



**Generation Interconnection
Feasibility Study Report
for
Queue Project AE1-135
CLUBHOUSE 230 KV
120 MW Capacity / 200 MW Energy**

January, 2019

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Introduction

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

Preface

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

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

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

PJM utilizes manufacturer models to ensure the performance of turbines is properly captured during the simulations performed for stability verification and, where applicable, for compliance with low voltage ride through requirements. Turbine manufacturers provide such models to their customers. The list of manufacturer models PJM has already validated is contained in Attachment B of Manual 14G. Manufacturer models may be updated from time to time, for various reasons such as to reflect changes to the control systems or to more accurately represent the capabilities turbines and controls which are currently available in the field. Additionally, as new turbine models are developed, turbine manufacturers provide such new models which must be used in the conduct of these studies. PJM needs adequate time to evaluate the new models in order to reduce delays to the System Impact Study process timeline for the Interconnection Customer as well as other Interconnection Customers in the study group. Therefore, PJM will require that any Interconnection Customer with a new manufacturer model must supply that model to PJM, along with a \$10,000 fully refundable deposit, no later than three (3) months prior to the starting date of the System Impact Study (See Section 4.3 for starting dates) for the Interconnection Request which shall specify the use of the new model. The Interconnection Customer will be required to submit a completed dynamic model study request form (Attachment B-1 of Manual 14G) in order to document the request for the study.

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

The IC has proposed a solar and storage generating facility located in Greensville County, Virginia. The installed facilities will have a capability of 200 MW with 120 MW of this output being recognized by PJM as Capacity. The proposed in-service date for the AE1-135 project is 6/30/2019. This study does not imply an ITO commitment to either in-service date.

Queue Number	AE1-135
Project Name	CLUBHOUSE 230 KV
Interconnection Customer	
State	Virginia
County	Greensville
Transmission Owner	Dominion
MFO	200
MWE	200
MWC	120
Fuel	Solar; Storage
Basecase Study Year	2022

Point of Interconnection

Primary Point of Interconnection

AE1-135 will interconnect with the ITO transmission system into the existing Clubhouse 230 kV substation. See one line in **Attachment 1**.

Secondary Point of Interconnection

AE1-135 will interconnect with the ITO transmission system via a new three breaker ring bus switching station that connects on the Clubhouse – Thelma 230kV line.

Cost Summary

The AE1-135 project will be responsible for the following costs:

Description	Total Cost
Attachment Facilities	\$1,800,000
Direct Connection Network Upgrade	\$0
Non Direct Connection Network Upgrades	\$6,500,000
Total Costs	\$8,300,000

In addition, the AE1-135 project may be responsible for a contribution to the following costs

(Reference System Reinforcements in the Network Impacts section for details):

Description	Total Cost
System Upgrades	\$1,450,280,000

Cost allocations for these upgrades will be provided in the System Impact Study Report.

Note: PJM Open Access Transmission Tariff (OATT) section 217.3A outline cost allocation rules. The rules are further clarified in PJM Manual 14A Attachment B. The allocation of costs for a network upgrade will start with the first Queue project to cause the need for the upgrade. Later queue projects will receive cost allocation contingent on their contribution to the violation and are allocated to the queues that have not closed less than 5 years following the execution of the first Interconnection Service Agreement which identifies the need for this upgrade.

The Feasibility Study is used to make a preliminary determination of the type and scope of Attachment Facilities, Local Upgrades, and Network Upgrades that will be necessary to accommodate the Interconnection Request and to provide the Interconnection Customer a preliminary estimate of the time that will be required to construct any necessary facilities and upgrades and the Interconnection Customer's cost responsibility. The

System Impact Study provides refined and comprehensive estimates of cost responsibility and construction lead times for new facilities and system upgrades. Facilities Studies will include, commensurate with the degree of engineering specificity as provided in the Facilities Study Agreement, good faith estimates of the cost, determined in accordance with Section 217 of the Tariff,

- (a) to be charged to each affected New Service Customer for the Facilities and System Upgrades that are necessary to accommodate this queue project;
- (b) the time required to complete detailed design and construction of the facilities and upgrades; and
- (c) a description of any site-specific environmental issues or requirements that could reasonably be anticipated to affect the cost or time required to complete construction of such facilities and upgrades.

Transmission Owner Scope of Work

Attachment Facilities

Generation Substation: Install metering and associated protection equipment. Estimated Cost \$600,000.

Transmission: Construct approximately one span of 230 kV Attachment line between the generation substation and **Clubhouse** 230kV substation. The estimated cost for this work is \$1,200,000.

The estimated total cost of the Attachment Facilities is \$1,800,000. It is estimated to take 18-24 months to complete this work. These preliminary cost estimates are based on typical engineering costs. A more detailed engineering cost estimates are normally done when the IC provides an exact site plan location for the generation substation during the Facility Study phase. The total preliminary cost estimate for the Attachment work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	Total Cost
Generator Substation	\$ 600,000
Transmission	\$1,200,000
Total Attachment Facility Costs	\$1,800,000

Direct Connection Cost Estimate

None

Non-Direct Connection Cost Estimate

Clubhouse Substation: The proposed expansion of Clubhouse substation will consist of adding three 230 kV breakers to create a ringbus, which will require a site expansion. The estimated cost of this work scope is \$6,500,000. It is estimated to take 24-36 months to complete this work.

Remote Terminal Work: During the Facilities Study, ITO's System Protection Engineering Department will review transmission line protection as well as anti-islanding required to accommodate the new generation and interconnection substation. System Protection Engineering will determine the minimal acceptable protection requirements to reliably interconnect the proposed generating facility with the transmission system. The review is based on maintaining system reliability by reviewing ITO's protection requirements with the known transmission system configuration which includes generating facilities in the area. This review may determine that transmission line protection and communication upgrades are required at remote substations.

Interconnection Customer Requirements

ITO's Facility Connection Requirements as posted on PJM's website

<http://www.pjm.com/~media/planning/plan-standards/private-dominion/facility-connection-requirements1.ashx>

Voltage Ride Through Requirements - The Customer Facility shall be designed to remain in service (not trip) for voltages and times as specified for the Eastern Interconnection in Attachment 1 of NERC Reliability Standard PRC-024-1, and successor Reliability Standards, for both high and low voltage conditions, irrespective of generator size, subject to the permissive trip exceptions established in PRC-024-1 (and successor Reliability Standards).

Frequency Ride Through Requirements - The Customer Facility shall be designed to remain in service (not trip) for frequencies and times as specified in Attachment 2 of NERC Reliability Standard PRC-024-1, and successor Reliability Standards, for both high and low frequency condition, irrespective of generator size, subject to the permissive trip exceptions established in PRC-024-1 (and successor Reliability Standards).

Reactive Power - The Generation Interconnection Customer shall design its non-synchronous Customer Facility with the ability to maintain a power factor of at least 0.95 leading to 0.95 lagging measured at the generator's terminals.

Revenue Metering and SCADA Requirements

PJM Requirements

The IC 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 Appendix 2.

Meteorological Data Reporting Requirement

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

- Temperature (degrees Fahrenheit)
- Atmospheric pressure (hectopascals)
- Irradiance
- Forced outage data

Network Impacts – Option 1

The Queue Project AE1-135 was evaluated as a 200 MW (Capacity 120 MW) injection at the Clubhouse 230 kV substation in the ITO area. Project AE1-135 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AE1-135 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)

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
402702	314287	6CHESTF B	DVP	314276	6BASIN	DVP	1	Base Case	single	449.32	98.8	100.84	DC	9.16
403119	314435	6SAPONY	DVP	314282	6CARSON	DVP	1	DVP_P1-2: LN 246	single	678.68	92.25	102.09	DC	66.75
402871	314563	6CLUBHSE	DVP	314435	6SAPONY	DVP	1	DVP_P1-2: LN 2056-A	single	598.78	97.69	109.45	DC	70.45
402875	314563	6CLUBHSE	DVP	314435	6SAPONY	DVP	1	Base Case	single	598.78	88.39	99.22	DC	64.71
403335	314579	6HORNRTN	DVP	934330	AD1-057 TAP	DVP	1	DVP_P1-2: LN 238	single	441.8	91.48	101.79	DC	45.52
403240	934330	AD1-057 TAP	DVP	313845	6HATHAWAY	DVP	1	DVP_P1-2: LN 238	single	441.8	100.07	110.38	DC	45.52
403241	934330	AD1-057 TAP	DVP	313845	6HATHAWAY	DVP	1	DVP_P1-2: LN 2060	single	441.8	97.87	103.44	DC	24.62

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
402405	314299	6HARROWG	DVP	314263	6TYLER1	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	89.92	101.43	DC	62.23
402406	314299	6HARROWG	DVP	314263	6TYLER1	DVP	1	DVP_P4-2: 562T563	breaker	541.0	95.41	99.78	DC	23.62
402484	314316	6LOCKS	DVP	314301	6HARR205	DVP	1	DVP_P4-2: 562T563	breaker	541.0	89.21	93.95	DC	25.63
402407	314331	6POE	DVP	314299	6HARROWG	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	89.92	101.43	DC	62.23
402408	314331	6POE	DVP	314299	6HARROWG	DVP	1	DVP_P4-2: 562T563	breaker	541.0	95.43	99.8	DC	23.62
402487	314579	6HORNRTN	DVP	934330	AD1-057 TAP	DVP	1	DVP_P4-5: L152	breaker	541.0	87.07	101.35	DC	77.12
402425	934330	AD1-057 TAP	DVP	313845	6HATHAWAY	DVP	1	DVP_P4-5: L152	breaker	541.0	96.48	110.74	DC	77.12

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
403779	313844	3HATHAWAY	DVP	314554	3BTLEBRO	DVP	1	DVP_P7-1: LN 2058-2181	tower	301.0	103.1	104.93	DC	12.08
402905	313845	6HATHAWAY	DVP	304222	6ROCKYMT230T	CPLE	1	DVP_P1-2: LN 2181	single	374.0	123.61	127.38	DC	14.1
403092	313845	6HATHAWAY	DVP	314591	6NASH	DVP	1	DVP_P1-2: LN 2058	single	449.32	111.62	114.82	DC	14.38
402074	314218	6ELMONT	DVP	314908	8ELMONT	DVP	1	DVP_P4-2: H2T557	breaker	1050.6	146.4	147.75	DC	31.2
402175	314282	6CARSON	DVP	314285	6CHRL249	DVP	1	DVP_P4-2: 562T563	breaker	684.0	134.89	139.72	DC	32.85
403247	314282	6CARSON	DVP	314285	6CHRL249	DVP	1	DVP_P1-2: LN 563	single	559.3	111.95	115.29	DC	18.67
402203	314285	6CHRL249	DVP	314316	6LOCKS	DVP	1	DVP_P4-2: 562T563	breaker	684.0	131.86	136.7	DC	32.85
403282	314285	6CHRL249	DVP	314316	6LOCKS	DVP	1	DVP_P1-2: LN 563	single	559.3	108.25	111.59	DC	18.67
402050	314287	6CHESTF B	DVP	314276	6BASIN	DVP	1	DVP_P4-2: 562T563	breaker	549.0	154.91	158.67	DC	20.45
402693	314287	6CHESTF B	DVP	314276	6BASIN	DVP	1	DVP_P1-2: LN 563	single	449.32	148.92	151.6	DC	11.85
402695	314287	6CHESTF B	DVP	314276	6BASIN	DVP	1	DVP_P1-2: LN 217	single	449.32	139.23	142.09	DC	12.85
403083	314303	6HOPEWLL	DVP	314286	6CHESTF A	DVP	1	DVP_P1-2: LN 259	single	449.32	111.68	113.74	DC	9.29
403084	314303	6HOPEWLL	DVP	314286	6CHESTF A	DVP	1	DVP_P1-2: LN 217	single	449.32	109.88	111.95	DC	9.29
403571	314554	3BTLEBRO	DVP	304223	3ROCKYMT115T	CPLE	1	DVP_P7-1: LN 2058-2181	tower	164.0	298.9	303.04	DC	14.94
402870	314563	6CLUBHSE	DVP	314435	6SAPONY	DVP	1	DVP_P1-2: LN 246	single	598.78	108.06	119.21	DC	66.76
402741	314569	6EARLEYS	DVP	314575	6NUCO TP	DVP	1	DVP_P1-2: LN 2092	single	571.52	125.69	127.71	DC	11.68
402742	314569	6EARLEYS	DVP	314575	6NUCO TP	DVP	1	DVP_P1-2: LN 2131	single	571.52	124.94	126.96	DC	11.69
402928	314574	6EVERETS	DVP	936530	AD2-068 TAP	DVP	1	DVP_P1-2: LN 246	single	449.32	113.46	115.31	DC	8.31
402929	314574	6EVERETS	DVP	936530	AD2-068 TAP	DVP	1	DVP_P1-2: LN 2092	single	449.32	110.76	112.36	DC	7.16
403603	314574	6EVERETS	DVP	936530	AD2-068 TAP	DVP	1	DVP_P7-1: LN 2058-2181	tower	485.0	161.69	163.29	DC	17.25
402794	314575	6NUCO TP	DVP	919140	AA1-138 TAP	DVP	1	DVP_P1-2: LN 2092	single	571.52	119.27	121.29	DC	11.68
402795	314575	6NUCO TP	DVP	919140	AA1-138 TAP	DVP	1	DVP_P1-2: LN 2131	single	571.52	118.51	120.54	DC	11.69
402085	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	DVP_P4-2: 23872	breaker	433.0	129.6	158.16	DC	123.66
402086	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	DVP_P4-2: 238T2002	breaker	433.0	129.28	157.83	DC	123.63
402762	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	DVP_P1-2: LN 238	single	375.06	121.13	140.91	DC	74.18
402763	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	DVP_P1-2: LN 2056-A	single	375.06	120.91	130.21	DC	34.86
403218	314591	6NASH	DVP	304226	6PA-RMOUNT#4	CPLE	1	DVP_P1-2: LN 2058	single	470.0	101.28	104.34	DC	14.38
402254	314902	8CARSON	DVP	314914	8MDLTHAN	DVP	1	DVP_P4-2: 557T574	breaker	3938.0	125.81	126.3	DC	51.63

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
402255	314902	8CARSON	DVP	314914	8MDLTHAN	DVP	1	DVP_P4-2: H2T557	breaker	3938.0	118.71	119.18	DC	49.33
402170	314903	8CHCKAHM	DVP	314908	8ELMONT	DVP	1	DVP_P4-2: 563T576	breaker	3144.0	138.62	139.28	DC	45.8
402783	314903	8CHCKAHM	DVP	314908	8ELMONT	DVP	1	DVP_P1-2: LN 576	single	2442.12	132.31	132.79	DC	26.04
402784	314903	8CHCKAHM	DVP	314908	8ELMONT	DVP	1	DVP_P1-2: LN 563	single	2442.12	132.3	132.77	DC	25.58
402346	314905	8CHANCE	DVP	314900	8BRISTER	DVP	1	DVP_P4-2: H1T594	breaker	3351.0	112.86	113.34	DC	35.64
402347	314905	8CHANCE	DVP	314900	8BRISTER	DVP	1	DVP_P4-2: 573T594	breaker	3351.0	112.29	112.77	DC	35.53
402090	314908	8ELMONT	DVP	314911	8LADYSMITH	DVP	1	DVP_P4-2: WT576	breaker	3351.0	149.3	150.08	DC	57.21
402091	314908	8ELMONT	DVP	314911	8LADYSMITH	DVP	1	DVP_P4-2: 57602	breaker	3351.0	149.3	150.08	DC	57.21
402663	314908	8ELMONT	DVP	314911	8LADYSMITH	DVP	1	DVP_P1-2: LN 576	single	2442.12	160.89	161.54	DC	34.32
402666	314908	8ELMONT	DVP	314911	8LADYSMITH	DVP	1	DVP_P1-2: LN 563	single	2442.12	144.79	145.33	DC	28.59
402297	314911	8LADYSMITH	DVP	314905	8CHANCE	DVP	1	DVP_P4-2: SPOTS H1T594	breaker	3351.0	117.31	117.79	DC	35.87
402298	314911	8LADYSMITH	DVP	314905	8CHANCE	DVP	1	DVP_P4-2: 57302	breaker	3351.0	115.12	115.62	DC	36.24
402299	314911	8LADYSMITH	DVP	314905	8CHANCE	DVP	1	DVP_P4-2: XT573	breaker	3351.0	115.12	115.62	DC	36.24
402198	314914	8MDLTHAN	DVP	314918	8NO ANNA	DVP	1	DVP_P4-2: 557T574	breaker	3637.0	136.95	137.35	DC	57.14
402719	314914	8MDLTHAN	DVP	314918	8NO ANNA	DVP	1	DVP_P1-2: LN 574	single	2442.12	138.95	139.56	DC	32.44
402722	314914	8MDLTHAN	DVP	314918	8NO ANNA	DVP	1	DVP_P1-2: LN 557	single	2442.12	128.77	129.32	DC	29.69
402393	314918	8NO ANNA	DVP	314934	8SPOTSYL	DVP	1	DVP_P4-2: H1T581	breaker	3938.0	106.81	107.27	DC	39.76
403704	314934	8SPOTSYL	DVP	314916	8MORRSVL	DVP	1	DVP_P7-1: LN 198-581	tower	3938.0	110.32	110.79	DC	39.66
402805	919140	AA1-138 TAP	DVP	314537	6SUFFOLK	DVP	1	DVP_P1-2: LN 2092	single	571.52	119.25	121.28	DC	11.68
402806	919140	AA1-138 TAP	DVP	314537	6SUFFOLK	DVP	1	DVP_P1-2: LN 2131	single	571.52	118.5	120.53	DC	11.69
402426	934330	AD1-057 TAP	DVP	313845	6HATHAWAY	DVP	1	DVP_P4-2: 2012T2014	breaker	541.0	101.4	108.94	DC	40.79
402951	936530	AD2-068 TAP	DVP	304451	6GREENVILE T	CPLE	1	DVP_P1-2: LN 246	single	478.0	110.84	112.58	DC	8.31
402952	936530	AD2-068 TAP	DVP	304451	6GREENVILE T	CPLE	1	DVP_P1-2: LN 2092	single	478.0	108.19	109.69	DC	7.16
403598	936530	AD2-068 TAP	DVP	304451	6GREENVILE T	CPLE	1	DVP_P7-1: LN 2058-2181	tower	478.0	170.09	171.72	DC	17.25

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
402904	313845	6HATHAWAY	DVP	304222	6ROCKYMT230T	CPL	1	DVP_P1-2: LN 2181	operation	374.0	158.61	161.46	DC	23.5
403089	313845	6HATHAWAY	DVP	314591	6NASH	DVP	1	DVP_P1-2: LN 2058	operation	449.32	141.34	143.76	DC	23.97
403391	314218	6ELMONT	DVP	314908	8ELMONT	DVP	1	DVP_P1-2: LN 557	operation	920.92	101.74	102.73	DC	20.04
403413	314225	6CHARCTY	DVP	314227	6LAKESIDE	DVP	1	DVP_P1-2: LN 557	operation	984.18	102.91	103.79	DC	18.87
403475	314266	6NORTHAMPTON	DVP	314569	6EARLEYS	DVP	1	DVP_P1-2: LN 238	operation	559.3	90.74	104.01	DC	74.23
403246	314282	6CARSON	DVP	314285	6CHRL249	DVP	1	DVP_P1-2: LN 563	operation	559.3	119.8	125.38	DC	31.12
403281	314285	6CHRL249	DVP	314316	6LOCKS	DVP	1	DVP_P1-2: LN 563	operation	559.3	116.1	121.68	DC	31.12
402691	314287	6CHESTF B	DVP	314276	6BASIN	DVP	1	DVP_P1-2: LN 563	operation	449.32	183.9	185.9	DC	19.75
402700	314287	6CHESTF B	DVP	314276	6BASIN	DVP	1	Base Case	operation	449.32	107.05	108.59	DC	15.27
403392	314287	6CHESTF B	DVP	314225	6CHARCTY	DVP	1	DVP_P1-2: LN 557	operation	984.18	106.63	107.51	DC	18.87
403437	314299	6HARROWG	DVP	314263	6TYLER1	DVP	1	DVP_P1-2: LN 563	operation	441.8	88.01	93.09	DC	22.45
403434	314331	6POE	DVP	314299	6HARROWG	DVP	1	DVP_P1-2: LN 563	operation	441.8	88.03	93.11	DC	22.45
403113	314435	6SAPONY	DVP	314282	6CARSON	DVP	1	DVP_P1-2: LN 246	operation	678.68	124.87	141.29	DC	111.25
403118	314435	6SAPONY	DVP	314282	6CARSON	DVP	1	Base Case	operation	678.68	100.84	116.75	DC	107.83
403430	314561	6CAROLNA	DVP	314599	6ROA VAL	DVP	1	DVP_P1-2: LN 238	operation	548.02	93.47	107.01	DC	74.23
402864	314563	6CLUBHSE	DVP	314435	6SAPONY	DVP	1	DVP_P1-2: LN 246	operation	598.78	145.52	164.13	DC	111.26
402869	314563	6CLUBHSE	DVP	314435	6SAPONY	DVP	1	Base Case	operation	598.78	122.73	140.76	DC	107.85
402736	314569	6EARLEYS	DVP	314575	6NUCO TP	DVP	1	DVP_P1-2: LN 2092	operation	571.52	183.74	185.05	DC	19.47
402744	314569	6EARLEYS	DVP	314575	6NUCO TP	DVP	1	Base Case	operation	571.52	116.13	117.18	DC	16.16
402922	314574	6EVERETS	DVP	936530	AD2-068 TAP	DVP	1	DVP_P1-2: LN 246	operation	449.32	156.63	157.91	DC	13.85
402789	314575	6NUCO TP	DVP	919140	AA1-138 TAP	DVP	1	DVP_P1-2: LN 2092	operation	571.52	177.32	178.63	DC	19.47

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
402797	314575	6NUCO TP	DVP	919140	AA1-138 TAP	DVP	1	Base Case	operation	571.52	109.71	110.75	DC	16.16
403330	314579	6HORNRTN	DVP	934330	AD1-057 TAP	DVP	1	DVP_P1-2: LN 238	operation	441.8	102.22	119.42	DC	75.87
402759	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	DVP_P1-2: LN 238	operation	375.06	149.08	182.04	DC	123.63
402767	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	Base Case	operation	351.56	98.48	109.45	DC	38.56
403215	314591	6NASH	DVP	304226	6PA-RMOUNT#4	CPLE	1	DVP_P1-2: LN 2058	operation	470.0	129.69	132.0	DC	23.97
403432	314599	6ROA VAL	DVP	314266	6NORTHAMPTON	DVP	1	DVP_P1-2: LN 238	operation	548.02	93.41	106.95	DC	74.23
402967	314902	8CARSON	DVP	314914	8MDLTHAN	DVP	1	DVP_P1-2: LN 557	operation	3218.56	142.87	143.42	DC	47.9
402973	314902	8CARSON	DVP	314914	8MDLTHAN	DVP	1	Base Case	operation	3218.56	99.17	99.71	DC	38.76
402777	314903	8CHCKAHM	DVP	314908	8ELMONT	DVP	1	DVP_P1-2: LN 563	operation	2442.12	171.25	172.04	DC	42.63
402782	314903	8CHCKAHM	DVP	314908	8ELMONT	DVP	1	Base Case	operation	2442.12	136.31	136.89	DC	31.23
402882	314905	8CHANCE	DVP	314900	8BRISTER	DVP	1	DVP_P1-2: LN 594	operation	2442.12	153.9	154.57	DC	35.54
402660	314908	8ELMONT	DVP	314911	8LADYSMITH	DVP	1	DVP_P1-2: LN 576	operation	2442.12	204.72	205.79	DC	57.21
402990	314911	8LADYSMITH	DVP	314905	8CHANCE	DVP	1	DVP_P1-2: LN 573	operation	2738.22	140.48	141.08	DC	36.05
402715	314914	8MDLTHAN	DVP	314918	8NO ANNA	DVP	1	DVP_P1-2: LN 574	operation	2442.12	185.1	185.75	DC	54.06
402721	314914	8MDLTHAN	DVP	314918	8NO ANNA	DVP	1	Base Case	operation	2442.12	130.07	130.81	DC	41.2
403136	314918	8NO ANNA	DVP	314934	8SPOTSYL	DVP	1	DVP_P1-2: LN 581	operation	3218.56	129.25	129.82	DC	40.17
403480	314923	8SEPTA	DVP	314924	8SURRY	DVP	1	DVP_P1-2: LN 563	operation	2442.12	96.31	96.79	DC	26.17
403328	314924	8SURRY	DVP	314903	8CHCKAHM	DVP	1	DVP_P1-2: LN 563	operation	2442.12	113.67	114.32	DC	34.92
403095	314934	8SPOTSYL	DVP	314916	8MORRSVL	DVP	1	DVP_P1-2: LN 552	operation	3218.56	133.97	134.54	DC	39.78
402800	919140	AA1-138 TAP	DVP	314537	6SUFFOLK	DVP	1	DVP_P1-2: LN 2092	operation	571.52	177.3	178.61	DC	19.47
402808	919140	AA1-138 TAP	DVP	314537	6SUFFOLK	DVP	1	Base Case	operation	571.52	109.69	110.74	DC	16.16
403235	934330	AD1-057 TAP	DVP	313845	6HATHAWAY	DVP	1	DVP_P1-2: LN 238	operation	441.8	113.33	130.51	DC	75.87
402945	936530	AD2-068 TAP	DVP	304451	6GREENVILLE T	CPLE	1	DVP_P1-2: LN 246	operation	478.0	153.37	154.57	DC	13.85

System Reinforcements

ID	Index	Facility	Upgrade Description	Cost
402297,402298,402299	26	8LADYSMITH 500.0 kV - 8CHANCE 500.0 kV Ckt 1	Description : PJM baseline upgrade b3021: Rebuild 500kV Line #581 Ladysmith to Chancellor - 15.2 miles long. The baseline project has an projected in-service date of 12/31/2023.	\$0
403571	16	3BTLEBRO 115.0 kV - 3ROCKYMT115T 115.0 kV Ckt 1	Description : New Suffolk – Earleys – Everetts 500kV line with substation 500/230kV transformation at Earleys and Everetts substations. Time Estimate : 30-36 Months Cost : \$570,000,000	\$570,000,000
403779	9	3HATHAWAY 115.0 kV - 3BTLEBRO 115.0 kV Ckt 1	<u>Duke / CPLE</u> The external (i.e. Non-PJM) Transmission Owner, CPLE, will not evaluate this violation until the impact study phase.	
403092	11	6HATHAWAY 230.0 kV - 6NASH 230.0 kV Ckt 1	Description : Wreck & rebuild 1 mile of 230kV Line # 2181 between Hathaway and Nash substation. Note: line # 2181 is the Hathaway - Rocky Mount tie line between VEPCO and Duke / CPLE. Time Estimate : 30-36 Months Cost : \$2,250,000	\$2,250,000
402762,402763,402085,402086	20	6LAKEVEW 230.0 kV - 6CAROLNA 230.0 kV Ckt 1	Description : Wreck & rebuild 1.5 miles of 230kV Line #2141 between Carolina and Lakeview substations. A VA CPCN will be required. Time Estimate : 30-36 Months Cost : \$3,625,000	\$3,625,000
402346,402347	24	8CHANCE 500.0 kV - 8BRISTER 500.0 kV Ckt 1	Description : PJM baseline upgrade b3019: Rebuild 500kV Line #552 Bristers to Chancellor – 21.6 miles long. The baseline project has an projected in-service date of 12/31/2023.	\$0
402254,402255	22	8CARSON 500.0 kV - 8MDLTHAN 500.0 kV Ckt 1	Description : Wreck & rebuild 38 miles of 500kV Line # 563 between Carson and Midlothian substations. A VA CPCN will be required. Add a breaker at Chickenhomny 500kV to keep transformer energized. Time Estimate : 44-48 Months Cost : \$113,230,000	\$113,230,000
402408,402407	8	6POE 230.0 kV - 6HARROWG 230.0 kV Ckt 1	Description : Wreck & rebuild 2 miles of 230kV Line # 2003 between Poe and Harrowgate substations. The remaining 7 miles of this line is built with 2-721 ACAR which is sufficient. A VA CPCN will be required. Time Estimate : 40-44 Months Cost : \$6,000,000	\$6,000,000

ID	Index	Facility	Upgrade Description	Cost
402794,402795	19	6NUCO TP 230.0 kV - AA1-138 TAP 230.0 kV Ckt 1	Description : Wreck & rebuild 14.2 miles of 230kV Line # 246 between Nuco Tap and Queue AA1-138. A NC PUC approval is required Time Estimate : 36-40 Months Cost : \$35,200,000	\$35,200,000
403240,402425,402426,403241	5	AD1-057 TAP 230.0 kV - 6HATHAWAY 230.0 kV Ckt 1	Description : Wreck & rebuild 12.8 miles of 230kV Line # 2056 between Hathaway substation and Queue AD1-057. Note: line # 2056 is the Hathaway - Rocky Mount tie line between VEPCO and Duke / CPLE. A NC PUC approval will be required Time Estimate : 36-40 Months Cost : \$32,000,000	\$32,000,000
402484	7	6LOCKS 230.0 kV - 6HARR205 230.0 kV Ckt 1	Description : No Violation. Facility loading does not exceed 100%.	\$0
402875,402870,402871	3	6CLUBHSE 230.0 kV - 6SAPONY 230.0 kV Ckt 1	Description : Wreck & rebuild 16.76 miles of 230kV Line # 238 between Clubhouse and Sapony substations. A NC PUC approval is required Time Estimate : 44-48 Months Cost : \$41,900,000	\$41,900,000
402784,402170,402783	23	8CHCKAHM 500.0 kV - 8ELMONT 500.0 kV Ckt 1	Description : Rebuild / Uprate 28 miles of 500kV Line # 557 between Chickahominy and Elmont substations. A VA CPCN will be required. Time Estimate : 36-44 Months Cost : \$84,000,000	\$84,000,000
402928,402929,403603	18	6EVERETS 230.0 kV - AD2-068 TAP 230.0 kV Ckt 1	Description : Rebuild 17.0 miles of Line # 218 between Everetts substation and Queue AD2-068. Note: line # 218 is the Everetts – Greenville tie line between VEPCO and Duke / CPLE Time Estimate : 30-36 Months Cost : \$34,000,000	\$34,000,000
402050,402693,402702,402695	1	6CHESTF B 230.0 kV - 6BASIN 230.0 kV Ckt 1	Description : Re-Conductor and replace structures of 230kV Line # 259 between Basin and Chesterfield substations. Time Estimate : 30-36 Months Cost : \$16,500,000	\$16,500,000
402090,402091,402666,402663	25	8ELMONT 500.0 kV - 8LADYSMITH 500.0 kV Ckt 1	Description : PJM baseline upgrade b3020: Rebuild 500kV Line #574 Ladysmith to Elmont - 26.2 miles long. The baseline project has a projected in-service date of 12/31/2022. In addition to PJM baseline project b3020, a 2nd 230 kV circuit is required between Elmont and Ladysmith substations. Time Estimate : 36-44 Months Cost : \$30,000,000	\$30,000,000
402074	12	6ELMONT 230.0 kV - 8ELMONT 230.0 kV Ckt 1	Description : Add 3rd 500-230kV Elmont transformer. Site Expansion will be required. Time Estimate : 24-30 Months Cost : \$30,000,000	\$30,000,000

ID	Index	Facility	Upgrade Description	Cost
402741,402742	17	6GEARLEYS 230.0 kV - 6NUCO TP 230.0 kV Ckt 1	Description : Wreck & rebuild 230kV Line 246 14 mi NC PUC Required Time Estimate : 44-48 Months Cost : \$34,500,000	\$34,500,000
403083,403084	15	6HOPEWLL 230.0 kV - 6CHESTF A 230.0 kV Ckt 1	Description : PJM baseline upgrade b2922: Rebuild 8 of 11 miles of 230kV Lines #211 and #228 to current standard with a summer emergency rating of 1046 MVA for rebuilt section. Proposed conductor is 2-636 ACSR. The baseline project has a projected in-service date of 12/01/2020.	\$0
402952,403598,402951	31	AD2-068 TAP 230.0 kV - 6GREENVILE T 230.0 kV Ckt 1	Description : Rebuild 3.0 miles of 230kV Line # 218 between Queue AD2-068 and the VEPCO / Duke/CPL E tie point. Time Estimate : 30-36 Months Cost : \$6,000,000 <u>Duke/CPL E</u> The external (i.e. Non-PJM) Transmission Owner, CPL E, will not evaluate this violation until the impact study phase.	\$6,000,000
402905	10	6HATHAWAY 230.0 kV - 6ROCKYMT230T 230.0 kV Ckt 1	Description : Rebuild 4.5 miles of 230kV Line # 2058 between Hathaway and the VEPCO / Duke/CPL E tie point. Time Estimate : 30-36 Months Cost : \$12,000,000 <u>Duke/CPL E</u> The external (i.e. Non-PJM) Transmission Owner, CPL E, will not evaluate this violation until the impact study phase.	\$12,000,000
403282,402203	14	6CHRL249 230.0 kV - 6LOCKS 230.0 kV Ckt 1	Description : Wreck & rebuild 3 miles of 230kV Line # 249 between Chaparral and Locks substations. A VA CPCN will be required. Time Estimate : 44-48 Months Cost : \$7,500,000	\$7,500,000
403704	29	8SPOTSYL 500.0 kV - 8MORRSVL 500.0 kV Ckt 1	Description : Wreck & rebuild 17 miles of 500kV Line # 594 between Spotsylvania and Morrisville substations. A VA CPCN will be required. Time Estimate : 44-48 Months Cost : \$60,000,000	\$60,000,000
403218	21	6NASH 230.0 kV - 6PA- RMOUNT#4 230.0 kV Ckt 1	Description : Wreck & rebuild 9 miles of 230kV Line # 123 between Nash substation and the VEPCO / Duke/CPL E tie point. A NC PUC approval is required. Time Estimate : 36-40 Months Cost : \$20,000,000 <u>CPL E</u> The external (i.e. Non-PJM) Transmission Owner, CPL E, will not evaluate this violation until the impact study phase.	\$20,000,000

ID	Index	Facility	Upgrade Description	Cost
403119	2	6SAPONY 230.0 kV - 6CARSON 230.0 kV Ckt 1	Description : Wreck & rebuild 12 miles of 230kV Line # 238 between Carson and Sapony substations. A VA CPCN will be required. Time Estimate : 30-36 Months Cost : \$29,425,000	\$29,425,000
402393	28	8NO ANNA 500.0 kV - 8SPOTSYL 500.0 kV Ckt 1	Description : Wreck & rebuild 14 miles of 500kV Line # 573 between North Anna and Spotsylvania substations. A VA CPCN will be required. Time Estimate : 44-48 Months Cost : \$42,000,000	\$42,000,000
403247,402175	13	6CARSON 230.0 kV - 6CHRL249 230.0 kV Ckt 1	Description : Wreck & rebuild 7.5 miles of Line # 249 between Carson and Chaparral substations. A VA CPCN will be required. Time Estimate : 44-48 Months Cost : \$18,500,000	\$18,500,000
402805,402806	30	AA1-138 TAP 230.0 kV - 6SUFFOLK 230.0 kV Ckt 1	Description : Wreck & rebuild 16.5 miles of Line # 246 between Suffolk substation and Queue AA1-138. Both a VA CPCN & NC PUC approval will be required. Time Estimate : 36-40 Months Cost : \$41,250,000	\$41,250,000
402405,402406	6	6HARROWG 230.0 kV - 6TYLER1 230.0 kV Ckt 1	Description : Wreck & rebuild 2 miles of 230kV Line # 2003 between Harrowgate and Tyler substations. The remainder of this line is built with 2-636 ACSR which is sufficient. A VA CPCN will be required. Time Estimate : 40-48 Months Cost : \$17,000,000	\$17,000,000
402722,402198,402719	27	8MDLTHAN 500.0 kV - 8NO ANNA 500.0 kV Ckt 1	Description : Wreck & Rebuild 41.13 miles of 500kV Line # 576 between Midlothian and North Anna substations. A VA CPCN will be required. Time Estimate : 24-30 Months Cost : \$123,400,000	\$123,400,000
403335,402487	4	6HORNRTN 230.0 kV - AD1-057 TAP 230.0 kV Ckt 1	Description : Wreck & rebuild 16 miles of 230kV Line # 2056 between Hornertown substation and Queue AD1-057. A NC PUC approval is required. Time Estimate : 36-40 Months Cost : \$40,000,000	\$40,000,000
			TOTAL COST	\$1,450,280,000

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
402050	314287	6CHESTFB	DVP	314276	6BASIN	DVP	1	DVP_P4-2:562T563	breaker	549.0	154.91	158.67	DC	20.45

Bus #	Bus	MW Impact
314314	3LOCKS	0.17
314539	3UNCAMP	0.93
314541	3WATKINS	0.27
314554	3BTLEBRO	0.3
314557	3BETHEL	0.3
314572	3EMPORIA	0.21
314574	6EVERETS	1.53
314578	3HORNRTN	1.41
314582	3KELFORD	1.36
314594	6PLYMOTH	0.3
314603	3SCOT NK	1.29
314617	3TUNIS	0.33
314620	6CASHIE	0.31
314623	3WITAKRS	0.52
315065	1CHESTF6	26.38
315073	1STONECA	4.95
315074	1HOPCGN1	5.97
315075	1HOPCGN2	5.89
315076	1HOPPOLC	1.05
315077	1HOPHCF1	1.64
315078	1HOPHCF2	1.64
315079	1HOPHCF3	1.64
315080	1HOPHCF4	2.49
315131	1EDGECEMA	3.51
315132	1EDGECEMB	3.51
900672	V4-068 E	0.12
907092	X1-038 E	2.32
916302	Z1-086 E	3.66
917332	Z2-043 E	0.39
917342	Z2-044 E	0.22
917512	Z2-088 E OP1	1.44
918492	AA1-063AE OP	1.65
918512	AA1-065 E OP	1.66
918532	AA1-067 E	0.27
918562	AA1-072 E	0.06
919692	AA2-053 E	1.57
919701	AA2-057 C	2.76
919702	AA2-057 E	1.38
920042	AA2-088 E OP	4.19
920592	AA2-165 E	0.18

Bus #	Bus	MW Impact
920672	AA2-174 E	0.18
923801	AB2-015 C O1	3.33
923802	AB2-015 E O1	2.73
923851	AB2-025 C	0.26
923852	AB2-025 E	0.77
923911	AB2-031 C O1	1.08
923912	AB2-031 E O1	0.53
923941	AB2-035 C	0.13
923942	AB2-035 E	0.05
923992	AB2-040 E O1	2.89
924152	AB2-059 E O1	2.04
924391	AB2-088 C	0.16
924392	AB2-088 E	0.08
924491	AB2-098 C	0.21
924492	AB2-098 E	0.09
924501	AB2-099 C	0.23
924502	AB2-099 E	0.1
924511	AB2-100 C	6.68
924512	AB2-100 E	3.29
924812	AB2-134 E O1	6.69
925051	AB2-160 C O1	3.53
925052	AB2-160 E O1	5.77
925061	AB2-161 C O1	1.95
925062	AB2-161 E O1	3.17
925122	AB2-169 E	2.1
925171	AB2-174 C O1	3.46
925172	AB2-174 E O1	3.13
925331	AB2-190 C	11.44
925332	AB2-190 E	4.9
925591	AC1-034 C	2.57
925592	AC1-034 E	1.94
925821	AC1-061	0.0
926071	AC1-086 C	9.77
926072	AC1-086 E	4.45
926201	AC1-098 C	2.43
926202	AC1-098 E	1.45
926211	AC1-099 C	0.81
926212	AC1-099 E	0.48
927021	AC1-189 C	3.2
927022	AC1-189 E	1.6
927141	AC1-208 C	3.62
927142	AC1-208 E	1.61
927221	AC1-216 C O1	5.37
927222	AC1-216 E O1	4.23
930402	AB1-081 E O1	1.44
930862	AB1-132 E O1	2.84
931232	AB1-173 E	0.51
931242	AB1-173AE	0.51
932581	AC2-078 C O1	3.0
932582	AC2-078 E O1	4.9
932591	AC2-079 C O1	2.72
932592	AC2-079 E O1	4.44

Bus #	Bus	MW Impact
932631	AC2-084 C	3.46
932632	AC2-084 E	1.71
933991	AD1-023 C	4.73
933992	AD1-023 E	2.57
934011	AD1-025 C	9.24
934012	AD1-025 E	5.47
934201	AD1-047 C	3.86
934202	AD1-047 E	2.57
934331	AD1-057 C O1	4.2
934332	AD1-057 E O1	2.24
934521	AD1-076 C	19.28
934522	AD1-076 E	9.82
934571	AD1-082 C	4.43
934572	AD1-082 E	2.53
935161	AD1-151 C O1	9.19
935162	AD1-151 E O1	6.13
935211	AD1-156 C	0.32
935212	AD1-156 E	1.39
936041	AD2-007	0.98
936051	AD2-008 C	1.61
936052	AD2-008 E	3.5
936401	AD2-051 C O1	3.38
936402	AD2-051 E O1	1.45
936661	AD2-085 C	1.65
936662	AD2-085 E	2.7
936701	AD2-089 C	2.71
936702	AD2-089 E	1.81
936711	AD2-090 C O1	2.82
936712	AD2-090 E O1	1.88
937571	AD2-169 C	4.7
937572	AD2-169 E	3.13
938171	AE1-026 C1 O	10.16
938172	AE1-026 C2 O	1.47
938173	AE1-026 E O1	3.07
938221	AE1-035 C	0.84
938222	AE1-035 E	0.42
938491	AE1-068 C O1	23.35
938492	AE1-068 E O1	12.89
938501	AE1-069 C O1	18.25
938502	AE1-069 E O1	10.43
938631	AE1-085 C O1	7.84
938632	AE1-085 E O1	5.23
938661	AE1-088	0.64
938771	AE1-103 C O1	1.39
938772	AE1-103 E O1	1.93
938841	AE1-109AC O1	5.24
938842	AE1-109AE O1	3.49
939071	AE1-135 C O1	12.27
939072	AE1-135 E O1	8.18
939191	AE1-149 C O1	8.26
939192	AE1-149 E O1	5.51
939311	AE1-162 C	0.81

Bus #	Bus	MW Impact
939312	AE1-162 E	0.54
939411	AE1-173 C	32.0
939412	AE1-173 E	21.33
940061	AE1-248 C O1	9.22
940062	AE1-248 E O1	6.15
940071	AE1-249 C	4.66
940072	AE1-249 E	3.48
AA2-074	AA2-074	1.86
CARR	CARR	0.34
CBM-S1	CBM-S1	4.04
CBM-S2	CBM-S2	5.21
CBM-W1	CBM-W1	3.24
CBM-W2	CBM-W2	25.75
CIN	CIN	1.52
CPLE	CPLE	2.73
G-007	G-007	1.1
IPL	IPL	0.94
LGEE	LGEE	0.44
MEC	MEC	3.65
MECS	MECS	1.03
O-066	O-066	3.66
RENSSELAER	RENSSELAER	0.27
WEC	WEC	0.4

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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
403119	314435	6SAPONY	DVP	314282	6CARSON	DVP	1	DVP_P1-2: LN 246	single	678.68	92.25	102.09	DC	66.75

Bus #	Bus	MW Impact
314589	3MURPHYS	0.09
314704	3LAWRENC	0.64
315126	1ROARAP2	2.09
315128	1ROARAP4	2.01
315131	1EDGECEMA	10.76
315132	1EDGECEMB	10.76
315136	1ROSEMG1	3.95
315137	1ROSEMS1	2.45
315138	1ROSEMG2	1.85
315139	1GASTONA	5.85
315141	1GASTONB	5.85
315150	1BUGGS 1	8.66
315151	1BUGGS 2	8.66
315158	1KERR 1	0.31
315159	1KERR 2	1.25
315160	1KERR 3	1.23
315161	1KERR 4	1.23
315162	1KERR 5	1.23
315163	1KERR 6	1.23
315164	1KERR 7	1.23
315294	1DOMTR10	1.62
917331	Z2-043 C	0.45
917341	Z2-044 C	0.25
917511	Z2-088 C OP1	1.52
918491	AA1-063AC OP	1.93
918511	AA1-065 C OP	1.64
918531	AA1-067 C	0.28
918561	AA1-072 C	0.07
919691	AA2-053 C	2.08
919701	AA2-057 C	8.91
920041	AA2-088 C OP	0.95
920591	AA2-165 C	0.19
920671	AA2-174 C	0.1
923851	AB2-025 C	1.58
923911	AB2-031 C O1	4.86
923941	AB2-035 C	0.38
923991	AB2-040 C O1	2.45
924151	AB2-059 C O1	1.84
924391	AB2-088 C	0.49
924401	AB2-089 C	2.29

Bus #	Bus	MW Impact
924491	AB2-098 C	0.61
924501	AB2-099 C	0.7
924511	AB2-100 C	35.71
925121	AB2-169 C	0.91
925171	AB2-174 C O1	16.03
925591	AC1-034 C	7.77
925781	AC1-054 C O1	8.19
926071	AC1-086 C	42.89
926201	AC1-098 C	8.09
926211	AC1-099 C	2.71
927021	AC1-189 C	9.39
927141	AC1-208 C	12.39
930401	AB1-081 C O1	1.56
930861	AB1-132 C O1	4.47
931231	AB1-173 C	0.75
931241	AB1-173AC	0.75
932631	AC2-084 C	11.54
933991	AD1-023 C	11.69
934201	AD1-047 C	17.41
934231	AD1-050 C	5.04
934331	AD1-057 C O1	15.68
934521	AD1-076 C	42.68
936261	AD2-033 C	8.95
936361	AD2-046 C O1	8.32
936401	AD2-051 C O1	10.79
936481	AD2-063 C O1	11.53
936531	AD2-068 C	4.58
936701	AD2-089 C	8.14
936711	AD2-090 C O1	5.48
937571	AD2-169 C	20.52
938171	AE1-026 C1 O	26.61
938172	AE1-026 C2 O	3.85
938221	AE1-035 C	2.67
938661	AE1-088	3.05
939071	AE1-135 C O1	66.75
939181	AE1-148 C O1	8.16
AA2-074	AA2-074	2.53
CARR	CARR	0.23
CBM-S1	CBM-S1	5.71
CBM-S2	CBM-S2	6.7
CBM-W1	CBM-W1	5.8
CBM-W2	CBM-W2	37.56
CIN	CIN	2.62
CPL	CPL	3.72
IPL	IPL	1.64
LGEE	LGEE	0.76
MEC	MEC	5.8
MECS	MECS	2.48
RENSSELAER	RENSSELAER	0.18
WEC	WEC	0.7

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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
402870	314563	6CLUBHSE	DVP	314435	6SAPONY	DVP	1	DVP_P1-2: LN 246	single	598.78	108.06	119.21	DC	66.76

Bus #	Bus	MW Impact
314589	3MURPHYS	0.09
314704	3LAWRENC	0.64
315126	1ROARAP2	2.09
315128	1ROARAP4	2.01
315131	1EDGECEMA	10.76
315132	1EDGECEMB	10.76
315136	1ROSEMG1	3.95
315137	1ROSEMS1	2.45
315138	1ROSEMG2	1.85
315139	1GASTONA	5.85
315141	1GASTONB	5.85
315150	1BUGGS 1	8.66
315151	1BUGGS 2	8.66
315158	1KERR 1	0.31
315159	1KERR 2	1.25
315160	1KERR 3	1.23
315161	1KERR 4	1.23
315162	1KERR 5	1.23
315163	1KERR 6	1.23
315164	1KERR 7	1.23
315294	1DOMTR10	1.62
917331	Z2-043 C	0.45
917341	Z2-044 C	0.25
917511	Z2-088 C OP1	1.52
918491	AA1-063AC OP	1.93
918511	AA1-065 C OP	1.64
918531	AA1-067 C	0.28
918561	AA1-072 C	0.07
919691	AA2-053 C	2.08
919701	AA2-057 C	8.91
920041	AA2-088 C OP	0.95
920591	AA2-165 C	0.19
920671	AA2-174 C	0.1
923801	AB2-015 C O1	5.17
923911	AB2-031 C O1	4.86
923941	AB2-035 C	0.38
923991	AB2-040 C O1	2.45
924151	AB2-059 C O1	1.84
924391	AB2-088 C	0.49
924401	AB2-089 C	2.29

Bus #	Bus	MW Impact
924491	AB2-098 C	0.61
924501	AB2-099 C	0.7
924511	AB2-100 C	35.71
925121	AB2-169 C	0.91
925171	AB2-174 C O1	16.03
925291	AB2-188 C O1	1.45
925591	AC1-034 C	7.77
925781	AC1-054 C O1	8.2
926071	AC1-086 C	42.9
926201	AC1-098 C	8.1
926211	AC1-099 C	2.71
927021	AC1-189 C	9.39
927141	AC1-208 C	12.39
930401	AB1-081 C O1	1.56
930861	AB1-132 C O1	4.47
931231	AB1-173 C	0.75
931241	AB1-173AC	0.75
932631	AC2-084 C	11.54
933991	AD1-023 C	11.69
934201	AD1-047 C	17.41
934231	AD1-050 C	5.04
934331	AD1-057 C O1	15.69
934521	AD1-076 C	42.7
936261	AD2-033 C	8.95
936361	AD2-046 C O1	8.32
936401	AD2-051 C O1	10.8
936481	AD2-063 C O1	11.54
936531	AD2-068 C	4.58
936701	AD2-089 C	8.15
936711	AD2-090 C O1	5.48
937571	AD2-169 C	20.52
938171	AE1-026 C1 O	26.62
938172	AE1-026 C2 O	3.85
938221	AE1-035 C	2.67
938661	AE1-088	3.05
939071	AE1-135 C O1	66.76
939181	AE1-148 C O1	8.16
AA2-074	AA2-074	2.54
CARR	CARR	0.23
CBM-S1	CBM-S1	5.73
CBM-S2	CBM-S2	6.71
CBM-W1	CBM-W1	5.84
CBM-W2	CBM-W2	37.73
CIN	CIN	2.64
CPL	CPL	3.73
IPL	IPL	1.65
LGEE	LGEE	0.76
MEC	MEC	5.83
MECS	MECS	2.5
RENSSELAER	RENSSELAER	0.18
WEC	WEC	0.7

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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
402487	314579	6HORNRTN	DVP	934330	AD1-057 TAP	DVP	1	DVP_P4-5: L152	breaker	541.0	87.07	101.35	DC	77.12

Bus #	Bus	MW Impact
314539	3UNCAMP	1.12
314541	3WATKINS	0.37
314572	3EMPORIA	0.5
314578	3HORNRTN	3.47
314582	3KELFORD	1.62
314617	3TUNIS	0.54
314620	6CASHIE	0.35
315126	1ROARAP2	1.51
315136	1ROSEMG1	5.34
315137	1ROSEMS1	3.32
315138	1ROSEMG2	2.5
315139	1GASTONA	6.5
315141	1GASTONB	6.5
900672	V4-068 E	0.2
907092	X1-038 E	2.81
917332	Z2-043 E	0.46
918492	AA1-063AE OP	3.79
918512	AA1-065 E OP	2.35
918562	AA1-072 E	0.08
919692	AA2-053 E	3.96
920042	AA2-088 E OP	7.33
920672	AA2-174 E	0.46
923801	AB2-015 C O1	4.38
923802	AB2-015 E O1	3.59
923911	AB2-031 C O1	2.65
923912	AB2-031 E O1	1.31
923992	AB2-040 E O1	7.13
924401	AB2-089 C	1.12
924402	AB2-089 E	0.58
924501	AB2-099 C	0.36
924502	AB2-099 E	0.15
924511	AB2-100 C	25.83
924512	AB2-100 E	12.72
925171	AB2-174 C O1	8.32
925172	AB2-174 E O1	7.53
925781	AC1-054 C O1	4.33
925782	AC1-054 E O1	1.99
926071	AC1-086 C	47.7
926072	AC1-086 E	21.71
930861	AB1-132 C O1	4.97
930862	AB1-132 E O1	13.88

Bus #	Bus	MW Impact
931232	AB1-173 E	1.25
931242	AB1-173AE	1.25
934201	AD1-047 C	9.51
934202	AD1-047 E	6.34
934231	AD1-050 C	2.47
934232	AD1-050 E	1.35
936401	AD2-051 C O1	5.14
936402	AD2-051 E O1	2.21
936711	AD2-090 C O1	4.27
936712	AD2-090 E O1	2.84
937571	AD2-169 C	11.89
937572	AD2-169 E	7.92
938171	AE1-026 C1 O	11.74
938172	AE1-026 C2 O	1.7
938173	AE1-026 E O1	3.55
938221	AE1-035 C	1.19
938222	AE1-035 E	0.59
938771	AE1-103 C O1	1.69
938772	AE1-103 E O1	2.33
939071	AE1-135 C O1	46.27
939072	AE1-135 E O1	30.85
BAYOU	BAYOU	1.13
BIG_CAJUN1	BIG_CAJUN1	1.79
BIG_CAJUN2	BIG_CAJUN2	3.59
BLUEG	BLUEG	3.4
CALDERWOOD	CALDERWOOD	0.66
CANNELTON	CANNELTON	0.23
CARR	CARR	0.0
CATAWBA	CATAWBA	0.63
CHEOAH	CHEOAH	0.62
CHILHOWEE	CHILHOWEE	0.21
CHOCTAW	CHOCTAW	1.21
COFFEEN	COFFEEN	0.39
COTTONWOOD	COTTONWOOD	4.44
DEARBORN	DEARBORN	0.45
DUCKCREEK	DUCKCREEK	0.81
EDWARDS	EDWARDS	0.36
ELMERSMITH	ELMERSMITH	0.4
FARMERCITY	FARMERCITY	0.28
G-007A	G-007A	0.11
GIBSON	GIBSON	0.15
HAMLET	HAMLET	2.55
NEWTON	NEWTON	1.02
O-066A	O-066A	0.05
PRAIRIE	PRAIRIE	2.12
RENSSELAER	RENSSELAER	0.0
SANTEETLA	SANTEETLA	0.18
SMITHLAND	SMITHLAND	0.19
TATANKA	TATANKA	0.48
TILTON	TILTON	0.43
TRIMBLE	TRIMBLE	0.37
TVA	TVA	1.88

Bus #	Bus	MW Impact
UNIONPOWER	UNIONPOWER	0.92
VFT	VFT	0.28

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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
402425	934330	AD1-057 TAP	DVP	313845	6HATHAWAY	DVP	1	DVP_P4-5: L152	breaker	541.0	96.48	110.74	DC	77.12

Bus #	Bus	MW Impact
314539	3UNCAMP	1.12
314541	3WATKINS	0.37
314572	3EMPORIA	0.5
314578	3HORNRTN	3.47
314582	3KELFORD	1.62
314617	3TUNIS	0.54
315126	1ROARAP2	1.51
315136	1ROSEMG1	5.34
315137	1ROSEMS1	3.32
315138	1ROSEMG2	2.5
315139	1GASTONA	6.5
315141	1GASTONB	6.5
900672	V4-068 E	0.2
907092	X1-038 E	2.81
917332	Z2-043 E	0.46
918492	AA1-063AE OP	3.79
918512	AA1-065 E OP	2.35
918562	AA1-072 E	0.08
919692	AA2-053 E	3.96
920042	AA2-088 E OP	7.33
920672	AA2-174 E	0.46
923801	AB2-015 C O1	4.38
923802	AB2-015 E O1	3.59
923911	AB2-031 C O1	2.65
923912	AB2-031 E O1	1.31
923992	AB2-040 E O1	7.13
924401	AB2-089 C	1.12
924402	AB2-089 E	0.58
924501	AB2-099 C	0.36
924502	AB2-099 E	0.15
924511	AB2-100 C	25.83
924512	AB2-100 E	12.72
925171	AB2-174 C O1	8.32
925172	AB2-174 E O1	7.53
925781	AC1-054 C O1	4.33
925782	AC1-054 E O1	1.99
926071	AC1-086 C	47.7
926072	AC1-086 E	21.71
930861	AB1-132 C O1	4.97
930862	AB1-132 E O1	13.88
931232	AB1-173 E	1.25

Bus #	Bus	MW Impact
931242	AB1-173AE	1.25
934201	AD1-047 C	9.51
934202	AD1-047 E	6.34
934231	AD1-050 C	2.47
934232	AD1-050 E	1.35
934331	AD1-057 C O1	38.73
934332	AD1-057 E O1	20.66
936401	AD2-051 C O1	5.14
936402	AD2-051 E O1	2.21
936711	AD2-090 C O1	4.27
936712	AD2-090 E O1	2.84
937571	AD2-169 C	11.89
937572	AD2-169 E	7.92
938221	AE1-035 C	1.19
938222	AE1-035 E	0.59
938771	AE1-103 C O1	1.69
938772	AE1-103 E O1	2.33
939071	AE1-135 C O1	46.27
939072	AE1-135 E O1	30.85
BAYOU	BAYOU	1.13
BIG_CAJUN1	BIG_CAJUN1	1.79
BIG_CAJUN2	BIG_CAJUN2	3.59
BLUEG	BLUEG	3.4
CALDERWOOD	CALDERWOOD	0.66
CANNELTON	CANNELTON	0.23
CARR	CARR	0.0
CATAWBA	CATAWBA	0.63
CHEOAH	CHEOAH	0.62
CHILHOWEE	CHILHOWEE	0.21
CHOCTAW	CHOCTAW	1.21
COFFEEN	COFFEEN	0.39
COTTONWOOD	COTTONWOOD	4.44
DEARBORN	DEARBORN	0.45
DUCKCREEK	DUCKCREEK	0.81
EDWARDS	EDWARDS	0.36
ELMERSMITH	ELMERSMITH	0.4
FARMERCITY	FARMERCITY	0.28
G-007A	G-007A	0.11
GIBSON	GIBSON	0.15
HAMLET	HAMLET	2.55
NEWTON	NEWTON	1.02
O-066A	O-066A	0.05
PRAIRIE	PRAIRIE	2.12
RENSSELAER	RENSSELAER	0.0
SANTEETLA	SANTEETLA	0.18
SMITHLAND	SMITHLAND	0.19
TATANKA	TATANKA	0.48
TILTON	TILTON	0.43
TRIMBLE	TRIMBLE	0.37
TVA	TVA	1.88
UNIONPOWER	UNIONPOWER	0.92
VFT	VFT	0.28

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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
402405	314299	6HARROWG	DVP	314263	6TYLER1	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	89.92	101.43	DC	62.23

Bus #	Bus	MW Impact
314539	3UNCAMP	1.22
314541	3WATKINS	0.38
314554	3BTLEBRO	0.5
314557	3BETHEL	0.48
314572	3EMPORIA	0.58
314574	6EVERETS	2.18
314578	3HORNRTN	2.97
314582	3KELFORD	2.27
314603	3SCOT NK	2.25
314617	3TUNIS	0.53
314620	6CASHIE	0.4
314623	3WITAKRS	0.88
314704	3LAWRENC	0.36
315126	1ROARAP2	1.17
315131	1EDGECEMA	5.88
315132	1EDGECEMB	5.88
315136	1ROSEMG1	2.16
315137	1ROSEMS1	1.34
315138	1ROSEMG2	1.01
315139	1GASTONA	3.2
315141	1GASTONB	3.2
315150	1BUGGS 1	5.21
315151	1BUGGS 2	5.21
900672	V4-068 E	0.19
907092	X1-038 E	3.04
917332	Z2-043 E	0.65
917342	Z2-044 E	0.38
917512	Z2-088 E OP1	2.18
918492	AA1-063AE OP	3.19
918512	AA1-065 E OP	2.44
918532	AA1-067 E	0.39
918562	AA1-072 E	0.11
919692	AA2-053 E	3.2
919701	AA2-057 C	4.87
919702	AA2-057 E	2.43
920042	AA2-088 E OP	6.77
920592	AA2-165 E	0.32
920672	AA2-174 E	0.37
923801	AB2-015 C O1	4.56
923802	AB2-015 E O1	3.74

Bus #	Bus	MW Impact
923851	AB2-025 C	0.89
923852	AB2-025 E	2.6
923911	AB2-031 C O1	2.72
923912	AB2-031 E O1	1.34
923941	AB2-035 C	0.2
923942	AB2-035 E	0.09
923991	AB2-040 C O1	1.37
923992	AB2-040 E O1	7.31
924022	AB2-043 E O1	2.58
924152	AB2-059 E O1	3.39
924162	AB2-060 E O1	2.1
924302	AB2-077 E O1	0.66
924312	AB2-078 E O1	0.66
924322	AB2-079 E O1	0.66
924391	AB2-088 C	0.26
924392	AB2-088 E	0.12
924401	AB2-089 C	1.32
924402	AB2-089 E	0.68
924491	AB2-098 C	0.3
924492	AB2-098 E	0.13
924501	AB2-099 C	0.37
924502	AB2-099 E	0.16
924511	AB2-100 C	19.94
924512	AB2-100 E	9.82
925061	AB2-161 C O1	3.56
925062	AB2-161 E O1	5.8
925122	AB2-169 E	2.72
925171	AB2-174 C O1	8.98
925172	AB2-174 E O1	8.13
925591	AC1-034 C	4.26
925592	AC1-034 E	3.22
925781	AC1-054 C O1	4.71
925782	AC1-054 E O1	2.17
926071	AC1-086 C	23.46
926072	AC1-086 E	10.68
926201	AC1-098 C	4.34
926202	AC1-098 E	2.59
926211	AC1-099 C	1.45
926212	AC1-099 E	0.85
927021	AC1-189 C	4.75
927022	AC1-189 E	2.37
927141	AC1-208 C	6.77
927142	AC1-208 E	3.01
930402	AB1-081 E O1	2.39
930861	AB1-132 C O1	2.44
930862	AB1-132 E O1	6.83
931231	AB1-173 C	0.42
931232	AB1-173 E	1.28
931241	AB1-173AC	0.42
931242	AB1-173AE	1.28
932581	AC2-078 C O1	6.56
932582	AC2-078 E O1	10.7

Bus #	Bus	MW Impact
932591	AC2-079 C O1	4.04
932592	AC2-079 E O1	6.59
932631	AC2-084 C	6.19
932632	AC2-084 E	3.05
933991	AD1-023 C	5.91
933992	AD1-023 E	3.22
934201	AD1-047 C	9.75
934202	AD1-047 E	6.5
934231	AD1-050 C	2.91
934232	AD1-050 E	1.59
934331	AD1-057 C O1	8.58
934332	AD1-057 E O1	4.58
934571	AD1-082 C	8.1
934572	AD1-082 E	4.62
935211	AD1-156 C	1.05
935212	AD1-156 E	4.58
936361	AD2-046 C O1	4.88
936362	AD2-046 E O1	2.24
936401	AD2-051 C O1	5.39
936402	AD2-051 E O1	2.31
936481	AD2-063 C O1	6.87
936482	AD2-063 E O1	4.58
936531	AD2-068 C	2.4
936532	AD2-068 E	1.24
936661	AD2-085 C	2.49
936662	AD2-085 E	4.07
936701	AD2-089 C	4.3
936702	AD2-089 E	2.87
936711	AD2-090 C O1	4.17
936712	AD2-090 E O1	2.78
937571	AD2-169 C	11.48
937572	AD2-169 E	7.66
938171	AE1-026 C1 O	13.17
938172	AE1-026 C2 O	1.91
938173	AE1-026 E O1	3.98
938221	AE1-035 C	1.24
938222	AE1-035 E	0.61
938631	AE1-085 C O1	16.85
938632	AE1-085 E O1	11.23
938661	AE1-088	0.82
938771	AE1-103 C O1	1.82
938772	AE1-103 E O1	2.52
938841	AE1-109AC O1	9.6
938842	AE1-109AE O1	6.4
939071	AE1-135 C O1	37.34
939072	AE1-135 E O1	24.89
939181	AE1-148 C O1	4.78
939182	AE1-148 E O1	3.19
939191	AE1-149 C O1	18.48
939192	AE1-149 E O1	12.32
940061	AE1-248 C O1	16.84
940062	AE1-248 E O1	11.23

Bus #	Bus	MW Impact
AA2-074	AA2-074	1.64
CARR	CARR	0.16
CBM-S1	CBM-S1	3.83
CBM-S2	CBM-S2	4.45
CBM-W1	CBM-W1	3.86
CBM-W2	CBM-W2	25.14
CIN	CIN	1.74
CPLE	CPLE	2.41
G-007	G-007	0.54
IPL	IPL	1.09
LGEE	LGEE	0.51
MEC	MEC	3.87
MECS	MECS	1.64
O-066	O-066	1.81
RENSSELAER	RENSSELAER	0.12
WEC	WEC	0.47

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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
402484	314316	6LOCKS	DVP	314301	6HARR205	DVP	1	DVP_P4-2:562T563	breaker	541.0	89.21	93.95	DC	25.63

Bus #	Bus	MW Impact
314314	3LOCKS	0.39
314541	3WATKINS	0.2
314554	3BTLEBRO	0.32
314557	3BETHEL	0.31
314572	3EMPORIA	0.26
314574	6EVERETS	1.43
314578	3HORNRTN	1.52
314582	3KELFORD	1.3
314603	3SCOT NK	1.29
314617	3TUNIS	0.3
314620	6CASHIE	0.25
314623	3WITAKRS	0.55
315131	1EDGECEMA	3.75
315132	1EDGECEMB	3.75
315150	1BUGGS 1	4.05
315151	1BUGGS 2	4.05
900672	V4-068 E	0.1
916302	Z1-086 E	4.11
917332	Z2-043 E	0.37
917342	Z2-044 E	0.23
917512	Z2-088 E OP1	1.41
918492	AA1-063AE OP	1.68
918512	AA1-065 E OP	1.47
918532	AA1-067 E	0.25
918562	AA1-072 E	0.06
919692	AA2-053 E	1.65
919701	AA2-057 C	2.91
919702	AA2-057 E	1.46
920042	AA2-088 E OP	3.58
920592	AA2-165 E	0.19
920672	AA2-174 E	0.19
923851	AB2-025 C	0.34
923852	AB2-025 E	1.01
923911	AB2-031 C O1	1.26
923912	AB2-031 E O1	0.62
923941	AB2-035 C	0.13
923942	AB2-035 E	0.06
923992	AB2-040 E O1	3.38
924022	AB2-043 E O1	1.83
924152	AB2-059 E O1	2.18

Bus #	Bus	MW Impact
924162	AB2-060 E O1	1.5
924302	AB2-077 E O1	0.47
924312	AB2-078 E O1	0.47
924322	AB2-079 E O1	0.47
924391	AB2-088 C	0.17
924392	AB2-088 E	0.08
924401	AB2-089 C	0.85
924402	AB2-089 E	0.44
924491	AB2-098 C	0.2
924492	AB2-098 E	0.08
924501	AB2-099 C	0.21
924502	AB2-099 E	0.09
924511	AB2-100 C	8.3
924512	AB2-100 E	4.09
925051	AB2-160 C O1	7.97
925052	AB2-160 E O1	13.0
925122	AB2-169 E	1.78
925171	AB2-174 C O1	4.09
925172	AB2-174 E O1	3.7
925591	AC1-034 C	2.74
925592	AC1-034 E	2.07
925612	AC1-036 E	0.47
925781	AC1-054 C O1	2.92
925782	AC1-054 E O1	1.34
925821	AC1-061	0.01
926071	AC1-086 C	11.08
926072	AC1-086 E	5.04
926201	AC1-098 C	2.49
926202	AC1-098 E	1.48
926211	AC1-099 C	0.83
926212	AC1-099 E	0.49
926271	AC1-105 C O1	1.86
926272	AC1-105 E O1	0.93
927021	AC1-189 C	3.09
927022	AC1-189 E	1.54
927141	AC1-208 C	3.82
927142	AC1-208 E	1.69
927251	AC1-221 C	0.73
927252	AC1-221 E	0.73
927261	AC1-222 C	1.16
927262	AC1-222 E	1.1
930402	AB1-081 E O1	1.54
930862	AB1-132 E O1	3.22
931232	AB1-173 E	0.59
931242	AB1-173AE	0.59
932581	AC2-078 C O1	1.33
932582	AC2-078 E O1	2.17
932631	AC2-084 C	3.55
932632	AC2-084 E	1.75
932761	AC2-100 C	1.69
932762	AC2-100 E	0.82
934201	AD1-047 C	4.5

Bus #	Bus	MW Impact
934202	AD1-047 E	3.0
934231	AD1-050 C	1.87
934232	AD1-050 E	1.02
934311	AD1-055 C	0.81
934312	AD1-055 E	0.21
934331	AD1-057 C O1	4.63
934332	AD1-057 E O1	2.47
934341	AD1-058 C	1.84
934342	AD1-058 E	0.47
934611	AD1-087 C O1	2.89
934612	AD1-087 E O1	1.36
934621	AD1-088 C	3.8
934622	AD1-088 E	1.78
934991	AD1-131 C	0.6
934992	AD1-131 E	0.4
935171	AD1-152 C O1	2.87
935172	AD1-152 E O1	1.91
935212	AD1-156 E	0.48
936261	AD2-033 C	4.06
936262	AD2-033 E	2.71
936331	AD2-043 C	1.51
936332	AD2-043 E	1.78
936361	AD2-046 C O1	3.35
936362	AD2-046 E O1	1.54
936401	AD2-051 C O1	3.1
936402	AD2-051 E O1	1.33
936481	AD2-063 C O1	5.01
936482	AD2-063 E O1	3.34
936531	AD2-068 C	1.81
936532	AD2-068 E	0.93
936701	AD2-089 C	2.77
936702	AD2-089 E	1.84
936711	AD2-090 C O1	2.22
936712	AD2-090 E O1	1.48
937481	AD2-202 C O1	0.8
937482	AD2-202 E O1	0.4
937571	AD2-169 C	5.4
937572	AD2-169 E	3.6
938171	AE1-026 C1 O	8.32
938172	AE1-026 C2 O	1.2
938173	AE1-026 E O1	2.51
938221	AE1-035 C	0.74
938222	AE1-035 E	0.37
938491	AE1-068 C O1	26.21
938492	AE1-068 E O1	14.48
938501	AE1-069 C O1	20.49
938502	AE1-069 E O1	11.72
938631	AE1-085 C O1	3.48
938632	AE1-085 E O1	2.32
938661	AE1-088	0.54
939071	AE1-135 C O1	15.38
939072	AE1-135 E O1	10.25

Bus #	Bus	MW Impact
939181	AE1-148 C O1	3.3
939182	AE1-148 E O1	2.2
939191	AE1-149 C O1	3.64
939192	AE1-149 E O1	2.43
939411	AE1-173 C	29.88
939412	AE1-173 E	19.92
940071	AE1-249 C	10.51
940072	AE1-249 E	7.84
AA2-074	AA2-074	2.08
CARR	CARR	0.24
CBM-S1	CBM-S1	5.29
CBM-S2	CBM-S2	5.98
CBM-W1	CBM-W1	5.29
CBM-W2	CBM-W2	34.71
CIN	CIN	2.4
CPLE	CPLE	3.06
G-007	G-007	0.82
IPL	IPL	1.5
LGEE	LGEE	0.69
MEC	MEC	5.33
MECS	MECS	2.23
O-066	O-066	2.71
RENSSELAER	RENSSELAER	0.19
WEC	WEC	0.64

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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
402407	314331	6POE	DVP	314299	6HARROWG	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	89.92	101.43	DC	62.23

Bus #	Bus	MW Impact
314539	3UNCAMP	1.22
314541	3WATKINS	0.38
314554	3BTLEBRO	0.5
314557	3BETHEL	0.48
314572	3EMPORIA	0.58
314574	6EVERETS	2.18
314578	3HORNRTN	2.97
314582	3KELFORD	2.27
314603	3SCOT NK	2.25
314617	3TUNIS	0.53
314620	6CASHIE	0.4
314623	3WITAKRS	0.88
314704	3LAWRENC	0.36
315126	1ROARAP2	1.17
315131	1EDGECEMA	5.88
315132	1EDGECEMB	5.88
315136	1ROSEMG1	2.16
315137	1ROSEMS1	1.34
315138	1ROSEMG2	1.01
315139	1GASTONA	3.2
315141	1GASTONB	3.2
315150	1BUGGS 1	5.21
315151	1BUGGS 2	5.21
900672	V4-068 E	0.19
907092	X1-038 E	3.04
917332	Z2-043 E	0.65
917342	Z2-044 E	0.38
917512	Z2-088 E OP1	2.18
918492	AA1-063AE OP	3.19
918512	AA1-065 E OP	2.44
918532	AA1-067 E	0.39
918562	AA1-072 E	0.11
919692	AA2-053 E	3.2
919701	AA2-057 C	4.87
919702	AA2-057 E	2.43
920042	AA2-088 E OP	6.77
920592	AA2-165 E	0.32
920672	AA2-174 E	0.37
923801	AB2-015 C O1	4.56
923802	AB2-015 E O1	3.74

Bus #	Bus	MW Impact
923851	AB2-025 C	0.89
923852	AB2-025 E	2.6
923911	AB2-031 C O1	2.72
923912	AB2-031 E O1	1.34
923941	AB2-035 C	0.2
923942	AB2-035 E	0.09
923991	AB2-040 C O1	1.37
923992	AB2-040 E O1	7.31
924022	AB2-043 E O1	2.58
924152	AB2-059 E O1	3.39
924162	AB2-060 E O1	2.1
924302	AB2-077 E O1	0.66
924312	AB2-078 E O1	0.66
924322	AB2-079 E O1	0.66
924391	AB2-088 C	0.26
924392	AB2-088 E	0.12
924401	AB2-089 C	1.32
924402	AB2-089 E	0.68
924491	AB2-098 C	0.3
924492	AB2-098 E	0.13
924501	AB2-099 C	0.37
924502	AB2-099 E	0.16
924511	AB2-100 C	19.94
924512	AB2-100 E	9.82
925061	AB2-161 C O1	3.56
925062	AB2-161 E O1	5.8
925122	AB2-169 E	2.72
925171	AB2-174 C O1	8.98
925172	AB2-174 E O1	8.13
925591	AC1-034 C	4.26
925592	AC1-034 E	3.22
925781	AC1-054 C O1	4.71
925782	AC1-054 E O1	2.17
926071	AC1-086 C	23.46
926072	AC1-086 E	10.68
926201	AC1-098 C	4.34
926202	AC1-098 E	2.59
926211	AC1-099 C	1.45
926212	AC1-099 E	0.85
927021	AC1-189 C	4.75
927022	AC1-189 E	2.37
927141	AC1-208 C	6.77
927142	AC1-208 E	3.01
930402	AB1-081 E O1	2.39
930861	AB1-132 C O1	2.44
930862	AB1-132 E O1	6.83
931231	AB1-173 C	0.42
931232	AB1-173 E	1.28
931241	AB1-173AC	0.42
931242	AB1-173AE	1.28
932581	AC2-078 C O1	6.56
932582	AC2-078 E O1	10.7

Bus #	Bus	MW Impact
932591	AC2-079 C O1	4.04
932592	AC2-079 E O1	6.59
932631	AC2-084 C	6.19
932632	AC2-084 E	3.05
933991	AD1-023 C	5.91
933992	AD1-023 E	3.22
934201	AD1-047 C	9.75
934202	AD1-047 E	6.5
934231	AD1-050 C	2.91
934232	AD1-050 E	1.59
934331	AD1-057 C O1	8.58
934332	AD1-057 E O1	4.58
934571	AD1-082 C	8.1
934572	AD1-082 E	4.62
935211	AD1-156 C	1.05
935212	AD1-156 E	4.58
936361	AD2-046 C O1	4.88
936362	AD2-046 E O1	2.24
936401	AD2-051 C O1	5.39
936402	AD2-051 E O1	2.31
936481	AD2-063 C O1	6.87
936482	AD2-063 E O1	4.58
936531	AD2-068 C	2.4
936532	AD2-068 E	1.24
936661	AD2-085 C	2.49
936662	AD2-085 E	4.07
936701	AD2-089 C	4.3
936702	AD2-089 E	2.87
936711	AD2-090 C O1	4.17
936712	AD2-090 E O1	2.78
937571	AD2-169 C	11.48
937572	AD2-169 E	7.66
938171	AE1-026 C1 O	13.17
938172	AE1-026 C2 O	1.91
938173	AE1-026 E O1	3.98
938221	AE1-035 C	1.24
938222	AE1-035 E	0.61
938631	AE1-085 C O1	16.85
938632	AE1-085 E O1	11.23
938661	AE1-088	0.82
938771	AE1-103 C O1	1.82
938772	AE1-103 E O1	2.52
938841	AE1-109AC O1	9.6
938842	AE1-109AE O1	6.4
939071	AE1-135 C O1	37.34
939072	AE1-135 E O1	24.89
939181	AE1-148 C O1	4.78
939182	AE1-148 E O1	3.19
939191	AE1-149 C O1	18.48
939192	AE1-149 E O1	12.32
940061	AE1-248 C O1	16.84
940062	AE1-248 E O1	11.23

Bus #	Bus	MW Impact
AA2-074	AA2-074	1.64
CARR	CARR	0.16
CBM-S1	CBM-S1	3.83
CBM-S2	CBM-S2	4.45
CBM-W1	CBM-W1	3.86
CBM-W2	CBM-W2	25.14
CIN	CIN	1.74
CPLE	CPLE	2.41
G-007	G-007	0.54
IPL	IPL	1.09
LGEE	LGEE	0.51
MEC	MEC	3.87
MECS	MECS	1.64
O-066	O-066	1.81
RENSSELAER	RENSSELAER	0.12
WEC	WEC	0.47

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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
403779	313844	3HATHAWAY	DVP	314554	3BTLEBRO	DVP	1	DVP_P7-1: LN 2058-2181	tower	301.0	103.1	104.93	DC	12.08

Bus #	Bus	MW Impact
314557	3BETHEL C	1.09
314574	6EVERETS	1.88
315131	1EDGE CMA	17.55
315132	1EDGE CMB	17.55
315136	1ROSEMG1	1.58
315137	1ROSEMS1	0.98
315138	1ROSEMG2	0.74
315139	1GASTONA	1.77
315141	1GASTONB	1.77
917511	Z2-088 C OP1	1.25
917512	Z2-088 E OP1	3.5
918532	AA1-067 E	0.33
923941	AB2-035 C	0.46
923942	AB2-035 E	0.2
924151	AB2-059 C O1	5.03
924152	AB2-059 E O1	16.89
924391	AB2-088 C	0.59
924392	AB2-088 E	0.28
924491	AB2-098 C	0.26
924492	AB2-098 E	0.11
924511	AB2-100 C	4.38
924512	AB2-100 E	2.16
925122	AB2-169 E	2.09
925591	AC1-034 C	21.24
925592	AC1-034 E	16.02
926071	AC1-086 C	12.97
926072	AC1-086 E	5.9
927021	AC1-189 C	6.54
927022	AC1-189 E	3.26
930401	AB1-081 C O1	4.27
930402	AB1-081 E O1	11.92
930861	AB1-132 C O1	1.35
930862	AB1-132 E O1	3.78
934331	AD1-057 C O1	13.29
934332	AD1-057 E O1	7.09
936701	AD2-089 C	9.82
936702	AD2-089 E	6.55
938661	AE1-088	0.63
939071	AE1-135 C O1	7.25
939072	AE1-135 E O1	4.83

Bus #	Bus	MW Impact
BAYOU	BAYOU	0.98
BIG_CAJUN1	BIG_CAJUN1	1.55
BIG_CAJUN2	BIG_CAJUN2	3.11
BLUEG	BLUEG	2.89
CALDERWOOD	CALDERWOOD	0.58
CANNELTON	CANNELTON	0.2
CATAWBA	CATAWBA	0.56
CBM-N	CBM-N	0.05
CHEOAH	CHEOAH	0.54
CHILHOWEE	CHILHOWEE	0.19
CHOCTAW	CHOCTAW	1.05
COFFEEN	COFFEEN	0.34
COTTONWOOD	COTTONWOOD	3.84
DEARBORN	DEARBORN	0.37
DUCKCREEK	DUCKCREEK	0.69
EDWARDS	EDWARDS	0.31
ELMERSMITH	ELMERSMITH	0.35
FARMERCITY	FARMERCITY	0.24
G-007A	G-007A	0.27
GIBSON	GIBSON	0.12
HAMLET	HAMLET	2.22
NEWTON	NEWTON	0.87
NYISO	NYISO	0.2
O-066A	O-066A	0.12
PRAIRIE	PRAIRIE	1.82
SANTEETLA	SANTEETLA	0.16
SMITHLAND	SMITHLAND	0.16
TATANKA	TATANKA	0.41
TILTON	TILTON	0.36
TRIMBLE	TRIMBLE	0.32
TVA	TVA	1.63
UNIONPOWER	UNIONPOWER	0.8
VFT	VFT	0.72

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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
402905	313845	6HATHAWAY	DVP	304222	6ROCKYMT230T	CPL	1	DVP_P1-2: LN 2181	single	374.0	123.61	127.38	DC	14.1

Bus #	Bus	MW Impact
314589	3MURPHYS	0.05
314704	3LAWRENC	0.16
315115	1S HAMPT1	0.68
315126	1ROARAP2	1.01
315128	1ROARAP4	0.98
315131	1EDGECEMA	24.75
315132	1EDGECEMB	24.75
315136	1ROSEMG1	2.65
315137	1ROSEMS1	1.64
315138	1ROSEMG2	1.24
315139	1GASTONA	3.17
315141	1GASTONB	3.17
315292	1DOMTR78	0.74
315293	1DOMTR9	0.6
315294	1DOMTR10	1.09
901081	W1-029 C	0.31
916041	Z1-036 C	0.37
917331	Z2-043 C	0.28
917341	Z2-044 C	0.25
917511	Z2-088 C OP1	1.84
918491	AA1-063AC OP	0.99
918511	AA1-065 C OP	0.91
918531	AA1-067 C	0.19
918561	AA1-072 C	0.04
919691	AA2-053 C	1.04
919701	AA2-057 C	8.14
920041	AA2-088 C OP	0.57
920591	AA2-165 C	0.17
920671	AA2-174 C	0.05
920691	AA2-178 C	0.68
923801	AB2-015 C O1	3.95
923851	AB2-025 C	0.15
923911	AB2-031 C O1	1.61
923941	AB2-035 C	0.66
923991	AB2-040 C O1	0.81
924151	AB2-059 C O1	2.59
924391	AB2-088 C	0.84
924401	AB2-089 C	0.73
924491	AB2-098 C	0.41
924501	AB2-099 C	0.4

Bus #	Bus	MW Impact
924511	AB2-100 C	8.4
925121	AB2-169 C	0.61
925171	AB2-174 C O1	4.94
925281	AB2-186 C	0.2
925291	AB2-188 C O1	1.09
925591	AC1-034 C	10.93
925781	AC1-054 C O1	2.83
926071	AC1-086 C	23.25
926201	AC1-098 C	5.92
926211	AC1-099 C	1.98
927021	AC1-189 C	9.73
927141	AC1-208 C	9.06
930401	AB1-081 C O1	2.2
930861	AB1-132 C O1	2.42
931231	AB1-173 C	0.25
931241	AB1-173AC	0.25
932631	AC2-084 C	8.44
933991	AD1-023 C	7.4
934201	AD1-047 C	5.77
934231	AD1-050 C	1.61
934331	AD1-057 C O1	19.81
934521	AD1-076 C	28.79
936401	AD2-051 C O1	6.14
936701	AD2-089 C	14.05
936711	AD2-090 C O1	3.69
937571	AD2-169 C	7.4
938171	AE1-026 C1 O	16.33
938172	AE1-026 C2 O	2.36
938221	AE1-035 C	1.49
938661	AE1-088	2.05
938771	AE1-103 C O1	1.56
939071	AE1-135 C O1	14.1
BAYOU	BAYOU	2.02
BIG_CAJUN1	BIG_CAJUN1	3.19
BIG_CAJUN2	BIG_CAJUN2	6.42
BLUEG	BLUEG	5.89
CALDERWOOD	CALDERWOOD	1.2
CANNELTON	CANNELTON	0.4
CATAWBA	CATAWBA	1.17
CBM-N	CBM-N	0.13
CHEOAH	CHEOAH	1.12
CHILHOWEE	CHILHOWEE	0.39
CHOCTAW	CHOCTAW	2.17
COFFEEN	COFFEEN	0.69
COTTONWOOD	COTTONWOOD	7.93
DEARBORN	DEARBORN	0.74
DUCKCREEK	DUCKCREEK	1.41
EDWARDS	EDWARDS	0.63
ELMERSMITH	ELMERSMITH	0.71
FARMERCITY	FARMERCITY	0.49
G-007A	G-007A	0.66
GIBSON	GIBSON	0.25

Bus #	Bus	MW Impact
HAMLET	HAMLET	4.61
NEWTON	NEWTON	1.78
NYISO	NYISO	0.55
O-066A	O-066A	0.3
PRAIRIE	PRAIRIE	3.72
SANTEETLA	SANTEETLA	0.33
SMITHLAND	SMITHLAND	0.33
TATANKA	TATANKA	0.84
TILTON	TILTON	0.74
TRIMBLE	TRIMBLE	0.65
TVA	TVA	3.36
UNIONPOWER	UNIONPOWER	1.66
VFT	VFT	1.74

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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
403092	313845	6HATHAWAY	DVP	314591	6NASH	DVP	1	DVP_P1-2: LN 2058	single	449.32	111.62	114.82	DC	14.38

Bus #	Bus	MW Impact
314589	3MURPHYS	0.05
314704	3LAWRENC	0.16
315115	1S HAMPT1	0.69
315126	1ROARAP2	1.03
315128	1ROARAP4	1.0
315131	1EDGECEMA	25.25
315132	1EDGECEMB	25.25
315136	1ROSEMG1	2.7
315137	1ROSEMS1	1.67
315138	1ROSEMG2	1.26
315139	1GASTONA	3.23
315141	1GASTONB	3.23
315292	1DOMTR78	0.75
315293	1DOMTR9	0.61
315294	1DOMTR10	1.11
901081	W1-029 C	0.31
916041	Z1-036 C	0.38
917331	Z2-043 C	0.29
917341	Z2-044 C	0.26
917511	Z2-088 C OP1	1.88
918491	AA1-063AC OP	1.01
918511	AA1-065 C OP	0.93
918531	AA1-067 C	0.19
918561	AA1-072 C	0.04
919691	AA2-053 C	1.06
919701	AA2-057 C	8.3
920041	AA2-088 C OP	0.59
920591	AA2-165 C	0.17
920671	AA2-174 C	0.05
920691	AA2-178 C	0.69
923801	AB2-015 C O1	4.03
923851	AB2-025 C	0.16
923911	AB2-031 C O1	1.64
923941	AB2-035 C	0.67
923991	AB2-040 C O1	0.83
924151	AB2-059 C O1	2.64
924391	AB2-088 C	0.86
924401	AB2-089 C	0.74
924491	AB2-098 C	0.41
924501	AB2-099 C	0.41

Bus #	Bus	MW Impact
924511	AB2-100 C	8.56
925121	AB2-169 C	0.62
925171	AB2-174 C O1	5.03
925281	AB2-186 C	0.2
925291	AB2-188 C O1	1.12
925591	AC1-034 C	11.15
925781	AC1-054 C O1	2.89
926071	AC1-086 C	23.71
926201	AC1-098 C	6.04
926211	AC1-099 C	2.02
927021	AC1-189 C	9.92
927141	AC1-208 C	9.24
930401	AB1-081 C O1	2.24
930861	AB1-132 C O1	2.47
931231	AB1-173 C	0.25
931241	AB1-173AC	0.25
932631	AC2-084 C	8.61
933991	AD1-023 C	7.55
934201	AD1-047 C	5.89
934231	AD1-050 C	1.64
934331	AD1-057 C O1	20.2
934521	AD1-076 C	29.36
936401	AD2-051 C O1	6.26
936701	AD2-089 C	14.33
936711	AD2-090 C O1	3.77
937571	AD2-169 C	7.55
938171	AE1-026 C1 O	16.66
938172	AE1-026 C2 O	2.41
938221	AE1-035 C	1.51
938661	AE1-088	2.09
938771	AE1-103 C O1	1.59
939071	AE1-135 C O1	14.38
BAYOU	BAYOU	2.06
BIG_CAJUN1	BIG_CAJUN1	3.26
BIG_CAJUN2	BIG_CAJUN2	6.55
BLUEG	BLUEG	6.01
CALDERWOOD	CALDERWOOD	1.22
CANNELTON	CANNELTON	0.41
CATAWBA	CATAWBA	1.19
CBM-N	CBM-N	0.13
CHEOAH	CHEOAH	1.14
CHILHOWEE	CHILHOWEE	0.4
CHOCTAW	CHOCTAW	2.22
COFFEEN	COFFEEN	0.7
COTTONWOOD	COTTONWOOD	8.09
DEARBORN	DEARBORN	0.76
DUCKCREEK	DUCKCREEK	1.44
EDWARDS	EDWARDS	0.64
ELMERSMITH	ELMERSMITH	0.72
FARMERCITY	FARMERCITY	0.5
G-007A	G-007A	0.67
GIBSON	GIBSON	0.26

Bus #	Bus	MW Impact
HAMLET	HAMLET	4.7
NEWTON	NEWTON	1.82
NYISO	NYISO	0.56
O-066A	O-066A	0.31
PRAIRIE	PRAIRIE	3.8
SANTEETLA	SANTEETLA	0.34
SMITHLAND	SMITHLAND	0.34
TATANKA	TATANKA	0.85
TILTON	TILTON	0.76
TRIMBLE	TRIMBLE	0.66
TVA	TVA	3.43
UNIONPOWER	UNIONPOWER	1.7
VFT	VFT	1.77

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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
402074	314218	6ELMONT	DVP	314908	8ELMONT	DVP	1	DVP_P4-2: H2T557	breaker	1050.6	146.4	147.75	DC	31.2

Bus #	Bus	MW Impact
314189	6PAPERMILL	8.74
314229	6MT RD221	0.22
314236	6NRTHEST	0.29
314250	6ROCKVILLE	0.49
314539	3UNCAMP	2.16
314541	3WATKINS	0.61
314648	6SUNBURY	0.8
314651	6WINFALL	1.57
315043	1FOUR RIVERA	5.34
315044	1FOUR RIVERB	4.14
315045	1FOUR RIVERC	5.34
315046	1FOUR RIVERD	4.14
315047	1FOUR RIVERE	4.14
315048	1FOUR RIVERF	5.34
315053	1BELMED1	25.29
315054	1BELMED2	25.29
315055	1BELMED3	20.99
315058	1CHESTF3	26.85
315059	1CHESTF4	43.53
315067	1DARBY 1	3.87
315068	1DARBY 2	3.88
315069	1DARBY 3	3.89
315070	1DARBY 4	3.89
315073	1STONECA	9.29
315074	1HOPCGN1	11.2
315075	1HOPCGN2	11.06
315083	1SPRUNCA	14.79
315084	1SPRUNCB	14.79
315085	1SPRUNCC	10.96
315086	1SPRUNCD	10.96
315090	1YORKTN1	30.64
315091	1YORKTN2	31.8
901082	W1-029 E	41.26
907092	X1-038 E	5.41
913392	Y1-086 E	1.98
916042	Z1-036 E	40.25
916192	Z1-068 E	1.74
917122	Z2-027 E	0.95
919152	AA1-139 E	5.85
919211	AA1-145	15.45

Bus #	Bus	MW Impact
923801	AB2-015 C O1	7.64
923802	AB2-015 E O1	6.26
923832	AB2-022 E	1.12
923842	AB2-024 E	1.47
923852	AB2-025 E	1.07
924061	AB2-050	0.91
924241	AB2-068 O1	176.04
924511	AB2-100 C	10.32
924512	AB2-100 E	5.08
924812	AB2-134 E O1	14.72
925051	AB2-160 C O1	7.08
925052	AB2-160 E O1	11.55
925061	AB2-161 C O1	3.58
925062	AB2-161 E O1	5.84
925281	AB2-186 C	0.55
925282	AB2-186 E	0.23
925331	AB2-190 C	24.56
925332	AB2-190 E	10.52
925522	AC1-027 E	1.06
925861	AC1-065 C	4.33
925862	AC1-065 E	7.07
926291	AC1-107 O1	265.73
926411	AC1-112 C	0.53
926412	AC1-112 E	1.92
926472	AC1-118 E	1.06
926551	AC1-134	2.27
926662	AC1-147 E	1.24
926751	AC1-161 C O1	26.86
926752	AC1-161 E O1	11.47
926781	AC1-164 C	57.98
926782	AC1-164 E	26.05
927041	AC1-191 C O1	17.44
927042	AC1-191 E O1	8.69
927221	AC1-216 C O1	11.83
927222	AC1-216 E O1	9.3
930121	AB1-027 C	0.68
930122	AB1-027 E	1.89
932041	AC2-012 C	9.52
932042	AC2-012 E	15.53
932501	AC2-070 C	0.44
932502	AC2-070 E	1.2
932532	AC2-073 E	1.54
932581	AC2-078 C O1	4.69
932582	AC2-078 E O1	7.66
932591	AC2-079 C O1	5.74
932592	AC2-079 E O1	9.37
932831	AC2-110 C	1.73
932832	AC2-110 E	2.83
933061	AC2-130	3.44
933071	AC2-131 1	2.33
933081	AC2-131 2	1.06
933111	AC2-132 1	1.23

Bus #	Bus	MW Impact
933121	AC2-132 2	0.63
933261	AC2-137 C	0.48
933262	AC2-137 E	2.03
933272	AC2-138 E	1.08
933291	AC2-141 C	26.86
933292	AC2-141 E	11.47
933732	AC2-196 E	1.09
934011	AD1-025 C	20.33
934012	AD1-025 E	12.04
934061	AD1-033 C	6.89
934062	AD1-033 E	4.59
934141	AD1-041 C	6.72
934142	AD1-041 E	4.48
934211	AD1-048 C	0.58
934212	AD1-048 E	1.91
934392	AD1-063 E	1.38
934571	AD1-082 C	8.16
934572	AD1-082 E	4.66
934781	AD1-105 C	11.45
934782	AD1-105 E	7.96
935112	AD1-144 E	0.91
935161	AD1-151 C O1	19.73
935162	AD1-151 E O1	13.16
935212	AD1-156 E	1.68
936041	AD2-007	2.16
936051	AD2-008 C	3.54
936052	AD2-008 E	7.7
936151	AD2-021	0.36
936241	AD2-030 C	2.87
936242	AD2-030 E	1.47
936301	AD2-039 C	1.73
936302	AD2-039 E	2.83
936341	AD2-044 C	0.27
936342	AD2-044 E	0.3
936391	AD2-049 C	1.86
936392	AD2-049 E	1.86
936581	AD2-073 C	2.22
936582	AD2-073 E	1.1
936591	AD2-074 C	6.33
936592	AD2-074 E	10.33
936661	AD2-085 C	3.46
936662	AD2-085 E	5.64
936711	AD2-090 C O1	6.27
936712	AD2-090 E O1	4.18
937221	AD2-160 C O1	5.34
937222	AD2-160 E O1	2.8
937251	AD2-164	5.09
937541	AD2-215 C	1.68
937542	AD2-215 E	0.89
938031	AE1-004 C	1.73
938032	AE1-004 E	2.83
938181	AE1-027 C	2.14

Bus #	Bus	MW Impact
938182	AE1-027 E	1.13
938191	AE1-028 C	1.24
938192	AE1-028 E	0.72
938461	AE1-065 C O1	26.28
938462	AE1-065 E O1	106.06
938471	AE1-066 C O1	27.01
938472	AE1-066 E O1	105.33
938481	AE1-067 C O1	24.56
938482	AE1-067 E O1	107.78
938531	AE1-072 C O1	15.96
938532	AE1-072 E O1	8.32
938551	AE1-074 C	3.1
938552	AE1-074 E	1.56
938631	AE1-085 C O1	12.47
938632	AE1-085 E O1	8.31
938771	AE1-103 C O1	3.25
938772	AE1-103 E O1	4.48
938841	AE1-109AC O1	9.62
938842	AE1-109AE O1	6.42
939041	AE1-133 C	31.98
939042	AE1-133 E	15.75
939071	AE1-135 C O1	18.72
939072	AE1-135 E O1	12.48
939191	AE1-149 C O1	12.56
939192	AE1-149 E O1	8.37
939241	AE1-155 C	17.03
939242	AE1-155 E	11.35
939281	AE1-159 C O1	12.03
939282	AE1-159 E O1	7.12
939311	AE1-162 C	2.22
939312	AE1-162 E	1.48
939421	AE1-174 C	0.23
939422	AE1-174 E	0.34
939431	AE1-175 C	2.87
939432	AE1-175 E	1.42
939611	AE1-191 C	13.45
939612	AE1-191 E	8.97
939751	AE1-206 C O1	56.75
939752	AE1-206 E O1	37.83
940061	AE1-248 C O1	16.97
940062	AE1-248 E O1	11.31
940071	AE1-249 C	9.34
940072	AE1-249 E	6.97
AA2-074	AA2-074	3.26
CARR	CARR	0.77
CBM-S1	CBM-S1	4.24
CBM-S2	CBM-S2	8.55
CBM-W1	CBM-W1	0.08
CBM-W2	CBM-W2	23.98
CIN	CIN	0.25
CPL	CPL	4.79
DEARBORN	DEARBORN	0.48

Bus #	Bus	MW Impact
G-007	G-007	2.33
IPL	IPL	0.09
LGEE	LGEE	0.07
MEC	MEC	2.01
O-066	O-066	7.81
RENSELAER	RENSELAER	0.61
WEC	WEC	0.06

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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
402175	314282	6CARSON	DVP	314285	6CHRL249	DVP	1	DVP_P4-2:562T563	breaker	684.0	134.89	139.72	DC	32.85

Bus #	Bus	MW Impact
314541	3WATKINS	0.23
314554	3BTLEBRO	0.4
314557	3BETHELC	0.39
314572	3EMPORIA	0.33
314574	6EVERETS	1.77
314578	3HORNRTN	1.92
314582	3KELFORD	1.62
314603	3SCOT NK	1.61
314617	3TUNIS	0.36
314620	6CASHIE	0.31
314623	3WITAKRS	0.69
314704	3LAWRENC	0.22
315102	1BRUNSWICKG1	4.2
315103	1BRUNSWICKG2	4.2
315104	1BRUNSWICKG3	4.2
315105	1BRUNSWICKS1	8.72
315131	1EDGECEMA	4.73
315132	1EDGECEMB	4.73
315136	1ROSEMG1	1.33
315137	1ROSEMS1	0.82
315138	1ROSEMG2	0.62
315139	1GASTONA	1.92
315141	1GASTONB	1.92
315150	1BUGGS 1	5.14
315151	1BUGGS 2	5.14
900672	V4-068 E	0.13
916301	Z1-086 C	25.59
916302	Z1-086 E	5.22
917332	Z2-043 E	0.46
917342	Z2-044 E	0.3
917512	Z2-088 E OP1	1.76
918492	AA1-063AE OP	2.11
918512	AA1-065 E OP	1.81
918532	AA1-067 E	0.31
918562	AA1-072 E	0.08
919692	AA2-053 E	2.08
919701	AA2-057 C	3.67
919702	AA2-057 E	1.83
920042	AA2-088 E OP	4.28
920592	AA2-165 E	0.24

Bus #	Bus	MW Impact
920672	AA2-174 E	0.24
923851	AB2-025 C	0.44
923852	AB2-025 E	1.3
923911	AB2-031 C O1	1.6
923912	AB2-031 E O1	0.79
923941	AB2-035 C	0.16
923942	AB2-035 E	0.07
923991	AB2-040 C O1	0.8
923992	AB2-040 E O1	4.29
924022	AB2-043 E O1	2.32
924152	AB2-059 E O1	2.75
924162	AB2-060 E O1	1.9
924302	AB2-077 E O1	0.6
924312	AB2-078 E O1	0.6
924322	AB2-079 E O1	0.6
924391	AB2-088 C	0.21
924392	AB2-088 E	0.1
924401	AB2-089 C	1.07
924402	AB2-089 E	0.55
924491	AB2-098 C	0.24
924492	AB2-098 E	0.1
924501	AB2-099 C	0.26
924502	AB2-099 E	0.11
924511	AB2-100 C	10.63
924512	AB2-100 E	5.23
925122	AB2-169 E	2.2
925171	AB2-174 C O1	5.2
925172	AB2-174 E O1	4.71
925591	AC1-034 C	3.46
925592	AC1-034 E	2.61
925612	AC1-036 E	0.6
925781	AC1-054 C O1	3.69
925782	AC1-054 E O1	1.7
926071	AC1-086 C	14.06
926072	AC1-086 E	6.4
926201	AC1-098 C	3.12
926202	AC1-098 E	1.86
926211	AC1-099 C	1.04
926212	AC1-099 E	0.61
926271	AC1-105 C O1	2.36
926272	AC1-105 E O1	1.18
927021	AC1-189 C	3.85
927022	AC1-189 E	1.92
927141	AC1-208 C	4.79
927142	AC1-208 E	2.13
927251	AC1-221 C	0.93
927252	AC1-221 E	0.93
927261	AC1-222 C	1.47
927262	AC1-222 E	1.4
930402	AB1-081 E O1	1.94
930861	AB1-132 C O1	1.46
930862	AB1-132 E O1	4.09

Bus #	Bus	MW Impact
931231	AB1-173 C	0.25
931232	AB1-173 E	0.75
931241	AB1-173AC	0.25
931242	AB1-173AE	0.75
932631	AC2-084 C	4.44
932632	AC2-084 E	2.19
932761	AC2-100 C	2.14
932762	AC2-100 E	1.04
933991	AD1-023 C	4.64
933992	AD1-023 E	2.53
934201	AD1-047 C	5.72
934202	AD1-047 E	3.81
934231	AD1-050 C	2.36
934232	AD1-050 E	1.29
934311	AD1-055 C	1.02
934312	AD1-055 E	0.26
934331	AD1-057 C O1	5.86
934332	AD1-057 E O1	3.13
934341	AD1-058 C	2.33
934342	AD1-058 E	0.59
934611	AD1-087 C O1	3.67
934612	AD1-087 E O1	1.73
934621	AD1-088 C	4.84
934622	AD1-088 E	2.27
934991	AD1-131 C	0.76
934992	AD1-131 E	0.51
935171	AD1-152 C O1	3.65
935172	AD1-152 E O1	2.43
935212	AD1-156 E	0.63
936261	AD2-033 C	5.16
936262	AD2-033 E	3.44
936331	AD2-043 C	1.92
936332	AD2-043 E	2.27
936361	AD2-046 C O1	4.25
936362	AD2-046 E O1	1.95
936401	AD2-051 C O1	3.84
936402	AD2-051 E O1	1.65
936481	AD2-063 C O1	6.37
936482	AD2-063 E O1	4.25
936531	AD2-068 C	2.27
936532	AD2-068 E	1.17
936701	AD2-089 C	3.47
936702	AD2-089 E	2.31
936711	AD2-090 C O1	2.58
936712	AD2-090 E O1	1.72
937481	AD2-202 C O1	1.01
937482	AD2-202 E O1	0.51
937571	AD2-169 C	6.85
937572	AD2-169 E	4.57
938171	AE1-026 C1 O	10.21
938172	AE1-026 C2 O	1.48
938173	AE1-026 E O1	3.08

Bus #	Bus	MW Impact
938221	AE1-035 C	0.92
938222	AE1-035 E	0.45
938491	AE1-068 C O1	33.33
938492	AE1-068 E O1	18.41
938501	AE1-069 C O1	26.06
938502	AE1-069 E O1	14.9
938661	AE1-088	0.67
939071	AE1-135 C O1	19.71
939072	AE1-135 E O1	13.14
939181	AE1-148 C O1	4.18
939182	AE1-148 E O1	2.78
939371	AE1-168 C	5.23
939372	AE1-168 E	3.49
939411	AE1-173 C	37.41
939412	AE1-173 E	24.94
AA2-074	AA2-074	2.63
CARR	CARR	0.31
CBM-S1	CBM-S1	6.67
CBM-S2	CBM-S2	7.56
CBM-W1	CBM-W1	6.65
CBM-W2	CBM-W2	43.74
CIN	CIN	3.01
CPLE	CPLE	3.87
G-007	G-007	1.05
IPL	IPL	1.89
LGEE	LGEE	0.87
MEC	MEC	6.71
MECS	MECS	2.79
O-066	O-066	3.49
RENSSELAER	RENSSELAER	0.24
WEC	WEC	0.81

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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
402203	314285	6CHRL249	DVP	314316	6LOCKS	DVP	1	DVP_P4-2:562T563	breaker	684.0	131.86	136.7	DC	32.85

Bus #	Bus	MW Impact
314541	3WATKINS	0.23
314554	3BTLEBRO	0.4
314557	3BETHELC	0.39
314572	3EMPORIA	0.33
314574	6EVERETS	1.77
314578	3HORNRTN	1.92
314582	3KELFORD	1.62
314603	3SCOT NK	1.61
314617	3TUNIS	0.36
314620	6CASHIE	0.31
314623	3WITAKRS	0.69
314704	3LAWRENC	0.22
315102	1BRUNSWICKG1	4.2
315103	1BRUNSWICKG2	4.2
315104	1BRUNSWICKG3	4.2
315105	1BRUNSWICKS1	8.72
315131	1EDGECEMA	4.73
315132	1EDGECEMB	4.73
315136	1ROSEMG1	1.33
315137	1ROSEMS1	0.82
315138	1ROSEMG2	0.62
315139	1GASTONA	1.92
315141	1GASTONB	1.92
315150	1BUGGS 1	5.14
315151	1BUGGS 2	5.14
900672	V4-068 E	0.13
916301	Z1-086 C	25.59
916302	Z1-086 E	5.22
917332	Z2-043 E	0.46
917342	Z2-044 E	0.3
917512	Z2-088 E OP1	1.76
918492	AA1-063AE OP	2.11
918512	AA1-065 E OP	1.81
918532	AA1-067 E	0.31
918562	AA1-072 E	0.08
919692	AA2-053 E	2.08
919701	AA2-057 C	3.67
919702	AA2-057 E	1.83
920042	AA2-088 E OP	4.28
920592	AA2-165 E	0.24

Bus #	Bus	MW Impact
920672	AA2-174 E	0.24
923851	AB2-025 C	0.44
923852	AB2-025 E	1.3
923911	AB2-031 C O1	1.6
923912	AB2-031 E O1	0.79
923941	AB2-035 C	0.16
923942	AB2-035 E	0.07
923991	AB2-040 C O1	0.8
923992	AB2-040 E O1	4.29
924022	AB2-043 E O1	2.32
924152	AB2-059 E O1	2.75
924162	AB2-060 E O1	1.9
924302	AB2-077 E O1	0.6
924312	AB2-078 E O1	0.6
924322	AB2-079 E O1	0.6
924391	AB2-088 C	0.21
924392	AB2-088 E	0.1
924401	AB2-089 C	1.07
924402	AB2-089 E	0.55
924491	AB2-098 C	0.24
924492	AB2-098 E	0.1
924501	AB2-099 C	0.26
924502	AB2-099 E	0.11
924511	AB2-100 C	10.63
924512	AB2-100 E	5.23
925122	AB2-169 E	2.2
925171	AB2-174 C O1	5.2
925172	AB2-174 E O1	4.71
925591	AC1-034 C	3.46
925592	AC1-034 E	2.61
925612	AC1-036 E	0.6
925781	AC1-054 C O1	3.69
925782	AC1-054 E O1	1.7
926071	AC1-086 C	14.06
926072	AC1-086 E	6.4
926201	AC1-098 C	3.12
926202	AC1-098 E	1.86
926211	AC1-099 C	1.04
926212	AC1-099 E	0.61
926271	AC1-105 C O1	2.36
926272	AC1-105 E O1	1.18
927021	AC1-189 C	3.85
927022	AC1-189 E	1.92
927141	AC1-208 C	4.79
927142	AC1-208 E	2.13
927251	AC1-221 C	0.93
927252	AC1-221 E	0.93
927261	AC1-222 C	1.47
927262	AC1-222 E	1.4
930402	AB1-081 E O1	1.94
930861	AB1-132 C O1	1.46
930862	AB1-132 E O1	4.09

Bus #	Bus	MW Impact
931231	AB1-173 C	0.25
931232	AB1-173 E	0.75
931241	AB1-173AC	0.25
931242	AB1-173AE	0.75
932631	AC2-084 C	4.44
932632	AC2-084 E	2.19
932761	AC2-100 C	2.14
932762	AC2-100 E	1.04
933991	AD1-023 C	4.64
933992	AD1-023 E	2.53
934201	AD1-047 C	5.72
934202	AD1-047 E	3.81
934231	AD1-050 C	2.36
934232	AD1-050 E	1.29
934311	AD1-055 C	1.02
934312	AD1-055 E	0.26
934331	AD1-057 C O1	5.86
934332	AD1-057 E O1	3.13
934341	AD1-058 C	2.33
934342	AD1-058 E	0.59
934611	AD1-087 C O1	3.67
934612	AD1-087 E O1	1.73
934621	AD1-088 C	4.84
934622	AD1-088 E	2.27
934991	AD1-131 C	0.76
934992	AD1-131 E	0.51
935171	AD1-152 C O1	3.65
935172	AD1-152 E O1	2.43
935212	AD1-156 E	0.63
936261	AD2-033 C	5.16
936262	AD2-033 E	3.44
936331	AD2-043 C	1.92
936332	AD2-043 E	2.27
936361	AD2-046 C O1	4.25
936362	AD2-046 E O1	1.95
936401	AD2-051 C O1	3.84
936402	AD2-051 E O1	1.65
936481	AD2-063 C O1	6.37
936482	AD2-063 E O1	4.25
936531	AD2-068 C	2.27
936532	AD2-068 E	1.17
936701	AD2-089 C	3.47
936702	AD2-089 E	2.31
936711	AD2-090 C O1	2.58
936712	AD2-090 E O1	1.72
937481	AD2-202 C O1	1.01
937482	AD2-202 E O1	0.51
937571	AD2-169 C	6.85
937572	AD2-169 E	4.57
938171	AE1-026 C1 O	10.21
938172	AE1-026 C2 O	1.48
938173	AE1-026 E O1	3.08

Bus #	Bus	MW Impact
938221	AE1-035 C	0.92
938222	AE1-035 E	0.45
938491	AE1-068 C O1	33.33
938492	AE1-068 E O1	18.41
938501	AE1-069 C O1	26.06
938502	AE1-069 E O1	14.9
938661	AE1-088	0.67
939071	AE1-135 C O1	19.71
939072	AE1-135 E O1	13.14
939181	AE1-148 C O1	4.18
939182	AE1-148 E O1	2.78
939371	AE1-168 C	5.23
939372	AE1-168 E	3.49
939411	AE1-173 C	37.41
939412	AE1-173 E	24.94
AA2-074	AA2-074	2.63
CARR	CARR	0.31
CBM-S1	CBM-S1	6.67
CBM-S2	CBM-S2	7.56
CBM-W1	CBM-W1	6.65
CBM-W2	CBM-W2	43.74
CIN	CIN	3.01
CPLE	CPLE	3.87
G-007	G-007	1.05
IPL	IPL	1.89
LGEE	LGEE	0.87
MEC	MEC	6.71
MECS	MECS	2.79
O-066	O-066	3.49
RENSSELAER	RENSSELAER	0.24
WEC	WEC	0.81

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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
403083	314303	6HOPEWLL	DVP	314286	6CHESTF A	DVP	1	DVP_P1-2: LN 259	single	449.32	111.68	113.74	DC	9.29

Bus #	Bus	MW Impact
314314	3LOCKS	0.14
314507	3THOMPSN	0.11
315065	1CHESTF6	20.29
315074	1HOPCGN1	17.65
315075	1HOPCGN2	17.42
315076	1HOPPOLC	3.1
315077	1HOPHCF1	4.85
315078	1HOPHCF2	4.85
315079	1HOPHCF3	4.85
315080	1HOPHCF4	7.37
315098	1CHESPKA	0.15
315099	1CHESPKB	0.37
315116	1SURRY 1	20.71
315117	1GRAVELC	0.73
315119	1GRAVEL3	2.1
315120	1GRAVEL4	2.13
315121	1GRAVEL5	2.1
315122	1GRAVEL6	2.13
315260	1GOSPORTA	0.12
315261	1GOSPORTB	0.15
315262	1GOSPORTC	0.13
923851	AB2-025 C	0.2
924511	AB2-100 C	5.06
924811	AB2-134 C O1	2.79
925051	AB2-160 C O1	2.91
925061	AB2-161 C O1	2.18
925331	AB2-190 C	30.31
925821	AC1-061	0.0
926661	AC1-147 C	0.13
927221	AC1-216 C O1	13.91
932041	AC2-012 C	3.75
932581	AC2-078 C O1	3.43
932591	AC2-079 C O1	2.98
934011	AD1-025 C	23.91
934571	AD1-082 C	4.96
935111	AD1-144 C	0.11
935161	AD1-151 C O1	24.35
935211	AD1-156 C	0.27
936041	AD2-007	2.54
936051	AD2-008 C	4.16

Bus #	Bus	MW Impact
936661	AD2-085 C	1.81
937541	AD2-215 C	0.7
938631	AE1-085 C O1	8.95
938841	AE1-109AC O1	5.86
939071	AE1-135 C O1	9.29
939191	AE1-149 C O1	9.47
939311	AE1-162 C	1.49
940061	AE1-248 C O1	10.31
940071	AE1-249 C	3.84
CARR	CARR	0.22
CBM-S1	CBM-S1	2.17
CBM-S2	CBM-S2	3.06
CBM-W1	CBM-W1	1.5
CBM-W2	CBM-W2	13.63
CIN	CIN	0.72
CPLE	CPLE	1.65
IPL	IPL	0.44
LGEE	LGEE	0.21
MEC	MEC	1.82
MECS	MECS	0.36
RENSSELAER	RENSSELAER	0.17
WEC	WEC	0.19

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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
403571	314554	3BTLEBRO	DVP	304223	3ROCKYMT115T	CPL	1	DVP_P7-1: LN 2058-2181	tower	164.0	298.9	303.04	DC	14.94

Bus #	Bus	MW Impact
314541	3WATKINS	0.25
314554	3BTLEBRO	1.96
314557	3BETHELC	0.86
314572	3EMPORIA	0.2
314574	6EVERETS	1.77
314578	3HORNRTN	2.52
314582	3KELFORD	2.87
314603	3SCOT NK	3.65
314617	3TUNIS	0.43
314620	6CASHIE	0.32
314623	3WITAKRS	2.92
315131	1EDGECEMA	13.53
315132	1EDGECEMB	13.53
315136	1ROSEMG1	1.59
315137	1ROSEMS1	0.98
315138	1ROSEMG2	0.74
315139	1GASTONA	1.96
315141	1GASTONB	1.96
900672	V4-068 E	0.15
917331	Z2-043 C	0.29
917332	Z2-043 E	0.82
917341	Z2-044 C	0.45
917342	Z2-044 E	1.25
917511	Z2-088 C OP1	1.04
917512	Z2-088 E OP1	2.91
918492	AA1-063AE OP	2.41
918512	AA1-065 E OP	1.91
918532	AA1-067 E	0.31
918561	AA1-072 C	0.04
918562	AA1-072 E	0.14
919692	AA2-053 E	2.32
919701	AA2-057 C	13.32
919702	AA2-057 E	6.66
920042	AA2-088 E OP	4.75
920591	AA2-165 C	0.28
920592	AA2-165 E	0.88
920672	AA2-174 E	0.27
923801	AB2-015 C O1	2.99
923802	AB2-015 E O1	2.45
923911	AB2-031 C O1	1.2

Bus #	Bus	MW Impact
923912	AB2-031 E O1	0.59
923941	AB2-035 C	0.36
923942	AB2-035 E	0.16
923992	AB2-040 E O1	3.22
924151	AB2-059 C O1	3.64
924152	AB2-059 E O1	12.22
924391	AB2-088 C	0.47
924392	AB2-088 E	0.22
924491	AB2-098 C	0.24
924492	AB2-098 E	0.1
924501	AB2-099 C	0.31
924502	AB2-099 E	0.13
924511	AB2-100 C	5.31
924512	AB2-100 E	2.62
925122	AB2-169 E	2.21
925171	AB2-174 C O1	3.6
925172	AB2-174 E O1	3.26
925591	AC1-034 C	15.36
925592	AC1-034 E	11.59
926071	AC1-086 C	14.34
926072	AC1-086 E	6.53
926201	AC1-098 C	7.95
926202	AC1-098 E	4.74
926211	AC1-099 C	2.66
926212	AC1-099 E	1.56
927021	AC1-189 C	5.57
927022	AC1-189 E	2.77
927141	AC1-208 C	12.51
927142	AC1-208 E	5.56
930401	AB1-081 C O1	3.09
930402	AB1-081 E O1	8.62
930861	AB1-132 C O1	1.49
930862	AB1-132 E O1	4.17
931232	AB1-173 E	0.56
931242	AB1-173AE	0.56
932631	AC2-084 C	11.33
932632	AC2-084 E	5.58
933991	AD1-023 C	4.78
933992	AD1-023 E	2.6
934201	AD1-047 C	4.3
934202	AD1-047 E	2.86
934331	AD1-057 C O1	11.18
934332	AD1-057 E O1	5.96
934521	AD1-076 C	18.5
934522	AD1-076 E	9.42
936401	AD2-051 C O1	4.79
936402	AD2-051 E O1	2.06
936701	AD2-089 C	7.78
936702	AD2-089 E	5.19
936711	AD2-090 C O1	2.83
936712	AD2-090 E O1	1.89
937571	AD2-169 C	5.61

Bus #	Bus	MW Impact
937572	AD2-169 E	3.74
938171	AE1-026 C1 O	10.58
938172	AE1-026 C2 O	1.53
938173	AE1-026 E O1	3.2
938221	AE1-035 C	0.97
938222	AE1-035 E	0.48
938661	AE1-088	0.67
939071	AE1-135 C O1	8.97
939072	AE1-135 E O1	5.98
AC1-133	AC1-133	9.5
BAYOU	BAYOU	1.37
BIG_CAJUN1	BIG_CAJUN1	2.16
BIG_CAJUN2	BIG_CAJUN2	4.35
BLUEG	BLUEG	3.97
CALDERWOOD	CALDERWOOD	0.81
CANNELTON	CANNELTON	0.27
CATAWBA	CATAWBA	0.79
CBM-N	CBM-N	0.07
CHEOAH	CHEOAH	0.75
CHILHOWEE	CHILHOWEE	0.26
CHOCTAW	CHOCTAW	1.47
COFFEEN	COFFEEN	0.46
COTTONWOOD	COTTONWOOD	5.36
DEARBORN	DEARBORN	0.5
DUCKCREEK	DUCKCREEK	0.95
EDWARDS	EDWARDS	0.42
ELMERSMITH	ELMERSMITH	0.48
FARMERCITY	FARMERCITY	0.33
G-007A	G-007A	0.4
GIBSON	GIBSON	0.17
HAMLET	HAMLET	3.15
NEWTON	NEWTON	1.2
NYISO	NYISO	0.31
O-066A	O-066A	0.18
PRAIRIE	PRAIRIE	2.51
SANTEETLA	SANTEETLA	0.22
SMITHLAND	SMITHLAND	0.22
TATANKA	TATANKA	0.57
TILTON	TILTON	0.5
TRIMBLE	TRIMBLE	0.44
TVA	TVA	2.27
UNIONPOWER	UNIONPOWER	1.12
VFT	VFT	1.05

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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
402741	314569	GEARLEYS	DVP	314575	6NUCO TP	DVP	1	DVP_P1-2: LN 2092	single	571.52	125.69	127.71	DC	11.68

Bus #	Bus	MW Impact
314589	3MURPHYS	0.09
314704	3LAWRENC	0.17
315126	1ROARAP2	1.21
315128	1ROARAP4	1.16
315131	1EDGECEMA	9.42
315132	1EDGECEMB	9.42
315136	1ROSEMG1	2.12
315137	1ROSEMS1	1.31
315138	1ROSEMG2	0.99
315139	1GASTONA	2.98
315141	1GASTONB	2.98
315159	1KERR 2	0.66
315163	1KERR 6	0.65
315164	1KERR 7	0.65
315292	1DOMTR78	2.53
315293	1DOMTR9	2.07
315294	1DOMTR10	3.75
916041	Z1-036 C	2.06
917331	Z2-043 C	0.58
917341	Z2-044 C	0.21
917511	Z2-088 C OP1	2.1
918491	AA1-063AC OP	1.69
918511	AA1-065 C OP	2.99
918531	AA1-067 C	0.45
918561	AA1-072 C	0.09
919691	AA2-053 C	1.53
919701	AA2-057 C	7.67
920041	AA2-088 C OP	0.62
920591	AA2-165 C	0.16
920671	AA2-174 C	0.07
920691	AA2-178 C	2.96
923911	AB2-031 C O1	1.74
923941	AB2-035 C	0.43
923991	AB2-040 C O1	0.88
924151	AB2-059 C O1	1.62
924391	AB2-088 C	0.56
924401	AB2-089 C	1.24
924491	AB2-098 C	0.99
924501	AB2-099 C	0.95
924511	AB2-100 C	7.11

Bus #	Bus	MW Impact
925121	AB2-169 C	1.88
925171	AB2-174 C O1	5.2
925291	AB2-188 C O1	4.76
925591	AC1-034 C	6.83
925781	AC1-054 C O1	4.49
926071	AC1-086 C	21.84
926201	AC1-098 C	7.82
926211	AC1-099 C	2.62
927021	AC1-189 C	13.69
927141	AC1-208 C	10.08
930401	AB1-081 C O1	1.37
930861	AB1-132 C O1	2.27
931231	AB1-173 C	0.27
931241	AB1-173AC	0.27
932631	AC2-084 C	11.14
933991	AD1-023 C	27.21
934201	AD1-047 C	6.24
934231	AD1-050 C	2.73
934331	AD1-057 C O1	10.32
934521	AD1-076 C	110.72
936401	AD2-051 C O1	15.91
936531	AD2-068 C	6.56
936701	AD2-089 C	9.29
937571	AD2-169 C	8.2
938171	AE1-026 C1 O	58.57
938172	AE1-026 C2 O	8.47
938221	AE1-035 C	4.88
938661	AE1-088	6.3
939071	AE1-135 C O1	11.68
AA2-074	AA2-074	2.72
CARR	CARR	0.19
CBM-S1	CBM-S1	5.99
CBM-S2	CBM-S2	7.06
CBM-W1	CBM-W1	6.21
CBM-W2	CBM-W2	39.61
CIN	CIN	2.79
CPLE	CPLE	4.01
IPL	IPL	1.75
LGEE	LGEE	0.8
MEC	MEC	6.15
MECS	MECS	2.72
RENSSELAER	RENSSELAER	0.15
WEC	WEC	0.75

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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
403603	314574	6EVERETS	DVP	936530	AD2-068 TAP	DVP	1	DVP_P7-1: LN 2058-2181	tower	485.0	161.69	163.29	DC	17.25

Bus #	Bus	MW Impact
314539	3UNCAMP	1.27
314541	3WATKINS	0.39
314554	3BTLEBRO	0.38
314557	3BETHEL	1.06
314566	3CRESWEL	2.23
314572	3EMPORIA	0.22
314574	6EVERETS	8.22
314578	3HORNRTN	2.14
314582	3KELFORD	3.33
314589	3MURPHYS	0.07
314594	6PLYMOTH	0.9
314603	3SCOT NK	2.69
314617	3TUNIS	0.78
314620	6CASHIE	0.97
314623	3WITAKRS	0.71
314648	6SUNBURY	0.41
314651	6WINFALL	0.99
315131	1EDGECEMA	8.55
315132	1EDGECEMB	8.55
315136	1ROSEMG1	1.58
315137	1ROSEMS1	0.98
315138	1ROSEMG2	0.74
315292	1DOMTR78	1.65
315293	1DOMTR9	1.35
315294	1DOMTR10	2.45
900672	V4-068 E	0.24
901082	W1-029 E	24.69
907092	X1-038 E	3.17
913392	Y1-086 E	1.0
916042	Z1-036 E	30.84
917122	Z2-027 E	0.52
917331	Z2-043 C	0.34
917332	Z2-043 E	0.95
917342	Z2-044 E	0.31
917511	Z2-088 C OP1	2.29
917512	Z2-088 E OP1	6.41
918491	AA1-063AC OP	1.07
918492	AA1-063AE OP	3.28
918511	AA1-065 C OP	1.72
918512	AA1-065 E OP	5.52

Bus #	Bus	MW Impact
918531	AA1-067 C	0.52
918532	AA1-067 E	1.45
918561	AA1-072 C	0.05
918562	AA1-072 E	0.16
919692	AA2-053 E	2.78
919701	AA2-057 C	4.11
919702	AA2-057 E	2.06
920042	AA2-088 E OP	6.8
920592	AA2-165 E	0.27
920672	AA2-174 E	0.32
920691	AA2-178 C	1.37
920692	AA2-178 E	3.82
923801	AB2-015 C O1	4.71
923802	AB2-015 E O1	3.86
923832	AB2-022 E	0.57
923911	AB2-031 C O1	1.26
923912	AB2-031 E O1	0.62
923941	AB2-035 C	0.44
923942	AB2-035 E	0.19
923992	AB2-040 E O1	3.38
924152	AB2-059 E O1	3.09
924391	AB2-088 C	0.57
924392	AB2-088 E	0.28
924491	AB2-098 C	1.13
924492	AB2-098 E	0.48
924501	AB2-099 C	0.59
924502	AB2-099 E	0.25
924511	AB2-100 C	6.09
924512	AB2-100 E	3.0
925121	AB2-169 C	1.49
925122	AB2-169 E	8.74
925171	AB2-174 C O1	3.82
925172	AB2-174 E O1	3.46
925281	AB2-186 C	0.37
925282	AB2-186 E	0.16
925291	AB2-188 C O1	2.2
925292	AB2-188 E O1	0.99
925591	AC1-034 C	3.89
925592	AC1-034 E	2.93
926071	AC1-086 C	15.84
926072	AC1-086 E	7.21
926201	AC1-098 C	4.51
926202	AC1-098 E	2.69
926211	AC1-099 C	1.51
926212	AC1-099 E	0.89
927021	AC1-189 C	15.22
927022	AC1-189 E	7.58
927141	AC1-208 C	5.86
927142	AC1-208 E	2.6
930402	AB1-081 E O1	2.18
930862	AB1-132 E O1	4.61
931232	AB1-173 E	0.59

Bus #	Bus	MW Impact
931242	AB1-173AE	0.59
932631	AC2-084 C	6.43
932632	AC2-084 E	3.17
933991	AD1-023 C	14.77
933992	AD1-023 E	8.04
934201	AD1-047 C	4.51
934202	AD1-047 E	3.01
934331	AD1-057 C O1	8.5
934332	AD1-057 E O1	4.53
934521	AD1-076 C	58.8
934522	AD1-076 E	29.94
936401	AD2-051 C O1	9.44
936402	AD2-051 E O1	4.05
936701	AD2-089 C	9.53
936702	AD2-089 E	6.35
936711	AD2-090 C O1	4.25
936712	AD2-090 E O1	2.83
937571	AD2-169 C	5.83
937572	AD2-169 E	3.88
938171	AE1-026 C1 O	32.17
938172	AE1-026 C2 O	4.65
938173	AE1-026 E O1	9.71
938221	AE1-035 C	2.8
938222	AE1-035 E	1.38
938661	AE1-088	5.0
938771	AE1-103 C O1	1.9
938772	AE1-103 E O1	2.62
939041	AE1-133 C	17.42
939042	AE1-133 E	8.58
939071	AE1-135 C O1	10.35
939072	AE1-135 E O1	6.9
AC1-133	AC1-133	24.63
BAYOU	BAYOU	2.85
BIG_CAJUN1	BIG_CAJUN1	4.51
BIG_CAJUN2	BIG_CAJUN2	9.07
BLUEG	BLUEG	7.81
CALDERWOOD	CALDERWOOD	1.67
CANNELTON	CANNELTON	0.54
CATAWBA	CATAWBA	1.63
CBM-N	CBM-N	0.21
CHEOAH	CHEOAH	1.56
CHILHOWEE	CHILHOWEE	0.54
CHOCTAW	CHOCTAW	3.07
COFFEEN	COFFEEN	0.92
COTTONWOOD	COTTONWOOD	11.15
DEARBORN	DEARBORN	0.96
DUCKCREEK	DUCKCREEK	1.89
EDWARDS	EDWARDS	0.84
ELMERSMITH	ELMERSMITH	0.95
FARMERCITY	FARMERCITY	0.67
G-007A	G-007A	1.0
GIBSON	GIBSON	0.34

Bus #	Bus	MW Impact
HAMLET	HAMLET	6.98
NEWTON	NEWTON	2.4
NYISO	NYISO	0.91
O-066A	O-066A	0.46
PRAIRIE	PRAIRIE	5.08
SANTEETLA	SANTEETLA	0.46
SMITHLAND	SMITHLAND	0.45
TATANKA	TATANKA	1.13
TILTON	TILTON	0.99
TRIMBLE	TRIMBLE	0.86
TVA	TVA	4.7
UNIONPOWER	UNIONPOWER	2.33
VFT	VFT	2.66

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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
402794	314575	6NUCO TP	DVP	919140	AA1-138 TAP	DVP	1	DVP_P1-2: LN 2092	single	571.52	119.27	121.29	DC	11.68

Bus #	Bus	MW Impact
314589	3MURPHYS	0.09
314704	3LAWRENC	0.17
315126	1ROARAP2	1.21
315128	1ROARAP4	1.16
315131	1EDGECEMA	9.42
315132	1EDGECEMB	9.42
315136	1ROSEMG1	2.12
315137	1ROSEMS1	1.31
315138	1ROSEMG2	0.99
315139	1GASTONA	2.98
315141	1GASTONB	2.98
315159	1KERR 2	0.66
315163	1KERR 6	0.65
315164	1KERR 7	0.65
315292	1DOMTR78	2.53
315293	1DOMTR9	2.07
315294	1DOMTR10	3.75
916041	Z1-036 C	2.06
917331	Z2-043 C	0.58
917341	Z2-044 C	0.21
917511	Z2-088 C OP1	2.1
918491	AA1-063AC OP	1.69
918511	AA1-065 C OP	2.99
918531	AA1-067 C	0.45
918561	AA1-072 C	0.09
919691	AA2-053 C	1.53
919701	AA2-057 C	7.67
920041	AA2-088 C OP	0.62
920591	AA2-165 C	0.16
920671	AA2-174 C	0.07
920691	AA2-178 C	2.96
923911	AB2-031 C O1	1.74
923941	AB2-035 C	0.43
923991	AB2-040 C O1	0.88
924151	AB2-059 C O1	1.62
924391	AB2-088 C	0.56
924401	AB2-089 C	1.24
924491	AB2-098 C	0.99
924501	AB2-099 C	0.95
924511	AB2-100 C	7.11

Bus #	Bus	MW Impact
925121	AB2-169 C	1.88
925171	AB2-174 C O1	5.2
925291	AB2-188 C O1	4.76
925591	AC1-034 C	6.83
925781	AC1-054 C O1	4.49
926071	AC1-086 C	21.84
926201	AC1-098 C	7.82
926211	AC1-099 C	2.62
927021	AC1-189 C	13.69
927141	AC1-208 C	10.08
930401	AB1-081 C O1	1.37
930861	AB1-132 C O1	2.27
931231	AB1-173 C	0.27
931241	AB1-173AC	0.27
932631	AC2-084 C	11.14
933991	AD1-023 C	27.21
934201	AD1-047 C	6.24
934231	AD1-050 C	2.73
934331	AD1-057 C O1	10.32
934521	AD1-076 C	110.72
936401	AD2-051 C O1	15.91
936531	AD2-068 C	6.56
936701	AD2-089 C	9.29
937571	AD2-169 C	8.2
938171	AE1-026 C1 O	58.57
938172	AE1-026 C2 O	8.47
938221	AE1-035 C	4.88
938661	AE1-088	6.3
939071	AE1-135 C O1	11.68
AA2-074	AA2-074	2.72
CARR	CARR	0.19
CBM-S1	CBM-S1	5.99
CBM-S2	CBM-S2	7.06
CBM-W1	CBM-W1	6.21
CBM-W2	CBM-W2	39.61
CIN	CIN	2.79
CPLE	CPLE	4.01
IPL	IPL	1.75
LGEE	LGEE	0.8
MEC	MEC	6.15
MECS	MECS	2.72
RENSSELAER	RENSSELAER	0.15
WEC	WEC	0.75

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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
402085	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	DVP_P4-2: 23872	breaker	433.0	129.6	158.16	DC	123.66

Bus #	Bus	MW Impact
314554	3BTLEBRO	0.62
314557	3BETHELC	0.53
315131	1EDGECEMA	10.33
315132	1EDGECEMB	10.33
315136	1ROSEMG1	6.81
315137	1ROSEMS1	4.22
315138	1ROSEMG2	3.19
315139	1GASTONA	10.43
315141	1GASTONB	10.43
923941	AB2-035 C	0.22
923942	AB2-035 E	0.1
924151	AB2-059 C O1	1.37
924152	AB2-059 E O1	4.6
924391	AB2-088 C	0.29
924392	AB2-088 E	0.14
924511	AB2-100 C	41.43
924512	AB2-100 E	20.4
925591	AC1-034 C	5.78
925592	AC1-034 E	4.36
926071	AC1-086 C	76.48
926072	AC1-086 E	34.81
930401	AB1-081 C O1	1.16
930402	AB1-081 E O1	3.25
930861	AB1-132 C O1	7.96
930862	AB1-132 E O1	22.26
934233	AD1-050 BAT	4.07
934331	AD1-057 C O1	22.71
934332	AD1-057 E O1	12.12
936701	AD2-089 C	4.81
936702	AD2-089 E	3.21
939071	AE1-135 C O1	74.19
939072	AE1-135 E O1	49.46
CARR	CARR	0.09
CBM-S1	CBM-S1	2.42
CBM-S2	CBM-S2	2.93
CBM-W1	CBM-W1	2.38
CBM-W2	CBM-W2	15.89
CIN	CIN	1.07
CPL	CPL	1.6
G-007	G-007	0.32
IPL	IPL	0.67

Bus #	Bus	MW Impact
LGEE	LGEE	0.31
MEC	MEC	2.42
MECS	MECS	1.0
O-066	O-066	1.06
RENSELAER	RENSELAER	0.07
WEC	WEC	0.29

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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
403218	314591	6NASH	DVP	304226	6PA-RMOUNT#4	CPL	1	DVP_P1-2: LN 2058	single	470.0	101.28	104.34	DC	14.38

Bus #	Bus	MW Impact
314589	3MURPHYS	0.05
314704	3LAWRENC	0.16
315115	1S HAMPT1	0.69
315126	1ROARAP2	1.03
315128	1ROARAP4	1.0
315131	1EDGECEMA	25.25
315132	1EDGECEMB	25.25
315136	1ROSEMG1	2.7
315137	1ROSEMS1	1.67
315138	1ROSEMG2	1.26
315139	1GASTONA	3.23
315141	1GASTONB	3.23
315292	1DOMTR78	0.75
315293	1DOMTR9	0.61
315294	1DOMTR10	1.11
901081	W1-029 C	0.31
916041	Z1-036 C	0.38
917331	Z2-043 C	0.29
917341	Z2-044 C	0.26
917511	Z2-088 C OP1	1.88
918491	AA1-063AC OP	1.01
918511	AA1-065 C OP	0.93
918531	AA1-067 C	0.19
918561	AA1-072 C	0.04
919691	AA2-053 C	1.06
919701	AA2-057 C	8.3
920041	AA2-088 C OP	0.59
920591	AA2-165 C	0.17
920671	AA2-174 C	0.05
920691	AA2-178 C	0.69
923801	AB2-015 C O1	4.03
923851	AB2-025 C	0.16
923911	AB2-031 C O1	1.64
923941	AB2-035 C	0.67
923991	AB2-040 C O1	0.83
924151	AB2-059 C O1	2.64
924391	AB2-088 C	0.86
924401	AB2-089 C	0.74
924491	AB2-098 C	0.41
924501	AB2-099 C	0.41

Bus #	Bus	MW Impact
924511	AB2-100 C	8.56
925121	AB2-169 C	0.62
925171	AB2-174 C O1	5.03
925281	AB2-186 C	0.2
925291	AB2-188 C O1	1.12
925591	AC1-034 C	11.15
925781	AC1-054 C O1	2.89
926071	AC1-086 C	23.71
926201	AC1-098 C	6.04
926211	AC1-099 C	2.02
927021	AC1-189 C	9.92
927141	AC1-208 C	9.24
930401	AB1-081 C O1	2.24
930861	AB1-132 C O1	2.47
931231	AB1-173 C	0.25
931241	AB1-173AC	0.25
932631	AC2-084 C	8.61
933991	AD1-023 C	7.55
934201	AD1-047 C	5.89
934231	AD1-050 C	1.64
934331	AD1-057 C O1	20.2
934521	AD1-076 C	29.36
936401	AD2-051 C O1	6.26
936701	AD2-089 C	14.33
936711	AD2-090 C O1	3.77
937571	AD2-169 C	7.55
938171	AE1-026 C1 O	16.66
938172	AE1-026 C2 O	2.41
938221	AE1-035 C	1.51
938661	AE1-088	2.09
938771	AE1-103 C O1	1.59
939071	AE1-135 C O1	14.38
BAYOU	BAYOU	2.06
BIG_CAJUN1	BIG_CAJUN1	3.26
BIG_CAJUN2	BIG_CAJUN2	6.55
BLUEG	BLUEG	6.01
CALDERWOOD	CALDERWOOD	1.22
CANNELTON	CANNELTON	0.41
CATAWBA	CATAWBA	1.19
CBM-N	CBM-N	0.13
CHEOAH	CHEOAH	1.14
CHILHOWEE	CHILHOWEE	0.4
CHOCTAW	CHOCTAW	2.22
COFFEEN	COFFEEN	0.7
COTTONWOOD	COTTONWOOD	8.09
DEARBORN	DEARBORN	0.76
DUCKCREEK	DUCKCREEK	1.44
EDWARDS	EDWARDS	0.64
ELMERSMITH	ELMERSMITH	0.72
FARMERCITY	FARMERCITY	0.5
G-007A	G-007A	0.67
GIBSON	GIBSON	0.26

Bus #	Bus	MW Impact
HAMLET	HAMLET	4.7
NEWTON	NEWTON	1.82
NYISO	NYISO	0.56
O-066A	O-066A	0.31
PRAIRIE	PRAIRIE	3.8
SANTEETLA	SANTEETLA	0.34
SMITHLAND	SMITHLAND	0.34
TATANKA	TATANKA	0.85
TILTON	TILTON	0.76
TRIMBLE	TRIMBLE	0.66
TVA	TVA	3.43
UNIONPOWER	UNIONPOWER	1.7
VFT	VFT	1.77

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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
402254	314902	8CARSON	DVP	314914	8MDLTHAN	DVP	1	DVP_P4-2: 557T574	breaker	3938.0	125.81	126.3	DC	51.63

Bus #	Bus	MW Impact
314539	3UNCAMP	3.9
314541	3WATKINS	1.1
314554	3BTLEBRO	1.19
314557	3BETHEL	1.22
314566	3CRESWEL	3.94
314572	3EMPORIA	0.62
314574	6EVERETS	6.48
314578	3HORNRTN	4.99
314582	3KELFORD	5.44
314594	6PLYMOTH	1.38
314603	3SCOT NK	5.06
314617	3TUNIS	1.32
314620	6CASHIE	1.36
314623	3WITAKRS	2.03
314648	6SUNBURY	1.5
314651	6WINFALL	2.97
315090	1YORKTN1	40.59
315091	1YORKTN2	42.12
315102	1BRUNSWICKG1	15.02
315103	1BRUNSWICKG2	15.02
315104	1BRUNSWICKG3	15.02
315105	1BRUNSWICKS1	31.2
315108	1ELIZAR1	5.16
315109	1ELIZAR2	5.07
315110	1ELIZAR3	5.23
315131	1EDGECEMA	13.88
315132	1EDGECEMB	13.88
315233	1SURREY 2	40.74
900672	V4-068 E	0.47
901082	W1-029 E	77.59
907092	X1-038 E	9.74
913392	Y1-086 E	3.74
916042	Z1-036 E	76.27
916191	Z1-068 C	0.07
916192	Z1-068 E	3.23
916301	Z1-086 C	91.67
916302	Z1-086 E	18.71
917122	Z2-027 E	1.8
917332	Z2-043 E	1.55
917342	Z2-044 E	0.87

Bus #	Bus	MW Impact
917512	Z2-088 E OP1	5.99
918492	AA1-063AE OP	6.12
918512	AA1-065 E OP	7.02
918532	AA1-067 E	1.14
918562	AA1-072 E	0.26
919151	AA1-139 C	3.95
919152	AA1-139 E	11.04
919692	AA2-053 E	5.68
919701	AA2-057 C	10.72
919702	AA2-057 E	5.36
920042	AA2-088 E OP	16.57
920592	AA2-165 E	0.71
920672	AA2-174 E	0.66
920692	AA2-178 E	6.76
923801	AB2-015 C O1	13.81
923802	AB2-015 E O1	11.32
923832	AB2-022 E	2.11
923852	AB2-025 E	1.64
923911	AB2-031 C O1	3.34
923912	AB2-031 E O1	1.65
923941	AB2-035 C	0.51
923942	AB2-035 E	0.22
923992	AB2-040 E O1	8.98
924152	AB2-059 E O1	8.12
924241	AB2-068 O1	333.72
924391	AB2-088 C	0.66
924392	AB2-088 E	0.32
924491	AB2-098 C	0.89
924492	AB2-098 E	0.38
924501	AB2-099 C	0.92
924502	AB2-099 E	0.39
924511	AB2-100 C	17.26
924512	AB2-100 E	8.5
925061	AB2-161 C O1	4.85
925062	AB2-161 E O1	7.92
925122	AB2-169 E	9.29
925171	AB2-174 C O1	10.48
925172	AB2-174 E O1	9.48
925281	AB2-186 C	1.03
925282	AB2-186 E	0.44
925291	AB2-188 C O1	3.89
925292	AB2-188 E O1	1.75
925521	AC1-027 C	0.53
925522	AC1-027 E	1.97
925591	AC1-034 C	10.22
925592	AC1-034 E	7.71
925781	AC1-054 C O1	6.77
925782	AC1-054 E O1	3.12
926071	AC1-086 C	31.39
926072	AC1-086 E	14.29
926201	AC1-098 C	9.4
926202	AC1-098 E	5.6

Bus #	Bus	MW Impact
926211	AC1-099 C	3.15
926212	AC1-099 E	1.85
926291	AC1-107 O1	503.73
926662	AC1-147 E	2.27
926751	AC1-161 C O1	55.57
926752	AC1-161 E O1	23.72
927021	AC1-189 C	13.4
927022	AC1-189 E	6.68
927141	AC1-208 C	13.69
927142	AC1-208 E	6.08
930402	AB1-081 E O1	5.74
930862	AB1-132 E O1	9.13
931232	AB1-173 E	1.57
931242	AB1-173AE	1.57
932041	AC2-012 C	17.46
932042	AC2-012 E	28.48
932581	AC2-078 C O1	5.17
932582	AC2-078 E O1	8.44
932591	AC2-079 C O1	8.82
932592	AC2-079 E O1	14.4
932631	AC2-084 C	13.39
932632	AC2-084 E	6.6
933291	AC2-141 C	55.57
933292	AC2-141 E	23.72
933731	AC2-196 C	0.48
933732	AC2-196 E	2.06
933991	AD1-023 C	21.23
933992	AD1-023 E	11.56
934061	AD1-033 C	13.0
934062	AD1-033 E	8.67
934201	AD1-047 C	11.98
934202	AD1-047 E	7.98
934331	AD1-057 C O1	15.05
934332	AD1-057 E O1	8.03
934521	AD1-076 C	88.45
934522	AD1-076 E	45.04
934571	AD1-082 C	11.06
934572	AD1-082 E	6.31
934611	AD1-087 C O1	12.76
934612	AD1-087 E O1	6.0
934621	AD1-088 C	17.19
934622	AD1-088 E	8.07
935112	AD1-144 E	1.54
935171	AD1-152 C O1	12.68
935172	AD1-152 E O1	8.45
936391	AD2-049 C	2.65
936392	AD2-049 E	2.65
936401	AD2-051 C O1	13.75
936402	AD2-051 E O1	5.91
936531	AD2-068 C	7.89
936532	AD2-068 E	4.06
936661	AD2-085 C	5.27

Bus #	Bus	MW Impact
936662	AD2-085 E	8.6
936701	AD2-089 C	11.01
936702	AD2-089 E	7.34
936711	AD2-090 C O1	11.43
936712	AD2-090 E O1	7.62
937221	AD2-160 C O1	10.09
937222	AD2-160 E O1	5.29
937251	AD2-164	6.9
937481	AD2-202 C O1	3.51
937482	AD2-202 E O1	1.77
937541	AD2-215 C	2.84
937542	AD2-215 E	1.51
937571	AD2-169 C	14.97
937572	AD2-169 E	9.98
938171	AE1-026 C1 O	45.07
938172	AE1-026 C2 O	6.52
938173	AE1-026 E O1	13.61
938181	AE1-027 C	4.05
938182	AE1-027 E	2.13
938191	AE1-028 C	2.35
938192	AE1-028 E	1.36
938221	AE1-035 C	3.56
938222	AE1-035 E	1.75
938461	AE1-065 C O1	48.93
938462	AE1-065 E O1	197.45
938471	AE1-066 C O1	50.29
938472	AE1-066 E O1	196.1
938481	AE1-067 C O1	45.73
938482	AE1-067 E O1	200.65
938491	AE1-068 C O1	119.48
938492	AE1-068 E O1	65.99
938501	AE1-069 C O1	93.35
938502	AE1-069 E O1	53.37
938531	AE1-072 C O1	30.16
938532	AE1-072 E O1	15.72
938631	AE1-085 C O1	14.1
938632	AE1-085 E O1	9.4
938661	AE1-088	2.81
938771	AE1-103 C O1	5.84
938772	AE1-103 E O1	8.07
938841	AE1-109AC O1	13.01
938842	AE1-109AE O1	8.68
939041	AE1-133 C	60.35
939042	AE1-133 E	29.72
939071	AE1-135 C O1	30.98
939072	AE1-135 E O1	20.65
939311	AE1-162 C	3.24
939312	AE1-162 E	2.16
939411	AE1-173 C	175.5
939412	AE1-173 E	117.0
940061	AE1-248 C O1	22.99
940062	AE1-248 E O1	15.33

Bus #	Bus	MW Impact
AA2-074	AA2-074	8.88
AB2-013	AB2-013	5.67
AE1-033	AE1-033	5.91
AE1-042	AE1-042	14.35
CARR	CARR	1.71
CBM-S1	CBM-S1	21.92
CBM-S2	CBM-S2	25.58
CBM-W1	CBM-W1	19.91
CBM-W2	CBM-W2	141.65
CIN	CIN	9.27
CPLE	CPLE	13.06
G-007	G-007	5.66
IPL	IPL	5.78
LGEE	LGEE	2.7
MEC	MEC	21.05
MECS	MECS	7.42
O-066	O-066	18.88
RENSSELAER	RENSSELAER	1.36
WEC	WEC	2.45
Z1-043	Z1-043	9.67

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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
402170	314903	8CHCKAHM	DVP	314908	8ELMONT	DVP	1	DVP_P4-2: 563T576	breaker	3144.0	138.62	139.28	DC	45.8

Bus #	Bus	MW Impact
314189	6PAPERMILL	10.93
314421	6WINCHST	0.25
314539	3UNCAMP	3.9
314541	3WATKINS	1.09
314554	3BTLEBRO	1.02
314557	3BETHEL	1.08
314566	3CRESWEL	3.91
314572	3EMPORIA	0.55
314574	6EVERETS	5.92
314578	3HORNRTN	4.48
314582	3KELFORD	5.03
314594	6PLYMOTH	1.35
314603	3SCOT NK	4.6
314617	3TUNIS	1.25
314620	6CASHIE	1.31
314623	3WITAKRS	1.76
314648	6SUNBURY	1.55
314651	6WINFALL	3.05
315073	1STONECA	8.71
315074	1HOPCGN1	10.5
315075	1HOPCGN2	10.37
315090	1YORKTN1	53.47
315091	1YORKTN2	55.48
315092	1YORKTN3	40.79
315110	1ELIZAR3	5.54
315131	1EDGEEMA	11.91
315132	1EDGEEMB	11.91
315233	1SURREY 2	49.18
900672	V4-068 E	0.45
901082	W1-029 E	79.97
907092	X1-038 E	9.74
913392	Y1-086 E	3.89
916042	Z1-036 E	77.57
916192	Z1-068 E	3.42
916302	Z1-086 E	13.63
917122	Z2-027 E	1.86
917332	Z2-043 E	1.43
917342	Z2-044 E	0.75
917512	Z2-088 E OP1	5.37
918492	AA1-063AE OP	5.61

Bus #	Bus	MW Impact
918512	AA1-065 E OP	6.65
918532	AA1-067 E	1.04
918562	AA1-072 E	0.24
919152	AA1-139 E	11.56
919692	AA2-053 E	5.17
919701	AA2-057 C	9.39
919702	AA2-057 E	4.69
920042	AA2-088 E OP	15.96
920592	AA2-165 E	0.62
920672	AA2-174 E	0.6
920692	AA2-178 E	6.71
923801	AB2-015 C O1	13.72
923802	AB2-015 E O1	11.25
923832	AB2-022 E	2.19
923842	AB2-024 E	1.84
923852	AB2-025 E	1.45
923911	AB2-031 C O1	2.98
923912	AB2-031 E O1	1.47
923941	AB2-035 C	0.45
923942	AB2-035 E	0.19
923992	AB2-040 E O1	8.02
924152	AB2-059 E O1	6.97
924241	AB2-068 O1	619.41
924391	AB2-088 C	0.58
924392	AB2-088 E	0.28
924491	AB2-098 C	0.81
924492	AB2-098 E	0.35
924501	AB2-099 C	0.87
924502	AB2-099 E	0.37
924511	AB2-100 C	15.33
924512	AB2-100 E	7.55
924812	AB2-134 E O1	18.11
925051	AB2-160 C O1	6.26
925052	AB2-160 E O1	10.22
925061	AB2-161 C O1	5.12
925062	AB2-161 E O1	8.35
925122	AB2-169 E	8.8
925171	AB2-174 C O1	9.33
925172	AB2-174 E O1	8.44
925281	AB2-186 C	1.06
925282	AB2-186 E	0.45
925291	AB2-188 C O1	3.86
925292	AB2-188 E O1	1.73
925331	AB2-190 C	29.18
925332	AB2-190 E	12.5
925522	AC1-027 E	2.08
925591	AC1-034 C	8.76
925592	AC1-034 E	6.61
925861	AC1-065 C	5.36
925862	AC1-065 E	8.75
926071	AC1-086 C	28.13
926072	AC1-086 E	12.8

Bus #	Bus	MW Impact
926201	AC1-098 C	8.44
926202	AC1-098 E	5.03
926211	AC1-099 C	2.83
926212	AC1-099 E	1.66
926291	AC1-107 O1	934.96
926662	AC1-147 E	2.41
926751	AC1-161 C O1	59.48
926752	AC1-161 E O1	25.39
926781	AC1-164 C	67.95
926782	AC1-164 E	30.53
927021	AC1-189 C	12.09
927022	AC1-189 E	6.02
927141	AC1-208 C	12.18
927142	AC1-208 E	5.41
927221	AC1-216 C O1	14.56
927222	AC1-216 E O1	11.45
930402	AB1-081 E O1	4.92
930862	AB1-132 E O1	8.19
931232	AB1-173 E	1.4
931242	AB1-173AE	1.4
932041	AC2-012 C	18.55
932042	AC2-012 E	30.26
932532	AC2-073 E	1.95
932581	AC2-078 C O1	5.51
932582	AC2-078 E O1	9.0
932591	AC2-079 C O1	9.25
932592	AC2-079 E O1	15.1
932631	AC2-084 C	12.04
932632	AC2-084 E	5.93
932831	AC2-110 C	2.15
932832	AC2-110 E	3.5
933061	AC2-130	3.1
933071	AC2-131 1	2.1
933081	AC2-131 2	0.95
933111	AC2-132 1	1.1
933121	AC2-132 2	0.56
933262	AC2-137 E	1.87
933272	AC2-138 E	1.18
933291	AC2-141 C	59.48
933292	AC2-141 E	25.39
933732	AC2-196 E	2.17
933991	AD1-023 C	20.57
933992	AD1-023 E	11.2
934011	AD1-025 C	25.02
934012	AD1-025 E	14.82
934061	AD1-033 C	13.69
934062	AD1-033 E	9.13
934141	AD1-041 C	8.49
934142	AD1-041 E	5.66
934201	AD1-047 C	10.69
934202	AD1-047 E	7.13
934212	AD1-048 E	1.38

Bus #	Bus	MW Impact
934331	AD1-057 C O1	13.17
934332	AD1-057 E O1	7.03
934392	AD1-063 E	1.75
934521	AD1-076 C	86.33
934522	AD1-076 E	43.96
934571	AD1-082 C	11.67
934572	AD1-082 E	6.65
934611	AD1-087 C O1	9.63
934612	AD1-087 E O1	4.53
935112	AD1-144 E	1.67
935161	AD1-151 C O1	23.45
935162	AD1-151 E O1	15.63
935171	AD1-152 C O1	9.57
935172	AD1-152 E O1	6.38
935212	AD1-156 E	1.73
936041	AD2-007	2.66
936051	AD2-008 C	4.36
936052	AD2-008 E	9.48
936151	AD2-021	0.33
936241	AD2-030 C	3.71
936242	AD2-030 E	1.9
936301	AD2-039 C	2.15
936302	AD2-039 E	3.5
936341	AD2-044 C	0.29
936342	AD2-044 E	0.33
936391	AD2-049 C	3.25
936392	AD2-049 E	3.25
936401	AD2-051 C O1	12.92
936402	AD2-051 E O1	5.55
936531	AD2-068 C	6.83
936532	AD2-068 E	3.52
936591	AD2-074 C	7.45
936592	AD2-074 E	12.16
936661	AD2-085 C	5.53
936662	AD2-085 E	9.03
936701	AD2-089 C	9.68
936702	AD2-089 E	6.45
936711	AD2-090 C O1	11.2
936712	AD2-090 E O1	7.47
937221	AD2-160 C O1	10.58
937222	AD2-160 E O1	5.55
937251	AD2-164	8.86
937481	AD2-202 C O1	2.65
937482	AD2-202 E O1	1.34
937541	AD2-215 C	3.09
937542	AD2-215 E	1.64
937571	AD2-169 C	13.39
937572	AD2-169 E	8.93
938031	AE1-004 C	2.15
938032	AE1-004 E	3.5
938171	AE1-026 C1 O	43.48
938172	AE1-026 C2 O	6.29

Bus #	Bus	MW Impact
938173	AE1-026 E O1	13.13
938181	AE1-027 C	4.25
938182	AE1-027 E	2.24
938191	AE1-028 C	2.47
938192	AE1-028 E	1.43
938221	AE1-035 C	3.38
938222	AE1-035 E	1.66
938461	AE1-065 C O1	51.72
938462	AE1-065 E O1	208.71
938471	AE1-066 C O1	53.15
938472	AE1-066 E O1	207.28
938481	AE1-067 C O1	48.34
938482	AE1-067 E O1	212.1
938491	AE1-068 C O1	86.96
938492	AE1-068 E O1	48.03
938501	AE1-069 C O1	68.0
938502	AE1-069 E O1	38.87
938531	AE1-072 C O1	31.52
938532	AE1-072 E O1	16.43
938631	AE1-085 C O1	15.01
938632	AE1-085 E O1	10.01
938661	AE1-088	2.67
938771	AE1-103 C O1	5.85
938772	AE1-103 E O1	8.07
938841	AE1-109AC O1	13.73
938842	AE1-109AE O1	9.15
939041	AE1-133 C	62.46
939042	AE1-133 E	30.76
939071	AE1-135 C O1	27.48
939072	AE1-135 E O1	18.32
939191	AE1-149 C O1	14.18
939192	AE1-149 E O1	9.45
939241	AE1-155 C	19.75
939242	AE1-155 E	13.16
939311	AE1-162 C	3.68
939312	AE1-162 E	2.45
939411	AE1-173 C	146.92
939412	AE1-173 E	97.95
939421	AE1-174 C	0.66
939422	AE1-174 E	1.0
939431	AE1-175 C	4.42
939432	AE1-175 E	2.19
939611	AE1-191 C	16.97
939612	AE1-191 E	11.32
940061	AE1-248 C O1	24.25
940062	AE1-248 E O1	16.17
940071	AE1-249 C	8.26
940072	AE1-249 E	6.16
AA2-074	AA2-074	6.78
AE1-042	AE1-042	9.38
CARR	CARR	1.33
CBM-S1	CBM-S1	13.77

Bus #	Bus	MW Impact
CBM-S2	CBM-S2	18.81
CBM-W1	CBM-W1	9.82
CBM-W2	CBM-W2	86.63
CIN	CIN	4.7
CPLE	CPLE	9.96
G-007	G-007	4.24
IPL	IPL	2.88
LGEE	LGEE	1.37
MEC	MEC	11.75
MECS	MECS	2.52
O-066	O-066	14.17
RENSSELAER	RENSSELAER	1.05
WEC	WEC	1.24

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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
402346	314905	8CHANCE	DVP	314900	8BRISTER	DVP	1	DVP_P4-2: H1T594	breaker	3351.0	112.86	113.34	DC	35.64

Bus #	Bus	MW Impact
314189	6PAPERMILL	7.44
314229	6MT RD221	0.13
314236	6NRTHEST	0.2
314250	6ROCKVILLE	0.35
314539	3UNCAMP	2.57
314541	3WATKINS	0.72
314566	3CRESWEL	2.52
314572	3EMPORIA	0.43
314594	6PLYMOTH	0.88
314617	3TUNIS	0.86
314620	6CASHIE	0.87
314648	6SUNBURY	0.96
314651	6WINFALL	1.89
315043	1FOUR RIVERA	3.81
315044	1FOUR RIVERB	2.95
315045	1FOUR RIVERC	3.81
315046	1FOUR RIVERD	2.95
315047	1FOUR RIVERE	2.95
315048	1FOUR RIVERF	3.81
315053	1BELMED1	19.57
315054	1BELMED2	19.57
315055	1BELMED3	16.24
315058	1CHESTF3	20.53
315059	1CHESTF4	33.28
315069	1DARBY 3	2.74
315070	1DARBY 4	2.75
315073	1STONECA	7.81
315074	1HOPCGN1	9.41
315075	1HOPCGN2	9.29
315083	1SPRUNCA	11.98
315084	1SPRUNCB	11.98
315085	1SPRUNCC	8.89
315086	1SPRUNCD	8.89
315090	1YORKTN1	31.95
315091	1YORKTN2	33.15
315225	1N ANNA1	39.17
315226	1N ANNA2	39.26
900672	V4-068 E	0.31
901082	W1-029 E	49.58
907092	X1-038 E	6.42

Bus #	Bus	MW Impact
913392	Y1-086 E	2.38
916042	Z1-036 E	48.69
916192	Z1-068 E	2.07
916302	Z1-086 E	9.44
917122	Z2-027 E	1.15
918512	AA1-065 E OP	4.5
919152	AA1-139 E	7.01
919211	AA1-145	11.02
920042	AA2-088 E OP	10.9
920692	AA2-178 E	4.32
923801	AB2-015 C O1	9.1
923802	AB2-015 E O1	7.46
923832	AB2-022 E	1.35
923842	AB2-024 E	1.25
923852	AB2-025 E	1.17
923862	AB2-026 E	1.1
924061	AB2-050	0.65
924241	AB2-068 O1	227.06
924501	AB2-099 C	0.6
924502	AB2-099 E	0.26
924511	AB2-100 C	11.86
924512	AB2-100 E	5.84
924812	AB2-134 E O1	13.72
925051	AB2-160 C O1	6.12
925052	AB2-160 E O1	9.98
925061	AB2-161 C O1	3.72
925062	AB2-161 E O1	6.08
925171	AB2-174 C O1	7.1
925172	AB2-174 E O1	6.42
925281	AB2-186 C	0.66
925282	AB2-186 E	0.28
925291	AB2-188 C O1	2.48
925292	AB2-188 E O1	1.12
925331	AB2-190 C	22.57
925332	AB2-190 E	9.67
925522	AC1-027 E	1.26
925861	AC1-065 C	3.77
925862	AC1-065 E	6.16
926001	AC1-076 C	5.06
926002	AC1-076 E	8.23
926291	AC1-107 O1	342.74
926411	AC1-112 C	0.35
926412	AC1-112 E	1.28
926551	AC1-134	1.62
926662	AC1-147 E	1.46
926731	AC1-158 C	93.64
926732	AC1-158 E	41.09
926751	AC1-161 C O1	33.59
926752	AC1-161 E O1	14.34
926781	AC1-164 C	45.67
926782	AC1-164 E	20.52
927041	AC1-191 C O1	10.8

Bus #	Bus	MW Impact
927042	AC1-191 E O1	5.38
927221	AC1-216 C O1	11.03
927222	AC1-216 E O1	8.67
930121	AB1-027 C	0.45
930122	AB1-027 E	1.26
932041	AC2-012 C	11.25
932042	AC2-012 E	18.35
932501	AC2-070 C	0.3
932502	AC2-070 E	0.8
932532	AC2-073 E	1.34
932581	AC2-078 C O1	4.52
932582	AC2-078 E O1	7.37
932591	AC2-079 C O1	6.29
932592	AC2-079 E O1	10.26
932831	AC2-110 C	1.51
932832	AC2-110 E	2.46
933011	AC2-125	3.09
933021	AC2-126	3.11
933031	AC2-127	1.7
933041	AC2-128	1.64
933051	AC2-129	1.53
933061	AC2-130	2.72
933071	AC2-131 1	1.84
933081	AC2-131 2	0.84
933111	AC2-132 1	0.97
933121	AC2-132 2	0.49
933262	AC2-137 E	1.53
933272	AC2-138 E	1.04
933291	AC2-141 C	33.59
933292	AC2-141 E	14.34
933501	AC2-165 C	9.67
933502	AC2-165 E	7.28
933732	AC2-196 E	1.31
933991	AD1-023 C	13.56
933992	AD1-023 E	7.38
934011	AD1-025 C	18.95
934012	AD1-025 E	11.23
934061	AD1-033 C	8.25
934062	AD1-033 E	5.5
934141	AD1-041 C	5.93
934142	AD1-041 E	3.95
934212	AD1-048 E	1.39
934392	AD1-063 E	1.2
934521	AD1-076 C	56.47
934522	AD1-076 E	28.75
934541	AD1-078 C	3.1
934542	AD1-078 E	1.82
934571	AD1-082 C	8.49
934572	AD1-082 E	4.84
934781	AD1-105 C	7.81
934782	AD1-105 E	5.43
935112	AD1-144 E	1.04

Bus #	Bus	MW Impact
935161	AD1-151 C O1	18.13
935162	AD1-151 E O1	12.09
935212	AD1-156 E	1.57
936041	AD2-007	2.01
936051	AD2-008 C	3.3
936052	AD2-008 E	7.18
936151	AD2-021	0.27
936241	AD2-030 C	2.57
936242	AD2-030 E	1.32
936301	AD2-039 C	1.51
936302	AD2-039 E	2.46
936341	AD2-044 C	0.26
936342	AD2-044 E	0.3
936391	AD2-049 C	1.99
936392	AD2-049 E	1.99
936401	AD2-051 C O1	8.86
936402	AD2-051 E O1	3.8
936591	AD2-074 C	5.95
936592	AD2-074 E	9.71
936661	AD2-085 C	3.77
936662	AD2-085 E	6.16
936711	AD2-090 C O1	7.53
936712	AD2-090 E O1	5.02
937221	AD2-160 C O1	6.41
937222	AD2-160 E O1	3.36
937251	AD2-164	5.35
937541	AD2-215 C	1.92
937542	AD2-215 E	1.02
938031	AE1-004 C	1.51
938032	AE1-004 E	2.46
938081	AE1-010	7.02
938171	AE1-026 C1 O	28.82
938172	AE1-026 C2 O	4.17
938173	AE1-026 E O1	8.7
938181	AE1-027 C	2.57
938182	AE1-027 E	1.35
938191	AE1-028 C	1.49
938192	AE1-028 E	0.86
938221	AE1-035 C	2.28
938222	AE1-035 E	1.12
938461	AE1-065 C O1	31.28
938462	AE1-065 E O1	126.21
938471	AE1-066 C O1	32.14
938472	AE1-066 E O1	125.34
938481	AE1-067 C O1	29.23
938482	AE1-067 E O1	128.25
938491	AE1-068 C O1	60.07
938492	AE1-068 E O1	33.18
938501	AE1-069 C O1	47.09
938502	AE1-069 E O1	26.92
938531	AE1-072 C O1	19.16
938532	AE1-072 E O1	9.99

Bus #	Bus	MW Impact
938551	AE1-074 C	2.76
938552	AE1-074 E	1.39
938561	AE1-075 C	2.15
938562	AE1-075 E	1.05
938631	AE1-085 C O1	12.11
938632	AE1-085 E O1	8.07
938771	AE1-103 C O1	3.85
938772	AE1-103 E O1	5.32
938841	AE1-109AC O1	10.0
938842	AE1-109AE O1	6.66
939041	AE1-133 C	38.45
939042	AE1-133 E	18.94
939071	AE1-135 C O1	21.39
939072	AE1-135 E O1	14.26
939191	AE1-149 C O1	11.91
939192	AE1-149 E O1	7.94
939241	AE1-155 C	16.11
939242	AE1-155 E	10.74
939261	AE1-157 C O1	16.22
939262	AE1-157 E O1	8.8
939271	AE1-158 C O1	16.56
939272	AE1-158 E O1	8.47
939311	AE1-162 C	2.39
939312	AE1-162 E	1.59
939411	AE1-173 C	94.25
939412	AE1-173 E	62.83
939421	AE1-174 C	0.22
939422	AE1-174 E	0.32
939431	AE1-175 C	2.7
939432	AE1-175 E	1.34
939611	AE1-191 C	11.86
939612	AE1-191 E	7.91
939751	AE1-206 C O1	38.12
939752	AE1-206 E O1	25.41
940061	AE1-248 C O1	17.64
940062	AE1-248 E O1	11.76
940071	AE1-249 C	8.07
940072	AE1-249 E	6.01
AA2-074	AA2-074	5.2
AE1-042	AE1-042	8.41
CARR	CARR	1.68
CBM-S1	CBM-S1	12.7
CBM-S2	CBM-S2	15.12
CBM-W1	CBM-W1	9.23
CBM-W2	CBM-W2	79.25
CIN	CIN	4.68
CPL	CPL	7.65
G-007	G-007	5.32
IPL	IPL	2.89
LGEE	LGEE	1.41
MEC	MEC	11.04
MECS	MECS	2.14

Bus #	Bus	MW Impact
O-066	O-066	17.79
RENSELAER	RENSELAER	1.33
WEC	WEC	1.2

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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
402663	314908	8ELMONT	DVP	314911	8LADYSMITH	DVP	1	DVP_P1-2: LN 576	single	2442.12	160.89	161.54	DC	34.32

Bus #	Bus	MW Impact
314229	6MT RD221	0.21
314236	6NRTHEST	0.33
314309	6IRON208	0.78
315053	1BELMED1	31.58
315054	1BELMED2	31.58
315055	1BELMED3	26.21
315058	1CHESTF3	33.54
315059	1CHESTF4	54.37
315060	1CHESTF5	17.65
315061	1CHESTG7	6.92
315062	1CHESTS7	3.14
315063	1CHESTG8	6.79
315064	1CHESTS8	3.5
315067	1DARBY 1	4.51
315068	1DARBY 2	4.52
315069	1DARBY 3	4.54
315070	1DARBY 4	4.54
315074	1HOPCGN1	15.47
315075	1HOPCGN2	15.27
315083	1SPRUNCA	19.11
315084	1SPRUNCB	19.11
315085	1SPRUNCC	14.17
315086	1SPRUNCD	14.17
315090	1YORKTN1	53.32
315091	1YORKTN2	55.33
315092	1YORKTN3	40.59
315233	1SURRY 2	44.07
923801	AB2-015 C O1	14.87
923911	AB2-031 C O1	3.63
924241	AB2-068 O1	428.58
924501	AB2-099 C	0.97
924511	AB2-100 C	19.05
925051	AB2-160 C O1	9.9
925061	AB2-161 C O1	6.07
925171	AB2-174 C O1	11.42
925281	AB2-186 C	1.08
925291	AB2-188 C O1	4.07
925331	AB2-190 C	37.15
925861	AC1-065 C	6.03
926071	AC1-086 C	33.56

Bus #	Bus	MW Impact
926291	AC1-107 O1	646.91
926411	AC1-112 C	0.59
926751	AC1-161 C O1	55.61
926781	AC1-164 C	77.77
927041	AC1-191 C O1	17.06
927221	AC1-216 C O1	18.16
930121	AB1-027 C	0.76
932041	AC2-012 C	18.51
932501	AC2-070 C	0.5
932581	AC2-078 C O1	7.33
932591	AC2-079 C O1	10.28
932831	AC2-110 C	2.41
933061	AC2-130	4.51
933071	AC2-131 1	3.06
933081	AC2-131 2	1.39
933111	AC2-132 1	1.61
933121	AC2-132 2	0.82
933261	AC2-137 C	0.61
933291	AC2-141 C	55.61
933991	AD1-023 C	22.2
934011	AD1-025 C	31.21
934061	AD1-033 C	13.57
934141	AD1-041 C	9.42
934201	AD1-047 C	13.01
934211	AD1-048 C	0.71
934521	AD1-076 C	92.46
934571	AD1-082 C	13.83
935161	AD1-151 C O1	29.85
936041	AD2-007	3.31
936051	AD2-008 C	5.43
936151	AD2-021	0.45
936241	AD2-030 C	4.05
936301	AD2-039 C	2.41
936391	AD2-049 C	3.31
936401	AD2-051 C O1	14.45
936661	AD2-085 C	6.17
936711	AD2-090 C O1	12.28
937221	AD2-160 C O1	10.53
937251	AD2-164	8.9
937541	AD2-215 C	3.16
937571	AD2-169 C	16.21
938031	AE1-004 C	2.41
938171	AE1-026 C1 O	47.14
938172	AE1-026 C2 O	6.82
938181	AE1-027 C	4.22
938191	AE1-028 C	2.45
938221	AE1-035 C	3.73
938461	AE1-065 C O1	51.45
938471	AE1-066 C O1	52.88
938481	AE1-067 C O1	48.08
938491	AE1-068 C O1	93.3
938501	AE1-069 C O1	73.18

Bus #	Bus	MW Impact
938531	AE1-072 C O1	31.5
938551	AE1-074 C	4.28
938631	AE1-085 C O1	19.65
938661	AE1-088	2.92
938771	AE1-103 C O1	6.3
938841	AE1-109AC O1	16.29
939041	AE1-133 C	63.16
939071	AE1-135 C O1	34.32
939191	AE1-149 C O1	19.3
939311	AE1-162 C	3.93
939411	AE1-173 C	149.5
939421	AE1-174 C	0.68
939431	AE1-175 C	4.55
939611	AE1-191 C	18.84
939751	AE1-206 C O1	50.38
940061	AE1-248 C O1	28.75
940071	AE1-249 C	13.06
AA2-074	AA2-074	8.68
AB2-013	AB2-013	7.98
AE1-033	AE1-033	8.32
AE1-042	AE1-042	16.97
CARR	CARR	2.56
CBM-S1	CBM-S1	26.97
CBM-S2	CBM-S2	26.18
CBM-W1	CBM-W1	28.38
CBM-W2	CBM-W2	177.18
CIN	CIN	13.24
CPL	CPL	12.76
IPL	IPL	8.34
LGEE	LGEE	3.9
MEC	MEC	28.14
MECS	MECS	11.92
RENSSELAER	RENSSELAER	2.03
WEC	WEC	3.48
Z1-043	Z1-043	13.69

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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
402297	314911	8LADYSMITH	DVP	314905	8CHANCE	DVP	1	DVP_P4-2: SPOTS H1T594	breaker	3351.0	117.31	117.79	DC	35.87

Bus #	Bus	MW Impact
314189	6PAPERMILL	7.52
314229	6MT RD221	0.13
314250	6ROCKVILLE	0.36
314539	3UNCAMP	2.59
314541	3WATKINS	0.73
314566	3CRESWEL	2.54
314572	3EMPORIA	0.43
314594	6PLYMOTH	0.89
314617	3TUNIS	0.86
314620	6CASHIE	0.87
314648	6SUNBURY	0.97
314651	6WINFALL	1.91
315040	1LDYSMT4	5.19
315041	1LDYSMT5	5.21
315043	1FOUR RIVERA	3.87
315044	1FOUR RIVERB	2.99
315045	1FOUR RIVERC	3.87
315046	1FOUR RIVERD	2.99
315047	1FOUR RIVERE	2.99
315048	1FOUR RIVERF	3.86
315053	1BELMED1	19.75
315054	1BELMED2	19.75
315055	1BELMED3	16.39
315058	1CHESTF3	20.74
315059	1CHESTF4	33.62
315073	1STONECA	7.88
315074	1HOPCGN1	9.51
315075	1HOPCGN2	9.38
315083	1SPRUNCA	12.09
315084	1SPRUNCB	12.09
315085	1SPRUNCC	8.96
315086	1SPRUNCD	8.96
315090	1YORKTN1	32.26
315091	1YORKTN2	33.48
315225	1N ANNA1	39.47
315226	1N ANNA2	39.55
900672	V4-068 E	0.31
901082	W1-029 E	49.99
907092	X1-038 E	6.47
913392	Y1-086 E	2.4

Bus #	Bus	MW Impact
916042	Z1-036 E	49.07
916192	Z1-068 E	2.08
916302	Z1-086 E	9.49
917122	Z2-027 E	1.16
918512	AA1-065 E OP	4.52
919152	AA1-139 E	7.07
919211	AA1-145	11.18
920042	AA2-088 E OP	10.97
920692	AA2-178 E	4.35
923801	AB2-015 C O1	9.17
923802	AB2-015 E O1	7.52
923832	AB2-022 E	1.36
923842	AB2-024 E	1.26
923852	AB2-025 E	1.18
923862	AB2-026 E	1.09
923911	AB2-031 C O1	2.27
923912	AB2-031 E O1	1.12
923992	AB2-040 E O1	6.09
924061	AB2-050	0.66
924241	AB2-068 O1	229.82
924501	AB2-099 C	0.6
924502	AB2-099 E	0.26
924511	AB2-100 C	11.94
924512	AB2-100 E	5.88
924812	AB2-134 E O1	13.85
925051	AB2-160 C O1	6.17
925052	AB2-160 E O1	10.07
925061	AB2-161 C O1	3.76
925062	AB2-161 E O1	6.13
925122	AB2-169 E	5.94
925171	AB2-174 C O1	7.13
925172	AB2-174 E O1	6.45
925281	AB2-186 C	0.66
925282	AB2-186 E	0.28
925291	AB2-188 C O1	2.5
925292	AB2-188 E O1	1.12
925331	AB2-190 C	22.78
925332	AB2-190 E	9.76
925522	AC1-027 E	1.27
925861	AC1-065 C	3.82
925862	AC1-065 E	6.23
926291	AC1-107 O1	346.9
926411	AC1-112 C	0.35
926412	AC1-112 E	1.29
926551	AC1-134	1.64
926662	AC1-147 E	1.47
926731	AC1-158 C	94.24
926732	AC1-158 E	41.36
926751	AC1-161 C O1	33.89
926752	AC1-161 E O1	14.47
926781	AC1-164 C	46.18
926782	AC1-164 E	20.75

Bus #	Bus	MW Impact
927041	AC1-191 C O1	10.94
927042	AC1-191 E O1	5.45
927221	AC1-216 C O1	11.13
927222	AC1-216 E O1	8.75
930121	AB1-027 C	0.46
930122	AB1-027 E	1.27
931232	AB1-173 E	1.07
931242	AB1-173AE	1.07
932041	AC2-012 C	11.34
932042	AC2-012 E	18.51
932501	AC2-070 C	0.3
932502	AC2-070 E	0.81
932532	AC2-073 E	1.35
932581	AC2-078 C O1	4.56
932582	AC2-078 E O1	7.43
932591	AC2-079 C O1	6.34
932592	AC2-079 E O1	10.35
932831	AC2-110 C	1.53
932832	AC2-110 E	2.49
933011	AC2-125	3.15
933021	AC2-126	3.17
933031	AC2-127	1.73
933041	AC2-128	1.67
933051	AC2-129	1.57
933061	AC2-130	2.74
933071	AC2-131 1	1.86
933081	AC2-131 2	0.84
933111	AC2-132 1	0.98
933121	AC2-132 2	0.5
933262	AC2-137 E	1.55
933272	AC2-138 E	1.06
933291	AC2-141 C	33.89
933292	AC2-141 E	14.47
933732	AC2-196 E	1.32
933991	AD1-023 C	13.66
933992	AD1-023 E	7.43
934011	AD1-025 C	19.13
934012	AD1-025 E	11.33
934061	AD1-033 C	8.32
934062	AD1-033 E	5.55
934141	AD1-041 C	6.0
934142	AD1-041 E	4.0
934201	AD1-047 C	8.11
934202	AD1-047 E	5.41
934212	AD1-048 E	1.41
934392	AD1-063 E	1.21
934521	AD1-076 C	56.86
934522	AD1-076 E	28.95
934571	AD1-082 C	8.56
934572	AD1-082 E	4.88
934781	AD1-105 C	7.93
934782	AD1-105 E	5.51

Bus #	Bus	MW Impact
935112	AD1-144 E	1.05
935161	AD1-151 C O1	18.31
935162	AD1-151 E O1	12.2
935212	AD1-156 E	1.59
936041	AD2-007	2.03
936051	AD2-008 C	3.33
936052	AD2-008 E	7.25
936151	AD2-021	0.27
936241	AD2-030 C	2.6
936242	AD2-030 E	1.33
936301	AD2-039 C	1.53
936302	AD2-039 E	2.49
936341	AD2-044 C	0.26
936342	AD2-044 E	0.3
936391	AD2-049 C	2.01
936392	AD2-049 E	2.01
936401	AD2-051 C O1	8.91
936402	AD2-051 E O1	3.83
936581	AD2-073 C	2.26
936582	AD2-073 E	1.12
936591	AD2-074 C	6.03
936592	AD2-074 E	9.84
936661	AD2-085 C	3.81
936662	AD2-085 E	6.21
936711	AD2-090 C O1	7.58
936712	AD2-090 E O1	5.05
937221	AD2-160 C O1	6.46
937222	AD2-160 E O1	3.39
937251	AD2-164	5.4
937541	AD2-215 C	1.94
937542	AD2-215 E	1.03
938031	AE1-004 C	1.53
938032	AE1-004 E	2.49
938081	AE1-010	7.48
938171	AE1-026 C1 O	29.01
938172	AE1-026 C2 O	4.2
938173	AE1-026 E O1	8.76
938181	AE1-027 C	2.59
938182	AE1-027 E	1.36
938191	AE1-028 C	1.5
938192	AE1-028 E	0.87
938221	AE1-035 C	2.3
938222	AE1-035 E	1.13
938461	AE1-065 C O1	31.55
938462	AE1-065 E O1	127.3
938471	AE1-066 C O1	32.42
938472	AE1-066 E O1	126.42
938481	AE1-067 C O1	29.48
938482	AE1-067 E O1	129.36
938491	AE1-068 C O1	60.45
938492	AE1-068 E O1	33.39
938501	AE1-069 C O1	47.37

Bus #	Bus	MW Impact
938502	AE1-069 E O1	27.08
938531	AE1-072 C O1	19.32
938532	AE1-072 E O1	10.07
938551	AE1-074 C	2.78
938552	AE1-074 E	1.4
938561	AE1-075 C	2.12
938562	AE1-075 E	1.03
938631	AE1-085 C O1	12.21
938632	AE1-085 E O1	8.14
938661	AE1-088	1.8
938771	AE1-103 C O1	3.88
938772	AE1-103 E O1	5.36
938841	AE1-109AC O1	10.08
938842	AE1-109AE O1	6.72
939041	AE1-133 C	38.77
939042	AE1-133 E	19.09
939071	AE1-135 C O1	21.52
939072	AE1-135 E O1	14.35
939191	AE1-149 C O1	12.01
939192	AE1-149 E O1	8.01
939241	AE1-155 C	16.33
939242	AE1-155 E	10.89
939261	AE1-157 C O1	16.52
939262	AE1-157 E O1	8.96
939271	AE1-158 C O1	16.86
939272	AE1-158 E O1	8.62
939311	AE1-162 C	2.41
939312	AE1-162 E	1.6
939411	AE1-173 C	94.97
939412	AE1-173 E	63.31
939421	AE1-174 C	0.22
939422	AE1-174 E	0.33
939431	AE1-175 C	2.73
939432	AE1-175 E	1.36
939611	AE1-191 C	12.0
939612	AE1-191 E	8.0
939751	AE1-206 C O1	38.64
939752	AE1-206 E O1	25.76
940061	AE1-248 C O1	17.79
940062	AE1-248 E O1	11.86
940071	AE1-249 C	8.14
940072	AE1-249 E	6.07
AA2-074	AA2-074	5.21
AE1-042	AE1-042	8.37
CARR	CARR	1.66
CBM-S1	CBM-S1	12.63
CBM-S2	CBM-S2	15.13
CBM-W1	CBM-W1	9.13
CBM-W2	CBM-W2	78.78
CIN	CIN	4.63
CPL	CPL	7.66
G-007	G-007	5.24

Bus #	Bus	MW Impact
IPL	IPL	2.86
LGEE	LGEE	1.39
MEC	MEC	10.95
MECS	MECS	2.1
O-066	O-066	17.54
RENSELAER	RENSELAER	1.32
WEC	WEC	1.18

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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
402719	314914	8MDLTHAN	DVP	314918	8NO ANNA	DVP	1	DVP_P1-2: LN 574	single	2442.12	138.95	139.56	DC	32.44

Bus #	Bus	MW Impact
314507	3THOMPSON	0.5
315053	1BELMED1	25.07
315054	1BELMED2	25.07
315055	1BELMED3	20.8
315058	1CHESTF3	25.13
315059	1CHESTF4	40.74
315074	1HOPCGN1	12.12
315075	1HOPCGN2	11.96
315083	1SPRUNCA	16.04
315084	1SPRUNCB	16.04
315085	1SPRUNCC	11.89
315086	1SPRUNCD	11.89
315090	1YORKTN1	42.49
315091	1YORKTN2	44.09
315098	1CHESPKA	0.66
315099	1CHESPKB	1.63
315102	1BRUNSWICKG1	12.98
315103	1BRUNSWICKG2	12.98
315104	1BRUNSWICKG3	12.98
315105	1BRUNSWICKS1	26.96
315108	1ELIZAR1	4.83
315109	1ELIZAR2	4.74
315110	1ELIZAR3	4.89
315131	1EDGECEMA	13.54
315132	1EDGECEMB	13.54
315150	1BUGGS 1	15.63
315151	1BUGGS 2	15.63
315260	1GOSPORTA	0.52
315261	1GOSPORTB	0.67
315262	1GOSPORTC	0.57
916191	Z1-068 C	0.07
916301	Z1-086 C	78.97
919151	AA1-139 C	3.68
919701	AA2-057 C	10.53
923801	AB2-015 C O1	13.5
923911	AB2-031 C O1	3.44
923941	AB2-035 C	0.5
924241	AB2-068 O1	245.63
924391	AB2-088 C	0.64
924401	AB2-089 C	3.06

Bus #	Bus	MW Impact
924491	AB2-098 C	0.86
924501	AB2-099 C	0.9
924511	AB2-100 C	18.0
925051	AB2-160 C O1	8.2
925061	AB2-161 C O1	5.31
925171	AB2-174 C O1	10.81
925281	AB2-186 C	0.97
925291	AB2-188 C O1	3.7
925331	AB2-190 C	30.02
925521	AC1-027 C	0.49
925591	AC1-034 C	9.97
925781	AC1-054 C O1	10.42
925861	AC1-065 C	4.35
926071	AC1-086 C	31.65
926201	AC1-098 C	9.25
926211	AC1-099 C	3.1
926291	AC1-107 O1	370.77
926661	AC1-147 C	0.56
926751	AC1-161 C O1	49.16
926761	AC1-162 C	38.58
926781	AC1-164 C	52.71
927021	AC1-189 C	12.98
927141	AC1-208 C	13.55
927221	AC1-216 C O1	14.74
932041	AC2-012 C	16.38
932581	AC2-078 C O1	6.32
932591	AC2-079 C O1	9.07
932631	AC2-084 C	13.19
932831	AC2-110 C	1.74
933061	AC2-130	3.31
933071	AC2-131 1	2.24
933081	AC2-131 2	1.02
933111	AC2-132 1	1.18
933121	AC2-132 2	0.6
933291	AC2-141 C	49.16
933501	AC2-165 C	14.55
933731	AC2-196 C	0.44
933991	AD1-023 C	20.37
934011	AD1-025 C	25.34
934061	AD1-033 C	12.08
934141	AD1-041 C	6.82
934201	AD1-047 C	12.31
934231	AD1-050 C	6.75
934331	AD1-057 C O1	14.91
934521	AD1-076 C	84.65
934571	AD1-082 C	12.1
934611	AD1-087 C O1	12.17
934621	AD1-088 C	18.66
935161	AD1-151 C O1	24.12
935171	AD1-152 C O1	12.09
936041	AD2-007	2.69
936051	AD2-008 C	4.41

Bus #	Bus	MW Impact
936151	AD2-021	0.31
936301	AD2-039 C	1.74
936361	AD2-046 C O1	12.51
936391	AD2-049 C	2.72
936401	AD2-051 C O1	13.42
936481	AD2-063 C O1	20.28
936531	AD2-068 C	7.59
936661	AD2-085 C	5.44
936701	AD2-089 C	10.71
936711	AD2-090 C O1	11.21
937221	AD2-160 C O1	9.39
937251	AD2-164	7.18
937481	AD2-202 C O1	3.35
937541	AD2-215 C	2.76
937571	AD2-169 C	15.32
938031	AE1-004 C	1.74
938171	AE1-026 C1 O	43.34
938172	AE1-026 C2 O	6.27
938181	AE1-027 C	3.76
938191	AE1-028 C	2.18
938221	AE1-035 C	3.45
938461	AE1-065 C O1	45.67
938471	AE1-066 C O1	46.93
938481	AE1-067 C O1	42.68
938491	AE1-068 C O1	102.7
938501	AE1-069 C O1	80.41
938531	AE1-072 C O1	28.11
938551	AE1-074 C	4.0
938561	AE1-075 C	3.3
938631	AE1-085 C O1	16.99
938661	AE1-088	2.7
938771	AE1-103 C O1	5.7
938841	AE1-109AC O1	14.25
939041	AE1-133 C	56.57
939071	AE1-135 C O1	32.44
939181	AE1-148 C O1	12.32
939191	AE1-149 C O1	16.61
939311	AE1-162 C	3.35
939411	AE1-173 C	152.61
939421	AE1-174 C	0.27
939431	AE1-175 C	3.42
939611	AE1-191 C	13.63
940061	AE1-248 C O1	25.15
940071	AE1-249 C	10.82
AA2-074	AA2-074	8.51
AB2-013	AB2-013	6.46
AE1-033	AE1-033	6.73
AE1-042	AE1-042	15.03
CARR	CARR	2.05
CBM-S1	CBM-S1	23.41
CBM-S2	CBM-S2	25.03
CBM-W1	CBM-W1	22.82

Bus #	Bus	MW Impact
CBM-W2	CBM-W2	152.33
CIN	CIN	10.66
CPL	CPL	12.51
IPL	IPL	6.68
LGEE	LGEE	3.13
MEC	MEC	23.39
MECS	MECS	9.02
RENSELAER	RENSELAER	1.62
WEC	WEC	2.81
Z1-043	Z1-043	11.06

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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
402393	314918	8NO ANNA	DVP	314934	8SPOTSYL	DVP	1	DVP_P4-2: H1T581	breaker	3938.0	106.81	107.27	DC	39.76

Bus #	Bus	MW Impact
314189	6PAPERMILL	7.59
314250	6ROCKVILLE	0.37
314539	3UNCAMP	2.85
314541	3WATKINS	0.8
314566	3CRESWEL	2.79
314572	3EMPORIA	0.48
314574	6EVERETS	4.57
314578	3HORNRTN	3.66
314582	3KELFORD	3.9
314594	6PLYMOTH	0.98
314603	3SCOT NK	3.63
314617	3TUNIS	0.95
314620	6CASHIE	0.97
314648	6SUNBURY	1.06
314651	6WINFALL	2.09
315053	1BELMED1	20.63
315054	1BELMED2	20.63
315055	1BELMED3	17.13
315058	1CHESTF3	21.34
315059	1CHESTF4	34.59
315073	1STONECA	8.25
315074	1HOPCGN1	9.95
315075	1HOPCGN2	9.82
315083	1SPRUNCA	12.82
315084	1SPRUNCB	12.82
315085	1SPRUNCC	9.51
315086	1SPRUNCD	9.51
315090	1YORKTN1	34.17
315091	1YORKTN2	35.46
315110	1ELIZAR3	3.7
315225	1N ANNA1	58.14
315226	1N ANNA2	58.27
315233	1SURRY 2	28.33
900672	V4-068 E	0.34
901082	W1-029 E	54.84
907092	X1-038 E	7.11
913392	Y1-086 E	2.64
916042	Z1-036 E	53.91
916192	Z1-068 E	2.28
916302	Z1-086 E	11.01

Bus #	Bus	MW Impact
917122	Z2-027 E	1.27
917332	Z2-043 E	1.11
918492	AA1-063AE OP	4.46
918512	AA1-065 E OP	5.0
918532	AA1-067 E	0.81
918562	AA1-072 E	0.18
919152	AA1-139 E	7.75
919692	AA2-053 E	4.17
920042	AA2-088 E OP	12.1
920672	AA2-174 E	0.48
920692	AA2-178 E	4.79
923801	AB2-015 C O1	10.09
923802	AB2-015 E O1	8.27
923832	AB2-022 E	1.49
923842	AB2-024 E	1.27
923852	AB2-025 E	1.3
923862	AB2-026 E	1.25
923911	AB2-031 C O1	2.52
923912	AB2-031 E O1	1.24
923992	AB2-040 E O1	6.77
924241	AB2-068 O1	229.7
924491	AB2-098 C	0.63
924492	AB2-098 E	0.27
924501	AB2-099 C	0.66
924502	AB2-099 E	0.28
924511	AB2-100 C	13.23
924512	AB2-100 E	6.52
924812	AB2-134 E O1	14.69
925022	AB2-158 E	5.8
925051	AB2-160 C O1	6.55
925052	AB2-160 E O1	10.68
925061	AB2-161 C O1	4.07
925062	AB2-161 E O1	6.64
925122	AB2-169 E	6.57
925171	AB2-174 C O1	7.93
925172	AB2-174 E O1	7.17
925281	AB2-186 C	0.73
925282	AB2-186 E	0.31
925291	AB2-188 C O1	2.75
925292	AB2-188 E O1	1.24
925331	AB2-190 C	24.11
925332	AB2-190 E	10.33
925522	AC1-027 E	1.39
925861	AC1-065 C	3.85
925862	AC1-065 E	6.27
926071	AC1-086 C	23.15
926072	AC1-086 E	10.54
926201	AC1-098 C	6.74
926202	AC1-098 E	4.01
926211	AC1-099 C	2.26
926212	AC1-099 E	1.33
926291	AC1-107 O1	346.72

Bus #	Bus	MW Impact
926412	AC1-112 E	1.28
926662	AC1-147 E	1.61
926751	AC1-161 C O1	37.14
926752	AC1-161 E O1	15.85
926781	AC1-164 C	46.73
926782	AC1-164 E	20.99
927041	AC1-191 C O1	10.54
927042	AC1-191 E O1	5.25
927221	AC1-216 C O1	11.8
927222	AC1-216 E O1	9.28
930122	AB1-027 E	1.26
930862	AB1-132 E O1	6.74
931232	AB1-173 E	1.18
931242	AB1-173AE	1.18
932041	AC2-012 C	12.4
932042	AC2-012 E	20.23
932502	AC2-070 E	0.8
932532	AC2-073 E	1.36
932581	AC2-078 C O1	4.91
932582	AC2-078 E O1	8.0
932591	AC2-079 C O1	6.9
932592	AC2-079 E O1	11.27
932631	AC2-084 C	9.61
932632	AC2-084 E	4.73
932831	AC2-110 C	1.54
932832	AC2-110 E	2.51
933061	AC2-130	2.82
933071	AC2-131 1	1.91
933081	AC2-131 2	0.87
933111	AC2-132 1	1.0
933121	AC2-132 2	0.51
933262	AC2-137 E	1.57
933291	AC2-141 C	37.14
933292	AC2-141 E	15.85
933501	AC2-165 C	10.94
933502	AC2-165 E	8.24
933732	AC2-196 E	1.45
933991	AD1-023 C	15.08
933992	AD1-023 E	8.21
934011	AD1-025 C	20.29
934012	AD1-025 E	12.02
934061	AD1-033 C	9.12
934062	AD1-033 E	6.08
934141	AD1-041 C	6.04
934142	AD1-041 E	4.02
934201	AD1-047 C	9.02
934202	AD1-047 E	6.01
934212	AD1-048 E	1.42
934392	AD1-063 E	1.22
934521	AD1-076 C	62.73
934522	AD1-076 E	31.94
934571	AD1-082 C	9.28

Bus #	Bus	MW Impact
934572	AD1-082 E	5.29
934621	AD1-088 C	13.45
934622	AD1-088 E	6.31
935112	AD1-144 E	1.14
935161	AD1-151 C O1	19.38
935162	AD1-151 E O1	12.92
935212	AD1-156 E	1.71
936041	AD2-007	2.15
936051	AD2-008 C	3.53
936052	AD2-008 E	7.69
936151	AD2-021	0.28
936241	AD2-030 C	2.61
936242	AD2-030 E	1.34
936301	AD2-039 C	1.54
936302	AD2-039 E	2.51
936391	AD2-049 C	2.15
936392	AD2-049 E	2.15
936401	AD2-051 C O1	9.87
936402	AD2-051 E O1	4.24
936661	AD2-085 C	4.14
936662	AD2-085 E	6.76
936711	AD2-090 C O1	8.35
936712	AD2-090 E O1	5.57
937221	AD2-160 C O1	7.08
937222	AD2-160 E O1	3.71
937251	AD2-164	5.74
937541	AD2-215 C	2.11
937542	AD2-215 E	1.12
937571	AD2-169 C	11.23
937572	AD2-169 E	7.48
938031	AE1-004 C	1.54
938032	AE1-004 E	2.51
938081	AE1-010	3.61
938171	AE1-026 C1 O	32.04
938172	AE1-026 C2 O	4.64
938173	AE1-026 E O1	9.68
938181	AE1-027 C	2.84
938182	AE1-027 E	1.49
938191	AE1-028 C	1.65
938192	AE1-028 E	0.95
938221	AE1-035 C	2.54
938222	AE1-035 E	1.25
938461	AE1-065 C O1	34.52
938462	AE1-065 E O1	139.3
938471	AE1-066 C O1	35.48
938472	AE1-066 E O1	138.34
938481	AE1-067 C O1	32.26
938482	AE1-067 E O1	141.56
938491	AE1-068 C O1	70.13
938492	AE1-068 E O1	38.73
938501	AE1-069 C O1	54.94
938502	AE1-069 E O1	31.41

Bus #	Bus	MW Impact
938531	AE1-072 C O1	21.18
938532	AE1-072 E O1	11.04
938551	AE1-074 C	3.04
938552	AE1-074 E	1.53
938561	AE1-075 C	2.44
938562	AE1-075 E	1.19
938631	AE1-085 C O1	13.16
938632	AE1-085 E O1	8.77
938661	AE1-088	1.99
938771	AE1-103 C O1	4.27
938772	AE1-103 E O1	5.89
938841	AE1-109AC O1	10.93
938842	AE1-109AE O1	7.29
939041	AE1-133 C	42.52
939042	AE1-133 E	20.94
939071	AE1-135 C O1	23.86
939072	AE1-135 E O1	15.9
939191	AE1-149 C O1	12.92
939192	AE1-149 E O1	8.61
939231	AE1-154 C	2.13
939232	AE1-154 E	1.49
939311	AE1-162 C	2.6
939312	AE1-162 E	1.73
939411	AE1-173 C	107.91
939412	AE1-173 E	71.94
939421	AE1-174 C	0.23
939422	AE1-174 E	0.34
939431	AE1-175 C	2.85
939432	AE1-175 E	1.41
939611	AE1-191 C	12.07
939612	AE1-191 E	8.05
939751	AE1-206 C O1	34.34
939752	AE1-206 E O1	22.89
940061	AE1-248 C O1	19.29
940062	AE1-248 E O1	12.86
940071	AE1-249 C	8.63
940072	AE1-249 E	6.44
AA2-074	AA2-074	5.88
AE1-042	AE1-042	9.2
CARR	CARR	1.79
CBM-S1	CBM-S1	13.78
CBM-S2	CBM-S2	16.99
CBM-W1	CBM-W1	9.47
CBM-W2	CBM-W2	85.52
CIN	CIN	4.85
CPL	CPL	8.65
G-007	G-007	5.62
IPL	IPL	2.98
LGEE	LGEE	1.46
MEC	MEC	11.67
MECS	MECS	1.89
O-066	O-066	18.81

Bus #	Bus	MW Impact
RENSELAER	RENSELAER	1.42
WEC	WEC	1.24

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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
403704	314934	8SPOTSYL	DVP	314916	8MORRSVL	DVP	1	DVP_P7-1: LN 198-581	tower	3938.0	110.32	110.79	DC	39.66

Bus #	Bus	MW Impact
314189	6PAPERMILL	7.72
314250	6ROCKVILLE	0.38
314539	3UNCAMP	2.83
314541	3WATKINS	0.8
314566	3CRESWEL	2.78
314572	3EMPORIA	0.47
314594	6PLYMOTH	0.98
314617	3TUNIS	0.95
314620	6CASHIE	0.96
314648	6SUNBURY	1.05
314651	6WINFALL	2.08
315053	1BELMED1	20.86
315054	1BELMED2	20.86
315055	1BELMED3	17.31
315058	1CHESTF3	21.61
315059	1CHESTF4	35.02
315073	1STONECA	8.31
315074	1HOPCGN1	10.02
315075	1HOPCGN2	9.89
315083	1SPRUNCA	12.94
315084	1SPRUNCB	12.94
315085	1SPRUNCC	9.59
315086	1SPRUNCD	9.59
315090	1YORKTN1	34.2
315091	1YORKTN2	35.49
315225	1N ANNA1	55.99
315226	1N ANNA2	56.11
315233	1SURREY 2	28.17
900672	V4-068 E	0.34
901082	W1-029 E	54.58
907092	X1-038 E	7.09
913392	Y1-086 E	2.62
916042	Z1-036 E	53.66
916192	Z1-068 E	2.27
916302	Z1-086 E	10.9
917122	Z2-027 E	1.26
918492	AA1-063AE OP	4.45
918512	AA1-065 E OP	4.98
919152	AA1-139 E	7.71
920042	AA2-088 E OP	12.06

Bus #	Bus	MW Impact
920692	AA2-178 E	4.77
923801	AB2-015 C O1	10.05
923802	AB2-015 E O1	8.24
923832	AB2-022 E	1.48
923842	AB2-024 E	1.3
923852	AB2-025 E	1.3
923862	AB2-026 E	1.26
923911	AB2-031 C O1	2.51
923912	AB2-031 E O1	1.24
923992	AB2-040 E O1	6.75
924241	AB2-068 O1	227.67
924501	AB2-099 C	0.66
924502	AB2-099 E	0.28
924511	AB2-100 C	13.2
924512	AB2-100 E	6.5
924812	AB2-134 E O1	14.73
925021	AB2-158 C	2.15
925022	AB2-158 E	6.24
925051	AB2-160 C O1	6.59
925052	AB2-160 E O1	10.75
925061	AB2-161 C O1	4.07
925062	AB2-161 E O1	6.64
925122	AB2-169 E	6.54
925171	AB2-174 C O1	7.91
925172	AB2-174 E O1	7.15
925281	AB2-186 C	0.73
925282	AB2-186 E	0.31
925291	AB2-188 C O1	2.74
925292	AB2-188 E O1	1.23
925331	AB2-190 C	24.2
925332	AB2-190 E	10.37
925522	AC1-027 E	1.38
925861	AC1-065 C	3.93
925862	AC1-065 E	6.41
926001	AC1-076 C	7.22
926002	AC1-076 E	11.74
926071	AC1-086 C	23.07
926072	AC1-086 E	10.5
926291	AC1-107 O1	343.65
926412	AC1-112 E	1.3
926662	AC1-147 E	1.6
926731	AC1-158 C	193.96
926732	AC1-158 E	85.12
926751	AC1-161 C O1	36.89
926752	AC1-161 E O1	15.75
926781	AC1-164 C	47.16
926782	AC1-164 E	21.19
927041	AC1-191 C O1	10.94
927042	AC1-191 E O1	5.45
927221	AC1-216 C O1	11.84
927222	AC1-216 E O1	9.31
930122	AB1-027 E	1.28

Bus #	Bus	MW Impact
930862	AB1-132 E O1	6.71
931232	AB1-173 E	1.18
931242	AB1-173AE	1.18
932041	AC2-012 C	12.34
932042	AC2-012 E	20.14
932502	AC2-070 E	0.81
932532	AC2-073 E	1.39
932581	AC2-078 C O1	4.91
932582	AC2-078 E O1	8.02
932591	AC2-079 C O1	6.89
932592	AC2-079 E O1	11.24
932831	AC2-110 C	1.57
932832	AC2-110 E	2.56
933011	AC2-125	2.82
933021	AC2-126	2.84
933031	AC2-127	1.55
933041	AC2-128	1.49
933051	AC2-129	1.4
933061	AC2-130	2.85
933071	AC2-131 1	1.93
933081	AC2-131 2	0.88
933111	AC2-132 1	1.01
933121	AC2-132 2	0.52
933262	AC2-137 E	1.59
933291	AC2-141 C	36.89
933292	AC2-141 E	15.75
933501	AC2-165 C	11.08
933502	AC2-165 E	8.34
933732	AC2-196 E	1.44
933991	AD1-023 C	15.01
933992	AD1-023 E	8.17
934011	AD1-025 C	20.35
934012	AD1-025 E	12.06
934061	AD1-033 C	9.07
934062	AD1-033 E	6.05
934141	AD1-041 C	6.18
934142	AD1-041 E	4.12
934201	AD1-047 C	9.0
934202	AD1-047 E	6.0
934212	AD1-048 E	1.44
934392	AD1-063 E	1.24
934521	AD1-076 C	62.44
934522	AD1-076 E	31.8
934541	AD1-078 C	4.42
934542	AD1-078 E	2.6
934571	AD1-082 C	9.27
934572	AD1-082 E	5.29
935112	AD1-144 E	1.13
935161	AD1-151 C O1	19.45
935162	AD1-151 E O1	12.97
935212	AD1-156 E	1.72
936041	AD2-007	2.16

Bus #	Bus	MW Impact
936051	AD2-008 C	3.54
936052	AD2-008 E	7.71
936151	AD2-021	0.28
936241	AD2-030 C	2.68
936242	AD2-030 E	1.37
936301	AD2-039 C	1.57
936302	AD2-039 E	2.56
936391	AD2-049 C	2.15
936392	AD2-049 E	2.15
936401	AD2-051 C O1	9.83
936402	AD2-051 E O1	4.22
936591	AD2-074 C	6.11
936592	AD2-074 E	9.96
936661	AD2-085 C	4.13
936662	AD2-085 E	6.75
936711	AD2-090 C O1	8.32
936712	AD2-090 E O1	5.54
937221	AD2-160 C O1	7.04
937222	AD2-160 E O1	3.69
937251	AD2-164	5.74
937541	AD2-215 C	2.1
937542	AD2-215 E	1.11
937571	AD2-169 C	11.19
937572	AD2-169 E	7.46
938031	AE1-004 C	1.57
938032	AE1-004 E	2.56
938081	AE1-010	10.01
938171	AE1-026 C1 O	31.89
938172	AE1-026 C2 O	4.61
938173	AE1-026 E O1	9.63
938181	AE1-027 C	2.82
938182	AE1-027 E	1.49
938191	AE1-028 C	1.64
938192	AE1-028 E	0.95
938221	AE1-035 C	2.53
938222	AE1-035 E	1.25
938461	AE1-065 C O1	34.35
938462	AE1-065 E O1	138.61
938471	AE1-066 C O1	35.3
938472	AE1-066 E O1	137.66
938481	AE1-067 C O1	32.1
938482	AE1-067 E O1	140.86
938491	AE1-068 C O1	69.43
938492	AE1-068 E O1	38.34
938501	AE1-069 C O1	54.39
938502	AE1-069 E O1	31.1
938531	AE1-072 C O1	21.07
938532	AE1-072 E O1	10.98
938551	AE1-074 C	3.05
938552	AE1-074 E	1.54
938561	AE1-075 C	2.46
938562	AE1-075 E	1.2

Bus #	Bus	MW Impact
938631	AE1-085 C O1	13.18
938632	AE1-085 E O1	8.79
938661	AE1-088	1.98
938771	AE1-103 C O1	4.25
938772	AE1-103 E O1	5.87
938841	AE1-109AC O1	10.92
938842	AE1-109AE O1	7.28
939041	AE1-133 C	42.31
939042	AE1-133 E	20.84
939071	AE1-135 C O1	23.8
939072	AE1-135 E O1	15.87
939191	AE1-149 C O1	12.95
939192	AE1-149 E O1	8.63
939231	AE1-154 C	2.29
939232	AE1-154 E	1.61
939261	AE1-157 C O1	15.13
939262	AE1-157 E O1	8.21
939271	AE1-158 C O1	15.44
939272	AE1-158 E O1	7.9
939311	AE1-162 C	2.59
939312	AE1-162 E	1.73
939411	AE1-173 C	106.97
939412	AE1-173 E	71.31
939421	AE1-174 C	0.23
939422	AE1-174 E	0.34
939431	AE1-175 C	2.86
939432	AE1-175 E	1.42
939611	AE1-191 C	12.35
939612	AE1-191 E	8.24
939751	AE1-206 C O1	37.7
939752	AE1-206 E O1	25.13
940061	AE1-248 C O1	19.27
940062	AE1-248 E O1	12.85
940071	AE1-249 C	8.69
940072	AE1-249 E	6.48
AA2-074	AA2-074	5.84
AE1-042	AE1-042	9.11
CARR	CARR	1.83
CBM-S1	CBM-S1	13.62
CBM-S2	CBM-S2	16.87
CBM-W1	CBM-W1	9.17
CBM-W2	CBM-W2	84.32
CIN	CIN	4.73
CPL	CPL	8.59
G-007	G-007	5.72
IPL	IPL	2.9
LGEE	LGEE	1.42
MEC	MEC	11.44
MECS	MECS	1.7
O-066	O-066	19.14
RENSSELAER	RENSSELAER	1.45
WEC	WEC	1.2

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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
402805	919140	AA1-138 TAP	DVP	314537	6SUFFOLK	DVP	1	DVP_P1-2: LN 2092	single	571.52	119.25	121.28	DC	11.68

Bus #	Bus	MW Impact
314589	3MURPHYS	0.09
314704	3LAWRENC	0.17
315126	1ROARAP2	1.21
315128	1ROARAP4	1.16
315131	1EDGECEMA	9.42
315132	1EDGECEMB	9.42
315136	1ROSEMG1	2.12
315137	1ROSEMS1	1.31
315138	1ROSEMG2	0.99
315139	1GASTONA	2.98
315141	1GASTONB	2.98
315159	1KERR 2	0.66
315163	1KERR 6	0.65
315164	1KERR 7	0.65
315292	1DOMTR78	2.53
315293	1DOMTR9	2.07
315294	1DOMTR10	3.75
916041	Z1-036 C	2.06
917331	Z2-043 C	0.58
917341	Z2-044 C	0.21
917511	Z2-088 C OP1	2.1
918491	AA1-063AC OP	1.69
918511	AA1-065 C OP	2.99
918531	AA1-067 C	0.45
918561	AA1-072 C	0.09
919691	AA2-053 C	1.53
919701	AA2-057 C	7.67
920041	AA2-088 C OP	0.62
920591	AA2-165 C	0.16
920671	AA2-174 C	0.07
920691	AA2-178 C	2.96
923911	AB2-031 C O1	1.74
923941	AB2-035 C	0.43
923991	AB2-040 C O1	0.88
924151	AB2-059 C O1	1.62
924391	AB2-088 C	0.56
924401	AB2-089 C	1.24
924491	AB2-098 C	0.99
924501	AB2-099 C	0.95
924511	AB2-100 C	7.11

Bus #	Bus	MW Impact
925121	AB2-169 C	1.88
925171	AB2-174 C O1	5.2
925291	AB2-188 C O1	4.76
925591	AC1-034 C	6.83
925781	AC1-054 C O1	4.49
926071	AC1-086 C	21.84
926201	AC1-098 C	7.82
926211	AC1-099 C	2.62
927021	AC1-189 C	13.69
927141	AC1-208 C	10.08
930401	AB1-081 C O1	1.37
930861	AB1-132 C O1	2.27
931231	AB1-173 C	0.27
931241	AB1-173AC	0.27
932631	AC2-084 C	11.14
933991	AD1-023 C	27.21
934201	AD1-047 C	6.24
934231	AD1-050 C	2.73
934331	AD1-057 C O1	10.32
934521	AD1-076 C	110.72
936401	AD2-051 C O1	15.91
936531	AD2-068 C	6.56
936701	AD2-089 C	9.29
937571	AD2-169 C	8.2
938171	AE1-026 C1 O	58.57
938172	AE1-026 C2 O	8.47
938221	AE1-035 C	4.88
938661	AE1-088	6.3
939071	AE1-135 C O1	11.68
AA2-074	AA2-074	2.72
CARR	CARR	0.19
CBM-S1	CBM-S1	5.99
CBM-S2	CBM-S2	7.06
CBM-W1	CBM-W1	6.21
CBM-W2	CBM-W2	39.61
CIN	CIN	2.79
CPLE	CPLE	4.01
IPL	IPL	1.75
LGEE	LGEE	0.8
MEC	MEC	6.15
MECS	MECS	2.72
RENSSELAER	RENSSELAER	0.15
WEC	WEC	0.75

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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
403598	936530	AD2-068 TAP	DVP	304451	6GREENVILLE T	CPL	1	DVP_P7-1: LN 2058-2181	tower	478.0	170.09	171.72	DC	17.25

Bus #	Bus	MW Impact
314539	3UNCAMP	1.27
314541	3WATKINS	0.39
314554	3BTLEBRO	0.38
314557	3BETHEL	1.06
314566	3CRESWEL	2.23
314572	3EMPORIA	0.22
314574	6EVERETS	8.22
314578	3HORNRTN	2.14
314582	3KELFORD	3.33
314589	3MURPHYS	0.07
314594	6PLYMOTH	0.9
314603	3SCOT NK	2.69
314617	3TUNIS	0.78
314620	6CASHIE	0.97
314623	3WITAKRS	0.71
314648	6SUNBURY	0.41
314651	6WINFALL	0.99
315131	1EDGECEMA	8.55
315132	1EDGECEMB	8.55
315136	1ROSEMG1	1.58
315137	1ROSEMS1	0.98
315138	1ROSEMG2	0.74
315292	1DOMTR78	1.65
315293	1DOMTR9	1.35
315294	1DOMTR10	2.45
900672	V4-068 E	0.24
901082	W1-029 E	24.69
907092	X1-038 E	3.17
913392	Y1-086 E	1.0
916042	Z1-036 E	30.84
917122	Z2-027 E	0.52
917331	Z2-043 C	0.34
917332	Z2-043 E	0.95
917342	Z2-044 E	0.31
917511	Z2-088 C OP1	2.29
917512	Z2-088 E OP1	6.41
918491	AA1-063AC OP	1.07
918492	AA1-063AE OP	3.28
918511	AA1-065 C OP	1.72
918512	AA1-065 E OP	5.52

Bus #	Bus	MW Impact
918531	AA1-067 C	0.52
918532	AA1-067 E	1.45
918561	AA1-072 C	0.05
918562	AA1-072 E	0.16
919692	AA2-053 E	2.78
919701	AA2-057 C	4.11
919702	AA2-057 E	2.06
920042	AA2-088 E OP	6.8
920592	AA2-165 E	0.27
920672	AA2-174 E	0.32
920691	AA2-178 C	1.37
920692	AA2-178 E	3.82
923801	AB2-015 C O1	4.71
923802	AB2-015 E O1	3.86
923832	AB2-022 E	0.57
923911	AB2-031 C O1	1.26
923912	AB2-031 E O1	0.62
923941	AB2-035 C	0.44
923942	AB2-035 E	0.19
923992	AB2-040 E O1	3.38
924152	AB2-059 E O1	3.09
924391	AB2-088 C	0.57
924392	AB2-088 E	0.28
924491	AB2-098 C	1.13
924492	AB2-098 E	0.48
924501	AB2-099 C	0.59
924502	AB2-099 E	0.25
924511	AB2-100 C	6.09
924512	AB2-100 E	3.0
925121	AB2-169 C	1.49
925122	AB2-169 E	8.74
925171	AB2-174 C O1	3.82
925172	AB2-174 E O1	3.46
925281	AB2-186 C	0.37
925282	AB2-186 E	0.16
925291	AB2-188 C O1	2.2
925292	AB2-188 E O1	0.99
925591	AC1-034 C	3.89
925592	AC1-034 E	2.93
926071	AC1-086 C	15.84
926072	AC1-086 E	7.21
926201	AC1-098 C	4.51
926202	AC1-098 E	2.69
926211	AC1-099 C	1.51
926212	AC1-099 E	0.89
927021	AC1-189 C	15.22
927022	AC1-189 E	7.58
927141	AC1-208 C	5.86
927142	AC1-208 E	2.6
930402	AB1-081 E O1	2.18
930862	AB1-132 E O1	4.61
931232	AB1-173 E	0.59

Bus #	Bus	MW Impact
931242	AB1-173AE	0.59
932631	AC2-084 C	6.43
932632	AC2-084 E	3.17
933991	AD1-023 C	14.77
933992	AD1-023 E	8.04
934201	AD1-047 C	4.51
934202	AD1-047 E	3.01
934331	AD1-057 C O1	8.5
934332	AD1-057 E O1	4.53
934521	AD1-076 C	58.8
934522	AD1-076 E	29.94
936401	AD2-051 C O1	9.44
936402	AD2-051 E O1	4.05
936531	AD2-068 C	19.17
936532	AD2-068 E	9.88
936701	AD2-089 C	9.53
936702	AD2-089 E	6.35
936711	AD2-090 C O1	4.25
936712	AD2-090 E O1	2.83
937571	AD2-169 C	5.83
937572	AD2-169 E	3.88
938171	AE1-026 C1 O	32.17
938172	AE1-026 C2 O	4.65
938173	AE1-026 E O1	9.71
938221	AE1-035 C	2.8
938222	AE1-035 E	1.38
938661	AE1-088	5.0
938771	AE1-103 C O1	1.9
938772	AE1-103 E O1	2.62
939041	AE1-133 C	17.42
939042	AE1-133 E	8.58
939071	AE1-135 C O1	10.35
939072	AE1-135 E O1	6.9
AC1-133	AC1-133	24.63
BAYOU	BAYOU	2.85
BIG_CAJUN1	BIG_CAJUN1	4.51
BIG_CAJUN2	BIG_CAJUN2	9.07
BLUEG	BLUEG	7.81
CALDERWOOD	CALDERWOOD	1.67
CANNELTON	CANNELTON	0.54
CATAWBA	CATAWBA	1.63
CBM-N	CBM-N	0.21
CHEOAH	CHEOAH	1.56
CHILHOWEE	CHILHOWEE	0.54
CHOCTAW	CHOCTAW	3.07
COFFEEN	COFFEEN	0.92
COTTONWOOD	COTTONWOOD	11.15
DEARBORN	DEARBORN	0.96
DUCKCREEK	DUCKCREEK	1.89
EDWARDS	EDWARDS	0.84
ELMERSMITH	ELMERSMITH	0.95
FARMERCITY	FARMERCITY	0.67

Bus #	Bus	MW Impact
G-007A	G-007A	1.0
GIBSON	GIBSON	0.34
HAMLET	HAMLET	6.98
NEWTON	NEWTON	2.4
NYISO	NYISO	0.91
O-066A	O-066A	0.46
PRAIRIE	PRAIRIE	5.08
SANTEETLA	SANTEETLA	0.46
SMITHLAND	SMITHLAND	0.45
TATANKA	TATANKA	1.13
TILTON	TILTON	0.99
TRIMBLE	TRIMBLE	0.86
TVA	TVA	4.7
UNIONPOWER	UNIONPOWER	2.33
VFT	VFT	2.66

	324293 TO BUS 342007 CKT 1 /* 324293 4OWEN C 138.00 342007 2OWEN CO 69.000 OPEN BRANCH FROM BUS 324290 TO BUS 324293 CKT 1 /* 324290 4OWC TAP 138.00 324293 4OWEN C 138.00 OPEN BRANCH FROM BUS 324253 TO BUS 324290 CKT 1 /* 324253 4GHENT 138.00 324290 4OWC TAP 138.00 OPEN BRANCH FROM BUS 324290 TO BUS 324305 CKT 1 /* 324290 4OWC TAP 138.00 324305 4SCOTTKU 138.00 END
DVP_P4-2: SPOTS H1T594	CONTINGENCY 'EKPC_P4-5_OWEN N44-808' /* SPURLOCK OPEN BRANCH FROM BUS 324293 TO BUS 342007 CKT 1 /* 324293 4OWEN C 138.00 342007 2OWEN CO 69.000 OPEN BRANCH FROM BUS 324290 TO BUS 324293 CKT 1 /* 324290 4OWC TAP 138.00 324293 4OWEN C 138.00 OPEN BRANCH FROM BUS 324253 TO BUS 324290 CKT 1 /* 324253 4GHENT 138.00 324290 4OWC TAP 138.00 OPEN BRANCH FROM BUS 324290 TO BUS 324305 CKT 1 /* 324290 4OWC TAP 138.00 324305 4SCOTTKU 138.00 END

Short Circuit

Short Circuit

(Summary of impacted circuit breakers)

New circuit breakers found to be over-duty:

None

Contributions to previously identified circuit breakers found to be over-duty:

None

Network Impacts – Option 2

The Queue Project AE1-135 was evaluated as a 200 MW (Capacity 82.7 MW) injection tapping the Clubhouse to Lakeview 230 kV line in the Dominion area. Project AE1-135 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AE1-135 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)

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
365268	314287	6CHESTF B	DVP	314276	6BASIN	DVP	1	Base Case	single	449.32	98.77	100.8	DC	9.15
365779	314435	6SAPONY	DVP	314282	6CARSON	DVP	1	DVP_P1-2: LN 246	single	678.68	92.1	101.93	DC	66.67
365475	314563	6CLUBHSE	DVP	314435	6SAPONY	DVP	1	DVP_P1-2: LN 2056-A	single	598.78	97.4	109.16	DC	70.38
365479	314563	6CLUBHSE	DVP	314435	6SAPONY	DVP	1	Base Case	single	598.78	88.26	99.07	DC	64.62
365988	314579	6HORNRTN	DVP	934330	AD1-057 TAP	DVP	1	DVP_P1-2: LN 238	single	441.8	91.5	101.81	DC	45.52
365907	934330	AD1-057 TAP	DVP	313845	6HATHAWAY	DVP	1	DVP_P1-2: LN 238	single	441.8	100.09	110.4	DC	45.52
365908	934330	AD1-057 TAP	DVP	313845	6HATHAWAY	DVP	1	DVP_P1-2: LN 254-A-A	single	441.8	95.64	105.66	DC	44.25

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
364927	314299	6HARROWG	DVP	314263	6TYLER1	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	89.57	101.07	DC	62.16
364928	314299	6HARROWG	DVP	314263	6TYLER1	DVP	1	DVP_P4-2: 562T563	breaker	541.0	95.24	99.6	DC	23.59
365004	314316	6LOCKS	DVP	314301	6HARR205	DVP	1	DVP_P4-2: 562T563	breaker	541.0	89.23	93.96	DC	25.6
364925	314331	6POE	DVP	314299	6HARROWG	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	89.59	101.09	DC	62.16
364926	314331	6POE	DVP	314299	6HARROWG	DVP	1	DVP_P4-2: 562T563	breaker	541.0	95.26	99.62	DC	23.59
364971	314579	6HORNRTN	DVP	934330	AD1-057 TAP	DVP	1	DVP_P4-5: L152	breaker	541.0	90.26	104.54	DC	77.12
364972	314579	6HORNRTN	DVP	934330	AD1-057 TAP	DVP	1	DVP_P4-2: 2012T2014	breaker	541.0	92.55	100.11	DC	40.88
364904	934330	AD1-057 TAP	DVP	313845	6HATHAWAY	DVP	1	DVP_P4-5: L152	breaker	541.0	99.68	113.94	DC	77.12

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	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC D C	MW IMPAC T
690549	242631	05EDAN 1	AEP	242620	05DANVL2	AEP	1	AEP_P4_#11111_05J.FE RR 765_B1	breaker	402.0	147.27	148.41	DC	10.21
691334	242631	05EDAN 1	AEP	242620	05DANVL2	AEP	1	AEP_P1-2_#1377	single	402.0	127.37	128.06	DC	6.13
366499	313844	3HATHAWA Y	DVP	314554	3BTLEBRO	DVP	1	DVP_P7-1: LN 2058-2181	tower	301.0	103.19	105.02	DC	12.11
365512	313845	6HATHAWA Y	DVP	304222	6ROCKYMT230 T	CPL	1	DVP_P1-2: LN 2181	single	374.0	123.72	127.5	DC	14.13
365745	313845	6HATHAWA Y	DVP	314591	6NASH	DVP	1	DVP_P1-2: LN 2058	single	449.32	111.71	114.92	DC	14.41
364517	314218	6ELMONT	DVP	314908	8ELMONT	DVP	1	DVP_P4-2: H2T557	breaker	1050.6	146.46	147.81	DC	31.2
364633	314282	6CARSON	DVP	314285	6CHRL249	DVP	1	DVP_P4-2: 562T563	breaker	684.0	134.88	139.71	DC	32.81
365914	314282	6CARSON	DVP	314285	6CHRL249	DVP	1	DVP_P1-2: LN 563	single	559.3	111.95	115.29	DC	18.65
364661	314285	6CHRL249	DVP	314316	6LOCKS	DVP	1	DVP_P4-2: 562T563	breaker	684.0	131.85	136.69	DC	32.81
365948	314285	6CHRL249	DVP	314316	6LOCKS	DVP	1	DVP_P1-2: LN 563	single	559.3	108.26	111.6	DC	18.65
364491	314287	6CHESTF B	DVP	314276	6BASIN	DVP	1	DVP_P4-2: 562T563	breaker	549.0	154.01	157.76	DC	20.42
365259	314287	6CHESTF B	DVP	314276	6BASIN	DVP	1	DVP_P1-2: LN 563	single	449.32	148.9	151.57	DC	11.84
365260	314287	6CHESTF B	DVP	314276	6BASIN	DVP	1	DVP_P1-2: LN 217	single	449.32	139.16	142.02	DC	12.84
365736	314303	6HOPEWLL	DVP	314286	6CHESTF A	DVP	1	DVP_P1-2: LN 259	single	449.32	111.91	113.98	DC	9.28
365737	314303	6HOPEWLL	DVP	314286	6CHESTF A	DVP	1	DVP_P1-2: LN 217	single	449.32	109.84	111.91	DC	9.28
366193	314554	3BTLEBRO	DVP	304223	3ROCKYMT115 T	CPL	1	DVP_P7-1: LN 2058-2181	tower	164.0	299.14	303.29	DC	14.97
365474	314563	6CLUBHSE	DVP	314435	6SAPONY	DVP	1	DVP_P1-2: LN 246	single	598.78	107.91	119.04	DC	66.68
365315	314569	6EARLEYS	DVP	314575	6NUCO TP	DVP	1	DVP_P1-2: LN 2092	single	571.52	125.63	127.66	DC	11.71
365316	314569	6EARLEYS	DVP	314575	6NUCO TP	DVP	1	DVP_P1-2: LN 2131	single	571.52	124.88	126.91	DC	11.72
365546	314574	6EVERETS	DVP	936530	AD2-068 TAP	DVP	1	DVP_P1-2: LN 246	single	449.32	113.53	115.38	DC	8.32
365547	314574	6EVERETS	DVP	936530	AD2-068 TAP	DVP	1	DVP_P1-2: LN 2092	single	449.32	110.87	112.46	DC	7.18
366276	314574	6EVERETS	DVP	936530	AD2-068 TAP	DVP	1	DVP_P7-1: LN 2058-2181	tower	485.0	161.8	163.41	DC	17.28
365375	314575	6NUCO TP	DVP	919140	AA1-138 TAP	DVP	1	DVP_P1-2: LN 2092	single	571.52	119.21	121.24	DC	11.71
365376	314575	6NUCO TP	DVP	919140	AA1-138 TAP	DVP	1	DVP_P1-2: LN 2131	single	571.52	118.45	120.49	DC	11.72
365304	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	DVP_P1-2: LN 254-A-A	single	375.06	124.21	144.33	DC	75.46
365305	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	DVP_P1-2: LN 238	single	375.06	121.1	140.87	DC	74.18
365889	314591	6NASH	DVP	304226	6PA- RMOUNT#4	CPL	1	DVP_P1-2: LN 2058	single	470.0	101.37	104.43	DC	14.41
364719	314902	8CARSON	DVP	314914	8MDLTHAN	DVP	1	DVP_P4-2: 557T574	breaker	3938.0	125.8	126.29	DC	51.61
364720	314902	8CARSON	DVP	314914	8MDLTHAN	DVP	1	DVP_P4-2: H2T557	breaker	3938.0	118.7	119.17	DC	49.31

ID	FROM BUS#	FROM BUS	FRO M 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
364623	314903	8CHCKAHM	DVP	314908	8ELMONT	DVP	1	DVP_P4-2: 563T576	breake r	3144.0	138.64	139.3	DC	45.8
365364	314903	8CHCKAHM	DVP	314908	8ELMONT	DVP	1	DVP_P1-2: LN 576	single	2442.12	132.34	132.82	DC	26.04
365365	314903	8CHCKAHM	DVP	314908	8ELMONT	DVP	1	DVP_P1-2: LN 563	single	2442.12	132.31	132.79	DC	25.57
364869	314905	8CHANCE	DVP	314900	8BRISTER	DVP	1	DVP_P4-2: H1T594	breake r	3351.0	112.91	113.4	DC	35.65
364870	314905	8CHANCE	DVP	314900	8BRISTER	DVP	1	DVP_P4-2: 573T594	breake r	3351.0	112.34	112.83	DC	35.53
364527	314908	8ELMONT	DVP	314911	8LADYSMITH	DVP	1	DVP_P4-2: 57602	breake r	3351.0	149.33	150.11	DC	57.21
364528	314908	8ELMONT	DVP	314911	8LADYSMITH	DVP	1	DVP_P4-2: WT576	breake r	3351.0	149.33	150.11	DC	57.21
365212	314908	8ELMONT	DVP	314911	8LADYSMITH	DVP	1	DVP_P1-2: LN 576	single	2442.12	160.93	161.57	DC	34.32
365215	314908	8ELMONT	DVP	314911	8LADYSMITH	DVP	1	DVP_P1-2: LN 563	single	2442.12	144.81	145.35	DC	28.59
364823	314911	8LADYSMIT H	DVP	314905	8CHANCE	DVP	1	DVP_P4-2: SPOTS H1T594	breake r	3351.0	117.36	117.85	DC	35.88
364824	314911	8LADYSMIT H	DVP	314905	8CHANCE	DVP	1	DVP_P4-2: 57302	breake r	3351.0	115.19	115.69	DC	36.24
364825	314911	8LADYSMIT H	DVP	314905	8CHANCE	DVP	1	DVP_P4-2: XT573	breake r	3351.0	115.19	115.68	DC	36.24
364656	314914	8MDLTHAN	DVP	314918	8NO ANNA	DVP	1	DVP_P4-2: 557T574	breake r	3637.0	136.98	137.38	DC	57.14
365282	314914	8MDLTHAN	DVP	314918	8NO ANNA	DVP	1	DVP_P1-2: LN 574	single	2442.12	139.0	139.6	DC	32.44
365286	314914	8MDLTHAN	DVP	314918	8NO ANNA	DVP	1	DVP_P1-2: LN 557	single	2442.12	128.8	129.35	DC	29.69
366408	314934	8SPOTSYL	DVP	314916	8MORRSVL	DVP	1	DVP_P7-1: LN 198-581	tower	3938.0	110.35	110.81	DC	39.67
365386	919140	AA1-138 TAP	DVP	314537	6SUFFOLK	DVP	1	DVP_P1-2: LN 2092	single	571.52	119.17	121.2	DC	11.71
365387	919140	AA1-138 TAP	DVP	314537	6SUFFOLK	DVP	1	DVP_P1-2: LN 2131	single	571.52	118.42	120.45	DC	11.72
364905	934330	AD1-057 TAP	DVP	313845	6HATHAWAY	DVP	1	DVP_P4-2: 2012T2014	breake r	541.0	101.5	109.05	DC	40.88
365594	936530	AD2-068 TAP	DVP	304451	6GREENVILE T	CPL	1	DVP_P1-2: LN 246	single	478.0	110.91	112.65	DC	8.32
365595	936530	AD2-068 TAP	DVP	304451	6GREENVILE T	CPL	1	DVP_P1-2: LN 2092	single	478.0	108.29	109.79	DC	7.18
366266	936530	AD2-068 TAP	DVP	304451	6GREENVILE T	CPL	1	DVP_P7-1: LN 2058-2181	tower	478.0	170.2	171.84	DC	17.28
364466	939070	AE1-135 TAP	DVP	314563	6CLUBHSE	DVP	1	DVP_P4-2: 239T2141	breake r	427.0	144.68	191.45	DC	199.68
365274	939070	AE1-135 TAP	DVP	314563	6CLUBHSE	DVP	1	DVP_P1-2: LN 1029-B	single	375.06	130.94	150.71	DC	74.51
365275	939070	AE1-135 TAP	DVP	314563	6CLUBHSE	DVP	1	DVP_P1-2: LN 2056-A	single	375.06	122.82	145.31	DC	84.73
365278	939070	AE1-135 TAP	DVP	314563	6CLUBHSE	DVP	1	Base Case	single	346.86	116.9	139.43	DC	78.16

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
691332	242631	05EDAN 1	AEP	242620	05DANVL2	AEP	1	AEP_P1-2_#1377	operation	402.0	147.24	148.39	DC	10.21
365511	313845	6HATHAWAY	DVP	304222	6ROCKYMT230T	CPL	1	DVP_P1-2: LN 2181	operation	374.0	158.74	161.59	DC	23.54
365742	313845	6HATHAWAY	DVP	314591	6NASH	DVP	1	DVP_P1-2: LN 2058	operation	449.32	141.44	143.86	DC	24.02
366040	314218	6ELMONT	DVP	314908	8ELMONT	DVP	1	DVP_P1-2: LN 557	operation	920.92	102.02	103.01	DC	20.04
366067	314225	6CHARCTY	DVP	314227	6LAKESIDE	DVP	1	DVP_P1-2: LN 557	operation	984.18	102.89	103.76	DC	18.85
366126	314266	6NORTHAMPTON	DVP	314569	6EARLEYS	DVP	1	DVP_P1-2: LN 238	operation	559.3	90.72	103.99	DC	74.23
365913	314282	6CARSON	DVP	314285	6CHRL249	DVP	1	DVP_P1-2: LN 563	operation	559.3	119.79	125.37	DC	31.08
365947	314285	6CHRL249	DVP	314316	6LOCKS	DVP	1	DVP_P1-2: LN 563	operation	559.3	116.11	121.69	DC	31.08
365257	314287	6CHESTF B	DVP	314276	6BASIN	DVP	1	DVP_P1-2: LN 563	operation	449.32	182.58	184.58	DC	19.73
365266	314287	6CHESTF B	DVP	314276	6BASIN	DVP	1	Base Case	operation	449.32	107.03	108.57	DC	15.26
366041	314287	6CHESTF B	DVP	314225	6CHARCTY	DVP	1	DVP_P1-2: LN 557	operation	984.18	106.59	107.47	DC	18.85
366100	314299	6HARROWG	DVP	314263	6TYLER1	DVP	1	DVP_P1-2: LN 563	operation	441.8	87.82	92.9	DC	22.43
366098	314331	6POE	DVP	314299	6HARROWG	DVP	1	DVP_P1-2: LN 563	operation	441.8	87.84	92.92	DC	22.43
365773	314435	6SAPONY	DVP	314282	6CARSON	DVP	1	DVP_P1-2: LN 246	operation	678.68	124.71	141.11	DC	111.11
365778	314435	6SAPONY	DVP	314282	6CARSON	DVP	1	Base Case	operation	678.68	100.72	116.61	DC	107.69
366092	314561	6CAROLNA	DVP	314599	6ROA VAL	DVP	1	DVP_P1-2: LN 238	operation	548.02	93.43	106.97	DC	74.23
365468	314563	6CLUBHSE	DVP	314435	6SAPONY	DVP	1	DVP_P1-2: LN 246	operation	598.78	145.36	163.94	DC	111.13
365473	314563	6CLUBHSE	DVP	314435	6SAPONY	DVP	1	Base Case	operation	598.78	122.58	140.59	DC	107.71
365310	314569	6EARLEYS	DVP	314575	6NUCO TP	DVP	1	DVP_P1-2: LN 2092	operation	571.52	183.68	184.99	DC	19.52
365318	314569	6EARLEYS	DVP	314575	6NUCO TP	DVP	1	Base Case	operation	571.52	116.05	117.09	DC	16.2
365540	314574	6EVERETS	DVP	936530	AD2-068 TAP	DVP	1	DVP_P1-2: LN 246	operation	449.32	156.7	157.98	DC	13.87

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
365370	314575	6NUCO TP	DVP	919140	AA1-138 TAP	DVP	1	DVP_P1-2: LN 2092	operation	571.52	177.26	178.57	DC	19.52
365378	314575	6NUCO TP	DVP	919140	AA1-138 TAP	DVP	1	Base Case	operation	571.52	109.63	110.67	DC	16.2
365983	314579	6HORNRTN	DVP	934330	AD1-057 TAP	DVP	1	DVP_P1-2: LN 238	operation	441.8	100.59	117.77	DC	75.87
365300	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	DVP_P1-2: LN 254-A-A	operation	375.06	152.21	185.74	DC	125.76
365309	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	Base Case	operation	351.56	98.52	109.52	DC	38.7
365886	314591	6NASH	DVP	304226	6PA-RMOUNT#4	CPL	1	DVP_P1-2: LN 2058	operation	470.0	129.79	132.11	DC	24.02
366095	314599	6ROA VAL	DVP	314266	6NORTHAMPTON	DVP	1	DVP_P1-2: LN 238	operation	548.02	93.37	106.91	DC	74.23
365637	314902	8CARSON	DVP	314914	8MDLTHAN	DVP	1	DVP_P1-2: LN 557	operation	3218.56	142.86	143.41	DC	47.88
365643	314902	8CARSON	DVP	314914	8MDLTHAN	DVP	1	Base Case	operation	3218.56	99.17	99.71	DC	38.74
365358	314903	8CHCKAHM	DVP	314908	8ELMONT	DVP	1	DVP_P1-2: LN 563	operation	2442.12	171.26	172.06	DC	42.62
365363	314903	8CHCKAHM	DVP	314908	8ELMONT	DVP	1	Base Case	operation	2442.12	136.33	136.91	DC	31.23
365503	314905	8CHANCE	DVP	314900	8BRISTER	DVP	1	DVP_P1-2: LN 594	operation	2442.12	153.99	154.66	DC	35.55
365209	314908	8ELMONT	DVP	314911	8LADYSMITH	DVP	1	DVP_P1-2: LN 576	operation	2442.12	204.76	205.83	DC	57.21
365689	314911	8LADYSMITH	DVP	314905	8CHANCE	DVP	1	DVP_P1-2: LN 573	operation	2738.22	140.56	141.17	DC	36.06
365279	314914	8MDLTHAN	DVP	314918	8NO ANNA	DVP	1	DVP_P1-2: LN 574	operation	2442.12	185.14	185.8	DC	54.07
365285	314914	8MDLTHAN	DVP	314918	8NO ANNA	DVP	1	Base Case	operation	2442.12	130.11	130.85	DC	41.2
365819	314918	8NO ANNA	DVP	314934	8SPOTSYL	DVP	1	DVP_P1-2: LN 581	operation	3218.56	129.29	129.86	DC	40.17
366128	314923	8SEPTA	DVP	314924	8SURRY	DVP	1	DVP_P1-2: LN 563	operation	2442.12	96.31	96.79	DC	26.16
365972	314924	8SURRY	DVP	314903	8CHCKAHM	DVP	1	DVP_P1-2: LN 563	operation	2442.12	113.69	114.34	DC	34.92
365756	314934	8SPOTSYL	DVP	314916	8MORRSVL	DVP	1	DVP_P1-2: LN 552	operation	3218.56	134.0	134.57	DC	39.79
365381	919140	AA1-138 TAP	DVP	314537	6SUFFOLK	DVP	1	DVP_P1-2: LN 2092	operation	571.52	177.23	178.54	DC	19.52
365389	919140	AA1-138 TAP	DVP	314537	6SUFFOLK	DVP	1	Base Case	operation	571.52	109.59	110.64	DC	16.2
366059	925170	AB2-174 TAP	DVP	314572	3EMPORIA	DVP	1	DVP_P1-2: LN 254-A-A	operation	315.84	108.35	110.95	DC	18.15
365902	934330	AD1-057 TAP	DVP	313845	6HATHAWAY	DVP	1	DVP_P1-2: LN 238	operation	441.8	113.0	130.18	DC	75.87

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
365588	936530	AD2-068 TAP	DVP	304451	6GREENVILE T	CPL	1	DVP_P1-2: LN 246	operation	478.0	153.43	154.64	DC	13.87
365269	939070	AE1-135 TAP	DVP	314563	6CLUBHSE	DVP	1	DVP_P1-2: LN 1029-B	operation	375.06	164.47	197.61	DC	124.19
365272	939070	AE1-135 TAP	DVP	314563	6CLUBHSE	DVP	1	Base Case	operation	346.86	148.28	185.86	DC	130.26

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
364491	314287	6CHESTFB	DVP	314276	6BASIN	DVP	1	DVP_P4-2:562T563	breaker	549.0	154.01	157.76	DC	20.42

Bus #	Bus	MW Impact
314314	3LOCKS	0.17
314539	3UNCAMP	0.93
314541	3WATKINS	0.27
314554	3BTLEBRO	0.3
314557	3BETHEL	0.3
314572	3EMPORIA	0.21
314574	6EVERETS	1.53
314578	3HORNRTN	1.41
314582	3KELFORD	1.36
314594	6PLYMOTH	0.3
314603	3SCOT NK	1.29
314617	3TUNIS	0.33
314620	6CASHIE	0.31
314623	3WITAKRS	0.52
315065	1CHESTF6	26.38
315073	1STONECA	4.95
315074	1HOPCGN1	5.97
315075	1HOPCGN2	5.89
315076	1HOPPOLC	1.05
315077	1HOPHCF1	1.64
315078	1HOPHCF2	1.64
315079	1HOPHCF3	1.64
315080	1HOPHCF4	2.49
315131	1EDGECEMA	3.51
315132	1EDGECEMB	3.51
900672	V4-068 E	0.12
907092	X1-038 E	2.32
916302	Z1-086 E	3.66
917332	Z2-043 E	0.39
917342	Z2-044 E	0.22
917512	Z2-088 E OP1	1.44
918492	AA1-063AE OP	1.65
918512	AA1-065 E OP	1.66
918532	AA1-067 E	0.27
918562	AA1-072 E	0.06
919692	AA2-053 E	1.57
919701	AA2-057 C	2.76
919702	AA2-057 E	1.38
920042	AA2-088 E OP	4.19
920592	AA2-165 E	0.18

Bus #	Bus	MW Impact
920672	AA2-174 E	0.18
923801	AB2-015 C O1	3.33
923802	AB2-015 E O1	2.73
923851	AB2-025 C	0.26
923852	AB2-025 E	0.77
923911	AB2-031 C O1	1.08
923912	AB2-031 E O1	0.53
923941	AB2-035 C	0.13
923942	AB2-035 E	0.05
923992	AB2-040 E O1	2.89
924152	AB2-059 E O1	2.04
924391	AB2-088 C	0.16
924392	AB2-088 E	0.08
924491	AB2-098 C	0.21
924492	AB2-098 E	0.09
924501	AB2-099 C	0.23
924502	AB2-099 E	0.1
924511	AB2-100 C	6.67
924512	AB2-100 E	3.29
924812	AB2-134 E O1	6.68
925051	AB2-160 C O1	3.53
925052	AB2-160 E O1	5.76
925061	AB2-161 C O1	1.95
925062	AB2-161 E O1	3.17
925122	AB2-169 E	2.1
925171	AB2-174 C O1	3.46
925172	AB2-174 E O1	3.13
925331	AB2-190 C	11.43
925332	AB2-190 E	4.9
925591	AC1-034 C	2.57
925592	AC1-034 E	1.94
925821	AC1-061	0.0
926071	AC1-086 C	9.77
926072	AC1-086 E	4.44
926201	AC1-098 C	2.43
926202	AC1-098 E	1.45
926211	AC1-099 C	0.81
926212	AC1-099 E	0.48
927021	AC1-189 C	3.2
927022	AC1-189 E	1.59
927141	AC1-208 C	3.62
927142	AC1-208 E	1.61
927221	AC1-216 C O1	5.37
927222	AC1-216 E O1	4.22
930402	AB1-081 E O1	1.44
930862	AB1-132 E O1	2.84
931232	AB1-173 E	0.51
931242	AB1-173AE	0.51
932581	AC2-078 C O1	3.0
932582	AC2-078 E O1	4.9
932591	AC2-079 C O1	2.72
932592	AC2-079 E O1	4.44

Bus #	Bus	MW Impact
932631	AC2-084 C	3.46
932632	AC2-084 E	1.71
933991	AD1-023 C	4.72
933992	AD1-023 E	2.57
934011	AD1-025 C	9.23
934012	AD1-025 E	5.47
934201	AD1-047 C	3.86
934202	AD1-047 E	2.57
934331	AD1-057 C O1	4.2
934332	AD1-057 E O1	2.24
934521	AD1-076 C	19.27
934522	AD1-076 E	9.81
934571	AD1-082 C	4.43
934572	AD1-082 E	2.53
935161	AD1-151 C O1	9.19
935162	AD1-151 E O1	6.12
935211	AD1-156 C	0.32
935212	AD1-156 E	1.39
936041	AD2-007	0.98
936051	AD2-008 C	1.61
936052	AD2-008 E	3.5
936401	AD2-051 C O1	3.37
936402	AD2-051 E O1	1.45
936661	AD2-085 C	1.65
936662	AD2-085 E	2.7
936701	AD2-089 C	2.71
936702	AD2-089 E	1.81
936711	AD2-090 C O1	2.82
936712	AD2-090 E O1	1.88
937571	AD2-169 C	4.7
937572	AD2-169 E	3.13
938171	AE1-026 C1 O	10.15
938172	AE1-026 C2 O	1.47
938173	AE1-026 E O2	3.07
938221	AE1-035 C	0.84
938222	AE1-035 E	0.42
938491	AE1-068 C O2	23.1
938492	AE1-068 E O2	12.76
938501	AE1-069 C O2	18.34
938502	AE1-069 E O2	10.48
938631	AE1-085 C O2	7.89
938632	AE1-085 E O2	5.26
938661	AE1-088	0.64
938771	AE1-103 C O2	1.39
938772	AE1-103 E O2	1.92
938841	AE1-109AC O2	4.94
938842	AE1-109AE O2	3.29
939071	AE1-135 C O2	12.25
939072	AE1-135 E O2	8.17
939191	AE1-149 C O2	8.38
939192	AE1-149 E O2	5.59
939311	AE1-162 C	0.81

Bus #	Bus	MW Impact
939312	AE1-162 E	0.54
939411	AE1-173 C	31.98
939412	AE1-173 E	21.32
940061	AE1-248 C O2	9.26
940062	AE1-248 E O2	6.18
940071	AE1-249 C	4.66
940072	AE1-249 E	3.48
AA2-074	AA2-074	1.86
CARR	CARR	0.34
CBM-S1	CBM-S1	4.05
CBM-S2	CBM-S2	5.21
CBM-W1	CBM-W1	3.25
CBM-W2	CBM-W2	25.82
CIN	CIN	1.53
CPLE	CPLE	2.73
G-007	G-007	1.1
IPL	IPL	0.95
LGEE	LGEE	0.45
MEC	MEC	3.65
MECS	MECS	1.04
O-066	O-066	3.67
RENSSELAER	RENSSELAER	0.27
WEC	WEC	0.41

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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
365779	314435	6SAPONY	DVP	314282	6CARSON	DVP	1	DVP_P1-2: LN 246	single	678.68	92.1	101.93	DC	66.67

Bus #	Bus	MW Impact
314589	3MURPHYS	0.09
314704	3LAWRENC	0.64
315126	1ROARAP2	2.09
315128	1ROARAP4	2.01
315131	1EDGECEMA	10.75
315132	1EDGECEMB	10.75
315136	1ROSEMG1	3.95
315137	1ROSEMS1	2.45
315138	1ROSEMG2	1.85
315139	1GASTONA	5.84
315141	1GASTONB	5.84
315150	1BUGGS 1	8.65
315151	1BUGGS 2	8.65
315158	1KERR 1	0.31
315159	1KERR 2	1.25
315160	1KERR 3	1.23
315161	1KERR 4	1.23
315162	1KERR 5	1.23
315163	1KERR 6	1.23
315164	1KERR 7	1.23
315294	1DOMTR10	1.62
917331	Z2-043 C	0.45
917341	Z2-044 C	0.25
917511	Z2-088 C OP1	1.52
918491	AA1-063AC OP	1.93
918511	AA1-065 C OP	1.64
918531	AA1-067 C	0.28
918561	AA1-072 C	0.07
919691	AA2-053 C	2.08
919701	AA2-057 C	8.9
920041	AA2-088 C OP	0.95
920591	AA2-165 C	0.19
920671	AA2-174 C	0.1
923851	AB2-025 C	1.58
923911	AB2-031 C O1	4.86
923941	AB2-035 C	0.38
923991	AB2-040 C O1	2.45
924151	AB2-059 C O1	1.84
924391	AB2-088 C	0.49
924401	AB2-089 C	2.28

Bus #	Bus	MW Impact
924491	AB2-098 C	0.61
924501	AB2-099 C	0.7
924511	AB2-100 C	35.68
925121	AB2-169 C	0.91
925171	AB2-174 C O1	16.03
925591	AC1-034 C	7.77
925781	AC1-054 C O1	8.19
926071	AC1-086 C	42.86
926201	AC1-098 C	8.09
926211	AC1-099 C	2.71
927021	AC1-189 C	9.38
927141	AC1-208 C	12.38
930401	AB1-081 C O1	1.56
930861	AB1-132 C O1	4.46
931231	AB1-173 C	0.75
931241	AB1-173AC	0.75
932631	AC2-084 C	11.53
933991	AD1-023 C	11.68
934201	AD1-047 C	17.41
934231	AD1-050 C	5.04
934331	AD1-057 C O1	15.67
934521	AD1-076 C	42.65
936261	AD2-033 C	8.94
936361	AD2-046 C O1	8.32
936401	AD2-051 C O1	10.79
936481	AD2-063 C O1	11.53
936531	AD2-068 C	4.57
936701	AD2-089 C	8.14
936711	AD2-090 C O1	5.48
937571	AD2-169 C	20.52
938171	AE1-026 C1 O	26.48
938172	AE1-026 C2 O	3.83
938221	AE1-035 C	2.67
938661	AE1-088	3.04
939071	AE1-135 C O2	66.67
939181	AE1-148 C O2	8.16
AA2-074	AA2-074	2.53
CARR	CARR	0.23
CBM-S1	CBM-S1	5.71
CBM-S2	CBM-S2	6.69
CBM-W1	CBM-W1	5.8
CBM-W2	CBM-W2	37.54
CIN	CIN	2.62
CPL	CPL	3.72
IPL	IPL	1.64
LGEE	LGEE	0.76
MEC	MEC	5.8
MECS	MECS	2.48
RENSSELAER	RENSSELAER	0.18
WEC	WEC	0.7

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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
365474	314563	6CLUBHSE	DVP	314435	6SAPONY	DVP	1	DVP_P1-2: LN 246	single	598.78	107.91	119.04	DC	66.68

Bus #	Bus	MW Impact
314589	3MURPHYS	0.09
314704	3LAWRENC	0.64
315126	1ROARAP2	2.09
315128	1ROARAP4	2.01
315131	1EDGECEMA	10.75
315132	1EDGECEMB	10.75
315136	1ROSEMG1	3.95
315137	1ROSEMS1	2.45
315138	1ROSEMG2	1.85
315139	1GASTONA	5.85
315141	1GASTONB	5.85
315150	1BUGGS 1	8.66
315151	1BUGGS 2	8.66
315158	1KERR 1	0.31
315159	1KERR 2	1.25
315160	1KERR 3	1.23
315161	1KERR 4	1.23
315162	1KERR 5	1.23
315163	1KERR 6	1.23
315164	1KERR 7	1.23
315294	1DOMTR10	1.62
917331	Z2-043 C	0.45
917341	Z2-044 C	0.25
917511	Z2-088 C OP1	1.52
918491	AA1-063AC OP	1.93
918511	AA1-065 C OP	1.64
918531	AA1-067 C	0.28
918561	AA1-072 C	0.07
919691	AA2-053 C	2.08
919701	AA2-057 C	8.9
920041	AA2-088 C OP	0.95
920591	AA2-165 C	0.19
920671	AA2-174 C	0.1
923801	AB2-015 C O1	5.17
923911	AB2-031 C O1	4.86
923941	AB2-035 C	0.38
923991	AB2-040 C O1	2.45
924151	AB2-059 C O1	1.84
924391	AB2-088 C	0.49
924401	AB2-089 C	2.29

Bus #	Bus	MW Impact
924491	AB2-098 C	0.61
924501	AB2-099 C	0.7
924511	AB2-100 C	35.69
925121	AB2-169 C	0.91
925171	AB2-174 C O1	16.04
925291	AB2-188 C O1	1.45
925591	AC1-034 C	7.77
925781	AC1-054 C O1	8.19
926071	AC1-086 C	42.87
926201	AC1-098 C	8.09
926211	AC1-099 C	2.71
927021	AC1-189 C	9.38
927141	AC1-208 C	12.39
930401	AB1-081 C O1	1.56
930861	AB1-132 C O1	4.46
931231	AB1-173 C	0.75
931241	AB1-173AC	0.75
932631	AC2-084 C	11.53
933991	AD1-023 C	11.68
934201	AD1-047 C	17.41
934231	AD1-050 C	5.04
934331	AD1-057 C O1	15.68
934521	AD1-076 C	42.68
936261	AD2-033 C	8.95
936361	AD2-046 C O1	8.32
936401	AD2-051 C O1	10.79
936481	AD2-063 C O1	11.53
936531	AD2-068 C	4.58
936701	AD2-089 C	8.14
936711	AD2-090 C O1	5.48
937571	AD2-169 C	20.52
938171	AE1-026 C1 O	26.5
938172	AE1-026 C2 O	3.83
938221	AE1-035 C	2.67
938661	AE1-088	3.04
939071	AE1-135 C O2	66.68
939181	AE1-148 C O2	8.16
AA2-074	AA2-074	2.53
CARR	CARR	0.23
CBM-S1	CBM-S1	5.73
CBM-S2	CBM-S2	6.71
CBM-W1	CBM-W1	5.84
CBM-W2	CBM-W2	37.7
CIN	CIN	2.64
CPLE	CPLE	3.72
IPL	IPL	1.65
LGEE	LGEE	0.76
MEC	MEC	5.83
MECS	MECS	2.5
RENSSELAER	RENSSELAER	0.18
WEC	WEC	0.7

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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
364971	314579	6HORNRTN	DVP	934330	AD1-057 TAP	DVP	1	DVP_P4-5: L152	breaker	541.0	90.26	104.54	DC	77.12

Bus #	Bus	MW Impact
314539	3UNCAMP	1.12
314541	3WATKINS	0.37
314572	3EMPORIA	0.5
314578	3HORNRTN	3.47
314582	3KELFORD	1.62
314617	3TUNIS	0.54
314620	6CASHIE	0.35
315126	1ROARAP2	1.51
315136	1ROSEMG1	5.34
315137	1ROSEMS1	3.32
315138	1ROSEMG2	2.5
315139	1GASTONA	6.5
315141	1GASTONB	6.5
900672	V4-068 E	0.2
907092	X1-038 E	2.81
917332	Z2-043 E	0.46
918492	AA1-063AE OP	3.79
918512	AA1-065 E OP	2.35
918562	AA1-072 E	0.08
919692	AA2-053 E	3.96
920042	AA2-088 E OP	7.33
920672	AA2-174 E	0.46
923801	AB2-015 C O1	4.38
923802	AB2-015 E O1	3.59
923911	AB2-031 C O1	2.65
923912	AB2-031 E O1	1.31
923991	AB2-040 C O1	1.34
923992	AB2-040 E O1	7.13
924401	AB2-089 C	1.12
924402	AB2-089 E	0.58
924501	AB2-099 C	0.36
924502	AB2-099 E	0.15
924511	AB2-100 C	25.84
924512	AB2-100 E	12.72
925171	AB2-174 C O1	8.32
925172	AB2-174 E O1	7.53
925781	AC1-054 C O1	4.33
925782	AC1-054 E O1	1.99
926071	AC1-086 C	47.7
926072	AC1-086 E	21.71
930861	AB1-132 C O1	4.97

Bus #	Bus	MW Impact
930862	AB1-132 E O1	13.88
931231	AB1-173 C	0.41
931232	AB1-173 E	1.25
931241	AB1-173AC	0.41
931242	AB1-173AE	1.25
934201	AD1-047 C	9.51
934202	AD1-047 E	6.34
934231	AD1-050 C	2.47
934232	AD1-050 E	1.35
936401	AD2-051 C O1	5.14
936402	AD2-051 E O1	2.21
936711	AD2-090 C O1	4.27
936712	AD2-090 E O1	2.84
937571	AD2-169 C	11.89
937572	AD2-169 E	7.92
938171	AE1-026 C1 O	11.7
938172	AE1-026 C2 O	1.69
938173	AE1-026 E O2	3.53
938221	AE1-035 C	1.19
938222	AE1-035 E	0.59
938771	AE1-103 C O2	1.58
938772	AE1-103 E O2	2.18
939071	AE1-135 C O2	46.27
939072	AE1-135 E O2	30.85
BAYOU	BAYOU	1.13
BIG_CAJUN1	BIG_CAJUN1	1.79
BIG_CAJUN2	BIG_CAJUN2	3.59
BLUEG	BLUEG	3.41
CALDERWOOD	CALDERWOOD	0.66
CANNELTON	CANNELTON	0.23
CARR	CARR	0.0
CATAWBA	CATAWBA	0.63
CHEOAH	CHEOAH	0.62
CHILHOWEE	CHILHOWEE	0.21
CHOCTAW	CHOCTAW	1.21
COFFEEN	COFFEEN	0.39
COTTONWOOD	COTTONWOOD	4.44
DEARBORN	DEARBORN	0.45
DUCKCREEK	DUCKCREEK	0.81
EDWARDS	EDWARDS	0.36
ELMERSMITH	ELMERSMITH	0.4
FARMERCITY	FARMERCITY	0.28
G-007A	G-007A	0.11
GIBSON	GIBSON	0.15
HAMLET	HAMLET	2.55
NEWTON	NEWTON	1.02
O-066A	O-066A	0.05
PRAIRIE	PRAIRIE	2.12
RENSSELAER	RENSSELAER	0.0
SANTEETLA	SANTEETLA	0.18
SMITHLAND	SMITHLAND	0.19
TATANKA	TATANKA	0.48

Bus #	Bus	MW Impact
TILTON	TILTON	0.43
TRIMBLE	TRIMBLE	0.37
TVA	TVA	1.88
UNIONPOWER	UNIONPOWER	0.92
VFT	VFT	0.28

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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
364904	934330	AD1-057 TAP	DVP	313845	6HATHAWAY	DVP	1	DVP_P4-5: L152	breaker	541.0	99.68	113.94	DC	77.12

Bus #	Bus	MW Impact
314539	3UNCAMP	1.12
314541	3WATKINS	0.37
314572	3EMPORIA	0.5
314578	3HORNRTN	3.47
314582	3KELFORD	1.62
314617	3TUNIS	0.54
315126	1ROARAP2	1.51
315136	1ROSEMG1	5.34
315137	1ROSEMS1	3.32
315138	1ROSEMG2	2.5
315139	1GASTONA	6.5
315141	1GASTONB	6.5
900672	V4-068 E	0.2
907092	X1-038 E	2.81
917332	Z2-043 E	0.46
918492	AA1-063AE OP	3.79
918512	AA1-065 E OP	2.35
918562	AA1-072 E	0.08
919692	AA2-053 E	3.96
920042	AA2-088 E OP	7.33
920672	AA2-174 E	0.46
923801	AB2-015 C O1	4.38
923802	AB2-015 E O1	3.59
923911	AB2-031 C O1	2.65
923912	AB2-031 E O1	1.31
923991	AB2-040 C O1	1.34
923992	AB2-040 E O1	7.13
924401	AB2-089 C	1.12
924402	AB2-089 E	0.58
924501	AB2-099 C	0.36
924502	AB2-099 E	0.15
924511	AB2-100 C	25.84
924512	AB2-100 E	12.72
925171	AB2-174 C O1	8.32
925172	AB2-174 E O1	7.53
925781	AC1-054 C O1	4.33
925782	AC1-054 E O1	1.99
926071	AC1-086 C	47.7
926072	AC1-086 E	21.71
930861	AB1-132 C O1	4.97
930862	AB1-132 E O1	13.88

Bus #	Bus	MW Impact
931231	AB1-173 C	0.41
931232	AB1-173 E	1.25
931241	AB1-173AC	0.41
931242	AB1-173AE	1.25
934201	AD1-047 C	9.51
934202	AD1-047 E	6.34
934231	AD1-050 C	2.47
934232	AD1-050 E	1.35
934331	AD1-057 C O1	38.73
934332	AD1-057 E O1	20.66
936401	AD2-051 C O1	5.14
936402	AD2-051 E O1	2.21
936711	AD2-090 C O1	4.27
936712	AD2-090 E O1	2.84
937571	AD2-169 C	11.89
937572	AD2-169 E	7.92
938221	AE1-035 C	1.19
938222	AE1-035 E	0.59
938771	AE1-103 C O2	1.58
938772	AE1-103 E O2	2.18
939071	AE1-135 C O2	46.27
939072	AE1-135 E O2	30.85
BAYOU	BAYOU	1.13
BIG_CAJUN1	BIG_CAJUN1	1.79
BIG_CAJUN2	BIG_CAJUN2	3.59
BLUEG	BLUEG	3.41
CALDERWOOD	CALDERWOOD	0.66
CANNELTON	CANNELTON	0.23
CARR	CARR	0.0
CATAWBA	CATAWBA	0.63
CHEOAH	CHEOAH	0.62
CHILHOWEE	CHILHOWEE	0.21
CHOCTAW	CHOCTAW	1.21
COFFEEN	COFFEEN	0.39
COTTONWOOD	COTTONWOOD	4.44
DEARBORN	DEARBORN	0.45
DUCKCREEK	DUCKCREEK	0.81
EDWARDS	EDWARDS	0.36
ELMERSMITH	ELMERSMITH	0.4
FARMERCITY	FARMERCITY	0.28
G-007A	G-007A	0.11
GIBSON	GIBSON	0.15
HAMLET	HAMLET	2.55
NEWTON	NEWTON	1.02
O-066A	O-066A	0.05
PRAIRIE	PRAIRIE	2.12
RENSSELAER	RENSSELAER	0.0
SANTEETLA	SANTEETLA	0.18
SMITHLAND	SMITHLAND	0.19
TATANKA	TATANKA	0.48
TILTON	TILTON	0.43
TRIMBLE	TRIMBLE	0.37

Bus #	Bus	MW Impact
TVA	TVA	1.88
UNIONPOWER	UNIONPOWER	0.92
VFT	VFT	0.28

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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
364927	314299	6HARROWG	DVP	314263	6TYLER1	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	89.57	101.07	DC	62.16

Bus #	Bus	MW Impact
314539	3UNCAMP	1.22
314541	3WATKINS	0.38
314554	3BTLEBRO	0.5
314557	3BETHEL	0.48
314572	3EMPORIA	0.58
314574	6EVERETS	2.18
314578	3HORNRTN	2.96
314582	3KELFORD	2.27
314603	3SCOT NK	2.25
314617	3TUNIS	0.53
314620	6CASHIE	0.4
314623	3WITAKRS	0.88
314704	3LAWRENC	0.36
315126	1ROARAP2	1.17
315131	1EDGECEMA	5.88
315132	1EDGECEMB	5.88
315136	1ROSEMG1	2.16
315137	1ROSEMS1	1.34
315138	1ROSEMG2	1.01
315139	1GASTONA	3.2
315141	1GASTONB	3.2
315150	1BUGGS 1	5.21
315151	1BUGGS 2	5.21
900672	V4-068 E	0.19
907092	X1-038 E	3.04
917332	Z2-043 E	0.64
917342	Z2-044 E	0.38
917512	Z2-088 E OP1	2.17
918492	AA1-063AE OP	3.19
918512	AA1-065 E OP	2.44
918532	AA1-067 E	0.39
918562	AA1-072 E	0.11
919692	AA2-053 E	3.2
919701	AA2-057 C	4.86
919702	AA2-057 E	2.43
920042	AA2-088 E OP	6.77
920592	AA2-165 E	0.32
920672	AA2-174 E	0.37
923801	AB2-015 C O1	4.56
923802	AB2-015 E O1	3.74

Bus #	Bus	MW Impact
923851	AB2-025 C	0.89
923852	AB2-025 E	2.6
923911	AB2-031 C O1	2.72
923912	AB2-031 E O1	1.34
923941	AB2-035 C	0.2
923942	AB2-035 E	0.09
923991	AB2-040 C O1	1.37
923992	AB2-040 E O1	7.31
924022	AB2-043 E O1	2.58
924152	AB2-059 E O1	3.39
924162	AB2-060 E O1	2.1
924302	AB2-077 E O1	0.66
924312	AB2-078 E O1	0.66
924322	AB2-079 E O1	0.66
924391	AB2-088 C	0.26
924392	AB2-088 E	0.12
924401	AB2-089 C	1.32
924402	AB2-089 E	0.68
924491	AB2-098 C	0.3
924492	AB2-098 E	0.13
924501	AB2-099 C	0.36
924502	AB2-099 E	0.16
924511	AB2-100 C	19.93
924512	AB2-100 E	9.82
925061	AB2-161 C O1	3.56
925062	AB2-161 E O1	5.8
925122	AB2-169 E	2.71
925171	AB2-174 C O1	8.98
925172	AB2-174 E O1	8.13
925591	AC1-034 C	4.26
925592	AC1-034 E	3.22
925781	AC1-054 C O1	4.71
925782	AC1-054 E O1	2.17
926071	AC1-086 C	23.45
926072	AC1-086 E	10.67
926201	AC1-098 C	4.34
926202	AC1-098 E	2.58
926211	AC1-099 C	1.45
926212	AC1-099 E	0.85
927021	AC1-189 C	4.75
927022	AC1-189 E	2.37
927141	AC1-208 C	6.77
927142	AC1-208 E	3.01
930402	AB1-081 E O1	2.39
930861	AB1-132 C O1	2.44
930862	AB1-132 E O1	6.82
931231	AB1-173 C	0.42
931232	AB1-173 E	1.28
931241	AB1-173AC	0.42
931242	AB1-173AE	1.28
932581	AC2-078 C O1	6.56
932582	AC2-078 E O1	10.7

Bus #	Bus	MW Impact
932591	AC2-079 C O1	4.04
932592	AC2-079 E O1	6.59
932631	AC2-084 C	6.18
932632	AC2-084 E	3.05
933991	AD1-023 C	5.91
933992	AD1-023 E	3.22
934201	AD1-047 C	9.75
934202	AD1-047 E	6.5
934231	AD1-050 C	2.91
934232	AD1-050 E	1.59
934331	AD1-057 C O1	8.57
934332	AD1-057 E O1	4.57
934571	AD1-082 C	8.1
934572	AD1-082 E	4.62
935211	AD1-156 C	1.05
935212	AD1-156 E	4.58
936361	AD2-046 C O1	4.87
936362	AD2-046 E O1	2.24
936401	AD2-051 C O1	5.39
936402	AD2-051 E O1	2.31
936481	AD2-063 C O1	6.87
936482	AD2-063 E O1	4.58
936531	AD2-068 C	2.4
936532	AD2-068 E	1.23
936661	AD2-085 C	2.49
936662	AD2-085 E	4.07
936701	AD2-089 C	4.3
936702	AD2-089 E	2.87
936711	AD2-090 C O1	4.17
936712	AD2-090 E O1	2.78
937571	AD2-169 C	11.49
937572	AD2-169 E	7.66
938171	AE1-026 C1 O	13.13
938172	AE1-026 C2 O	1.9
938173	AE1-026 E O2	3.96
938221	AE1-035 C	1.24
938222	AE1-035 E	0.61
938631	AE1-085 C O2	17.01
938632	AE1-085 E O2	11.34
938661	AE1-088	0.82
938771	AE1-103 C O2	1.76
938772	AE1-103 E O2	2.43
938841	AE1-109AC O2	8.59
938842	AE1-109AE O2	5.72
939071	AE1-135 C O2	37.3
939072	AE1-135 E O2	24.86
939181	AE1-148 C O2	4.79
939182	AE1-148 E O2	3.19
939191	AE1-149 C O2	18.91
939192	AE1-149 E O2	12.6
940061	AE1-248 C O2	17.01
940062	AE1-248 E O2	11.34

Bus #	Bus	MW Impact
AA2-074	AA2-074	1.64
CARR	CARR	0.16
CBM-S1	CBM-S1	3.83
CBM-S2	CBM-S2	4.45
CBM-W1	CBM-W1	3.86
CBM-W2	CBM-W2	25.16
CIN	CIN	1.75
CPLE	CPLE	2.41
G-007	G-007	0.54
IPL	IPL	1.09
LGEE	LGEE	0.51
MEC	MEC	3.87
MECS	MECS	1.65
O-066	O-066	1.81
RENSSELAER	RENSSELAER	0.12
WEC	WEC	0.47

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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
365004	314316	6LOCKS	DVP	314301	6HARR205	DVP	1	DVP_P4-2:562T563	breaker	541.0	89.23	93.96	DC	25.6

Bus #	Bus	MW Impact
314314	3LOCKS	0.39
314541	3WATKINS	0.2
314554	3BTLEBRO	0.32
314557	3BETHEL	0.31
314572	3EMPORIA	0.26
314574	6EVERETS	1.43
314578	3HORNRTN	1.52
314582	3KELFORD	1.3
314603	3SCOT NK	1.29
314617	3TUNIS	0.3
314620	6CASHIE	0.25
314623	3WITAKRS	0.55
315131	1EDGECEMA	3.75
315132	1EDGECEMB	3.75
315150	1BUGGS 1	4.05
315151	1BUGGS 2	4.05
900672	V4-068 E	0.1
916302	Z1-086 E	4.11
917332	Z2-043 E	0.37
917342	Z2-044 E	0.23
917512	Z2-088 E OP1	1.41
918492	AA1-063AE OP	1.68
918512	AA1-065 E OP	1.46
918532	AA1-067 E	0.25
918562	AA1-072 E	0.06
919692	AA2-053 E	1.65
919701	AA2-057 C	2.91
919702	AA2-057 E	1.46
920042	AA2-088 E OP	3.58
920592	AA2-165 E	0.19
920672	AA2-174 E	0.19
923851	AB2-025 C	0.34
923852	AB2-025 E	1.01
923911	AB2-031 C O1	1.26
923912	AB2-031 E O1	0.62
923941	AB2-035 C	0.13
923942	AB2-035 E	0.06
923992	AB2-040 E O1	3.38
924022	AB2-043 E O1	1.83
924152	AB2-059 E O1	2.18

Bus #	Bus	MW Impact
924162	AB2-060 E O1	1.5
924302	AB2-077 E O1	0.47
924312	AB2-078 E O1	0.47
924322	AB2-079 E O1	0.47
924391	AB2-088 C	0.17
924392	AB2-088 E	0.08
924401	AB2-089 C	0.85
924402	AB2-089 E	0.44
924491	AB2-098 C	0.2
924492	AB2-098 E	0.08
924501	AB2-099 C	0.21
924502	AB2-099 E	0.09
924511	AB2-100 C	8.29
924512	AB2-100 E	4.08
925051	AB2-160 C O1	7.97
925052	AB2-160 E O1	13.0
925122	AB2-169 E	1.78
925171	AB2-174 C O1	4.09
925172	AB2-174 E O1	3.7
925591	AC1-034 C	2.74
925592	AC1-034 E	2.07
925612	AC1-036 E	0.47
925781	AC1-054 C O1	2.92
925782	AC1-054 E O1	1.34
925821	AC1-061	0.01
926071	AC1-086 C	11.07
926072	AC1-086 E	5.04
926201	AC1-098 C	2.49
926202	AC1-098 E	1.48
926211	AC1-099 C	0.83
926212	AC1-099 E	0.49
926271	AC1-105 C O1	1.86
926272	AC1-105 E O1	0.93
927021	AC1-189 C	3.08
927022	AC1-189 E	1.54
927141	AC1-208 C	3.81
927142	AC1-208 E	1.69
927251	AC1-221 C	0.73
927252	AC1-221 E	0.73
927261	AC1-222 C	1.16
927262	AC1-222 E	1.11
930402	AB1-081 E O1	1.54
930862	AB1-132 E O1	3.22
931232	AB1-173 E	0.59
931242	AB1-173AE	0.59
932581	AC2-078 C O1	1.33
932582	AC2-078 E O1	2.17
932631	AC2-084 C	3.54
932632	AC2-084 E	1.75
932761	AC2-100 C	1.69
932762	AC2-100 E	0.82
934201	AD1-047 C	4.5

Bus #	Bus	MW Impact
934202	AD1-047 E	3.0
934231	AD1-050 C	1.87
934232	AD1-050 E	1.02
934311	AD1-055 C	0.81
934312	AD1-055 E	0.21
934331	AD1-057 C O1	4.63
934332	AD1-057 E O1	2.47
934341	AD1-058 C	1.84
934342	AD1-058 E	0.47
934611	AD1-087 C O1	2.89
934612	AD1-087 E O1	1.36
934621	AD1-088 C	3.8
934622	AD1-088 E	1.78
934991	AD1-131 C	0.6
934992	AD1-131 E	0.4
935171	AD1-152 C O1	2.87
935172	AD1-152 E O1	1.91
935212	AD1-156 E	0.47
936261	AD2-033 C	4.06
936262	AD2-033 E	2.7
936331	AD2-043 C	1.51
936332	AD2-043 E	1.79
936361	AD2-046 C O1	3.35
936362	AD2-046 E O1	1.54
936401	AD2-051 C O1	3.1
936402	AD2-051 E O1	1.33
936481	AD2-063 C O1	5.01
936482	AD2-063 E O1	3.34
936531	AD2-068 C	1.81
936532	AD2-068 E	0.93
936701	AD2-089 C	2.76
936702	AD2-089 E	1.84
936711	AD2-090 C O1	2.22
936712	AD2-090 E O1	1.48
937481	AD2-202 C O1	0.8
937482	AD2-202 E O1	0.4
937571	AD2-169 C	5.4
937572	AD2-169 E	3.6
938171	AE1-026 C1 O	8.3
938172	AE1-026 C2 O	1.2
938173	AE1-026 E O2	2.51
938221	AE1-035 C	0.74
938222	AE1-035 E	0.37
938491	AE1-068 C O2	25.95
938492	AE1-068 E O2	14.34
938501	AE1-069 C O2	20.6
938502	AE1-069 E O2	11.78
938631	AE1-085 C O2	3.5
938632	AE1-085 E O2	2.33
938661	AE1-088	0.54
939071	AE1-135 C O2	15.36
939072	AE1-135 E O2	10.24

Bus #	Bus	MW Impact
939181	AE1-148 C O2	3.3
939182	AE1-148 E O2	2.2
939191	AE1-149 C O2	3.69
939192	AE1-149 E O2	2.46
939411	AE1-173 C	29.86
939412	AE1-173 E	19.91
940071	AE1-249 C	10.51
940072	AE1-249 E	7.83
AA2-074	AA2-074	2.08
CARR	CARR	0.24
CBM-S1	CBM-S1	5.3
CBM-S2	CBM-S2	5.98
CBM-W1	CBM-W1	5.3
CBM-W2	CBM-W2	34.73
CIN	CIN	2.4
CPLE	CPLE	3.06
G-007	G-007	0.82
IPL	IPL	1.51
LGEE	LGEE	0.7
MEC	MEC	5.34
MECS	MECS	2.23
O-066	O-066	2.72
RENSSELAER	RENSSELAER	0.19
WEC	WEC	0.64

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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
364925	314331	6POE	DVP	314299	6HARROWG	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	89.59	101.09	DC	62.16

Bus #	Bus	MW Impact
314539	3UNCAMP	1.22
314541	3WATKINS	0.38
314554	3BTLEBRO	0.5
314557	3BETHEL	0.48
314572	3EMPORIA	0.58
314574	6EVERETS	2.18
314578	3HORNRTN	2.96
314582	3KELFORD	2.27
314603	3SCOT NK	2.25
314617	3TUNIS	0.53
314620	6CASHIE	0.4
314623	3WITAKRS	0.88
314704	3LAWRENC	0.36
315126	1ROARAP2	1.17
315131	1EDGECEMA	5.88
315132	1EDGECEMB	5.88
315136	1ROSEMG1	2.16
315137	1ROSEMS1	1.34
315138	1ROSEMG2	1.01
315139	1GASTONA	3.2
315141	1GASTONB	3.2
315150	1BUGGS 1	5.21
315151	1BUGGS 2	5.21
900672	V4-068 E	0.19
907092	X1-038 E	3.04
917332	Z2-043 E	0.64
917342	Z2-044 E	0.38
917512	Z2-088 E OP1	2.17
918492	AA1-063AE OP	3.19
918512	AA1-065 E OP	2.44
918532	AA1-067 E	0.39
918562	AA1-072 E	0.11
919692	AA2-053 E	3.2
919701	AA2-057 C	4.86
919702	AA2-057 E	2.43
920042	AA2-088 E OP	6.77
920592	AA2-165 E	0.32
920672	AA2-174 E	0.37
923801	AB2-015 C O1	4.56
923802	AB2-015 E O1	3.74

Bus #	Bus	MW Impact
923851	AB2-025 C	0.89
923852	AB2-025 E	2.6
923911	AB2-031 C O1	2.72
923912	AB2-031 E O1	1.34
923941	AB2-035 C	0.2
923942	AB2-035 E	0.09
923991	AB2-040 C O1	1.37
923992	AB2-040 E O1	7.31
924022	AB2-043 E O1	2.58
924152	AB2-059 E O1	3.39
924162	AB2-060 E O1	2.1
924302	AB2-077 E O1	0.66
924312	AB2-078 E O1	0.66
924322	AB2-079 E O1	0.66
924391	AB2-088 C	0.26
924392	AB2-088 E	0.12
924401	AB2-089 C	1.32
924402	AB2-089 E	0.68
924491	AB2-098 C	0.3
924492	AB2-098 E	0.13
924501	AB2-099 C	0.36
924502	AB2-099 E	0.16
924511	AB2-100 C	19.93
924512	AB2-100 E	9.82
925061	AB2-161 C O1	3.56
925062	AB2-161 E O1	5.8
925122	AB2-169 E	2.71
925171	AB2-174 C O1	8.98
925172	AB2-174 E O1	8.13
925591	AC1-034 C	4.26
925592	AC1-034 E	3.22
925781	AC1-054 C O1	4.71
925782	AC1-054 E O1	2.17
926071	AC1-086 C	23.45
926072	AC1-086 E	10.67
926201	AC1-098 C	4.34
926202	AC1-098 E	2.58
926211	AC1-099 C	1.45
926212	AC1-099 E	0.85
927021	AC1-189 C	4.75
927022	AC1-189 E	2.37
927141	AC1-208 C	6.77
927142	AC1-208 E	3.01
930402	AB1-081 E O1	2.39
930861	AB1-132 C O1	2.44
930862	AB1-132 E O1	6.82
931231	AB1-173 C	0.42
931232	AB1-173 E	1.28
931241	AB1-173AC	0.42
931242	AB1-173AE	1.28
932581	AC2-078 C O1	6.56
932582	AC2-078 E O1	10.7

Bus #	Bus	MW Impact
932591	AC2-079 C O1	4.04
932592	AC2-079 E O1	6.59
932631	AC2-084 C	6.18
932632	AC2-084 E	3.05
933991	AD1-023 C	5.91
933992	AD1-023 E	3.22
934201	AD1-047 C	9.75
934202	AD1-047 E	6.5
934231	AD1-050 C	2.91
934232	AD1-050 E	1.59
934331	AD1-057 C O1	8.57
934332	AD1-057 E O1	4.57
934571	AD1-082 C	8.1
934572	AD1-082 E	4.62
935211	AD1-156 C	1.05
935212	AD1-156 E	4.58
936361	AD2-046 C O1	4.87
936362	AD2-046 E O1	2.24
936401	AD2-051 C O1	5.39
936402	AD2-051 E O1	2.31
936481	AD2-063 C O1	6.87
936482	AD2-063 E O1	4.58
936531	AD2-068 C	2.4
936532	AD2-068 E	1.23
936661	AD2-085 C	2.49
936662	AD2-085 E	4.07
936701	AD2-089 C	4.3
936702	AD2-089 E	2.87
936711	AD2-090 C O1	4.17
936712	AD2-090 E O1	2.78
937571	AD2-169 C	11.49
937572	AD2-169 E	7.66
938171	AE1-026 C1 O	13.13
938172	AE1-026 C2 O	1.9
938173	AE1-026 E O2	3.96
938221	AE1-035 C	1.24
938222	AE1-035 E	0.61
938631	AE1-085 C O2	17.01
938632	AE1-085 E O2	11.34
938661	AE1-088	0.82
938771	AE1-103 C O2	1.76
938772	AE1-103 E O2	2.43
938841	AE1-109AC O2	8.59
938842	AE1-109AE O2	5.72
939071	AE1-135 C O2	37.3
939072	AE1-135 E O2	24.86
939181	AE1-148 C O2	4.79
939182	AE1-148 E O2	3.19
939191	AE1-149 C O2	18.91
939192	AE1-149 E O2	12.6
940061	AE1-248 C O2	17.01
940062	AE1-248 E O2	11.34

Bus #	Bus	MW Impact
AA2-074	AA2-074	1.64
CARR	CARR	0.16
CBM-S1	CBM-S1	3.83
CBM-S2	CBM-S2	4.45
CBM-W1	CBM-W1	3.86
CBM-W2	CBM-W2	25.16
CIN	CIN	1.75
CPLE	CPLE	2.41
G-007	G-007	0.54
IPL	IPL	1.09
LGEE	LGEE	0.51
MEC	MEC	3.87
MECS	MECS	1.65
O-066	O-066	1.81
RENSSELAER	RENSSELAER	0.12
WEC	WEC	0.47

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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
690549	242631	05EDAN 1	AEP	242620	05DANVL2	AEP	1	AEP_P4_#11111_05J.FERR 765_B1	breaker	402.0	147.27	148.41	DC	10.21

Bus #	Bus	MW Impact
314554	3BTLEBRO	0.36
314557	3BETHEL	0.34
314572	3EMPORIA	0.14
314574	6EVERETS	1.59
314578	3HORNRTN	1.21
314582	3KELFORD	1.26
314594	6PLYMOTH	0.26
314603	3SCOT NK	1.24
314617	3TUNIS	0.28
314620	6CASHIE	0.27
314623	3WITAKRS	0.59
315131	1EDGECEMA	4.19
315132	1EDGECEMB	4.19
315150	1BUGGS 1	4.7
315151	1BUGGS 2	4.7
900672	V4-068 E	0.1
917332	Z2-043 E	0.36
917342	Z2-044 E	0.25
917512	Z2-088 E OP1	1.57
918492	AA1-063AE OP	1.41
918512	AA1-065 E OP	1.48
918532	AA1-067 E	0.28
918562	AA1-072 E	0.06
919692	AA2-053 E	1.33
919701	AA2-057 C	3.0
919702	AA2-057 E	1.5
920042	AA2-088 E OP	3.27
920592	AA2-165 E	0.2
920672	AA2-174 E	0.15
923911	AB2-031 C O1	0.76
923912	AB2-031 E O1	0.38
923941	AB2-035 C	0.14
923942	AB2-035 E	0.06
923992	AB2-040 E O1	2.05
924022	AB2-043 E O1	1.97
924152	AB2-059 E O1	2.46
924162	AB2-060 E O1	1.62
924302	AB2-077 E O1	0.51
924312	AB2-078 E O1	0.51
924322	AB2-079 E O1	0.51
924391	AB2-088 C	0.19

Bus #	Bus	MW Impact
924392	AB2-088 E	0.09
924401	AB2-089 C	0.91
924402	AB2-089 E	0.47
924491	AB2-098 C	0.22
924492	AB2-098 E	0.09
924501	AB2-099 C	0.2
924502	AB2-099 E	0.08
924511	AB2-100 C	3.48
924512	AB2-100 E	1.71
925122	AB2-169 E	2.0
925171	AB2-174 C O1	2.37
925172	AB2-174 E O1	2.14
925591	AC1-034 C	3.09
925592	AC1-034 E	2.33
925612	AC1-036 E	0.53
925781	AC1-054 C O1	3.01
925782	AC1-054 E O1	1.39
925991	AC1-075 C	1.94
925992	AC1-075 E	1.1
926021	AC1-080 C	0.65
926022	AC1-080 E	0.36
926051	AC1-083 C O1	4.16
926052	AC1-083 E O1	6.79
926071	AC1-086 C	7.24
926072	AC1-086 E	3.3
926201	AC1-098 C	2.39
926202	AC1-098 E	1.43
926211	AC1-099 C	0.8
926212	AC1-099 E	0.47
926271	AC1-105 C O1	2.37
926272	AC1-105 E O1	1.18
927021	AC1-189 C	3.44
927022	AC1-189 E	1.72
927141	AC1-208 C	3.58
927142	AC1-208 E	1.59
927251	AC1-221 C	1.58
927252	AC1-221 E	1.58
927261	AC1-222 C	1.53
927262	AC1-222 E	1.45
930402	AB1-081 E O1	1.73
930862	AB1-132 E O1	2.11
931232	AB1-173 E	0.36
931242	AB1-173AE	0.36
932631	AC2-084 C	3.41
932632	AC2-084 E	1.68
932761	AC2-100 C	3.64
932762	AC2-100 E	1.78
932821	AC2-107 C	3.45
932822	AC2-107 E	1.62
933941	AD1-017 C	0.83
933942	AD1-017 E	1.36
933991	AD1-023 C	4.15

Bus #	Bus	MW Impact
933992	AD1-023 E	2.26
934201	AD1-047 C	2.74
934202	AD1-047 E	1.82
934231	AD1-050 C	2.0
934232	AD1-050 E	1.09
934311	AD1-055 C	1.06
934312	AD1-055 E	0.27
934331	AD1-057 C O1	4.06
934332	AD1-057 E O1	2.17
934341	AD1-058 C	3.97
934342	AD1-058 E	1.01
934521	AD1-076 C	16.81
934522	AD1-076 E	8.56
934611	AD1-087 C O1	3.35
934612	AD1-087 E O1	1.57
934621	AD1-088 C	3.96
934622	AD1-088 E	1.86
934991	AD1-131 C	1.3
934992	AD1-131 E	0.87
935171	AD1-152 C O1	3.33
935172	AD1-152 E O1	2.22
936161	AD2-022 C O1	10.74
936162	AD2-022 E O1	6.44
936171	AD2-023 C O1	6.17
936172	AD2-023 E O1	3.35
936261	AD2-033 C	4.57
936262	AD2-033 E	3.05
936331	AD2-043 C	1.98
936332	AD2-043 E	2.35
936361	AD2-046 C O1	3.8
936362	AD2-046 E O1	1.75
936401	AD2-051 C O1	2.99
936402	AD2-051 E O1	1.28
936481	AD2-063 C O1	5.51
936482	AD2-063 E O1	3.67
936531	AD2-068 C	2.29
936532	AD2-068 E	1.18
936701	AD2-089 C	3.09
936702	AD2-089 E	2.06
937481	AD2-202 C O1	0.92
937482	AD2-202 E O1	0.46
937571	AD2-169 C	3.46
937572	AD2-169 E	2.31
938171	AE1-026 C1 O	8.95
938172	AE1-026 C2 O	1.29
938173	AE1-026 E O2	2.7
938221	AE1-035 C	0.75
938222	AE1-035 E	0.37
938661	AE1-088	0.61
939071	AE1-135 C O2	6.13
939072	AE1-135 E O2	4.09
939181	AE1-148 C O2	3.73

Bus #	Bus	MW Impact
939182	AE1-148 E O2	2.49
939371	AE1-168 C	4.85
939372	AE1-168 E	3.23
940081	AE1-250 C	14.47
940082	AE1-250 E	9.65
AA2-074	AA2-074	3.77
BLUEG	BLUEG	5.87
CANNELTON	CANNELTON	0.24
CBM-N	CBM-N	0.09
CBM-S1	CBM-S1	1.23
CBM-S2	CBM-S2	10.3
CBM-W2	CBM-W2	3.58
COFFEEN	COFFEEN	0.37
CPL	CPL	5.54
DEARBORN	DEARBORN	0.99
DUCKCREEK	DUCKCREEK	0.94
EDWARDS	EDWARDS	0.46
ELMERSMITH	ELMERSMITH	0.37
FARMERCITY	FARMERCITY	0.13
G-007A	G-007A	0.7
GIBSON	GIBSON	0.2
NEWTON	NEWTON	1.03
NYISO	NYISO	0.4
O-066A	O-066A	0.32
PRAIRIE	PRAIRIE	0.9
SMITHLAND	SMITHLAND	0.0
TATANKA	TATANKA	0.35
TILTON	TILTON	0.62
TRIMBLE	TRIMBLE	0.67
VFT	VFT	1.84

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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
366499	313844	3HATHAWAY	DVP	314554	3BTLEBRO	DVP	1	DVP_P7-1: LN 2058-2181	tower	301.0	103.19	105.02	DC	12.11

Bus #	Bus	MW Impact
314557	3BETHEL C	1.09
314574	6EVERETS	1.88
315131	1EDGE CMA	17.55
315132	1EDGE CMB	17.55
315136	1ROSEMG1	1.58
315137	1ROSEMS1	0.98
315138	1ROSEMG2	0.74
315139	1GASTONA	1.77
315141	1GASTONB	1.77
917511	Z2-088 C OP1	1.25
917512	Z2-088 E OP1	3.5
918532	AA1-067 E	0.33
923941	AB2-035 C	0.46
923942	AB2-035 E	0.2
924151	AB2-059 C O1	5.03
924152	AB2-059 E O1	16.89
924391	AB2-088 C	0.59
924392	AB2-088 E	0.28
924491	AB2-098 C	0.26
924492	AB2-098 E	0.11
924511	AB2-100 C	4.39
924512	AB2-100 E	2.16
925122	AB2-169 E	2.09
925591	AC1-034 C	21.24
925592	AC1-034 E	16.02
926071	AC1-086 C	12.98
926072	AC1-086 E	5.91
927021	AC1-189 C	6.54
927022	AC1-189 E	3.26
930401	AB1-081 C O1	4.27
930402	AB1-081 E O1	11.92
930861	AB1-132 C O1	1.35
930862	AB1-132 E O1	3.78
934331	AD1-057 C O1	13.29
934332	AD1-057 E O1	7.09
936701	AD2-089 C	9.82
936702	AD2-089 E	6.55
938661	AE1-088	0.63
939071	AE1-135 C O2	7.27
939072	AE1-135 E O2	4.84

Bus #	Bus	MW Impact
BAYOU	BAYOU	0.98
BIG_CAJUN1	BIG_CAJUN1	1.55
BIG_CAJUN2	BIG_CAJUN2	3.11
BLUEG	BLUEG	2.9
CALDERWOOD	CALDERWOOD	0.58
CANNELTON	CANNELTON	0.2
CATAWBA	CATAWBA	0.56
CBM-N	CBM-N	0.05
CHEOAH	CHEOAH	0.54
CHILHOWEE	CHILHOWEE	0.19
CHOCTAW	CHOCTAW	1.05
COFFEEN	COFFEEN	0.34
COTTONWOOD	COTTONWOOD	3.84
DEARBORN	DEARBORN	0.37
DUCKCREEK	DUCKCREEK	0.69
EDWARDS	EDWARDS	0.31
ELMERSMITH	ELMERSMITH	0.35
FARMERCITY	FARMERCITY	0.24
G-007A	G-007A	0.27
GIBSON	GIBSON	0.12
HAMLET	HAMLET	2.22
NEWTON	NEWTON	0.87
NYISO	NYISO	0.2
O-066A	O-066A	0.12
PRAIRIE	PRAIRIE	1.82
SANTEETLA	SANTEETLA	0.16
SMITHLAND	SMITHLAND	0.16
TATANKA	TATANKA	0.41
TILTON	TILTON	0.37
TRIMBLE	TRIMBLE	0.32
TVA	TVA	1.63
UNIONPOWER	UNIONPOWER	0.8
VFT	VFT	0.72

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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
365512	313845	6HATHAWAY	DVP	304222	6ROCKYMT230T	CPL	1	DVP_P1-2: LN 2181	single	374.0	123.72	127.5	DC	14.13

Bus #	Bus	MW Impact
314589	3MURPHYS	0.05
314704	3LAWRENC	0.16
315115	1S HAMPT1	0.68
315126	1ROARAP2	1.01
315128	1ROARAP4	0.98
315131	1EDGECEMA	24.76
315132	1EDGECEMB	24.76
315136	1ROSEMG1	2.65
315137	1ROSEMS1	1.64
315138	1ROSEMG2	1.24
315139	1GASTONA	3.17
315141	1GASTONB	3.17
315292	1DOMTR78	0.74
315293	1DOMTR9	0.6
315294	1DOMTR10	1.09
901081	W1-029 C	0.31
916041	Z1-036 C	0.37
917331	Z2-043 C	0.28
917341	Z2-044 C	0.25
917511	Z2-088 C OP1	1.84
918491	AA1-063AC OP	0.99
918511	AA1-065 C OP	0.91
918531	AA1-067 C	0.19
918561	AA1-072 C	0.04
919691	AA2-053 C	1.04
919701	AA2-057 C	8.14
920041	AA2-088 C OP	0.57
920591	AA2-165 C	0.17
920671	AA2-174 C	0.05
920691	AA2-178 C	0.68
923801	AB2-015 C O1	3.95
923851	AB2-025 C	0.15
923911	AB2-031 C O1	1.61
923941	AB2-035 C	0.66
923991	AB2-040 C O1	0.81
924151	AB2-059 C O1	2.59
924391	AB2-088 C	0.84
924401	AB2-089 C	0.73
924491	AB2-098 C	0.41
924501	AB2-099 C	0.4

Bus #	Bus	MW Impact
924511	AB2-100 C	8.41
925121	AB2-169 C	0.61
925171	AB2-174 C O1	4.94
925281	AB2-186 C	0.2
925291	AB2-188 C O1	1.09
925591	AC1-034 C	10.94
925781	AC1-054 C O1	2.83
926071	AC1-086 C	23.26
926201	AC1-098 C	5.92
926211	AC1-099 C	1.98
927021	AC1-189 C	9.73
927141	AC1-208 C	9.06
930401	AB1-081 C O1	2.2
930861	AB1-132 C O1	2.42
931231	AB1-173 C	0.25
931241	AB1-173AC	0.25
932631	AC2-084 C	8.44
933991	AD1-023 C	7.4
934201	AD1-047 C	5.77
934231	AD1-050 C	1.61
934331	AD1-057 C O1	19.81
934521	AD1-076 C	28.8
936401	AD2-051 C O1	6.14
936701	AD2-089 C	14.05
936711	AD2-090 C O1	3.7
937571	AD2-169 C	7.4
938171	AE1-026 C1 O	16.3
938172	AE1-026 C2 O	2.36
938221	AE1-035 C	1.49
938661	AE1-088	2.05
938771	AE1-103 C O2	1.49
939071	AE1-135 C O2	14.13
BAYOU	BAYOU	2.03
BIG_CAJUN1	BIG_CAJUN1	3.2
BIG_CAJUN2	BIG_CAJUN2	6.43
BLUEG	BLUEG	5.9
CALDERWOOD	CALDERWOOD	1.2
CANNELTON	CANNELTON	0.4
CATAWBA	CATAWBA	1.16
CBM-N	CBM-N	0.13
CHEOAH	CHEOAH	1.12
CHILHOWEE	CHILHOWEE	0.39
CHOCTAW	CHOCTAW	2.17
COFFEEN	COFFEEN	0.69
COTTONWOOD	COTTONWOOD	7.93
DEARBORN	DEARBORN	0.74
DUCKCREEK	DUCKCREEK	1.41
EDWARDS	EDWARDS	0.63
ELMERSMITH	ELMERSMITH	0.71
FARMERCITY	FARMERCITY	0.49
G-007A	G-007A	0.66
GIBSON	GIBSON	0.25

Bus #	Bus	MW Impact
HAMLET	HAMLET	4.61
NEWTON	NEWTON	1.78
NYISO	NYISO	0.55
O-066A	O-066A	0.3
PRAIRIE	PRAIRIE	3.72
SANTEETLA	SANTEETLA	0.33
SMITHLAND	SMITHLAND	0.33
TATANKA	TATANKA	0.84
TILTON	TILTON	0.74
TRIMBLE	TRIMBLE	0.65
TVA	TVA	3.36
UNIONPOWER	UNIONPOWER	1.66
VFT	VFT	1.74

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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
365745	313845	6HATHAWAY	DVP	314591	6NASH	DVP	1	DVP_P1-2: LN 2058	single	449.32	111.71	114.92	DC	14.41

Bus #	Bus	MW Impact
314589	3MURPHYS	0.05
314704	3LAWRENC	0.16
315115	1S HAMPT1	0.69
315126	1ROARAP2	1.04
315128	1ROARAP4	1.0
315131	1EDGECEMA	25.25
315132	1EDGECEMB	25.25
315136	1ROSEMG1	2.7
315137	1ROSEMS1	1.68
315138	1ROSEMG2	1.26
315139	1GASTONA	3.23
315141	1GASTONB	3.23
315292	1DOMTR78	0.75
315293	1DOMTR9	0.61
315294	1DOMTR10	1.11
901081	W1-029 C	0.31
916041	Z1-036 C	0.38
917331	Z2-043 C	0.29
917341	Z2-044 C	0.26
917511	Z2-088 C OP1	1.88
918491	AA1-063AC OP	1.01
918511	AA1-065 C OP	0.93
918531	AA1-067 C	0.19
918561	AA1-072 C	0.04
919691	AA2-053 C	1.06
919701	AA2-057 C	8.3
920041	AA2-088 C OP	0.59
920591	AA2-165 C	0.17
920671	AA2-174 C	0.05
920691	AA2-178 C	0.69
923801	AB2-015 C O1	4.03
923851	AB2-025 C	0.16
923911	AB2-031 C O1	1.64
923941	AB2-035 C	0.67
923991	AB2-040 C O1	0.83
924151	AB2-059 C O1	2.64
924391	AB2-088 C	0.86
924401	AB2-089 C	0.74
924491	AB2-098 C	0.41
924501	AB2-099 C	0.41

Bus #	Bus	MW Impact
924511	AB2-100 C	8.57
925121	AB2-169 C	0.62
925171	AB2-174 C O1	5.03
925281	AB2-186 C	0.2
925291	AB2-188 C O1	1.12
925591	AC1-034 C	11.15
925781	AC1-054 C O1	2.89
926071	AC1-086 C	23.72
926201	AC1-098 C	6.04
926211	AC1-099 C	2.02
927021	AC1-189 C	9.92
927141	AC1-208 C	9.24
930401	AB1-081 C O1	2.24
930861	AB1-132 C O1	2.47
931231	AB1-173 C	0.25
931241	AB1-173AC	0.25
932631	AC2-084 C	8.61
933991	AD1-023 C	7.55
934201	AD1-047 C	5.89
934231	AD1-050 C	1.64
934331	AD1-057 C O1	20.21
934521	AD1-076 C	29.37
936401	AD2-051 C O1	6.27
936701	AD2-089 C	14.33
936711	AD2-090 C O1	3.77
937571	AD2-169 C	7.55
938171	AE1-026 C1 O	16.63
938172	AE1-026 C2 O	2.41
938221	AE1-035 C	1.52
938661	AE1-088	2.09
938771	AE1-103 C O2	1.52
939071	AE1-135 C O2	14.41
BAYOU	BAYOU	2.07
BIG_CAJUN1	BIG_CAJUN1	3.26
BIG_CAJUN2	BIG_CAJUN2	6.56
BLUEG	BLUEG	6.02
CALDERWOOD	CALDERWOOD	1.22
CANNELTON	CANNELTON	0.41
CATAWBA	CATAWBA	1.19
CBM-N	CBM-N	0.13
CHEOAH	CHEOAH	1.14
CHILHOWEE	CHILHOWEE	0.4
CHOCTAW	CHOCTAW	2.22
COFFEEN	COFFEEN	0.7
COTTONWOOD	COTTONWOOD	8.09
DEARBORN	DEARBORN	0.76
DUCKCREEK	DUCKCREEK	1.44
EDWARDS	EDWARDS	0.64
ELMERSMITH	ELMERSMITH	0.72
FARMERCITY	FARMERCITY	0.5
G-007A	G-007A	0.67
GIBSON	GIBSON	0.26

Bus #	Bus	MW Impact
HAMLET	HAMLET	4.7
NEWTON	NEWTON	1.82
NYISO	NYISO	0.56
O-066A	O-066A	0.31
PRAIRIE	PRAIRIE	3.8
SANTEETLA	SANTEETLA	0.34
SMITHLAND	SMITHLAND	0.34
TATANKA	TATANKA	0.85
TILTON	TILTON	0.76
TRIMBLE	TRIMBLE	0.66
TVA	TVA	3.43
UNIONPOWER	UNIONPOWER	1.7
VFT	VFT	1.77

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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
364517	314218	6ELMONT	DVP	314908	8ELMONT	DVP	1	DVP_P4-2: H2T557	breaker	1050.6	146.46	147.81	DC	31.2

Bus #	Bus	MW Impact
314189	6PAPERMILL	8.74
314229	6MT RD221	0.22
314236	6NRTHEST	0.29
314250	6ROCKVILLE	0.49
314539	3UNCAMP	2.16
314541	3WATKINS	0.61
314648	6SUNBURY	0.8
314651	6WINFALL	1.57
315043	1FOUR RIVERA	5.34
315044	1FOUR RIVERB	4.14
315045	1FOUR RIVERC	5.34
315046	1FOUR RIVERD	4.14
315047	1FOUR RIVERE	4.14
315048	1FOUR RIVERF	5.34
315053	1BELMED1	25.3
315054	1BELMED2	25.3
315055	1BELMED3	20.99
315058	1CHESTF3	26.86
315059	1CHESTF4	43.54
315067	1DARBY 1	3.87
315068	1DARBY 2	3.88
315069	1DARBY 3	3.89
315070	1DARBY 4	3.89
315073	1STONECA	9.29
315074	1HOPCGN1	11.21
315075	1HOPCGN2	11.06
315083	1SPRUNCA	14.79
315084	1SPRUNCB	14.79
315085	1SPRUNCC	10.97
315086	1SPRUNCD	10.97
315090	1YORKTN1	30.65
315091	1YORKTN2	31.8
901082	W1-029 E	41.27
907092	X1-038 E	5.41
913392	Y1-086 E	1.98
916042	Z1-036 E	40.26
916192	Z1-068 E	1.74
917122	Z2-027 E	0.95
919152	AA1-139 E	5.85
919211	AA1-145	15.45

Bus #	Bus	MW Impact
923801	AB2-015 C O1	7.64
923802	AB2-015 E O1	6.26
923832	AB2-022 E	1.12
923842	AB2-024 E	1.47
923852	AB2-025 E	1.07
924061	AB2-050	0.91
924241	AB2-068 O1	176.08
924511	AB2-100 C	10.32
924512	AB2-100 E	5.08
924812	AB2-134 E O1	14.72
925051	AB2-160 C O1	7.08
925052	AB2-160 E O1	11.56
925061	AB2-161 C O1	3.58
925062	AB2-161 E O1	5.85
925281	AB2-186 C	0.55
925282	AB2-186 E	0.23
925331	AB2-190 C	24.56
925332	AB2-190 E	10.53
925522	AC1-027 E	1.06
925861	AC1-065 C	4.33
925862	AC1-065 E	7.07
926291	AC1-107 O1	265.78
926411	AC1-112 C	0.53
926412	AC1-112 E	1.92
926472	AC1-118 E	1.06
926551	AC1-134	2.27
926662	AC1-147 E	1.24
926751	AC1-161 C O1	26.86
926752	AC1-161 E O1	11.47
926781	AC1-164 C	57.99
926782	AC1-164 E	26.05
927041	AC1-191 C O1	17.44
927042	AC1-191 E O1	8.69
927221	AC1-216 C O1	11.83
927222	AC1-216 E O1	9.3
930121	AB1-027 C	0.68
930122	AB1-027 E	1.89
932041	AC2-012 C	9.52
932042	AC2-012 E	15.53
932501	AC2-070 C	0.44
932502	AC2-070 E	1.2
932532	AC2-073 E	1.54
932581	AC2-078 C O1	4.69
932582	AC2-078 E O1	7.66
932591	AC2-079 C O1	5.75
932592	AC2-079 E O1	9.37
932831	AC2-110 C	1.73
932832	AC2-110 E	2.83
933061	AC2-130	3.44
933071	AC2-131 1	2.33
933081	AC2-131 2	1.06
933111	AC2-132 1	1.23

Bus #	Bus	MW Impact
933121	AC2-132 2	0.63
933261	AC2-137 C	0.48
933262	AC2-137 E	2.03
933272	AC2-138 E	1.08
933291	AC2-141 C	26.86
933292	AC2-141 E	11.47
933732	AC2-196 E	1.09
934011	AD1-025 C	20.33
934012	AD1-025 E	12.04
934061	AD1-033 C	6.89
934062	AD1-033 E	4.6
934141	AD1-041 C	6.73
934142	AD1-041 E	4.48
934211	AD1-048 C	0.58
934212	AD1-048 E	1.91
934392	AD1-063 E	1.38
934571	AD1-082 C	8.17
934572	AD1-082 E	4.66
934781	AD1-105 C	11.45
934782	AD1-105 E	7.96
935112	AD1-144 E	0.91
935161	AD1-151 C O1	19.74
935162	AD1-151 E O1	13.16
935212	AD1-156 E	1.68
936041	AD2-007	2.16
936051	AD2-008 C	3.54
936052	AD2-008 E	7.71
936151	AD2-021	0.36
936241	AD2-030 C	2.87
936242	AD2-030 E	1.47
936301	AD2-039 C	1.73
936302	AD2-039 E	2.83
936341	AD2-044 C	0.27
936342	AD2-044 E	0.31
936391	AD2-049 C	1.87
936392	AD2-049 E	1.87
936581	AD2-073 C	2.22
936582	AD2-073 E	1.1
936591	AD2-074 C	6.33
936592	AD2-074 E	10.33
936661	AD2-085 C	3.46
936662	AD2-085 E	5.64
936711	AD2-090 C O1	6.27
936712	AD2-090 E O1	4.18
937221	AD2-160 C O1	5.34
937222	AD2-160 E O1	2.8
937251	AD2-164	5.09
937541	AD2-215 C	1.68
937542	AD2-215 E	0.89
938031	AE1-004 C	1.73
938032	AE1-004 E	2.83
938181	AE1-027 C	2.14

Bus #	Bus	MW Impact
938182	AE1-027 E	1.13
938191	AE1-028 C	1.24
938192	AE1-028 E	0.72
938461	AE1-065 C O2	26.27
938462	AE1-065 E O2	106.02
938471	AE1-066 C O2	27.0
938472	AE1-066 E O2	105.29
938481	AE1-067 C O2	24.55
938482	AE1-067 E O2	107.74
938531	AE1-072 C O2	15.97
938532	AE1-072 E O2	8.32
938551	AE1-074 C	3.11
938552	AE1-074 E	1.56
938631	AE1-085 C O2	12.5
938632	AE1-085 E O2	8.33
938771	AE1-103 C O2	3.27
938772	AE1-103 E O2	4.52
938841	AE1-109AC O2	9.45
938842	AE1-109AE O2	6.3
939041	AE1-133 C	31.98
939042	AE1-133 E	15.75
939071	AE1-135 C O2	18.72
939072	AE1-135 E O2	12.48
939191	AE1-149 C O2	12.64
939192	AE1-149 E O2	8.42
939241	AE1-155 C	17.03
939242	AE1-155 E	11.36
939261	AE1-157 C O2	12.42
939262	AE1-157 E O2	6.74
939271	AE1-158 C O2	12.67
939272	AE1-158 E O2	6.48
939311	AE1-162 C	2.22
939312	AE1-162 E	1.48
939421	AE1-174 C	0.23
939422	AE1-174 E	0.34
939431	AE1-175 C	2.87
939432	AE1-175 E	1.42
939611	AE1-191 C	13.45
939612	AE1-191 E	8.97
939751	AE1-206 C O2	50.24
939752	AE1-206 E O2	33.49
940061	AE1-248 C O2	17.0
940062	AE1-248 E O2	11.33
940071	AE1-249 C	9.34
940072	AE1-249 E	6.97
AA2-074	AA2-074	3.26
CARR	CARR	0.77
CBM-S1	CBM-S1	4.23
CBM-S2	CBM-S2	8.54
CBM-W1	CBM-W1	0.06
CBM-W2	CBM-W2	23.91
CIN	CIN	0.24

Bus #	Bus	MW Impact
CPLE	CPLE	4.79
DEARBORN	DEARBORN	0.48
G-007	G-007	2.33
IPL	IPL	0.09
LGEE	LGEE	0.07
MEC	MEC	2.0
O-066	O-066	7.8
RENSELAER	RENSELAER	0.61
WEC	WEC	0.06

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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
364633	314282	6CARSON	DVP	314285	6CHRL249	DVP	1	DVP_P4-2:562T563	breaker	684.0	134.88	139.71	DC	32.81

Bus #	Bus	MW Impact
314541	3WATKINS	0.23
314554	3BTLEBRO	0.4
314557	3BTHELC	0.39
314572	3EMPORIA	0.33
314574	6EVERETS	1.77
314578	3HORNRTN	1.92
314582	3KELFORD	1.62
314603	3SCOT NK	1.61
314617	3TUNIS	0.36
314620	6CASHIE	0.31
314623	3WITAKRS	0.69
314704	3LAWRENC	0.22
315102	1BRUNSWICKG1	4.2
315103	1BRUNSWICKG2	4.2
315104	1BRUNSWICKG3	4.2
315105	1BRUNSWICKS1	8.72
315131	1EDGECEMA	4.73
315132	1EDGECEMB	4.73
315136	1ROSEMG1	1.33
315137	1ROSEMS1	0.82
315138	1ROSEMG2	0.62
315139	1GASTONA	1.92
315141	1GASTONB	1.92
315150	1BUGGS 1	5.14
315151	1BUGGS 2	5.14
900672	V4-068 E	0.13
916301	Z1-086 C	25.61
916302	Z1-086 E	5.23
917332	Z2-043 E	0.46
917342	Z2-044 E	0.3
917512	Z2-088 E OP1	1.76
918492	AA1-063AE OP	2.11
918512	AA1-065 E OP	1.81
918532	AA1-067 E	0.31
918562	AA1-072 E	0.08
919692	AA2-053 E	2.07
919701	AA2-057 C	3.67
919702	AA2-057 E	1.83
920042	AA2-088 E OP	4.27
920592	AA2-165 E	0.24

Bus #	Bus	MW Impact
920672	AA2-174 E	0.24
923851	AB2-025 C	0.44
923852	AB2-025 E	1.3
923911	AB2-031 C O1	1.6
923912	AB2-031 E O1	0.79
923941	AB2-035 C	0.16
923942	AB2-035 E	0.07
923991	AB2-040 C O1	0.8
923992	AB2-040 E O1	4.29
924022	AB2-043 E O1	2.32
924152	AB2-059 E O1	2.75
924162	AB2-060 E O1	1.9
924302	AB2-077 E O1	0.6
924312	AB2-078 E O1	0.6
924322	AB2-079 E O1	0.6
924391	AB2-088 C	0.21
924392	AB2-088 E	0.1
924401	AB2-089 C	1.07
924402	AB2-089 E	0.55
924491	AB2-098 C	0.24
924492	AB2-098 E	0.1
924501	AB2-099 C	0.25
924502	AB2-099 E	0.11
924511	AB2-100 C	10.62
924512	AB2-100 E	5.23
925122	AB2-169 E	2.2
925171	AB2-174 C O1	5.2
925172	AB2-174 E O1	4.7
925591	AC1-034 C	3.46
925592	AC1-034 E	2.61
925612	AC1-036 E	0.6
925781	AC1-054 C O1	3.69
925782	AC1-054 E O1	1.7
926071	AC1-086 C	14.05
926072	AC1-086 E	6.39
926201	AC1-098 C	3.12
926202	AC1-098 E	1.86
926211	AC1-099 C	1.04
926212	AC1-099 E	0.61
926271	AC1-105 C O1	2.36
926272	AC1-105 E O1	1.18
927021	AC1-189 C	3.85
927022	AC1-189 E	1.92
927141	AC1-208 C	4.79
927142	AC1-208 E	2.13
927251	AC1-221 C	0.93
927252	AC1-221 E	0.93
927261	AC1-222 C	1.47
927262	AC1-222 E	1.4
930402	AB1-081 E O1	1.94
930861	AB1-132 C O1	1.46
930862	AB1-132 E O1	4.09

Bus #	Bus	MW Impact
931231	AB1-173 C	0.25
931232	AB1-173 E	0.75
931241	AB1-173AC	0.25
931242	AB1-173AE	0.75
932631	AC2-084 C	4.44
932632	AC2-084 E	2.19
932761	AC2-100 C	2.14
932762	AC2-100 E	1.04
933991	AD1-023 C	4.64
933992	AD1-023 E	2.53
934201	AD1-047 C	5.72
934202	AD1-047 E	3.81
934231	AD1-050 C	2.36
934232	AD1-050 E	1.29
934311	AD1-055 C	1.02
934312	AD1-055 E	0.26
934331	AD1-057 C O1	5.86
934332	AD1-057 E O1	3.12
934341	AD1-058 C	2.33
934342	AD1-058 E	0.59
934611	AD1-087 C O1	3.67
934612	AD1-087 E O1	1.73
934621	AD1-088 C	4.84
934622	AD1-088 E	2.27
934991	AD1-131 C	0.76
934992	AD1-131 E	0.51
935171	AD1-152 C O1	3.65
935172	AD1-152 E O1	2.43
935212	AD1-156 E	0.63
936261	AD2-033 C	5.16
936262	AD2-033 E	3.44
936331	AD2-043 C	1.92
936332	AD2-043 E	2.27
936361	AD2-046 C O1	4.24
936362	AD2-046 E O1	1.95
936401	AD2-051 C O1	3.84
936402	AD2-051 E O1	1.65
936481	AD2-063 C O1	6.37
936482	AD2-063 E O1	4.24
936531	AD2-068 C	2.27
936532	AD2-068 E	1.17
936701	AD2-089 C	3.47
936702	AD2-089 E	2.31
936711	AD2-090 C O1	2.58
936712	AD2-090 E O1	1.72
937481	AD2-202 C O1	1.01
937482	AD2-202 E O1	0.51
937571	AD2-169 C	6.85
937572	AD2-169 E	4.56
938171	AE1-026 C1 O	10.19
938172	AE1-026 C2 O	1.47
938173	AE1-026 E O2	3.08

Bus #	Bus	MW Impact
938221	AE1-035 C	0.92
938222	AE1-035 E	0.45
938491	AE1-068 C O2	33.0
938492	AE1-068 E O2	18.23
938501	AE1-069 C O2	26.19
938502	AE1-069 E O2	14.97
938661	AE1-088	0.67
939071	AE1-135 C O2	19.69
939072	AE1-135 E O2	13.13
939181	AE1-148 C O2	4.18
939182	AE1-148 E O2	2.78
939371	AE1-168 C	5.23
939372	AE1-168 E	3.48
939411	AE1-173 C	37.39
939412	AE1-173 E	24.93
AA2-074	AA2-074	2.63
CARR	CARR	0.31
CBM-S1	CBM-S1	6.68
CBM-S2	CBM-S2	7.57
CBM-W1	CBM-W1	6.66
CBM-W2	CBM-W2	43.81
CIN	CIN	3.02
CPLE	CPLE	3.87
G-007	G-007	1.05
IPL	IPL	1.89
LGEE	LGEE	0.88
MEC	MEC	6.72
MECS	MECS	2.79
O-066	O-066	3.49
RENSSELAER	RENSSELAER	0.24
WEC	WEC	0.81

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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
364661	314285	6CHRL249	DVP	314316	6LOCKS	DVP	1	DVP_P4-2:562T563	breaker	684.0	131.85	136.69	DC	32.81

Bus #	Bus	MW Impact
314541	3WATKINS	0.23
314554	3BTLEBRO	0.4
314557	3BETHELC	0.39
314572	3EMPORIA	0.33
314574	6EVERETS	1.77
314578	3HORNRTN	1.92
314582	3KELFORD	1.62
314603	3SCOT NK	1.61
314617	3TUNIS	0.36
314620	6CASHIE	0.31
314623	3WITAKRS	0.69
314704	3LAWRENC	0.22
315102	1BRUNSWICKG1	4.2
315103	1BRUNSWICKG2	4.2
315104	1BRUNSWICKG3	4.2
315105	1BRUNSWICKS1	8.72
315131	1EDGECEMA	4.73
315132	1EDGECEMB	4.73
315136	1ROSEMG1	1.33
315137	1ROSEMS1	0.82
315138	1ROSEMG2	0.62
315139	1GASTONA	1.92
315141	1GASTONB	1.92
315150	1BUGGS 1	5.14
315151	1BUGGS 2	5.14
900672	V4-068 E	0.13
916301	Z1-086 C	25.61
916302	Z1-086 E	5.23
917332	Z2-043 E	0.46
917342	Z2-044 E	0.3
917512	Z2-088 E OP1	1.76
918492	AA1-063AE OP	2.11
918512	AA1-065 E OP	1.81
918532	AA1-067 E	0.31
918562	AA1-072 E	0.08
919692	AA2-053 E	2.07
919701	AA2-057 C	3.67
919702	AA2-057 E	1.83
920042	AA2-088 E OP	4.27
920592	AA2-165 E	0.24

Bus #	Bus	MW Impact
920672	AA2-174 E	0.24
923851	AB2-025 C	0.44
923852	AB2-025 E	1.3
923911	AB2-031 C O1	1.6
923912	AB2-031 E O1	0.79
923941	AB2-035 C	0.16
923942	AB2-035 E	0.07
923991	AB2-040 C O1	0.8
923992	AB2-040 E O1	4.29
924022	AB2-043 E O1	2.32
924152	AB2-059 E O1	2.75
924162	AB2-060 E O1	1.9
924302	AB2-077 E O1	0.6
924312	AB2-078 E O1	0.6
924322	AB2-079 E O1	0.6
924391	AB2-088 C	0.21
924392	AB2-088 E	0.1
924401	AB2-089 C	1.07
924402	AB2-089 E	0.55
924491	AB2-098 C	0.24
924492	AB2-098 E	0.1
924501	AB2-099 C	0.25
924502	AB2-099 E	0.11
924511	AB2-100 C	10.62
924512	AB2-100 E	5.23
925122	AB2-169 E	2.2
925171	AB2-174 C O1	5.2
925172	AB2-174 E O1	4.7
925591	AC1-034 C	3.46
925592	AC1-034 E	2.61
925612	AC1-036 E	0.6
925781	AC1-054 C O1	3.69
925782	AC1-054 E O1	1.7
926071	AC1-086 C	14.05
926072	AC1-086 E	6.39
926201	AC1-098 C	3.12
926202	AC1-098 E	1.86
926211	AC1-099 C	1.04
926212	AC1-099 E	0.61
926271	AC1-105 C O1	2.36
926272	AC1-105 E O1	1.18
927021	AC1-189 C	3.85
927022	AC1-189 E	1.92
927141	AC1-208 C	4.79
927142	AC1-208 E	2.13
927251	AC1-221 C	0.93
927252	AC1-221 E	0.93
927261	AC1-222 C	1.47
927262	AC1-222 E	1.4
930402	AB1-081 E O1	1.94
930861	AB1-132 C O1	1.46
930862	AB1-132 E O1	4.09

Bus #	Bus	MW Impact
931231	AB1-173 C	0.25
931232	AB1-173 E	0.75
931241	AB1-173AC	0.25
931242	AB1-173AE	0.75
932631	AC2-084 C	4.44
932632	AC2-084 E	2.19
932761	AC2-100 C	2.14
932762	AC2-100 E	1.04
933991	AD1-023 C	4.64
933992	AD1-023 E	2.53
934201	AD1-047 C	5.72
934202	AD1-047 E	3.81
934231	AD1-050 C	2.36
934232	AD1-050 E	1.29
934311	AD1-055 C	1.02
934312	AD1-055 E	0.26
934331	AD1-057 C O1	5.86
934332	AD1-057 E O1	3.12
934341	AD1-058 C	2.33
934342	AD1-058 E	0.59
934611	AD1-087 C O1	3.67
934612	AD1-087 E O1	1.73
934621	AD1-088 C	4.84
934622	AD1-088 E	2.27
934991	AD1-131 C	0.76
934992	AD1-131 E	0.51
935171	AD1-152 C O1	3.65
935172	AD1-152 E O1	2.43
935212	AD1-156 E	0.63
936261	AD2-033 C	5.16
936262	AD2-033 E	3.44
936331	AD2-043 C	1.92
936332	AD2-043 E	2.27
936361	AD2-046 C O1	4.24
936362	AD2-046 E O1	1.95
936401	AD2-051 C O1	3.84
936402	AD2-051 E O1	1.65
936481	AD2-063 C O1	6.37
936482	AD2-063 E O1	4.24
936531	AD2-068 C	2.27
936532	AD2-068 E	1.17
936701	AD2-089 C	3.47
936702	AD2-089 E	2.31
936711	AD2-090 C O1	2.58
936712	AD2-090 E O1	1.72
937481	AD2-202 C O1	1.01
937482	AD2-202 E O1	0.51
937571	AD2-169 C	6.85
937572	AD2-169 E	4.56
938171	AE1-026 C1 O	10.19
938172	AE1-026 C2 O	1.47
938173	AE1-026 E O2	3.08

Bus #	Bus	MW Impact
938221	AE1-035 C	0.92
938222	AE1-035 E	0.45
938491	AE1-068 C O2	33.0
938492	AE1-068 E O2	18.23
938501	AE1-069 C O2	26.19
938502	AE1-069 E O2	14.97
938661	AE1-088	0.67
939071	AE1-135 C O2	19.69
939072	AE1-135 E O2	13.13
939181	AE1-148 C O2	4.18
939182	AE1-148 E O2	2.78
939371	AE1-168 C	5.23
939372	AE1-168 E	3.48
939411	AE1-173 C	37.39
939412	AE1-173 E	24.93
AA2-074	AA2-074	2.63
CARR	CARR	0.31
CBM-S1	CBM-S1	6.68
CBM-S2	CBM-S2	7.57
CBM-W1	CBM-W1	6.66
CBM-W2	CBM-W2	43.81
CIN	CIN	3.02
CPLE	CPLE	3.87
G-007	G-007	1.05
IPL	IPL	1.89
LGEE	LGEE	0.88
MEC	MEC	6.72
MECS	MECS	2.79
O-066	O-066	3.49
RENSSELAER	RENSSELAER	0.24
WEC	WEC	0.81

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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
365736	314303	6HOPEWLL	DVP	314286	6CHESTF A	DVP	1	DVP_P1-2: LN 259	single	449.32	111.91	113.98	DC	9.28

Bus #	Bus	MW Impact
314314	3LOCKS	0.14
314507	3THOMPSN	0.11
315065	1CHESTF6	20.29
315074	1HOPCGN1	17.65
315075	1HOPCGN2	17.42
315076	1HOPPOLC	3.1
315077	1HOPHCF1	4.85
315078	1HOPHCF2	4.85
315079	1HOPHCF3	4.85
315080	1HOPHCF4	7.37
315098	1CHESPKA	0.15
315099	1CHESPKB	0.37
315116	1SURRY 1	20.71
315117	1GRAVELC	0.73
315119	1GRAVEL3	2.1
315120	1GRAVEL4	2.13
315121	1GRAVEL5	2.1
315122	1GRAVEL6	2.13
315260	1GOSPORTA	0.12
315261	1GOSPORTB	0.15
315262	1GOSPORTC	0.13
923851	AB2-025 C	0.2
924511	AB2-100 C	5.06
924811	AB2-134 C O1	2.79
925051	AB2-160 C O1	2.91
925061	AB2-161 C O1	2.18
925331	AB2-190 C	30.3
925821	AC1-061	0.0
926661	AC1-147 C	0.13
927221	AC1-216 C O1	13.91
932041	AC2-012 C	3.75
932581	AC2-078 C O1	3.43
932591	AC2-079 C O1	2.98
934011	AD1-025 C	23.91
934571	AD1-082 C	4.96
935111	AD1-144 C	0.11
935161	AD1-151 C O1	24.35
935211	AD1-156 C	0.27
936041	AD2-007	2.54
936051	AD2-008 C	4.16

Bus #	Bus	MW Impact
936661	AD2-085 C	1.81
937541	AD2-215 C	0.7
938631	AE1-085 C O2	9.0
938771	AE1-103 C O2	1.35
938841	AE1-109AC O2	5.5
939071	AE1-135 C O2	9.28
939191	AE1-149 C O2	9.63
939311	AE1-162 C	1.49
940061	AE1-248 C O2	10.37
940071	AE1-249 C	3.84
CARR	CARR	0.22
CBM-S1	CBM-S1	2.18
CBM-S2	CBM-S2	3.06
CBM-W1	CBM-W1	1.51
CBM-W2	CBM-W2	13.65
CIN	CIN	0.72
CPLE	CPLE	1.65
IPL	IPL	0.44
LGEE	LGEE	0.21
MEC	MEC	1.83
MECS	MECS	0.36
RENSSELAER	RENSSELAER	0.17
WEC	WEC	0.19

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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
366193	314554	3BTLEBRO	DVP	304223	3ROCKYMT115T	CPL	1	DVP_P7-1: LN 2058-2181	tower	164.0	299.14	303.29	DC	14.97

Bus #	Bus	MW Impact
314541	3WATKINS	0.25
314554	3BTLEBRO	1.96
314557	3BETHELC	0.86
314572	3EMPORIA	0.2
314574	6EVERETS	1.77
314578	3HORNRTN	2.52
314582	3KELFORD	2.88
314603	3SCOT NK	3.65
314617	3TUNIS	0.43
314620	6CASHIE	0.32
314623	3WITAKRS	2.92
315131	1EDGECEMA	13.53
315132	1EDGECEMB	13.53
315136	1ROSEMG1	1.59
315137	1ROSEMS1	0.98
315138	1ROSEMG2	0.74
315139	1GASTONA	1.96
315141	1GASTONB	1.96
900672	V4-068 E	0.15
917331	Z2-043 C	0.29
917332	Z2-043 E	0.82
917341	Z2-044 C	0.45
917342	Z2-044 E	1.25
917511	Z2-088 C OP1	1.04
917512	Z2-088 E OP1	2.91
918492	AA1-063AE OP	2.41
918512	AA1-065 E OP	1.91
918532	AA1-067 E	0.31
918561	AA1-072 C	0.04
918562	AA1-072 E	0.14
919692	AA2-053 E	2.32
919701	AA2-057 C	13.33
919702	AA2-057 E	6.66
920042	AA2-088 E OP	4.75
920591	AA2-165 C	0.28
920592	AA2-165 E	0.88
920672	AA2-174 E	0.27
923801	AB2-015 C O1	2.99
923802	AB2-015 E O1	2.45
923911	AB2-031 C O1	1.2

Bus #	Bus	MW Impact
923912	AB2-031 E O1	0.59
923941	AB2-035 C	0.36
923942	AB2-035 E	0.16
923992	AB2-040 E O1	3.22
924151	AB2-059 C O1	3.64
924152	AB2-059 E O1	12.22
924391	AB2-088 C	0.47
924392	AB2-088 E	0.22
924491	AB2-098 C	0.24
924492	AB2-098 E	0.1
924501	AB2-099 C	0.31
924502	AB2-099 E	0.13
924511	AB2-100 C	5.32
924512	AB2-100 E	2.62
925122	AB2-169 E	2.22
925171	AB2-174 C O1	3.6
925172	AB2-174 E O1	3.26
925591	AC1-034 C	15.36
925592	AC1-034 E	11.59
926071	AC1-086 C	14.35
926072	AC1-086 E	6.53
926201	AC1-098 C	7.95
926202	AC1-098 E	4.74
926211	AC1-099 C	2.66
926212	AC1-099 E	1.56
927021	AC1-189 C	5.57
927022	AC1-189 E	2.77
927141	AC1-208 C	12.52
927142	AC1-208 E	5.56
930401	AB1-081 C O1	3.09
930402	AB1-081 E O1	8.62
930861	AB1-132 C O1	1.49
930862	AB1-132 E O1	4.18
931232	AB1-173 E	0.56
931242	AB1-173AE	0.56
932631	AC2-084 C	11.34
932632	AC2-084 E	5.58
933991	AD1-023 C	4.79
933992	AD1-023 E	2.61
934201	AD1-047 C	4.3
934202	AD1-047 E	2.86
934331	AD1-057 C O1	11.18
934332	AD1-057 E O1	5.97
934521	AD1-076 C	18.51
934522	AD1-076 E	9.43
936401	AD2-051 C O1	4.79
936402	AD2-051 E O1	2.06
936701	AD2-089 C	7.78
936702	AD2-089 E	5.19
936711	AD2-090 C O1	2.84
936712	AD2-090 E O1	1.89
937571	AD2-169 C	5.61

Bus #	Bus	MW Impact
937572	AD2-169 E	3.74
938171	AE1-026 C1 O	10.56
938172	AE1-026 C2 O	1.53
938173	AE1-026 E O2	3.19
938221	AE1-035 C	0.97
938222	AE1-035 E	0.48
938661	AE1-088	0.67
939071	AE1-135 C O2	8.98
939072	AE1-135 E O2	5.99
AC1-133	AC1-133	9.49
BAYOU	BAYOU	1.37
BIG_CAJUN1	BIG_CAJUN1	2.16
BIG_CAJUN2	BIG_CAJUN2	4.35
BLUEG	BLUEG	3.98
CALDERWOOD	CALDERWOOD	0.81
CANNELTON	CANNELTON	0.27
CATAWBA	CATAWBA	0.79
CBM-N	CBM-N	0.07
CHEOAH	CHEOAH	0.75
CHILHOWEE	CHILHOWEE	0.26
CHOCTAW	CHOCTAW	1.47
COFFEEN	COFFEEN	0.46
COTTONWOOD	COTTONWOOD	5.36
DEARBORN	DEARBORN	0.51
DUCKCREEK	DUCKCREEK	0.95
EDWARDS	EDWARDS	0.43
ELMERSMITH	ELMERSMITH	0.48
FARMERCITY	FARMERCITY	0.33
G-007A	G-007A	0.4
GIBSON	GIBSON	0.17
HAMLET	HAMLET	3.15
NEWTON	NEWTON	1.21
NYISO	NYISO	0.31
O-066A	O-066A	0.18
PRAIRIE	PRAIRIE	2.52
SANTEETLA	SANTEETLA	0.22
SMITHLAND	SMITHLAND	0.22
TATANKA	TATANKA	0.57
TILTON	TILTON	0.5
TRIMBLE	TRIMBLE	0.44
TVA	TVA	2.27
UNIONPOWER	UNIONPOWER	1.12
VFT	VFT	1.05

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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
365315	314569	GEARLEYS	DVP	314575	6NUCO TP	DVP	1	DVP_P1-2: LN 2092	single	571.52	125.63	127.66	DC	11.71

Bus #	Bus	MW Impact
314589	3MURPHYS	0.09
314704	3LAWRENC	0.17
315126	1ROARAP2	1.21
315128	1ROARAP4	1.16
315131	1EDGECEMA	9.42
315132	1EDGECEMB	9.42
315136	1ROSEMG1	2.12
315137	1ROSEMS1	1.31
315138	1ROSEMG2	0.99
315139	1GASTONA	2.98
315141	1GASTONB	2.98
315159	1KERR 2	0.66
315163	1KERR 6	0.65
315164	1KERR 7	0.65
315292	1DOMTR78	2.53
315293	1DOMTR9	2.07
315294	1DOMTR10	3.75
916041	Z1-036 C	2.06
917331	Z2-043 C	0.58
917341	Z2-044 C	0.21
917511	Z2-088 C OP1	2.1
918491	AA1-063AC OP	1.69
918511	AA1-065 C OP	2.99
918531	AA1-067 C	0.45
918561	AA1-072 C	0.09
919691	AA2-053 C	1.53
919701	AA2-057 C	7.67
920041	AA2-088 C OP	0.62
920591	AA2-165 C	0.16
920671	AA2-174 C	0.07
920691	AA2-178 C	2.96
923911	AB2-031 C O1	1.74
923941	AB2-035 C	0.43
923991	AB2-040 C O1	0.88
924151	AB2-059 C O1	1.62
924391	AB2-088 C	0.56
924401	AB2-089 C	1.24
924491	AB2-098 C	0.99
924501	AB2-099 C	0.95
924511	AB2-100 C	7.12

Bus #	Bus	MW Impact
925121	AB2-169 C	1.88
925171	AB2-174 C O1	5.2
925291	AB2-188 C O1	4.76
925591	AC1-034 C	6.83
925781	AC1-054 C O1	4.49
926071	AC1-086 C	21.85
926201	AC1-098 C	7.82
926211	AC1-099 C	2.62
927021	AC1-189 C	13.69
927141	AC1-208 C	10.09
930401	AB1-081 C O1	1.37
930861	AB1-132 C O1	2.28
931231	AB1-173 C	0.27
931241	AB1-173AC	0.27
932631	AC2-084 C	11.15
933991	AD1-023 C	27.21
934201	AD1-047 C	6.24
934231	AD1-050 C	2.73
934331	AD1-057 C O1	10.32
934521	AD1-076 C	110.72
936401	AD2-051 C O1	15.91
936531	AD2-068 C	6.56
936701	AD2-089 C	9.29
937571	AD2-169 C	8.2
938171	AE1-026 C1 O	58.54
938172	AE1-026 C2 O	8.47
938221	AE1-035 C	4.88
938661	AE1-088	6.3
939071	AE1-135 C O2	11.71
AA2-074	AA2-074	2.72
CARR	CARR	0.19
CBM-S1	CBM-S1	6.0
CBM-S2	CBM-S2	7.06
CBM-W1	CBM-W1	6.22
CBM-W2	CBM-W2	39.64
CIN	CIN	2.79
CPLE	CPLE	4.0
IPL	IPL	1.75
LGEE	LGEE	0.81
MEC	MEC	6.15
MECS	MECS	2.72
RENSSELAER	RENSSELAER	0.15
WEC	WEC	0.75

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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
366276	314574	6EVERETS	DVP	936530	AD2-068 TAP	DVP	1	DVP_P7-1: LN 2058-2181	tower	485.0	161.8	163.41	DC	17.28

Bus #	Bus	MW Impact
314539	3UNCAMP	1.27
314541	3WATKINS	0.39
314554	3BTLEBRO	0.38
314557	3BETHEL	1.06
314566	3CRESWEL	2.23
314572	3EMPORIA	0.22
314574	6EVERETS	8.22
314578	3HORNRTN	2.14
314582	3KELFORD	3.33
314589	3MURPHYS	0.07
314594	6PLYMOTH	0.9
314603	3SCOT NK	2.69
314617	3TUNIS	0.78
314620	6CASHIE	0.97
314623	3WITAKRS	0.71
314648	6SUNBURY	0.41
314651	6WINFALL	0.99
315131	1EDGECEMA	8.55
315132	1EDGECEMB	8.55
315136	1ROSEMG1	1.58
315137	1ROSEMS1	0.98
315138	1ROSEMG2	0.74
315292	1DOMTR78	1.65
315293	1DOMTR9	1.35
315294	1DOMTR10	2.45
900672	V4-068 E	0.24
901082	W1-029 E	24.7
907092	X1-038 E	3.17
913392	Y1-086 E	1.0
916042	Z1-036 E	30.84
917122	Z2-027 E	0.52
917331	Z2-043 C	0.34
917332	Z2-043 E	0.95
917342	Z2-044 E	0.31
917511	Z2-088 C OP1	2.29
917512	Z2-088 E OP1	6.41
918491	AA1-063AC OP	1.07
918492	AA1-063AE OP	3.28
918511	AA1-065 C OP	1.72
918512	AA1-065 E OP	5.52

Bus #	Bus	MW Impact
918531	AA1-067 C	0.52
918532	AA1-067 E	1.45
918561	AA1-072 C	0.05
918562	AA1-072 E	0.16
919692	AA2-053 E	2.78
919701	AA2-057 C	4.11
919702	AA2-057 E	2.06
920042	AA2-088 E OP	6.8
920592	AA2-165 E	0.27
920672	AA2-174 E	0.32
920691	AA2-178 C	1.37
920692	AA2-178 E	3.82
923801	AB2-015 C O1	4.71
923802	AB2-015 E O1	3.86
923832	AB2-022 E	0.57
923911	AB2-031 C O1	1.26
923912	AB2-031 E O1	0.62
923941	AB2-035 C	0.44
923942	AB2-035 E	0.19
923992	AB2-040 E O1	3.38
924152	AB2-059 E O1	3.09
924391	AB2-088 C	0.57
924392	AB2-088 E	0.28
924491	AB2-098 C	1.13
924492	AB2-098 E	0.48
924501	AB2-099 C	0.59
924502	AB2-099 E	0.25
924511	AB2-100 C	6.1
924512	AB2-100 E	3.0
925121	AB2-169 C	1.49
925122	AB2-169 E	8.74
925171	AB2-174 C O1	3.82
925172	AB2-174 E O1	3.46
925281	AB2-186 C	0.37
925282	AB2-186 E	0.16
925291	AB2-188 C O1	2.2
925292	AB2-188 E O1	0.99
925591	AC1-034 C	3.89
925592	AC1-034 E	2.93
926071	AC1-086 C	15.85
926072	AC1-086 E	7.21
926201	AC1-098 C	4.52
926202	AC1-098 E	2.69
926211	AC1-099 C	1.51
926212	AC1-099 E	0.89
927021	AC1-189 C	15.22
927022	AC1-189 E	7.58
927141	AC1-208 C	5.86
927142	AC1-208 E	2.6
930402	AB1-081 E O1	2.18
930862	AB1-132 E O1	4.61
931232	AB1-173 E	0.59

Bus #	Bus	MW Impact
931242	AB1-173AE	0.59
932631	AC2-084 C	6.44
932632	AC2-084 E	3.17
933991	AD1-023 C	14.77
933992	AD1-023 E	8.04
934201	AD1-047 C	4.51
934202	AD1-047 E	3.01
934331	AD1-057 C O1	8.5
934332	AD1-057 E O1	4.54
934521	AD1-076 C	58.81
934522	AD1-076 E	29.95
936401	AD2-051 C O1	9.44
936402	AD2-051 E O1	4.05
936701	AD2-089 C	9.53
936702	AD2-089 E	6.36
936711	AD2-090 C O1	4.25
936712	AD2-090 E O1	2.83
937571	AD2-169 C	5.83
937572	AD2-169 E	3.89
938171	AE1-026 C1 O	32.13
938172	AE1-026 C2 O	4.65
938173	AE1-026 E O2	9.7
938221	AE1-035 C	2.8
938222	AE1-035 E	1.38
938661	AE1-088	5.0
938771	AE1-103 C O2	1.85
938772	AE1-103 E O2	2.55
939041	AE1-133 C	17.42
939042	AE1-133 E	8.58
939071	AE1-135 C O2	10.37
939072	AE1-135 E O2	6.91
AC1-133	AC1-133	24.62
BAYOU	BAYOU	2.85
BIG_CAJUN1	BIG_CAJUN1	4.51
BIG_CAJUN2	BIG_CAJUN2	9.07
BLUEG	BLUEG	7.82
CALDERWOOD	CALDERWOOD	1.67
CANNELTON	CANNELTON	0.54
CATAWBA	CATAWBA	1.63
CBM-N	CBM-N	0.21
CHEOAH	CHEOAH	1.56
CHILHOWEE	CHILHOWEE	0.54
CHOCTAW	CHOCTAW	3.07
COFFEEN	COFFEEN	0.93
COTTONWOOD	COTTONWOOD	11.15
DEARBORN	DEARBORN	0.97
DUCKCREEK	DUCKCREEK	1.89
EDWARDS	EDWARDS	0.84
ELMERSMITH	ELMERSMITH	0.95
FARMERCITY	FARMERCITY	0.67
G-007A	G-007A	1.0
GIBSON	GIBSON	0.34

Bus #	Bus	MW Impact
HAMLET	HAMLET	6.98
NEWTON	NEWTON	2.4
NYISO	NYISO	0.91
O-066A	O-066A	0.46
PRAIRIE	PRAIRIE	5.08
SANTEETLA	SANTEETLA	0.46
SMITHLAND	SMITHLAND	0.46
TATANKA	TATANKA	1.13
TILTON	TILTON	0.99
TRIMBLE	TRIMBLE	0.86
TVA	TVA	4.7
UNIONPOWER	UNIONPOWER	2.33
VFT	VFT	2.66

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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
365375	314575	6NUCO TP	DVP	919140	AA1-138 TAP	DVP	1	DVP_P1-2: LN 2092	single	571.52	119.21	121.24	DC	11.71

Bus #	Bus	MW Impact
314589	3MURPHYS	0.09
314704	3LAWRENC	0.17
315126	1ROARAP2	1.21
315128	1ROARAP4	1.16
315131	1EDGECEMA	9.42
315132	1EDGECEMB	9.42
315136	1ROSEMG1	2.12
315137	1ROSEMS1	1.31
315138	1ROSEMG2	0.99
315139	1GASTONA	2.98
315141	1GASTONB	2.98
315159	1KERR 2	0.66
315163	1KERR 6	0.65
315164	1KERR 7	0.65
315292	1DOMTR78	2.53
315293	1DOMTR9	2.07
315294	1DOMTR10	3.75
916041	Z1-036 C	2.06
917331	Z2-043 C	0.58
917341	Z2-044 C	0.21
917511	Z2-088 C OP1	2.1
918491	AA1-063AC OP	1.69
918511	AA1-065 C OP	2.99
918531	AA1-067 C	0.45
918561	AA1-072 C	0.09
919691	AA2-053 C	1.53
919701	AA2-057 C	7.67
920041	AA2-088 C OP	0.62
920591	AA2-165 C	0.16
920671	AA2-174 C	0.07
920691	AA2-178 C	2.96
923911	AB2-031 C O1	1.74
923941	AB2-035 C	0.43
923991	AB2-040 C O1	0.88
924151	AB2-059 C O1	1.62
924391	AB2-088 C	0.56
924401	AB2-089 C	1.24
924491	AB2-098 C	0.99
924501	AB2-099 C	0.95
924511	AB2-100 C	7.12

Bus #	Bus	MW Impact
925121	AB2-169 C	1.88
925171	AB2-174 C O1	5.2
925291	AB2-188 C O1	4.76
925591	AC1-034 C	6.83
925781	AC1-054 C O1	4.49
926071	AC1-086 C	21.85
926201	AC1-098 C	7.82
926211	AC1-099 C	2.62
927021	AC1-189 C	13.69
927141	AC1-208 C	10.09
930401	AB1-081 C O1	1.37
930861	AB1-132 C O1	2.28
931231	AB1-173 C	0.27
931241	AB1-173AC	0.27
932631	AC2-084 C	11.15
933991	AD1-023 C	27.21
934201	AD1-047 C	6.24
934231	AD1-050 C	2.73
934331	AD1-057 C O1	10.32
934521	AD1-076 C	110.72
936401	AD2-051 C O1	15.91
936531	AD2-068 C	6.56
936701	AD2-089 C	9.29
937571	AD2-169 C	8.2
938171	AE1-026 C1 O	58.54
938172	AE1-026 C2 O	8.47
938221	AE1-035 C	4.88
938661	AE1-088	6.3
939071	AE1-135 C O2	11.71
AA2-074	AA2-074	2.72
CARR	CARR	0.19
CBM-S1	CBM-S1	6.0
CBM-S2	CBM-S2	7.06
CBM-W1	CBM-W1	6.22
CBM-W2	CBM-W2	39.64
CIN	CIN	2.79
CPLE	CPLE	4.0
IPL	IPL	1.75
LGEE	LGEE	0.81
MEC	MEC	6.15
MECS	MECS	2.72
RENSSELAER	RENSSELAER	0.15
WEC	WEC	0.75

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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
365304	314583	6LAKEVEW	DVP	314561	6CAROLNA	DVP	1	DVP_P1-2: LN 254-A-A	single	375.06	124.21	144.33	DC	75.46

Bus #	Bus	MW Impact
315131	1EDGECEMA	10.7
315132	1EDGECEMB	10.7
315136	1ROSEMG1	6.93
315137	1ROSEMS1	4.3
315138	1ROSEMG2	3.25
315139	1GASTONA	10.61
315141	1GASTONB	10.61
917341	Z2-044 C	0.11
917511	Z2-088 C OP1	0.44
923941	AB2-035 C	0.24
924151	AB2-059 C O1	1.44
924391	AB2-088 C	0.3
924511	AB2-100 C	42.13
925591	AC1-034 C	6.08
926071	AC1-086 C	77.78
930401	AB1-081 C O1	1.22
930861	AB1-132 C O1	8.1
934233	AD1-050 BAT	3.38
934331	AD1-057 C O1	23.21
936701	AD2-089 C	5.08
938174	AE1-026 CBAT	1.56
939071	AE1-135 C O2	75.46
CARR	CARR	0.1
CBM-S1	CBM-S1	2.67
CBM-S2	CBM-S2	3.2
CBM-W1	CBM-W1	2.64
CBM-W2	CBM-W2	17.52
CIN	CIN	1.19
CPLE	CPLE	1.75
IPL	IPL	0.74
LGEE	LGEE	0.34
MEC	MEC	2.67
MECS	MECS	1.11
RENSSELAER	RENSSELAER	0.08
WEC	WEC	0.32

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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
365889	314591	6NASH	DVP	304226	6PA-RMOUNT#4	CPL	1	DVP_P1-2: LN 2058	single	470.0	101.37	104.43	DC	14.41

Bus #	Bus	MW Impact
314589	3MURPHYS	0.05
314704	3LAWRENC	0.16
315115	1S HAMPT1	0.69
315126	1ROARAP2	1.04
315128	1ROARAP4	1.0
315131	1EDGECEMA	25.25
315132	1EDGECEMB	25.25
315136	1ROSEMG1	2.7
315137	1ROSEMS1	1.68
315138	1ROSEMG2	1.26
315139	1GASTONA	3.23
315141	1GASTONB	3.23
315292	1DOMTR78	0.75
315293	1DOMTR9	0.61
315294	1DOMTR10	1.11
901081	W1-029 C	0.31
916041	Z1-036 C	0.38
917331	Z2-043 C	0.29
917341	Z2-044 C	0.26
917511	Z2-088 C OP1	1.88
918491	AA1-063AC OP	1.01
918511	AA1-065 C OP	0.93
918531	AA1-067 C	0.19
918561	AA1-072 C	0.04
919691	AA2-053 C	1.06
919701	AA2-057 C	8.3
920041	AA2-088 C OP	0.59
920591	AA2-165 C	0.17
920671	AA2-174 C	0.05
920691	AA2-178 C	0.69
923801	AB2-015 C O1	4.03
923851	AB2-025 C	0.16
923911	AB2-031 C O1	1.64
923941	AB2-035 C	0.67
923991	AB2-040 C O1	0.83
924151	AB2-059 C O1	2.64
924391	AB2-088 C	0.86
924401	AB2-089 C	0.74
924491	AB2-098 C	0.41
924501	AB2-099 C	0.41

Bus #	Bus	MW Impact
924511	AB2-100 C	8.57
925121	AB2-169 C	0.62
925171	AB2-174 C O1	5.03
925281	AB2-186 C	0.2
925291	AB2-188 C O1	1.12
925591	AC1-034 C	11.15
925781	AC1-054 C O1	2.89
926071	AC1-086 C	23.72
926201	AC1-098 C	6.04
926211	AC1-099 C	2.02
927021	AC1-189 C	9.92
927141	AC1-208 C	9.24
930401	AB1-081 C O1	2.24
930861	AB1-132 C O1	2.47
931231	AB1-173 C	0.25
931241	AB1-173AC	0.25
932631	AC2-084 C	8.61
933991	AD1-023 C	7.55
934201	AD1-047 C	5.89
934231	AD1-050 C	1.64
934331	AD1-057 C O1	20.21
934521	AD1-076 C	29.37
936401	AD2-051 C O1	6.27
936701	AD2-089 C	14.33
936711	AD2-090 C O1	3.77
937571	AD2-169 C	7.55
938171	AE1-026 C1 O	16.63
938172	AE1-026 C2 O	2.41
938221	AE1-035 C	1.52
938661	AE1-088	2.09
938771	AE1-103 C O2	1.52
939071	AE1-135 C O2	14.41
BAYOU	BAYOU	2.07
BIG_CAJUN1	BIG_CAJUN1	3.26
BIG_CAJUN2	BIG_CAJUN2	6.56
BLUEG	BLUEG	6.02
CALDERWOOD	CALDERWOOD	1.22
CANNELTON	CANNELTON	0.41
CATAWBA	CATAWBA	1.19
CBM-N	CBM-N	0.13
CHEOAH	CHEOAH	1.14
CHILHOWEE	CHILHOWEE	0.4
CHOCTAW	CHOCTAW	2.22
COFFEEN	COFFEEN	0.7
COTTONWOOD	COTTONWOOD	8.09
DEARBORN	DEARBORN	0.76
DUCKCREEK	DUCKCREEK	1.44
EDWARDS	EDWARDS	0.64
ELMERSMITH	ELMERSMITH	0.72
FARMERCITY	FARMERCITY	0.5
G-007A	G-007A	0.67
GIBSON	GIBSON	0.26

Bus #	Bus	MW Impact
HAMLET	HAMLET	4.7
NEWTON	NEWTON	1.82
NYISO	NYISO	0.56
O-066A	O-066A	0.31
PRAIRIE	PRAIRIE	3.8
SANTEETLA	SANTEETLA	0.34
SMITHLAND	SMITHLAND	0.34
TATANKA	TATANKA	0.85
TILTON	TILTON	0.76
TRIMBLE	TRIMBLE	0.66
TVA	TVA	3.43
UNIONPOWER	UNIONPOWER	1.7
VFT	VFT	1.77

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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
364719	314902	8CARSON	DVP	314914	8MDLTHAN	DVP	1	DVP_P4-2: 557T574	breaker	3938.0	125.8	126.29	DC	51.61

Bus #	Bus	MW Impact
314539	3UNCAMP	3.89
314541	3WATKINS	1.1
314554	3BTLEBRO	1.19
314557	3BETHEL	1.22
314566	3CRESWEL	3.94
314572	3EMPORIA	0.62
314574	6EVERETS	6.48
314578	3HORNRTN	4.99
314582	3KELFORD	5.44
314594	6PLYMOTH	1.38
314603	3SCOT NK	5.06
314617	3TUNIS	1.32
314620	6CASHIE	1.36
314623	3WITAKRS	2.03
314648	6SUNBURY	1.5
314651	6WINFALL	2.97
315090	1YORKTN1	40.57
315091	1YORKTN2	42.1
315102	1BRUNSWICKG1	15.03
315103	1BRUNSWICKG2	15.03
315104	1BRUNSWICKG3	15.03
315105	1BRUNSWICKS1	31.22
315108	1ELIZAR1	5.16
315109	1ELIZAR2	5.07
315110	1ELIZAR3	5.22
315131	1EDGECEMA	13.88
315132	1EDGECEMB	13.88
315233	1SURRY 2	40.72
900672	V4-068 E	0.47
901082	W1-029 E	77.56
907092	X1-038 E	9.74
913392	Y1-086 E	3.74
916042	Z1-036 E	76.24
916191	Z1-068 C	0.07
916192	Z1-068 E	3.23
916301	Z1-086 C	91.74
916302	Z1-086 E	18.72
917122	Z2-027 E	1.8
917332	Z2-043 E	1.55
917342	Z2-044 E	0.87

Bus #	Bus	MW Impact
917512	Z2-088 E OP1	5.99
918492	AA1-063AE OP	6.12
918512	AA1-065 E OP	7.02
918532	AA1-067 E	1.14
918562	AA1-072 E	0.26
919151	AA1-139 C	3.95
919152	AA1-139 E	11.04
919692	AA2-053 E	5.68
919701	AA2-057 C	10.72
919702	AA2-057 E	5.36
920042	AA2-088 E OP	16.57
920592	AA2-165 E	0.71
920672	AA2-174 E	0.66
920692	AA2-178 E	6.76
923801	AB2-015 C O1	13.8
923802	AB2-015 E O1	11.32
923832	AB2-022 E	2.11
923852	AB2-025 E	1.64
923911	AB2-031 C O1	3.34
923912	AB2-031 E O1	1.65
923941	AB2-035 C	0.51
923942	AB2-035 E	0.22
923992	AB2-040 E O1	8.98
924152	AB2-059 E O1	8.12
924241	AB2-068 O1	333.57
924391	AB2-088 C	0.66
924392	AB2-088 E	0.32
924491	AB2-098 C	0.89
924492	AB2-098 E	0.38
924501	AB2-099 C	0.92
924502	AB2-099 E	0.39
924511	AB2-100 C	17.26
924512	AB2-100 E	8.5
925061	AB2-161 C O1	4.85
925062	AB2-161 E O1	7.91
925122	AB2-169 E	9.29
925171	AB2-174 C O1	10.48
925172	AB2-174 E O1	9.48
925281	AB2-186 C	1.03
925282	AB2-186 E	0.44
925291	AB2-188 C O1	3.89
925292	AB2-188 E O1	1.75
925521	AC1-027 C	0.53
925522	AC1-027 E	1.97
925591	AC1-034 C	10.22
925592	AC1-034 E	7.71
925781	AC1-054 C O1	6.77
925782	AC1-054 E O1	3.12
926071	AC1-086 C	31.38
926072	AC1-086 E	14.28
926201	AC1-098 C	9.39
926202	AC1-098 E	5.6

Bus #	Bus	MW Impact
926211	AC1-099 C	3.15
926212	AC1-099 E	1.85
926291	AC1-107 O1	503.5
926662	AC1-147 E	2.27
926751	AC1-161 C O1	55.54
926752	AC1-161 E O1	23.71
927021	AC1-189 C	13.4
927022	AC1-189 E	6.67
927141	AC1-208 C	13.69
927142	AC1-208 E	6.08
930402	AB1-081 E O1	5.74
930862	AB1-132 E O1	9.13
931232	AB1-173 E	1.57
931242	AB1-173AE	1.57
932041	AC2-012 C	17.45
932042	AC2-012 E	28.47
932581	AC2-078 C O1	5.17
932582	AC2-078 E O1	8.43
932591	AC2-079 C O1	8.82
932592	AC2-079 E O1	14.39
932631	AC2-084 C	13.39
932632	AC2-084 E	6.6
933291	AC2-141 C	55.54
933292	AC2-141 E	23.71
933731	AC2-196 C	0.47
933732	AC2-196 E	2.06
933991	AD1-023 C	21.22
933992	AD1-023 E	11.55
934061	AD1-033 C	13.0
934062	AD1-033 E	8.67
934201	AD1-047 C	11.97
934202	AD1-047 E	7.98
934331	AD1-057 C O1	15.05
934332	AD1-057 E O1	8.03
934521	AD1-076 C	88.43
934522	AD1-076 E	45.03
934571	AD1-082 C	11.06
934572	AD1-082 E	6.31
934611	AD1-087 C O1	12.76
934612	AD1-087 E O1	6.0
934621	AD1-088 C	17.18
934622	AD1-088 E	8.07
935112	AD1-144 E	1.54
935171	AD1-152 C O1	12.68
935172	AD1-152 E O1	8.45
936391	AD2-049 C	2.65
936392	AD2-049 E	2.65
936401	AD2-051 C O1	13.75
936402	AD2-051 E O1	5.9
936531	AD2-068 C	7.89
936532	AD2-068 E	4.06
936661	AD2-085 C	5.27

Bus #	Bus	MW Impact
936662	AD2-085 E	8.6
936701	AD2-089 C	11.01
936702	AD2-089 E	7.34
936711	AD2-090 C O1	11.42
936712	AD2-090 E O1	7.62
937221	AD2-160 C O1	10.09
937222	AD2-160 E O1	5.29
937251	AD2-164	6.9
937481	AD2-202 C O1	3.51
937482	AD2-202 E O1	1.77
937541	AD2-215 C	2.84
937542	AD2-215 E	1.51
937571	AD2-169 C	14.97
937572	AD2-169 E	9.98
938171	AE1-026 C1 O	45.08
938172	AE1-026 C2 O	6.52
938173	AE1-026 E O2	13.61
938181	AE1-027 C	4.05
938182	AE1-027 E	2.13
938191	AE1-028 C	2.35
938192	AE1-028 E	1.36
938221	AE1-035 C	3.56
938222	AE1-035 E	1.75
938461	AE1-065 C O2	48.93
938462	AE1-065 E O2	197.43
938471	AE1-066 C O2	50.28
938472	AE1-066 E O2	196.07
938481	AE1-067 C O2	45.72
938482	AE1-067 E O2	200.63
938491	AE1-068 C O2	118.23
938492	AE1-068 E O2	65.3
938501	AE1-069 C O2	93.85
938502	AE1-069 E O2	53.66
938531	AE1-072 C O2	30.15
938532	AE1-072 E O2	15.72
938631	AE1-085 C O2	14.04
938632	AE1-085 E O2	9.36
938661	AE1-088	2.81
938771	AE1-103 C O2	5.87
938772	AE1-103 E O2	8.11
938841	AE1-109AC O2	13.29
938842	AE1-109AE O2	8.86
939041	AE1-133 C	60.32
939042	AE1-133 E	29.71
939071	AE1-135 C O2	30.96
939072	AE1-135 E O2	20.64
939311	AE1-162 C	3.24
939312	AE1-162 E	2.16
939411	AE1-173 C	175.43
939412	AE1-173 E	116.95
940061	AE1-248 C O2	22.93
940062	AE1-248 E O2	15.29

Bus #	Bus	MW Impact
AA2-074	AA2-074	8.89
AB2-013	AB2-013	5.67
AE1-033	AE1-033	5.92
AE1-042	AE1-042	14.36
CARR	CARR	1.71
CBM-S1	CBM-S1	21.94
CBM-S2	CBM-S2	25.6
CBM-W1	CBM-W1	19.95
CBM-W2	CBM-W2	141.81
CIN	CIN	9.28
CPLE	CPLE	13.06
G-007	G-007	5.67
IPL	IPL	5.79
LGEE	LGEE	2.71
MEC	MEC	21.08
MECS	MECS	7.43
O-066	O-066	18.9
RENSSELAER	RENSSELAER	1.36
WEC	WEC	2.46
Z1-043	Z1-043	9.69

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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
364623	314903	8CHCKAHM	DVP	314908	8ELMONT	DVP	1	DVP_P4-2: 563T576	breaker	3144.0	138.64	139.3	DC	45.8

Bus #	Bus	MW Impact
314189	6PAPERMILL	10.93
314421	6WINCHST	0.25
314539	3UNCAMP	3.9
314541	3WATKINS	1.09
314554	3BTLEBRO	1.02
314557	3BETHEL	1.08
314566	3CRESWEL	3.91
314572	3EMPORIA	0.55
314574	6EVERETS	5.92
314578	3HORNRTN	4.48
314582	3KELFORD	5.03
314594	6PLYMOTH	1.35
314603	3SCOT NK	4.6
314617	3TUNIS	1.25
314620	6CASHIE	1.31
314623	3WITAKRS	1.76
314648	6SUNBURY	1.55
314651	6WINFALL	3.05
315073	1STONECA	8.71
315074	1HOPCGN1	10.5
315075	1HOPCGN2	10.37
315090	1YORKTN1	53.46
315091	1YORKTN2	55.48
315092	1YORKTN3	40.78
315110	1ELIZAR3	5.54
315131	1EDGEEMA	11.91
315132	1EDGEEMB	11.91
315233	1SURRY 2	49.17
900672	V4-068 E	0.45
901082	W1-029 E	79.96
907092	X1-038 E	9.74
913392	Y1-086 E	3.89
916042	Z1-036 E	77.56
916192	Z1-068 E	3.42
916302	Z1-086 E	13.64
917122	Z2-027 E	1.86
917332	Z2-043 E	1.43
917342	Z2-044 E	0.75
917512	Z2-088 E OP1	5.37
918492	AA1-063AE OP	5.61

Bus #	Bus	MW Impact
918512	AA1-065 E OP	6.65
918532	AA1-067 E	1.04
918562	AA1-072 E	0.24
919152	AA1-139 E	11.56
919692	AA2-053 E	5.17
919701	AA2-057 C	9.39
919702	AA2-057 E	4.69
920042	AA2-088 E OP	15.96
920592	AA2-165 E	0.62
920672	AA2-174 E	0.6
920692	AA2-178 E	6.71
923801	AB2-015 C O1	13.72
923802	AB2-015 E O1	11.25
923832	AB2-022 E	2.19
923842	AB2-024 E	1.84
923852	AB2-025 E	1.45
923911	AB2-031 C O1	2.98
923912	AB2-031 E O1	1.47
923941	AB2-035 C	0.45
923942	AB2-035 E	0.19
923992	AB2-040 E O1	8.02
924152	AB2-059 E O1	6.97
924241	AB2-068 O1	619.38
924391	AB2-088 C	0.58
924392	AB2-088 E	0.28
924491	AB2-098 C	0.81
924492	AB2-098 E	0.35
924501	AB2-099 C	0.87
924502	AB2-099 E	0.37
924511	AB2-100 C	15.33
924512	AB2-100 E	7.55
924812	AB2-134 E O1	18.11
925051	AB2-160 C O1	6.26
925052	AB2-160 E O1	10.22
925061	AB2-161 C O1	5.12
925062	AB2-161 E O1	8.35
925122	AB2-169 E	8.8
925171	AB2-174 C O1	9.33
925172	AB2-174 E O1	8.44
925281	AB2-186 C	1.06
925282	AB2-186 E	0.45
925291	AB2-188 C O1	3.86
925292	AB2-188 E O1	1.73
925331	AB2-190 C	29.17
925332	AB2-190 E	12.5
925522	AC1-027 E	2.08
925591	AC1-034 C	8.76
925592	AC1-034 E	6.61
925861	AC1-065 C	5.36
925862	AC1-065 E	8.75
926071	AC1-086 C	28.13
926072	AC1-086 E	12.8

Bus #	Bus	MW Impact
926201	AC1-098 C	8.44
926202	AC1-098 E	5.03
926211	AC1-099 C	2.83
926212	AC1-099 E	1.66
926291	AC1-107 O1	934.91
926662	AC1-147 E	2.41
926751	AC1-161 C O1	59.47
926752	AC1-161 E O1	25.39
926781	AC1-164 C	67.94
926782	AC1-164 E	30.53
927021	AC1-189 C	12.09
927022	AC1-189 E	6.02
927141	AC1-208 C	12.18
927142	AC1-208 E	5.41
927221	AC1-216 C O1	14.55
927222	AC1-216 E O1	11.45
930402	AB1-081 E O1	4.92
930862	AB1-132 E O1	8.19
931232	AB1-173 E	1.4
931242	AB1-173AE	1.4
932041	AC2-012 C	18.54
932042	AC2-012 E	30.26
932532	AC2-073 E	1.95
932581	AC2-078 C O1	5.51
932582	AC2-078 E O1	9.0
932591	AC2-079 C O1	9.25
932592	AC2-079 E O1	15.1
932631	AC2-084 C	12.04
932632	AC2-084 E	5.93
932831	AC2-110 C	2.15
932832	AC2-110 E	3.5
933061	AC2-130	3.1
933071	AC2-131 1	2.1
933081	AC2-131 2	0.95
933111	AC2-132 1	1.1
933121	AC2-132 2	0.56
933262	AC2-137 E	1.87
933272	AC2-138 E	1.18
933291	AC2-141 C	59.47
933292	AC2-141 E	25.39
933732	AC2-196 E	2.17
933991	AD1-023 C	20.57
933992	AD1-023 E	11.2
934011	AD1-025 C	25.02
934012	AD1-025 E	14.82
934061	AD1-033 C	13.69
934062	AD1-033 E	9.12
934141	AD1-041 C	8.49
934142	AD1-041 E	5.66
934201	AD1-047 C	10.69
934202	AD1-047 E	7.13
934212	AD1-048 E	1.38

Bus #	Bus	MW Impact
934331	AD1-057 C O1	13.17
934332	AD1-057 E O1	7.03
934392	AD1-063 E	1.75
934521	AD1-076 C	86.33
934522	AD1-076 E	43.96
934571	AD1-082 C	11.67
934572	AD1-082 E	6.65
934611	AD1-087 C O1	9.64
934612	AD1-087 E O1	4.53
935112	AD1-144 E	1.67
935161	AD1-151 C O1	23.44
935162	AD1-151 E O1	15.63
935171	AD1-152 C O1	9.58
935172	AD1-152 E O1	6.38
935212	AD1-156 E	1.73
936041	AD2-007	2.66
936051	AD2-008 C	4.36
936052	AD2-008 E	9.48
936151	AD2-021	0.33
936241	AD2-030 C	3.71
936242	AD2-030 E	1.9
936301	AD2-039 C	2.15
936302	AD2-039 E	3.5
936341	AD2-044 C	0.29
936342	AD2-044 E	0.33
936391	AD2-049 C	3.25
936392	AD2-049 E	3.25
936401	AD2-051 C O1	12.92
936402	AD2-051 E O1	5.55
936531	AD2-068 C	6.83
936532	AD2-068 E	3.52
936591	AD2-074 C	7.45
936592	AD2-074 E	12.16
936661	AD2-085 C	5.53
936662	AD2-085 E	9.03
936701	AD2-089 C	9.68
936702	AD2-089 E	6.45
936711	AD2-090 C O1	11.2
936712	AD2-090 E O1	7.47
937221	AD2-160 C O1	10.58
937222	AD2-160 E O1	5.55
937251	AD2-164	8.86
937481	AD2-202 C O1	2.65
937482	AD2-202 E O1	1.34
937541	AD2-215 C	3.09
937542	AD2-215 E	1.64
937571	AD2-169 C	13.39
937572	AD2-169 E	8.93
938031	AE1-004 C	2.15
938032	AE1-004 E	3.5
938171	AE1-026 C1 O	43.51
938172	AE1-026 C2 O	6.29

Bus #	Bus	MW Impact
938173	AE1-026 E O2	13.14
938181	AE1-027 C	4.25
938182	AE1-027 E	2.24
938191	AE1-028 C	2.47
938192	AE1-028 E	1.43
938221	AE1-035 C	3.38
938222	AE1-035 E	1.66
938461	AE1-065 C O2	51.72
938462	AE1-065 E O2	208.69
938471	AE1-066 C O2	53.15
938472	AE1-066 E O2	207.25
938481	AE1-067 C O2	48.33
938482	AE1-067 E O2	212.07
938491	AE1-068 C O2	86.13
938492	AE1-068 E O2	47.57
938501	AE1-069 C O2	68.35
938502	AE1-069 E O2	39.07
938531	AE1-072 C O2	31.51
938532	AE1-072 E O2	16.43
938631	AE1-085 C O2	14.96
938632	AE1-085 E O2	9.97
938661	AE1-088	2.67
938771	AE1-103 C O2	5.91
938772	AE1-103 E O2	8.16
938841	AE1-109AC O2	14.0
938842	AE1-109AE O2	9.33
939041	AE1-133 C	62.45
939042	AE1-133 E	30.76
939071	AE1-135 C O2	27.48
939072	AE1-135 E O2	18.32
939191	AE1-149 C O2	14.06
939192	AE1-149 E O2	9.37
939241	AE1-155 C	19.74
939242	AE1-155 E	13.16
939311	AE1-162 C	3.68
939312	AE1-162 E	2.45
939411	AE1-173 C	146.89
939412	AE1-173 E	97.93
939421	AE1-174 C	0.66
939422	AE1-174 E	1.0
939431	AE1-175 C	4.42
939432	AE1-175 E	2.19
939611	AE1-191 C	16.97
939612	AE1-191 E	11.31
940061	AE1-248 C O2	24.2
940062	AE1-248 E O2	16.13
940071	AE1-249 C	8.26
940072	AE1-249 E	6.16
AA2-074	AA2-074	6.78
AE1-042	AE1-042	9.38
CARR	CARR	1.33
CBM-S1	CBM-S1	13.78

Bus #	Bus	MW Impact
CBM-S2	CBM-S2	18.81
CBM-W1	CBM-W1	9.83
CBM-W2	CBM-W2	86.66
CIN	CIN	4.7
CPLE	CPLE	9.96
G-007	G-007	4.24
IPL	IPL	2.89
LGEE	LGEE	1.37
MEC	MEC	11.75
MECS	MECS	2.52
O-066	O-066	14.17
RENSSELAER	RENSSELAER	1.05
WEC	WEC	1.24

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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
364869	314905	8CHANCE	DVP	314900	8BRISTER	DVP	1	DVP_P4-2: H1T594	breaker	3351.0	112.91	113.4	DC	35.65

Bus #	Bus	MW Impact
314189	6PAPERMILL	7.44
314229	6MT RD221	0.13
314236	6NRTHEST	0.2
314250	6ROCKVILLE	0.35
314539	3UNCAMP	2.57
314541	3WATKINS	0.72
314566	3CRESWEL	2.52
314572	3EMPORIA	0.43
314594	6PLYMOTH	0.88
314617	3TUNIS	0.86
314620	6CASHIE	0.87
314648	6SUNBURY	0.96
314651	6WINFALL	1.89
315043	1FOUR RIVERA	3.81
315044	1FOUR RIVERB	2.95
315045	1FOUR RIVERC	3.81
315046	1FOUR RIVERD	2.95
315047	1FOUR RIVERE	2.95
315048	1FOUR RIVERF	3.81
315053	1BELMED1	19.57
315054	1BELMED2	19.57
315055	1BELMED3	16.25
315058	1CHESTF3	20.54
315059	1CHESTF4	33.29
315069	1DARBY 3	2.74
315070	1DARBY 4	2.75
315073	1STONECA	7.81
315074	1HOPCGN1	9.42
315075	1HOPCGN2	9.3
315083	1SPRUNCA	11.99
315084	1SPRUNCB	11.99
315085	1SPRUNCC	8.89
315086	1SPRUNCD	8.89
315090	1YORKTN1	31.96
315091	1YORKTN2	33.16
315225	1N ANNA1	39.18
315226	1N ANNA2	39.27
900672	V4-068 E	0.31
901082	W1-029 E	49.6
907092	X1-038 E	6.43

Bus #	Bus	MW Impact
913392	Y1-086 E	2.38
916042	Z1-036 E	48.7
916192	Z1-068 E	2.07
916302	Z1-086 E	9.45
917122	Z2-027 E	1.15
918512	AA1-065 E OP	4.5
919152	AA1-139 E	7.01
919211	AA1-145	11.03
920042	AA2-088 E OP	10.9
920692	AA2-178 E	4.32
923801	AB2-015 C O1	9.11
923802	AB2-015 E O1	7.47
923832	AB2-022 E	1.35
923842	AB2-024 E	1.25
923852	AB2-025 E	1.17
923862	AB2-026 E	1.1
924061	AB2-050	0.65
924241	AB2-068 O1	227.14
924501	AB2-099 C	0.6
924502	AB2-099 E	0.26
924511	AB2-100 C	11.86
924512	AB2-100 E	5.84
924812	AB2-134 E O1	13.73
925051	AB2-160 C O1	6.12
925052	AB2-160 E O1	9.98
925061	AB2-161 C O1	3.72
925062	AB2-161 E O1	6.08
925171	AB2-174 C O1	7.1
925172	AB2-174 E O1	6.42
925281	AB2-186 C	0.66
925282	AB2-186 E	0.28
925291	AB2-188 C O1	2.48
925292	AB2-188 E O1	1.12
925331	AB2-190 C	22.57
925332	AB2-190 E	9.67
925522	AC1-027 E	1.26
925861	AC1-065 C	3.78
925862	AC1-065 E	6.16
926001	AC1-076 C	5.06
926002	AC1-076 E	8.23
926291	AC1-107 O1	342.85
926411	AC1-112 C	0.35
926412	AC1-112 E	1.28
926551	AC1-134	1.62
926662	AC1-147 E	1.46
926731	AC1-158 C	93.67
926732	AC1-158 E	41.1
926751	AC1-161 C O1	33.6
926752	AC1-161 E O1	14.34
926781	AC1-164 C	45.68
926782	AC1-164 E	20.52
927041	AC1-191 C O1	10.81

Bus #	Bus	MW Impact
927042	AC1-191 E O1	5.38
927221	AC1-216 C O1	11.03
927222	AC1-216 E O1	8.68
930121	AB1-027 C	0.45
930122	AB1-027 E	1.26
932041	AC2-012 C	11.25
932042	AC2-012 E	18.35
932501	AC2-070 C	0.3
932502	AC2-070 E	0.8
932532	AC2-073 E	1.34
932581	AC2-078 C O1	4.52
932582	AC2-078 E O1	7.37
932591	AC2-079 C O1	6.29
932592	AC2-079 E O1	10.26
932831	AC2-110 C	1.51
932832	AC2-110 E	2.46
933011	AC2-125	3.09
933021	AC2-126	3.11
933031	AC2-127	1.7
933041	AC2-128	1.64
933051	AC2-129	1.53
933061	AC2-130	2.72
933071	AC2-131 1	1.84
933081	AC2-131 2	0.84
933111	AC2-132 1	0.97
933121	AC2-132 2	0.49
933262	AC2-137 E	1.54
933272	AC2-138 E	1.04
933291	AC2-141 C	33.6
933292	AC2-141 E	14.34
933501	AC2-165 C	9.69
933502	AC2-165 E	7.29
933732	AC2-196 E	1.31
933991	AD1-023 C	13.57
933992	AD1-023 E	7.39
934011	AD1-025 C	18.96
934012	AD1-025 E	11.23
934061	AD1-033 C	8.26
934062	AD1-033 E	5.5
934141	AD1-041 C	5.93
934142	AD1-041 E	3.96
934212	AD1-048 E	1.39
934392	AD1-063 E	1.2
934521	AD1-076 C	56.48
934522	AD1-076 E	28.76
934541	AD1-078 C	3.1
934542	AD1-078 E	1.82
934571	AD1-082 C	8.49
934572	AD1-082 E	4.84
934781	AD1-105 C	7.81
934782	AD1-105 E	5.43
935112	AD1-144 E	1.04

Bus #	Bus	MW Impact
935161	AD1-151 C O1	18.14
935162	AD1-151 E O1	12.09
935212	AD1-156 E	1.57
936041	AD2-007	2.01
936051	AD2-008 C	3.3
936052	AD2-008 E	7.19
936151	AD2-021	0.27
936241	AD2-030 C	2.57
936242	AD2-030 E	1.32
936301	AD2-039 C	1.51
936302	AD2-039 E	2.46
936341	AD2-044 C	0.26
936342	AD2-044 E	0.3
936391	AD2-049 C	1.99
936392	AD2-049 E	1.99
936401	AD2-051 C O1	8.86
936402	AD2-051 E O1	3.81
936591	AD2-074 C	5.95
936592	AD2-074 E	9.71
936661	AD2-085 C	3.78
936662	AD2-085 E	6.16
936711	AD2-090 C O1	7.53
936712	AD2-090 E O1	5.02
937221	AD2-160 C O1	6.41
937222	AD2-160 E O1	3.36
937251	AD2-164	5.35
937541	AD2-215 C	1.92
937542	AD2-215 E	1.02
938031	AE1-004 C	1.51
938032	AE1-004 E	2.46
938081	AE1-010	7.02
938171	AE1-026 C1 O	28.83
938172	AE1-026 C2 O	4.17
938173	AE1-026 E O2	8.71
938181	AE1-027 C	2.57
938182	AE1-027 E	1.35
938191	AE1-028 C	1.49
938192	AE1-028 E	0.86
938221	AE1-035 C	2.28
938222	AE1-035 E	1.12
938461	AE1-065 C O2	31.28
938462	AE1-065 E O2	126.23
938471	AE1-066 C O2	32.15
938472	AE1-066 E O2	125.36
938481	AE1-067 C O2	29.23
938482	AE1-067 E O2	128.27
938491	AE1-068 C O2	59.65
938492	AE1-068 E O2	32.95
938501	AE1-069 C O2	47.29
938502	AE1-069 E O2	27.04
938531	AE1-072 C O2	19.16
938532	AE1-072 E O2	9.99

Bus #	Bus	MW Impact
938551	AE1-074 C	2.76
938552	AE1-074 E	1.39
938561	AE1-075 C	2.15
938562	AE1-075 E	1.05
938631	AE1-085 C O2	12.11
938632	AE1-085 E O2	8.08
938771	AE1-103 C O2	3.88
938772	AE1-103 E O2	5.36
938841	AE1-109AC O2	9.98
938842	AE1-109AE O2	6.65
939041	AE1-133 C	38.46
939042	AE1-133 E	18.94
939071	AE1-135 C O2	21.39
939072	AE1-135 E O2	14.26
939191	AE1-149 C O2	11.92
939192	AE1-149 E O2	7.95
939241	AE1-155 C	16.12
939242	AE1-155 E	10.74
939281	AE1-159 C O2	15.73
939282	AE1-159 E O2	9.3
939311	AE1-162 C	2.39
939312	AE1-162 E	1.59
939411	AE1-173 C	94.27
939412	AE1-173 E	62.85
939421	AE1-174 C	0.22
939422	AE1-174 E	0.32
939431	AE1-175 C	2.7
939432	AE1-175 E	1.34
939611	AE1-191 C	11.87
939612	AE1-191 E	7.91
939751	AE1-206 C O2	32.93
939752	AE1-206 E O2	21.96
940061	AE1-248 C O2	17.65
940062	AE1-248 E O2	11.76
940071	AE1-249 C	8.07
940072	AE1-249 E	6.02
AA2-074	AA2-074	5.2
AE1-042	AE1-042	8.4
CARR	CARR	1.68
CBM-S1	CBM-S1	12.68
CBM-S2	CBM-S2	15.12
CBM-W1	CBM-W1	9.21
CBM-W2	CBM-W2	79.13
CIN	CIN	4.67
CPL	CPL	7.65
G-007	G-007	5.32
IPL	IPL	2.89
LGEE	LGEE	1.4
MEC	MEC	11.02
MECS	MECS	2.12
O-066	O-066	17.79
RENSSELAER	RENSSELAER	1.33

Bus #	Bus	MW Impact
WEC	WEC	1.19

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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
365212	314908	8ELMONT	DVP	314911	8LADYSMITH	DVP	1	DVP_P1-2: LN 576	single	2442.12	160.93	161.57	DC	34.32

Bus #	Bus	MW Impact
314229	6MT RD221	0.21
314236	6NRTHEST	0.33
314309	6IRON208	0.78
315053	1BELMED1	31.58
315054	1BELMED2	31.58
315055	1BELMED3	26.21
315058	1CHESTF3	33.55
315059	1CHESTF4	54.38
315060	1CHESTF5	17.66
315061	1CHESTG7	6.92
315062	1CHESTS7	3.15
315063	1CHESTG8	6.79
315064	1CHESTS8	3.5
315067	1DARBY 1	4.52
315068	1DARBY 2	4.52
315069	1DARBY 3	4.54
315070	1DARBY 4	4.54
315074	1HOPCGN1	15.47
315075	1HOPCGN2	15.27
315083	1SPRUNCA	19.11
315084	1SPRUNCB	19.11
315085	1SPRUNCC	14.17
315086	1SPRUNCD	14.17
315090	1YORKTN1	53.33
315091	1YORKTN2	55.34
315092	1YORKTN3	40.59
315233	1SURRY 2	44.08
923801	AB2-015 C O1	14.87
923911	AB2-031 C O1	3.63
924241	AB2-068 O1	428.63
924501	AB2-099 C	0.97
924511	AB2-100 C	19.06
925051	AB2-160 C O1	9.9
925061	AB2-161 C O1	6.07
925171	AB2-174 C O1	11.42
925281	AB2-186 C	1.08
925291	AB2-188 C O1	4.07
925331	AB2-190 C	37.15
925861	AC1-065 C	6.04
926071	AC1-086 C	33.57

Bus #	Bus	MW Impact
926291	AC1-107 O1	646.99
926411	AC1-112 C	0.59
926751	AC1-161 C O1	55.61
926781	AC1-164 C	77.78
927041	AC1-191 C O1	17.06
927221	AC1-216 C O1	18.16
930121	AB1-027 C	0.76
932041	AC2-012 C	18.51
932501	AC2-070 C	0.5
932581	AC2-078 C O1	7.33
932591	AC2-079 C O1	10.28
932831	AC2-110 C	2.41
933061	AC2-130	4.51
933071	AC2-131 1	3.06
933081	AC2-131 2	1.39
933111	AC2-132 1	1.61
933121	AC2-132 2	0.82
933261	AC2-137 C	0.61
933291	AC2-141 C	55.61
933991	AD1-023 C	22.2
934011	AD1-025 C	31.21
934061	AD1-033 C	13.58
934141	AD1-041 C	9.42
934201	AD1-047 C	13.01
934211	AD1-048 C	0.71
934521	AD1-076 C	92.47
934571	AD1-082 C	13.83
935161	AD1-151 C O1	29.86
936041	AD2-007	3.31
936051	AD2-008 C	5.43
936151	AD2-021	0.45
936241	AD2-030 C	4.05
936301	AD2-039 C	2.41
936391	AD2-049 C	3.31
936401	AD2-051 C O1	14.46
936661	AD2-085 C	6.17
936711	AD2-090 C O1	12.28
937221	AD2-160 C O1	10.53
937251	AD2-164	8.91
937541	AD2-215 C	3.16
937571	AD2-169 C	16.21
938031	AE1-004 C	2.41
938171	AE1-026 C1 O	47.16
938172	AE1-026 C2 O	6.82
938181	AE1-027 C	4.22
938191	AE1-028 C	2.45
938221	AE1-035 C	3.73
938461	AE1-065 C O2	51.45
938471	AE1-066 C O2	52.87
938481	AE1-067 C O2	48.08
938491	AE1-068 C O2	92.69
938501	AE1-069 C O2	73.46

Bus #	Bus	MW Impact
938531	AE1-072 C O2	31.5
938551	AE1-074 C	4.28
938631	AE1-085 C O2	19.66
938661	AE1-088	2.92
938771	AE1-103 C O2	6.34
938841	AE1-109AC O2	16.28
939041	AE1-133 C	63.17
939071	AE1-135 C O2	34.32
939191	AE1-149 C O2	19.32
939311	AE1-162 C	3.93
939411	AE1-173 C	149.52
939421	AE1-174 C	0.68
939431	AE1-175 C	4.55
939611	AE1-191 C	18.84
940061	AE1-248 C O2	28.76
940071	AE1-249 C	13.06
AA2-074	AA2-074	8.68
AB2-013	AB2-013	7.98
AE1-033	AE1-033	8.31
AE1-042	AE1-042	16.96
CARR	CARR	2.56
CBM-S1	CBM-S1	26.96
CBM-S2	CBM-S2	26.18
CBM-W1	CBM-W1	28.37
CBM-W2	CBM-W2	177.11
CIN	CIN	13.23
CPL	CPL	12.76
IPL	IPL	8.34
LGEE	LGEE	3.9
MEC	MEC	28.13
MECS	MECS	11.91
RENSSELAER	RENSSELAER	2.03
WEC	WEC	3.47
Z1-043	Z1-043	13.68

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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
364823	314911	8LADYSMITH	DVP	314905	8CHANCE	DVP	1	DVP_P4-2: SPOTS H1T594	breaker	3351.0	117.36	117.85	DC	35.88

Bus #	Bus	MW Impact
314189	6PAPERMILL	7.52
314229	6MT RD221	0.13
314250	6ROCKVILLE	0.36
314539	3UNCAMP	2.59
314541	3WATKINS	0.73
314566	3CRESWEL	2.54
314572	3EMPORIA	0.43
314594	6PLYMOTH	0.89
314617	3TUNIS	0.86
314620	6CASHIE	0.87
314648	6SUNBURY	0.97
314651	6WINFALL	1.91
315040	1LDYSMT4	5.2
315041	1LDYSMT5	5.21
315043	1FOUR RIVERA	3.87
315044	1FOUR RIVERB	3.0
315045	1FOUR RIVERC	3.87
315046	1FOUR RIVERD	3.0
315047	1FOUR RIVERE	3.0
315048	1FOUR RIVERF	3.86
315053	1BELMED1	19.76
315054	1BELMED2	19.76
315055	1BELMED3	16.4
315058	1CHESTF3	20.75
315059	1CHESTF4	33.63
315073	1STONECA	7.89
315074	1HOPCGN1	9.51
315075	1HOPCGN2	9.39
315083	1SPRUNCA	12.09
315084	1SPRUNCB	12.09
315085	1SPRUNCC	8.97
315086	1SPRUNCD	8.97
315090	1YORKTN1	32.27
315091	1YORKTN2	33.49
315225	1N ANNA1	39.47
315226	1N ANNA2	39.56
900672	V4-068 E	0.31
901082	W1-029 E	50.0
907092	X1-038 E	6.47
913392	Y1-086 E	2.4

Bus #	Bus	MW Impact
916042	Z1-036 E	49.08
916192	Z1-068 E	2.08
916302	Z1-086 E	9.5
917122	Z2-027 E	1.16
918512	AA1-065 E OP	4.53
919152	AA1-139 E	7.07
919211	AA1-145	11.18
920042	AA2-088 E OP	10.97
920692	AA2-178 E	4.35
923801	AB2-015 C O1	9.17
923802	AB2-015 E O1	7.52
923832	AB2-022 E	1.36
923842	AB2-024 E	1.26
923852	AB2-025 E	1.18
923862	AB2-026 E	1.09
923911	AB2-031 C O1	2.27
923912	AB2-031 E O1	1.12
923992	AB2-040 E O1	6.09
924061	AB2-050	0.66
924241	AB2-068 O1	229.88
924501	AB2-099 C	0.6
924502	AB2-099 E	0.26
924511	AB2-100 C	11.94
924512	AB2-100 E	5.88
924812	AB2-134 E O1	13.86
925051	AB2-160 C O1	6.17
925052	AB2-160 E O1	10.07
925061	AB2-161 C O1	3.76
925062	AB2-161 E O1	6.13
925122	AB2-169 E	5.94
925171	AB2-174 C O1	7.13
925172	AB2-174 E O1	6.45
925281	AB2-186 C	0.66
925282	AB2-186 E	0.28
925291	AB2-188 C O1	2.5
925292	AB2-188 E O1	1.12
925331	AB2-190 C	22.79
925332	AB2-190 E	9.77
925522	AC1-027 E	1.27
925861	AC1-065 C	3.82
925862	AC1-065 E	6.23
926291	AC1-107 O1	346.99
926411	AC1-112 C	0.35
926412	AC1-112 E	1.29
926551	AC1-134	1.64
926662	AC1-147 E	1.47
926731	AC1-158 C	94.26
926732	AC1-158 E	41.37
926751	AC1-161 C O1	33.9
926752	AC1-161 E O1	14.47
926781	AC1-164 C	46.19
926782	AC1-164 E	20.75

Bus #	Bus	MW Impact
927041	AC1-191 C O1	10.94
927042	AC1-191 E O1	5.45
927221	AC1-216 C O1	11.13
927222	AC1-216 E O1	8.76
930121	AB1-027 C	0.46
930122	AB1-027 E	1.27
931232	AB1-173 E	1.07
931242	AB1-173AE	1.07
932041	AC2-012 C	11.35
932042	AC2-012 E	18.51
932501	AC2-070 C	0.3
932502	AC2-070 E	0.81
932532	AC2-073 E	1.35
932581	AC2-078 C O1	4.56
932582	AC2-078 E O1	7.44
932591	AC2-079 C O1	6.34
932592	AC2-079 E O1	10.35
932831	AC2-110 C	1.53
932832	AC2-110 E	2.49
933011	AC2-125	3.15
933021	AC2-126	3.17
933031	AC2-127	1.74
933041	AC2-128	1.67
933051	AC2-129	1.57
933061	AC2-130	2.75
933071	AC2-131 1	1.86
933081	AC2-131 2	0.84
933111	AC2-132 1	0.98
933121	AC2-132 2	0.5
933262	AC2-137 E	1.55
933272	AC2-138 E	1.06
933291	AC2-141 C	33.9
933292	AC2-141 E	14.47
933732	AC2-196 E	1.32
933991	AD1-023 C	13.66
933992	AD1-023 E	7.44
934011	AD1-025 C	19.14
934012	AD1-025 E	11.34
934061	AD1-033 C	8.33
934062	AD1-033 E	5.55
934141	AD1-041 C	6.0
934142	AD1-041 E	4.0
934201	AD1-047 C	8.12
934202	AD1-047 E	5.41
934212	AD1-048 E	1.41
934392	AD1-063 E	1.21
934521	AD1-076 C	56.88
934522	AD1-076 E	28.96
934571	AD1-082 C	8.56
934572	AD1-082 E	4.88
934781	AD1-105 C	7.93
934782	AD1-105 E	5.51

Bus #	Bus	MW Impact
935112	AD1-144 E	1.05
935161	AD1-151 C O1	18.31
935162	AD1-151 E O1	12.21
935212	AD1-156 E	1.59
936041	AD2-007	2.03
936051	AD2-008 C	3.33
936052	AD2-008 E	7.25
936151	AD2-021	0.27
936241	AD2-030 C	2.6
936242	AD2-030 E	1.33
936301	AD2-039 C	1.53
936302	AD2-039 E	2.49
936341	AD2-044 C	0.26
936342	AD2-044 E	0.3
936391	AD2-049 C	2.01
936392	AD2-049 E	2.01
936401	AD2-051 C O1	8.92
936402	AD2-051 E O1	3.83
936581	AD2-073 C	2.26
936582	AD2-073 E	1.12
936591	AD2-074 C	6.03
936592	AD2-074 E	9.84
936661	AD2-085 C	3.81
936662	AD2-085 E	6.21
936711	AD2-090 C O1	7.58
936712	AD2-090 E O1	5.05
937221	AD2-160 C O1	6.46
937222	AD2-160 E O1	3.39
937251	AD2-164	5.4
937541	AD2-215 C	1.94
937542	AD2-215 E	1.03
938031	AE1-004 C	1.53
938032	AE1-004 E	2.49
938081	AE1-010	7.48
938171	AE1-026 C1 O	29.03
938172	AE1-026 C2 O	4.2
938173	AE1-026 E O2	8.77
938181	AE1-027 C	2.59
938182	AE1-027 E	1.36
938191	AE1-028 C	1.5
938192	AE1-028 E	0.87
938221	AE1-035 C	2.3
938222	AE1-035 E	1.13
938461	AE1-065 C O2	31.55
938462	AE1-065 E O2	127.31
938471	AE1-066 C O2	32.42
938472	AE1-066 E O2	126.44
938481	AE1-067 C O2	29.48
938482	AE1-067 E O2	129.38
938491	AE1-068 C O2	60.01
938492	AE1-068 E O2	33.15
938501	AE1-069 C O2	47.58

Bus #	Bus	MW Impact
938502	AE1-069 E O2	27.2
938531	AE1-072 C O2	19.33
938532	AE1-072 E O2	10.07
938551	AE1-074 C	2.78
938552	AE1-074 E	1.4
938561	AE1-075 C	2.13
938562	AE1-075 E	1.04
938631	AE1-085 C O2	12.22
938632	AE1-085 E O2	8.15
938661	AE1-088	1.8
938771	AE1-103 C O2	3.91
938772	AE1-103 E O2	5.39
938841	AE1-109AC O2	10.06
938842	AE1-109AE O2	6.71
939041	AE1-133 C	38.78
939042	AE1-133 E	19.1
939071	AE1-135 C O2	21.53
939072	AE1-135 E O2	14.35
939191	AE1-149 C O2	12.03
939192	AE1-149 E O2	8.02
939241	AE1-155 C	16.34
939242	AE1-155 E	10.89
939281	AE1-159 C O2	16.02
939282	AE1-159 E O2	9.48
939311	AE1-162 C	2.41
939312	AE1-162 E	1.61
939411	AE1-173 C	94.99
939412	AE1-173 E	63.32
939421	AE1-174 C	0.22
939422	AE1-174 E	0.33
939431	AE1-175 C	2.73
939432	AE1-175 E	1.36
939611	AE1-191 C	12.0
939612	AE1-191 E	8.0
939751	AE1-206 C O2	33.39
939752	AE1-206 E O2	22.26
940061	AE1-248 C O2	17.8
940062	AE1-248 E O2	11.87
940071	AE1-249 C	8.14
940072	AE1-249 E	6.07
AA2-074	AA2-074	5.21
AE1-042	AE1-042	8.36
CARR	CARR	1.66
CBM-S1	CBM-S1	12.61
CBM-S2	CBM-S2	15.12
CBM-W1	CBM-W1	9.11
CBM-W2	CBM-W2	78.69
CIN	CIN	4.62
CPLE	CPLE	7.66
G-007	G-007	5.24
IPL	IPL	2.85
LGEE	LGEE	1.39

Bus #	Bus	MW Impact
MEC	MEC	10.93
MECS	MECS	2.08
O-066	O-066	17.53
RENSSELAER	RENSSELAER	1.32
WEC	WEC	1.18

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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
365282	314914	8MDLTHAN	DVP	314918	8NO ANNA	DVP	1	DVP_P1-2: LN 574	single	2442.12	139.0	139.6	DC	32.44

Bus #	Bus	MW Impact
314507	3THOMPSON	0.5
315053	1BELMED1	25.07
315054	1BELMED2	25.07
315055	1BELMED3	20.81
315058	1CHESTF3	25.14
315059	1CHESTF4	40.75
315074	1HOPCGN1	12.12
315075	1HOPCGN2	11.96
315083	1SPRUNCA	16.05
315084	1SPRUNCB	16.05
315085	1SPRUNCC	11.9
315086	1SPRUNCD	11.9
315090	1YORKTN1	42.5
315091	1YORKTN2	44.1
315098	1CHESPKA	0.66
315099	1CHESPKB	1.63
315102	1BRUNSWICKG1	12.99
315103	1BRUNSWICKG2	12.99
315104	1BRUNSWICKG3	12.99
315105	1BRUNSWICKS1	26.98
315108	1ELIZAR1	4.83
315109	1ELIZAR2	4.74
315110	1ELIZAR3	4.89
315131	1EDGECEMA	13.54
315132	1EDGECEMB	13.54
315150	1BUGGS 1	15.64
315151	1BUGGS 2	15.64
315260	1GOSPORTA	0.52
315261	1GOSPORTB	0.67
315262	1GOSPORTC	0.57
916191	Z1-068 C	0.07
916301	Z1-086 C	79.05
919151	AA1-139 C	3.68
919701	AA2-057 C	10.53
923801	AB2-015 C O1	13.5
923911	AB2-031 C O1	3.44
923941	AB2-035 C	0.5
924241	AB2-068 O1	245.7
924391	AB2-088 C	0.64
924401	AB2-089 C	3.06

Bus #	Bus	MW Impact
924491	AB2-098 C	0.86
924501	AB2-099 C	0.9
924511	AB2-100 C	18.01
925051	AB2-160 C O1	8.2
925061	AB2-161 C O1	5.31
925171	AB2-174 C O1	10.81
925281	AB2-186 C	0.97
925291	AB2-188 C O1	3.7
925331	AB2-190 C	30.03
925521	AC1-027 C	0.49
925591	AC1-034 C	9.97
925781	AC1-054 C O1	10.43
925861	AC1-065 C	4.35
926071	AC1-086 C	31.65
926201	AC1-098 C	9.25
926211	AC1-099 C	3.1
926291	AC1-107 O1	370.86
926661	AC1-147 C	0.56
926751	AC1-161 C O1	49.17
926761	AC1-162 C	38.64
926781	AC1-164 C	52.72
927021	AC1-189 C	12.98
927141	AC1-208 C	13.55
927221	AC1-216 C O1	14.74
932041	AC2-012 C	16.38
932581	AC2-078 C O1	6.32
932591	AC2-079 C O1	9.07
932631	AC2-084 C	13.19
932831	AC2-110 C	1.74
933061	AC2-130	3.31
933071	AC2-131 1	2.24
933081	AC2-131 2	1.02
933111	AC2-132 1	1.18
933121	AC2-132 2	0.6
933291	AC2-141 C	49.17
933501	AC2-165 C	14.57
933731	AC2-196 C	0.44
933991	AD1-023 C	20.38
934011	AD1-025 C	25.34
934061	AD1-033 C	12.08
934141	AD1-041 C	6.82
934201	AD1-047 C	12.31
934231	AD1-050 C	6.76
934331	AD1-057 C O1	14.91
934521	AD1-076 C	84.66
934571	AD1-082 C	12.1
934611	AD1-087 C O1	12.17
934621	AD1-088 C	18.68
935161	AD1-151 C O1	24.13
935171	AD1-152 C O1	12.1
936041	AD2-007	2.69
936051	AD2-008 C	4.41

Bus #	Bus	MW Impact
936151	AD2-021	0.31
936301	AD2-039 C	1.74
936361	AD2-046 C O1	12.51
936391	AD2-049 C	2.72
936401	AD2-051 C O1	13.42
936481	AD2-063 C O1	20.3
936531	AD2-068 C	7.59
936661	AD2-085 C	5.44
936701	AD2-089 C	10.71
936711	AD2-090 C O1	11.21
937221	AD2-160 C O1	9.39
937251	AD2-164	7.18
937481	AD2-202 C O1	3.35
937541	AD2-215 C	2.76
937571	AD2-169 C	15.32
938031	AE1-004 C	1.74
938171	AE1-026 C1 O	43.36
938172	AE1-026 C2 O	6.27
938181	AE1-027 C	3.76
938191	AE1-028 C	2.18
938221	AE1-035 C	3.45
938461	AE1-065 C O2	45.68
938471	AE1-066 C O2	46.94
938481	AE1-067 C O2	42.69
938491	AE1-068 C O2	101.87
938501	AE1-069 C O2	80.8
938531	AE1-072 C O2	28.11
938551	AE1-074 C	4.01
938561	AE1-075 C	3.3
938631	AE1-085 C O2	16.99
938661	AE1-088	2.71
938771	AE1-103 C O2	5.73
938841	AE1-109AC O2	14.27
939041	AE1-133 C	56.58
939071	AE1-135 C O2	32.44
939181	AE1-148 C O2	12.33
939191	AE1-149 C O2	16.61
939311	AE1-162 C	3.35
939411	AE1-173 C	152.63
939421	AE1-174 C	0.27
939431	AE1-175 C	3.42
939611	AE1-191 C	13.63
940061	AE1-248 C O2	25.15
940071	AE1-249 C	10.82
AA2-074	AA2-074	8.51
AB2-013	AB2-013	6.46
AE1-033	AE1-033	6.73
AE1-042	AE1-042	15.02
CARR	CARR	2.05
CBM-S1	CBM-S1	23.39
CBM-S2	CBM-S2	25.03
CBM-W1	CBM-W1	22.8

Bus #	Bus	MW Impact
CBM-W2	CBM-W2	152.26
CIN	CIN	10.65
CPLE	CPLE	12.51
IPL	IPL	6.67
LGEE	LGEE	3.12
MEC	MEC	23.37
MECS	MECS	9.01
RENSELAER	RENSELAER	1.62
WEC	WEC	2.8
Z1-043	Z1-043	11.04

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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
366408	314934	8SPOTSYL	DVP	314916	8MORRSVL	DVP	1	DVP_P7-1: LN 198-581	tower	3938.0	110.35	110.81	DC	39.67

Bus #	Bus	MW Impact
314189	6PAPERMILL	7.73
314250	6ROCKVILLE	0.38
314539	3UNCAMP	2.84
314541	3WATKINS	0.8
314566	3CRESWEL	2.78
314572	3EMPORIA	0.47
314594	6PLYMOTH	0.98
314617	3TUNIS	0.95
314620	6CASHIE	0.96
314648	6SUNBURY	1.05
314651	6WINFALL	2.09
315053	1BELMED1	20.87
315054	1BELMED2	20.87
315055	1BELMED3	17.32
315058	1CHESTF3	21.62
315059	1CHESTF4	35.04
315073	1STONECA	8.31
315074	1HOPCGN1	10.02
315075	1HOPCGN2	9.89
315083	1SPRUNCA	12.94
315084	1SPRUNCB	12.94
315085	1SPRUNCC	9.6
315086	1SPRUNCD	9.6
315090	1YORKTN1	34.21
315091	1YORKTN2	35.5
315225	1N ANNA1	56.0
315226	1N ANNA2	56.12
315233	1SURREY 2	28.18
900672	V4-068 E	0.34
901082	W1-029 E	54.6
907092	X1-038 E	7.09
913392	Y1-086 E	2.62
916042	Z1-036 E	53.67
916192	Z1-068 E	2.27
916302	Z1-086 E	10.91
917122	Z2-027 E	1.26
918492	AA1-063AE OP	4.45
918512	AA1-065 E OP	4.98
919152	AA1-139 E	7.71
920042	AA2-088 E OP	12.06

Bus #	Bus	MW Impact
920692	AA2-178 E	4.77
923801	AB2-015 C O1	10.05
923802	AB2-015 E O1	8.24
923832	AB2-022 E	1.48
923842	AB2-024 E	1.3
923852	AB2-025 E	1.3
923862	AB2-026 E	1.26
923911	AB2-031 C O1	2.51
923912	AB2-031 E O1	1.24
923992	AB2-040 E O1	6.75
924241	AB2-068 O1	227.75
924501	AB2-099 C	0.66
924502	AB2-099 E	0.28
924511	AB2-100 C	13.2
924512	AB2-100 E	6.5
924812	AB2-134 E O1	14.74
925021	AB2-158 C	2.15
925022	AB2-158 E	6.24
925051	AB2-160 C O1	6.59
925052	AB2-160 E O1	10.75
925061	AB2-161 C O1	4.07
925062	AB2-161 E O1	6.64
925122	AB2-169 E	6.54
925171	AB2-174 C O1	7.91
925172	AB2-174 E O1	7.16
925281	AB2-186 C	0.73
925282	AB2-186 E	0.31
925291	AB2-188 C O1	2.74
925292	AB2-188 E O1	1.23
925331	AB2-190 C	24.21
925332	AB2-190 E	10.38
925522	AC1-027 E	1.38
925861	AC1-065 C	3.93
925862	AC1-065 E	6.41
926001	AC1-076 C	7.22
926002	AC1-076 E	11.75
926071	AC1-086 C	23.08
926072	AC1-086 E	10.5
926291	AC1-107 O1	343.78
926412	AC1-112 E	1.3
926662	AC1-147 E	1.6
926731	AC1-158 C	193.98
926732	AC1-158 E	85.13
926751	AC1-161 C O1	36.9
926752	AC1-161 E O1	15.75
926781	AC1-164 C	47.18
926782	AC1-164 E	21.2
927041	AC1-191 C O1	10.94
927042	AC1-191 E O1	5.45
927221	AC1-216 C O1	11.84
927222	AC1-216 E O1	9.31
930122	AB1-027 E	1.28

Bus #	Bus	MW Impact
930862	AB1-132 E O1	6.72
931232	AB1-173 E	1.18
931242	AB1-173AE	1.18
932041	AC2-012 C	12.35
932042	AC2-012 E	20.14
932502	AC2-070 E	0.81
932532	AC2-073 E	1.39
932581	AC2-078 C O1	4.92
932582	AC2-078 E O1	8.02
932591	AC2-079 C O1	6.89
932592	AC2-079 E O1	11.24
932831	AC2-110 C	1.57
932832	AC2-110 E	2.57
933011	AC2-125	2.82
933021	AC2-126	2.84
933031	AC2-127	1.55
933041	AC2-128	1.49
933051	AC2-129	1.4
933061	AC2-130	2.85
933071	AC2-131 1	1.93
933081	AC2-131 2	0.88
933111	AC2-132 1	1.02
933121	AC2-132 2	0.52
933262	AC2-137 E	1.59
933291	AC2-141 C	36.9
933292	AC2-141 E	15.75
933501	AC2-165 C	11.1
933502	AC2-165 E	8.36
933732	AC2-196 E	1.44
933991	AD1-023 C	15.01
933992	AD1-023 E	8.17
934011	AD1-025 C	20.36
934012	AD1-025 E	12.06
934061	AD1-033 C	9.07
934062	AD1-033 E	6.05
934141	AD1-041 C	6.18
934142	AD1-041 E	4.12
934201	AD1-047 C	9.0
934202	AD1-047 E	6.0
934212	AD1-048 E	1.44
934392	AD1-063 E	1.25
934521	AD1-076 C	62.46
934522	AD1-076 E	31.8
934541	AD1-078 C	4.42
934542	AD1-078 E	2.6
934571	AD1-082 C	9.28
934572	AD1-082 E	5.29
935112	AD1-144 E	1.14
935161	AD1-151 C O1	19.45
935162	AD1-151 E O1	12.97
935212	AD1-156 E	1.72
936041	AD2-007	2.16

Bus #	Bus	MW Impact
936051	AD2-008 C	3.54
936052	AD2-008 E	7.72
936151	AD2-021	0.28
936241	AD2-030 C	2.68
936242	AD2-030 E	1.37
936301	AD2-039 C	1.57
936302	AD2-039 E	2.57
936391	AD2-049 C	2.15
936392	AD2-049 E	2.15
936401	AD2-051 C O1	9.83
936402	AD2-051 E O1	4.22
936591	AD2-074 C	6.11
936592	AD2-074 E	9.97
936661	AD2-085 C	4.14
936662	AD2-085 E	6.75
936711	AD2-090 C O1	8.32
936712	AD2-090 E O1	5.55
937221	AD2-160 C O1	7.04
937222	AD2-160 E O1	3.69
937251	AD2-164	5.74
937541	AD2-215 C	2.1
937542	AD2-215 E	1.11
937571	AD2-169 C	11.2
937572	AD2-169 E	7.47
938031	AE1-004 C	1.57
938032	AE1-004 E	2.57
938081	AE1-010	10.02
938171	AE1-026 C1 O	31.91
938172	AE1-026 C2 O	4.62
938173	AE1-026 E O2	9.64
938181	AE1-027 C	2.82
938182	AE1-027 E	1.49
938191	AE1-028 C	1.64
938192	AE1-028 E	0.95
938221	AE1-035 C	2.53
938222	AE1-035 E	1.25
938461	AE1-065 C O2	34.36
938462	AE1-065 E O2	138.64
938471	AE1-066 C O2	35.31
938472	AE1-066 E O2	137.69
938481	AE1-067 C O2	32.11
938482	AE1-067 E O2	140.89
938491	AE1-068 C O2	68.91
938492	AE1-068 E O2	38.06
938501	AE1-069 C O2	54.64
938502	AE1-069 E O2	31.24
938531	AE1-072 C O2	21.07
938532	AE1-072 E O2	10.99
938551	AE1-074 C	3.05
938552	AE1-074 E	1.54
938561	AE1-075 C	2.47
938562	AE1-075 E	1.2

Bus #	Bus	MW Impact
938631	AE1-085 C O2	13.19
938632	AE1-085 E O2	8.79
938661	AE1-088	1.98
938771	AE1-103 C O2	4.28
938772	AE1-103 E O2	5.9
938841	AE1-109AC O2	10.91
938842	AE1-109AE O2	7.27
939041	AE1-133 C	42.32
939042	AE1-133 E	20.85
939071	AE1-135 C O2	23.8
939072	AE1-135 E O2	15.87
939191	AE1-149 C O2	12.96
939192	AE1-149 E O2	8.64
939231	AE1-154 C	2.29
939232	AE1-154 E	1.61
939281	AE1-159 C O2	14.67
939282	AE1-159 E O2	8.68
939311	AE1-162 C	2.59
939312	AE1-162 E	1.73
939411	AE1-173 C	107.0
939412	AE1-173 E	71.33
939421	AE1-174 C	0.23
939422	AE1-174 E	0.34
939431	AE1-175 C	2.86
939432	AE1-175 E	1.42
939611	AE1-191 C	12.36
939612	AE1-191 E	8.24
940061	AE1-248 C O2	19.28
940062	AE1-248 E O2	12.85
940071	AE1-249 C	8.69
940072	AE1-249 E	6.48
AA2-074	AA2-074	5.85
AE1-042	AE1-042	9.1
CARR	CARR	1.83
CBM-S1	CBM-S1	13.6
CBM-S2	CBM-S2	16.87
CBM-W1	CBM-W1	9.14
CBM-W2	CBM-W2	84.2
CIN	CIN	4.71
CPLE	CPLE	8.59
G-007	G-007	5.72
IPL	IPL	2.89
LGEE	LGEE	1.42
MEC	MEC	11.41
MECS	MECS	1.68
O-066	O-066	19.13
RENSSELAER	RENSSELAER	1.44
WEC	WEC	1.2

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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
365386	919140	AA1-138 TAP	DVP	314537	6SUFFOLK	DVP	1	DVP_P1-2: LN 2092	single	571.52	119.17	121.2	DC	11.71

Bus #	Bus	MW Impact
314589	3MURPHYS	0.09
314704	3LAWRENC	0.17
315126	1ROARAP2	1.21
315128	1ROARAP4	1.16
315131	1EDGECEMA	9.42
315132	1EDGECEMB	9.42
315136	1ROSEMG1	2.12
315137	1ROSEMS1	1.31
315138	1ROSEMG2	0.99
315139	1GASTONA	2.98
315141	1GASTONB	2.98
315159	1KERR 2	0.66
315163	1KERR 6	0.65
315164	1KERR 7	0.65
315292	1DOMTR78	2.53
315293	1DOMTR9	2.07
315294	1DOMTR10	3.75
916041	Z1-036 C	2.06
917331	Z2-043 C	0.58
917341	Z2-044 C	0.21
917511	Z2-088 C OP1	2.1
918491	AA1-063AC OP	1.69
918511	AA1-065 C OP	2.99
918531	AA1-067 C	0.45
918561	AA1-072 C	0.09
919691	AA2-053 C	1.53
919701	AA2-057 C	7.67
920041	AA2-088 C OP	0.62
920591	AA2-165 C	0.16
920671	AA2-174 C	0.07
920691	AA2-178 C	2.96
923911	AB2-031 C O1	1.74
923941	AB2-035 C	0.43
923991	AB2-040 C O1	0.88
924151	AB2-059 C O1	1.62
924391	AB2-088 C	0.56
924401	AB2-089 C	1.24
924491	AB2-098 C	0.99
924501	AB2-099 C	0.95
924511	AB2-100 C	7.12

Bus #	Bus	MW Impact
925121	AB2-169 C	1.88
925171	AB2-174 C O1	5.2
925291	AB2-188 C O1	4.76
925591	AC1-034 C	6.83
925781	AC1-054 C O1	4.49
926071	AC1-086 C	21.85
926201	AC1-098 C	7.82
926211	AC1-099 C	2.62
927021	AC1-189 C	13.69
927141	AC1-208 C	10.09
930401	AB1-081 C O1	1.37
930861	AB1-132 C O1	2.28
931231	AB1-173 C	0.27
931241	AB1-173AC	0.27
932631	AC2-084 C	11.15
933991	AD1-023 C	27.21
934201	AD1-047 C	6.24
934231	AD1-050 C	2.73
934331	AD1-057 C O1	10.32
934521	AD1-076 C	110.72
936401	AD2-051 C O1	15.91
936531	AD2-068 C	6.56
936701	AD2-089 C	9.29
937571	AD2-169 C	8.2
938171	AE1-026 C1 O	58.54
938172	AE1-026 C2 O	8.47
938221	AE1-035 C	4.88
938661	AE1-088	6.3
939071	AE1-135 C O2	11.71
AA2-074	AA2-074	2.72
CARR	CARR	0.19
CBM-S1	CBM-S1	6.0
CBM-S2	CBM-S2	7.06
CBM-W1	CBM-W1	6.22
CBM-W2	CBM-W2	39.64
CIN	CIN	2.79
CPLE	CPLE	4.0
IPL	IPL	1.75
LGEE	LGEE	0.81
MEC	MEC	6.15
MECS	MECS	2.72
RENSSELAER	RENSSELAER	0.15
WEC	WEC	0.75

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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
366266	936530	AD2-068 TAP	DVP	304451	6GREENVILLE T	CPL	1	DVP_P7-1: LN 2058-2181	tower	478.0	170.2	171.84	DC	17.28

Bus #	Bus	MW Impact
314539	3UNCAMP	1.27
314541	3WATKINS	0.39
314554	3BTLEBRO	0.38
314557	3BETHEL	1.06
314566	3CRESWEL	2.23
314572	3EMPORIA	0.22
314574	6EVERETS	8.22
314578	3HORNRTN	2.14
314582	3KELFORD	3.33
314589	3MURPHYS	0.07
314594	6PLYMOTH	0.9
314603	3SCOT NK	2.69
314617	3TUNIS	0.78
314620	6CASHIE	0.97
314623	3WITAKRS	0.71
314648	6SUNBURY	0.41
314651	6WINFALL	0.99
315131	1EDGECEMA	8.55
315132	1EDGECEMB	8.55
315136	1ROSEMG1	1.58
315137	1ROSEMS1	0.98
315138	1ROSEMG2	0.74
315292	1DOMTR78	1.65
315293	1DOMTR9	1.35
315294	1DOMTR10	2.45
900672	V4-068 E	0.24
901082	W1-029 E	24.7
907092	X1-038 E	3.17
913392	Y1-086 E	1.0
916042	Z1-036 E	30.84
917122	Z2-027 E	0.52
917331	Z2-043 C	0.34
917332	Z2-043 E	0.95
917342	Z2-044 E	0.31
917511	Z2-088 C OP1	2.29
917512	Z2-088 E OP1	6.41
918491	AA1-063AC OP	1.07
918492	AA1-063AE OP	3.28
918511	AA1-065 C OP	1.72
918512	AA1-065 E OP	5.52

Bus #	Bus	MW Impact
918531	AA1-067 C	0.52
918532	AA1-067 E	1.45
918561	AA1-072 C	0.05
918562	AA1-072 E	0.16
919692	AA2-053 E	2.78
919701	AA2-057 C	4.11
919702	AA2-057 E	2.06
920042	AA2-088 E OP	6.8
920592	AA2-165 E	0.27
920672	AA2-174 E	0.32
920691	AA2-178 C	1.37
920692	AA2-178 E	3.82
923801	AB2-015 C O1	4.71
923802	AB2-015 E O1	3.86
923832	AB2-022 E	0.57
923911	AB2-031 C O1	1.26
923912	AB2-031 E O1	0.62
923941	AB2-035 C	0.44
923942	AB2-035 E	0.19
923992	AB2-040 E O1	3.38
924152	AB2-059 E O1	3.09
924391	AB2-088 C	0.57
924392	AB2-088 E	0.28
924491	AB2-098 C	1.13
924492	AB2-098 E	0.48
924501	AB2-099 C	0.59
924502	AB2-099 E	0.25
924511	AB2-100 C	6.1
924512	AB2-100 E	3.0
925121	AB2-169 C	1.49
925122	AB2-169 E	8.74
925171	AB2-174 C O1	3.82
925172	AB2-174 E O1	3.46
925281	AB2-186 C	0.37
925282	AB2-186 E	0.16
925291	AB2-188 C O1	2.2
925292	AB2-188 E O1	0.99
925591	AC1-034 C	3.89
925592	AC1-034 E	2.93
926071	AC1-086 C	15.85
926072	AC1-086 E	7.21
926201	AC1-098 C	4.52
926202	AC1-098 E	2.69
926211	AC1-099 C	1.51
926212	AC1-099 E	0.89
927021	AC1-189 C	15.22
927022	AC1-189 E	7.58
927141	AC1-208 C	5.86
927142	AC1-208 E	2.6
930402	AB1-081 E O1	2.18
930862	AB1-132 E O1	4.61
931232	AB1-173 E	0.59

Bus #	Bus	MW Impact
931242	AB1-173AE	0.59
932631	AC2-084 C	6.44
932632	AC2-084 E	3.17
933991	AD1-023 C	14.77
933992	AD1-023 E	8.04
934201	AD1-047 C	4.51
934202	AD1-047 E	3.01
934331	AD1-057 C O1	8.5
934332	AD1-057 E O1	4.54
934521	AD1-076 C	58.81
934522	AD1-076 E	29.95
936401	AD2-051 C O1	9.44
936402	AD2-051 E O1	4.05
936531	AD2-068 C	19.17
936532	AD2-068 E	9.88
936701	AD2-089 C	9.53
936702	AD2-089 E	6.36
936711	AD2-090 C O1	4.25
936712	AD2-090 E O1	2.83
937571	AD2-169 C	5.83
937572	AD2-169 E	3.89
938171	AE1-026 C1 O	32.13
938172	AE1-026 C2 O	4.65
938173	AE1-026 E O2	9.7
938221	AE1-035 C	2.8
938222	AE1-035 E	1.38
938661	AE1-088	5.0
938771	AE1-103 C O2	1.85
938772	AE1-103 E O2	2.55
939041	AE1-133 C	17.42
939042	AE1-133 E	8.58
939071	AE1-135 C O2	10.37
939072	AE1-135 E O2	6.91
AC1-133	AC1-133	24.62
BAYOU	BAYOU	2.85
BIG_CAJUN1	BIG_CAJUN1	4.51
BIG_CAJUN2	BIG_CAJUN2	9.07
BLUEG	BLUEG	7.82
CALDERWOOD	CALDERWOOD	1.67
CANNELTON	CANNELTON	0.54
CATAWBA	CATAWBA	1.63
CBM-N	CBM-N	0.21
CHEOAH	CHEOAH	1.56
CHILHOWEE	CHILHOWEE	0.54
CHOCTAW	CHOCTAW	3.07
COFFEEN	COFFEEN	0.93
COTTONWOOD	COTTONWOOD	11.15
DEARBORN	DEARBORN	0.97
DUCKCREEK	DUCKCREEK	1.89
EDWARDS	EDWARDS	0.84
ELMERSMITH	ELMERSMITH	0.95
FARMERCITY	FARMERCITY	0.67

Bus #	Bus	MW Impact
G-007A	G-007A	1.0
GIBSON	GIBSON	0.34
HAMLET	HAMLET	6.98
NEWTON	NEWTON	2.4
NYISO	NYISO	0.91
O-066A	O-066A	0.46
PRAIRIE	PRAIRIE	5.08
SANTEETLA	SANTEETLA	0.46
SMITHLAND	SMITHLAND	0.46
TATANKA	TATANKA	1.13
TILTON	TILTON	0.99
TRIMBLE	TRIMBLE	0.86
TVA	TVA	4.7
UNIONPOWER	UNIONPOWER	2.33
VFT	VFT	2.66

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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
364466	939070	AE1-135 TAP	DVP	314563	6CLUBHSE	DVP	1	DVP_P4-2: 239T2141	breaker	427.0	144.68	191.45	DC	199.68

Bus #	Bus	MW Impact
315139	1GASTONA	16.84
315141	1GASTONB	16.84
924511	AB2-100 C	66.89
924512	AB2-100 E	32.95
926071	AC1-086 C	123.5
926072	AC1-086 E	56.21
930861	AB1-132 C O1	12.86
930862	AB1-132 E O1	35.94
939071	AE1-135 C O2	119.81
939072	AE1-135 E O2	79.87
BAYOU	BAYOU	0.17
BIG_CAJUN1	BIG_CAJUN1	0.26
BIG_CAJUN2	BIG_CAJUN2	0.53
BLUEG	BLUEG	0.82
CALDERWOOD	CALDERWOOD	0.09
CANNELTON	CANNELTON	0.05
CARR	CARR	0.06
CATAWBA	CATAWBA	0.06
CHEOAH	CHEOAH	0.08
CHILHOWEE	CHILHOWEE	0.03
CHOCTAW	CHOCTAW	0.18
COFFEEN	COFFEEN	0.09
COTTONWOOD	COTTONWOOD	0.68
DEARBORN	DEARBORN	0.14
DUCKCREEK	DUCKCREEK	0.19
EDWARDS	EDWARDS	0.09
ELMERSMITH	ELMERSMITH	0.09
FARMERCITY	FARMERCITY	0.06
G-007	G-007	0.17
GIBSON	GIBSON	0.03
HAMLET	HAMLET	0.19
NEWTON	NEWTON	0.23
O-066	O-066	0.58
PRAIRIE	PRAIRIE	0.42
RENSELAER	RENSELAER	0.05
SANTEETLA	SANTEETLA	0.02
SMITHLAND	SMITHLAND	0.03
TATANKA	TATANKA	0.1
TILTON	TILTON	0.1
TRIMBLE	TRIMBLE	0.09

Bus #	Bus	MW Impact
TVA	TVA	0.29
UNIONPOWER	UNIONPOWER	0.13

Affected Systems

LG&E

LG&E Impacts to be determined during later study phases (as applicable).

MISO

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

TVA

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

Duke Energy Progress

Duke Energy Progress Impacts to be determined during later study phases (as applicable).

NYISO

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

Contingency Name	Contingency Definition
DVP_P4-2: 2012T2014	CONTINGENCY 'DVP_P4-2: 2012T2014' /* EARLEYS 230 KV OPEN BRANCH FROM BUS 314266 TO BUS 314569 CKT 1 /* 6NORTHAMPTON230.00 - 6EARLEYS 230.00 OPEN BRANCH FROM BUS 314266 TO BUS 314599 CKT 1 /* 6NORTHAMPTON230.00 - 6ROA VAL 230.00 OPEN BUS 314266 /* ISLAND: 6NORTHAMPTON230.00 OPEN BRANCH FROM BUS 313857 TO BUS 314569 CKT 1 /* 6WINDSORDP 230.00 - 6EARLEYS 230.00 OPEN BRANCH FROM BUS 313857 TO BUS 314574 CKT 1 /* 6WINDSORDP 230.00 - 6EVERETS 230.00 OPEN BRANCH FROM BUS 314569 TO BUS 919130 CKT 1 /* 6EARLEYS 230.00 - AA1-135 TAP 230.00 OPEN BRANCH FROM BUS 314574 TO BUS 919130 CKT 1 /* 6EVERETS 230.00 - AA1-135 TAP 230.00 OPEN BUS 313857 /* ISLAND: 6WINDSORDP 230.00 OPEN BUS 314552 /* ISLAND: 3WINDSORDP 115.00 OPEN BUS 919130 /* ISLAND: AA1-135 TAP 230.00 END
DVP_P4-2: XT573	CONTINGENCY 'DVP_P4-2: XT573' /* NORTH ANNA 500 KV OPEN BRANCH FROM BUS 314918 TO BUS 314934 CKT 1 /* 8NO ANNA 500.00 - 8SPOTSYL 500.00 OPEN BRANCH FROM BUS 314232 TO BUS 314918 CKT 2 /* 6NO ANNA 230.00 - 8NO ANNA 500.00 END
DVP_P7-1: LN 198-581	CONTINGENCY 'DVP_P7-1: LN 198-581' OPEN BRANCH FROM BUS 314135 TO BUS 314367 CKT 1 /* 3CHANCE 115.00 - 3CHANC_1 115.00 OPEN BRANCH FROM BUS 314135 TO BUS 314775 CKT 1 /* 3CHANCE 115.00 - 3NI RVER 115.00 OPEN BRANCH FROM BUS 314755 TO BUS 314779 CKT 1 /* 3SPOTSYL 115.00 - 3TDTAVRN 115.00 OPEN BRANCH FROM BUS 314775 TO BUS 314779 CKT 1 /* 3NI RVER 115.00 - 3TDTAVRN 115.00 OPEN BRANCH FROM BUS 314815 TO BUS 314877 CKT 1 /* 3OAK GRE 115.00 - 3OAK G_1 115.00 OPEN BUS 314367 /* ISLAND: 3CHANC_1 115.00 OPEN BUS 314775 /* ISLAND: 3NI RVER 115.00 OPEN BUS 314779 /* ISLAND: 3TDTAVRN 115.00 OPEN BUS 314877 /* ISLAND: 3OAK G_1 115.00 OPEN BRANCH FROM BUS 314135 TO BUS 314905 CKT 2 /* 3CHANCE 115.00 - 8CHANCE 500.00 OPEN BRANCH FROM BUS 314905 TO BUS 314911 CKT 1 /* 8CHANCE 500.00 - 8LADYSMITH 500.00 END
DVP_P4-2: 57302	CONTINGENCY 'DVP_P4-2: 57302' /* NORTH ANNA 500 KV OPEN BRANCH FROM BUS 314918 TO BUS 314934 CKT 1 /* 8NO ANNA 500.00 - 8SPOTSYL 500.00 OPEN BRANCH FROM BUS 314232 TO BUS 314918 CKT 1 /* 6NO ANNA 230.00 - 8NO ANNA 500.00 END

Contingency Name	Contingency Definition
DVP_P1-2: LN 246	CONTINGENCY 'DVP_P1-2: LN 246' OPEN BRANCH FROM BUS 314537 TO BUS 919140 CKT 1 /* 6SUFFOLK 230.00 - AA1-138 TAP 230.00 OPEN BRANCH FROM BUS 314569 TO BUS 314575 CKT 1 /* 6EARLEYS 230.00 - 6NUCO TP 230.00 OPEN BRANCH FROM BUS 314575 TO BUS 314590 CKT 1 /* 6NUCO TP 230.00 - 6NUCOR 230.00 OPEN BRANCH FROM BUS 314575 TO BUS 919140 CKT 1 /* 6NUCO TP 230.00 - AA1-138 TAP 230.00 OPEN BUS 314575 /* ISLAND: 6NUCO TP 230.00 OPEN BUS 314590 /* ISLAND: 6NUCOR 230.00 OPEN BUS 919140 /* ISLAND: AA1-138 TAP 230.00 END
DVP_P4-2: 562T563	CONTINGENCY 'DVP_P4-2: 562T563' /* CARSON 500 KV OPEN BRANCH FROM BUS 314902 TO BUS 314923 CKT 1 /* 8CARSON 500.00 - 8SEPTA 500.00 OPEN BRANCH FROM BUS 314902 TO BUS 314914 CKT 1 /* 8CARSON 500.00 - 8MDLTHAN 500.00 END
DVP_P1-2: LN 2131	CONTINGENCY 'DVP_P1-2: LN 2131' OPEN BRANCH FROM BUS 313714 TO BUS 313885 CKT 1 /* 6PERQUIMANS 230.00 - 6WALBMRL 230.00 OPEN BRANCH FROM BUS 313885 TO BUS 314637 CKT 1 /* 6WALBMRL 230.00 - 6EDENTON 230.00 OPEN BRANCH FROM BUS 314203 TO BUS 314637 CKT 1 /* 6MACKEYS 230.00 - 6EDENTON 230.00 OPEN BUS 313885 /* ISLAND: 6WALBMRL 230.00 OPEN BUS 314637 /* ISLAND: 6EDENTON 230.00 END
DVP_P7-1: LN 2058-2181	CONTINGENCY 'DVP_P7-1: LN 2058-2181' OPEN BRANCH FROM BUS 304222 TO BUS 313845 CKT 1 /* 6ROCKYMT230T230.00 - 6HATHAWAY 230.00 OPEN BUS 304226 /* ISLAND: 6PA-RMOUNT#4115.00 OPEN BRANCH FROM BUS 304226 TO BUS 314591 CKT 1 /* 6PA-RMOUNT#4230.00 - 6NASH 230.00 OPEN BRANCH FROM BUS 313845 TO BUS 314591 CKT 1 /* 6HATHAWAY 230.00 - 6NASH 230.00 OPEN BUS 314591 /* ISLAND: 6NASH 230.00 END
DVP_P1-2: LN 563	CONTINGENCY 'DVP_P1-2: LN 563' OPEN BRANCH FROM BUS 314902 TO BUS 314914 CKT 1 /* 8CARSON 500.00 - 8MDLTHAN 500.00 END
DVP_P1-2: LN 254-A-A	CONTINGENCY 'DVP_P1-2: LN 254-A-A' OPEN BRANCH FROM BUS 314563 TO BUS 939070 CKT 1 /* 6CLUBHSE 230.00 - AE1-135 TAP 230.00 END

Contingency Name	Contingency Definition
DVP_P4-5: L152	CONTINGENCY 'DVP_P4-5: L152' /* CLUBHOUSE 115 KV OPEN BRANCH FROM BUS 314282 TO BUS 314435 CKT 1 /* 6CARSON 230.00 - 6SAPONY 230.00 OPEN BRANCH FROM BUS 314435 TO BUS 314563 CKT 1 /* 6SAPONY 230.00 - 6CLUBHSE 230.00 OPEN BRANCH FROM BUS 314562 TO BUS 314563 CKT 1 /* 3CLUBHSE 115.00 - 6CLUBHSE 230.00 OPEN BUS 314435 /* ISLAND: 6SAPONY 230.00 OPEN BRANCH FROM BUS 314312 TO BUS 314325 CKT 1 /* 3JARRATT 115.00 - 3PURDYSW 115.00 OPEN BRANCH FROM BUS 314325 TO BUS 314562 CKT 1 /* 3PURDYSW 115.00 - 3CLUBHSE 115.00 OPEN BUS 314312 /* ISLAND: 3JARRATT 115.00 OPEN BUS 314325 /* ISLAND: 3PURDYSW 115.00 OPEN BRANCH FROM BUS 314562 TO BUS 314565 CKT Z1 /* 3CLUBHSE 115.00 - 3CLUBHSE71 115.00 OPEN BRANCH FROM BUS 314562 TO BUS 314570 CKT 1 /* 3CLUBHSE 115.00 - 3METCATP 115.00 OPEN BUS 314562 /* 3CLUBHSE 115.00 KV END
DVP_P1-2: LN 2181	CONTINGENCY 'DVP_P1-2: LN 2181' OPEN BUS 304226 /* ISLAND: 6PA-RMOUNT#4115.00 OPEN BRANCH FROM BUS 304226 TO BUS 314591 CKT 1 /* 6PA-RMOUNT#4230.00 - 6NASH 230.00 OPEN BRANCH FROM BUS 313845 TO BUS 314591 CKT 1 /* 6HATHAWAY 230.00 - 6NASH 230.00 OPEN BUS 314591 /* ISLAND: 6NASH 230.00 END
DVP_P1-2: LN 552	CONTINGENCY 'DVP_P1-2: LN 552' OPEN BRANCH FROM BUS 314135 TO BUS 314905 CKT 1 /* 3CHANCE 115.00 - 8CHANCE 500.00 OPEN BRANCH FROM BUS 314900 TO BUS 314905 CKT 1 /* 8BRISTER 500.00 - 8CHANCE 500.00 END
DVP_P1-2: LN 1029-B	CONTINGENCY 'DVP_P1-2: LN 1029-B' OPEN BRANCH FROM BUS 925170 TO BUS 314615 CKT 1 /* AB2-174 TAP 115.00 - 3TREGOTP 115.00 END
DVP_P4-2: WT576	CONTINGENCY 'DVP_P4-2: WT576' /* NORTH ANNA 500 KV OPEN BRANCH FROM BUS 314914 TO BUS 314918 CKT 1 /* 8MDLTHAN 500.00 - 8NO ANNA 500.00 OPEN BRANCH FROM BUS 314232 TO BUS 314918 CKT 2 /* 6NO ANNA 230.00 - 8NO ANNA 500.00 END
DVP_P1-2: LN 2056-A	CONTINGENCY 'DVP_P1-2: LN 2056-A' OPEN BRANCH FROM BUS 313845 TO BUS 934330 CKT 1 /* 6HATHAWAY 230.00 - AD1-057 TAP 230.00 END
DVP_P4-2: 573T594	CONTINGENCY 'DVP_P4-2: 573T594' /* SPOTSYLVANIA 500 KV OPEN BRANCH FROM BUS 314918 TO BUS 314934 CKT 1 /* 8NO ANNA 500.00 - 8SPOTSYL 500.00 OPEN BRANCH FROM BUS 314916 TO BUS 314934 CKT 1 /* 8MORRSVL 500.00 - 8SPOTSYL 500.00 END

Contingency Name	Contingency Definition
DVP_P1-2: LN 576	CONTINGENCY 'DVP_P1-2: LN 576' OPEN BRANCH FROM BUS 314914 TO BUS 314918 CKT 1 /* 8MDLTHAN 500.00 - 8NO ANNA 500.00 END
DVP_P4-2: 557T574	CONTINGENCY 'DVP_P4-2: 557T574' /* ELMONT 500 KV OPEN BRANCH FROM BUS 314214 TO BUS 314903 CKT 1 /* 6CHCKAHM 230.00 - 8CHCKAHM 500.00 OPEN BRANCH FROM BUS 314903 TO BUS 314908 CKT 1 /* 8CHCKAHM 500.00 - 8ELMONT 500.00 OPEN BRANCH FROM BUS 314908 TO BUS 314911 CKT 1 /* 8ELMONT 500.00 - 8LADYSMITH 500.00 END
DVP_P1-2: LN 594	CONTINGENCY 'DVP_P1-2: LN 594' OPEN BRANCH FROM BUS 314916 TO BUS 314934 CKT 1 /* 8MORRSVL 500.00 - 8SPOTSYL 500.00 END
DVP_P4-2: 239T2141	CONTINGENCY 'DVP_P4-2: 239T2141' /* LAKEVIEW 230 KV OPEN BRANCH FROM BUS 314579 TO BUS 314583 CKT 1 /* 6HORNRTN 230.00 - 6LAKEVEW 230.00 OPEN BRANCH FROM BUS 314561 TO BUS 314583 CKT 1 /* 6CAROLNA 230.00 - 6LAKEVEW 230.00 END
DVP_P4-2: 57602	CONTINGENCY 'DVP_P4-2: 57602' /* NORTH ANNA 500 KV OPEN BRANCH FROM BUS 314914 TO BUS 314918 CKT 1 /* 8MDLTHAN 500.00 - 8NO ANNA 500.00 OPEN BRANCH FROM BUS 314232 TO BUS 314918 CKT 1 /* 6NO ANNA 230.00 - 8NO ANNA 500.00 END
Base Case	
DVP_P4-2: 563T576	CONTINGENCY 'DVP_P4-2: 563T576' /* MIDLOTHIAN 500 500 KV OPEN BRANCH FROM BUS 314902 TO BUS 314914 CKT 1 /* 8CARSON 500.00 - 8MDLTHAN 500.00 OPEN BRANCH FROM BUS 314914 TO BUS 314918 CKT 1 /* 8MDLTHAN 500.00 - 8NO ANNA 500.00 END
DVP_P4-2: H2T557	CONTINGENCY 'DVP_P4-2: H2T557' /* ELMONT 500 KV OPEN BRANCH FROM BUS 314214 TO BUS 314903 CKT 1 /* 6CHCKAHM 230.00 - 8CHCKAHM 500.00 OPEN BRANCH FROM BUS 314903 TO BUS 314908 CKT 1 /* 8CHCKAHM 500.00 - 8ELMONT 500.00 OPEN BRANCH FROM BUS 314218 TO BUS 314908 CKT 2 /* 6ELMONT 230.00 - 8ELMONT 500.00 END

Contingency Name	Contingency Definition
DVP_P1-2: LN 581	CONTINGENCY 'DVP_P1-2: LN 581' OPEN BRANCH FROM BUS 314135 TO BUS 314905 CKT 2 /* 3CHANCE 115.00 - 8CHANCE 500.00 OPEN BRANCH FROM BUS 314905 TO BUS 314911 CKT 1 /* 8CHANCE 500.00 - 8LADYSMITH 500.00 END
DVP_P1-2: LN 2058	CONTINGENCY 'DVP_P1-2: LN 2058' OPEN BRANCH FROM BUS 304222 TO BUS 313845 CKT 1 /* 6ROCKYMT230T230.00 - 6HATHAWAY 230.00 END
DVP_P1-2: LN 2092	CONTINGENCY 'DVP_P1-2: LN 2092' OPEN BRANCH FROM BUS 313714 TO BUS 314662 CKT 1 /* 6PERQUIMANS 230.00 - 6S HERTFORD 230.00 OPEN BRANCH FROM BUS 314651 TO BUS 314662 CKT 1 /* 6WINFALL 230.00 - 6S HERTFORD 230.00 OPEN BUS 314662 /* ISLAND: 6S HERTFORD 230.00 END
DVP_P4-2: 24972-4	CONTINGENCY 'DVP_P4-2: 24972-4' /* CARSON 230 KV OPEN BRANCH FROM BUS 314282 TO BUS 314285 CKT 1 /* 6CARSON 230.00 - 6CHRL249 230.00 OPEN BRANCH FROM BUS 314285 TO BUS 314316 CKT 1 /* 6CHRL249 230.00 - 6LOCKS 230.00 OPEN BRANCH FROM BUS 314314 TO BUS 314316 CKT 2 /* 3LOCKS 115.00 - 6LOCKS 230.00 OPEN BUS 314285 /* ISLAND: 6CHRL249 230.00 OPEN BRANCH FROM BUS 314282 TO BUS 314902 CKT 1 /* 6CARSON 230.00 - 8CARSON 500.00 OPEN BUS 314455 /* 6CARSO_1 230.00 KV END
DVP_P4-2: H1T594	CONTINGENCY 'DVP_P4-2: H1T594' /* MORRISVILLE 500 KV OPEN BRANCH FROM BUS 314916 TO BUS 314934 CKT 1 /* 8MORRSVL 500.00 - 8SPOTSYL 500.00 OPEN BRANCH FROM BUS 314063 TO BUS 314916 CKT 1 /* 6MORRSVL 230.00 - 8MORRSVL 500.00 OPEN BUS 314897 /* 8MORRS_1 500.00 KV END
DVP_P4-2: SPOTS H1T594	CONTINGENCY 'DVP_P4-2: SPOTS H1T594' /* SPOTSYLVANIA 500 KV OPEN BRANCH FROM BUS 314916 TO BUS 314934 CKT 1 /* 8MORRSVL 500.00 - 8SPOTSYL 500.00 OPEN BRANCH FROM BUS 314755 TO BUS 314934 CKT 1 /* 3SPOTSYL 115.00 - 8SPOTSYL 500.00 END

Short Circuit

Short Circuit

(Summary of impacted circuit breakers)

New circuit breakers found to be over-duty:

None

Contributions to previously identified circuit breakers found to be over-duty:

None

Attachment 1
Single Line Diagram