
927201	AC1-214 C O1	2.55
927202	AC1-214 E O1	8.11
927451	AC1-142A 1	5.14
927461	AC1-142A 2	5.14
927511	AC1-113 1	1.46
927521	AC1-113 2	1.46
927531	AC1-185 1	0.84
927541	AC1-185 2	0.84
927551	AC1-185 3	0.84
927561	AC1-185 4	0.84

Bus #	Bus	MW Impact
927571	AC1-185 5	0.84
927581	AC1-185 6	0.84
927591	AC1-185 7	0.84
927601	AC1-185 8	0.84
930481	AB1-089	80.8
930501	AB1-091 O1	91.89
930741	AB1-122 1O1	89.69
930751	AB1-122 2O1	90.62
932881	AC2-115 1	2.92
932891	AC2-115 2	2.92
932921	AC2-116	1.02
932931	AC2-117	6.55
933341	AC2-147 C	1.07
933342	AC2-147 E	1.75
933411	AC2-154 C	3.19
933412	AC2-154 E	5.21
933431	AC2-156 C O1	1.18
933432	AC2-156 E O1	1.92
933911	AD1-013 C	2.26
933912	AD1-013 E	3.61
933931	AD1-016 C	1.14
933932	AD1-016 E	1.86
934051	AD1-031 C O1	3.53
934052	AD1-031 E O1	5.76
934101	AD1-039 1	8.79
934111	AD1-039 2	8.88
934401	AD1-064 C O1	3.94
934402	AD1-064 E O1	18.43
934431	AD1-067 C	0.16
934432	AD1-067 E	0.68
934651	AD1-096 C	1.1
934652	AD1-096 E	1.79
934701	AD1-098 C O1	8.46
934702	AD1-098 E O1	6.17
934721	AD1-100 C	29.61
934722	AD1-100 E	138.19
934871	AD1-116 C	1.18
934872	AD1-116 E	1.92
934881	AD1-117 C	6.61
934882	AD1-117 E	4.4
934971	AD1-129 C	1.11
934972	AD1-129 E	0.74
935001	AD1-133 C O1	27.54
935002	AD1-133 E O1	18.36
936291	AD2-038 C O1	2.89
936292	AD2-038 E O1	19.36
936371	AD2-047 C O1	2.86
936372	AD2-047 E O1	30.76
936461	AD2-060	3.36
936511	AD2-066 C O1	10.39
936512	AD2-066 E O1	6.93
936781	AD2-101 C	5.96

Bus #	Bus	MW Impact
936782	AD2-101 E	27.88
936791	AD2-102 C	14.77
936792	AD2-102 E	14.19
936961	AD2-130	0.69
937001	AD2-134 C	3.36
937002	AD2-134 E	13.88
937031	AD2-137 C O1	7.2
937032	AD2-137 E O1	33.69
937051	AD2-140 C O1	7.56
937052	AD2-140 E O1	35.37
937061	AD2-141 C O1	7.51
937062	AD2-141 E O1	35.42
937071	AD2-142 C O1	15.11
937072	AD2-142 E O1	70.75
937121	AD2-148 C O1	4.64
937122	AD2-148 E O1	21.71
937131	AD2-149 C O1	4.64
937132	AD2-149 E O1	21.71
937141	AD2-150 C O1	4.64
937142	AD2-150 E O1	21.71
937161	AD2-153 C O1	3.4
937162	AD2-153 E O1	15.94
937171	AD2-154 C O1	3.4
937172	AD2-154 E O1	15.94
937181	AD2-155 C O1	4.64
937182	AD2-155 E O1	21.71
937311	AD2-172 C	3.02
937312	AD2-172 E	4.18
937321	AD2-175 C	21.61
937322	AD2-175 E	14.4
937331	AD2-176 C O1	9.01
937332	AD2-176 E O1	6.01
937401	AD2-194 1	9.6
937411	AD2-194 2	9.6
937531	AD2-214 C	5.43
937532	AD2-214 E	2.56
938012	AE1-002 E O2	28.62
938511	AE1-070 1	11.28
938521	AE1-070 2	10.32
990901	L-005 E	15.61
AB2-013	AB2-013	19.94
AE1-033	AE1-033	22.19
BLUEG	BLUEG	7.55
CALDERWOOD	CALDERWOOD	0.06
CANNELTON	CANNELTON	0.07
CARR	CARR	0.94
CATAWBA	CATAWBA	0.36
CBM-S1	CBM-S1	2.05
CBM-W1	CBM-W1	37.66
CBM-W2	CBM-W2	72.51
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.02

Bus #	Bus	MW Impact
CIN	CIN	0.12
DEARBORN	DEARBORN	2.85
ELMERSMITH	ELMERSMITH	0.04
G-007	G-007	2.63
HAMLET	HAMLET	1.39
MEC	MEC	46.86
O-066	O-066	8.85
RENSSELAER	RENSSELAER	0.74
SANTEETLA	SANTEETLA	0.02
TRIMBLE	TRIMBLE	0.9
WEC	WEC	9.79
Z1-043	Z1-043	35.65

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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
3848	270927	WILTON	CE	275233	WILTON	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	152.91	154.03	DC	29.15

Bus #	Bus	MW Impact
270859	PWR VTR EC;R	15.18
274722	S-055 E	14.1
274772	LINCOLN ;3U	3.88
274773	LINCOLN ;4U	3.88
274774	LINCOLN ;5U	3.88
274775	LINCOLN ;6U	3.88
274776	LINCOLN ;7U	3.88
274777	LINCOLN ;8U	3.88
274832	U4-027	13.66
274859	EASYR;U1 E	13.8
274860	EASYR;U2 E	13.8
274888	PILOT HIL;1E	24.03
274890	CAYUG;1U E	20.77
274891	CAYUG;2U E	20.77
275149	KEMPTON ;1E	24.03
290021	O50 E	24.35
290051	GSG-6; E	13.12
290108	LEEDK;1U E	30.49
290261	S-027 E	20.95
290265	S-028 E	20.95
293061	N-015 E	19.91
293516	O-009 E1	11.42
293517	O-009 E2	5.8
293518	O-009 E3	6.39
293644	O22 E1	12.87
293645	O22 E2	24.98
293715	O-029 E	12.29
293716	O-029 E	6.74
293717	O-029 E	6.19
293771	O-035 E	8.11
294392	P-010 E	25.28
294401	BSHIL;1U E	10.84
294410	BSHIL;2U E	10.84
294763	P-046 E	11.77
295109	WESTBROOK E	7.03
295111	SUBLETTE E	3.26
296125	R-030 C3	5.11
296128	R-030 E3	20.44
296271	R-030 C2	5.05
296272	R-030 E2	20.2
296308	R-030 C1	5.05

Bus #	Bus	MW Impact
296309	R-030 E1	20.2
910542	X3-005 E	0.92
914641	Y2-103	56.39
915011	Y3-013 1	4.7
915021	Y3-013 2	4.7
915031	Y3-013 3	4.7
916211	Z1-072 E	6.14
916221	Z1-073 E	6.77
916502	Z1-106 E1	1.59
916504	Z1-106 E2	1.59
916512	Z1-107 E	3.24
916522	Z1-108 E	3.12
917502	Z2-087 E	26.42
918052	AA1-018 E	20.64
919221	AA1-146	22.09
919581	AA2-030	22.09
919621	AA2-039 C	2.64
919622	AA2-039 E	17.68
920272	AA2-123 E	3.07
924041	AB2-047 C O1	4.87
924042	AB2-047 E O1	32.61
924471	AB2-096	53.14
925161	AB2-173	3.94
925302	AB2-191 E	1.74
925581	AC1-033 C	1.77
925582	AC1-033 E	11.88
925881	AC1-067 O1	171.47
926311	AC1-109 1	2.4
926321	AC1-109 2	2.4
926331	AC1-110 1	2.38
926341	AC1-110 2	2.38
926351	AC1-111 1	0.96
926361	AC1-111 2	0.96
926371	AC1-111 3	0.96
926381	AC1-111 4	0.96
926391	AC1-111 5	0.96
926401	AC1-111 6	0.96
926431	AC1-114	2.99
926821	AC1-168 C O1	1.47
926822	AC1-168 E O1	9.83
927091	AC1-204 1	91.15
927101	AC1-204 2	91.15
927201	AC1-214 C O1	2.6
927202	AC1-214 E O1	8.28
927451	AC1-142A 1	5.25
927461	AC1-142A 2	5.25
927511	AC1-113 1	1.49
927521	AC1-113 2	1.49
927531	AC1-185 1	0.86
927541	AC1-185 2	0.86
927551	AC1-185 3	0.86
927561	AC1-185 4	0.86

Bus #	Bus	MW Impact
927571	AC1-185 5	0.86
927581	AC1-185 6	0.86
927591	AC1-185 7	0.86
927601	AC1-185 8	0.86
930481	AB1-089	82.52
930501	AB1-091 O1	93.82
930741	AB1-122 1O1	91.59
930751	AB1-122 2O1	92.55
932881	AC2-115 1	2.99
932891	AC2-115 2	2.99
932921	AC2-116	1.05
932931	AC2-117	6.69
933341	AC2-147 C	1.1
933342	AC2-147 E	1.79
933411	AC2-154 C	3.26
933412	AC2-154 E	5.32
933431	AC2-156 C O1	1.2
933432	AC2-156 E O1	1.96
933911	AD1-013 C	2.31
933912	AD1-013 E	3.69
933931	AD1-016 C	1.17
933932	AD1-016 E	1.9
934051	AD1-031 C O1	3.6
934052	AD1-031 E O1	5.88
934101	AD1-039 1	8.98
934111	AD1-039 2	9.07
934401	AD1-064 C O1	4.02
934402	AD1-064 E O1	18.83
934431	AD1-067 C	0.16
934432	AD1-067 E	0.69
934651	AD1-096 C	1.12
934652	AD1-096 E	1.83
934701	AD1-098 C O1	8.64
934702	AD1-098 E O1	6.31
934721	AD1-100 C	30.2
934722	AD1-100 E	140.93
934871	AD1-116 C	1.2
934872	AD1-116 E	1.96
934881	AD1-117 C	6.75
934882	AD1-117 E	4.5
934971	AD1-129 C	1.13
934972	AD1-129 E	0.76
935001	AD1-133 C O1	28.11
935002	AD1-133 E O1	18.74
936291	AD2-038 C O1	2.96
936292	AD2-038 E O1	19.78
936371	AD2-047 C O1	2.92
936372	AD2-047 E O1	31.4
936461	AD2-060	3.43
936511	AD2-066 C O1	10.61
936512	AD2-066 E O1	7.08
936781	AD2-101 C	6.08

Bus #	Bus	MW Impact
936782	AD2-101 E	28.46
936791	AD2-102 C	15.08
936792	AD2-102 E	14.49
936961	AD2-130	0.71
937001	AD2-134 C	3.43
937002	AD2-134 E	14.17
937031	AD2-137 C O1	7.33
937032	AD2-137 E O1	34.31
937051	AD2-140 C O1	7.7
937052	AD2-140 E O1	36.03
937061	AD2-141 C O1	7.65
937062	AD2-141 E O1	36.07
937071	AD2-142 C O1	15.39
937072	AD2-142 E O1	72.05
937121	AD2-148 C O1	4.73
937122	AD2-148 E O1	22.16
937131	AD2-149 C O1	4.73
937132	AD2-149 E O1	22.16
937141	AD2-150 C O1	4.73
937142	AD2-150 E O1	22.16
937161	AD2-153 C O1	3.47
937162	AD2-153 E O1	16.26
937171	AD2-154 C O1	3.47
937172	AD2-154 E O1	16.26
937181	AD2-155 C O1	4.73
937182	AD2-155 E O1	22.16
937311	AD2-172 C	3.09
937312	AD2-172 E	4.27
937321	AD2-175 C	22.05
937322	AD2-175 E	14.7
937331	AD2-176 C O1	9.2
937332	AD2-176 E O1	6.13
937401	AD2-194 1	9.8
937411	AD2-194 2	9.8
937531	AD2-214 C	5.55
937532	AD2-214 E	2.61
938012	AE1-002 E O2	15.45
938511	AE1-070 1	11.52
938521	AE1-070 2	10.54
990901	L-005 E	15.94
AB2-013	AB2-013	20.36
AE1-033	AE1-033	22.67
BLUEG	BLUEG	7.71
CALDERWOOD	CALDERWOOD	0.06
CANNELTON	CANNELTON	0.07
CARR	CARR	0.96
CATAWBA	CATAWBA	0.37
CBM-S1	CBM-S1	2.09
CBM-W1	CBM-W1	38.46
CBM-W2	CBM-W2	74.02
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.02

Bus #	Bus	MW Impact
CIN	CIN	0.12
DEARBORN	DEARBORN	2.91
ELMERSMITH	ELMERSMITH	0.04
G-007	G-007	2.68
HAMLET	HAMLET	1.42
MEC	MEC	47.84
O-066	O-066	9.03
RENSSELAER	RENSSELAER	0.76
SANTEETLA	SANTEETLA	0.02
TRIMBLE	TRIMBLE	0.92
WEC	WEC	9.99
Z1-043	Z1-043	36.41

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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
4006	274804	UNIV PK N;RP	CE	243229	05OLIVE	AEP	1	AEP_P4_#2978_05DUMONT 765_B	breaker	971.0	118.58	119.14	DC	10.24

Bus #	Bus	MW Impact
270859	PWR VTR EC;R	9.83
274722	S-055 E	9.18
274808	UNIV PK N;4U	1.82
274809	UNIV PK N;5U	1.82
274811	UNIV PK N;7U	1.82
274812	UNIV PK N;8U	1.82
274814	UNIV PK N;0U	1.82
274815	UNIV PK N;XU	1.82
274832	U4-027	8.65
274859	EASYR;U1 E	8.88
274860	EASYR;U2 E	8.88
274888	PILOT HIL;1E	14.94
274890	CAYUG;1U E	10.74
274891	CAYUG;2U E	10.74
275149	KEMPTON ;1E	14.94
290021	O50 E	15.68
290051	GSG-6; E	8.46
290108	LEEDK;1U E	19.69
293061	N-015 E	12.65
293516	O-009 E1	7.29
293517	O-009 E2	3.7
293518	O-009 E3	4.08
293644	O22 E1	7.91
293645	O22 E2	15.36
293715	O-029 E	7.87
293716	O-029 E	4.32
293717	O-029 E	3.97
293771	O-035 E	5.11
294392	P-010 E	16.07
294401	BSHIL;1U E	6.84
294410	BSHIL;2U E	6.84
294763	P-046 E	7.59
295109	WESTBROOK E	4.53
295111	SUBLETTE E	2.09
910542	X3-005 E	0.52
914641	Y2-103	36.73
915011	Y3-013 1	3.06
915021	Y3-013 2	3.06
915031	Y3-013 3	3.06
916211	Z1-072 E	3.87

Bus #	Bus	MW Impact
916221	Z1-073 E	4.37
916502	Z1-106 E1	1.03
916504	Z1-106 E2	1.03
916512	Z1-107 E	2.18
916522	Z1-108 E	2.03
918052	AA1-018 E	14.35
919221	AA1-146	14.18
919581	AA2-030	14.18
919621	AA2-039 C	1.67
919622	AA2-039 E	11.15
920272	AA2-123 E	1.99
924471	AB2-096	34.41
925161	AB2-173	2.53
925302	AB2-191 E	1.12
925581	AC1-033 C	1.12
925582	AC1-033 E	7.49
925881	AC1-067 O1	98.12
926311	AC1-109 1	1.56
926321	AC1-109 2	1.56
926331	AC1-110 1	1.54
926341	AC1-110 2	1.54
926351	AC1-111 1	0.62
926361	AC1-111 2	0.62
926371	AC1-111 3	0.62
926381	AC1-111 4	0.62
926391	AC1-111 5	0.62
926401	AC1-111 6	0.62
926431	AC1-114	1.93
926821	AC1-168 C O1	0.92
926822	AC1-168 E O1	6.21
927091	AC1-204 1	59.39
927101	AC1-204 2	59.43
927201	AC1-214 C O1	1.64
927202	AC1-214 E O1	5.22
927451	AC1-142A 1	3.47
927461	AC1-142A 2	3.46
927511	AC1-113 1	0.97
927521	AC1-113 2	0.97
927531	AC1-185 1	0.56
927541	AC1-185 2	0.56
927551	AC1-185 3	0.56
927561	AC1-185 4	0.56
927571	AC1-185 5	0.56
927581	AC1-185 6	0.56
927591	AC1-185 7	0.56
927601	AC1-185 8	0.56
930481	AB1-089	53.33
930501	AB1-091 O1	57.76
930741	AB1-122 1O1	58.43
930751	AB1-122 2O1	59.91
932881	AC2-115 1	1.93
932891	AC2-115 2	1.93

Bus #	Bus	MW Impact
932921	AC2-116	0.68
932931	AC2-117	10.41
933341	AC2-147 C	0.7
933342	AC2-147 E	1.15
933411	AC2-154 C	2.03
933412	AC2-154 E	3.31
933431	AC2-156 C O1	0.78
933432	AC2-156 E O1	1.27
933911	AD1-013 C	1.49
933912	AD1-013 E	2.38
933931	AD1-016 C	0.76
933932	AD1-016 E	1.23
934051	AD1-031 C O1	2.27
934052	AD1-031 E O1	3.71
934101	AD1-039 1	5.73
934111	AD1-039 2	5.87
934401	AD1-064 C O1	2.6
934402	AD1-064 E O1	12.18
934431	AD1-067 C	0.11
934432	AD1-067 E	0.45
934651	AD1-096 C	0.72
934652	AD1-096 E	1.18
934701	AD1-098 C O1	5.57
934702	AD1-098 E O1	4.07
934721	AD1-100 C	15.62
934722	AD1-100 E	72.9
934871	AD1-116 C	0.84
934872	AD1-116 E	1.36
934881	AD1-117 C	4.34
934882	AD1-117 E	2.89
934971	AD1-129 C	0.73
934972	AD1-129 E	0.49
935001	AD1-133 C O1	16.74
935002	AD1-133 E O1	11.16
936291	AD2-038 C O1	1.98
936292	AD2-038 E O1	13.24
936371	AD2-047 C O1	1.81
936372	AD2-047 E O1	19.53
936461	AD2-060	2.13
936511	AD2-066 C O1	6.85
936512	AD2-066 E O1	4.57
936781	AD2-101 C	3.5
936782	AD2-101 E	16.39
936791	AD2-102 C	9.75
936792	AD2-102 E	9.37
936961	AD2-130	0.46
937001	AD2-134 C	2.21
937002	AD2-134 E	9.14
937031	AD2-137 C O1	2.7
937032	AD2-137 E O1	12.65
937051	AD2-140 C O1	2.7
937052	AD2-140 E O1	12.66

Bus #	Bus	MW Impact
937061	AD2-141 C O1	2.69
937062	AD2-141 E O1	12.67
937071	AD2-142 C O1	5.41
937072	AD2-142 E O1	25.31
937121	AD2-148 C O1	2.73
937122	AD2-148 E O1	12.79
937131	AD2-149 C O1	2.73
937132	AD2-149 E O1	12.79
937141	AD2-150 C O1	2.73
937142	AD2-150 E O1	12.79
937181	AD2-155 C O1	2.73
937182	AD2-155 E O1	12.79
937311	AD2-172 C	1.99
937312	AD2-172 E	2.75
937321	AD2-175 C	12.73
937322	AD2-175 E	8.49
937331	AD2-176 C O1	5.96
937332	AD2-176 E O1	3.97
937401	AD2-194 1	6.39
937411	AD2-194 2	6.39
937531	AD2-214 C	3.55
937532	AD2-214 E	1.67
938012	AE1-002 E O2	5.43
938511	AE1-070 1	7.5
938521	AE1-070 2	6.87
990901	L-005 E	10.0
AB2-013	AB2-013	12.9
AE1-033	AE1-033	14.65
BLUEG	BLUEG	4.21
CALDERWOOD	CALDERWOOD	0.03
CANNELTON	CANNELTON	0.05
CARR	CARR	0.6
CATAWBA	CATAWBA	0.22
CBM-S1	CBM-S1	1.35
CBM-W1	CBM-W1	22.13
CBM-W2	CBM-W2	44.14
CHEOAH	CHEOAH	0.03
CHILHOWEE	CHILHOWEE	0.01
DEARBORN	DEARBORN	2.59
ELMERSMITH	ELMERSMITH	0.03
G-007	G-007	1.67
GIBSON	GIBSON	0.02
HAMLET	HAMLET	0.83
MEC	MEC	30.27
O-066	O-066	5.63
RENSSELAER	RENSSELAER	0.47
SANTEETLA	SANTEETLA	0.01
TRIMBLE	TRIMBLE	0.5
WEC	WEC	6.49
Z1-043	Z1-043	22.96

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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
3842	275232	WILTON ;3M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT5-6__	breaker	1379.0	156.6	158.68	DC	28.62

Bus #	Bus	MW Impact
270859	PWR VTR EC;R	14.87
274722	S-055 E	13.8
274772	LINCOLN ;3U	3.78
274773	LINCOLN ;4U	3.78
274774	LINCOLN ;5U	3.78
274775	LINCOLN ;6U	3.78
274776	LINCOLN ;7U	3.78
274777	LINCOLN ;8U	3.78
274832	U4-027	13.38
274859	EASYR;U1 E	13.52
274860	EASYR;U2 E	13.52
274888	PILOT HIL;1E	23.54
274890	CAYUG;1U E	20.36
274891	CAYUG;2U E	20.36
275149	KEMPTON ;1E	23.54
290021	O50 E	23.84
290051	GSG-6; E	12.85
290108	LEEDK;1U E	29.85
290261	S-027 E	20.53
290265	S-028 E	20.53
293061	N-015 E	19.5
293516	O-009 E1	11.19
293517	O-009 E2	5.68
293518	O-009 E3	6.26
293644	O22 E1	12.6
293645	O22 E2	24.46
293715	O-029 E	12.03
293716	O-029 E	6.6
293717	O-029 E	6.06
293771	O-035 E	7.95
294392	P-010 E	24.76
294401	BSHIL;1U E	10.61
294410	BSHIL;2U E	10.61
294763	P-046 E	11.52
295109	WESTBROOK E	6.88
295111	SUBLETTE E	3.19
296125	R-030 C3	5.01
296128	R-030 E3	20.04
296271	R-030 C2	4.95
296272	R-030 E2	19.8
296308	R-030 C1	4.95

Bus #	Bus	MW Impact
296309	R-030 E1	19.8
910542	X3-005 E	0.9
914641	Y2-103	55.21
915011	Y3-013 1	4.6
915021	Y3-013 2	4.6
915031	Y3-013 3	4.6
916211	Z1-072 E	6.01
916221	Z1-073 E	6.63
916502	Z1-106 E1	1.55
916504	Z1-106 E2	1.55
916512	Z1-107 E	3.18
916522	Z1-108 E	3.06
917502	Z2-087 E	25.9
918052	AA1-018 E	20.2
919221	AA1-146	21.63
919581	AA2-030	21.63
919621	AA2-039 C	2.59
919622	AA2-039 E	17.31
920272	AA2-123 E	3.0
924041	AB2-047 C O1	4.78
924042	AB2-047 E O1	31.96
924471	AB2-096	52.03
925161	AB2-173	3.86
925302	AB2-191 E	1.7
925581	AC1-033 C	1.74
925582	AC1-033 E	11.64
925881	AC1-067 O1	167.74
926311	AC1-109 1	2.35
926321	AC1-109 2	2.35
926331	AC1-110 1	2.33
926341	AC1-110 2	2.33
926351	AC1-111 1	0.94
926361	AC1-111 2	0.94
926371	AC1-111 3	0.94
926381	AC1-111 4	0.94
926391	AC1-111 5	0.94
926401	AC1-111 6	0.94
926431	AC1-114	2.92
926821	AC1-168 C O1	1.43
926822	AC1-168 E O1	9.63
927091	AC1-204 1	89.24
927101	AC1-204 2	89.24
927201	AC1-214 C O1	2.55
927202	AC1-214 E O1	8.11
927451	AC1-142A 1	5.14
927461	AC1-142A 2	5.14
927511	AC1-113 1	1.46
927521	AC1-113 2	1.46
927531	AC1-185 1	0.84
927541	AC1-185 2	0.84
927551	AC1-185 3	0.84
927561	AC1-185 4	0.84

Bus #	Bus	MW Impact
927571	AC1-185 5	0.84
927581	AC1-185 6	0.84
927591	AC1-185 7	0.84
927601	AC1-185 8	0.84
930481	AB1-089	80.8
930501	AB1-091 O1	91.89
930741	AB1-122 1O1	89.69
930751	AB1-122 2O1	90.62
932881	AC2-115 1	2.92
932891	AC2-115 2	2.92
932921	AC2-116	1.02
932931	AC2-117	6.55
933341	AC2-147 C	1.07
933342	AC2-147 E	1.75
933411	AC2-154 C	3.19
933412	AC2-154 E	5.21
933431	AC2-156 C O1	1.18
933432	AC2-156 E O1	1.92
933911	AD1-013 C	2.26
933912	AD1-013 E	3.61
933931	AD1-016 C	1.14
933932	AD1-016 E	1.86
934051	AD1-031 C O1	3.53
934052	AD1-031 E O1	5.76
934101	AD1-039 1	8.79
934111	AD1-039 2	8.88
934401	AD1-064 C O1	3.94
934402	AD1-064 E O1	18.43
934431	AD1-067 C	0.16
934432	AD1-067 E	0.68
934651	AD1-096 C	1.1
934652	AD1-096 E	1.79
934701	AD1-098 C O1	8.46
934702	AD1-098 E O1	6.17
934721	AD1-100 C	29.61
934722	AD1-100 E	138.19
934871	AD1-116 C	1.18
934872	AD1-116 E	1.92
934881	AD1-117 C	6.61
934882	AD1-117 E	4.4
934971	AD1-129 C	1.11
934972	AD1-129 E	0.74
935001	AD1-133 C O1	27.54
935002	AD1-133 E O1	18.36
936291	AD2-038 C O1	2.89
936292	AD2-038 E O1	19.36
936371	AD2-047 C O1	2.86
936372	AD2-047 E O1	30.76
936461	AD2-060	3.36
936511	AD2-066 C O1	10.39
936512	AD2-066 E O1	6.93
936781	AD2-101 C	5.96

Bus #	Bus	MW Impact
936782	AD2-101 E	27.88
936791	AD2-102 C	14.77
936792	AD2-102 E	14.19
936961	AD2-130	0.69
937001	AD2-134 C	3.36
937002	AD2-134 E	13.88
937031	AD2-137 C O1	7.2
937032	AD2-137 E O1	33.69
937051	AD2-140 C O1	7.56
937052	AD2-140 E O1	35.37
937061	AD2-141 C O1	7.51
937062	AD2-141 E O1	35.42
937071	AD2-142 C O1	15.11
937072	AD2-142 E O1	70.75
937121	AD2-148 C O1	4.64
937122	AD2-148 E O1	21.71
937131	AD2-149 C O1	4.64
937132	AD2-149 E O1	21.71
937141	AD2-150 C O1	4.64
937142	AD2-150 E O1	21.71
937161	AD2-153 C O1	3.4
937162	AD2-153 E O1	15.94
937171	AD2-154 C O1	3.4
937172	AD2-154 E O1	15.94
937181	AD2-155 C O1	4.64
937182	AD2-155 E O1	21.71
937311	AD2-172 C	3.02
937312	AD2-172 E	4.18
937321	AD2-175 C	21.61
937322	AD2-175 E	14.4
937331	AD2-176 C O1	9.01
937332	AD2-176 E O1	6.01
937401	AD2-194 1	9.6
937411	AD2-194 2	9.6
937531	AD2-214 C	5.43
937532	AD2-214 E	2.56
938012	AE1-002 E O2	28.62
938511	AE1-070 1	11.28
938521	AE1-070 2	10.32
990901	L-005 E	15.61
AB2-013	AB2-013	19.94
AE1-033	AE1-033	22.19
BLUEG	BLUEG	7.55
CALDERWOOD	CALDERWOOD	0.06
CANNELTON	CANNELTON	0.07
CARR	CARR	0.94
CATAWBA	CATAWBA	0.36
CBM-S1	CBM-S1	2.05
CBM-W1	CBM-W1	37.66
CBM-W2	CBM-W2	72.51
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.02

Bus #	Bus	MW Impact
CIN	CIN	0.12
DEARBORN	DEARBORN	2.85
ELMERSMITH	ELMERSMITH	0.04
G-007	G-007	2.63
HAMLET	HAMLET	1.39
MEC	MEC	46.86
O-066	O-066	8.85
RENSSELAER	RENSSELAER	0.74
SANTEETLA	SANTEETLA	0.02
TRIMBLE	TRIMBLE	0.9
WEC	WEC	9.79
Z1-043	Z1-043	35.65

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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
3850	275233	WILTON ;4M	CE	270644	WILTON ;	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	152.91	154.03	DC	29.15

Bus #	Bus	MW Impact
270859	PWR VTR EC;R	15.18
274722	S-055 E	14.1
274772	LINCOLN ;3U	3.88
274773	LINCOLN ;4U	3.88
274774	LINCOLN ;5U	3.88
274775	LINCOLN ;6U	3.88
274776	LINCOLN ;7U	3.88
274777	LINCOLN ;8U	3.88
274832	U4-027	13.66
274859	EASYR;U1 E	13.8
274860	EASYR;U2 E	13.8
274888	PILOT HIL;1E	24.03
274890	CAYUG;1U E	20.77
274891	CAYUG;2U E	20.77
275149	KEMPTON ;1E	24.03
290021	O50 E	24.35
290051	GSG-6; E	13.12
290108	LEEDK;1U E	30.49
290261	S-027 E	20.95
290265	S-028 E	20.95
293061	N-015 E	19.91
293516	O-009 E1	11.42
293517	O-009 E2	5.8
293518	O-009 E3	6.39
293644	O22 E1	12.87
293645	O22 E2	24.98
293715	O-029 E	12.29
293716	O-029 E	6.74
293717	O-029 E	6.19
293771	O-035 E	8.11
294392	P-010 E	25.28
294401	BSHIL;1U E	10.84
294410	BSHIL;2U E	10.84
294763	P-046 E	11.77
295109	WESTBROOK E	7.03
295111	SUBLETTE E	3.26
296125	R-030 C3	5.11
296128	R-030 E3	20.44
296271	R-030 C2	5.05
296272	R-030 E2	20.2
296308	R-030 C1	5.05

Bus #	Bus	MW Impact
296309	R-030 E1	20.2
910542	X3-005 E	0.92
914641	Y2-103	56.39
915011	Y3-013 1	4.7
915021	Y3-013 2	4.7
915031	Y3-013 3	4.7
916211	Z1-072 E	6.14
916221	Z1-073 E	6.77
916502	Z1-106 E1	1.59
916504	Z1-106 E2	1.59
916512	Z1-107 E	3.24
916522	Z1-108 E	3.12
917502	Z2-087 E	26.42
918052	AA1-018 E	20.64
919221	AA1-146	22.09
919581	AA2-030	22.09
919621	AA2-039 C	2.64
919622	AA2-039 E	17.68
920272	AA2-123 E	3.07
924041	AB2-047 C O1	4.87
924042	AB2-047 E O1	32.61
924471	AB2-096	53.14
925161	AB2-173	3.94
925302	AB2-191 E	1.74
925581	AC1-033 C	1.77
925582	AC1-033 E	11.88
925881	AC1-067 O1	171.47
926311	AC1-109 1	2.4
926321	AC1-109 2	2.4
926331	AC1-110 1	2.38
926341	AC1-110 2	2.38
926351	AC1-111 1	0.96
926361	AC1-111 2	0.96
926371	AC1-111 3	0.96
926381	AC1-111 4	0.96
926391	AC1-111 5	0.96
926401	AC1-111 6	0.96
926431	AC1-114	2.99
926821	AC1-168 C O1	1.47
926822	AC1-168 E O1	9.83
927091	AC1-204 1	91.15
927101	AC1-204 2	91.15
927201	AC1-214 C O1	2.6
927202	AC1-214 E O1	8.28
927451	AC1-142A 1	5.25
927461	AC1-142A 2	5.25
927511	AC1-113 1	1.49
927521	AC1-113 2	1.49
927531	AC1-185 1	0.86
927541	AC1-185 2	0.86
927551	AC1-185 3	0.86
927561	AC1-185 4	0.86

Bus #	Bus	MW Impact
927571	AC1-185 5	0.86
927581	AC1-185 6	0.86
927591	AC1-185 7	0.86
927601	AC1-185 8	0.86
930481	AB1-089	82.52
930501	AB1-091 O1	93.82
930741	AB1-122 1O1	91.59
930751	AB1-122 2O1	92.55
932881	AC2-115 1	2.99
932891	AC2-115 2	2.99
932921	AC2-116	1.05
932931	AC2-117	6.69
933341	AC2-147 C	1.1
933342	AC2-147 E	1.79
933411	AC2-154 C	3.26
933412	AC2-154 E	5.32
933431	AC2-156 C O1	1.2
933432	AC2-156 E O1	1.96
933911	AD1-013 C	2.31
933912	AD1-013 E	3.69
933931	AD1-016 C	1.17
933932	AD1-016 E	1.9
934051	AD1-031 C O1	3.6
934052	AD1-031 E O1	5.88
934101	AD1-039 1	8.98
934111	AD1-039 2	9.07
934401	AD1-064 C O1	4.02
934402	AD1-064 E O1	18.83
934431	AD1-067 C	0.16
934432	AD1-067 E	0.69
934651	AD1-096 C	1.12
934652	AD1-096 E	1.83
934701	AD1-098 C O1	8.64
934702	AD1-098 E O1	6.31
934721	AD1-100 C	30.2
934722	AD1-100 E	140.93
934871	AD1-116 C	1.2
934872	AD1-116 E	1.96
934881	AD1-117 C	6.75
934882	AD1-117 E	4.5
934971	AD1-129 C	1.13
934972	AD1-129 E	0.76
935001	AD1-133 C O1	28.11
935002	AD1-133 E O1	18.74
936291	AD2-038 C O1	2.96
936292	AD2-038 E O1	19.78
936371	AD2-047 C O1	2.92
936372	AD2-047 E O1	31.4
936461	AD2-060	3.43
936511	AD2-066 C O1	10.61
936512	AD2-066 E O1	7.08
936781	AD2-101 C	6.08

Bus #	Bus	MW Impact
936782	AD2-101 E	28.46
936791	AD2-102 C	15.08
936792	AD2-102 E	14.49
936961	AD2-130	0.71
937001	AD2-134 C	3.43
937002	AD2-134 E	14.17
937031	AD2-137 C O1	7.33
937032	AD2-137 E O1	34.31
937051	AD2-140 C O1	7.7
937052	AD2-140 E O1	36.03
937061	AD2-141 C O1	7.65
937062	AD2-141 E O1	36.07
937071	AD2-142 C O1	15.39
937072	AD2-142 E O1	72.05
937121	AD2-148 C O1	4.73
937122	AD2-148 E O1	22.16
937131	AD2-149 C O1	4.73
937132	AD2-149 E O1	22.16
937141	AD2-150 C O1	4.73
937142	AD2-150 E O1	22.16
937161	AD2-153 C O1	3.47
937162	AD2-153 E O1	16.26
937171	AD2-154 C O1	3.47
937172	AD2-154 E O1	16.26
937181	AD2-155 C O1	4.73
937182	AD2-155 E O1	22.16
937311	AD2-172 C	3.09
937312	AD2-172 E	4.27
937321	AD2-175 C	22.05
937322	AD2-175 E	14.7
937331	AD2-176 C O1	9.2
937332	AD2-176 E O1	6.13
937401	AD2-194 1	9.8
937411	AD2-194 2	9.8
937531	AD2-214 C	5.55
937532	AD2-214 E	2.61
938012	AE1-002 E O2	15.45
938511	AE1-070 1	11.52
938521	AE1-070 2	10.54
990901	L-005 E	15.94
AB2-013	AB2-013	20.36
AE1-033	AE1-033	22.67
BLUEG	BLUEG	7.71
CALDERWOOD	CALDERWOOD	0.06
CANNELTON	CANNELTON	0.07
CARR	CARR	0.96
CATAWBA	CATAWBA	0.37
CBM-S1	CBM-S1	2.09
CBM-W1	CBM-W1	38.46
CBM-W2	CBM-W2	74.02
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.02

Bus #	Bus	MW Impact
CIN	CIN	0.12
DEARBORN	DEARBORN	2.91
ELMERSMITH	ELMERSMITH	0.04
G-007	G-007	2.68
HAMLET	HAMLET	1.42
MEC	MEC	47.84
O-066	O-066	9.03
RENSSELAER	RENSSELAER	0.76
SANTEETLA	SANTEETLA	0.02
TRIMBLE	TRIMBLE	0.92
WEC	WEC	9.99
Z1-043	Z1-043	36.41

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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
4105	275233	WILTON ;4M	CE	270927	WILTON ; R	CE	1	COMED_P4_112-65-BT2-3__	breaker	1379.0	101.26	103.02	DC	29.15

Bus #	Bus	MW Impact
916502	Z1-106 E1	1.59
916504	Z1-106 E2	1.59
916512	Z1-107 E	3.24
916522	Z1-108 E	3.12
920272	AA2-123 E	3.07
938012	AE1-002 E O2	29.15
950031	J301 C	1.85
950032	J301 E	7.41
950041	J308 C	5.51
950042	J308 E	22.05
950121	J392	35.55
950161	J401	1.35
950241	J419	9.09
950281	J431 C	1.13
950282	J431 E	4.54
950302	J453 E	0.93
950311	G934 C	2.79
950312	G934 E	11.15
950351	J466	2.75
950361	J469	0.17
950791	J201 C	0.37
950792	J201 E	1.47
950871	J246 C	0.13
950872	J246 E	0.52
950942	J325 E	0.37
950951	J327 C	2.75
950952	J327 E	8.25
950981	J333	9.28
950991	J334	9.13
951011	J340 C	1.83
951012	J340 E	5.5
951051	J354 C	0.95
951052	J354 E	2.86
951531	J533 C	3.71
951532	J533 E	14.83
951571	J538 C	2.74
951572	J538 E	10.95
951581	J540	4.52
951731	J446 C	2.34
951732	J446 E	12.64
951811	J513 C	1.04

Bus #	Bus	MW Impact
951812	J513 E	5.61
951941	J602 C	2.88
951942	J602 E	15.56
952161	J571	0.59
952201	J589 C	2.89
952202	J589 E	15.61
952312	J646 E	0.15
952401	J752 C	1.43
952402	J752 E	7.75
952471	J708	20.5
952611	J717 C	2.88
952612	J717 E	15.59
952761	J728 C	2.68
952762	J728 E	14.51
952801	J754 C	2.87
952802	J754 E	15.53
952811	J759	4.19
952821	J762	11.89
952861	J783 C	4.0
952862	J783 E	0.17
952881	J758	18.45
952941	J921 C	2.14
952942	J921 E	11.57
952961	J203 C	2.86
952962	J203 E	15.45
952971	J793	120.87
952981	J579 C	2.9
952982	J579 E	15.7
953071	J794 C	0.18
953072	J794 E	0.97
953101	J714 C	1.95
953102	J714 E	10.54
953161	J837 C	2.29
953162	J837 E	12.38
953171	J838 C	2.29
953172	J838 E	12.38
953271	J701 C	0.7
953272	J701 E	3.8
953291	J796	22.04
953321	J799	17.19
953351	J805	13.68
953361	J806	13.71
953381	J809	9.25
953421	J841	64.73
953501	J478 C	2.3
953502	J478 E	12.46
953541	J632 C	2.94
953542	J632 E	15.92
953751	J827	20.43
953771	J832	9.26
953781	J833	9.09
953811	J839	9.15

Bus #	Bus	MW Impact
953831	J842 C	1.78
953832	J842 E	9.63
953841	J843 C	1.81
953842	J843 E	9.8
953861	J846	12.79
953931	J856	4.64
953941	J857	11.51
954011	J865	7.31
954111	J875	13.68
954171	J883 C	0.79
954172	J883 E	4.28
954231	J890 C	1.45
954232	J890 E	7.82
954351	J903	7.1
954381	J906 C	1.46
954382	J906 E	7.88
954421	J913	14.66
954431	J914	2.8
954541	J931 C	2.19
954542	J931 E	11.82
954581	J936	49.42
954591	J937	49.77
954711	J851 C	0.59
954712	J851 E	3.18
954751	J351	47.29
AC1-056	AC1-056	6.88
AD2-098	AD2-098	1.05
AE1-080A	AE1-080A	31.07
BAYOU	BAYOU	2.83
BIG_CAJUN1	BIG_CAJUN1	3.85
BIG_CAJUN2	BIG_CAJUN2	7.78
CBM-N	CBM-N	1.98
CBM-S2	CBM-S2	1.68
CHOCTAW	CHOCTAW	1.94
COFFEEN	COFFEEN	3.19
COTTONWOOD	COTTONWOOD	11.86
CPL	CPL	0.91
DUCKCREEK	DUCKCREEK	14.34
EDWARDS	EDWARDS	7.07
FARMERCITY	FARMERCITY	3.15
G-007A	G-007A	6.13
GIBSON	GIBSON	0.01
IPL	IPL	0.73
LGEE	LGEE	1.01
MECS	MECS	12.01
NEWTON	NEWTON	4.53
NYISO	NYISO	8.58
O-066A	O-066A	2.87
PRAIRIE	PRAIRIE	12.85
SMITHLAND	SMITHLAND	0.47
TATANKA	TATANKA	6.95
TILTON	TILTON	2.22

Bus #	Bus	MW Impact
TVA	TVA	2.04
UNIONPOWER	UNIONPOWER	1.75
VFT	VFT	16.5

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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
4539	934720	AD1-100 TAP	CE	937030	AD2-137 TAP	CE	1	COMED_P7_345-L17704AR-S_+_345-L17907TB-S-A	tower	1846.0	132.97	134.22	DC	23.0

Bus #	Bus	MW Impact
274654	BRAIDWOOD;1U	36.76
274655	BRAIDWOOD;2U	35.0
274660	LASCO STA;1U	23.11
274661	LASCO STA;2U	23.15
274847	GR RIDGE ;BU	0.52
274853	TWINGROVE;U1	1.0
274854	TWINGROVE;U2	1.0
274863	CAYUGA RI;1U	1.29
274864	CAYUGA RI;2U	1.29
274871	GR RIDGE ;2U	0.66
274881	PLEAS RDG;2U	1.01
274887	PILOT HIL;1U	1.01
274888	PILOT HIL;1E	23.46
274890	CAYUG;1U E	30.06
274891	CAYUG;2U E	30.06
275149	KEMPTON ;1E	23.46
276150	W2-048 E	1.37
290261	S-027 E	23.26
290265	S-028 E	23.26
293061	N-015 E	12.01
294392	P-010 E	15.26
296125	R-030 C3	5.95
296128	R-030 E3	23.79
296271	R-030 C2	5.88
296272	R-030 E2	23.51
296308	R-030 C1	5.88
296309	R-030 E1	23.51
905081	W4-005 C	0.97
905082	W4-005 E	37.7
909052	X2-022 E	19.09
917501	Z2-087 C	0.79
917502	Z2-087 E	30.72
924041	AB2-047 C O1	5.64
924042	AB2-047 E O1	37.76
924261	AB2-070 C O1	2.8
924262	AB2-070 E O1	18.76
925771	AC1-053 C	2.75
925772	AC1-053 E	18.42
925881	AC1-067 O1	185.63
926821	AC1-168 C O1	0.64

Bus #	Bus	MW Impact
926822	AC1-168 E O1	4.28
930501	AB1-091 O1	94.0
933411	AC2-154 C	3.18
933412	AC2-154 E	5.19
934721	AD1-100 C	48.95
934722	AD1-100 E	228.42
935001	AD1-133 C O1	18.23
935002	AD1-133 E O1	12.16
935141	AD1-148	4.99
936371	AD2-047 C O1	2.85
936372	AD2-047 E O1	30.63
936461	AD2-060	3.35
936771	AD2-100 C O1	10.65
936772	AD2-100 E O1	7.1
936781	AD2-101 C	8.14
936782	AD2-101 E	38.1
936972	AD2-131 E O1	2.24
937121	AD2-148 C O1	6.12
937122	AD2-148 E O1	28.63
937131	AD2-149 C O1	6.12
937132	AD2-149 E O1	28.63
937141	AD2-150 C O1	6.12
937142	AD2-150 E O1	28.63
937161	AD2-153 C O1	3.83
937162	AD2-153 E O1	17.94
937171	AD2-154 C O1	3.83
937172	AD2-154 E O1	17.94
937181	AD2-155 C O1	6.12
937182	AD2-155 E O1	28.63
937211	AD2-159 C	4.07
937212	AD2-159 E	19.07
937321	AD2-175 C	28.49
937322	AD2-175 E	19.0
938012	AE1-002 E O2	23.0
951741	J474 C	1.73
951742	J474 E	9.35
953741	J826 C	1.01
953742	J826 E	5.45
954181	J884	8.95
AB2-013	AB2-013	5.62
CARR	CARR	0.26
CBM-S1	CBM-S1	2.85
CBM-S2	CBM-S2	0.11
CBM-W1	CBM-W1	5.37
CBM-W2	CBM-W2	49.59
CIN	CIN	2.63
DEARBORN	DEARBORN	1.25
G-007	G-007	0.7
HAMLET	HAMLET	0.03
IPL	IPL	1.15
LGEE	LGEE	0.05
MEC	MEC	13.68

Bus #	Bus	MW Impact
O-066	O-066	2.37
RENSSELAER	RENSSELAER	0.2
TRIMBLE	TRIMBLE	0.02
WEC	WEC	1.21
Z1-043	Z1-043	14.76

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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
4522	937030	AD2-137 TAP	CE	270926	WILTON ; B	CE	1	COMED_P7_345-L17704AR-S_+_345-L17907TB-S-A	tower	1846.0	138.0	139.24	DC	23.0

Bus #	Bus	MW Impact
274654	BRAIDWOOD;1U	36.76
274655	BRAIDWOOD;2U	35.0
274660	LASCO STA;1U	23.11
274661	LASCO STA;2U	23.15
274847	GR RIDGE ;BU	0.52
274853	TWINGROVE;U1	1.0
274854	TWINGROVE;U2	1.0
274863	CAYUGA RI;1U	1.29
274864	CAYUGA RI;2U	1.29
274871	GR RIDGE ;2U	0.66
274881	PLEAS RDG;2U	1.01
274887	PILOT HIL;1U	1.01
274888	PILOT HIL;1E	23.46
274890	CAYUG;1U E	30.06
274891	CAYUG;2U E	30.06
275149	KEMPTON ;1E	23.46
276150	W2-048 E	1.37
290261	S-027 E	23.26
290265	S-028 E	23.26
293061	N-015 E	12.01
294392	P-010 E	15.26
296125	R-030 C3	5.95
296128	R-030 E3	23.79
296271	R-030 C2	5.88
296272	R-030 E2	23.51
296308	R-030 C1	5.88
296309	R-030 E1	23.51
905081	W4-005 C	0.97
905082	W4-005 E	37.7
909052	X2-022 E	19.09
917501	Z2-087 C	0.79
917502	Z2-087 E	30.72
924041	AB2-047 C O1	5.64
924042	AB2-047 E O1	37.76
924261	AB2-070 C O1	2.8
924262	AB2-070 E O1	18.76
925771	AC1-053 C	2.75
925772	AC1-053 E	18.42
925881	AC1-067 O1	185.63
930501	AB1-091 O1	94.0

Bus #	Bus	MW Impact
933411	AC2-154 C	3.18
933412	AC2-154 E	5.19
934721	AD1-100 C	48.95
934722	AD1-100 E	228.42
935001	AD1-133 C O1	18.23
935002	AD1-133 E O1	12.16
935141	AD1-148	4.99
936371	AD2-047 C O1	2.85
936372	AD2-047 E O1	30.63
936461	AD2-060	3.35
936771	AD2-100 C O1	10.65
936772	AD2-100 E O1	7.1
936781	AD2-101 C	8.14
936782	AD2-101 E	38.1
936972	AD2-131 E O1	2.24
937031	AD2-137 C O1	18.57
937032	AD2-137 E O1	86.93
937121	AD2-148 C O1	6.12
937122	AD2-148 E O1	28.63
937131	AD2-149 C O1	6.12
937132	AD2-149 E O1	28.63
937141	AD2-150 C O1	6.12
937142	AD2-150 E O1	28.63
937161	AD2-153 C O1	3.83
937162	AD2-153 E O1	17.94
937171	AD2-154 C O1	3.83
937172	AD2-154 E O1	17.94
937181	AD2-155 C O1	6.12
937182	AD2-155 E O1	28.63
937211	AD2-159 C	4.07
937212	AD2-159 E	19.07
937321	AD2-175 C	28.49
937322	AD2-175 E	19.0
938012	AE1-002 E O2	23.0
951741	J474 C	1.73
951742	J474 E	9.35
954181	J884	8.95
AB2-013	AB2-013	5.62
CARR	CARR	0.26
CBM-S1	CBM-S1	2.85
CBM-S2	CBM-S2	0.11
CBM-W1	CBM-W1	5.37
CBM-W2	CBM-W2	49.59
CIN	CIN	2.63
DEARBORN	DEARBORN	1.25
G-007	G-007	0.7
HAMLET	HAMLET	0.03
IPL	IPL	1.15
LGEE	LGEE	0.05
MEC	MEC	13.68
O-066	O-066	2.37
RENSSELAER	RENSSELAER	0.2

Bus #	Bus	MW Impact
TRIMBLE	TRIMBLE	0.02
WEC	WEC	1.21
Z1-043	Z1-043	14.76

Contingency Name	Contingency Definition
AEP_P1-2_#695A	CONTINGENCY 'AEP_P1-2_#695A' OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 END
COMED_P4_112-65-BT4-5__	CONTINGENCY 'COMED_P4_112-65-BT4-5__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 TRIP BRANCH FROM BUS 275233 TO BUS 270644 CKT 1 / WILTO;4M 345 WILTO; 765 TRIP BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / WILTO;4M 345 WILTO; R 345 TRIP BRANCH FROM BUS 275233 TO BUS 275333 CKT 1 / WILTO;4M 345 WILTO;4C 33 END
COMED_P7_345-L17704AR-S_+_345-L17907TB-S-A	CONTINGENCY 'COMED_P7_345-L17704AR-S_+_345-L17907TB-S-A' TRIP BRANCH FROM BUS 270675 TO BUS 925880 CKT 1 / BURNHAM ;1R 345 AC1-067 TAP 345 TRIP BRANCH FROM BUS 270662 TO BUS 936780 CKT 1 / BLOOM ; B 345 AD2-101 TAP 345 TRIP BRANCH FROM BUS 270662 TO BUS 271098 TO BUS 275258 CKT 1 / BLOOM ; B 345 BLOOM ; B 138 BLOOM ;4C 34.5 END
COMED_P1-2_345-L8014____-S-B	CONTINGENCY 'COMED_P1-2_345-L8014____-S-B' TRIP BRANCH FROM BUS 935000 TO BUS 270717 CKT 1 / AD1-133 TAP 345 DRESDEN ; R 345 END
COMED_P7_345-L2001__B-S_+_345-L2003__R-S	CONTINGENCY 'COMED_P7_345-L2001__B-S_+_345-L2003__R-S' TRIP BRANCH FROM BUS 270670 TO BUS 270728 CKT 1 / BRAID; B 345 E FRA; B 345 TRIP BRANCH FROM BUS 270728 TO BUS 270766 CKT 1 / E FRA; B 345 GOODI;3B 345 TRIP BRANCH FROM BUS 270728 TO BUS 274750 CKT 1 / E FRA; B 345 CRETE;BP 345 TRIP BRANCH FROM BUS 270671 TO BUS 270729 CKT 1 / BRAID; R 345 E FRA; R 345 END
COMED_P4_112-65-BT2-3__	CONTINGENCY 'COMED_P4_112-65-BT2-3__' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 / WILTO; 765 COLLI; 765 TRIP BRANCH FROM BUS 275232 TO BUS 270644 CKT 1 / WILTO;3M 345 WILTO; 765 TRIP BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / WILTO;3M 345 WILTO; B 345 TRIP BRANCH FROM BUS 275232 TO BUS 275332 CKT 1 / WILTO;3M 345 WILTO;3C 33 END
AEP_P4_#7334_05JEFRSO 765_A2	CONTINGENCY 'AEP_P4_#7334_05JEFRSO 765_A2' OPEN BRANCH FROM BUS 242924 TO BUS 243208 CKT 1 / 242924 05HANG R 765 243208 05JEFRSO 765 1 OPEN BRANCH FROM BUS 243208 TO BUS 242865 CKT 2 / 243208 05JEFRSO 765 242865 05JEFRSO 345 2 OPEN BRANCH FROM BUS 242865 TO BUS 248000 CKT Z1 / 242865 05JEFRSO 345 248000 06CLIFTY 345 Z1 END

Contingency Name	Contingency Definition
COMED_P4_112-65-BT3-4__	CONTINGENCY 'COMED_P4_112-65-BT3-4__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 TRIP BRANCH FROM BUS 275232 TO BUS 270644 CKT 1 / WILTO;3M 345 WILTO; 765 TRIP BRANCH FROM BUS 275232 TO BUS 270926 CKT 1 / WILTO;3M 345 WILTO; B 345 TRIP BRANCH FROM BUS 275232 TO BUS 275332 CKT 1 / WILTO;3M 345 WILTO;3C 33 END
COMED_P4_023-65-BT4-5__	CONTINGENCY 'COMED_P4_023-65-BT4-5__' TRIP BRANCH FROM BUS 275168 TO BUS 270607 CKT 1 / COLLI;2M 345 COLLI; 765 TRIP BRANCH FROM BUS 275168 TO BUS 270697 CKT 1 / COLLI;2M 345 COLLI; R 345 TRIP BRANCH FROM BUS 275168 TO BUS 275268 CKT 1 / COLLI;2M 345 COLLI;2C 33 TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 END
COMED_P1-2_765-L11216__-S	CONTINGENCY 'COMED_P1-2_765-L11216__-S' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 / WILTO; 765 COLLI; 765 END
Base Case	
COMED_P4_023-65-BT2-3__	CONTINGENCY 'COMED_P4_023-65-BT2-3__' TRIP BRANCH FROM BUS 270644 TO BUS 243206 CKT 1 / WILTO; 765 05DUMONT 765 TRIP BRANCH FROM BUS 270607 TO BUS 270630 CKT 1 / COLLI; 765 PLANO; 765 END
COMED_P4_112-65-BT5-6__	CONTINGENCY 'COMED_P4_112-65-BT5-6__' TRIP BRANCH FROM BUS 270644 TO BUS 270607 CKT 1 / WILTO; 765 COLLI; 765 TRIP BRANCH FROM BUS 275233 TO BUS 270644 CKT 1 / WILTO;4M 345 WILTO; 765 TRIP BRANCH FROM BUS 275233 TO BUS 270927 CKT 1 / WILTO;4M 345 WILTO; R 345 TRIP BRANCH FROM BUS 275233 TO BUS 275333 CKT 1 / WILTO;4M 345 WILTO;4C 33 END
AEP_P4_#2978_05DUMONT 765_B	CONTINGENCY 'AEP_P4_#2978_05DUMONT 765_B' OPEN BRANCH FROM BUS 243206 TO BUS 243207 CKT 1 / 243206 05DUMONT 765 243207 05GRNTWN 765 1 OPEN BRANCH FROM BUS 243206 TO BUS 270644 CKT 1 / 243206 05DUMONT 765 270644 WILTON ; 765 1 END

Short Circuit

No issues identified