

Generation Interconnection Feasibility Study Report Queue Position AE1-229

The Interconnection Customer (IC) has proposed a 149.3 MW Energy (89.0 MW Capacity) solar generating facility to be located coordinates: Latitude: 39.6465420, Longitude: -75.3626530. At the IC's request, PJM studied the AE1-229 project at both a Primary and Secondary Point of Interconnection. The project was studied at a commercial probability of 53% with the results provided below. The planned in-service date, as requested by the IC during the project kick-off call, is September 30, 2021. This date may not be attainable due to required PJM studies (System Impact and Facilities) and the Transmission Owner's construction schedule.

Point(s) of Interconnection

The Interconnection Customer requested a Primary and Secondary Point of Interconnection (POI) be evaluated for the AE1-229 project.

Primary Point of Interconnection

PJM studied the AE1-229 project as an injection into the Atlantic City Electric Company (ACE) transmission system at a tap of the Churchtown (PSSE bus #228314) to Upper Pittsgrove (PSSE bus #228211) 138 kV circuit and evaluated it for compliance with reliability criteria for summer peak conditions in 2022. The AE1-229 project will connect with the ACE transmission system at a new 138 kV three breaker ring bus substation adjacent to the existing ACE Churchtown-Upper Pittsgrove 138 kV line.

Transmission Owner Scope of Work

Substation Interconnection Estimate

Scope: Build a new 138 kV substation with a 3-position ring bus. Two of the positions on the ring bus will be transmission line terminals for the tie-in of existing ACE Line 1405. The other position will be a terminal configured for the interconnection of the AE1-229 generation.

Estimate: \$\$7,300,000

Construction Time: 32-48 months

Major Equipment Included in Estimate:

- | | |
|---|---------|
| • Control Enclosure, 47' x 16' | Qty. 1 |
| • Power Circuit Breaker, 138 kV, 2000A, 40kA, 3 cycle | Qty. 3 |
| • Line Switch, 138 kV, 2000A, Manual, Arcing horns | Qty. 9 |
| • Disconnect Switch, 138 kV, 2000A, Manual Wormgear, Arcing Horns | Qty. 18 |
| • CT/VT Combination Units, 138 kV | Qty. 3 |
| • CVT, 138 kV | Qty. 9 |
| • Disconnect Switch Stand, High, 138 kV, Steel | Qty. 8 |
| • CT/VT Stand, Single Phase, High, 138 kV, Steel | Qty. 3 |

• CVT Stand, Single Phase, High, 138 kV, Steel	Qty. 9
• SSVT, 138 kV/240-120 V	Qty. 1
• Relayed Bus Differential Panel	Qty. 1
• Relay Panel, Transmission Line, FL/BU (20")	Qty. 2
• Control Panel, 138 kV Circuit Breaker (10")	Qty. 3
• Take-off structure, 138 kV	Qty. 3
• Bus Support Structure, 3 phase, 138 kV, Steel	Qty. 8
• 138 kV Al tub bus	Lot

Estimate Assumptions:

- The required land is available for use.
- Developer responsible for land purchase for the substation, price is not included.
- Site clearing and grading performed by Developer.

Required Relaying and Communications

New protection relays are required for the new terminals.

Front line and back-up line protection will be required. One 20" relay panel for each generator terminal will be required for front line and back-up protection.

New protection relays are required for the new line terminals. Frontline and Backup line protection will be required. A 20" relay panel will be required for each transmission line (2 total).

A breaker control relay on a 20" breaker control panel will be required for the control and operation of each new 138 kV circuit breaker (3 total).

The project will require re-wiring and adjustment of existing relay schemes to accommodate the new 138 kV substation.

Metering

Three phase 138 kV revenue metering points will need to be established. ACE will purchase and install all metering instrument transformers as well as construct a metering structure. The secondary wiring connections at the instrument transformers will be completed by ACE's metering technicians. The metering control cable and meter cabinets will be supplied and installed by ACE. ACE will install conduit for the control cable between the instrument transformers and the metering enclosure. The location of the metering enclosure will be determined in the construction phase. ACE will provide both the Primary and the Backup meters. ACE's meter technicians will program and install the Primary & Backup solid state multi-function meters for each new metering position. Each meter will be equipped with load profile, telemetry, and DNP outputs. The IC will be provided with one meter DNP output for each meter. ACE will own the metering equipment for the interconnection point, unless the IC asserts its right to install, own, and operate the metering system.

The IC will be required to make provisions for a voice quality phone line within approximately 3 feet of each Company metering position to facilitate remote interrogation and data collection.

It is the IC's responsibility to send the data that PJM and ACE requires directly to PJM. The IC will grant permission for PJM to send ACE the following telemetry that the IC sends to PJM: real time MW, MVAR, volts, amperes, generator status, and interval MWH and MVARH.

The estimate for ACE to design, purchase, and install metering as specified in the aforementioned scope for metering is included in the Substation Interconnection Estimate.

Interconnection Customer Scope of Direct Connection Work

The IC is responsible for all design and construction related to activities on their side of the Point of Interconnection. Site preparation, including grading and an access road, as necessary, is assumed to be by the IC. Route selection, line design, and right-of-way acquisition of the direct connect facilities is not included in this report, and is the responsibility of the IC. Protective relaying and metering design and installation must comply with ACE's applicable standards. The IC is also required to provide revenue metering and real-time telemetering data to PJM in conformance with the requirements contained in PJM Manuals M-01 and M-14 and the PJM Tariff.

ACE Interconnection Customer Scope of Direct Connection Work Requirements:

- ACE requires that an IC circuit breaker is located within 500 feet of the ACE substation to facilitate the relay protection scheme between ACE and the IC at the Point of Interconnection (POI).

Special Operating Requirements

1. ACE will require the capability to remotely disconnect the generator from the grid by communication from its System Operations facility. Such disconnection may be facilitated by a generator breaker, or other method depending upon the specific circumstances and the evaluation by ACE.
2. ACE reserves the right to charge the Interconnection Customer operation and maintenance expenses to maintain the Interconnection Customer attachment facilities, including metering and telecommunications facilities, owned by ACE.

Additional Interconnection Customer Responsibilities:

1. An Interconnection Customer entering the New Services Queue on or after October 1, 2012 with a proposed new Customer Facility that has a Maximum Facility Output equal to or greater than 100 MW shall install and maintain, at its expense, phasor measurement units (PMUs). See Section 8.5.3 of Appendix 2 to the Interconnection Service Agreement as well as section 4.3 of PJM Manual 14D for additional information.

Summer Peak Analysis - 2022

Transmission Network Impacts

Potential transmission network impacts are as follows:

Generator 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
885431	219110	GLOUCSTR	PSE&G	219755	CUTHBERT_4	PSE&G	1	Base Case	single	550.0	100.55	102.11	DC	8.67
885614	219754	CUTHBERT_3	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_Z-2305_LT	single	792.0	101.56	103.31	DC	13.96
885615	219754	CUTHBERT_3	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_Z-2305	single	792.0	101.53	103.28	DC	13.96
885342	228211	UPITTS	AE	228500	LANDIS	AE	1	AE_P1-2 MICK-BRIDG	single	205.0	86.05	104.47	DC	37.77
885451	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P1-2 CHUR-ORCH	single	552.0	99.33	106.59	DC	40.09
885531	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	Base Case	single	650.0	101.28	104.63	DC	24.46

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
884036	213922	RICHMOND	PECO	214012	WANEETA3	PECO	1	PECO_P2-2_CHI230 B1/* \$ DELCO \$ PECO_P2-2_CHI230 B1 \$ B	bus	1180.0	100.87	102.18	DC	34.15
884759	213922	RICHMOND	PECO	214012	WANEETA3	PECO	1	PECO_P4_CHICH045 /* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	breaker	1180.0	100.86	102.17	DC	34.15
884035	214206	RICHRE29	PECO	213922	RICHMOND	PECO	1	PECO_P2-2_CHI230 B1/* \$ DELCO \$ PECO_P2-2_CHI230 B1 \$ B	bus	1336.0	102.38	103.63	DC	36.69
884716	214206	RICHRE29	PECO	213922	RICHMOND	PECO	1	PECO_P4_CHICH045 /* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	breaker	1336.0	102.37	103.62	DC	36.69
884694	219110	GLOUCSTR	PSE&G	219125	CAMDEN	PSE&G	1	PS_P2-3_CUTB_3-4_LT	breaker	771.0	102.75	104.04	DC	21.61

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
884034	219125	CAMDEN	PSE&G	214206	RICHRE29	PECO	1	PECO_P2-2_CHI230 B1/* \$ DELCO \$ PECO_P2-2_CHI230 B1 \$ B	bus	1336.0	102.4	103.65	DC	36.69
884715	219125	CAMDEN	PSE&G	214206	RICHRE29	PECO	1	PECO_P4_CHICH045 /* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	breaker	1336.0	102.39	103.64	DC	36.69
886056	219702	HILLTOP_1	PSE&G	219101	BEAVERBK_1	PSE&G	1	PS_P7-1_V2274+ P2242_LT	tower	740.0	99.65	101.7	DC	15.46
884587	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P4-2 AE45	breaker	552.0	102.37	113.41	DC	60.83
884588	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P4-2 AE47	breaker	552.0	102.86	113.9	DC	67.78
884732	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	AE_P4-2 AE45	breaker	805.0	95.71	102.67	DC	60.66
885999	228402	MONROE	AE	219100	NEWFRDM	PSE&G	1	AE_P7-1 W2275_O 2241	tower	804.0	101.39	103.68	DC	51.22

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
885915	219100	NEWFRDM	PSE&G	219704	HILLTOP_3	PSE&G	1	PS_P7-1_V2274+ P2242_LT	tower	740.0	115.29	117.43	DC	16.39
885916	219100	NEWFRDM	PSE&G	219704	HILLTOP_3	PSE&G	1	AE_P7-1 W2275_O 2241	tower	740.0	109.55	111.69	DC	16.45
885501	219108	CUTHBERT	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_U-2299_LT	single	771.0	106.79	108.64	DC	14.31
885502	219108	CUTHBERT	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_U-2299	single	771.0	106.65	108.49	DC	14.31
884693	219110	GLOUCSTR	PSE&G	219125	CAMDEN	PSE&G	1	PS_P2-3_CUTB_1-4_LT	breaker	771.0	104.17	105.47	DC	21.93
885425	219110	GLOUCSTR	PSE&G	219755	CUTHBERT_4	PSE&G	1	PS_P1-2_C-2308_LT	single	758.0	112.04	113.79	DC	13.37
885427	219110	GLOUCSTR	PSE&G	219755	CUTHBERT_4	PSE&G	1	PS_P1-2_C-2308	single	758.0	111.45	113.21	DC	13.37
885493	219110	GLOUCSTR	PSE&G	219125	CAMDEN	PSE&G	1	Base Case	single	500.0	107.28	109.02	DC	8.77
885577	219110	GLOUCSTR	PSE&G	219753	CUTHBERT_2	PSE&G	1	PS_P1-2_D-2282_LT	single	771.0	104.5	106.14	DC	12.68
885579	219110	GLOUCSTR	PSE&G	219753	CUTHBERT_2	PSE&G	1	PS_P1-2_D-2282	single	771.0	104.09	105.72	DC	12.68
884903	227901	DOROTHY	AE	227949	LEWIS #3	AE	1	Base Case	single	154.0	175.91	181.39	DC	8.45

884905	227901	DOROTHY	AE	227949	LEWIS #3	AE	1	AE_P1-1Y1-077	single	205.0	150.56	154.68	DC	8.43
885998	228402	MONROE	AE	219100	NEWFRDM	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	804.0	107.43	109.05	DC	51.13

Summer Peak Load Flow Analysis Reinforcements

System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. Network Impacts, initially caused by the addition of this project generation)

ID	Index	Facility	Upgrade Description	Cost
884587,884588,885451	4	PEDRKTWN 230.0 kV - BRIDGPRT 230.0 kV Ckt 1	<u>AE</u> Description : No Violation. Incorrect rating in case.	\$0
886056	10	HILLTOP_1 230.0 kV - BEAVERBK_1 230.0 kV Ckt 1	<u>PSE&G</u> Description : No Violation. Current Ratings: S/N: 732, S/E: 886	\$0
885501,885502	13	CUTHBERT 230.0 kV - CAMDEN 230.0 kV Ckt 1	<u>PSE&G</u> Description : New Cable: Gloucester 230kV to Camden 230kV Time Estimate : 48.0 Months Cost : \$181,977,178	\$181,977,178
885425,885427,885431	1	GLOUCSTR 230.0 kV - CUTHBERT_4 230.0 kV Ckt 1		
884693,884694,885493	8	GLOUCSTR 230.0 kV - CAMDEN 230.0 kV Ckt 1		
885614,885615	2	CUTHBERT_3 230.0 kV - CAMDEN 230.0 kV Ckt 1		
885577,885579	14	GLOUCSTR 230.0 kV - CUTHBERT_2 230.0 kV Ckt 1		
884036,884759	6	RICHMOND 230.0 kV - WANEETA3 230.0 kV Ckt 1	<u>PECO</u> Description : No Violation. Queue Project W4-016 withdrew from the queue after the AE1 analysis run. After removing W4-016's contribution, the flowgate loading is less than 100%.	\$0
884905,884903	15	DOROTHY 138.0 kV - LEWIS #3 138.0 kV Ckt 1	<u>AE</u> Description : To mitigate the overloads, it will require rebuilding the MinotolaDorothy-Lewis 138 kV transmission line. Also, upgrading the terminals at Minotola and Dorothy will be required. Time Estimate : 36.0 Months Cost : \$71,400,000	\$71,400,000

ID	Index	Facility	Upgrade Description	Cost
885998,885999	11	MONROE 230.0 kV - NEWFRDM 230.0 kV Ckt 1	PSE&G Description : No Violation. PSE&G Terminal Equipment is Not Limiting Component AE Description : To mitigate the (ACE) Monroe – New Freedom 230 kV line (from bus 228402 to bus 219100 ckt 1) overload, it will require increasing the emergency rating of the Monroe to New Freedom 230 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. Time Estimate : 36-60 Months Cost : \$13,400,000	\$13,400,000
884034,884715	9	CAMDEN 230.0 kV - RICHRE29 230.0 kV Ckt 1	PECO Description : No Violation. Queue Project W4-016 withdrew from the queue after the AE1 analysis run. After removing W4-016's contribution, the flowgate loading is less than 100%. PSE&G Description : No Violation. Tie Line. Limiting Component NOT owned by PSE&G	\$0
885915,885916	12	NEWFRDM 230.0 kV - HILLTOP_3 230.0 kV Ckt 1	PSE&G Description : No Violation. Current Ratings: S/N: 732, S/E: 886	\$0
885342	3	UPITTS 138.0 kV - LANDIS 138.0 kV Ckt 1	AE Description : No Violation. Incorrect Rating in Case.	\$0
884035,884716	7	RICHRE29 230.0 kV - RICHMOND 230.0 kV Ckt 1	PECO Description : No Violation. Queue Project W4-016 withdrew from the queue after the AE1 analysis run. After removing W4-016's contribution, the flowgate loading is less than 100%.	\$0
885531,884732	5	BRIDGPRT 230.0 kV - MCKLTON 230.0 kV Ckt 1	AE Description : To mitigate the (ACE) Bridgeport – Mickleton 230 kV line (from bus 228313 to bus 228401 ckt 1) overload, it will require increasing the emergency rating of the Bridgeport to Mickleton 230 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. In addition, various terminal reinforcements are required at Bridgeport. Time Estimate : 36-60 Months Cost : \$18,400,000	\$18,400,000
			TOTAL COST	\$285,177,178

Steady-State Voltage Requirements

To be performed during later study phases as required.

Short Circuit

No issues identified.

Stability and Reactive Power Requirement

To be performed during later study phases as required.

Light Load Analysis - 2022

To be performed during later study phases (as required by PJM Manual 14B).

Delivery of Energy Portion of Interconnection Request

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. Only the most severely overloaded conditions are listed. 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 will 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
885499	219108	CUTHBERT	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_U-2299_LT	operation	771.0	107.42	108.85	DC	24.0
885424	219110	GLOUCSTR	PSE&G	219755	CUTHBERT_4	PSE&G	1	PS_P1-2_C-2308_LT	operation	758.0	112.63	113.99	DC	22.43
885430	219110	GLOUCSTR	PSE&G	219755	CUTHBERT_4	PSE&G	1	Base Case	operation	550.0	101.08	102.29	DC	14.54
885492	219110	GLOUCSTR	PSE&G	219125	CAMDEN	PSE&G	1	Base Case	operation	500.0	107.87	109.22	DC	14.72
885576	219110	GLOUCSTR	PSE&G	219753	CUTHBERT_2	PSE&G	1	PS_P1-2_D-2282_LT	operation	771.0	105.06	106.32	DC	21.27
885612	219754	CUTHBERT_3	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_Z-2305_LT	operation	792.0	102.16	103.51	DC	23.42
884902	227901	DOROTHY	AE	227949	LEWIS #3	AE	1	Base Case	operation	154.0	182.59	186.74	DC	14.18
885340	228211	UPITTS	AE	228500	LANDIS	AE	1	AE_P1-2 MICK-BRIDG	operation	205.0	90.21	121.12	DC	63.37
885343	228211	UPITTS	AE	228500	LANDIS	AE	1	Base Case	operation	154.0	64.24	101.58	DC	57.51
885450	228312	PEDRKWTN	AE	228313	BRIDGPRT	AE	1	AE_P1-2 CHUR-ORCH	operation	552.0	100.65	111.54	DC	67.25
885530	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	Base Case	operation	650.0	101.9	108.21	DC	41.04
885532	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	AE_P1-2 CHUR-ORCH	operation	805.0	94.57	102.81	DC	67.07

Secondary Point of Interconnection

PJM studied the AE1-229 project into the Atlantic City Electric Company (DPL) system at a tap of the Churchtown (PSSE bus #228319) -Woodstown (PSSE bus #228332) 69 kV circuit and evaluated it for compliance with reliability criteria for summer peak conditions in 2022.

Summer Peak Analysis - 2022

Transmission Network Impacts

Potential transmission network impacts are as follows:

Generator 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
858506	219110	GLOUCSTR	PSE&G	219755	CUTHBERT_4	PSE&G	1	Base Case	single	550.0	100.51	102.19	DC	9.29
858697	219754	CUTHBERT_3	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_Z-2305_LT	single	792.0	101.52	103.4	DC	14.97
858698	219754	CUTHBERT_3	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_Z-2305	single	792.0	101.49	103.37	DC	14.97
858554	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P1-2 CHUR-ORCH	single	552.0	99.21	105.15	DC	32.8
858646	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	Base Case	single	650.0	99.82	102.42	DC	19.73
858113	228360	WOODTWN2	AE	228332	WOODTWN1	AE	1	AE_P1-2 MICK-BRIDG	single	74.0	61.69	115.05	DC	39.48
858114	228360	WOODTWN2	AE	228332	WOODTWN1	AE	1	AE_P1-2 PED-BRIDGE	single	74.0	52.47	105.82	DC	39.48
858072	939930	AE1-229 TAP	AE	228319	CHURCHTN1	AE	1	AE_P1-2 CHU-WOOD 2-B	single	72.0	0.42	123.19	DC	89.0
858100	939930	AE1-229 TAP	AE	228360	WOODTWN2	AE	1	AE_P1-2 MICK-BRIDG	single	72.0	59.6	135.7	DC	54.79
858101	939930	AE1-229 TAP	AE	228360	WOODTWN2	AE	1	Base Case	single	63.0	42.55	128.41	DC	54.09

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

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 LOADIN G %	AC DC	MW IMPACT
857256	213922	RICHMOND	PECO	214012	WANEETA3	PECO	1	PECO_P 2-2_CHI23 OB1/* \$ DELCO \$ PECO_P 2-2_CHI23 OB1 \$ B	bus	1180.0	100.83	102.19	DC	35.36
857916	213922	RICHMOND	PECO	214012	WANEETA3	PECO	1	PECO_P 4_CHICH 045/* \$ DELCO \$ PECO_P 4_CHICH 045 \$ STBK	breaker	1180.0	100.83	102.18	DC	35.36
857254	214206	RICHRE29	PECO	213922	RICHMOND	PECO	1	PECO_P 2-2_CHI23 OB1/* \$ DELCO \$ PECO_P 2-2_CHI23 OB1 \$ B	bus	1336.0	102.33	103.63	DC	38.15
857877	214206	RICHRE29	PECO	213922	RICHMOND	PECO	1	PECO_P 4_CHICH 045/* \$ DELCO \$ PECO_P 4_CHICH 045 \$ STBK	breaker	1336.0	102.32	103.62	DC	38.15
857848	219110	GLOUCSTR	PSE&G	219125	CAMDEN	PSE&G	1	PS_P2-3_CUTB 3-4 LT	breaker	771.0	102.63	104.0	DC	23.17
857253	219125	CAMDEN	PSE&G	214206	RICHRE29	PECO	1	PECO_P 2-2_CHI23 OB1/* \$ DELCO \$ PECO_P 2-2_CHI23 OB1 \$ B	bus	1336.0	102.35	103.65	DC	38.15
857876	219125	CAMDEN	PSE&G	214206	RICHRE29	PECO	1	PECO_P 4_CHICH 045/* \$ DELCO \$ PECO_P 4_CHICH 045 \$ STBK	breaker	1336.0	102.34	103.64	DC	38.15
859115	219702	HILLTOP_1	PSE&G	219101	BEAVERBK_1	PSE&G	1	PS_P7-1_V2274 +P2242 LT	tower	740.0	99.65	100.54	DC	14.92
857775	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P4-2 AE47	breaker	552.0	102.73	111.7	DC	56.1
857836	228332	WOODTWN1	AE	228405	CLAYTON	AE	1	AE_P4-2 AETIE3	breaker	54.0	68.0	106.76	DC	20.93
859056	228402	MONROE	AE	219100	NEWFRDM	PSE&G	1	AE_P7-1 W2275_O2241	tower	804.0	101.1	103.08	DC	45.0

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
858991	219100	NEWFRDM	PSE&G	219704	HILLTOP_3	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	740.0	115.28	116.2	DC	15.81
858992	219100	NEWFRDM	PSE&G	219704	HILLTOP_3	PSE&G	1	AE_P7-1_W2275_O2241	tower	740.0	109.54	110.46	DC	15.87
858580	219108	CUTHBERT	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_U-2299_LT	single	771.0	106.75	108.73	DC	15.34
858581	219108	CUTHBERT	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_U-2299	single	771.0	106.61	108.59	DC	15.34
857847	219110	GLOUCSTR	PSE&G	219125	CAMDEN	PSE&G	1	PS_P2-3_CUTB_1-4_LT	breaker	771.0	104.04	105.44	DC	23.52
858500	219110	GLOUCSTR	PSE&G	219755	CUTHBERT_4	PSE&G	1	PS_P1-2_C-2308_LT	single	758.0	112.0	113.87	DC	14.34
858502	219110	GLOUCSTR	PSE&G	219755	CUTHBERT_4	PSE&G	1	PS_P1-2_C-2308	single	758.0	111.42	113.29	DC	14.34
858563	219110	GLOUCSTR	PSE&G	219125	CAMDEN	PSE&G	1	Base Case	single	500.0	107.24	109.11	DC	9.41
858657	219110	GLOUCSTR	PSE&G	219753	CUTHBERT_2	PSE&G	1	PS_P1-2_D-2282_LT	single	771.0	104.47	106.22	DC	13.6
858659	219110	GLOUCSTR	PSE&G	219753	CUTHBERT_2	PSE&G	1	PS_P1-2_D-2282	single	771.0	104.05	105.8	DC	13.6
859080	228401	MCKLTON	AE	228402	MONROE	AE	2	PS_P7-1_V2274+P2242_LT	tower	446.0	104.61	105.95	DC	12.96
859083	228401	MCKLTON	AE	228402	MONROE	AE	1	PS_P7-1_V2274+P2242_LT	tower	446.0	104.61	105.95	DC	12.96
859055	228402	MONROE	AE	219100	NEWFRDM	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	804.0	107.09	108.45	DC	44.91

Delivery of Energy Portion of Interconnection Request

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.

Only the most severely overloaded conditions are listed. 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 will 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
858578	219108	CUTHBERT	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_U-2299_LT	operation	771.0	107.28	108.81	DC	25.74
858499	219110	GLOUCSTR	PSE&G	219755	CUTHBERT_4	PSE&G	1	PS_P1-2_C-2308_LT	operation	758.0	112.5	113.95	DC	24.06

858505	219110	GLOUCSTR	PSE&G	219755	CUTHBERT_4	PSE&G	1	Base Case	operation	550.0	100.96	102.26	DC	15.59
858562	219110	GLOUCSTR	PSE&G	219125	CAMDEN	PSE&G	1	Base Case	operation	500.0	107.74	109.18	DC	15.78
858656	219110	GLOUCSTR	PSE&G	219753	CUTHBERT_2	PSE&G	1	PS_P1-2_D-2282_LT	operation	771.0	104.94	106.29	DC	22.81
858695	219754	CUTHBERT_3	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_Z-2305_LT	operation	792.0	102.02	103.47	DC	25.11
858553	228312	PEDRKTN	AE	228313	BRIDGPRT	AE	1	AE_P1-2 CHUR-ORCH	operation	552.0	100.51	109.22	DC	55.02
858645	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	Base Case	operation	650.0	101.2	106.29	DC	33.1
858647	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	AE_P1-2 CHUR-ORCH	operation	805.0	94.5	101.21	DC	54.85
858668	228332	WOODTWN1	AE	228405	CLAYTON	AE	1	AE_P1-2 MICK-BRIDG	operation	54.0	67.05	105.78	DC	20.91
858107	228360	WOODTWN2	AE	228332	WOODTWN1	AE	1	AE_P1-2 CHU-WOOD 2-A	operation	74.0	33.25	178.81	DC	107.71
858112	228360	WOODTWN2	AE	228332	WOODTWN1	AE	1	Base Case	operation	74.0	47.47	135.33	DC	65.02
858071	939930	AE1-229 TAP	AE	228319	CHURCHTN1	AE	1	AE_P1-2 CHU-WOOD 2-B	operation	72.0	0.42	206.94	DC	149.3
858095	939930	AE1-229 TAP	AE	228360	WOODTWN2	AE	1	AE_P1-2 MICK-BRIDG	operation	72.0	59.81	187.48	DC	91.92
858096	939930	AE1-229 TAP	AE	228360	WOODTWN2	AE	1	Base Case	operation	63.0	42.7	186.73	DC	90.74

Primary POI 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.

Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
885427	219110	GLOUCSTR	PSE&G	219755	CUTHBERT_4	PSE&G	1	PS_P1-2_C-2308	single	758.0	111.45	113.21	DC	13.37

Bus #	Bus	MW Impact
213400	COVANTA DELA	1.75
219124	CAMDEN_STG	3.35
219126	CAMDEN_CTG	4.12
219128	GLOUCSTR_26	1.82
219229	EAGLEPT_G3	2.9
219230	EAGLEPT_G1	4.29
219231	EAGLEPT_G2	4.29
227801	ONTC&DCT	3.71
227881	GRENWCHG	0.05
228304	LOGAN	6.64
228306	PCLP STM	1.75
228307	PCLP GT	1.74
228309	CCLP NUG	6.06
228334	MANNMILG	0.21
228343	QUINTN#1	0.05
228351	V2-046C	0.17
228400	MICK 1CT	1.4
228423	Q-090 2	27.23
228471	VALERO1	0.47
228472	VALERO2	0.32
228473	VALERO3	0.32
228484	VALERO4	0.28
228720	V2-035C	0.02
291995	U4-036 C	0.08
292104	V1-030 C6	0.02
292194	V1-030 CE	0.11
903963	W3-175	9.01
905143	W4-016	53.1
914231	Y2-081 C OP1	1.38
914232	Y2-081 E OP1	0.07
915591	Y3-087 C OP1	0.06
917381	Z2-062	0.15
917471	Z2-083	2.56
918891	AA1-108	3.84
924051	AB2-049 C	0.43
924531	AB2-102 C	24.6
924701	AB2-122 C	0.07
925391	AC1-010 C	0.74
931191	AB1-169A	70.82
936411	AD2-052 C	1.03
936491	AD2-064 C	0.06
936501	AD2-065 C	0.19
937011	AD2-135 C	0.07
938301	AE1-045 C	0.26
938311	AE1-046 C	0.26
938421	AE1-061 C	0.34
938431	AE1-062 C	0.47
938781	AE1-104 C O1	14.16
938871	AE1-115 C	1.64
939301	AE1-161 C	2.79
939501	AE1-179 C O1	4.36

Bus #	Bus	MW Impact
939821	AE1-218 C O1	0.11
939831	AE1-219 C O1	0.24
939931	AE1-229 C O1	13.37
940001	AE1-240 C O1	3.63
BAYOU	BAYOU	0.38
BIG_CAJUN1	BIG_CAJUN1	0.59
BIG_CAJUN2	BIG_CAJUN2	1.18
BLUEG	BLUEG	1.88
CALDERWOOD	CALDERWOOD	0.19
CANNELTON	CANNELTON	0.11
CARR	CARR	0.4
CATAWBA	CATAWBA	0.12
CHEOAH	CHEOAH	0.18
CHILHOWEE	CHILHOWEE	0.06
CHOCTAW	CHOCTAW	0.39
COFFEEN	COFFEEN	0.2
COTTONWOOD	COTTONWOOD	1.51
DEARBORN	DEARBORN	0.34
DUCKCREEK	DUCKCREEK	0.43
EDWARDS	EDWARDS	0.2
ELMERSMITH	ELMERSMITH	0.2
FARMERCITY	FARMERCITY	0.13
GIBSON	GIBSON	0.08
HAMLET	HAMLET	0.38
NEWTON	NEWTON	0.52
PRAIRIE	PRAIRIE	0.96
RENSSELAER	RENSSELAER	0.32
SANTEETLA	SANTEETLA	0.05
SMITHLAND	SMITHLAND	0.08
TATANKA	TATANKA	0.24
TILTON	TILTON	0.24
TRIMBLE	TRIMBLE	0.21
TVA	TVA	0.63
UNIONPOWER	UNIONPOWER	0.28

Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
885615	219754	CUTHBERT_3	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_Z-2305	single	792.0	101.53	103.28	DC	13.96

Bus #	Bus	MW Impact
213400	COVANTA DELA	1.83
219124	CAMDEN_STG	3.5
219126	CAMDEN_CTG	4.3
219128	GLOUCSTR_26	1.9

Bus #	Bus	MW Impact
219229	EAGLEPT_G3	3.02
219230	EAGLEPT_G1	4.48
219231	EAGLEPT_G2	4.48
227801	ONTC&DCT	3.88
227881	GRENWCHG	0.05
228304	LOGAN	6.93
228306	PCLP STM	1.82
228307	PCLP GT	1.82
228309	CCLP NUG	6.33
228334	MANNMILG	0.22
228343	QUINTN#1	0.05
228351	V2-046C	0.18
228400	MICK 1CT	1.46
228423	Q-090 2	28.43
228471	VALERO1	0.49
228472	VALERO2	0.34
228473	VALERO3	0.34
228484	VALERO4	0.29
228720	V2-035C	0.02
291995	U4-036 C	0.08
292104	V1-030 C6	0.03
292194	V1-030 CE	0.11
903963	W3-175	9.4
905143	W4-016	55.43
914231	Y2-081 C OP1	1.44
914232	Y2-081 E OP1	0.08
915591	Y3-087 C OP1	0.07
917381	Z2-062	0.16
917471	Z2-083	2.68
918891	AA1-108	4.0
924051	AB2-049 C	0.45
924531	AB2-102 C	25.67
924701	AB2-122 C	0.07
925391	AC1-010 C	0.77
931191	AB1-169A	73.92
936411	AD2-052 C	1.07
936491	AD2-064 C	0.06
936501	AD2-065 C	0.2
937011	AD2-135 C	0.07
938301	AE1-045 C	0.27
938311	AE1-046 C	0.27
938421	AE1-061 C	0.36
938431	AE1-062 C	0.49
938781	AE1-104 C O1	14.78
938871	AE1-115 C	1.71
939301	AE1-161 C	2.92
939501	AE1-179 C O1	4.55
939821	AE1-218 C O1	0.11
939831	AE1-219 C O1	0.25
939931	AE1-229 C O1	13.96
940001	AE1-240 C O1	3.79
BAYOU	BAYOU	0.4

Bus #	Bus	MW Impact
BIG_CAJUN1	BIG_CAJUN1	0.61
BIG_CAJUN2	BIG_CAJUN2	1.23
BLUEG	BLUEG	1.96
CALDERWOOD	CALDERWOOD	0.2
CANNELTON	CANNELTON	0.12
CARR	CARR	0.42
CATAWBA	CATAWBA	0.12
CHEOAH	CHEOAH	0.19
CHILHOWEE	CHILHOWEE	0.07
CHOCTAW	CHOCTAW	0.41
COFFEEN	COFFEEN	0.21
COTTONWOOD	COTTONWOOD	1.57
DEARBORN	DEARBORN	0.36
DUCKCREEK	DUCKCREEK	0.45
EDWARDS	EDWARDS	0.21
ELMERSMITH	ELMERSMITH	0.2
FARMERCITY	FARMERCITY	0.14
GIBSON	GIBSON	0.08
HAMLET	HAMLET	0.4
NEWTON	NEWTON	0.54
PRAIRIE	PRAIRIE	1.0
RENSSELAER	RENSSELAER	0.33
SANTEETLA	SANTEETLA	0.05
SMITHLAND	SMITHLAND	0.08
TATANKA	TATANKA	0.25
TILTON	TILTON	0.25
TRIMBLE	TRIMBLE	0.22
TVA	TVA	0.66
UNIONPOWER	UNIONPOWER	0.29

Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
885342	228211	UPITTS	AE	228500	LANDIS	AE	1	AE_P1-2 MICK-BRIDG	single	205.0	86.05	104.47	DC	37.77

Bus #	Bus	MW Impact
228304	LOGAN	4.5
228306	PCLP STM	1.24
228307	PCLP GT	1.24
228309	CCLP NUG	4.94
228334	MANNMILG	0.09
228343	QUINTN#1	0.02
228351	V2-046C	0.07
228720	V2-035C	0.07
903963	W3-175	7.63
918891	AA1-108	3.25

Bus #	Bus	MW Impact
936411	AD2-052 C	0.52
938421	AE1-061 C	0.75
938871	AE1-115 C	0.97
939301	AE1-161 C	3.88
939931	AE1-229 C O1	37.77
BAYOU	BAYOU	0.09
BIG_CAJUN1	BIG_CAJUN1	0.13
BIG_CAJUN2	BIG_CAJUN2	0.27
BLUEG	BLUEG	0.42
CALDERWOOD	CALDERWOOD	0.04
CANNELTON	CANNELTON	0.03
CARR	CARR	0.06
CATAWBA	CATAWBA	0.03
CHEOAH	CHEOAH	0.04
CHILHOWEE	CHILHOWEE	0.01
CHOCTAW	CHOCTAW	0.09
COFFEEN	COFFEEN	0.04
COTTONWOOD	COTTONWOOD	0.34
DEARBORN	DEARBORN	0.07
DUCKCREEK	DUCKCREEK	0.1
EDWARDS	EDWARDS	0.04
ELMERSMITH	ELMERSMITH	0.04
FARMERCITY	FARMERCITY	0.03
GIBSON	GIBSON	0.02
HAMLET	HAMLET	0.09
NEWTON	NEWTON	0.11
PRAIRIE	PRAIRIE	0.21
RENSSELAER	RENSSELAER	0.04
SANTEETLA	SANTEETLA	0.01
SMITHLAND	SMITHLAND	0.02
TATANKA	TATANKA	0.05
TILTON	TILTON	0.05
TRIMBLE	TRIMBLE	0.05
TVA	TVA	0.14
UNIONPOWER	UNIONPOWER	0.06

Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
884588	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P4-2 AE47	breaker	552.0	102.86	113.9	DC	67.78

Bus #	Bus	MW Impact
228200	CARL#1CT	0.89
228201	CARL#2CT	0.95
228251	CARLLS#4	0.1
228260	V4-054C	0.25
228261	V4-054E	1.34

Bus #	Bus	MW Impact
228306	PCLP STM	7.49
228307	PCLP GT	7.48
228309	CCLP NUG	26.0
228334	MANNMILG	0.49
228343	QUINTN#1	0.12
228351	V2-046C	0.36
228357	V2-046E	4.36
228712	V2-041E	0.26
228720	V2-035C	0.04
228721	V2-035E	0.4
902092	W1-130E	0.82
903963	W3-175	38.64
918891	AA1-108	16.46
924531	AB2-102 C	21.32
924532	AB2-102 E	0.47
931191	AB1-169A	72.23
936411	AD2-052 C	2.63
936412	AD2-052 E	1.29
938301	AE1-045 C	0.26
938302	AE1-045 E	0.13
938311	AE1-046 C	0.26
938312	AE1-046 E	0.13
938421	AE1-061 C	0.35
938422	AE1-061 E	0.35
938871	AE1-115 C	5.0
938872	AE1-115 E	5.0
939301	AE1-161 C	1.67
939302	AE1-161 E	2.51
939501	AE1-179 C O1	5.26
939502	AE1-179 E O1	3.71
939931	AE1-229 C O1	40.4
939932	AE1-229 E O1	27.37
940001	AE1-240 C O1	4.52
940002	AE1-240 E O1	3.22
BAYOU	BAYOU	0.39
BIG_CAJUN1	BIG_CAJUN1	0.6
BIG_CAJUN2	BIG_CAJUN2	1.22
BLUEG	BLUEG	1.87
CALDERWOOD	CALDERWOOD	0.2
CANNELTON	CANNELTON	0.11
CARR	CARR	0.12
CATAWBA	CATAWBA	0.13
CHEOAH	CHEOAH	0.19
CHILHOWEE	CHILHOWEE	0.07
CHOCTAW	CHOCTAW	0.4
COFFEEN	COFFEEN	0.2
COTTONWOOD	COTTONWOOD	1.56
DEARBORN	DEARBORN	0.33
DUCKCREEK	DUCKCREEK	0.43
EDWARDS	EDWARDS	0.2
ELMERSMITH	ELMERSMITH	0.2
FARMERCITY	FARMERCITY	0.13

Bus #	Bus	MW Impact
G-007	G-007	0.12
GIBSON	GIBSON	0.08
HAMLET	HAMLET	0.43
NEWTON	NEWTON	0.52
O-066	O-066	1.01
PRAIRIE	PRAIRIE	0.97
RENSSELAER	RENSSELAER	0.09
SANTEETLA	SANTEETLA	0.06
SMITHLAND	SMITHLAND	0.08
TATANKA	TATANKA	0.24
TILTON	TILTON	0.24
TRIMBLE	TRIMBLE	0.21
TVA	TVA	0.65
UNIONPOWER	UNIONPOWER	0.29

Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
885531	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	Base Case	single	650.0	101.28	104.63	DC	24.46

Bus #	Bus	MW Impact
227801	ONTC&DCT	3.48
228200	CARL#1CT	0.69
228201	CARL#2CT	0.73
228202	CUMB CT	1.36
228203	P06	1.55
228206	SHRMN CT	1.28
228251	CARLLS#4	0.08
228260	V4-054C	0.19
228304	LOGAN	23.48
228306	PCLP STM	5.89
228307	PCLP GT	5.88
228309	CCLP NUG	16.9
228334	MANNMILG	0.29
228343	QUINTN#1	0.08
228351	V2-046C	0.21
228702	WEST CT	0.49
228711	V2-041C	0.03
228717	S121	0.77
228720	V2-035C	0.02
228727	W2-039G	1.3
292062	V1-021 C	0.04
902091	W1-130C	0.05
903963	W3-175	23.49
913341	Y1-077	7.64
918891	AA1-108	10.01
924531	AB2-102 C	34.44

Bus #	Bus	MW Impact
924701	AB2-122 C	0.06
931191	AB1-169A	51.13
936411	AD2-052 C	1.65
938301	AE1-045 C	0.19
938311	AE1-046 C	0.19
938421	AE1-061 C	0.25
938781	AE1-104 C O1	15.53
938871	AE1-115 C	2.96
939301	AE1-161 C	1.87
939501	AE1-179 C O1	5.03
939931	AE1-229 C O1	24.46
940001	AE1-240 C O1	4.26
BAYOU	BAYOU	0.33
BIG_CAJUN1	BIG_CAJUN1	0.51
BIG_CAJUN2	BIG_CAJUN2	1.03
BLUEG	BLUEG	1.6
CALDERWOOD	CALDERWOOD	0.17
CANNELTON	CANNELTON	0.1
CARR	CARR	0.15
CATAWBA	CATAWBA	0.11
CHEOAH	CHEOAH	0.16
CHILHOWEE	CHILHOWEE	0.06
CHOCTAW	CHOCTAW	0.34
COFFEEN	COFFEEN	0.17
COTTONWOOD	COTTONWOOD	1.32
DEARBORN	DEARBORN	0.28
DUCKCREEK	DUCKCREEK	0.37
EDWARDS	EDWARDS	0.17
ELMERSMITH	ELMERSMITH	0.17
FARMERCITY	FARMERCITY	0.11
GIBSON	GIBSON	0.07
HAMLET	HAMLET	0.36
NEWTON	NEWTON	0.44
PRAIRIE	PRAIRIE	0.82
RENSSELAER	RENSSELAER	0.12
SANTEETLA	SANTEETLA	0.05
SMITHLAND	SMITHLAND	0.07
TATANKA	TATANKA	0.2
TILTON	TILTON	0.2
TRIMBLE	TRIMBLE	0.18
TVA	TVA	0.55
UNIONPOWER	UNIONPOWER	0.25

Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
884759	213922	RICHMOND	PECO	214012	WANEETA3	PECO	1	PECO_P4_CHICH045/* \$ DELCO \$	breaker	1180.0	100.86	102.17	DC	34.15

								PECO_P4_CHICH045 \$ STBK						
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Bus #	Bus	MW Impact
213918	RICHMD91	3.55
213919	RICHMD92	3.55
219124	CAMDEN_STG	3.52
219126	CAMDEN_CTG	4.33
219128	GLOUCSTR_26	1.91
219229	EAGLEPT_G3	3.14
219230	EAGLEPT_G1	4.65
219241	CAMDEN1	0.26
219242	CAMDEN2	0.03
227801	ONTC&DCT	7.23
227843	MARINGEN E	0.75
227928	V4-067E	0.3
228261	V4-054E	1.34
228357	V2-046E	3.05
228712	V2-041E	0.49
228721	V2-035E	0.28
291996	U4-036 E	1.01
292063	V1-021 E	0.06
292088	V1-030 CB	0.12
292099	V1-030 E3	0.23
292105	V1-030 E6	0.3
292115	V1-030 EB	1.32
292194	V1-030 CE	0.12
292195	V1-030 EE	1.22
292967	U2-045 E	3.26
293404	V3-036	1.03
902092	W1-130E	1.35
902432	W2-030 E	1.16
902692	W2-056 E	1.63
902842	W2-071E	0.45
903152	W2-102 E	1.03
903991	W3-080C	1.96
903992	W3-080E	3.2
904042	V4-005 E	0.43
904432	W3-124 E	0.42
905143	W4-016	67.01
905232	W4-029 E	0.44
905532	W4-063 E	0.81
905792	W4-103 E	1.03
907382	X1-070 E	0.73
907392	X1-071 E	0.26
909032	X2-013 E	0.63
910862	X3-075 E	1.06
913242	Y1-057 E	0.32
913332	Y1-075 E	0.41
915022	Y3-012 E	1.4
915072	Y3-026 E	1.6
915592	Y3-087 E OP1	0.8
916292	Z1-082 E	0.34
917381	Z2-062	0.16

Bus #	Bus	MW Impact
918852	AA1-104 E	5.7
924051	AB2-049 C	0.86
924052	AB2-049 E	1.41
924531	AB2-102 C	43.28
924532	AB2-102 E	0.96
924701	AB2-122 C	0.13
924702	AB2-122 E	0.22
925391	AC1-010 C	0.78
925392	AC1-010 E	1.34
925442	AC1-016 E	1.41
925452	AC1-017 E	0.67
925562	AC1-030 E	0.51
930002	AB1-001 E	0.27
930102	AB1-025 E	1.0
930242	AB1-063 E	0.14
930722	AB1-116 E	0.18
930732	AB1-119 E	0.16
931191	AB1-169A	119.2
932361	AC2-050 C O1	0.89
932362	AC2-050 E O1	1.45
933962	AD1-019 E	1.42
936211	AD2-027 C	1.4
936212	AD2-027 E	2.28
936321	AD2-042 C	1.84
936322	AD2-042 E	3.02
936411	AD2-052 C	1.54
936412	AD2-052 E	0.76
936491	AD2-064 C	0.12
936492	AD2-064 E	0.16
936501	AD2-065 C	0.5
936502	AD2-065 E	0.69
936541	AD2-069 C	0.52
936542	AD2-069 E	0.26
937011	AD2-135 C	0.13
937012	AD2-135 E	0.23
938301	AE1-045 C	0.43
938302	AE1-045 E	0.22
938311	AE1-046 C	0.43
938312	AE1-046 E	0.22
938421	AE1-061 C	0.58
938422	AE1-061 E	0.58
938431	AE1-062 C	1.2
938432	AE1-062 E	1.2
938611	AE1-083 C	0.51
938612	AE1-083 E	0.71
938781	AE1-104 C O1	26.49
938782	AE1-104 E O1	67.76
938871	AE1-115 C	1.26
938872	AE1-115 E	1.26
939301	AE1-161 C	2.4
939302	AE1-161 E	3.6
939501	AE1-179 C O1	7.31

Bus #	Bus	MW Impact
939502	AE1-179 E O1	5.16
939821	AE1-218 C O1	0.19
939822	AE1-218 E O1	0.28
939831	AE1-219 C O1	0.42
939832	AE1-219 E O1	0.6
939931	AE1-229 C O1	20.36
939932	AE1-229 E O1	13.79
940001	AE1-240 C O1	6.06
940002	AE1-240 E O1	4.32
BAYOU	BAYOU	1.46
BIG_CAJUN1	BIG_CAJUN1	2.24
BIG_CAJUN2	BIG_CAJUN2	4.51
BLUEG	BLUEG	6.97
CALDERWOOD	CALDERWOOD	0.76
CANNELTON	CANNELTON	0.42
CATAWBA	CATAWBA	0.48
CBM-N	CBM-N	0.79
CHEOAH	CHEOAH	0.69
CHILHOWEE	CHILHOWEE	0.25
CHOCTAW	CHOCTAW	1.49
COFFEEN	COFFEEN	0.74
COTTONWOOD	COTTONWOOD	5.78
DEARBORN	DEARBORN	1.22
DUCKCREEK	DUCKCREEK	1.6
EDWARDS	EDWARDS	0.73
ELMERSMITH	ELMERSMITH	0.73
FARMERCITY	FARMERCITY	0.49
G-007A	G-007A	12.41
GIBSON	GIBSON	0.29
HAMLET	HAMLET	1.59
NEWTON	NEWTON	1.92
NYISO	NYISO	3.41
O-066A	O-066A	3.17
PRAIRIE	PRAIRIE	3.59
SANTEETLA	SANTEETLA	0.2
SMITHLAND	SMITHLAND	0.29
TATANKA	TATANKA	0.88
TILTON	TILTON	0.88
TRIMBLE	TRIMBLE	0.77
TVA	TVA	2.43
UNIONPOWER	UNIONPOWER	1.08
VFT	VFT	22.21

Index 7

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
884716	214206	RICHRE29	PECO	213922	RICHMOND	PECO	1	PECO_P4_CHICH045/* \$ DELCO \$	breaker	1336.0	102.37	103.62	DC	36.69

								PECO_P4_CHICH045 \$						
								STBK						

Bus #	Bus	MW Impact
219124	CAMDEN_STG	3.94
219126	CAMDEN_CTG	4.84
219128	GLOUCSTR_26	2.13
219229	EAGLEPT_G3	3.5
219230	EAGLEPT_G1	5.18
219231	EAGLEPT_G2	5.18
219241	CAMDEN1	0.29
219242	CAMDEN2	0.03
227801	ONTC&DCT	7.53
227843	MARINGEN E	0.78
227928	V4-067E	0.31
228261	V4-054E	1.43
228357	V2-046E	3.29
228423	Q-090 2	37.81
228712	V2-041E	0.52
228721	V2-035E	0.3
291995	U4-036 C	0.1
291996	U4-036 E	1.12
292063	V1-021 E	0.06
292088	V1-030 CB	0.14
292099	V1-030 E3	0.21
292104	V1-030 C6	0.03
292105	V1-030 E6	0.33
292115	V1-030 EB	1.49
292194	V1-030 CE	0.13
292195	V1-030 EE	1.37
292967	U2-045 E	3.4
293404	V3-036	1.07
902092	W1-130E	1.43
902432	W2-030 E	1.21
902692	W2-056 E	1.52
902842	W2-071E	0.44
903152	W2-102 E	0.97
903991	W3-080C	1.34
903992	W3-080E	2.19
904042	V4-005 E	0.4
904432	W3-124 E	0.39
905143	W4-016	73.72
905232	W4-029 E	0.42
905532	W4-063 E	0.85
905792	W4-103 E	0.97
907381	X1-070 C	0.06
907382	X1-070 E	0.77
907391	X1-071 C	0.02
907392	X1-071 E	0.26
909032	X2-013 E	0.7
910862	X3-075 E	1.18
913242	Y1-057 E	0.3
913332	Y1-075 E	0.39
914231	Y2-081 C OP1	1.7

Bus #	Bus	MW Impact
914232	Y2-081 E OP1	0.09
915022	Y3-012 E	1.46
915072	Y3-026 E	1.1
915591	Y3-087 C OP1	0.08
915592	Y3-087 E OP1	0.89
916292	Z1-082 E	0.37
917381	Z2-062	0.18
918852	AA1-104 E	6.27
919901	AB1-000 1	1.03
919911	AB1-000 2	1.03
919921	AB1-000 3	1.03
924051	AB2-049 C	0.9
924052	AB2-049 E	1.47
924531	AB2-102 C	45.75
924532	AB2-102 E	1.02
924701	AB2-122 C	0.13
924702	AB2-122 E	0.23
925391	AC1-010 C	0.87
925392	AC1-010 E	1.5
925442	AC1-016 E	0.96
925452	AC1-017 E	0.56
925561	AC1-030 C	0.05
925562	AC1-030 E	0.52
930002	AB1-001 E	0.28
930102	AB1-025 E	0.94
930242	AB1-063 E	0.15
930722	AB1-116 E	0.19
930732	AB1-119 E	0.17
931191	AB1-169A	126.46
932361	AC2-050 C O1	0.86
932362	AC2-050 E O1	1.41
933962	AD1-019 E	1.48
934661	AD1-097 1	1.67
934671	AD1-097 2	1.67
934681	AD1-097 3	1.67
934691	AD1-097 4	0.99
936211	AD2-027 C	1.57
936212	AD2-027 E	2.56
936321	AD2-042 C	2.07
936322	AD2-042 E	3.39
936411	AD2-052 C	1.66
936412	AD2-052 E	0.82
936491	AD2-064 C	0.12
936492	AD2-064 E	0.17
936501	AD2-065 C	0.51
936502	AD2-065 E	0.7
936541	AD2-069 C	0.5
936542	AD2-069 E	0.25
937011	AD2-135 C	0.14
937012	AD2-135 E	0.24
938301	AE1-045 C	0.46
938302	AE1-045 E	0.23

Bus #	Bus	MW Impact
938311	AE1-046 C	0.46
938312	AE1-046 E	0.23
938421	AE1-061 C	0.61
938422	AE1-061 E	0.61
938431	AE1-062 C	1.23
938432	AE1-062 E	1.23
938611	AE1-083 C	0.35
938612	AE1-083 E	0.48
938781	AE1-104 C O1	27.75
938782	AE1-104 E O1	71.0
938871	AE1-115 C	1.36
938872	AE1-115 E	1.36
939301	AE1-161 C	2.56
939302	AE1-161 E	3.84
939501	AE1-179 C O1	7.77
939502	AE1-179 E O1	5.48
939821	AE1-218 C O1	0.2
939822	AE1-218 E O1	0.3
939831	AE1-219 C O1	0.44
939832	AE1-219 E O1	0.64
939931	AE1-229 C O1	21.87
939932	AE1-229 E O1	14.82
940001	AE1-240 C O1	6.44
940002	AE1-240 E O1	4.6
BAYOU	BAYOU	1.26
BIG_CAJUN1	BIG_CAJUN1	1.94
BIG_CAJUN2	BIG_CAJUN2	3.9
BLUEG	BLUEG	6.05
CALDERWOOD	CALDERWOOD	0.65
CANNELTON	CANNELTON	0.37
CATAWBA	CATAWBA	0.41
CBM-N	CBM-N	0.28
CHEOAH	CHEOAH	0.6
CHILHOWEE	CHILHOWEE	0.21
CHOCTAW	CHOCTAW	1.29
COFFEEN	COFFEEN	0.64
COTTONWOOD	COTTONWOOD	4.99
DEARBORN	DEARBORN	1.07
DUCKCREEK	DUCKCREEK	1.39
EDWARDS	EDWARDS	0.63
ELMERSMITH	ELMERSMITH	0.63
FARMERCITY	FARMERCITY	0.42
G-007A	G-007A	9.68
GIBSON	GIBSON	0.25
HAMLET	HAMLET	1.36
NEWTON	NEWTON	1.67
NYISO	NYISO	1.21
O-066A	O-066A	1.91
PRAIRIE	PRAIRIE	3.11
SANTEETLA	SANTEETLA	0.18
SMITHLAND	SMITHLAND	0.25
TATANKA	TATANKA	0.76

Bus #	Bus	MW Impact
TILTON	TILTON	0.76
TRIMBLE	TRIMBLE	0.67
TVA	TVA	2.09
UNIONPOWER	UNIONPOWER	0.93
VFT	VFT	13.99

Index 8

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
885493	219110	GLOUCSTR	PSE&G	219125	CAMDEN	PSE&G	1	Base Case	single	500.0	107.28	109.02	DC	8.77

Bus #	Bus	MW Impact
213400	COVANTA DELA	1.15
219124	CAMDEN_STG	2.2
219126	CAMDEN_CTG	2.7
219128	GLOUCSTR_26	1.19
219229	EAGLEPT_G3	1.9
219230	EAGLEPT_G1	2.81
219231	EAGLEPT_G2	2.81
227801	ONTC&DCT	2.44
227881	GRENWCHG	0.03
228304	LOGAN	4.35
228306	PCLP STM	1.15
228307	PCLP GT	1.14
228309	CCLP NUG	3.98
228334	MANNMILG	0.14
228343	QUINTN#1	0.03
228351	V2-046C	0.11
228400	MICK 1CT	0.92
228423	Q-090 2	17.86
228471	VALERO1	0.31
228472	VALERO2	0.21
228473	VALERO3	0.21
228484	VALERO4	0.18
228720	V2-035C	0.01
291995	U4-036 C	0.05
292104	V1-030 C6	0.02
292194	V1-030 CE	0.07
903963	W3-175	5.91
905143	W4-016	34.83
914231	Y2-081 C OP1	0.91
914232	Y2-081 E OP1	0.05
915591	Y3-087 C OP1	0.04
917381	Z2-062	0.1
917471	Z2-083	1.68
918891	AA1-108	2.52
924051	AB2-049 C	0.28

Bus #	Bus	MW Impact
924531	AB2-102 C	16.13
924701	AB2-122 C	0.04
925391	AC1-010 C	0.48
931191	AB1-169A	46.45
936411	AD2-052 C	0.67
936491	AD2-064 C	0.04
936501	AD2-065 C	0.13
937011	AD2-135 C	0.04
938301	AE1-045 C	0.17
938311	AE1-046 C	0.17
938421	AE1-061 C	0.22
938431	AE1-062 C	0.31
938781	AE1-104 C O1	9.29
938871	AE1-115 C	1.08
939301	AE1-161 C	1.83
939501	AE1-179 C O1	2.86
939821	AE1-218 C O1	0.07
939831	AE1-219 C O1	0.16
939931	AE1-229 C O1	8.77
940001	AE1-240 C O1	2.38
BAYOU	BAYOU	0.25
BIG_CAJUN1	BIG_CAJUN1	0.38
BIG_CAJUN2	BIG_CAJUN2	0.77
BLUEG	BLUEG	1.24
CALDERWOOD	CALDERWOOD	0.13
CANNELTON	CANNELTON	0.07
CARR	CARR	0.26
CATAWBA	CATAWBA	0.08
CHEOAH	CHEOAH	0.12
CHILHOWEE	CHILHOWEE	0.04
CHOCTAW	CHOCTAW	0.26
COFFEEN	COFFEEN	0.13
COTTONWOOD	COTTONWOOD	1.0
DEARBORN	DEARBORN	0.23
DUCKCREEK	DUCKCREEK	0.29
EDWARDS	EDWARDS	0.13
ELMERSMITH	ELMERSMITH	0.13
FARMERCITY	FARMERCITY	0.09
GIBSON	GIBSON	0.05
HAMLET	HAMLET	0.25
NEWTON	NEWTON	0.34
PRAIRIE	PRAIRIE	0.63
RENSSELAER	RENSSELAER	0.21
SANTEETLA	SANTEETLA	0.03
SMITHLAND	SMITHLAND	0.05
TATANKA	TATANKA	0.15
TILTON	TILTON	0.16
TRIMBLE	TRIMBLE	0.14
TVA	TVA	0.42
UNIONPOWER	UNIONPOWER	0.18

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
884715	219125	CAMDEN	PSE&G	214206	RICHRE29	PECO	1	PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	breaker	1336.0	102.39	103.64	DC	36.69

Bus #	Bus	MW Impact
219124	CAMDEN_STG	3.94
219126	CAMDEN_CTG	4.84
219128	GLOUCSTR_26	2.13
219229	EAGLEPT_G3	3.5
219230	EAGLEPT_G1	5.18
219231	EAGLEPT_G2	5.18
219241	CAMDEN1	0.29
219242	CAMDEN2	0.03
227801	ONTC&DCT	7.53
227843	MARINGEN E	0.78
227928	V4-067E	0.31
228261	V4-054E	1.43
228357	V2-046E	3.29
228423	Q-090 2	37.81
228712	V2-041E	0.52
228721	V2-035E	0.3
291995	U4-036 C	0.1
291996	U4-036 E	1.12
292063	V1-021 E	0.06
292088	V1-030 CB	0.14
292099	V1-030 E3	0.21
292104	V1-030 C6	0.03
292105	V1-030 E6	0.33
292115	V1-030 EB	1.49
292194	V1-030 CE	0.13
292195	V1-030 EE	1.37
292967	U2-045 E	3.4
293404	V3-036	1.07
902092	W1-130E	1.43
902432	W2-030 E	1.21
902692	W2-056 E	1.52
902842	W2-071E	0.44
903152	W2-102 E	0.97
903991	W3-080C	1.34
903992	W3-080E	2.19
904042	V4-005 E	0.4
904432	W3-124 E	0.39
905143	W4-016	73.72
905232	W4-029 E	0.42
905532	W4-063 E	0.85
905792	W4-103 E	0.97
907381	X1-070 C	0.06
907382	X1-070 E	0.77

Bus #	Bus	MW Impact
907391	X1-071 C	0.02
907392	X1-071 E	0.26
909032	X2-013 E	0.7
910862	X3-075 E	1.18
913242	Y1-057 E	0.3
913332	Y1-075 E	0.39
914231	Y2-081 C OP1	1.7
914232	Y2-081 E OP1	0.09
915022	Y3-012 E	1.46
915072	Y3-026 E	1.1
915591	Y3-087 C OP1	0.08
915592	Y3-087 E OP1	0.89
916292	Z1-082 E	0.37
917381	Z2-062	0.18
918852	AA1-104 E	6.27
919901	AB1-000 1	1.03
919911	AB1-000 2	1.03
919921	AB1-000 3	1.03
924051	AB2-049 C	0.9
924052	AB2-049 E	1.47
924531	AB2-102 C	45.75
924532	AB2-102 E	1.02
924701	AB2-122 C	0.13
924702	AB2-122 E	0.23
925391	AC1-010 C	0.87
925392	AC1-010 E	1.5
925442	AC1-016 E	0.96
925452	AC1-017 E	0.56
925561	AC1-030 C	0.05
925562	AC1-030 E	0.52
930002	AB1-001 E	0.28
930102	AB1-025 E	0.94
930242	AB1-063 E	0.15
930722	AB1-116 E	0.19
930732	AB1-119 E	0.17
931191	AB1-169A	126.46
932361	AC2-050 C O1	0.86
932362	AC2-050 E O1	1.41
933962	AD1-019 E	1.48
934661	AD1-097 1	1.67
934671	AD1-097 2	1.67
934681	AD1-097 3	1.67
934691	AD1-097 4	0.99
936211	AD2-027 C	1.57
936212	AD2-027 E	2.56
936321	AD2-042 C	2.07
936322	AD2-042 E	3.39
936411	AD2-052 C	1.66
936412	AD2-052 E	0.82
936491	AD2-064 C	0.12
936492	AD2-064 E	0.17
936501	AD2-065 C	0.51

Bus #	Bus	MW Impact
936502	AD2-065 E	0.7
936541	AD2-069 C	0.5
936542	AD2-069 E	0.25
937011	AD2-135 C	0.14
937012	AD2-135 E	0.24
938301	AE1-045 C	0.46
938302	AE1-045 E	0.23
938311	AE1-046 C	0.46
938312	AE1-046 E	0.23
938421	AE1-061 C	0.61
938422	AE1-061 E	0.61
938431	AE1-062 C	1.23
938432	AE1-062 E	1.23
938611	AE1-083 C	0.35
938612	AE1-083 E	0.48
938781	AE1-104 C O1	27.75
938782	AE1-104 E O1	71.0
938871	AE1-115 C	1.36
938872	AE1-115 E	1.36
939301	AE1-161 C	2.56
939302	AE1-161 E	3.84
939501	AE1-179 C O1	7.77
939502	AE1-179 E O1	5.48
939821	AE1-218 C O1	0.2
939822	AE1-218 E O1	0.3
939831	AE1-219 C O1	0.44
939832	AE1-219 E O1	0.64
939931	AE1-229 C O1	21.87
939932	AE1-229 E O1	14.82
940001	AE1-240 C O1	6.44
940002	AE1-240 E O1	4.6
BAYOU	BAYOU	1.26
BIG_CAJUN1	BIG_CAJUN1	1.94
BIG_CAJUN2	BIG_CAJUN2	3.9
BLUEG	BLUEG	6.05
CALDERWOOD	CALDERWOOD	0.65
CANNELTON	CANNELTON	0.37
CATAWBA	CATAWBA	0.41
CBM-N	CBM-N	0.28
CHEOAH	CHEOAH	0.6
CHILHOWEE	CHILHOWEE	0.21
CHOCTAW	CHOCTAW	1.29
COFFEEN	COFFEEN	0.64
COTTONWOOD	COTTONWOOD	4.99
DEARBORN	DEARBORN	1.07
DUCKCREEK	DUCKCREEK	1.39
EDWARDS	EDWARDS	0.63
ELMERSMITH	ELMERSMITH	0.63
FARMERCITY	FARMERCITY	0.42
G-007A	G-007A	9.68
GIBSON	GIBSON	0.25
HAMLET	HAMLET	1.36

Bus #	Bus	MW Impact
NEWTON	NEWTON	1.67
NYISO	NYISO	1.21
O-066A	O-066A	1.91
PRAIRIE	PRAIRIE	3.11
SANTEETLA	SANTEETLA	0.18
SMITHLAND	SMITHLAND	0.25
TATANKA	TATANKA	0.76
TILTON	TILTON	0.76
TRIMBLE	TRIMBLE	0.67
TVA	TVA	2.09
UNIONPOWER	UNIONPOWER	0.93
VFT	VFT	13.99

Index 10

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
886056	219702	HILLTOP_1	PSE&G	219101	BEAVERBK_1	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	740.0	99.65	101.7	DC	15.46

Bus #	Bus	MW Impact
227801	ONTC&DCT	3.79
227843	MARINGEN E	0.39
227928	V4-067E	0.16
228260	V4-054C	0.12
228261	V4-054E	0.63
228357	V2-046E	1.3
228702	WEST CT	0.41
228712	V2-041E	0.25
228717	S121	0.68
228720	V2-035C	0.01
228721	V2-035E	0.13
228727	W2-039G	0.99
291996	U4-036 E	0.3
292063	V1-021 E	0.03
292105	V1-030 E6	0.09
292967	U2-045 E	1.71
293404	V3-036	0.54
902091	W1-130C	0.06
902092	W1-130E	0.69
902432	W2-030 E	0.61
905143	W4-016	21.77
905532	W4-063 E	0.43
909032	X2-013 E	0.19
915022	Y3-012 E	0.74
918852	AA1-104 E	1.85
924051	AB2-049 C	0.47
924052	AB2-049 E	0.77
924531	AB2-102 C	21.78

Bus #	Bus	MW Impact
924532	AB2-102 E	0.48
924701	AB2-122 C	0.07
924702	AB2-122 E	0.12
930002	AB1-001 E	0.14
930722	AB1-116 E	0.1
930732	AB1-119 E	0.09
931191	AB1-169A	60.74
933962	AD1-019 E	0.75
936411	AD2-052 C	0.66
936412	AD2-052 E	0.33
936491	AD2-064 C	0.06
936492	AD2-064 E	0.09
936501	AD2-065 C	0.24
936502	AD2-065 E	0.33
937011	AD2-135 C	0.08
937012	AD2-135 E	0.14
938301	AE1-045 C	0.22
938302	AE1-045 E	0.11
938311	AE1-046 C	0.22
938312	AE1-046 E	0.11
938421	AE1-061 C	0.55
938422	AE1-061 E	0.55
938431	AE1-062 C	1.13
938432	AE1-062 E	1.13
938781	AE1-104 C O1	13.72
938782	AE1-104 E O1	35.11
938871	AE1-115 C	0.51
938872	AE1-115 E	0.51
939301	AE1-161 C	2.29
939302	AE1-161 E	3.43
939501	AE1-179 C O1	3.56
939502	AE1-179 E O1	2.51
939821	AE1-218 C O1	0.1
939822	AE1-218 E O1	0.15
939831	AE1-219 C O1	0.22
939832	AE1-219 E O1	0.32
939931	AE1-229 C O1	9.22
939932	AE1-229 E O1	6.25
940001	AE1-240 C O1	2.94
940002	AE1-240 E O1	2.1
BAYOU	BAYOU	0.15
BIG_CAJUN1	BIG_CAJUN1	0.22
BIG_CAJUN2	BIG_CAJUN2	0.45
BLUEG	BLUEG	0.77
CALDERWOOD	CALDERWOOD	0.07
CANNELTON	CANNELTON	0.05
CARR	CARR	0.27
CATAWBA	CATAWBA	0.04
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.02
CHOCTAW	CHOCTAW	0.15
COFFEEN	COFFEEN	0.08

Bus #	Bus	MW Impact
COTTONWOOD	COTTONWOOD	0.58
DEARBORN	DEARBORN	0.15
DUCKCREEK	DUCKCREEK	0.18
EDWARDS	EDWARDS	0.08
ELMERSMITH	ELMERSMITH	0.08
FARMERCITY	FARMERCITY	0.05
G-007	G-007	0.18
GIBSON	GIBSON	0.03
HAMLET	HAMLET	0.13
NEWTON	NEWTON	0.21
O-066	O-066	3.07
PRAIRIE	PRAIRIE	0.38
RENSSELAER	RENSSELAER	0.21
SANTEETLA	SANTEETLA	0.02
SMITHLAND	SMITHLAND	0.03
TATANKA	TATANKA	0.1
TILTON	TILTON	0.1
TRIMBLE	TRIMBLE	0.09
TVA	TVA	0.24
UNIONPOWER	UNIONPOWER	0.11

Index 11

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
885998	228402	MONROE	AE	219100	NEWFRDM	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	804.0	107.43	109.05	DC	51.13

Bus #	Bus	MW Impact
219229	EAGLEPT_G3	3.84
219230	EAGLEPT_G1	5.68
219231	EAGLEPT_G2	5.68
227801	ONTC&DCT	4.46
227843	MARINGEN E	0.46
228261	V4-054E	1.48
228357	V2-046E	3.92
228400	MICK 1CT	2.61
228423	Q-090 2	49.81
228471	VALERO1	0.88
228472	VALERO2	0.61
228473	VALERO3	0.61
228484	VALERO4	0.52
228712	V2-041E	0.41
228720	V2-035C	0.05
228721	V2-035E	0.48
291995	U4-036 C	0.12
291996	U4-036 E	1.32
292063	V1-021 E	0.04
292104	V1-030 C6	0.04

Bus #	Bus	MW Impact
292105	V1-030 E6	0.38
292967	U2-045 E	2.01
293404	V3-036	0.64
902091	W1-130C	0.21
902092	W1-130E	2.23
902432	W2-030 E	0.69
905143	W4-016	97.12
905532	W4-063 E	0.5
909032	X2-013 E	0.83
915022	Y3-012 E	0.87
917471	Z2-083	4.69
918852	AA1-104 E	8.27
924051	AB2-049 C	0.69
924052	AB2-049 E	1.13
924531	AB2-102 C	32.0
924532	AB2-102 E	0.71
930002	AB1-001 E	0.17
930722	AB1-116 E	0.21
930732	AB1-119 E	0.1
931191	AB1-169A	196.86
933962	AD1-019 E	0.88
936411	AD2-052 C	1.83
936412	AD2-052 E	0.9
936491	AD2-064 C	0.07
936492	AD2-064 E	0.1
938301	AE1-045 C	0.72
938302	AE1-045 E	0.36
938311	AE1-046 C	0.72
938312	AE1-046 E	0.36
938421	AE1-061 C	0.96
938422	AE1-061 E	1.8
938781	AE1-104 C O1	17.79
938782	AE1-104 E O1	45.51
938871	AE1-115 C	1.54
938872	AE1-115 E	1.54
939301	AE1-161 C	8.82
939302	AE1-161 E	13.22
939501	AE1-179 C O1	7.57
939502	AE1-179 E O1	5.34
939821	AE1-218 C O1	0.3
939822	AE1-218 E O1	0.45
939831	AE1-219 C O1	0.68
939832	AE1-219 E O1	0.98
939931	AE1-229 C O1	30.48
939932	AE1-229 E O1	20.65
940001	AE1-240 C O1	6.23
940002	AE1-240 E O1	4.45
BAYOU	BAYOU	0.58
BIG_CAJUN1	BIG_CAJUN1	0.89
BIG_CAJUN2	BIG_CAJUN2	1.79
BLUEG	BLUEG	2.79
CALDERWOOD	CALDERWOOD	0.3

Bus #	Bus	MW Impact
CANNELTON	CANNELTON	0.17
CARR	CARR	0.42
CATAWBA	CATAWBA	0.19
CHEOAH	CHEOAH	0.27
CHILHOWEE	CHILHOWEE	0.1
CHOCTAW	CHOCTAW	0.59
COFFEEN	COFFEEN	0.29
COTTONWOOD	COTTONWOOD	2.29
DEARBORN	DEARBORN	0.49
DUCKCREEK	DUCKCREEK	0.64
EDWARDS	EDWARDS	0.29
ELMERSMITH	ELMERSMITH	0.29
FARMERCITY	FARMERCITY	0.19
G-007	G-007	1.48
GIBSON	GIBSON	0.12
HAMLET	HAMLET	0.62
NEWTON	NEWTON	0.77
O-066	O-066	5.0
PRAIRIE	PRAIRIE	1.43
RENSSELAER	RENSSELAER	0.33
SANTEETLA	SANTEETLA	0.08
SMITHLAND	SMITHLAND	0.11
TATANKA	TATANKA	0.35
TILTON	TILTON	0.35
TRIMBLE	TRIMBLE	0.31
TVA	TVA	0.96
UNIONPOWER	UNIONPOWER	0.43

Index 12

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
885915	219100	NEWFRDM	PSE&G	219704	HILLTOP_3	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	740.0	115.29	117.43	DC	16.39

Bus #	Bus	MW Impact
227801	ONTC&DCT	4.02
227843	MARINGEN E	0.42
227928	V4-067E	0.17
228260	V4-054C	0.12
228261	V4-054E	0.66
228357	V2-046E	1.38
228702	WEST CT	0.44
228712	V2-041E	0.26
228717	S121	0.72
228720	V2-035C	0.01
228721	V2-035E	0.14
228727	W2-039G	1.05
291996	U4-036 E	0.31

Bus #	Bus	MW Impact
292063	V1-021 E	0.03
292105	V1-030 E6	0.09
292967	U2-045 E	1.81
293404	V3-036	0.57
902091	W1-130C	0.07
902092	W1-130E	0.73
902432	W2-030 E	0.65
905143	W4-016	23.09
905532	W4-063 E	0.45
909032	X2-013 E	0.2
915022	Y3-012 E	0.78
916292	Z1-082 E	0.26
918852	AA1-104 E	1.96
924051	AB2-049 C	0.5
924052	AB2-049 E	0.81
924531	AB2-102 C	23.08
924532	AB2-102 E	0.51
924701	AB2-122 C	0.07
924702	AB2-122 E	0.13
930002	AB1-001 E	0.15
930722	AB1-116 E	0.1
930732	AB1-119 E	0.09
931191	AB1-169A	64.37
933962	AD1-019 E	0.79
936411	AD2-052 C	0.7
936412	AD2-052 E	0.34
936491	AD2-064 C	0.07
936492	AD2-064 E	0.09
936501	AD2-065 C	0.25
936502	AD2-065 E	0.35
937011	AD2-135 C	0.09
937012	AD2-135 E	0.15
938301	AE1-045 C	0.23
938302	AE1-045 E	0.12
938311	AE1-046 C	0.23
938312	AE1-046 E	0.12
938421	AE1-061 C	0.59
938422	AE1-061 E	0.59
938431	AE1-062 C	1.19
938432	AE1-062 E	1.19
938781	AE1-104 C O1	14.54
938782	AE1-104 E O1	37.2
938871	AE1-115 C	0.55
938872	AE1-115 E	0.55
939301	AE1-161 C	2.42
939302	AE1-161 E	3.64
939501	AE1-179 C O1	3.77
939502	AE1-179 E O1	2.66
939821	AE1-218 C O1	0.1
939822	AE1-218 E O1	0.16
939831	AE1-219 C O1	0.23
939832	AE1-219 E O1	0.34

Bus #	Bus	MW Impact
939931	AE1-229 C O1	9.77
939932	AE1-229 E O1	6.62
940001	AE1-240 C O1	3.11
940002	AE1-240 E O1	2.22
BAYOU	BAYOU	0.16
BIG_CAJUN1	BIG_CAJUN1	0.24
BIG_CAJUN2	BIG_CAJUN2	0.48
BLUEG	BLUEG	0.81
CALDERWOOD	CALDERWOOD	0.08
CANNELTON	CANNELTON	0.05
CARR	CARR	0.29
CATAWBA	CATAWBA	0.04
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.03
CHOCTAW	CHOCTAW	0.16
COFFEEN	COFFEEN	0.09
COTTONWOOD	COTTONWOOD	0.62
DEARBORN	DEARBORN	0.16
DUCKCREEK	DUCKCREEK	0.19
EDWARDS	EDWARDS	0.09
ELMERSMITH	ELMERSMITH	0.08
FARMERCITY	FARMERCITY	0.06
G-007	G-007	0.22
GIBSON	GIBSON	0.03
HAMLET	HAMLET	0.14
NEWTON	NEWTON	0.22
O-066	O-066	3.31
PRAIRIE	PRAIRIE	0.41
RENSSELAER	RENSSELAER	0.23
SANTEETLA	SANTEETLA	0.02
SMITHLAND	SMITHLAND	0.03
TATANKA	TATANKA	0.1
TILTON	TILTON	0.1
TRIMBLE	TRIMBLE	0.09
TVA	TVA	0.26
UNIONPOWER	UNIONPOWER	0.11

Index 13

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
885502	219108	CUTHBERT	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_U-2299	single	771.0	106.65	108.49	DC	14.31

Bus #	Bus	MW Impact
213400	COVANTA DELA	1.87
219124	CAMDEN_STG	3.59
219126	CAMDEN_CTG	4.41

Bus #	Bus	MW Impact
219128	GLOUCSTR_26	1.94
219229	EAGLEPT_G3	3.1
219230	EAGLEPT_G1	4.59
219231	EAGLEPT_G2	4.59
227801	ONTC&DCT	3.97
227881	GRENWCHG	0.05
228304	LOGAN	7.1
228306	PCLP STM	1.87
228307	PCLP GT	1.87
228309	CCLP NUG	6.48
228334	MANNMILG	0.22
228343	QUINTN#1	0.05
228351	V2-046C	0.18
228400	MICK 1CT	1.49
228423	Q-090 2	29.14
228471	VALERO1	0.51
228472	VALERO2	0.35
228473	VALERO3	0.35
228484	VALERO4	0.3
228720	V2-035C	0.02
291995	U4-036 C	0.09
292104	V1-030 C6	0.03
292194	V1-030 CE	0.12
903963	W3-175	9.64
905143	W4-016	56.82
914231	Y2-081 C OP1	1.48
914232	Y2-081 E OP1	0.08
915591	Y3-087 C OP1	0.07
917381	Z2-062	0.17
917471	Z2-083	2.74
918891	AA1-108	4.1
924051	AB2-049 C	0.46
924531	AB2-102 C	26.32
924701	AB2-122 C	0.07
925391	AC1-010 C	0.79
931191	AB1-169A	75.77
936411	AD2-052 C	1.1
936491	AD2-064 C	0.06
936501	AD2-065 C	0.21
937011	AD2-135 C	0.07
938301	AE1-045 C	0.28
938311	AE1-046 C	0.28
938421	AE1-061 C	0.37
938431	AE1-062 C	0.5
938781	AE1-104 C O1	15.15
938871	AE1-115 C	1.76
939301	AE1-161 C	2.99
939501	AE1-179 C O1	4.67
939821	AE1-218 C O1	0.11
939831	AE1-219 C O1	0.26
939931	AE1-229 C O1	14.31
940001	AE1-240 C O1	3.88

Bus #	Bus	MW Impact
BAYOU	BAYOU	0.41
BIG_CAJUN1	BIG_CAJUN1	0.63
BIG_CAJUN2	BIG_CAJUN2	1.26
BLUEG	BLUEG	2.01
CALDERWOOD	CALDERWOOD	0.21
CANNELTON	CANNELTON	0.12
CARR	CARR	0.43
CATAWBA	CATAWBA	0.13
CHEOAH	CHEOAH	0.19
CHILHOWEE	CHILHOWEE	0.07
CHOCTAW	CHOCTAW	0.42
COFFEEN	COFFEEN	0.21
COTTONWOOD	COTTONWOOD	1.62
DEARBORN	DEARBORN	0.37
DUCKCREEK	DUCKCREEK	0.46
EDWARDS	EDWARDS	0.21
ELMERSMITH	ELMERSMITH	0.21
FARMERCITY	FARMERCITY	0.14
GIBSON	GIBSON	0.08
HAMLET	HAMLET	0.41
NEWTON	NEWTON	0.55
PRAIRIE	PRAIRIE	1.03
RENSSELAER	RENSSELAER	0.34
SANTEETLA	SANTEETLA	0.06
SMITHLAND	SMITHLAND	0.08
TATANKA	TATANKA	0.25
TILTON	TILTON	0.25
TRIMBLE	TRIMBLE	0.22
TVA	TVA	0.68
UNIONPOWER	UNIONPOWER	0.3

Index 14

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
885577	219110	GLOUCSTR	PSE&G	219753	CUTHBERT_2	PSE&G	1	PS_P1-2_D-2282_LT	single	771.0	104.5	106.14	DC	12.68

Bus #	Bus	MW Impact
213400	COVANTA DELA	1.66
219124	CAMDEN_STG	3.18
219126	CAMDEN_CTG	3.91
219128	GLOUCSTR_26	1.72
219229	EAGLEPT_G3	2.75
219230	EAGLEPT_G1	4.07
219231	EAGLEPT_G2	4.07
227801	ONTC&DCT	3.52
227881	GRENWCHG	0.05

Bus #	Bus	MW Impact
228304	LOGAN	6.29
228306	PCLP STM	1.66
228307	PCLP GT	1.65
228309	CCLP NUG	5.75
228334	MANNMILG	0.2
228343	QUINTN#1	0.04
228351	V2-046C	0.16
228400	MICK 1CT	1.32
228423	Q-090 2	25.82
228471	VALERO1	0.45
228472	VALERO2	0.31
228473	VALERO3	0.31
228484	VALERO4	0.26
228720	V2-035C	0.02
291995	U4-036 C	0.08
292104	V1-030 C6	0.02
292194	V1-030 CE	0.1
903963	W3-175	8.54
905143	W4-016	50.35
914231	Y2-081 C OP1	1.31
914232	Y2-081 E OP1	0.07
915591	Y3-087 C OP1	0.06
917381	Z2-062	0.15
917471	Z2-083	2.43
918891	AA1-108	3.64
924051	AB2-049 C	0.41
924531	AB2-102 C	23.33
924701	AB2-122 C	0.06
925391	AC1-010 C	0.7
931191	AB1-169A	67.16
936411	AD2-052 C	0.97
936491	AD2-064 C	0.05
936501	AD2-065 C	0.18
937011	AD2-135 C	0.06
938301	AE1-045 C	0.24
938311	AE1-046 C	0.24
938421	AE1-061 C	0.32
938431	AE1-062 C	0.45
938781	AE1-104 C O1	13.43
938871	AE1-115 C	1.56
939301	AE1-161 C	2.65
939501	AE1-179 C O1	4.14
939821	AE1-218 C O1	0.1
939831	AE1-219 C O1	0.23
939931	AE1-229 C O1	12.68
940001	AE1-240 C O1	3.44
BAYOU	BAYOU	0.36
BIG_CAJUN1	BIG_CAJUN1	0.55
BIG_CAJUN2	BIG_CAJUN2	1.12
BLUEG	BLUEG	1.78
CALDERWOOD	CALDERWOOD	0.18
CANNELTON	CANNELTON	0.11

Bus #	Bus	MW Impact
CARR	CARR	0.38
CATAWBA	CATAWBA	0.11
CHEOAH	CHEOAH	0.17
CHILHOWEE	CHILHOWEE	0.06
CHOCTAW	CHOCTAW	0.37
COFFEEN	COFFEEN	0.19
COTTONWOOD	COTTONWOOD	1.43
DEARBORN	DEARBORN	0.33
DUCKCREEK	DUCKCREEK	0.41
EDWARDS	EDWARDS	0.19
ELMERSMITH	ELMERSMITH	0.19
FARMERCITY	FARMERCITY	0.12
GIBSON	GIBSON	0.07
HAMLET	HAMLET	0.36
NEWTON	NEWTON	0.49
PRAIRIE	PRAIRIE	0.91
RENSSELAER	RENSSELAER	0.3
SANTEETLA	SANTEETLA	0.05
SMITHLAND	SMITHLAND	0.07
TATANKA	TATANKA	0.22
TILTON	TILTON	0.23
TRIMBLE	TRIMBLE	0.2
TVA	TVA	0.6
UNIONPOWER	UNIONPOWER	0.27

Index 15

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
884903	227901	DOROTHY	AE	227949	LEWIS #3	AE	1	Base Case	single	154.0	175.91	181.39	DC	8.45

Bus #	Bus	MW Impact
228720	V2-035C	0.02
902091	W1-130C	0.21
931191	AB1-169A	205.14
938301	AE1-045 C	0.75
938311	AE1-046 C	0.75
938421	AE1-061 C	1.84
939301	AE1-161 C	4.07
939931	AE1-229 C O1	8.45
CARR	CARR	0.03
CBM-S1	CBM-S1	0.1
CBM-S2	CBM-S2	0.05
CBM-W1	CBM-W1	0.17
CBM-W2	CBM-W2	0.71
CIN	CIN	0.07
CPLE	CPLE	0.02
IPL	IPL	0.05

Bus #	Bus	MW Impact
LGEE	LGEE	0.02
MEC	MEC	0.13
MECS	MECS	0.1
RENSSELAER	RENSSELAER	0.02
WEC	WEC	0.02

Contingency Name	Contingency Definition
PS_P1-2_D-2282	CONTINGENCY 'PS_P1-2_D-2282' /* CUTHBERT TO GLOUCESTER DISCONNECT BUS 219755 /* BUS SECTION 4 CUTHBERT END
PS_P1-2_U-2299_LT	CONTINGENCY 'PS_P1-2_U-2299_LT' /* CAMDEN CUTBERTH DISCONNECT BUS 219754 /* CUTHBERTH SECTION 3 CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTBERTH MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219676 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219724 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWNSIDE END
PS_P1-2_U-2299	CONTINGENCY 'PS_P1-2_U-2299' /* CAMDEN CUTBERTH DISCONNECT BUS 219754 /* CUTHBERTH SECTION 3 END
AE_P1-2 MICK-BRIDG	CONTINGENCY 'AE_P1-2 MICK-BRIDG' OPEN LINE FROM BUS 228313 TO BUS 228401 CIRCUIT 1 / END
AE_P4-2 AE47	CONTINGENCY 'AE_P4-2 AE47' /* ORCHARD 230 BUS BREAKER NEW2 DISCONNECT BRANCH FROM BUS 228002 TO BUS 228310 CKT 1 /* ORCHARD TO CHURCHTOWN 230 230 DISCONNECT BRANCH FROM BUS 228002 TO BUS 228207 CKT 1 /* ORCHARD TO CUMBERLAND 230 230 END

Contingency Name	Contingency Definition
PS_P7-1_V2274+P2242_LT	CONTINGENCY 'PS_P7-1_V2274+P2242_LT' /* EAGLE POINT - GLOUCESTER & DEPTFORD - GLOUCESTER DISCONNECT BUS 219757 /* DEPTFORD SECTION 2 DISCONNECT BUS 219760 /* EAGLE POINT SECTION 4 TRIP LINE FROM BUS 219110 TO BUS 219128 CKT 1 /* DISCONNECT TRANSFORMER 26KV CKT 1 CLOSE LINE FROM BUS 219255 TO BUS 219256 CKT Z /* DEPTFORD CLOSE LINE FROM BUS 219180 TO BUS 219181 CKT Z /* DEPTFORD MOVE 8 MW LOAD FROM BUS 219180 TO BUS 219162 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T1 MOVE 8 MW LOAD FROM BUS 219181 TO BUS 219163 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T2 MOVE 8 MW LOAD FROM BUS 219255 TO BUS 219162 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T1 MOVE 8 MW LOAD FROM BUS 219256 TO BUS 219163 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T2 END
PS_P2-3_CUTB_3-4_LT	CONTINGENCY 'PS_P2-3_CUTB_3-4_LT' DISCONNECT BUS 219754 /* CUTHBERTH SECTION 3 DISCONNECT BUS 219755 /* BUS SECTION 4 CUTHBERT CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTHBERTH MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219178 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219177 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219629 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWN SIDE END
AE_P1-1Y1-077	CONTINGENCY 'AE_P1-1Y1-077' DISCONNECT BUS 913341 // END
PS_P2-3_CUTB_1-4_LT	CONTINGENCY 'PS_P2-3_CUTB_1-4_LT' DISCONNECT BUS 219108 /* CUTHBERTH SECTION 1 DISCONNECT BUS 219755 /* BUS SECTION 4 CUTHBERT CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTHBERTH MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219178 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219177 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219629 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWN SIDE END

Contingency Name	Contingency Definition
AE_P1-2 CHUR-ORCH	CONTINGENCY 'AE_P1-2 CHUR-ORCH' / PJM FIXED OPEN LINE FROM BUS 228002 TO BUS 228310 CIRCUIT 1 / END
PS_P1-2_Z-2305_LT	CONTINGENCY 'PS_P1-2_Z-2305_LT' /* CAMDEN TO CUTBERTH DISCONNECT BUS 219108 /* CUTBERTH SECTION 1 CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTBERTH MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWN SIDE END
PS_P1-2_Z-2305	CONTINGENCY 'PS_P1-2_Z-2305' /* CAMDEN TO CUTBERTH DISCONNECT BUS 219108 /* CUTBERTH SECTION 1 END
PECO_P2-2_CHI230B1/* \$ DELCO \$ PECO_P2-2_CHI230B1 \$ B PECO_P2-2_CHI230B1 \$ B	CONTINGENCY 'PECO_P2-2_CHI230B1/* \$ DELCO \$ PECO_P2-2_CHI230B1 \$ B' DISCONNECT BUS 213489 /* CHICHST1 230.00 \$ DELCO \$ PECO_P2-2_CHI230B1 \$ B END
AE_P4-2 AE45	CONTINGENCY 'AE_P4-2 AE45' /* ORCHARD 230 BUS BREAKER E DISCONNECT BRANCH FROM BUS 228002 TO BUS 227900 CKT 1 /* ORCHARD TO CARDIFF 230 230 DISCONNECT BRANCH FROM BUS 200063 TO BUS 228002 CKT 1 /* ORCHARD ORCHARD 500 230 T1 END
PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK PECO_P4_CHICH045 \$ STBK	CONTINGENCY 'PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK' DISCONNECT BUS 213489 /* CHICHST1 230.00 \$ DELCO \$ PECO_P4_CHICH045 \$ STBK DISCONNECT BUS 213627 /* FOULK8 230.00 \$ DELCO \$ PECO_P4_CHICH045 \$ STBK END
Base Case	
PS_P1-2_D-2282_LT	CONTINGENCY 'PS_P1-2_D-2282_LT' /* CUTHBERT TO GLOUCESTER DISCONNECT BUS 219755 /* BUS SECTION 4 CUTHBERT CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT MOVE 8 MW LOAD FROM BUS 219178 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219177 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE END
PS_P1-2_C-2308	CONTINGENCY 'PS_P1-2_C-2308' /* CUTHBERT TO GLOUCESTER DISCONNECT BUS 219753 /* CUTHBERTH SECTOIN 2 END

Contingency Name	Contingency Definition
AE_P7-1 W2275_O2241	CONTINGENCY 'AE_P7-1 W2275_O2241' /* DOUBLE CIRCUIT TOWER W- 2275(MICKLETON - DEPTFORD) AND O-2241(MICKLETON - THOROFARE) TRIP BRANCH FROM BUS 219762 TO BUS 228401 CKT 1 /* TRIP O-2241(MICKLETON - THOROFARE) 230KV TRIP BRANCH FROM BUS 219121 TO BUS 228401 CKT 1 /* TRIP (MICKLETON - THOROFARE #2) 230KV END
PS_P1-2_C-2308_LT	CONTINGENCY 'PS_P1-2_C-2308_LT' /* CUTHBERT TO GLOUCESTER DISCONNECT BUS 219753 /* CUTHBERTH SECTOIN 2 CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT MOVE 8 MW LOAD FROM BUS 219178 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219177 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE END

Secondary POI Flow Gate Details

Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
858502	219110	GLOUCSTR	PSE&G	219755	CUTHBERT_4	PSE&G	1	PS_P1-2_C-2308	single	758.0	111.42	113.29	DC	14.34

Bus #	Bus	MW Impact
213400	COVANTA DELA	1.75
219124	CAMDEN_STG	3.35
219126	CAMDEN_CTG	4.12
219128	GLOUCSTR_26	1.82
219229	EAGLEPT_G3	2.9
219230	EAGLEPT_G1	4.29
219231	EAGLEPT_G2	4.29
227801	ONTC&DCT	3.71
227881	GRENWCHG	0.05
228304	LOGAN	6.64
228306	PCLP STM	1.75
228307	PCLP GT	1.74
228309	CCLP NUG	6.06
228334	MANNMILG	0.21
228343	QUINTN#1	0.05
228351	V2-046C	0.17
228400	MICK 1CT	1.4
228423	Q-090 2	27.23
228471	VALERO1	0.47

Bus #	Bus	MW Impact
228472	VALERO2	0.32
228473	VALERO3	0.32
228484	VALERO4	0.28
228720	V2-035C	0.02
291995	U4-036 C	0.08
292104	V1-030 C6	0.02
292194	V1-030 CE	0.11
903963	W3-175	9.01
905143	W4-016	53.1
914231	Y2-081 C OP1	1.38
914232	Y2-081 E OP1	0.07
915591	Y3-087 C OP1	0.06
917381	Z2-062	0.15
917471	Z2-083	2.56
918891	AA1-108	3.84
924051	AB2-049 C	0.43
924531	AB2-102 C	24.6
924701	AB2-122 C	0.07
925391	AC1-010 C	0.74
931191	AB1-169A	70.82
936411	AD2-052 C	1.03
936491	AD2-064 C	0.06
936501	AD2-065 C	0.19
937011	AD2-135 C	0.07
938301	AE1-045 C	0.26
938311	AE1-046 C	0.26
938421	AE1-061 C	0.34
938431	AE1-062 C	0.47
938781	AE1-104 C O2	13.58
938871	AE1-115 C	1.64
939301	AE1-161 C	2.79
939501	AE1-179 C O2	4.27
939821	AE1-218 C O2	0.11
939831	AE1-219 C O2	0.24
939931	AE1-229 C O2	14.34
940001	AE1-240 C O2	3.48
BAYOU	BAYOU	0.38
BIG_CAJUN1	BIG_CAJUN1	0.59
BIG_CAJUN2	BIG_CAJUN2	1.18
BLUEG	BLUEG	1.88
CALDERWOOD	CALDERWOOD	0.19
CANNELTON	CANNELTON	0.11
CARR	CARR	0.4
CATAWBA	CATAWBA	0.12
CHEOAH	CHEOAH	0.18
CHILHOWEE	CHILHOWEE	0.06
CHOCTAW	CHOCTAW	0.39
COFFEEN	COFFEEN	0.2
COTTONWOOD	COTTONWOOD	1.51
DEARBORN	DEARBORN	0.34
DUCKCREEK	DUCKCREEK	0.43
EDWARDS	EDWARDS	0.2

Bus #	Bus	MW Impact
ELMERSMITH	ELMERSMITH	0.2
FARMERCITY	FARMERCITY	0.13
GIBSON	GIBSON	0.08
HAMLET	HAMLET	0.38
NEWTON	NEWTON	0.52
PRAIRIE	PRAIRIE	0.96
RENSSELAER	RENSSELAER	0.32
SANTEETLA	SANTEETLA	0.05
SMITHLAND	SMITHLAND	0.08
TATANKA	TATANKA	0.24
TILTON	TILTON	0.24
TRIMBLE	TRIMBLE	0.21
TVA	TVA	0.63
UNIONPOWER	UNIONPOWER	0.28

Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
858698	219754	CUTHBERT_3	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_Z-2305	single	792.0	101.49	103.37	DC	14.97

Bus #	Bus	MW Impact
213400	COVANTA DELA	1.83
219124	CAMDEN_STG	3.5
219126	CAMDEN_CTG	4.3
219128	GLOUCSTR_26	1.9
219229	EAGLEPT_G3	3.02
219230	EAGLEPT_G1	4.48
219231	EAGLEPT_G2	4.48
227801	ONTC&DCT	3.88
227881	GRENWCHG	0.05
228304	LOGAN	6.93
228306	PCLP STM	1.82
228307	PCLP GT	1.82
228309	CCLP NUG	6.33
228334	MANNMILG	0.22
228343	QUINTN#1	0.05
228351	V2-046C	0.18
228400	MICK 1CT	1.46
228423	Q-090 2	28.43
228471	VALERO1	0.49
228472	VALERO2	0.34
228473	VALERO3	0.34
228484	VALERO4	0.29
228720	V2-035C	0.02
291995	U4-036 C	0.08
292104	V1-030 C6	0.03

Bus #	Bus	MW Impact
292194	V1-030 CE	0.11
903963	W3-175	9.4
905143	W4-016	55.43
914231	Y2-081 C OP1	1.44
914232	Y2-081 E OP1	0.08
915591	Y3-087 C OP1	0.07
917381	Z2-062	0.16
917471	Z2-083	2.68
918891	AA1-108	4.0
924051	AB2-049 C	0.45
924531	AB2-102 C	25.67
924701	AB2-122 C	0.07
925391	AC1-010 C	0.77
931191	AB1-169A	73.92
936411	AD2-052 C	1.07
936491	AD2-064 C	0.06
936501	AD2-065 C	0.2
937011	AD2-135 C	0.07
938301	AE1-045 C	0.27
938311	AE1-046 C	0.27
938421	AE1-061 C	0.36
938431	AE1-062 C	0.49
938781	AE1-104 C O2	14.18
938871	AE1-115 C	1.71
939301	AE1-161 C	2.92
939501	AE1-179 C O2	4.46
939821	AE1-218 C O2	0.11
939831	AE1-219 C O2	0.25
939931	AE1-229 C O2	14.97
940001	AE1-240 C O2	3.63
BAYOU	BAYOU	0.4
BIG_CAJUN1	BIG_CAJUN1	0.61
BIG_CAJUN2	BIG_CAJUN2	1.23
BLUEG	BLUEG	1.96
CALDERWOOD	CALDERWOOD	0.2
CANNELTON	CANNELTON	0.12
CARR	CARR	0.42
CATAWBA	CATAWBA	0.12
CHEOAH	CHEOAH	0.19
CHILHOWEE	CHILHOWEE	0.07
CHOCTAW	CHOCTAW	0.41
COFFEEN	COFFEEN	0.21
COTTONWOOD	COTTONWOOD	1.57
DEARBORN	DEARBORN	0.36
DUCKCREEK	DUCKCREEK	0.45
EDWARDS	EDWARDS	0.21
ELMERSMITH	ELMERSMITH	0.2
FARMERCITY	FARMERCITY	0.14
GIBSON	GIBSON	0.08
HAMLET	HAMLET	0.4
NEWTON	NEWTON	0.54
PRAIRIE	PRAIRIE	1.0

Bus #	Bus	MW Impact
RENSSELAER	RENSSELAER	0.33
SANTEETLA	SANTEETLA	0.05
SMITHLAND	SMITHLAND	0.08
TATANKA	TATANKA	0.25
TILTON	TILTON	0.25
TRIMBLE	TRIMBLE	0.22
TVA	TVA	0.66
UNIONPOWER	UNIONPOWER	0.29

Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
857775	228312	PEDRKTWN	AE	228313	BRIDGPRT	AE	1	AE_P4-2 AE47	breaker	552.0	102.73	111.7	DC	56.1

Bus #	Bus	MW Impact
228200	CARL#1CT	0.89
228201	CARL#2CT	0.95
228251	CARLLS#4	0.1
228260	V4-054C	0.25
228261	V4-054E	1.34
228306	PCLP STM	7.49
228307	PCLP GT	7.48
228309	CCLP NUG	26.0
228334	MANNMILG	0.49
228343	QUINTN#1	0.12
228351	V2-046C	0.36
228357	V2-046E	4.36
228712	V2-041E	0.26
228720	V2-035C	0.04
228721	V2-035E	0.4
902092	W1-130E	0.82
903963	W3-175	38.64
918891	AA1-108	16.46
924531	AB2-102 C	21.32
924532	AB2-102 E	0.47
931191	AB1-169A	72.23
936411	AD2-052 C	2.63
936412	AD2-052 E	1.29
938301	AE1-045 C	0.26
938302	AE1-045 E	0.13
938311	AE1-046 C	0.26
938312	AE1-046 E	0.13
938421	AE1-061 C	0.35
938422	AE1-061 E	0.35
938871	AE1-115 C	5.0
938872	AE1-115 E	5.0
939301	AE1-161 C	1.67

Bus #	Bus	MW Impact
939302	AE1-161 E	2.51
939501	AE1-179 C O2	4.67
939502	AE1-179 E O2	3.3
939931	AE1-229 C O2	33.44
939932	AE1-229 E O2	22.66
940001	AE1-240 C O2	3.62
940002	AE1-240 E O2	2.58
BAYOU	BAYOU	0.39
BIG_CAJUN1	BIG_CAJUN1	0.6
BIG_CAJUN2	BIG_CAJUN2	1.22
BLUEG	BLUEG	1.87
CALDERWOOD	CALDERWOOD	0.2
CANNELTON	CANNELTON	0.11
CARR	CARR	0.12
CATAWBA	CATAWBA	0.13
CHEOAH	CHEOAH	0.19
CHILHOWEE	CHILHOWEE	0.07
CHOCTAW	CHOCTAW	0.4
COFFEEN	COFFEEN	0.2
COTTONWOOD	COTTONWOOD	1.56
DEARBORN	DEARBORN	0.33
DUCKCREEK	DUCKCREEK	0.43
EDWARDS	EDWARDS	0.2
ELMERSMITH	ELMERSMITH	0.2
FARMERCITY	FARMERCITY	0.13
G-007	G-007	0.12
GIBSON	GIBSON	0.08
HAMLET	HAMLET	0.43
NEWTON	NEWTON	0.52
O-066	O-066	1.01
PRAIRIE	PRAIRIE	0.97
RENSSELAER	RENSSELAER	0.09
SANTEETLA	SANTEETLA	0.06
SMITHLAND	SMITHLAND	0.08
TATANKA	TATANKA	0.24
TILTON	TILTON	0.24
TRIMBLE	TRIMBLE	0.21
TVA	TVA	0.65
UNIONPOWER	UNIONPOWER	0.29

Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
858646	228313	BRIDGPRT	AE	228401	MCKLTON	AE	1	Base Case	single	650.0	99.82	102.42	DC	19.73

Bus #	Bus	MW Impact
227801	ONTC&DCT	3.48

Bus #	Bus	MW Impact
228200	CARL#1CT	0.69
228201	CARL#2CT	0.73
228202	CUMB CT	1.36
228203	P06	1.55
228206	SHRMN CT	1.28
228251	CARLLS#4	0.08
228260	V4-054C	0.19
228304	LOGAN	23.48
228306	PCLP STM	5.89
228307	PCLP GT	5.88
228309	CCLP NUG	16.9
228334	MANNMILG	0.29
228343	QUINTN#1	0.08
228351	V2-046C	0.21
228702	WEST CT	0.49
228711	V2-041C	0.03
228717	S121	0.77
228720	V2-035C	0.02
228727	W2-039G	1.3
292062	V1-021 C	0.04
902091	W1-130C	0.05
903963	W3-175	23.49
913341	Y1-077	7.64
918891	AA1-108	10.01
924531	AB2-102 C	34.44
924701	AB2-122 C	0.06
931191	AB1-169A	51.13
936411	AD2-052 C	1.65
938301	AE1-045 C	0.19
938311	AE1-046 C	0.19
938421	AE1-061 C	0.25
938781	AE1-104 C O2	12.79
938871	AE1-115 C	2.96
939301	AE1-161 C	1.87
939501	AE1-179 C O2	4.81
939931	AE1-229 C O2	19.73
940001	AE1-240 C O2	3.96
BAYOU	BAYOU	0.33
BIG_CAJUN1	BIG_CAJUN1	0.51
BIG_CAJUN2	BIG_CAJUN2	1.03
BLUEG	BLUEG	1.6
CALDERWOOD	CALDERWOOD	0.17
CANNELTON	CANNELTON	0.1
CARR	CARR	0.15
CATAWBA	CATAWBA	0.11
CHEOAH	CHEOAH	0.16
CHILHOWEE	CHILHOWEE	0.06
CHOCTAW	CHOCTAW	0.34
COFFEEN	COFFEEN	0.17
COTTONWOOD	COTTONWOOD	1.32
DEARBORN	DEARBORN	0.28
DUCKCREEK	DUCKCREEK	0.37

Bus #	Bus	MW Impact
EDWARDS	EDWARDS	0.17
ELMERSMITH	ELMERSMITH	0.17
FARMERCITY	FARMERCITY	0.11
GIBSON	GIBSON	0.07
HAMLET	HAMLET	0.36
NEWTON	NEWTON	0.44
PRAIRIE	PRAIRIE	0.82
RENSSELAER	RENSSELAER	0.12
SANTEETLA	SANTEETLA	0.05
SMITHLAND	SMITHLAND	0.07
TATANKA	TATANKA	0.2
TILTON	TILTON	0.2
TRIMBLE	TRIMBLE	0.18
TVA	TVA	0.55
UNIONPOWER	UNIONPOWER	0.25

Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
858113	228360	WOODTWN2	AE	228332	WOODTWN1	AE	1	AE_P1-2 MICK-BRIDG	single	74.0	61.69	115.05	DC	39.48

Bus #	Bus	MW Impact
228200	CARL#1CT	0.87
228201	CARL#2CT	0.92
228206	SHRMN CT	0.59
228251	CARLLS#4	0.1
228260	V4-054C	0.24
228334	MANNMILG	0.57
228343	QUINTN#1	0.04
228351	V2-046C	0.61
228702	WEST CT	0.3
228711	V2-041C	0.01
228717	S121	0.47
228727	W2-039G	0.86
936411	AD2-052 C	0.84
939501	AE1-179 C O2	3.42
939931	AE1-229 C O2	39.48
940001	AE1-240 C O2	2.48
BAYOU	BAYOU	0.05
BIG_CAJUN1	BIG_CAJUN1	0.07
BIG_CAJUN2	BIG_CAJUN2	0.15
BLUEG	BLUEG	0.23
CALDERWOOD	CALDERWOOD	0.03
CANNELTON	CANNELTON	0.01
CARR	CARR	0.02

Bus #	Bus	MW Impact
CATAWBA	CATAWBA	0.02
CHEOAH	CHEOAH	0.02
CHILHOWEE	CHILHOWEE	0.01
CHOCTAW	CHOCTAW	0.05
COFFEEN	COFFEEN	0.02
COTTONWOOD	COTTONWOOD	0.19
DEARBORN	DEARBORN	0.04
DUCKCREEK	DUCKCREEK	0.05
EDWARDS	EDWARDS	0.02
ELMERSMITH	ELMERSMITH	0.02
FARMERCITY	FARMERCITY	0.02
GIBSON	GIBSON	0.01
HAMLET	HAMLET	0.05
NEWTON	NEWTON	0.06
PRAIRIE	PRAIRIE	0.12
RENSSELAER	RENSSELAER	0.02
SANTEETLA	SANTEETLA	0.01
SMITHLAND	SMITHLAND	0.01
TATANKA	TATANKA	0.03
TILTON	TILTON	0.03
TRIMBLE	TRIMBLE	0.03
TVA	TVA	0.08
UNIONPOWER	UNIONPOWER	0.04

Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
858072	939930	AE1-229 TAP	AE	228319	CHURCHTN1	AE	1	AE_P1-2 CHU-WOOD 2-B	single	72.0	0.42	123.19	DC	89.0

Bus #	Bus	MW Impact
939931	AE1-229 C O2	89.0

Index 7

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
858100	939930	AE1-229 TAP	AE	228360	WOODTWN2	AE	1	AE_P1-2 MICK-BRIDG	single	72.0	59.6	135.7	DC	54.79

Bus #	Bus	MW Impact
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Bus #	Bus	MW Impact
938871	AE1-115 C	0.71
939931	AE1-229 C O2	54.79
BAYOU	BAYOU	0.01
BIG_CAJUN1	BIG_CAJUN1	0.01
BIG_CAJUN2	BIG_CAJUN2	0.03
BLUEG	BLUEG	0.05
CALDERWOOD	CALDERWOOD	0.0
CANNELTON	CANNELTON	0.0
CARR	CARR	0.01
CATAWBA	CATAWBA	0.0
CHEOAH	CHEOAH	0.0
CHILHOWEE	CHILHOWEE	0.0
CHOCTAW	CHOCTAW	0.01
COFFEEN	COFFEEN	0.0
COTTONWOOD	COTTONWOOD	0.04
DEARBORN	DEARBORN	0.01
DUCKCREEK	DUCKCREEK	0.01
EDWARDS	EDWARDS	0.0
ELMERSMITH	ELMERSMITH	0.0
FARMERCITY	FARMERCITY	0.0
GIBSON	GIBSON	0.0
HAMLET	HAMLET	0.01
NEWTON	NEWTON	0.01
PRAIRIE	PRAIRIE	0.02
RENSSELAER	RENSSELAER	0.01
SANTEETLA	SANTEETLA	0.0
SMITHLAND	SMITHLAND	0.0
TATANKA	TATANKA	0.01
TILTON	TILTON	0.01
TRIMBLE	TRIMBLE	0.01
TVA	TVA	0.02
UNIONPOWER	UNIONPOWER	0.01

Index 8

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
857916	213922	RICHMOND	PECO	214012	WANEETA3	PECO	1	PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	breaker	1180.0	100.83	102.18	DC	35.36

Bus #	Bus	MW Impact
213918	RICHMD91	3.55
213919	RICHMD92	3.55
219124	CAMDEN_STG	3.52
219126	CAMDEN_CTG	4.33
219128	GLOUCSTR_26	1.91
219229	EAGLEPT_G3	3.14

Bus #	Bus	MW Impact
219230	EAGLEPT_G1	4.65
219241	CAMDEN1	0.26
219242	CAMDEN2	0.03
227801	ONTC&DCT	7.23
227843	MARINGEN E	0.75
227928	V4-067E	0.3
228261	V4-054E	1.34
228357	V2-046E	3.05
228712	V2-041E	0.49
228721	V2-035E	0.28
291996	U4-036 E	1.01
292063	V1-021 E	0.06
292088	V1-030 CB	0.12
292099	V1-030 E3	0.23
292105	V1-030 E6	0.3
292115	V1-030 EB	1.32
292194	V1-030 CE	0.12
292195	V1-030 EE	1.22
292967	U2-045 E	3.26
293404	V3-036	1.03
902092	W1-130E	1.35
902432	W2-030 E	1.16
902692	W2-056 E	1.63
902842	W2-071E	0.45
903152	W2-102 E	1.03
903991	W3-080C	1.96
903992	W3-080E	3.2
904042	V4-005 E	0.43
904432	W3-124 E	0.42
905143	W4-016	67.01
905232	W4-029 E	0.44
905532	W4-063 E	0.81
905792	W4-103 E	1.03
907382	X1-070 E	0.73
907392	X1-071 E	0.26
909032	X2-013 E	0.63
910862	X3-075 E	1.06
913242	Y1-057 E	0.32
913332	Y1-075 E	0.41
915022	Y3-012 E	1.4
915072	Y3-026 E	1.6
915592	Y3-087 E OP1	0.8
916292	Z1-082 E	0.34
917381	Z2-062	0.16
918852	AA1-104 E	5.7
924051	AB2-049 C	0.86
924052	AB2-049 E	1.41
924531	AB2-102 C	43.28
924532	AB2-102 E	0.96
924701	AB2-122 C	0.13
924702	AB2-122 E	0.22
925391	AC1-010 C	0.78

Bus #	Bus	MW Impact
925392	AC1-010 E	1.34
925442	AC1-016 E	1.41
925452	AC1-017 E	0.67
925562	AC1-030 E	0.51
930002	AB1-001 E	0.27
930102	AB1-025 E	1.0
930242	AB1-063 E	0.14
930722	AB1-116 E	0.18
930732	AB1-119 E	0.16
931191	AB1-169A	119.2
932361	AC2-050 C O1	0.89
932362	AC2-050 E O1	1.45
933962	AD1-019 E	1.42
936211	AD2-027 C	1.4
936212	AD2-027 E	2.28
936321	AD2-042 C	1.84
936322	AD2-042 E	3.02
936411	AD2-052 C	1.54
936412	AD2-052 E	0.76
936491	AD2-064 C	0.12
936492	AD2-064 E	0.16
936501	AD2-065 C	0.5
936502	AD2-065 E	0.69
936541	AD2-069 C	0.52
936542	AD2-069 E	0.26
937011	AD2-135 C	0.13
937012	AD2-135 E	0.23
938301	AE1-045 C	0.43
938302	AE1-045 E	0.22
938311	AE1-046 C	0.43
938312	AE1-046 E	0.22
938421	AE1-061 C	0.58
938422	AE1-061 E	0.58
938431	AE1-062 C	1.2
938432	AE1-062 E	1.2
938611	AE1-083 C	0.51
938612	AE1-083 E	0.71
938781	AE1-104 C O2	26.26
938782	AE1-104 E O2	67.17
938871	AE1-115 C	1.26
938872	AE1-115 E	1.26
939301	AE1-161 C	2.4
939302	AE1-161 E	3.6
939501	AE1-179 C O2	7.24
939502	AE1-179 E O2	5.11
939821	AE1-218 C O2	0.19
939822	AE1-218 E O2	0.28
939831	AE1-219 C O2	0.42
939832	AE1-219 E O2	0.6
939931	AE1-229 C O2	21.08
939932	AE1-229 E O2	14.28
940001	AE1-240 C O2	5.94

Bus #	Bus	MW Impact
940002	AE1-240 E O2	4.24
BAYOU	BAYOU	1.46
BIG_CAJUN1	BIG_CAJUN1	2.24
BIG_CAJUN2	BIG_CAJUN2	4.51
BLUEG	BLUEG	6.97
CALDERWOOD	CALDERWOOD	0.76
CANNELTON	CANNELTON	0.42
CATAWBA	CATAWBA	0.48
CBM-N	CBM-N	0.79
CHEOAH	CHEOAH	0.69
CHILHOWEE	CHILHOWEE	0.25
CHOCTAW	CHOCTAW	1.49
COFFEEN	COFFEEN	0.74
COTTONWOOD	COTTONWOOD	5.78
DEARBORN	DEARBORN	1.22
DUCKCREEK	DUCKCREEK	1.6
EDWARDS	EDWARDS	0.73
ELMERSMITH	ELMERSMITH	0.73
FARMERCITY	FARMERCITY	0.49
G-007A	G-007A	12.41
GIBSON	GIBSON	0.29
HAMLET	HAMLET	1.59
NEWTON	NEWTON	1.92
NYISO	NYISO	3.41
O-066A	O-066A	3.17
PRAIRIE	PRAIRIE	3.59
SANTEETLA	SANTEETLA	0.2
SMITHLAND	SMITHLAND	0.29
TATANKA	TATANKA	0.88
TILTON	TILTON	0.88
TRIMBLE	TRIMBLE	0.77
TVA	TVA	2.43
UNIONPOWER	UNIONPOWER	1.08
VFT	VFT	22.21

Index 9

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
857877	214206	RICHRE29	PECO	213922	RICHMOND	PECO	1	PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK	breaker	1336.0	102.32	103.62	DC	38.15

Bus #	Bus	MW Impact
219124	CAMDEN_STG	3.94
219126	CAMDEN_CTG	4.84
219128	GLOUCSTR_26	2.13
219229	EAGLEPT_G3	3.5

Bus #	Bus	MW Impact
219230	EAGLEPT_G1	5.18
219231	EAGLEPT_G2	5.18
219241	CAMDEN1	0.29
219242	CAMDEN2	0.03
227801	ONTC&DCT	7.53
227843	MARINGEN E	0.78
227928	V4-067E	0.31
228261	V4-054E	1.43
228357	V2-046E	3.29
228423	Q-090 2	37.81
228712	V2-041E	0.52
228721	V2-035E	0.3
291995	U4-036 C	0.1
291996	U4-036 E	1.12
292063	V1-021 E	0.06
292088	V1-030 CB	0.14
292099	V1-030 E3	0.21
292104	V1-030 C6	0.03
292105	V1-030 E6	0.33
292115	V1-030 EB	1.49
292194	V1-030 CE	0.13
292195	V1-030 EE	1.37
292967	U2-045 E	3.4
293404	V3-036	1.07
902092	W1-130E	1.43
902432	W2-030 E	1.21
902692	W2-056 E	1.52
902842	W2-071E	0.44
903152	W2-102 E	0.97
903991	W3-080C	1.34
903992	W3-080E	2.19
904042	V4-005 E	0.4
904432	W3-124 E	0.39
905143	W4-016	73.72
905232	W4-029 E	0.42
905532	W4-063 E	0.85
905792	W4-103 E	0.97
907381	X1-070 C	0.06
907382	X1-070 E	0.77
907391	X1-071 C	0.02
907392	X1-071 E	0.26
909032	X2-013 E	0.7
910862	X3-075 E	1.18
913242	Y1-057 E	0.3
913332	Y1-075 E	0.39
914231	Y2-081 C OP1	1.7
914232	Y2-081 E OP1	0.09
915022	Y3-012 E	1.46
915072	Y3-026 E	1.1
915591	Y3-087 C OP1	0.08
915592	Y3-087 E OP1	0.89
916292	Z1-082 E	0.37

Bus #	Bus	MW Impact
917381	Z2-062	0.18
918852	AA1-104 E	6.27
919901	AB1-000 1	1.03
919911	AB1-000 2	1.03
919921	AB1-000 3	1.03
924051	AB2-049 C	0.9
924052	AB2-049 E	1.47
924531	AB2-102 C	45.75
924532	AB2-102 E	1.02
924701	AB2-122 C	0.13
924702	AB2-122 E	0.23
925391	AC1-010 C	0.87
925392	AC1-010 E	1.5
925442	AC1-016 E	0.96
925452	AC1-017 E	0.56
925561	AC1-030 C	0.05
925562	AC1-030 E	0.52
930002	AB1-001 E	0.28
930102	AB1-025 E	0.94
930242	AB1-063 E	0.15
930722	AB1-116 E	0.19
930732	AB1-119 E	0.17
931191	AB1-169A	126.46
932361	AC2-050 C O1	0.86
932362	AC2-050 E O1	1.41
933962	AD1-019 E	1.48
934661	AD1-097 1	1.67
934671	AD1-097 2	1.67
934681	AD1-097 3	1.67
934691	AD1-097 4	0.99
936211	AD2-027 C	1.57
936212	AD2-027 E	2.56
936321	AD2-042 C	2.07
936322	AD2-042 E	3.39
936411	AD2-052 C	1.66
936412	AD2-052 E	0.82
936491	AD2-064 C	0.12
936492	AD2-064 E	0.17
936501	AD2-065 C	0.51
936502	AD2-065 E	0.7
936541	AD2-069 C	0.5
936542	AD2-069 E	0.25
937011	AD2-135 C	0.14
937012	AD2-135 E	0.24
938301	AE1-045 C	0.46
938302	AE1-045 E	0.23
938311	AE1-046 C	0.46
938312	AE1-046 E	0.23
938421	AE1-061 C	0.61
938422	AE1-061 E	0.61
938431	AE1-062 C	1.23
938432	AE1-062 E	1.23

Bus #	Bus	MW Impact
938611	AE1-083 C	0.35
938612	AE1-083 E	0.48
938781	AE1-104 C O2	27.39
938782	AE1-104 E O2	70.06
938871	AE1-115 C	1.36
938872	AE1-115 E	1.36
939301	AE1-161 C	2.56
939302	AE1-161 E	3.84
939501	AE1-179 C O2	7.68
939502	AE1-179 E O2	5.42
939821	AE1-218 C O2	0.2
939822	AE1-218 E O2	0.3
939831	AE1-219 C O2	0.44
939832	AE1-219 E O2	0.64
939931	AE1-229 C O2	22.74
939932	AE1-229 E O2	15.41
940001	AE1-240 C O2	6.3
940002	AE1-240 E O2	4.5
BAYOU	BAYOU	1.26
BIG_CAJUN1	BIG_CAJUN1	1.94
BIG_CAJUN2	BIG_CAJUN2	3.9
BLUEG	BLUEG	6.05
CALDERWOOD	CALDERWOOD	0.65
CANNELTON	CANNELTON	0.37
CATAWBA	CATAWBA	0.41
CBM-N	CBM-N	0.28
CHEOAH	CHEOAH	0.6
CHILHOWEE	CHILHOWEE	0.21
CHOCTAW	CHOCTAW	1.29
COFFEEN	COFFEEN	0.64
COTTONWOOD	COTTONWOOD	4.99
DEARBORN	DEARBORN	1.07
DUCKCREEK	DUCKCREEK	1.39
EDWARDS	EDWARDS	0.63
ELMERSMITH	ELMERSMITH	0.63
FARMERCITY	FARMERCITY	0.42
G-007A	G-007A	9.68
GIBSON	GIBSON	0.25
HAMLET	HAMLET	1.36
NEWTON	NEWTON	1.67
NYISO	NYISO	1.21
O-066A	O-066A	1.91
PRAIRIE	PRAIRIE	3.11
SANTEETLA	SANTEETLA	0.18
SMITHLAND	SMITHLAND	0.25
TATANKA	TATANKA	0.76
TILTON	TILTON	0.76
TRIMBLE	TRIMBLE	0.67
TVA	TVA	2.09
UNIONPOWER	UNIONPOWER	0.93
VFT	VFT	13.99

Index 10

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
858563	219110	GLOUCSTR	PSE&G	219125	CAMDEN	PSE&G	1	Base Case	single	500.0	107.24	109.11	DC	9.41

Bus #	Bus	MW Impact
213400	COVANTA DELA	1.15
219124	CAMDEN_STG	2.2
219126	CAMDEN_CTG	2.7
219128	GLOUCSTR_26	1.19
219229	EAGLEPT_G3	1.9
219230	EAGLEPT_G1	2.81
219231	EAGLEPT_G2	2.81
227801	ONTC&DCT	2.44
227881	GRENWCHG	0.03
228304	LOGAN	4.35
228306	PCLP STM	1.15
228307	PCLP GT	1.14
228309	CCLP NUG	3.98
228334	MANNMILG	0.14
228343	QUINTN#1	0.03
228351	V2-046C	0.11
228400	MICK 1CT	0.92
228423	Q-090 2	17.86
228471	VALERO1	0.31
228472	VALERO2	0.21
228473	VALERO3	0.21
228484	VALERO4	0.18
228720	V2-035C	0.01
291995	U4-036 C	0.05
292104	V1-030 C6	0.02
292194	V1-030 CE	0.07
903963	W3-175	5.91
905143	W4-016	34.83
914231	Y2-081 C OP1	0.91
914232	Y2-081 E OP1	0.05
915591	Y3-087 C OP1	0.04
917381	Z2-062	0.1
917471	Z2-083	1.68
918891	AA1-108	2.52
924051	AB2-049 C	0.28
924531	AB2-102 C	16.13
924701	AB2-122 C	0.04
925391	AC1-010 C	0.48
931191	AB1-169A	46.45
936411	AD2-052 C	0.67
936491	AD2-064 C	0.04
936501	AD2-065 C	0.13

Bus #	Bus	MW Impact
937011	AD2-135 C	0.04
938301	AE1-045 C	0.17
938311	AE1-046 C	0.17
938421	AE1-061 C	0.22
938431	AE1-062 C	0.31
938781	AE1-104 C O2	8.91
938871	AE1-115 C	1.08
939301	AE1-161 C	1.83
939501	AE1-179 C O2	2.8
939821	AE1-218 C O2	0.07
939831	AE1-219 C O2	0.16
939931	AE1-229 C O2	9.41
940001	AE1-240 C O2	2.28
BAYOU	BAYOU	0.25
BIG_CAJUN1	BIG_CAJUN1	0.38
BIG_CAJUN2	BIG_CAJUN2	0.77
BLUEG	BLUEG	1.24
CALDERWOOD	CALDERWOOD	0.13
CANNELTON	CANNELTON	0.07
CARR	CARR	0.26
CATAWBA	CATAWBA	0.08
CHEOAH	CHEOAH	0.12
CHILHOWEE	CHILHOWEE	0.04
CHOCTAW	CHOCTAW	0.26
COFFEEN	COFFEEN	0.13
COTTONWOOD	COTTONWOOD	1.0
DEARBORN	DEARBORN	0.23
DUCKCREEK	DUCKCREEK	0.29
EDWARDS	EDWARDS	0.13
ELMERSMITH	ELMERSMITH	0.13
FARMERCITY	FARMERCITY	0.09
GIBSON	GIBSON	0.05
HAMLET	HAMLET	0.25
NEWTON	NEWTON	0.34
PRAIRIE	PRAIRIE	0.63
RENSSELAER	RENSSELAER	0.21
SANTEETLA	SANTEETLA	0.03
SMITHLAND	SMITHLAND	0.05
TATANKA	TATANKA	0.15
TILTON	TILTON	0.16
TRIMBLE	TRIMBLE	0.14
TVA	TVA	0.42
UNIONPOWER	UNIONPOWER	0.18

Index 11

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
857876	219125	CAMDEN	PSE&G	214206	RICHRE29	PECO	1	PECO_P4_CHICH045/*	breaker	1336.0	102.34	103.64	DC	38.15

								\$ DELCO \$ PECO_P4_CHICH045 \$ STBK						
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Bus #	Bus	MW Impact
219124	CAMDEN_STG	3.94
219126	CAMDEN_CTG	4.84
219128	GLOUCSTR_26	2.13
219229	EAGLEPT_G3	3.5
219230	EAGLEPT_G1	5.18
219231	EAGLEPT_G2	5.18
219241	CAMDEN1	0.29
219242	CAMDEN2	0.03
227801	ONTC&DCT	7.53
227843	MARINGEN E	0.78
227928	V4-067E	0.31
228261	V4-054E	1.43
228357	V2-046E	3.29
228423	Q-090 2	37.81
228712	V2-041E	0.52
228721	V2-035E	0.3
291995	U4-036 C	0.1
291996	U4-036 E	1.12
292063	V1-021 E	0.06
292088	V1-030 CB	0.14
292099	V1-030 E3	0.21
292104	V1-030 C6	0.03
292105	V1-030 E6	0.33
292115	V1-030 EB	1.49
292194	V1-030 CE	0.13
292195	V1-030 EE	1.37
292967	U2-045 E	3.4
293404	V3-036	1.07
902092	W1-130E	1.43
902432	W2-030 E	1.21
902692	W2-056 E	1.52
902842	W2-071E	0.44
903152	W2-102 E	0.97
903991	W3-080C	1.34
903992	W3-080E	2.19
904042	V4-005 E	0.4
904432	W3-124 E	0.39
905143	W4-016	73.72
905232	W4-029 E	0.42
905532	W4-063 E	0.85
905792	W4-103 E	0.97
907381	X1-070 C	0.06
907382	X1-070 E	0.77
907391	X1-071 C	0.02
907392	X1-071 E	0.26
909032	X2-013 E	0.7
910862	X3-075 E	1.18
913242	Y1-057 E	0.3
913332	Y1-075 E	0.39

Bus #	Bus	MW Impact
914231	Y2-081 C OP1	1.7
914232	Y2-081 E OP1	0.09
915022	Y3-012 E	1.46
915072	Y3-026 E	1.1
915591	Y3-087 C OP1	0.08
915592	Y3-087 E OP1	0.89
916292	Z1-082 E	0.37
917381	Z2-062	0.18
918852	AA1-104 E	6.27
919901	AB1-000 1	1.03
919911	AB1-000 2	1.03
919921	AB1-000 3	1.03
924051	AB2-049 C	0.9
924052	AB2-049 E	1.47
924531	AB2-102 C	45.75
924532	AB2-102 E	1.02
924701	AB2-122 C	0.13
924702	AB2-122 E	0.23
925391	AC1-010 C	0.87
925392	AC1-010 E	1.5
925442	AC1-016 E	0.96
925452	AC1-017 E	0.56
925561	AC1-030 C	0.05
925562	AC1-030 E	0.52
930002	AB1-001 E	0.28
930102	AB1-025 E	0.94
930242	AB1-063 E	0.15
930722	AB1-116 E	0.19
930732	AB1-119 E	0.17
931191	AB1-169A	126.46
932361	AC2-050 C O1	0.86
932362	AC2-050 E O1	1.41
933962	AD1-019 E	1.48
934661	AD1-097 1	1.67
934671	AD1-097 2	1.67
934681	AD1-097 3	1.67
934691	AD1-097 4	0.99
936211	AD2-027 C	1.57
936212	AD2-027 E	2.56
936321	AD2-042 C	2.07
936322	AD2-042 E	3.39
936411	AD2-052 C	1.66
936412	AD2-052 E	0.82
936491	AD2-064 C	0.12
936492	AD2-064 E	0.17
936501	AD2-065 C	0.51
936502	AD2-065 E	0.7
936541	AD2-069 C	0.5
936542	AD2-069 E	0.25
937011	AD2-135 C	0.14
937012	AD2-135 E	0.24
938301	AE1-045 C	0.46

Bus #	Bus	MW Impact
938302	AE1-045 E	0.23
938311	AE1-046 C	0.46
938312	AE1-046 E	0.23
938421	AE1-061 C	0.61
938422	AE1-061 E	0.61
938431	AE1-062 C	1.23
938432	AE1-062 E	1.23
938611	AE1-083 C	0.35
938612	AE1-083 E	0.48
938781	AE1-104 C O2	27.39
938782	AE1-104 E O2	70.06
938871	AE1-115 C	1.36
938872	AE1-115 E	1.36
939301	AE1-161 C	2.56
939302	AE1-161 E	3.84
939501	AE1-179 C O2	7.68
939502	AE1-179 E O2	5.42
939821	AE1-218 C O2	0.2
939822	AE1-218 E O2	0.3
939831	AE1-219 C O2	0.44
939832	AE1-219 E O2	0.64
939931	AE1-229 C O2	22.74
939932	AE1-229 E O2	15.41
940001	AE1-240 C O2	6.3
940002	AE1-240 E O2	4.5
BAYOU	BAYOU	1.26
BIG_CAJUN1	BIG_CAJUN1	1.94
BIG_CAJUN2	BIG_CAJUN2	3.9
BLUEG	BLUEG	6.05
CALDERWOOD	CALDERWOOD	0.65
CANNELTON	CANNELTON	0.37
CATAWBA	CATAWBA	0.41
CBM-N	CBM-N	0.28
CHEOAH	CHEOAH	0.6
CHILHOWEE	CHILHOWEE	0.21
CHOCTAW	CHOCTAW	1.29
COFFEEN	COFFEEN	0.64
COTTONWOOD	COTTONWOOD	4.99
DEARBORN	DEARBORN	1.07
DUCKCREEK	DUCKCREEK	1.39
EDWARDS	EDWARDS	0.63
ELMERSMITH	ELMERSMITH	0.63
FARMERCITY	FARMERCITY	0.42
G-007A	G-007A	9.68
GIBSON	GIBSON	0.25
HAMLET	HAMLET	1.36
NEWTON	NEWTON	1.67
NYISO	NYISO	1.21
O-066A	O-066A	1.91
PRAIRIE	PRAIRIE	3.11
SANTEETLA	SANTEETLA	0.18
SMITHLAND	SMITHLAND	0.25

Bus #	Bus	MW Impact
TATANKA	TATANKA	0.76
TILTON	TILTON	0.76
TRIMBLE	TRIMBLE	0.67
TVA	TVA	2.09
UNIONPOWER	UNIONPOWER	0.93
VFT	VFT	13.99

Index 12

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
859115	219702	HILLTOP_1	PSE&G	219101	BEAVERBK_1	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	740.0	99.65	100.54	DC	14.92

Bus #	Bus	MW Impact
227801	ONTC&DCT	3.79
227843	MARINGEN E	0.39
227928	V4-067E	0.16
228260	V4-054C	0.12
228261	V4-054E	0.63
228357	V2-046E	1.3
228702	WEST CT	0.41
228712	V2-041E	0.25
228717	S121	0.68
228720	V2-035C	0.01
228721	V2-035E	0.13
228727	W2-039G	0.99
291996	U4-036 E	0.3
292063	V1-021 E	0.03
292105	V1-030 E6	0.09
292967	U2-045 E	1.71
293404	V3-036	0.54
902091	W1-130C	0.06
902092	W1-130E	0.69
902432	W2-030 E	0.61
905143	W4-016	21.77
905532	W4-063 E	0.43
909032	X2-013 E	0.19
915022	Y3-012 E	0.74
918852	AA1-104 E	1.85
924051	AB2-049 C	0.47
924052	AB2-049 E	0.77
924531	AB2-102 C	21.78
924532	AB2-102 E	0.48
924701	AB2-122 C	0.07
924702	AB2-122 E	0.12
930002	AB1-001 E	0.14
930722	AB1-116 E	0.1
930732	AB1-119 E	0.09

Bus #	Bus	MW Impact
931191	AB1-169A	60.74
933962	AD1-019 E	0.75
936411	AD2-052 C	0.66
936412	AD2-052 E	0.33
936491	AD2-064 C	0.06
936492	AD2-064 E	0.09
936501	AD2-065 C	0.24
936502	AD2-065 E	0.33
937011	AD2-135 C	0.08
937012	AD2-135 E	0.14
938301	AE1-045 C	0.22
938302	AE1-045 E	0.11
938311	AE1-046 C	0.22
938312	AE1-046 E	0.11
938421	AE1-061 C	0.55
938422	AE1-061 E	0.55
938431	AE1-062 C	1.13
938432	AE1-062 E	1.13
938781	AE1-104 C O2	13.82
938782	AE1-104 E O2	35.34
938871	AE1-115 C	0.51
938872	AE1-115 E	0.51
939301	AE1-161 C	2.29
939302	AE1-161 E	3.43
939501	AE1-179 C O2	3.57
939502	AE1-179 E O2	2.52
939821	AE1-218 C O2	0.1
939822	AE1-218 E O2	0.15
939831	AE1-219 C O2	0.22
939832	AE1-219 E O2	0.32
939931	AE1-229 C O2	8.89
939932	AE1-229 E O2	6.02
940001	AE1-240 C O2	2.94
940002	AE1-240 E O2	2.1
BAYOU	BAYOU	0.15
BIG_CAJUN1	BIG_CAJUN1	0.22
BIG_CAJUN2	BIG_CAJUN2	0.45
BLUEG	BLUEG	0.77
CALDERWOOD	CALDERWOOD	0.07
CANNELTON	CANNELTON	0.05
CARR	CARR	0.27
CATAWBA	CATAWBA	0.04
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.02
CHOCTAW	CHOCTAW	0.15
COFFEEN	COFFEEN	0.08
COTTONWOOD	COTTONWOOD	0.58
DEARBORN	DEARBORN	0.15
DUCKCREEK	DUCKCREEK	0.18
EDWARDS	EDWARDS	0.08
ELMERSMITH	ELMERSMITH	0.08
FARMERCITY	FARMERCITY	0.05

Bus #	Bus	MW Impact
G-007	G-007	0.18
GIBSON	GIBSON	0.03
HAMLET	HAMLET	0.13
NEWTON	NEWTON	0.21
O-066	O-066	3.07
PRAIRIE	PRAIRIE	0.38
RENSSELAER	RENSSELAER	0.21
SANTEETLA	SANTEETLA	0.02
SMITHLAND	SMITHLAND	0.03
TATANKA	TATANKA	0.1
TILTON	TILTON	0.1
TRIMBLE	TRIMBLE	0.09
TVA	TVA	0.24
UNIONPOWER	UNIONPOWER	0.11

Index 13

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
857836	228332	WOODTWN1	AE	228405	CLAYTON	AE	1	AE_P4-2 AETIE3	breaker	54.0	68.0	106.76	DC	20.93

Bus #	Bus	MW Impact
228261	V4-054E	0.4
228334	MANNMILG	0.18
228351	V2-046C	0.17
228357	V2-046E	2.1
936411	AD2-052 C	0.46
936412	AD2-052 E	0.23
938871	AE1-115 C	0.35
938872	AE1-115 E	0.35
939931	AE1-229 C O2	12.48
939932	AE1-229 E O2	8.46
BAYOU	BAYOU	0.03
BIG_CAJUN1	BIG_CAJUN1	0.05
BIG_CAJUN2	BIG_CAJUN2	0.1
BLUEG	BLUEG	0.16
CALDERWOOD	CALDERWOOD	0.02
CANNELTON	CANNELTON	0.01
CARR	CARR	0.02
CATAWBA	CATAWBA	0.01
CHEOAH	CHEOAH	0.02
CHILHOWEE	CHILHOWEE	0.01
CHOCTAW	CHOCTAW	0.03
COFFEEN	COFFEEN	0.02
COTTONWOOD	COTTONWOOD	0.13
DEARBORN	DEARBORN	0.03
DUCKCREEK	DUCKCREEK	0.04

Bus #	Bus	MW Impact
EDWARDS	EDWARDS	0.02
ELMERSMITH	ELMERSMITH	0.02
FARMERCITY	FARMERCITY	0.01
G-007	G-007	0.05
GIBSON	GIBSON	0.01
HAMLET	HAMLET	0.04
NEWTON	NEWTON	0.04
O-066	O-066	0.19
PRAIRIE	PRAIRIE	0.08
RENSSELAER	RENSSELAER	0.01
SANTEETLA	SANTEETLA	0.0
SMITHLAND	SMITHLAND	0.01
TATANKA	TATANKA	0.02
TILTON	TILTON	0.02
TRIMBLE	TRIMBLE	0.02
TVA	TVA	0.06
UNIONPOWER	UNIONPOWER	0.03

Index 14

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
859055	228402	MONROE	AE	219100	NEWFRDM	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	804.0	107.09	108.45	DC	44.91

Bus #	Bus	MW Impact
219229	EAGLEPT_G3	3.84
219230	EAGLEPT_G1	5.68
219231	EAGLEPT_G2	5.68
227801	ONTCDCT	4.46
227843	MARINGEN E	0.46
228261	V4-054E	1.48
228357	V2-046E	3.92
228400	MICK 1CT	2.61
228423	Q-090 2	49.81
228471	VALERO1	0.88
228472	VALERO2	0.61
228473	VALERO3	0.61
228484	VALERO4	0.52
228712	V2-041E	0.41
228720	V2-035C	0.05
228721	V2-035E	0.48
291995	U4-036 C	0.12
291996	U4-036 E	1.32
292063	V1-021 E	0.04
292104	V1-030 C6	0.04
292105	V1-030 E6	0.38
292967	U2-045 E	2.01
293404	V3-036	0.64

Bus #	Bus	MW Impact
902091	W1-130C	0.21
902092	W1-130E	2.23
902432	W2-030 E	0.69
905143	W4-016	97.12
905532	W4-063 E	0.5
909032	X2-013 E	0.83
915022	Y3-012 E	0.87
917471	Z2-083	4.69
918852	AA1-104 E	8.27
924051	AB2-049 C	0.69
924052	AB2-049 E	1.13
924531	AB2-102 C	32.0
924532	AB2-102 E	0.71
930002	AB1-001 E	0.17
930722	AB1-116 E	0.21
930732	AB1-119 E	0.1
931191	AB1-169A	196.86
933962	AD1-019 E	0.88
936411	AD2-052 C	1.83
936412	AD2-052 E	0.9
936491	AD2-064 C	0.07
936492	AD2-064 E	0.1
938301	AE1-045 C	0.72
938302	AE1-045 E	0.36
938311	AE1-046 C	0.72
938312	AE1-046 E	0.36
938421	AE1-061 C	0.96
938422	AE1-061 E	1.8
938781	AE1-104 C O2	16.64
938782	AE1-104 E O2	42.57
938871	AE1-115 C	1.54
938872	AE1-115 E	1.54
939301	AE1-161 C	8.82
939302	AE1-161 E	13.22
939501	AE1-179 C O2	7.37
939502	AE1-179 E O2	5.2
939821	AE1-218 C O2	0.3
939822	AE1-218 E O2	0.45
939831	AE1-219 C O2	0.68
939832	AE1-219 E O2	0.98
939931	AE1-229 C O2	26.77
939932	AE1-229 E O2	18.14
940001	AE1-240 C O2	5.88
940002	AE1-240 E O2	4.2
BAYOU	BAYOU	0.58
BIG_CAJUN1	BIG_CAJUN1	0.89
BIG_CAJUN2	BIG_CAJUN2	1.79
BLUEG	BLUEG	2.79
CALDERWOOD	CALDERWOOD	0.3
CANNELTON	CANNELTON	0.17
CARR	CARR	0.42
CATAWBA	CATAWBA	0.19

Bus #	Bus	MW Impact
CHEOAH	CHEOAH	0.27
CHILHOWEE	CHILHOWEE	0.1
CHOCTAW	CHOCTAW	0.59
COFFEEN	COFFEEN	0.29
COTTONWOOD	COTTONWOOD	2.29
DEARBORN	DEARBORN	0.49
DUCKCREEK	DUCKCREEK	0.64
EDWARDS	EDWARDS	0.29
ELMERSMITH	ELMERSMITH	0.29
FARMERCITY	FARMERCITY	0.19
G-007	G-007	1.48
GIBSON	GIBSON	0.12
HAMLET	HAMLET	0.62
NEWTON	NEWTON	0.77
O-066	O-066	5.0
PRAIRIE	PRAIRIE	1.43
RENSSELAER	RENSSELAER	0.33
SANTEETLA	SANTEETLA	0.08
SMITHLAND	SMITHLAND	0.11
TATANKA	TATANKA	0.35
TILTON	TILTON	0.35
TRIMBLE	TRIMBLE	0.31
TVA	TVA	0.96
UNIONPOWER	UNIONPOWER	0.43

Index 15

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
858991	219100	NEWFRDM	PSE&G	219704	HILLTOP_3	PSE&G	1	PS_P7-1_V2274+P2242_LT	tower	740.0	115.28	116.2	DC	15.81

Bus #	Bus	MW Impact
227801	ONTC&DCT	4.02
227843	MARINGEN E	0.42
227928	V4-067E	0.17
228260	V4-054C	0.12
228261	V4-054E	0.66
228357	V2-046E	1.38
228702	WEST CT	0.44
228712	V2-041E	0.26
228717	S121	0.72
228720	V2-035C	0.01
228721	V2-035E	0.14
228727	W2-039G	1.05
291996	U4-036 E	0.31
292063	V1-021 E	0.03
292105	V1-030 E6	0.09
292967	U2-045 E	1.81

Bus #	Bus	MW Impact
293404	V3-036	0.57
902091	W1-130C	0.07
902092	W1-130E	0.73
902432	W2-030 E	0.65
905143	W4-016	23.09
905532	W4-063 E	0.45
909032	X2-013 E	0.2
915022	Y3-012 E	0.78
916292	Z1-082 E	0.26
918852	AA1-104 E	1.96
924051	AB2-049 C	0.5
924052	AB2-049 E	0.81
924531	AB2-102 C	23.08
924532	AB2-102 E	0.51
924701	AB2-122 C	0.07
924702	AB2-122 E	0.13
930002	AB1-001 E	0.15
930722	AB1-116 E	0.1
930732	AB1-119 E	0.09
931191	AB1-169A	64.37
933962	AD1-019 E	0.79
936411	AD2-052 C	0.7
936412	AD2-052 E	0.34
936491	AD2-064 C	0.07
936492	AD2-064 E	0.09
936501	AD2-065 C	0.25
936502	AD2-065 E	0.35
937011	AD2-135 C	0.09
937012	AD2-135 E	0.15
938301	AE1-045 C	0.23
938302	AE1-045 E	0.12
938311	AE1-046 C	0.23
938312	AE1-046 E	0.12
938421	AE1-061 C	0.59
938422	AE1-061 E	0.59
938431	AE1-062 C	1.19
938432	AE1-062 E	1.19
938781	AE1-104 C O2	14.64
938782	AE1-104 E O2	37.44
938871	AE1-115 C	0.55
938872	AE1-115 E	0.55
939301	AE1-161 C	2.42
939302	AE1-161 E	3.64
939501	AE1-179 C O2	3.78
939502	AE1-179 E O2	2.67
939821	AE1-218 C O2	0.1
939822	AE1-218 E O2	0.16
939831	AE1-219 C O2	0.23
939832	AE1-219 E O2	0.34
939931	AE1-229 C O2	9.43
939932	AE1-229 E O2	6.39
940001	AE1-240 C O2	3.12

Bus #	Bus	MW Impact
940002	AE1-240 E O2	2.23
BAYOU	BAYOU	0.16
BIG_CAJUN1	BIG_CAJUN1	0.24
BIG_CAJUN2	BIG_CAJUN2	0.48
BLUEG	BLUEG	0.81
CALDERWOOD	CALDERWOOD	0.08
CANNELTON	CANNELTON	0.05
CARR	CARR	0.29
CATAWBA	CATAWBA	0.04
CHEOAH	CHEOAH	0.07
CHILHOWEE	CHILHOWEE	0.03
CHOCTAW	CHOCTAW	0.16
COFFEEN	COFFEEN	0.09
COTTONWOOD	COTTONWOOD	0.62
DEARBORN	DEARBORN	0.16
DUCKCREEK	DUCKCREEK	0.19
EDWARDS	EDWARDS	0.09
ELMERSMITH	ELMERSMITH	0.08
FARMERCITY	FARMERCITY	0.06
G-007	G-007	0.22
GIBSON	GIBSON	0.03
HAMLET	HAMLET	0.14
NEWTON	NEWTON	0.22
O-066	O-066	3.31
PRAIRIE	PRAIRIE	0.41
RENSSELAER	RENSSELAER	0.23
SANTEETLA	SANTEETLA	0.02
SMITHLAND	SMITHLAND	0.03
TATANKA	TATANKA	0.1
TILTON	TILTON	0.1
TRIMBLE	TRIMBLE	0.09
TVA	TVA	0.26
UNIONPOWER	UNIONPOWER	0.11

Index 16

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
858581	219108	CUTHBERT	PSE&G	219125	CAMDEN	PSE&G	1	PS_P1-2_U-2299	single	771.0	106.61	108.59	DC	15.34

Bus #	Bus	MW Impact
213400	COVANTA DELA	1.87
219124	CAMDEN_STG	3.59
219126	CAMDEN_CTG	4.41
219128	GLOUCSTR_26	1.94
219229	EAGLEPT_G3	3.1
219230	EAGLEPT_G1	4.59

Bus #	Bus	MW Impact
219231	EAGLEPT_G2	4.59
227801	ONTC&DCT	3.97
227881	GRENWCHG	0.05
228304	LOGAN	7.1
228306	PCLP STM	1.87
228307	PCLP GT	1.87
228309	CCLP NUG	6.48
228334	MANNMILG	0.22
228343	QUINTN#1	0.05
228351	V2-046C	0.18
228400	MICK 1CT	1.49
228423	Q-090 2	29.14
228471	VALERO1	0.51
228472	VALERO2	0.35
228473	VALERO3	0.35
228484	VALERO4	0.3
228720	V2-035C	0.02
291995	U4-036 C	0.09
292104	V1-030 C6	0.03
292194	V1-030 CE	0.12
903963	W3-175	9.64
905143	W4-016	56.82
914231	Y2-081 C OP1	1.48
914232	Y2-081 E OP1	0.08
915591	Y3-087 C OP1	0.07
917381	Z2-062	0.17
917471	Z2-083	2.74
918891	AA1-108	4.1
924051	AB2-049 C	0.46
924531	AB2-102 C	26.32
924701	AB2-122 C	0.07
925391	AC1-010 C	0.79
931191	AB1-169A	75.77
936411	AD2-052 C	1.1
936491	AD2-064 C	0.06
936501	AD2-065 C	0.21
937011	AD2-135 C	0.07
938301	AE1-045 C	0.28
938311	AE1-046 C	0.28
938421	AE1-061 C	0.37
938431	AE1-062 C	0.5
938781	AE1-104 C O2	14.53
938871	AE1-115 C	1.76
939301	AE1-161 C	2.99
939501	AE1-179 C O2	4.57
939821	AE1-218 C O2	0.11
939831	AE1-219 C O2	0.26
939931	AE1-229 C O2	15.34
940001	AE1-240 C O2	3.72
BAYOU	BAYOU	0.41
BIG_CAJUN1	BIG_CAJUN1	0.63
BIG_CAJUN2	BIG_CAJUN2	1.26

Bus #	Bus	MW Impact
BLUEG	BLUEG	2.01
CALDERWOOD	CALDERWOOD	0.21
CANNELTON	CANNELTON	0.12
CARR	CARR	0.43
CATAWBA	CATAWBA	0.13
CHEOAH	CHEOAH	0.19
CHILHOWEE	CHILHOWEE	0.07
CHOCTAW	CHOCTAW	0.42
COFFEEN	COFFEEN	0.21
COTTONWOOD	COTTONWOOD	1.62
DEARBORN	DEARBORN	0.37
DUCKCREEK	DUCKCREEK	0.46
EDWARDS	EDWARDS	0.21
ELMERSMITH	ELMERSMITH	0.21
FARMERCITY	FARMERCITY	0.14
GIBSON	GIBSON	0.08
HAMLET	HAMLET	0.41
NEWTON	NEWTON	0.55
PRAIRIE	PRAIRIE	1.03
RENSSELAER	RENSSELAER	0.34
SANTEETLA	SANTEETLA	0.06
SMITHLAND	SMITHLAND	0.08
TATANKA	TATANKA	0.25
TILTON	TILTON	0.25
TRIMBLE	TRIMBLE	0.22
TVA	TVA	0.68
UNIONPOWER	UNIONPOWER	0.3

Index 17

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
858657	219110	GLOUCSTR	PSE&G	219753	CUTHBERT_2	PSE&G	1	PS_P1-2_D-2282_LT	single	771.0	104.47	106.22	DC	13.6

Bus #	Bus	MW Impact
213400	COVANTA DELA	1.66
219124	CAMDEN_STG	3.18
219126	CAMDEN_CTG	3.91
219128	GLOUCSTR_26	1.72
219229	EAGLEPT_G3	2.75
219230	EAGLEPT_G1	4.07
219231	EAGLEPT_G2	4.07
227801	ONTC&DCT	3.52
227881	GRENWCHG	0.05
228304	LOGAN	6.29
228306	PCLP STM	1.66
228307	PCLP GT	1.65

Bus #	Bus	MW Impact
228309	CCLP NUG	5.75
228334	MANNMILG	0.2
228343	QUINTN#1	0.04
228351	V2-046C	0.16
228400	MICK 1CT	1.32
228423	Q-090 2	25.82
228471	VALERO1	0.45
228472	VALERO2	0.31
228473	VALERO3	0.31
228484	VALERO4	0.26
228720	V2-035C	0.02
291995	U4-036 C	0.08
292104	V1-030 C6	0.02
292194	V1-030 CE	0.1
903963	W3-175	8.54
905143	W4-016	50.35
914231	Y2-081 C OP1	1.31
914232	Y2-081 E OP1	0.07
915591	Y3-087 C OP1	0.06
917381	Z2-062	0.15
917471	Z2-083	2.43
918891	AA1-108	3.64
924051	AB2-049 C	0.41
924531	AB2-102 C	23.33
924701	AB2-122 C	0.06
925391	AC1-010 C	0.7
931191	AB1-169A	67.16
936411	AD2-052 C	0.97
936491	AD2-064 C	0.05
936501	AD2-065 C	0.18
937011	AD2-135 C	0.06
938301	AE1-045 C	0.24
938311	AE1-046 C	0.24
938421	AE1-061 C	0.32
938431	AE1-062 C	0.45
938781	AE1-104 C O2	12.88
938871	AE1-115 C	1.56
939301	AE1-161 C	2.65
939501	AE1-179 C O2	4.05
939821	AE1-218 C O2	0.1
939831	AE1-219 C O2	0.23
939931	AE1-229 C O2	13.6
940001	AE1-240 C O2	3.3
BAYOU	BAYOU	0.36
BIG_CAJUN1	BIG_CAJUN1	0.55
BIG_CAJUN2	BIG_CAJUN2	1.12
BLUEG	BLUEG	1.78
CALDERWOOD	CALDERWOOD	0.18
CANNELTON	CANNELTON	0.11
CARR	CARR	0.38
CATAWBA	CATAWBA	0.11
CHEOAH	CHEOAH	0.17

Bus #	Bus	MW Impact
CHILHOWEE	CHILHOWEE	0.06
CHOCTAW	CHOCTAW	0.37
COFFEEN	COFFEEN	0.19
COTTONWOOD	COTTONWOOD	1.43
DEARBORN	DEARBORN	0.33
DUCKCREEK	DUCKCREEK	0.41
EDWARDS	EDWARDS	0.19
ELMERSMITH	ELMERSMITH	0.19
FARMERCITY	FARMERCITY	0.12
GIBSON	GIBSON	0.07
HAMLET	HAMLET	0.36
NEWTON	NEWTON	0.49
PRAIRIE	PRAIRIE	0.91
RENSSELAER	RENSSELAER	0.3
SANTEETLA	SANTEETLA	0.05
SMITHLAND	SMITHLAND	0.07
TATANKA	TATANKA	0.22
TILTON	TILTON	0.23
TRIMBLE	TRIMBLE	0.2
TVA	TVA	0.6
UNIONPOWER	UNIONPOWER	0.27

Index 18

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
859080	228401	MCKLTON	AE	228402	MONROE	AE	2	PS_P7-1_V2274+P2242_LT	tower	446.0	104.61	105.95	DC	12.96

Bus #	Bus	MW Impact
219229	EAGLEPT_G3	2.13
219230	EAGLEPT_G1	3.15
219231	EAGLEPT_G2	3.15
228304	LOGAN	5.9
228357	V2-046E	1.05
228400	MICK 1CT	1.18
228423	Q-090 2	27.63
228471	VALERO1	0.39
228472	VALERO2	0.27
228473	VALERO3	0.27
228484	VALERO4	0.23
291995	U4-036 C	0.07
291996	U4-036 E	0.73
292104	V1-030 C6	0.02
292105	V1-030 E6	0.21
905143	W4-016	53.88
909032	X2-013 E	0.46
917471	Z2-083	2.6
918852	AA1-104 E	4.59

Bus #	Bus	MW Impact
936411	AD2-052 C	0.53
936412	AD2-052 E	0.26
938871	AE1-115 C	0.55
938872	AE1-115 E	0.55
939931	AE1-229 C O2	7.72
939932	AE1-229 E O2	5.23
BAYOU	BAYOU	0.24
BIG_CAJUN1	BIG_CAJUN1	0.37
BIG_CAJUN2	BIG_CAJUN2	0.74
BLUEG	BLUEG	1.16
CALDERWOOD	CALDERWOOD	0.12
CANNELTON	CANNELTON	0.07
CARR	CARR	0.22
CATAWBA	CATAWBA	0.08
CHEOAH	CHEOAH	0.11
CHILHOWEE	CHILHOWEE	0.04
CHOCTAW	CHOCTAW	0.25
COFFEEN	COFFEEN	0.12
COTTONWOOD	COTTONWOOD	0.95
DEARBORN	DEARBORN	0.21
DUCKCREEK	DUCKCREEK	0.27
EDWARDS	EDWARDS	0.12
ELMERSMITH	ELMERSMITH	0.12
FARMERCITY	FARMERCITY	0.08
G-007	G-007	1.0
GIBSON	GIBSON	0.05
HAMLET	HAMLET	0.26
NEWTON	NEWTON	0.32
O-066	O-066	2.74
PRAIRIE	PRAIRIE	0.6
RENSSELAER	RENSSELAER	0.18
SANTEETLA	SANTEETLA	0.03
SMITHLAND	SMITHLAND	0.05
TATANKA	TATANKA	0.15
TILTON	TILTON	0.15
TRIMBLE	TRIMBLE	0.13
TVA	TVA	0.4
UNIONPOWER	UNIONPOWER	0.18

Index 19

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
859083	228401	MCKLTON	AE	228402	MONROE	AE	1	PS_P7-1_V2274+P2242_LT	tower	446.0	104.61	105.95	DC	12.96

Bus #	Bus	MW Impact
219229	EAGLEPT_G3	2.13
219230	EAGLEPT_G1	3.15

Bus #	Bus	MW Impact
219231	EAGLEPT_G2	3.15
228304	LOGAN	5.9
228357	V2-046E	1.05
228400	MICK 1CT	1.18
228423	Q-090 2	27.63
228471	VALERO1	0.39
228472	VALERO2	0.27
228473	VALERO3	0.27
228484	VALERO4	0.23
291995	U4-036 C	0.07
291996	U4-036 E	0.73
292104	V1-030 C6	0.02
292105	V1-030 E6	0.21
905143	W4-016	53.88
909032	X2-013 E	0.46
917471	Z2-083	2.6
918852	AA1-104 E	4.59
936411	AD2-052 C	0.53
936412	AD2-052 E	0.26
938871	AE1-115 C	0.55
938872	AE1-115 E	0.55
939931	AE1-229 C O2	7.72
939932	AE1-229 E O2	5.23
BAYOU	BAYOU	0.24
BIG_CAJUN1	BIG_CAJUN1	0.37
BIG_CAJUN2	BIG_CAJUN2	0.74
BLUEG	BLUEG	1.16
CALDERWOOD	CALDERWOOD	0.12
CANNELTON	CANNELTON	0.07
CARR	CARR	0.22
CATAWBA	CATAWBA	0.08
CHEOAH	CHEOAH	0.11
CHILHOWEE	CHILHOWEE	0.04
CHOCTAW	CHOCTAW	0.25
COFFEEN	COFFEEN	0.12
COTTONWOOD	COTTONWOOD	0.95
DEARBORN	DEARBORN	0.21
DUCKCREEK	DUCKCREEK	0.27
EDWARDS	EDWARDS	0.12
ELMERSMITH	ELMERSMITH	0.12
FARMERCITY	FARMERCITY	0.08
G-007	G-007	1.0
GIBSON	GIBSON	0.05
HAMLET	HAMLET	0.26
NEWTON	NEWTON	0.32
O-066	O-066	2.74
PRAIRIE	PRAIRIE	0.6
RENSSELAER	RENSSELAER	0.18
SANTEETLA	SANTEETLA	0.03
SMITHLAND	SMITHLAND	0.05
TATANKA	TATANKA	0.15
TILTON	TILTON	0.15

Bus #	Bus	MW Impact
TRIMBLE	TRIMBLE	0.13
TVA	TVA	0.4
UNIONPOWER	UNIONPOWER	0.18

Contingency Name	Contingency Definition
PS_P1-2_U-2299_LT	CONTINGENCY 'PS_P1-2_U-2299_LT' /* CAMDEN CUTBERTH DISCONNECT BUS 219754 /* CUTHBERTH SECTION 3 CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTBERTH MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219676 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219724 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWNSIDE END
PS_P1-2_D-2282_LT	CONTINGENCY 'PS_P1-2_D-2282_LT' /* CUTHBERT TO GLOUCESTER DISCONNECT BUS 219755 /* BUS SECTION 4 CUTHBERT CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT MOVE 8 MW LOAD FROM BUS 219178 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219177 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE END
PS_P7-1_V2274+P2242_LT	CONTINGENCY 'PS_P7-1_V2274+P2242_LT' /* EAGLE POINT - GLOUCESTER & DEPTFORD - GLOUCESTER DISCONNECT BUS 219757 /* DEPTFORD SECTION 2 DISCONNECT BUS 219760 /* EAGLE POINT SECTION 4 TRIP LINE FROM BUS 219110 TO BUS 219128 CKT 1 /* DISCONNECT TRANSFORMER 26KV CKT 1 CLOSE LINE FROM BUS 219255 TO BUS 219256 CKT Z /* DEPTFORD CLOSE LINE FROM BUS 219180 TO BUS 219181 CKT Z /* DEPTFORD MOVE 8 MW LOAD FROM BUS 219180 TO BUS 219162 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T1 MOVE 8 MW LOAD FROM BUS 219181 TO BUS 219163 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T2 MOVE 8 MW LOAD FROM BUS 219255 TO BUS 219162 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T1 MOVE 8 MW LOAD FROM BUS 219256 TO BUS 219163 /* INTERSTATION TIE TRANSFER LOAD FROM DEPTFORD TO BEAVERBK T2 END

Contingency Name	Contingency Definition
PS_P2-3_CUTB_3-4_LT	CONTINGENCY 'PS_P2-3_CUTB_3-4_LT' DISCONNECT BUS 219754 /* CUTHBERTH SECTION 3 DISCONNECT BUS 219755 /* BUS SECTION 4 CUTHBERT CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTHBERTH MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219178 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219177 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219629 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWNSIDE END
PS_P2-3_CUTB_1-4_LT	CONTINGENCY 'PS_P2-3_CUTB_1-4_LT' DISCONNECT BUS 219108 /* CUTHBERTH SECTION 1 DISCONNECT BUS 219755 /* BUS SECTION 4 CUTHBERT CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTHBERTH MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219178 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219177 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219629 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWNSIDE END
AE_P1-2_CHUR-ORCH	CONTINGENCY 'AE_P1-2_CHUR-ORCH' / PJM FIXED OPEN LINE FROM BUS 228002 TO BUS 228310 CIRCUIT 1 / END
AE_P1-2_CHU-WOOD 2-B	CONTINGENCY 'AE_P1-2_CHU-WOOD 2-B' OPEN LINE FROM BUS 939930 TO BUS 228360 CIRCUIT 1 / END
Base Case	
AE_P1-2_CHU-WOOD 2-A	CONTINGENCY 'AE_P1-2_CHU-WOOD 2-A' OPEN LINE FROM BUS 228319 TO BUS 939930 CIRCUIT 1 / END
PS_P1-2_C-2308	CONTINGENCY 'PS_P1-2_C-2308' DISCONNECT BUS 219753 /* CUTHBERT TO GLOUCESTER /* CUTHBERTH SECTOIN 2 END

Contingency Name	Contingency Definition
PECO_P2-2_CHI230B1/* \$ DELCO \$ PECO_P2-2_CHI230B1 \$ B PECO_P2-2_CHI230B1 \$ B	CONTINGENCY 'PECO_P2-2_CHI230B1/* \$ DELCO \$ PECO_P2-2_CHI230B1 \$ B' DISCONNECT BUS 213489 /* CHICHST1 230.00 \$ DELCO \$ PECO_P2-2_CHI230B1 \$ B END
AE_P4-2 AETIE3	CONTINGENCY 'AE_P4-2 AETIE3' /*MICKLETON TO THOROFARE1 BREAKER BV DISCONNECT BRANCH FROM BUS 228401 TO BUS 219121 CKT 1 /*MICKLETON TO THOROFARE1 230 230 DISCONNECT BRANCH FROM BUS 228401 TO BUS 228313 CKT 1 /*MICKLETON BRIDGEPORT 230KV END
AE_P7-1 W2275_O2241	CONTINGENCY 'AE_P7-1 W2275_O2241' /* DOUBLE CIRCUIT TOWER W- 2275(MICKLETON - DEPTFORD) AND O-2241(MICKLETON - THOROFARE) TRIP BRANCH FROM BUS 219762 TO BUS 228401 CKT 1 /* TRIP O-2241(MICKLETON - THOROFARE) 230KV TRIP BRANCH FROM BUS 219121 TO BUS 228401 CKT 1 /* TRIP (MICKLETON - THOROFARE #2) 230KV END
AE_P1-2 MICK-BRIDG	CONTINGENCY 'AE_P1-2 MICK-BRIDG' OPEN LINE FROM BUS 228313 TO BUS 228401 CIRCUIT 1 / END
PS_P1-2_D-2282	CONTINGENCY 'PS_P1-2_D-2282' /* CUTHBERT TO GLOUCESTER DISCONNECT BUS 219755 /* BUS SECTION 4 CUTHBERT END
PS_P1-2_Z-2305_LT	CONTINGENCY 'PS_P1-2_Z-2305_LT' /* CAMDEN TO CUTBERTH DISCONNECT BUS 219108 /* CUTBERTH SECTION 1 CLOSE LINE FROM BUS 219176 TO BUS 219179 CKT Z /* CUTBERTH MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219170 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO CINN T2 MOVE 8 MW LOAD FROM BUS 219176 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219179 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO LAWNSIDE END
PS_P1-2_Z-2305	CONTINGENCY 'PS_P1-2_Z-2305' /* CAMDEN TO CUTBERTH DISCONNECT BUS 219108 /* CUTBERTH SECTION 1 END
PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK PECO_P4_CHICH045 \$ STBK	CONTINGENCY 'PECO_P4_CHICH045/* \$ DELCO \$ PECO_P4_CHICH045 \$ STBK' DISCONNECT BUS 213489 /* CHICHST1 230.00 \$ DELCO \$ PECO_P4_CHICH045 \$ STBK DISCONNECT BUS 213627 /* FOULK8 230.00 \$ DELCO \$ PECO_P4_CHICH045 \$ STBK END

Contingency Name	Contingency Definition
PS_P1-2_U-2299	CONTINGENCY 'PS_P1-2_U-2299' /* CAMDEN CUTBERTH DISCONNECT BUS 219754 /* CUTHBERTH SECTION 3 END
AE_P1-2 PED-BRIDGE	CONTINGENCY 'AE_P1-2 PED-BRIDGE' OPEN LINE FROM BUS 228312 TO BUS 228313 CIRCUIT 1 / END
PS_P1-2_C-2308_LT	CONTINGENCY 'PS_P1-2_C-2308_LT' /* CUTHBERT TO GLOUCESTER DISCONNECT BUS 219753 /* CUTHBERTH SECTOIN 2 CLOSE LINE FROM BUS 219177 TO BUS 219178 CKT Z /* CUTHBERT MOVE 8 MW LOAD FROM BUS 219178 TO BUS 219678 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE MOVE 8 MW LOAD FROM BUS 219177 TO BUS 219677 /* INTERSTATION TIE TRANSFER LOAD FROM CUTHBERT TO MAPLE SHADE END
AE_P4-2 AE47	CONTINGENCY 'AE_P4-2 AE47' /* ORCHARD 230 BUS BREAKER NEW2 DISCONNECT BRANCH FROM BUS 228002 TO BUS 228310 CKT 1 /* ORCHARD TO CHURCHTOWN 230 230 DISCONNECT BRANCH FROM BUS 228002 TO BUS 228207 CKT 1 /* ORCHARD TO CUMBERLAND 230 230 END