Generation Interconnection
Feasibility Study Report
Queue Position AE2-209

The Interconnection Customer (IC) has proposed a 56.0 MW Energy (33.0 MW Capacity) solar generating facility to be located at Latitude: 38.4806000, Longitude: -76.0598000 in Dorchester County, Maryland. PJM studied the AE2-209 project as an injection into the Airey 69 kV Substation (PSSE bus # 232816). The Airey Substation is owned by the Choptank Electric Cooperative (CEC) and taps the Delmarva Power & Light Company (DPL) West Cambridge-Vienna 69 kV circuit. AE2-209 was evaluated for compliance with reliability criteria for summer peak conditions in 2022. The project was studied at a commercial probability of 53%. The planned in-service date, as requested by the IC, is December 31, 2021. This date may not be attainable due to required PJM studies (System Impact and Facilities) and the Transmission Owner's construction schedule.

Point of Interconnection

The Interconnection Customer requested a tap of the Airey-Golden Hill 69 kV circuit as the Point of interconnection. The Airey-Golden Hill 69 kV circuit is owned by the Choptank Electric Cooperative. Therefore, the Interconnection Customer must contact CEC directly to obtain the scope, schedule, and cost to construct the physical interconnection for the AE2-209 project.

Transmission Owner Attachment Facilities Scope of Work

There is no Delmarva Power & Light attachment facility or direct connection work scope. The Interconnection Customer is responsible for contacting the Choptank Electric Cooperative directly for attachment facilities work scope and single line drawing.

Required Relaying and Communications

Metering

The IC is 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.

Interconnection Customer Scope of Direct Connection Work

The Interconnection Customer 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.

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
7991741	232239	SHARPTWN	DP&L	936690	AD2-088 TAP	DP&L	1	DPL_P1_2_CKT 6708	single	42.0	98.4	116.98	DC	7.8
7991619	232241	VIENN_69	DP&L	232239	SHARPTWN	DP&L	1	Base Case	single	42.0	91.42	106.34	DC	6.27

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
7182431	232002	CEDAR CK	DP&L	232013	SILVER RUN	PJM	1	DPL_P7_1_DBL_1NCB-A	tower	679.0	94.23	95.82	DC	23.91
7669139	232234	TODD	DP&L	232233	PRESTON	DP&L	1	DPL_P4-2_DP12	breaker	93.0	87.12	101.81	DC	13.66

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
7669346	231000	CLAY_230	DP&L	213750	LINWOOD	PECO	1	PECO_P4_LINWO225/* $ DELCO $ PECO_P4_LINWO225 $ STBK	breaker	804.0	134.01	134.51	DC	8.66
7669589	231124	GLASGOW	DP&L	231130	CECIL138	DP&L	1	PECO_P4_PEACH215/* $ CHESCO $ PECO_P4_PEACH215 $ STBK	breaker	378.0	108.0	108.65	DC	5.47
7669590	231124	GLASGOW	DP&L	231130	CECIL138	DP&L	1	PECO_P4_PEACH205/* $ CHESCO $ PECO_P4_PEACH205 $ STBK	breaker	378.0	105.83	106.48	DC	5.47
8216678	232100	CHURCH	DP&L	232107	TOWNSEND	DP&L	1	DPL_P7_1_DBL_1NCB-A	tower	348.0	104.28	108.01	DC	12.98
7669138	232234	TODD	DP&L	232233	PRESTON	DP&L	1	DPL_P4-2_DP11	breaker	93.0	136.9	152.62	DC	14.79
7991740	232239	SHARPTWN	DP&L	936690	AD2-088 TAP	DP&L	1	DPL_P1_3_COOLSPG AT20	single	42.0	104.33	118.93	DC	6.13
7991614	232241	VIENN_69	DP&L	232239	SHARPTWN	DP&L	1	DPL_P1_3_COOLSPG AT20	single	42.0	116.23	130.83	DC	6.13
7991615	232241	VIENN_69	DP&L	232239	SHARPTWN	DP&L	1	DPL_P1_2_CKT 6708	single	42.0	110.54	129.12	DC	7.8
7991584	232291	ROCKAWLKN	DP&L	232271	NSALSBRY	DP&L	1	DPL_P1_2_CKT 6728	single	58.0	112.86	121.03	DC	4.74
7991585	232291	ROCKAWLKN	DP&L	232271	NSALSBRY	DP&L	1	DPL_P1_3_LORETO AT1&2	single	58.0	109.99	118.44	DC	4.9

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
7991740,7991741	1	SHARPTWN 69.0 kV - AD2-088 TAP 69.0 kV Ckt 1	**n5455 (258)** : Rebuild Line 6705 2 from sharptwn to vienn 69 kV with 1590 ASCR, upgrade all substation equipment to 2000 A **Project Type** : CON **Cost** : $12,400,000 **Time Estimate** : 24-36 Months	$12,400,000
7182431	3	CEDAR CK 230.0 kV - SILVER RUN 230.0 kV Ckt 1	**dt23030r0001 (250)** : To mitigate the (DPL) Cedar Creek Silver Run 230 kV line 23030 (from bus 232002 to bus 232013 ckt 1) overload, it will require increasing the emergency rating of the Cedar Creek to Silver Run 230 kV line by rebuilding the circuit. The rebuild will include the installation of new poles, foundations, insulators, and conductor. **Project Type** : FAC **Cost** : $17,400,000 **Time Estimate** : 36-42 Months	$17,400,000
8216678	11	CHURCH 138.0 kV - TOWNSEND 138.0 kV Ckt 1	**ds13833r0001 (259)** : To mitigate the (DP&L) CHURCH to TOWNSEND 138 kV line (from bus 232100 to bus 232107 ckt 1) overload will require substation reinforcements at Church Substation. **Project Type** : FAC **Cost** : $500,000 **Time Estimate** : 24-36 Months **ds13833r0002 (260)** : To mitigate the (DP&L) CHURCH to TOWNSEND 138 kV line (from bus 232100 to bus 232107 ckt 1) overload will require substation reinforcements (on top of ds13833r001) at Church Substation. **Project Type** : FAC **Cost** : $200,000 **Time Estimate** : 24.0 Months	$700,000
7669139,7669138	7	TODD 69.0 kV - PRESTON 69.0 kV Ckt 1	**ds6716r0001 (253)** : Previously identified in AB2-172, To mitigate the (DP&L) TODD to PRESTON 69 kV line (from bus 232234 to bus 232233 ckt 1) overload will require substation reinforcements at Preston Substation and Todd Substation. Replace 600A Disconnect Switch at each substation. **Project Type** : FAC **Cost** : $67,000 **Time Estimate** : 12.0 Months **ds6716r0002 (254)** : Previously identified in AE1-188, To mitigate the (DP&L) TODD toPRESTON 69 kV line (from bus 232234 to bus 232233 ckt 1) overload will require substation reinforcements at Preston Substation and Todd Substation. **Project Type** : FAC **Cost** : $39,000 **Time Estimate** : 12.0 Months	$106,000

ID	Index	Facility	Upgrade Description	Cost
7669346	9	CLAY_230 230.0 kV - LINWOOD 230.0 kV Ckt 1	**b2985 (252)** : PJM baseline upgrade b2985: Replace the 230 kV CB #225 at Linwood Substation (PECO) with a double circuit breaker (back to back circuit breakers in one device). The baseline project has a projected in-service date of 06/01/2022. **Project Type** : CON **Cost** : $0 **Time Estimate** : 0.0 Months	$0
7669590,7669589	10	GLASGOW 138.0 kV - CECIL138 138.0 kV Ckt 1	**dt13810r0001 (256)** : To mitigate the (DPL) Glasgow to Cecil 138 kV line 13810 (from bus 231124 to bus 231130 ckt 1) overload, it will require increasing the emergency rating of the Glasgow to Cecil 138 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 Glasgow. **Project Type** : FAC **Cost** : $5,000,000 **Time Estimate** : 36-60 Months	$5,000,000
7991584,7991585	12	ROCKAWLKN 69.0 kV - NSALSBRY 69.0 kV Ckt 1	**s0835 (257)** : To mitigate the ROCKAWLKN to NSALSBRY 69 kV line (from bus 232291 to bus 232271 ckt 1) overloads will require DPL to complete supplemental project (s0835) in place to upgrade this entire circuit 6708 from Vienna to N Salisbury. The portion from Hebron to N Salisbury (which includes Rockawalkin N Salisbury Line#6775) is estimated to cost approximately $8.6M and is scheduled to be completed by 12/31/2020. Total cost of the entire project (Vienna to N Salisbury) is approximately $21.1M. Expected ISD is 12/31/2023. **Project Type** : CON **Cost** : $0 **Time Estimate** : 0.0 Months	$0
7991619,7991614,7991615	2	VIENN_69 69.0 kV - SHARPTWN 69.0 kV Ckt 1	**n5455 (258)** : Rebuild Line 6705 2 from sharptwn to vienn 69 kV with 1590 ASCR, upgrade all substation equipment to 2000 A **Project Type** : CON **Cost** : $0 **Time Estimate** : 0.0 Months	See 7991740,7991741
			TOTAL COST	**$35,606,000**

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
7992432	231000	CLAY_230	DP&L	213750	LINWOOD	PECO	1	PECO_P1-2_220-85/* $ DELCO $ 220-85 $ LC	operation	804.0	124.22	124.71	DC	8.69
7992464	231001	EDGEMR 5	DP&L	213750	LINWOOD	PECO	1	PECO_P1-2_220-84	operation	804.0	122.29	122.77	DC	8.41
7992656	231124	GLASGOW	DP&L	231130	CECIL138	DP&L	1	PECO_P1-2_5014/* $ CHESCO $ PECO_P1-2_5014 $ L	operation	378.0	105.81	106.46	DC	5.47
7181870	232003	CARTANZA	DP&L	232013	SILVER RUN	PJM	1	CKT 23030B	operation	790.0	105.53	106.49	DC	16.76
7181871	232003	CARTANZA	DP&L	232013	SILVER RUN	PJM	1	Base Case	operation	650.0	100.43	101.17	DC	10.62
7992665	232234	TODD	DP&L	232233	PRESTON	DP&L	1	DPL_P1_2_23085 &13710	operation	93.0	86.19	100.92	DC	13.7
7991734	232239	SHARPTWN	DP&L	936690	AD2-088 TAP	DP&L	1	DPL_P1_2_CKT 6708	operation	42.0	139.12	170.66	DC	13.24
7991739	232239	SHARPTWN	DP&L	936690	AD2-088 TAP	DP&L	1	Base Case	operation	42.0	119.67	145.0	DC	10.64
7991608	232241	VIENN_69	DP&L	232239	SHARPTWN	DP&L	1	DPL_P1_2_CKT 6708	operation	42.0	151.26	182.8	DC	13.24
7991613	232241	VIENN_69	DP&L	232239	SHARPTWN	DP&L	1	Base Case	operation	42.0	131.57	156.9	DC	10.64
7992558	232241	VIENN_69	DP&L	232838	MARDELA	DP&L	1	DPL_P1_2_CKT 6705	operation	64.0	90.25	108.45	DC	11.65
7992523	232242	VIENNALC	DP&L	232241	VIENN_69	DP&L	1	DPL_P1_2_CKT 6715	operation	95.0	39.65	98.59	DC	56.0
7992299	232270	HEBRON	DP&L	232291	ROCKAWLKN	DP&L	1	DPL_P1_2_CKT 6705	operation	64.0	114.75	132.95	DC	11.65
7992304	232270	HEBRON	DP&L	232291	ROCKAWLKN	DP&L	1	Base Case	operation	64.0	91.04	104.53	DC	8.64
7991578	232291	ROCKAWLKN	DP&L	232271	NSALSBRY	DP&L	1	DPL_P1_2_CKT 6705	operation	58.0	170.36	190.44	DC	11.64
7991583	232291	ROCKAWLKN	DP&L	232271	NSALSBRY	DP&L	1	Base Case	operation	58.0	143.6	158.49	DC	8.63
7992488	232292	BAYLY	DP&L	232237	CAMBRIDG	DP&L	1	Base Case	operation	50.0	79.62	113.08	DC	16.73
7992725	232816	AIREY	DP&L	942700	AE2-286 TAP	DP&L	1	DPL_P1_2_CKT 6715	operation	95.0	41.54	100.49	DC	56.0
7992686	232838	MARDELA	DP&L	232270	HEBRON	DP&L	1	DPL_P1_2_CKT 6705	operation	64.0	80.1	98.29	DC	11.65
7992516	924830	AB2-136 TAP	DP&L	232292	BAYLY	DP&L	1	Base Case	operation	51.0	78.26	111.06	DC	16.73
7992499	942700	AE2-286 TAP	DP&L	232242	VIENNALC	DP&L	1	DPL_P1_2_CKT 6715	operation	95.0	41.12	100.07	DC	56.0

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.

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
7991740	232239	SHARPTWN	DP&L	936690	AD2-088 TAP	DP&L	1	DPL_P1_3_COOLSPGAT20	single	42.0	104.33	118.93	DC	6.13

Bus #	Bus	MW Impact
232919	VN10	0.21
910571	X3-008 C	0.15
913411	Y1-080 C	0.03
924831	AB2-136 C	4.35
925151	AB2-172 C	2.99
927031	AC1-190 C	5.65
932161	AC2-023 C	2.15
938651	AE1-087 C	2.52
941971	AE2-209 C	6.13
942701	AE2-286 C	1.51
BLUEG	BLUEG	0.01
CALDERWOOD	CALDERWOOD	0.0
CANNELTON	CANNELTON	0.0
CARR	CARR	0.0
CATAWBA	CATAWBA	0.0
CHEOAH	CHEOAH	0.0
CHILHOWEE	CHILHOWEE	0.0
COFFEEN	COFFEEN	0.0
COTTONWOOD	COTTONWOOD	0.0
DUCKCREEK	DUCKCREEK	0.0
EDWARDS	EDWARDS	0.0
ELMERSMITH	ELMERSMITH	0.0
FARMERCITY	FARMERCITY	0.0
GIBSON	GIBSON	0.0
HAMLET	HAMLET	0.0
NEWTON	NEWTON	0.0
PRAIRIE	PRAIRIE	0.0
RENSSELAER	RENSSELAER	0.0
SANTEETLA	SANTEETLA	0.0
SMITHLAND	SMITHLAND	0.0
TATANKA	TATANKA	0.0
TILTON	TILTON	0.0
TRIMBLE	TRIMBLE	0.0
TVA	TVA	0.0

Bus #	Bus	MW Impact
UNIONPOWER	UNIONPOWER	0.0

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
7991614	232241	VIENN_69	DP&L	232239	SHARPTWN	DP&L	1	DPL_P1_3_COOLSPG AT20	single	42.0	116.23	130.83	DC	6.13

Bus #	Bus	MW Impact
232919	VN10	0.21
910571	X3-008 C	0.15
913411	Y1-080 C	0.03
924831	AB2-136 C	4.35
925151	AB2-172 C	2.99
927031	AC1-190 C	5.65
932161	AC2-023 C	2.15
938651	AE1-087 C	2.52
941971	AE2-209 C	6.13
942701	AE2-286 C	1.51
BLUEG	BLUEG	0.01
CALDERWOOD	CALDERWOOD	0.0
CANNELTON	CANNELTON	0.0
CARR	CARR	0.0
CATAWBA	CATAWBA	0.0
CHEOAH	CHEOAH	0.0
CHILHOWEE	CHILHOWEE	0.0
COFFEEN	COFFEEN	0.0
COTTONWOOD	COTTONWOOD	0.0
DUCKCREEK	DUCKCREEK	0.0
EDWARDS	EDWARDS	0.0
ELMERSMITH	ELMERSMITH	0.0
FARMERCITY	FARMERCITY	0.0
GIBSON	GIBSON	0.0
HAMLET	HAMLET	0.0
NEWTON	NEWTON	0.0
PRAIRIE	PRAIRIE	0.0
RENSSELAER	RENSSELAER	0.0
SANTEETLA	SANTEETLA	0.0
SMITHLAND	SMITHLAND	0.0
TATANKA	TATANKA	0.0
TILTON	TILTON	0.0
TRIMBLE	TRIMBLE	0.0
TVA	TVA	0.0
UNIONPOWER	UNIONPOWER	0.0

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
7182431	232002	CEDAR CK	DP&L	232013	SILVER RUN	PJM	1	DPL_P7_1_DBL_1NCB-A	tower	679.0	94.23	95.82	DC	23.91

Bus #	Bus	MW Impact
232813	VAUGHN	0.19
232851	DUP-SFR1	0.57
232900	DEMECSMY	4.01
232904	IR4	22.63
232905	BAYVIEW1	0.67
232910	NRG_G1	2.82
232911	NRG_G2	2.82
232920	IR10	0.88
232921	TASLEY2G	1.02
232922	MR3	22.91
292089	T-011	0.23
293670	O-025 C	0.32
901004	W1-003 E	2.0
901014	W1-004 E	2.0
901024	W1-005 E	2.0
901034	W1-006 E	2.0
901411	W1-062	4.09
907052	X1-032 E	1.76
910572	X3-008 E	5.19
910822	X3-066 E	1.23
913362	Y1-079 E	2.19
913412	Y1-080 E	0.9
915542	Y3-058 E	4.08
917081	Z2-012 C	0.41
917082	Z2-012 E	5.46
917431	Z2-076 C	0.22
917432	Z2-076 E	0.9
917441	Z2-077 C	0.22
917442	Z2-077 E	0.9
919831	AA2-069	101.29
923921	AB2-032 C	4.17
923922	AB2-032 E	1.96
923951	AB2-036 C	12.4
923952	AB2-036 E	20.29
923961	AB2-037 C	31.17
923962	AB2-037 E	50.92
924191	AB2-063 C	2.51
924192	AB2-063 E	4.1
924681	AB2-120 C	16.75
924682	AB2-120 E	27.32
924781	AB2-130 C O1	14.6
924782	AB2-130 E O1	23.82
924801	AB2-133 C O1	7.65
924802	AB2-133 E O1	9.71
924821	AB2-135 C	10.92
924822	AB2-135 E	12.46
924831	AB2-136 C	10.51
924832	AB2-136 E	11.15
924971	AB2-153 C	2.33
924972	AB2-153 E	3.8
925151	AB2-172 C	7.95

Bus #	Bus	MW Impact
925152	AB2-172 E	12.96
925261	AB2-180 C	6.14
925262	AB2-180 E	2.63
925271	AB2-185 C	4.93
925272	AB2-185 E	2.11
926131	AC1-091 C	5.78
926132	AC1-091 E	9.49
926141	AC1-092 C	5.78
926142	AC1-092 E	9.49
926151	AC1-093 C	5.48
926152	AC1-093 E	9.02
926161	AC1-094 C	4.63
926162	AC1-094 E	7.63
926171	AC1-095 C	2.93
926172	AC1-095 E	4.7
926911	AC1-177	1.75
927031	AC1-190 C	14.68
927032	AC1-190 E	6.29
927191	AC1-213 C	1.41
927192	AC1-213 E	0.93
930201	AB1-056 C O1	3.52
930202	AB1-056 E O1	82.31
930881	AB1-137 C	1.89
930882	AB1-137 E	0.81
930921	AB1-141 C	4.13
930922	AB1-141 E	1.93
930931	AB1-142 C	4.13
930932	AB1-142 E	1.93
931111	AB1-162 C	2.1
931112	AB1-162 E	3.43
931261	AB1-176 C	1.13
931262	AB1-176 E	1.85
932161	AC2-023 C	11.58
932162	AC2-023 E	8.44
933631	AC2-185 C	11.72
933632	AC2-185 E	19.13
933641	AC2-186 C	9.62
933642	AC2-186 E	15.7
936611	AD2-076 C O1	5.9
936612	AD2-076 E O1	9.63
936691	AD2-088 C O1	8.13
936692	AD2-088 E O1	5.42
938251	AE1-038 C O1	1.89
938252	AE1-038 E O1	2.61
938651	AE1-087 C	3.55
938652	AE1-087 E	0.89
938891	AE1-117 C O1	21.59
938892	AE1-117 E O1	57.58
938901	AE1-118 C O1	21.59
938902	AE1-118 E O1	57.58
939151	AE1-145 C1	5.29
939152	AE1-145 C2	3.53

Bus #	Bus	MW Impact
939153	AE1-145 E	0.09
939361	AE1-167 C O1	2.64
939362	AE1-167 E O1	2.2
939621	AE1-192 C O1	20.71
939622	AE1-192 E O1	10.13
941021	AE2-093 C	7.62
941022	AE2-093 E	12.1
941181	AE2-112 C	2.41
941182	AE2-112 E	3.93
941971	AE2-209 C	14.09
941972	AE2-209 E	9.82
942441	AE2-257 C O1	14.85
942442	AE2-257 E O1	39.14
942701	AE2-286 C	3.4
942702	AE2-286 E	4.95
942821	AE2-301 C	1.75
942822	AE2-301 E	2.68
BLUEG	BLUEG	2.08
CALDERWOOD	CALDERWOOD	0.23
CANNELTON	CANNELTON	0.13
CARR	CARR	0.17
CATAWBA	CATAWBA	0.14
CHEOAH	CHEOAH	0.21
CHILHOWEE	CHILHOWEE	0.07
COFFEEN	COFFEEN	0.22
COTTONWOOD	COTTONWOOD	0.87
DUCKCREEK	DUCKCREEK	0.48
EDWARDS	EDWARDS	0.22
ELMERSMITH	ELMERSMITH	0.22
FARMERCITY	FARMERCITY	0.15
G-007	G-007	0.51
GIBSON	GIBSON	0.09
HAMLET	HAMLET	0.24
NEWTON	NEWTON	0.58
O-066	O-066	3.17
PRAIRIE	PRAIRIE	1.07
RENSSELAER	RENSSELAER	0.13
SANTEETLA	SANTEETLA	0.06
SMITHLAND	SMITHLAND	0.09
TATANKA	TATANKA	0.26
TILTON	TILTON	0.26
TRIMBLE	TRIMBLE	0.23
TVA	TVA	0.73
UNIONPOWER	UNIONPOWER	0.32

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
7669138	232234	TODD	DP&L	232233	PRESTON	DP&L	1	DPL_P4-2_DP11	breaker	93.0	136.9	152.62	DC	14.79

Bus #	Bus	MW Impact

Bus #	Bus	MW Impact
232905	BAYVIEW1	0.17
232907	VN8	2.68
232914	OH NUG3	0.37
232915	OH NUG4	0.37
232916	OH NUG5	0.37
232919	VN10	0.22
232921	TASLEY2G	0.25
232926	CRISFLD1	0.14
292089	T-011	0.06
293670	O-025 C	0.09
901003	W1-003 C	0.21
901004	W1-003 E	0.5
901013	W1-004 C	0.21
901014	W1-004 E	0.5
901023	W1-005 C	0.21
901024	W1-005 E	0.5
901033	W1-006 C	0.21
901034	W1-006 E	0.5
907052	X1-032 E	0.46
910571	X3-008 C	0.35
910572	X3-008 E	4.67
913411	Y1-080 C	0.04
913412	Y1-080 E	0.55
915541	Y3-058 C	0.1
915542	Y3-058 E	1.38
917081	Z2-012 C	0.1
917082	Z2-012 E	1.36
917432	Z2-076 E	0.18
917442	Z2-077 E	0.18
918831	AA1-102	0.53
920321	AA2-130	0.03
924681	AB2-120 C	4.15
924682	AB2-120 E	6.77
924781	AB2-130 C O1	4.04
924782	AB2-130 E O1	6.59
924831	AB2-136 C	7.56
924832	AB2-136 E	8.02
925151	AB2-172 C	7.15
925152	AB2-172 E	11.67
925261	AB2-180 C	2.08
925262	AB2-180 E	0.89
926911	AC1-177	0.46
927031	AC1-190 C	12.58
927032	AC1-190 E	5.39
927191	AC1-213 C	0.41
927192	AC1-213 E	0.27
930202	AB1-056 E O1	13.59
930881	AB1-137 C	0.33
930882	AB1-137 E	0.14
932161	AC2-023 C	4.29
932162	AC2-023 E	3.13
936691	AD2-088 C O1	2.27

Bus #	Bus	MW Impact
936692	AD2-088 E O1	1.51
938651	AE1-087 C	6.02
938652	AE1-087 E	1.51
938891	AE1-117 C O1	3.83
938892	AE1-117 E O1	10.21
938901	AE1-118 C O1	3.85
938902	AE1-118 E O1	10.25
939151	AE1-145 C1	1.31
939152	AE1-145 C2	0.88
939153	AE1-145 E	0.02
939361	AE1-167 C O1	0.66
939362	AE1-167 E O1	0.55
939621	AE1-192 C O1	5.15
939622	AE1-192 E O1	2.52
941971	AE2-209 C	8.71
941972	AE2-209 E	6.07
942441	AE2-257 C O1	2.61
942442	AE2-257 E O1	6.88
942701	AE2-286 C	1.98
942702	AE2-286 E	2.88
942821	AE2-301 C	0.46
942822	AE2-301 E	0.71
BLUEG	BLUEG	0.38
CALDERWOOD	CALDERWOOD	0.04
CANNELTON	CANNELTON	0.02
CARR	CARR	0.02
CATAWBA	CATAWBA	0.03
CHEOAH	CHEOAH	0.04
CHILHOWEE	CHILHOWEE	0.01
COFFEEN	COFFEEN	0.04
COTTONWOOD	COTTONWOOD	0.16
DUCKCREEK	DUCKCREEK	0.09
EDWARDS	EDWARDS	0.04
ELMERSMITH	ELMERSMITH	0.04
FARMERCITY	FARMERCITY	0.03
G-007	G-007	0.04
GIBSON	GIBSON	0.02
HAMLET	HAMLET	0.04
NEWTON	NEWTON	0.1
O-066	O-066	0.32
PRAIRIE	PRAIRIE	0.19
RENSSELAER	RENSSELAER	0.02
SANTEETLA	SANTEETLA	0.01
SMITHLAND	SMITHLAND	0.02
TATANKA	TATANKA	0.05
TILTON	TILTON	0.05
TRIMBLE	TRIMBLE	0.04
TVA	TVA	0.13
UNIONPOWER	UNIONPOWER	0.06

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
7669346	231000	CLAY_230	DP&L	213750	LINWOOD	PECO	1	PECO_P4_LINWO225/* $ DELCO $ PECO_P4_LINWO225 $ STBK	breaker	804.0	134.01	134.51	DC	8.66

Bus #	Bus	MW Impact
231505	HR4	11.18
231708	CHRIST3	3.58
231900	EM5	27.2
231901	EM4	7.6
231908	HR1	5.46
231909	HR2	5.56
231910	HR3	5.46
231916	EM3	3.83
231917	EM10	0.64
231919	CHRIST1	0.91
232922	MR3	13.71
901004	W1-003 E	0.68
901014	W1-004 E	0.68
901024	W1-005 E	0.68
901034	W1-006 E	0.68
907052	X1-032 E	0.6
910572	X3-008 E	1.94
910822	X3-066 E	0.62
913362	Y1-079 E	1.02
913412	Y1-080 E	0.32
915542	Y3-058 E	1.41
917082	Z2-012 E	1.87
917432	Z2-076 E	0.3
917442	Z2-077 E	0.3
919831	AA2-069	60.62
923921	AB2-032 C	2.27
923922	AB2-032 E	1.07
923951	AB2-036 C	5.75
923952	AB2-036 E	9.41
923961	AB2-037 C	12.64
923962	AB2-037 E	20.65
924191	AB2-063 C	1.26
924192	AB2-063 E	2.05
924681	AB2-120 C	5.72
924682	AB2-120 E	9.33
924781	AB2-130 C O1	4.84
924782	AB2-130 E O1	7.9
924801	AB2-133 C O1	4.09
924802	AB2-133 E O1	5.19
924821	AB2-135 C	4.83
924822	AB2-135 E	5.51
924831	AB2-136 C	3.85
924832	AB2-136 E	4.08
924971	AB2-153 C	1.27
924972	AB2-153 E	2.07

Bus #	Bus	MW Impact
925111	AB2-168 C	0.71
925112	AB2-168 E	0.97
925151	AB2-172 C	2.97
925152	AB2-172 E	4.84
925251	AB2-179 C	6.63
925252	AB2-179 E	2.19
925261	AB2-180 C	2.12
925262	AB2-180 E	0.91
925271	AB2-185 C	2.3
925272	AB2-185 E	0.99
926131	AC1-091 C	0.99
926132	AC1-091 E	1.63
926141	AC1-092 C	0.99
926142	AC1-092 E	1.63
926151	AC1-093 C	0.94
926152	AC1-093 E	1.55
926161	AC1-094 C	0.79
926162	AC1-094 E	1.31
926171	AC1-095 C	0.5
926172	AC1-095 E	0.81
926911	AC1-177	0.61
927031	AC1-190 C	5.45
927032	AC1-190 E	2.34
927191	AC1-213 C	0.48
927192	AC1-213 E	0.32
930202	AB1-056 E O1	27.0
930881	AB1-137 C	0.62
930882	AB1-137 E	0.27
930921	AB1-141 C	2.26
930922	AB1-141 E	1.05
930931	AB1-142 C	2.26
930932	AB1-142 E	1.05
931111	AB1-162 C	1.05
931112	AB1-162 E	1.71
931261	AB1-176 C	0.56
931262	AB1-176 E	0.93
932161	AC2-023 C	4.03
932162	AC2-023 E	2.94
933631	AC2-185 C	2.01
933632	AC2-185 E	3.28
933641	AC2-186 C	2.77
933642	AC2-186 E	4.52
936451	AD2-059 C	0.06
936452	AD2-059 E	0.18
936611	AD2-076 C O1	3.1
936612	AD2-076 E O1	5.06
936691	AD2-088 C O1	2.7
936692	AD2-088 E O1	1.8
938251	AE1-038 C O1	1.13
938252	AE1-038 E O1	1.56
938651	AE1-087 C	1.32
938652	AE1-087 E	0.33

Bus #	Bus	MW Impact
938811	AE1-107 C	5.64
938812	AE1-107 E	4.02
938891	AE1-117 C O1	7.09
938892	AE1-117 E O1	18.9
938901	AE1-118 C O1	7.09
938902	AE1-118 E O1	18.9
939151	AE1-145 C1	1.81
939152	AE1-145 C2	1.2
939153	AE1-145 E	0.03
939361	AE1-167 C O1	0.9
939362	AE1-167 E O1	0.75
939621	AE1-192 C O1	7.07
939622	AE1-192 E O1	3.46
941021	AE2-093 C	3.21
941022	AE2-093 E	5.09
941181	AE2-112 C	1.27
941182	AE2-112 E	2.07
941971	AE2-209 C	5.1
941972	AE2-209 E	3.55
942261	AE2-238 C	0.61
942262	AE2-238 E	0.84
942441	AE2-257 C O1	4.87
942442	AE2-257 E O1	12.84
942701	AE2-286 C	1.23
942702	AE2-286 E	1.78
942821	AE2-301 C	0.61
942822	AE2-301 E	0.92
BLUEG	BLUEG	0.34
CALDERWOOD	CALDERWOOD	0.02
CANNELTON	CANNELTON	0.02
CARR	CARR	0.61
CATAWBA	CATAWBA	0.0
CBM-S2	CBM-S2	0.0
CHEOAH	CHEOAH	0.02
CHILHOWEE	CHILHOWEE	0.01
COFFEEN	COFFEEN	0.03
COTTONWOOD	COTTONWOOD	0.09
CPLE	CPLE	0.01
DUCKCREEK	DUCKCREEK	0.08
EDWARDS	EDWARDS	0.04
ELMERSMITH	ELMERSMITH	0.03
FARMERCITY	FARMERCITY	0.02
G-007	G-007	2.2
GIBSON	GIBSON	0.01
NEWTON	NEWTON	0.09
O-066	O-066	14.38
PRAIRIE	PRAIRIE	0.16
RENSSELAER	RENSSELAER	0.48
SANTEETLA	SANTEETLA	0.0
SMITHLAND	SMITHLAND	0.01
TATANKA	TATANKA	0.04
TILTON	TILTON	0.04

Bus #	Bus	MW Impact
TRIMBLE	TRIMBLE	0.04
TVA	TVA	0.07
UNIONPOWER	UNIONPOWER	0.03

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
7669589	231124	GLASGOW	DP&L	231130	CECIL138	DP&L	1	PECO_P4_PEACH215/* $ CHESCO $ PECO_P4_PEACH215 $ STBK	breaker	378.0	108.0	108.65	DC	5.47

Bus #	Bus	MW Impact
231131	BLOOM ENRGY	0.31
231708	CHRIST3	1.11
231902	DC CT7	0.83
231906	DC3 NUG	0.96
231907	DC10	0.24
231915	DC CT6	0.74
232922	MR3	8.85
901004	W1-003 E	0.43
901014	W1-004 E	0.43
901024	W1-005 E	0.43
901034	W1-006 E	0.43
907052	X1-032 E	0.38
909411	X2-083	0.04
910572	X3-008 E	1.23
910821	X3-066 C	0.03
910822	X3-066 E	0.46
913361	Y1-079 C	0.05
913362	Y1-079 E	0.71
913412	Y1-080 E	0.21
915542	Y3-058 E	0.89
917082	Z2-012 E	1.17
917432	Z2-076 E	0.19
917442	Z2-077 E	0.19
919831	AA2-069	39.12
923921	AB2-032 C	1.75
923922	AB2-032 E	0.82
923951	AB2-036 C	3.97
923952	AB2-036 E	6.49
923961	AB2-037 C	7.46
923962	AB2-037 E	12.19
924191	AB2-063 C	0.94
924192	AB2-063 E	1.53
924681	AB2-120 C	3.59
924682	AB2-120 E	5.85
924781	AB2-130 C O1	3.06
924782	AB2-130 E O1	5.0
924801	AB2-133 C O1	3.21
924802	AB2-133 E O1	4.07
924821	AB2-135 C	3.69

Bus #	Bus	MW Impact
924822	AB2-135 E	4.21
924831	AB2-136 C	2.44
924832	AB2-136 E	2.59
924971	AB2-153 C	0.98
924972	AB2-153 E	1.59
925111	AB2-168 C	0.85
925112	AB2-168 E	1.17
925151	AB2-172 C	1.89
925152	AB2-172 E	3.08
925251	AB2-179 C	6.18
925252	AB2-179 E	2.04
925261	AB2-180 C	1.34
925262	AB2-180 E	0.57
925271	AB2-185 C	1.61
925272	AB2-185 E	0.69
926131	AC1-091 C	0.65
926132	AC1-091 E	1.07
926141	AC1-092 C	0.65
926142	AC1-092 E	1.07
926151	AC1-093 C	0.62
926152	AC1-093 E	1.02
926161	AC1-094 C	0.52
926162	AC1-094 E	0.86
926171	AC1-095 C	0.33
926172	AC1-095 E	0.53
926911	AC1-177	0.38
927031	AC1-190 C	3.47
927032	AC1-190 E	1.49
927191	AC1-213 C	0.3
927192	AC1-213 E	0.2
930202	AB1-056 E O1	17.04
930881	AB1-137 C	0.39
930882	AB1-137 E	0.17
930921	AB1-141 C	1.73
930922	AB1-141 E	0.81
930931	AB1-142 C	1.73
930932	AB1-142 E	0.81
931111	AB1-162 C	0.78
931112	AB1-162 E	1.28
931261	AB1-176 C	0.42
931262	AB1-176 E	0.69
932082	AC2-018 E1	1.94
932092	AC2-018 E2	1.94
932161	AC2-023 C	2.54
932162	AC2-023 E	1.85
933631	AC2-185 C	1.32
933632	AC2-185 E	2.16
933641	AC2-186 C	1.82
933642	AC2-186 E	2.97
936451	AD2-059 C	0.03
936452	AD2-059 E	0.1
936611	AD2-076 C O1	2.33

Bus #	Bus	MW Impact
936612	AD2-076 E O1	3.81
936691	AD2-088 C O1	1.71
936692	AD2-088 E O1	1.14
937281	AD2-167	3.87
938251	AE1-038 C O1	0.73
938252	AE1-038 E O1	1.01
938651	AE1-087 C	0.84
938652	AE1-087 E	0.21
938811	AE1-107 C	4.94
938812	AE1-107 E	3.52
938891	AE1-117 C O1	4.47
938892	AE1-117 E O1	11.93
938901	AE1-118 C O1	4.47
938902	AE1-118 E O1	11.93
939151	AE1-145 C1	1.13
939152	AE1-145 C2	0.76
939153	AE1-145 E	0.02
939361	AE1-167 C O1	0.57
939362	AE1-167 E O1	0.47
939621	AE1-192 C O1	4.44
939622	AE1-192 E O1	2.17
940741	AE2-061	0.52
941021	AE2-093 C	2.07
941022	AE2-093 E	3.28
941181	AE2-112 C	0.95
941182	AE2-112 E	1.55
941971	AE2-209 C	3.22
941972	AE2-209 E	2.25
942261	AE2-238 C	0.37
942262	AE2-238 E	0.51
942441	AE2-257 C O1	3.07
942442	AE2-257 E O1	8.11
942701	AE2-286 C	0.77
942702	AE2-286 E	1.13
942821	AE2-301 C	0.38
942822	AE2-301 E	0.58
BLUEG	BLUEG	3.47
CALDERWOOD	CALDERWOOD	0.4
CANNELTON	CANNELTON	0.21
CATAWBA	CATAWBA	0.26
CBM-N	CBM-N	0.6
CHEOAH	CHEOAH	0.36
CHILHOWEE	CHILHOWEE	0.13
COFFEEN	COFFEEN	0.37
COTTONWOOD	COTTONWOOD	1.5
DUCKCREEK	DUCKCREEK	0.8
EDWARDS	EDWARDS	0.36
ELMERSMITH	ELMERSMITH	0.37
FARMERCITY	FARMERCITY	0.24
G-007A	G-007A	4.05
GIBSON	GIBSON	0.14
HAMLET	HAMLET	0.44

Bus #	Bus	MW Impact
NEWTON	NEWTON	0.96
NYISO	NYISO	2.6
PRAIRIE	PRAIRIE	1.81
SANTEETLA	SANTEETLA	0.11
SMITHLAND	SMITHLAND	0.15
TATANKA	TATANKA	0.44
TILTON	TILTON	0.43
TRIMBLE	TRIMBLE	0.39
TVA	TVA	1.25
UNIONPOWER	UNIONPOWER	0.56
VFT	VFT	9.22

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
8216678	232100	CHURCH	DP&L	232107	TOWNSEND	DP&L	1	DPL_P7_1_DBL_1NCB-A	tower	348.0	104.28	108.01	DC	12.98

Bus #	Bus	MW Impact
232813	VAUGHN	0.08
232902	EASTMUNI	2.61
232907	VN8	4.17
232910	NRG_G1	1.29
232911	NRG_G2	1.29
232916	OH NUG5	0.68
232919	VN10	0.24
232922	MR3	10.61
232926	CRISFLD1	0.25
293670	O-025 C	0.15
901003	W1-003 C	0.38
901004	W1-003 E	0.91
901013	W1-004 C	0.38
901014	W1-004 E	0.91
901023	W1-005 C	0.38
901024	W1-005 E	0.91
901033	W1-006 C	0.38
901034	W1-006 E	0.91
907052	X1-032 E	0.81
910571	X3-008 C	0.23
910572	X3-008 E	3.07
910821	X3-066 C	0.12
910822	X3-066 E	1.58
913361	Y1-079 C	0.17
913362	Y1-079 E	2.3
913411	Y1-080 C	0.04
913412	Y1-080 E	0.49
915541	Y3-058 C	0.15
915542	Y3-058 E	1.94
917082	Z2-012 E	2.48
917432	Z2-076 E	0.38
917442	Z2-077 E	0.38

Bus #	Bus	MW Impact
918831	AA1-102	0.93
919831	AA2-069	46.93
920321	AA2-130	0.05
923921	AB2-032 C	6.29
923922	AB2-032 E	2.96
923951	AB2-036 C	12.67
923952	AB2-036 E	20.72
923961	AB2-037 C	19.91
923962	AB2-037 E	32.52
924191	AB2-063 C	3.22
924192	AB2-063 E	5.26
924681	AB2-120 C	7.58
924682	AB2-120 E	12.37
924781	AB2-130 C O1	6.47
924782	AB2-130 E O1	10.56
924801	AB2-133 C O1	11.61
924802	AB2-133 E O1	14.73
924821	AB2-135 C	12.37
924822	AB2-135 E	14.11
924831	AB2-136 C	5.89
924832	AB2-136 E	6.25
924971	AB2-153 C	3.52
924972	AB2-153 E	5.74
925151	AB2-172 C	4.7
925152	AB2-172 E	7.67
925261	AB2-180 C	2.93
925262	AB2-180 E	1.25
925271	AB2-185 C	5.2
925272	AB2-185 E	2.23
926911	AC1-177	0.82
927031	AC1-190 C	8.58
927032	AC1-190 E	3.68
927191	AC1-213 C	0.65
927192	AC1-213 E	0.43
930202	AB1-056 E O1	33.09
930881	AB1-137 C	0.77
930882	AB1-137 E	0.33
930921	AB1-141 C	6.24
930922	AB1-141 E	2.91
930931	AB1-142 C	6.24
930932	AB1-142 E	2.91
931111	AB1-162 C	2.69
931112	AB1-162 E	4.39
931261	AB1-176 C	1.44
931262	AB1-176 E	2.37
932161	AC2-023 C	5.63
932162	AC2-023 E	4.1
933641	AC2-186 C	3.69
933642	AC2-186 E	6.01
936611	AD2-076 C O1	8.21
936612	AD2-076 E O1	13.4
936691	AD2-088 C O1	3.61

Bus #	Bus	MW Impact
936692	AD2-088 E O1	2.41
938251	AE1-038 C O1	0.87
938252	AE1-038 E O1	1.21
938651	AE1-087 C	3.96
938652	AE1-087 E	0.99
938891	AE1-117 C O1	8.81
938892	AE1-117 E O1	23.49
938901	AE1-118 C O1	8.81
938902	AE1-118 E O1	23.51
939151	AE1-145 C1	2.39
939152	AE1-145 C2	1.6
939153	AE1-145 E	0.04
939361	AE1-167 C O1	1.2
939362	AE1-167 E O1	1.0
939621	AE1-192 C O1	9.39
939622	AE1-192 E O1	4.6
941021	AE2-093 C	5.93
941022	AE2-093 E	9.42
941181	AE2-112 C	3.35
941182	AE2-112 E	5.47
941971	AE2-209 C	7.65
941972	AE2-209 E	5.33
942441	AE2-257 C O1	6.04
942442	AE2-257 E O1	15.93
942701	AE2-286 C	1.83
942702	AE2-286 E	2.65
942821	AE2-301 C	0.82
942822	AE2-301 E	1.24
BLUEG	BLUEG	0.96
CALDERWOOD	CALDERWOOD	0.1
CANNELTON	CANNELTON	0.06
CARR	CARR	0.05
CATAWBA	CATAWBA	0.07
CHEOAH	CHEOAH	0.1
CHILHOWEE	CHILHOWEE	0.03
COFFEEN	COFFEEN	0.1
COTTONWOOD	COTTONWOOD	0.4
DUCKCREEK	DUCKCREEK	0.22
EDWARDS	EDWARDS	0.1
ELMERSMITH	ELMERSMITH	0.1
FARMERCITY	FARMERCITY	0.07
G-007	G-007	0.07
GIBSON	GIBSON	0.04
HAMLET	HAMLET	0.11
NEWTON	NEWTON	0.26
O-066	O-066	0.65
PRAIRIE	PRAIRIE	0.49
RENSSELAER	RENSSELAER	0.04
SANTEETLA	SANTEETLA	0.03
SMITHLAND	SMITHLAND	0.04
TATANKA	TATANKA	0.12
TILTON	TILTON	0.12

Bus #	Bus	MW Impact
TRIMBLE	TRIMBLE	0.11
TVA	TVA	0.34
UNIONPOWER	UNIONPOWER	0.15

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
7991584	232291	ROCKAWLKN	DP&L	232271	NSALSBRY	DP&L	1	DPL_P1_2_CKT 6728	single	58.0	112.86	121.03	DC	4.74

Bus #	Bus	MW Impact
232919	VN10	0.17
910571	X3-008 C	0.11
913411	Y1-080 C	0.02
915541	Y3-058 C	0.44
924831	AB2-136 C	3.36
925151	AB2-172 C	2.31
925261	AB2-180 C	8.9
927031	AC1-190 C	4.37
932161	AC2-023 C	14.02
938651	AE1-087 C	1.94
941971	AE2-209 C	4.74
942701	AE2-286 C	1.17
CBM-N	CBM-N	0.0
CBM-S1	CBM-S1	0.02
CBM-S2	CBM-S2	0.01
CBM-W1	CBM-W1	0.04
CBM-W2	CBM-W2	0.17
CIN	CIN	0.02
CPLE	CPLE	0.0
G-007A	G-007A	0.01
IPL	IPL	0.01
LGEE	LGEE	0.0
MEC	MEC	0.03
MECS	MECS	0.02
NYISO	NYISO	0.02
VFT	VFT	0.02
WEC	WEC	0.0

Contingency Name	Contingency Definition
PECO_P1-2_220-84	CONTINGENCY 'PECO_P1-2_220-84' /* $ DELCO $ 220-84 $ LB TRIP BRANCH FROM BUS 213750 TO BUS 231000 CKT 1 /* LINWOOD 230.00 CLAY_230 230.00 $ DELCO $ 220-84 $ L END

Contingency Name	Contingency Definition
DPL_P4-2_DP12	CONTINGENCY 'DPL_P4-2_DP12' /*STEELE BUS BREAKER TO VIENNA DISCONNECT BRANCH FROM BUS 232000 TO BUS 232103 CKT 2 /*STEELE STEELE 230 138 AT21 DISCONNECT BRANCH FROM BUS 232000 TO BUS 232005 CKT 1 /*STEELE VIENNA 230 230 END
DPL_P4-2_DP11	CONTINGENCY 'DPL_P4-2_DP11' /*STEELE BUS BREAKER TO MILFORD DISCONNECT BRANCH FROM BUS 232004 TO BUS 232000 CKT 1 /*MILFORD STEELE 230 230 DISCONNECT BRANCH FROM BUS 232000 TO BUS 232005 CKT 1 /*STEELE VIENNA 230 230 END
PECO_P4_LINWO225/* $ DELCO $ PECO_P4_LINWO225 $ STBK	CONTINGENCY 'PECO_P4_LINWO225/* $ DELCO $ PECO_P4_LINWO225 $ STBK' TRIP BRANCH FROM BUS 213750 TO BUS 231001 CKT 1 /* LINWOOD 230.00 EDGEMR5 230.00 $ DELCO $ PECO_P4_LINWO225 $ STBK DISCONNECT BUS 213892 /* PHLISL87 230.00 $ DELCO $ PECO_P4_LINWO225 $ STBK DISCONNECT BUS 213888 /* PHLISCT1 18.00 $ DELCO $ PECO_P4_LINWO225 $ STBK DISCONNECT BUS 213889 /* PHLISCT2 18.00 $ DELCO $ PECO_P4_LINWO225 $ STBK END
CKT 23030B	CONTINGENCY 'CKT 23030B' OPEN LINE FROM BUS 232002 TO BUS 232013 CIRCUIT 1 /CEDAR CREEK - SILVER RUN 230 END
PECO_P4_PEACH215/* $ CHESCO $ PECO_P4_PEACH215 $ STBK	CONTINGENCY 'PECO_P4_PEACH215/* $ CHESCO $ PECO_P4_PEACH215 $ STBK' TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 $ CHESCO $ PECO_P4_PEACH215 $ STBK REMOVE MACHINE 1 FROM BUS 200034 /* PCHBTM 2 22.00 $ CHESCO $ PECO_P4_PEACH215 $ STBK END
DPL_P1_2_CKT 6728	CONTINGENCY 'DPL_P1_2_CKT 6728' OPEN LINE FROM BUS 232272 TO BUS 232274 CIRCUIT 1 /MOUNT HERMON - PINEY GROVE 69 DISCONNECT BUS 230912 / PINEY GROVE 69 CAP END
PECO_P1-2_220-85/* $ DELCO $ 220-85 $ LC	CONTINGENCY 'PECO_P1-2_220-85/* $ DELCO $ 220-85 $ LC' TRIP BRANCH FROM BUS 213750 TO BUS 231001 CKT 1 /* LINWOOD 230.00 EDGEMR5 230.00 $ DELCO $ 220-85 $ L END
PECO_P1-2_5014/* $ CHESCO $ PECO_P1-2_5014 $ L	CONTINGENCY 'PECO_P1-2_5014/* $ CHESCO $ PECO_P1-2_5014 $ L' TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 $ CHESCO $ PECO_P1-2_5014 $ L END

Contingency Name	Contingency Definition
DPL_P1_2_CKT 6708	CONTINGENCY 'DPL_P1_2_CKT 6708' DISCONNECT BUS 232270 / MARDELA - HEBRON 69 & HEBRON XFMR DISCONNECT BUS 232838 / VIENNA - MARDELA 69 DISCONNECT BUS 232644 / HEBRON 1 12 DISCONNECT BUS 232653 / HEBRON 2 12 DISCONNECT BUS 232291 / ROCKAWALKIN - NORTH SALISBURY 69 END
DPL_P1_3_COOLSPG AT20	CONTINGENCY 'DPL_P1_3_COOLSPG AT20' OPEN LINE FROM BUS 232001 TO BUS 232269 CIRCUIT 1 /COOL SPRINGS AT20 230/69 END
DPL_P7_1_DBL_1NCB-A	CONTINGENCY 'DPL_P7_1_DBL_1NCB-A' /* #1 & #2 KEENEY-STEELE 230 OPEN LINE FROM BUS 231003 TO BUS 232000 CKT 1 OPEN LINE FROM BUS 231003 TO BUS 923960 CKT 2 END
DPL_P7_1_DBL_1NCB-B	CONTINGENCY 'DPL_P7_1_DBL_1NCB-B' /* #1 & #2 KEENEY-STEELE 230 OPEN LINE FROM BUS 231003 TO BUS 232000 CKT 1 OPEN LINE FROM BUS 923960 TO BUS 232000 CKT 2 END
PECO_P4_PEACH205/* $ CHESCO $ PECO_P4_PEACH205 $ STBK	CONTINGENCY 'PECO_P4_PEACH205/* $ CHESCO $ PECO_P4_PEACH205 $ STBK' TRIP BRANCH FROM BUS 200065 TO BUS 200066 CKT 1 /* PCHBTM2S 500.00 PCHBTM1N 500.00 $ CHESCO $ PECO_P4_PEACH205 $ STBK TRIP BRANCH FROM BUS 200064 TO BUS 200065 CKT Z1 /* PCHBTM1S 500.00 PCHBTM2S 500.00 $ CHESCO $ PECO_P4_PEACH205 $ STBK TRIP BRANCH FROM BUS 200013 TO BUS 200066 CKT Z1 /* PCHBTM2N 500.00 PCHBTM1N 500.00 $ CHESCO $ PECO_P4_PEACH205 $ STBK TRIP BRANCH FROM BUS 200065 TO BUS 200051 CKT 1 /* PCHBTM2S 500.00 ROCKSPGS 500.00 $ CHESCO $ PECO_P4_PEACH205 $ STBK END
Base Case	
DPL_P1_3_LORETO AT1&2	CONTINGENCY 'DPL_P1_3_LORETO AT1&2' OPEN LINE FROM BUS 232127 TO BUS 232275 CIRCUIT 1 /LORETTO AT1 138/69 OPEN LINE FROM BUS 232127 TO BUS 232275 CIRCUIT 2 /LORETTO AT2 138/69 END
DPL_P1_2_CKT 6705	CONTINGENCY 'DPL_P1_2_CKT 6705' DISCONNECT BUS 232239 / LAUREL - SHARPTOWN - VIENNA 69 & SHARPTOWN XFMR DISCONNECT BUS 232607 / SHARPTOWN 12 END
DPL_P1_2_CKT 6715	CONTINGENCY 'DPL_P1_2_CKT 6715' DISCONNECT BUS 232817 / TODD - EAST NEW MARKET REA - EAST NEW MARKET 69 END

Contingency Name	Contingency Definition
DPL_P1_2_23085 &13710	CONTINGENCY 'DPL_P1_2_23085 &13710' DISCONNECT BUS 232005 /STEELE - VIENNA 230 & VIENNA AT20 DISCONNECT BUS 232116 /VIENNA XFMR - VIENNA 138 END